LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

Volume 8

2018

Bate Stamp Numbers
00844816 - 00846665

Prepared for

Department of the Army
Longhorn Army Ammunition Plant

1976 – 2018

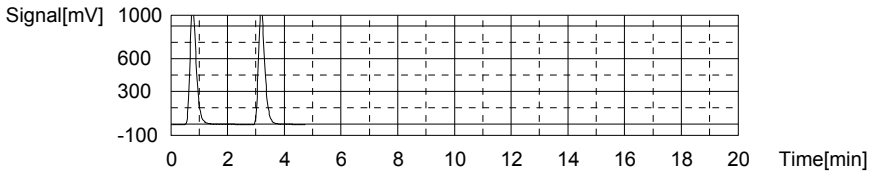
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS
ADMINISTRATIVE RECORD – CHRONOLOGICAL INDEX

VOLUME 8

2018

A. Title: Report (cont'd) – Quarterly Evaluation Report, 1st Quarter (January-March) 2017, Groundwater Treatment Plant, Longhorn Army Ammunition Plant, Karnack, Texas
Author(s): AECOM Technical Services
Recipient: U.S. Army Corps of Engineers
Date: August 2017
Bate Stamp: 00844816 – 00846665

Mean Area 1667
Mean Conc. 38.98mg/L



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No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
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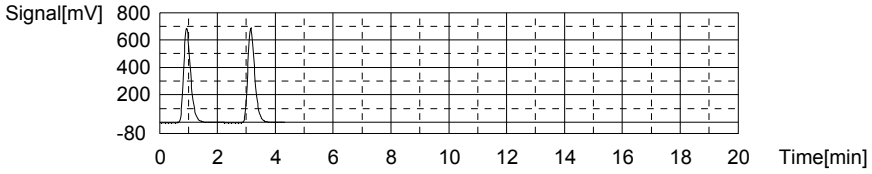
2	1154	33.91mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 12:58:14 PM

Mean Area 1155
Mean Conc. 33.93mg/L



Sample

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Sample ID: <Untitled>
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Status Completed
Chk. Result

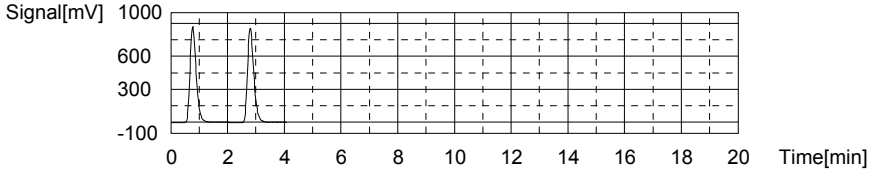
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.056mg/L TC:30.69mg/L IC:27.64mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1324	30.88mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 1:05:42 PM
2	1308	30.51mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 1:10:01 PM

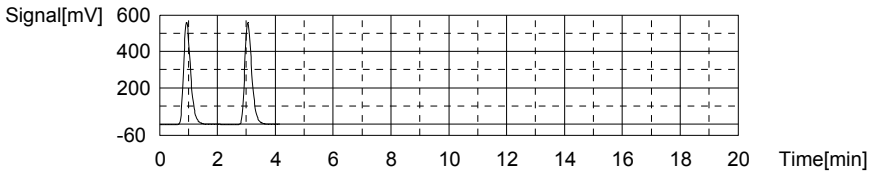
Mean Area 1316
Mean Conc. 30.69mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	942.3	27.59mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 1:15:08 PM
2	945.5	27.69mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 1:19:54 PM

Mean Area 943.9
Mean Conc. 27.64mg/L



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Sample ID: <Untitled>
Origin: TOC-02-10-2017A.met
Status Completed
Chk. Result

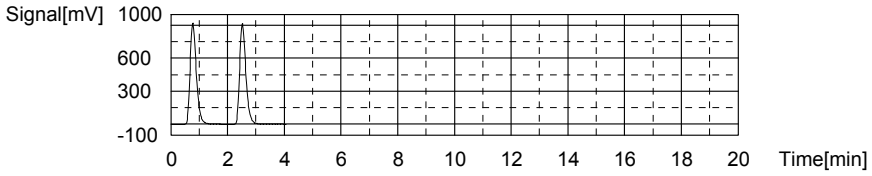
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.190mg/L TC:32.89mg/L IC:29.70mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1409	32.89mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 1:27:06 PM
2	1409	32.89mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 1:32:30 PM

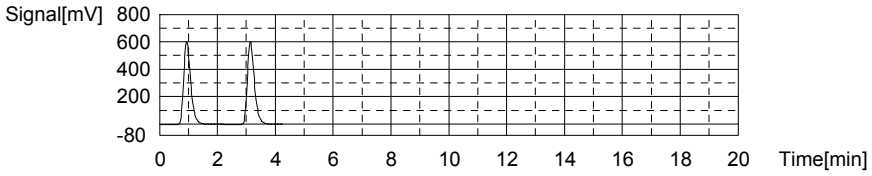
Mean Area 1409
Mean Conc. 32.89mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1013	29.70mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_13	3/10/2017 1:37:43 PM
2	1013	29.70mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_13	3/10/2017 1:42:38 PM

Mean Area 1013
Mean Conc. 29.70mg/L



Sample

Sample Name: L17030510-07
Sample ID: <Untitled>
Origin: TOC-02-10-2017A.met
Status Completed
Chk. Result

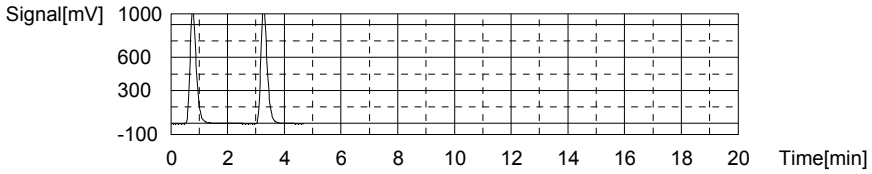
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.921mg/L TC:37.47mg/L IC:33.55mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1591	37.19mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 1:50:34 PM
2	1615	37.76mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 1:55:02 PM

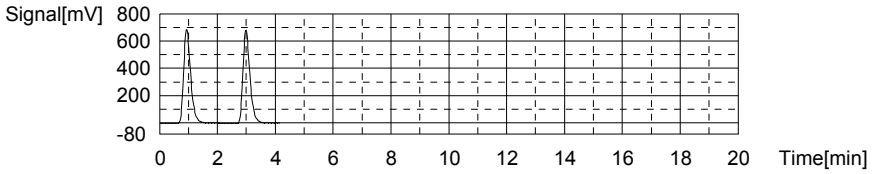
Mean Area 1603
Mean Conc. 37.47mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1147	33.70mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_13	3/10/2017 2:00:06 PM
2	1137	33.40mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_13	3/10/2017 2:04:57 PM

Mean Area 1142
Mean Conc. 33.55mg/L



Sample

Sample Name: L17030510-09
Sample ID: <Untitled>
Origin: TOC-02-10-2017A.met
Status Completed
Chk. Result

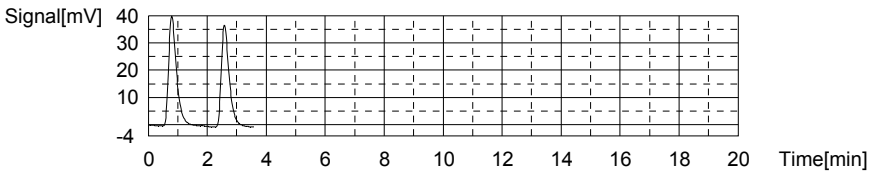
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.093mg/L TC:1.305mg/L IC:0.2122mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	74.63	1.365mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 2:12:10 PM
2	69.58	1.245mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 2:16:13 PM

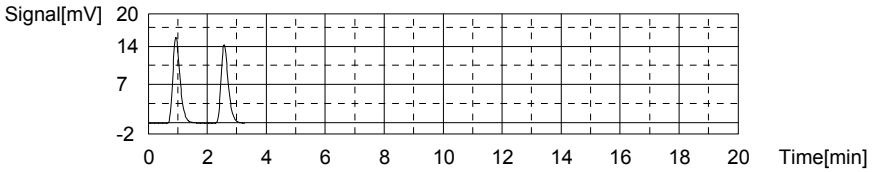
Mean Area 72.11
Mean Conc. 1.305mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	26.56	0.2433mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 2:20:43 PM
2	24.48	0.1811mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 2:24:57 PM

Mean Area 25.52
Mean Conc. 0.2122mg/L



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Sample Name: CCV
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

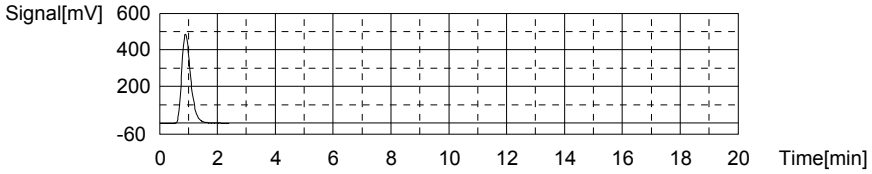
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:24.81mg/L TC:24.50mg/L IC:-0.3080mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1054	24.50mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_55	3/10/2017 2:32:48 PM

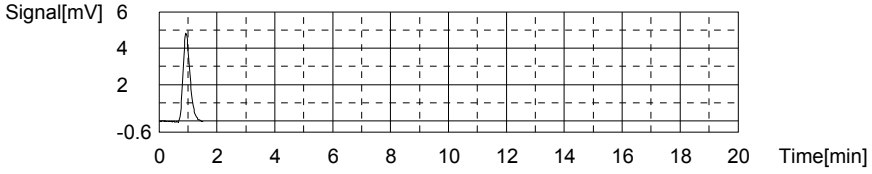
Mean Area 1054
Mean Conc. 24.50mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.101	-0.3080mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 2:37:07 PM

Mean Area 8.101
Mean Conc. -0.3080mg/L



Sample

Sample Name: CCB
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

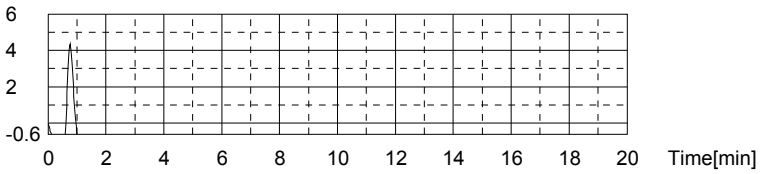
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.1302mg/L TC:-0.1886mg/L IC:-0.3187mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.883	-0.1886mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 2:42:06 PM

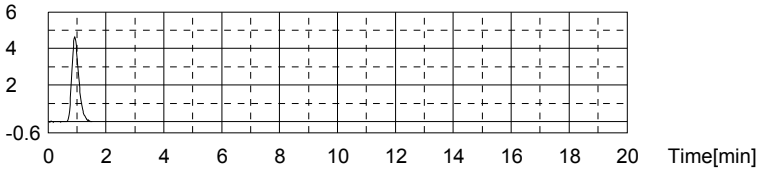
Mean Area 8.883
Mean Conc. -0.1886mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.741	-0.3187mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 2:46:02 PM

Mean Area 7.741
Mean Conc. -0.3187mg/L



Sample

Sample Name: L17030510-11
Sample ID: <Untitled>
Origin: TOC-02-10-2017A.met
Status Completed
Chk. Result

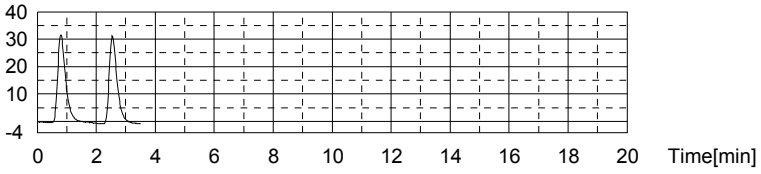
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.9018mg/L TC:1.006mg/L IC:0.1039mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	59.50	1.007mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 2:53:13 PM
2	59.37	1.004mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 2:57:15 PM

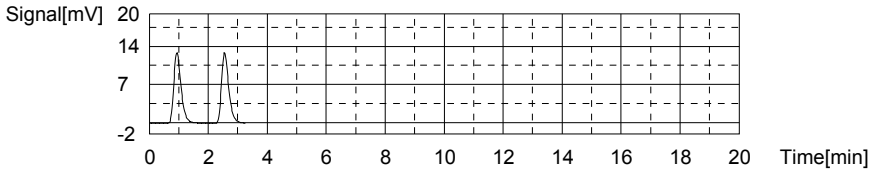
Mean Area 59.44
Mean Conc. 1.006mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	21.85	0.1026mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 3:01:40 PM
2	21.94	0.1053mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 3:05:54 PM

Mean Area 21.90
Mean Conc. 0.1039mg/L



Sample

Sample Name: L17030483-09
Sample ID: <Untitled>
Origin: TOC-02-10-2017A.met
Status Completed
Chk. Result

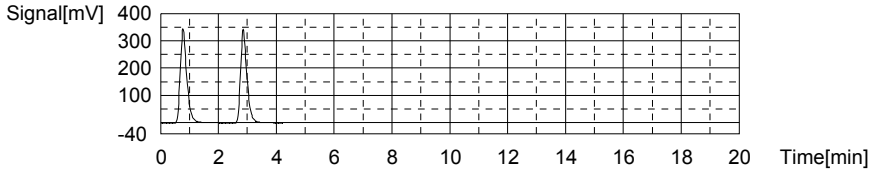
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.026mg/L TC:12.09mg/L IC:9.063mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	532.3	12.18mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 3:13:25 PM
2	524.8	12.00mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 3:17:49 PM

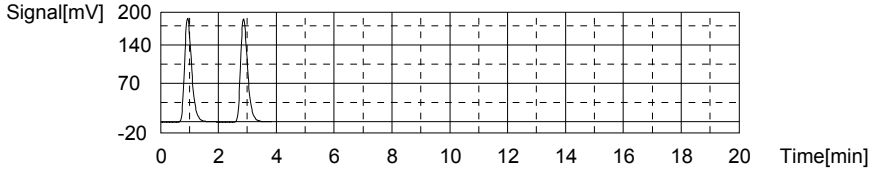
Mean Area 528.6
Mean Conc. 12.09mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	323.1	9.099mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 3:22:37 PM
2	320.7	9.027mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 3:27:09 PM

Mean Area 321.9
Mean Conc. 9.063mg/L



Sample

Sample Name: WG605771-07 MS
Sample ID: <Untitled>
Origin: TOC-02-10-2017A.met
Status Completed
Chk. Result

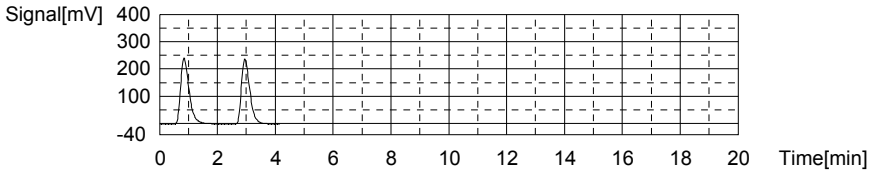
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:11.07mg/L TC:11.01mg/L IC:-0.06434mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	488.2	11.14mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 3:34:41 PM
2	477.2	10.88mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 3:39:01 PM

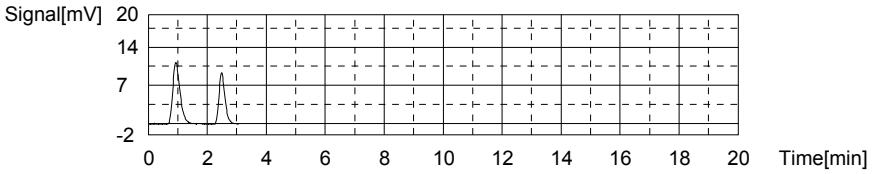
Mean Area 482.7
Mean Conc. 11.01mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	19.13	0.02137mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 3:43:27 PM
2	13.39	-0.1500mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 3:47:29 PM

Mean Area 16.26
Mean Conc. -0.06434mg/L



Sample

Sample Name: WG605775-01 BLK
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

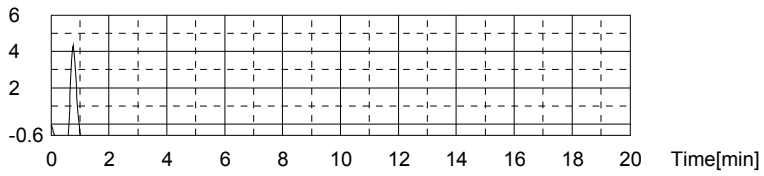
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.1298mg/L TC:-0.1889mg/L IC:-0.3187mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.871	-0.1889mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 3:52:30 PM

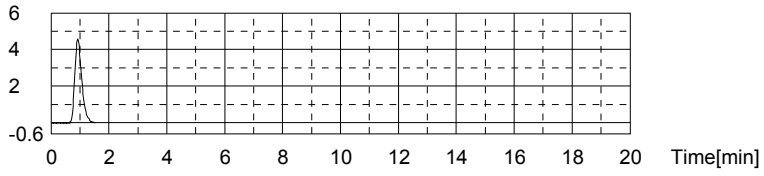
Mean Area 8.871
Mean Conc. -0.1889mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.742	-0.3187mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 3:56:23 PM

Mean Area 7.742
Mean Conc. -0.3187mg/L



Sample

Sample Name: WG605775-02 LCS
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

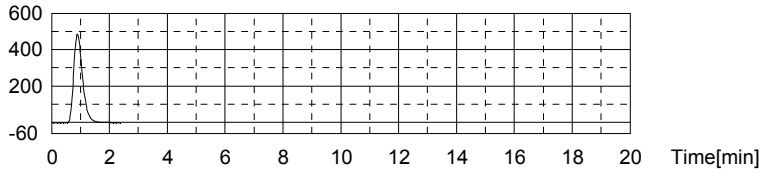
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:24.45mg/L TC:24.13mg/L IC:-0.3259mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1038	24.13mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 4:11:08 PM

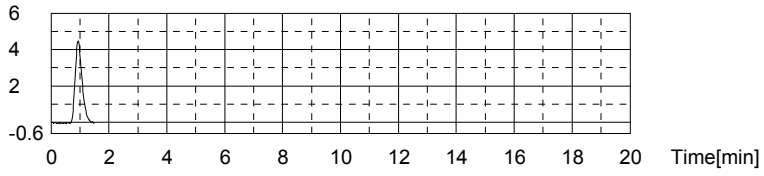
Mean Area 1038
Mean Conc. 24.13mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.500	-0.3259mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 4:15:29 PM

Mean Area 7.500
Mean Conc. -0.3259mg/L



Sample

Sample Name: WG605775-03 LCSDUP
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

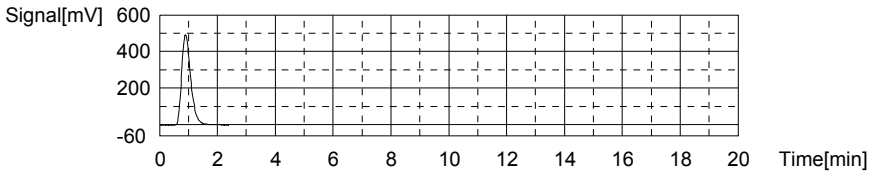
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:25.33mg/L TC:25.00mg/L IC:-0.3323mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1075	25.00mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 4:23:18 PM

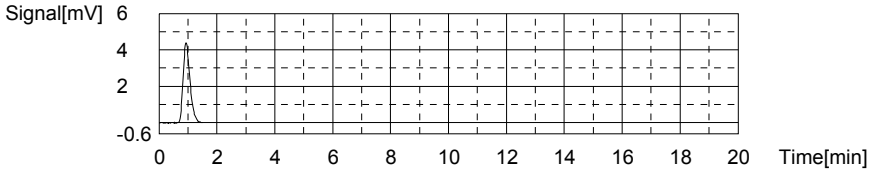
Mean Area 1075
Mean Conc. 25.00mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.287	-0.3323mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_13	3/10/2017 4:27:37 PM

Mean Area 7.287
Mean Conc. -0.3323mg/L



Sample

Sample Name: L17030458-01 (5)
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

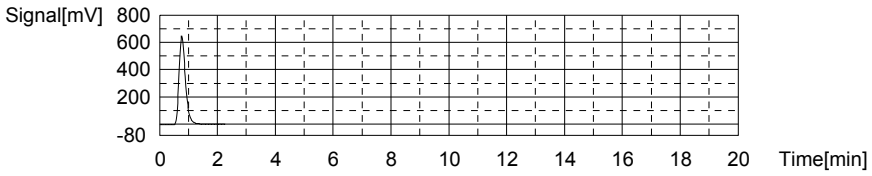
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.288mg/L TC:23.25mg/L IC:19.96mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1001	23.25mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 4:35:19 PM

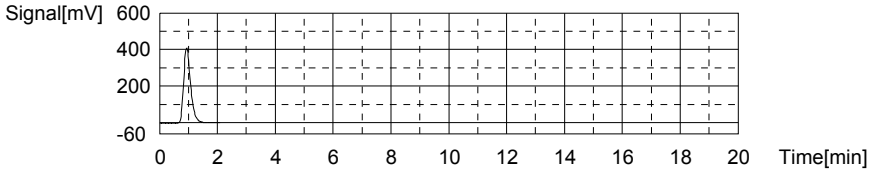
Mean Area 1001
Mean Conc. 23.25mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	686.9	19.96mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 4:40:20 PM

Mean Area 686.9
Mean Conc. 19.96mg/L



Sample

Sample Name:
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

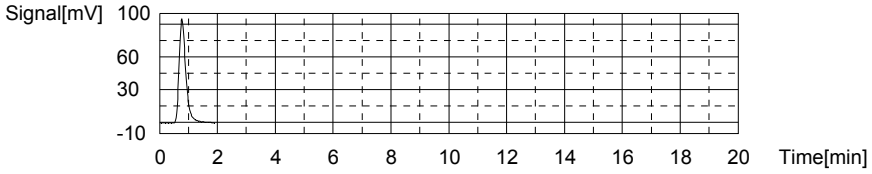
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.6803mg/L TC:3.209mg/L IC:2.529mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	152.7	3.209mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 4:47:42 PM

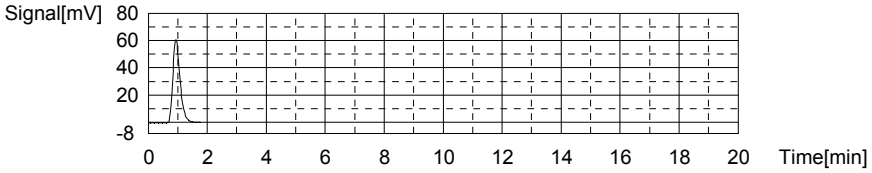
Mean Area 152.7
Mean Conc. 3.209mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	103.1	2.529mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 4:52:19 PM

Mean Area 103.1
Mean Conc. 2.529mg/L



Sample

Sample Name: L17030458-04 (10)
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

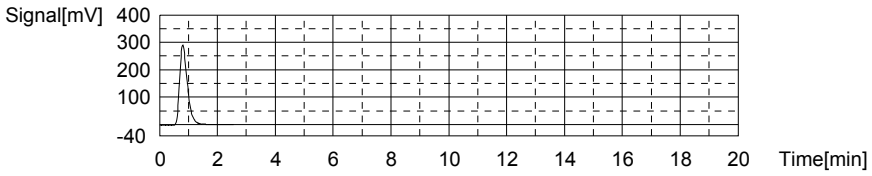
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.880mg/L TC:12.47mg/L IC:6.593mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	544.8	12.47mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 5:00:18 PM

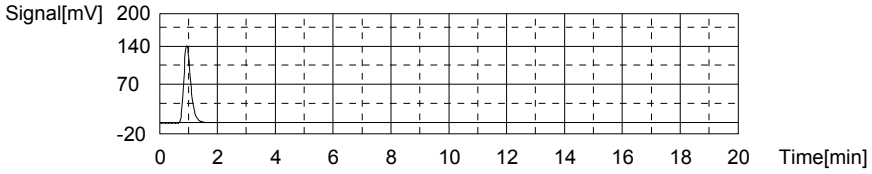
Mean Area 544.8
Mean Conc. 12.47mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	239.2	6.593mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 5:05:07 PM

Mean Area 239.2
Mean Conc. 6.593mg/L



Sample

Sample Name: L17030464-01 (5)
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

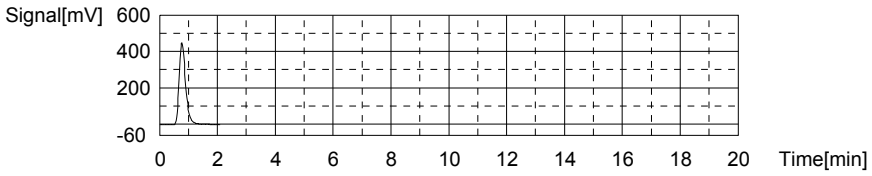
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.907mg/L TC:16.12mg/L IC:14.21mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	699.1	16.12mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 5:12:38 PM

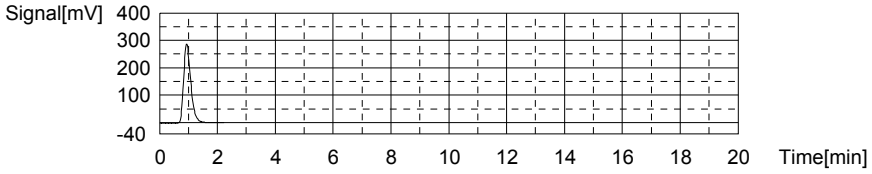
Mean Area 699.1
Mean Conc. 16.12mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	494.3	14.21mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 5:17:44 PM

Mean Area 494.3
Mean Conc. 14.21mg/L



Sample

Sample Name: CCV
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

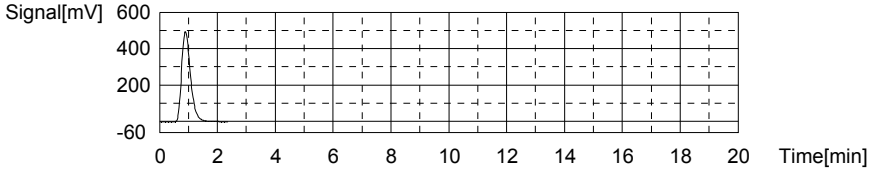
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:24.72mg/L TC:24.46mg/L IC:-0.2584mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1052	24.46mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 5:25:32 PM

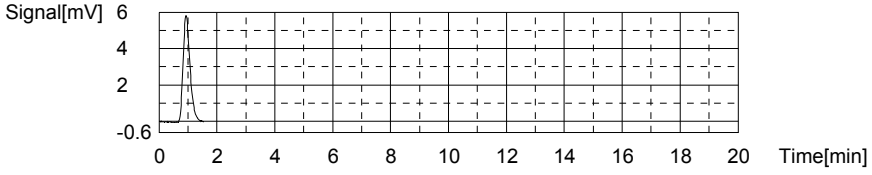
Mean Area 1052
Mean Conc. 24.46mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.762	-0.2584mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 5:29:54 PM

Mean Area 9.762
Mean Conc. -0.2584mg/L



Sample

Sample Name: CCB
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

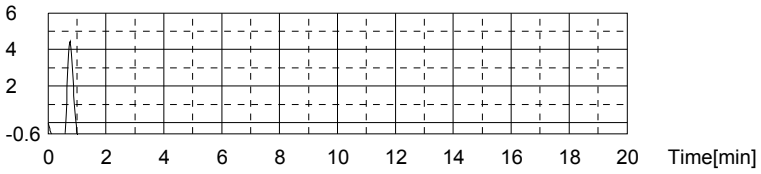
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.1299mg/L TC:-0.1835mg/L IC:-0.3135mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.097	-0.1835mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 5:34:55 PM

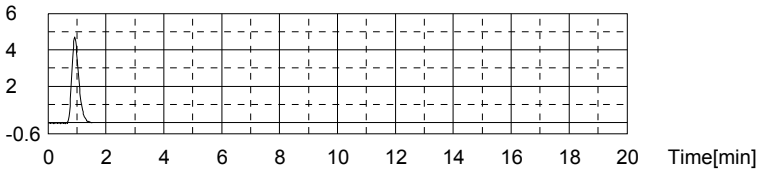
Mean Area 9.097
Mean Conc. -0.1835mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.918	-0.3135mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 5:38:48 PM

Mean Area 7.918
Mean Conc. -0.3135mg/L



Sample

Sample Name: L17030465-01 (5)
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

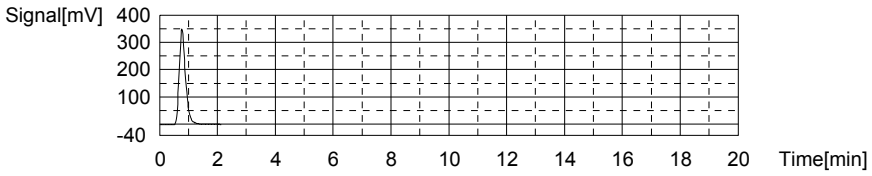
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.867mg/L TC:12.05mg/L IC:10.19mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	527.0	12.05mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 5:46:22 PM

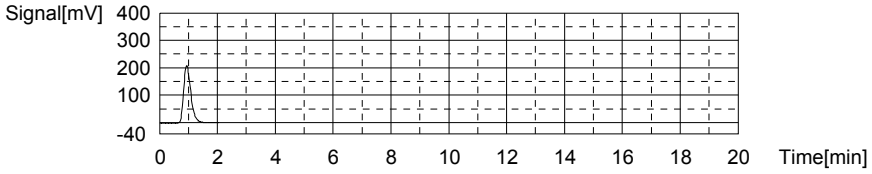
Mean Area 527.0
Mean Conc. 12.05mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	359.5	10.19mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 5:51:18 PM

Mean Area 359.5
Mean Conc. 10.19mg/L



Sample

Sample Name:
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

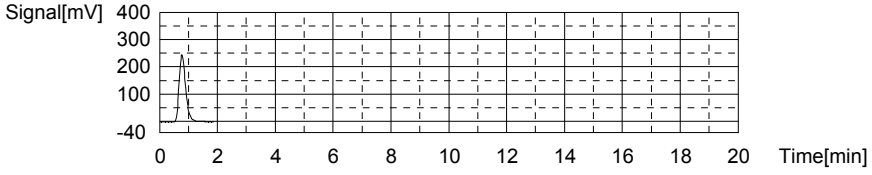
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.167mg/L TC:8.662mg/L IC:7.495mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	383.5	8.662mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 5:58:38 PM

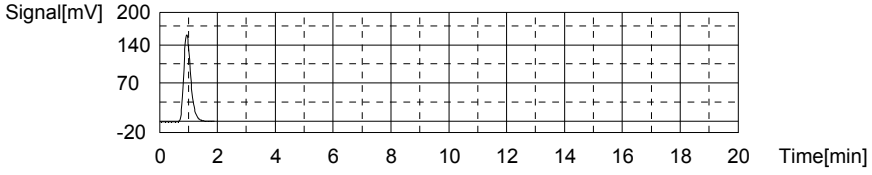
Mean Area 383.5
Mean Conc. 8.662mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	269.4	7.495mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 6:03:26 PM

Mean Area 269.4
Mean Conc. 7.495mg/L



Sample

Sample Name:
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

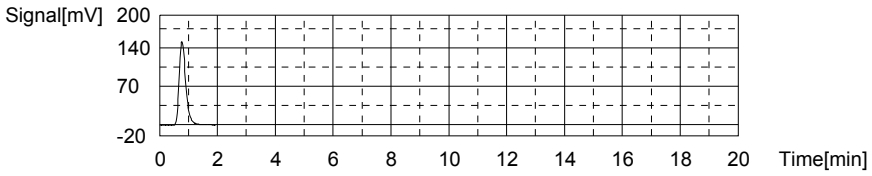
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.233mg/L TC:5.348mg/L IC:4.115mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	243.2	5.348mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 6:10:49 PM

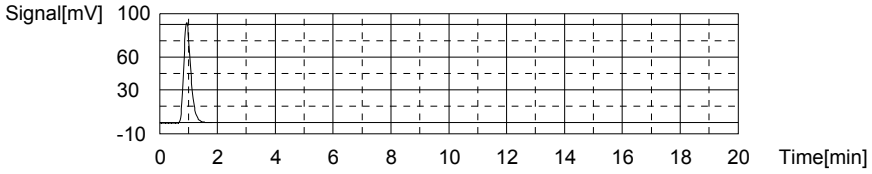
Mean Area 243.2
Mean Conc. 5.348mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	156.2	4.115mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 6:15:30 PM

Mean Area 156.2
Mean Conc. 4.115mg/L



Sample

Sample Name:
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

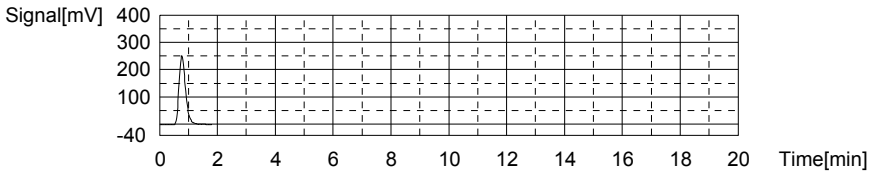
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.941mg/L TC:8.932mg/L IC:5.990mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	394.9	8.932mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 6:22:46 PM

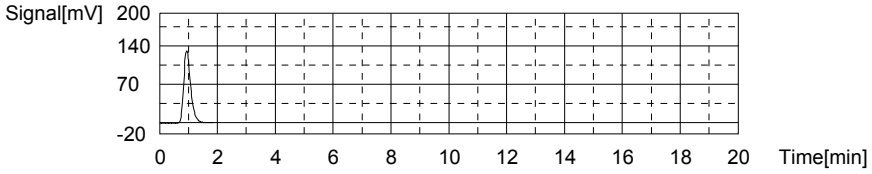
Mean Area 394.9
Mean Conc. 8.932mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	219.0	5.990mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 6:27:30 PM

Mean Area 219.0
Mean Conc. 5.990mg/L



Sample

Sample Name: L17030469-03
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

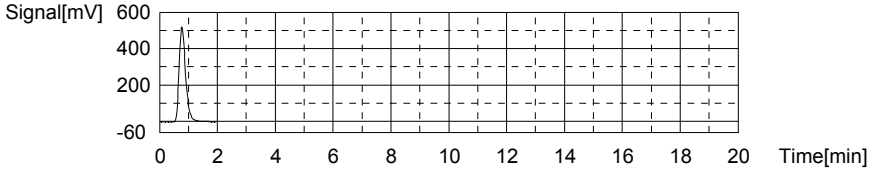
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.374mg/L TC:18.75mg/L IC:16.38mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	810.6	18.75mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 6:34:54 PM

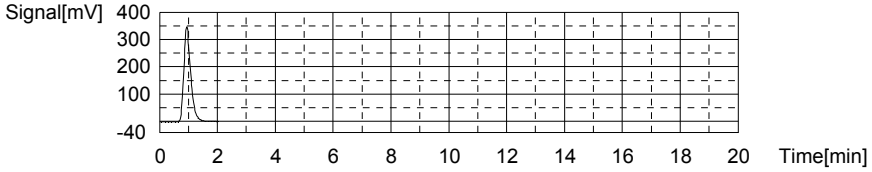
Mean Area 810.6
Mean Conc. 18.75mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	566.9	16.38mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 6:39:51 PM

Mean Area 566.9
Mean Conc. 16.38mg/L



Sample

Sample Name: L17030469-04
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

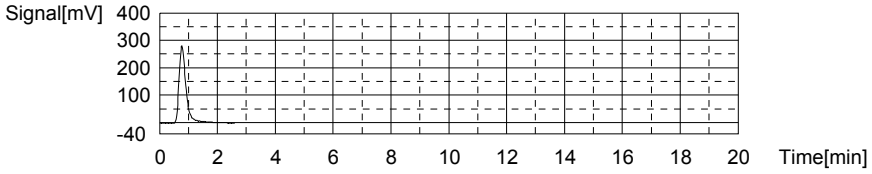
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.066mg/L TC:10.72mg/L IC:8.654mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	470.6	10.72mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 6:47:53 PM

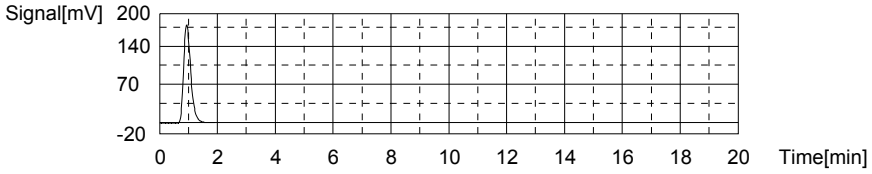
Mean Area 470.6
Mean Conc. 10.72mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	308.2	8.654mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_13	3/10/2017 6:52:43 PM

Mean Area 308.2
Mean Conc. 8.654mg/L



Sample

Sample Name: L17030469-05
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

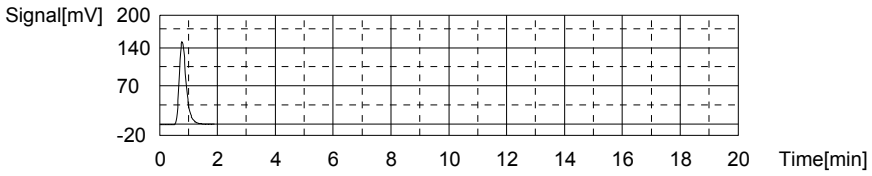
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.996mg/L TC:5.645mg/L IC:3.649mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	255.8	5.645mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 7:00:04 PM

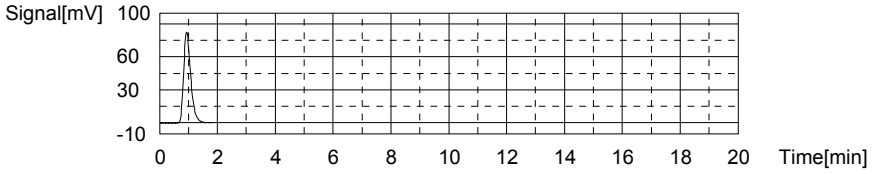
Mean Area 255.8
Mean Conc. 5.645mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	140.6	3.649mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 7:04:46 PM

Mean Area 140.6
Mean Conc. 3.649mg/L



Sample

Sample Name: L17030469-07
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

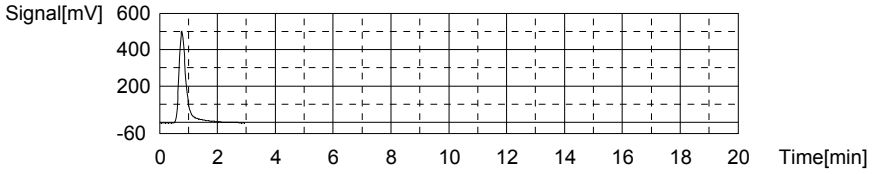
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.953mg/L TC:20.45mg/L IC:15.50mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	882.6	20.45mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 7:13:10 PM

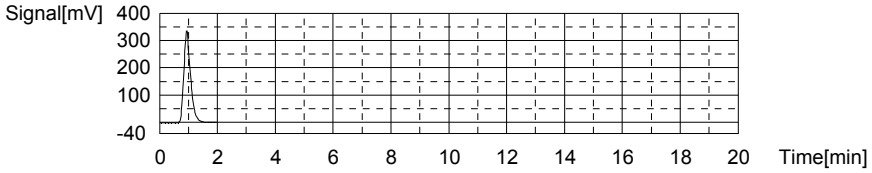
Mean Area 882.6
Mean Conc. 20.45mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	537.5	15.50mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 7:18:04 PM

Mean Area 537.5
Mean Conc. 15.50mg/L



Sample

Sample Name: L17030469-09
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

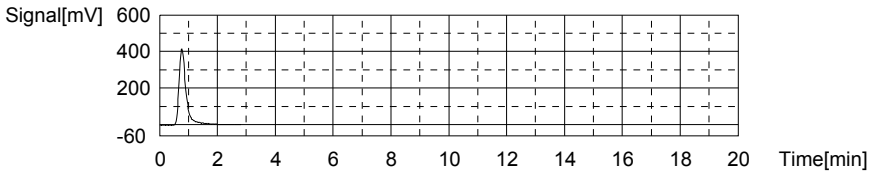
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.652mg/L TC:16.28mg/L IC:12.63mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	706.1	16.28mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 7:26:19 PM

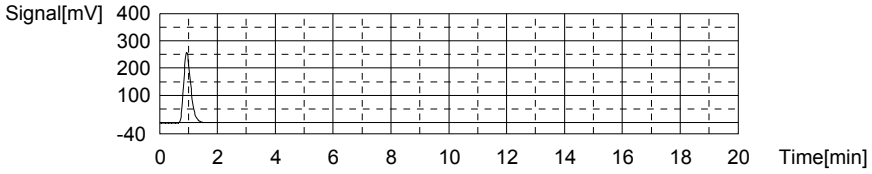
Mean Area 706.1
Mean Conc. 16.28mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	441.4	12.63mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_13	3/10/2017 7:31:07 PM

Mean Area 441.4
Mean Conc. 12.63mg/L



Sample

Sample Name: L17030469-10
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

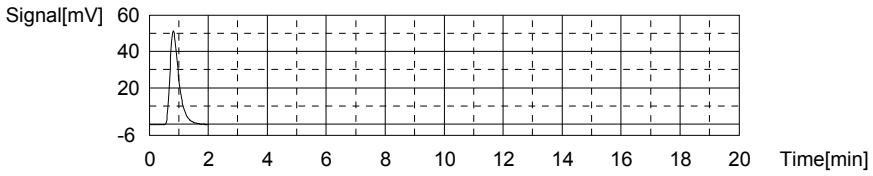
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.855mg/L TC:2.177mg/L IC:0.3221mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	109.0	2.177mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 7:38:34 PM

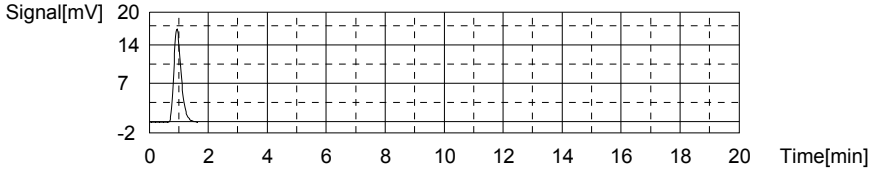
Mean Area 109.0
Mean Conc. 2.177mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	29.20	0.3221mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 7:43:06 PM

Mean Area 29.20
Mean Conc. 0.3221mg/L



Sample

Sample Name: CCV
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

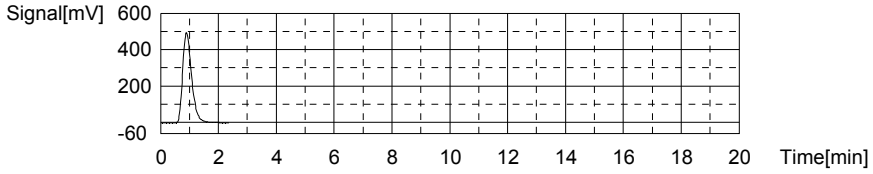
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:25.00mg/L TC:24.72mg/L IC:-0.2875mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1063	24.72mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_55	3/10/2017 7:50:54 PM

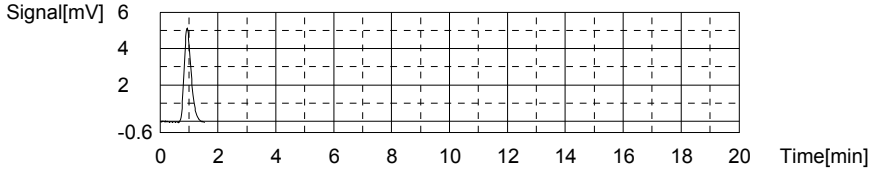
Mean Area 1063
Mean Conc. 24.72mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.787	-0.2875mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 7:55:22 PM

Mean Area 8.787
Mean Conc. -0.2875mg/L



Sample

Sample Name: CCB
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

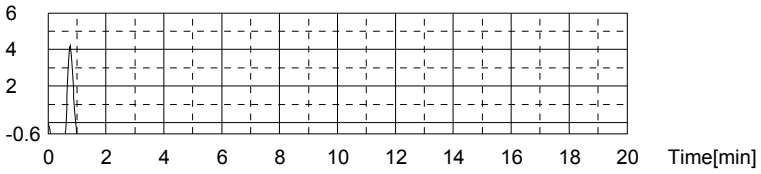
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.1162mg/L TC:-0.1867mg/L IC:-0.3029mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.963	-0.1867mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 8:00:22 PM

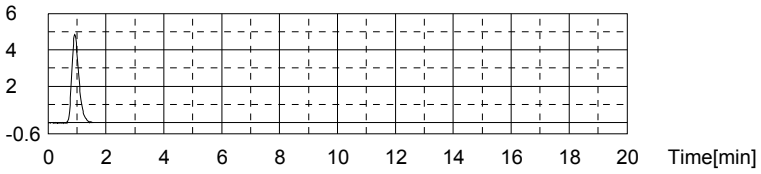
Mean Area 8.963
Mean Conc. -0.1867mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.271	-0.3029mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 8:04:18 PM

Mean Area 8.271
Mean Conc. -0.3029mg/L



Sample

Sample Name: L17030469-11
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

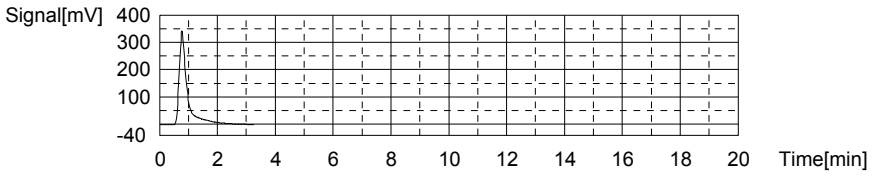
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.938mg/L TC:15.26mg/L IC:9.326mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	662.9	15.26mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 8:13:01 PM

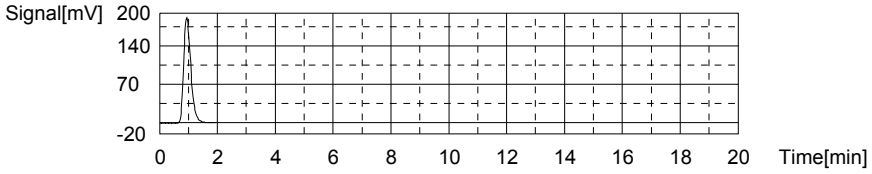
Mean Area 662.9
Mean Conc. 15.26mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	330.7	9.326mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 8:17:52 PM

Mean Area 330.7
Mean Conc. 9.326mg/L



Sample

Sample Name:
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

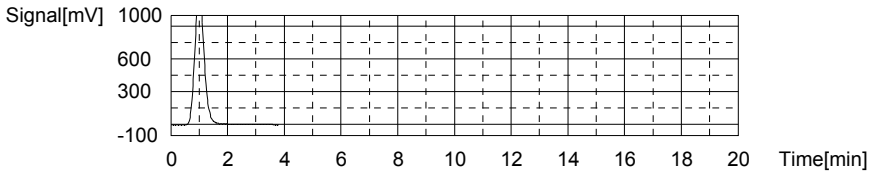
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:64.83mg/L TC:64.98mg/L IC:0.1414mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2767	64.98mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 8:27:07 PM

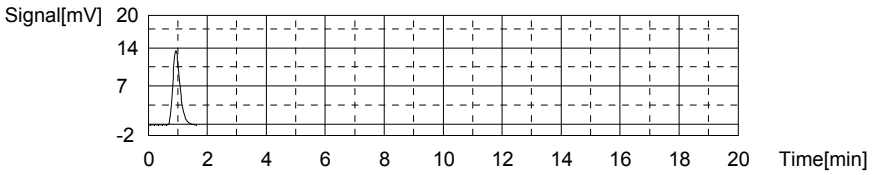
Mean Area 2767
Mean Conc. 64.98mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	23.15	0.1414mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 8:31:40 PM

Mean Area 23.15
Mean Conc. 0.1414mg/L



Sample

Sample Name: L17030455-01 (25)
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

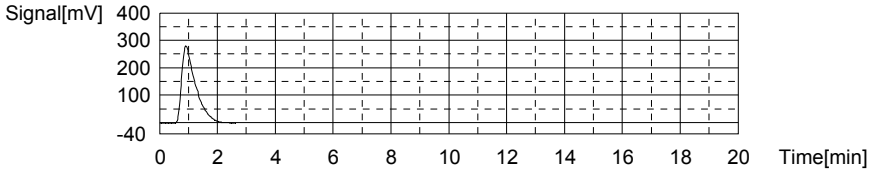
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:21.53mg/L TC:21.81mg/L IC:0.2836mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	940.1	21.81mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 8:39:46 PM

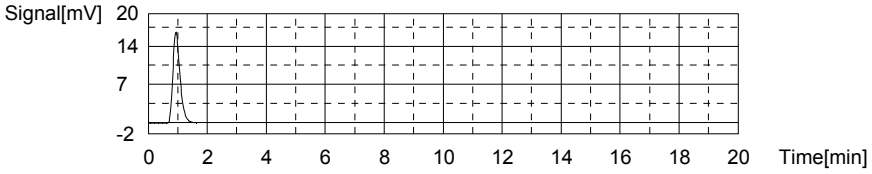
Mean Area 940.1
Mean Conc. 21.81mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	27.91	0.2836mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 8:44:16 PM

Mean Area 27.91
Mean Conc. 0.2836mg/L



Sample

Sample Name: WG605775-05 DUP
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

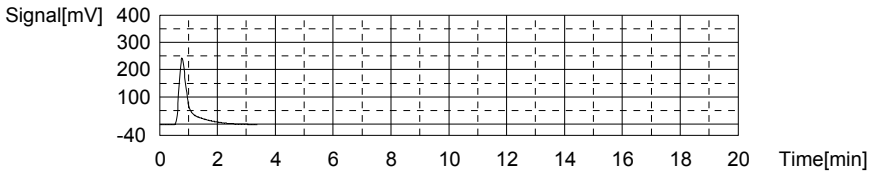
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.847mg/L TC:12.62mg/L IC:6.776mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	551.1	12.62mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 8:53:05 PM

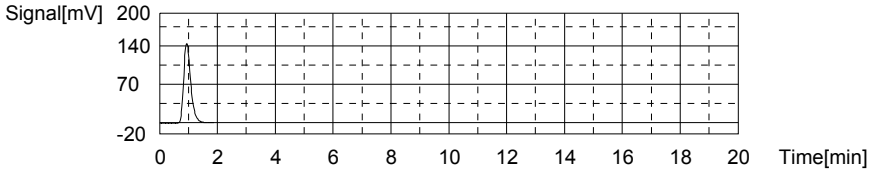
Mean Area 551.1
Mean Conc. 12.62mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	245.3	6.776mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 8:57:51 PM

Mean Area 245.3
Mean Conc. 6.776mg/L



Sample

Sample Name: WG605775-06 MS
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

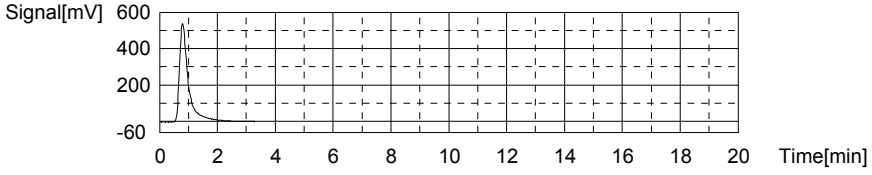
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:15.75mg/L TC:26.82mg/L IC:11.07mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1152	26.82mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 9:06:36 PM

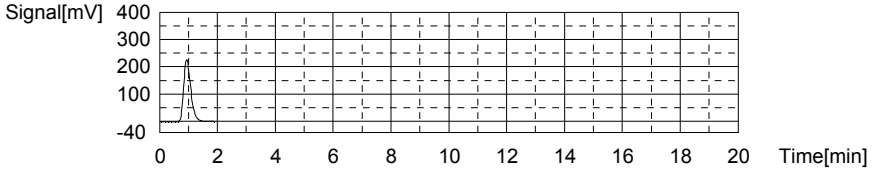
Mean Area 1152
Mean Conc. 26.82mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	389.1	11.07mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 9:11:24 PM

Mean Area 389.1
Mean Conc. 11.07mg/L



Sample

Sample Name: L17030577-01
Sample ID: <Untitled>
Origin: TOC-02-10-2017A.met
Status Completed
Chk. Result

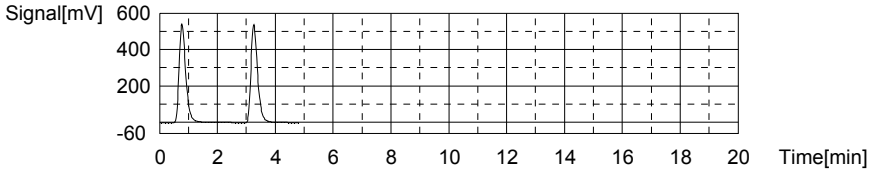
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.427mg/L TC:20.01mg/L IC:15.58mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	864.6	20.03mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 9:19:20 PM
2	862.8	19.99mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 9:23:57 PM

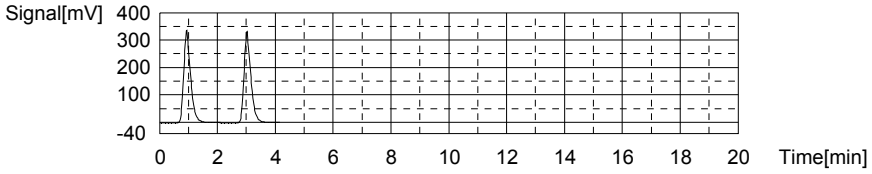
Mean Area 863.7
Mean Conc. 20.01mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	545.3	15.73mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 9:28:58 PM
2	535.0	15.43mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 9:33:44 PM

Mean Area 540.2
Mean Conc. 15.58mg/L



Sample

Sample Name: L17030577-02
Sample ID: <Untitled>
Origin: TOC-02-10-2017A.met
Status Completed
Chk. Result

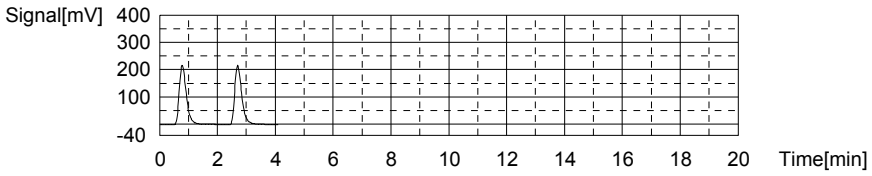
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.439mg/L TC:8.333mg/L IC:4.894mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	367.5	8.284mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 9:41:07 PM
2	371.6	8.381mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/10/2017 9:45:35 PM

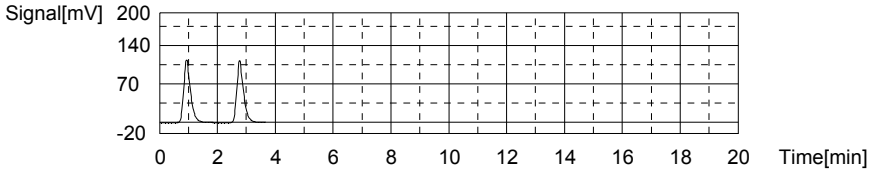
Mean Area 369.6
Mean Conc. 8.333mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	184.2	4.951mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 9:50:18 PM
2	180.4	4.837mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 9:54:49 PM

Mean Area 182.3
Mean Conc. 4.894mg/L



Sample

Sample Name: L17030577-04
Sample ID: <Untitled>
Origin: TOC-02-10-2017A.met
Status Completed
Chk. Result

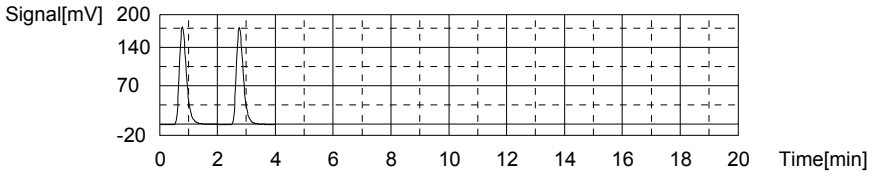
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.461mg/L TC:6.796mg/L IC:3.335mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	305.7	6.824mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 10:02:15 PM
2	303.3	6.767mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 10:06:32 PM

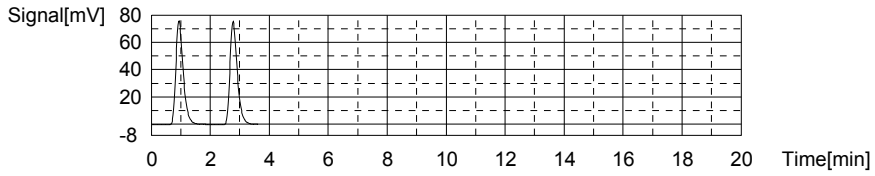
Mean Area 304.5
Mean Conc. 6.796mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	131.0	3.362mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 10:11:13 PM
2	129.2	3.308mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 10:15:43 PM

Mean Area 130.1
Mean Conc. 3.335mg/L



Sample

Sample Name: L17030558-01
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

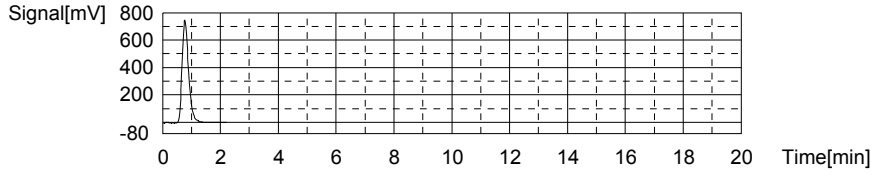
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.001mg/L TC:27.06mg/L IC:24.05mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1162	27.06mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 10:23:24 PM

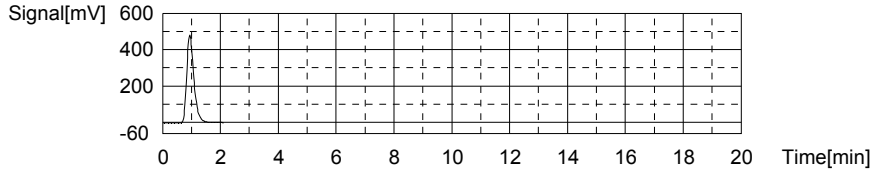
Mean Area 1162
Mean Conc. 27.06mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	823.9	24.05mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 10:28:32 PM

Mean Area 823.9
Mean Conc. 24.05mg/L



Sample

Sample Name: L17030558-02 MS
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

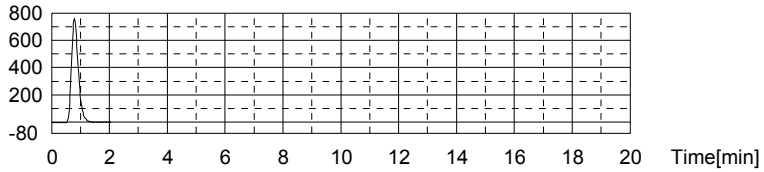
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:12.94mg/L TC:28.95mg/L IC:16.00mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1242	28.95mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 10:36:03 PM

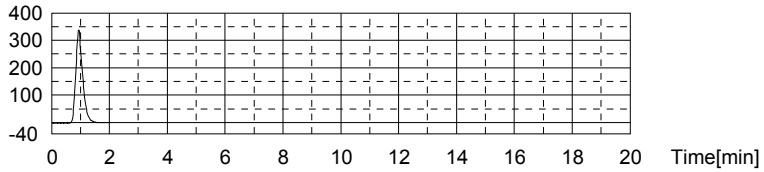
Mean Area 1242
Mean Conc. 28.95mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	554.3	16.00mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 10:41:02 PM

Mean Area 554.3
Mean Conc. 16.00mg/L



Sample

Sample Name: CCV
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

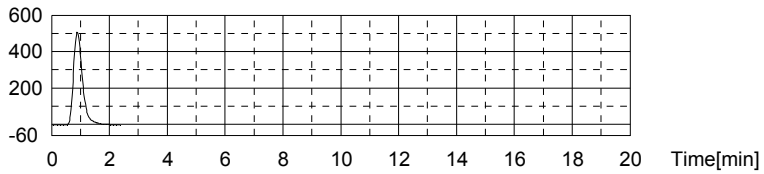
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:25.44mg/L TC:25.19mg/L IC:-0.2510mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1083	25.19mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 10:48:53 PM

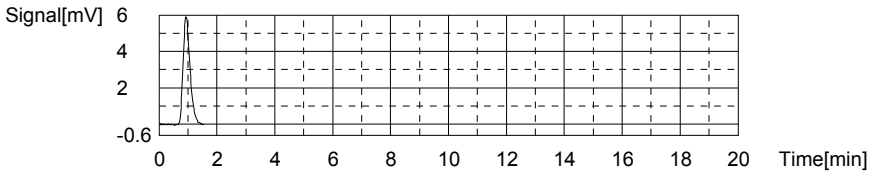
Mean Area 1083
Mean Conc. 25.19mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.01	-0.2510mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 10:53:18 PM

Mean Area 10.01
Mean Conc. -0.2510mg/L



Sample

Sample Name: CCB
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

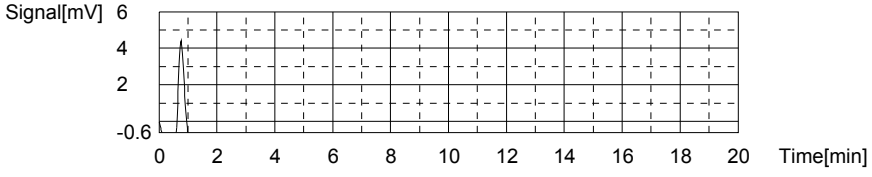
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.1179mg/L TC:-0.1752mg/L IC:-0.2931mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.449	-0.1752mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 10:58:19 PM

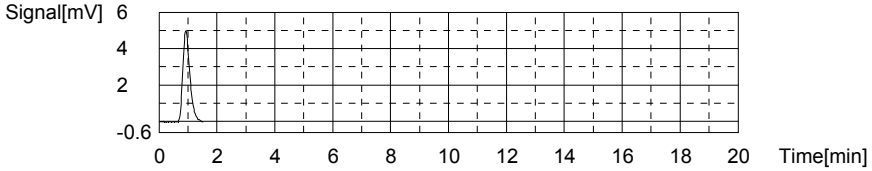
Mean Area 9.449
Mean Conc. -0.1752mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.599	-0.2931mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 11:02:12 PM

Mean Area 8.599
Mean Conc. -0.2931mg/L



Sample

Sample Name: L17030558-03 MSD
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

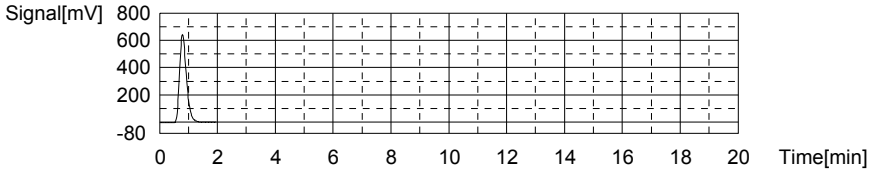
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:12.42mg/L TC:24.81mg/L IC:12.39mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1067	24.81mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 11:09:38 PM

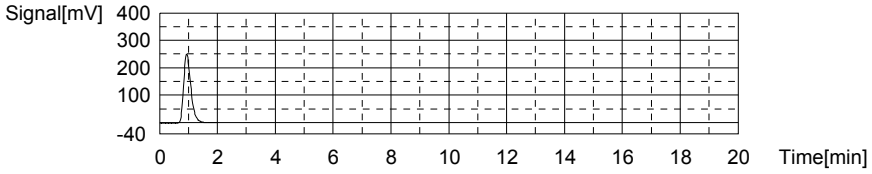
Mean Area 1067
Mean Conc. 24.81mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	433.4	12.39mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 11:14:32 PM

Mean Area 433.4
Mean Conc. 12.39mg/L



Sample

Sample Name: L17030558-04
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

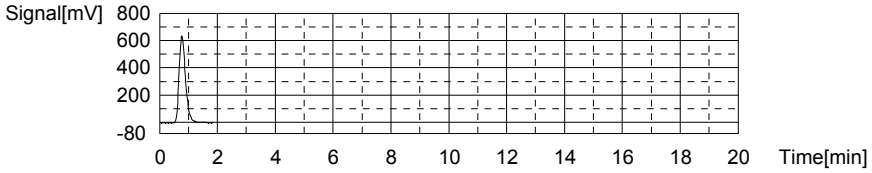
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.596mg/L TC:22.73mg/L IC:20.13mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	978.9	22.73mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 11:21:52 PM

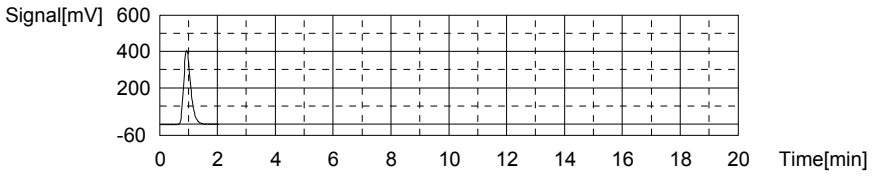
Mean Area 978.9
Mean Conc. 22.73mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	692.6	20.13mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 11:26:50 PM

Mean Area 692.6
Mean Conc. 20.13mg/L



Sample

Sample Name: L17030558-05
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

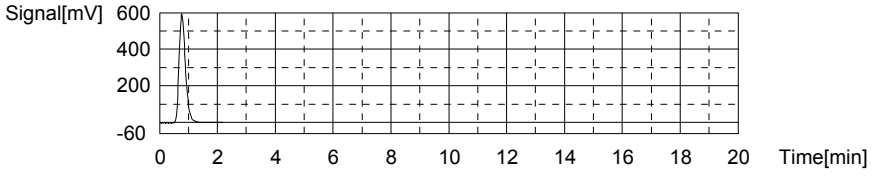
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.226mg/L TC:21.23mg/L IC:19.01mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	915.6	21.23mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 11:34:29 PM

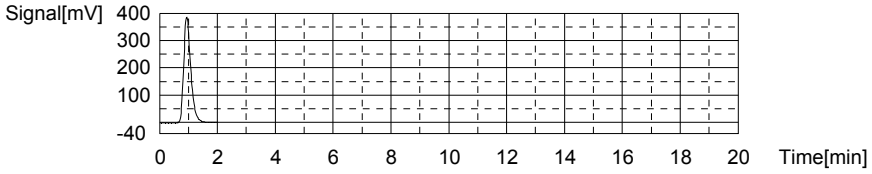
Mean Area 915.6
Mean Conc. 21.23mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	654.9	19.01mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 11:39:27 PM

Mean Area 654.9
Mean Conc. 19.01mg/L



Sample

Sample Name: L17030558-06 (2)
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

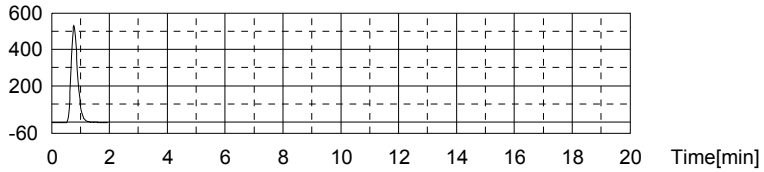
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.760mg/L TC:19.04mg/L IC:16.28mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	822.8	19.04mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 11:46:51 PM

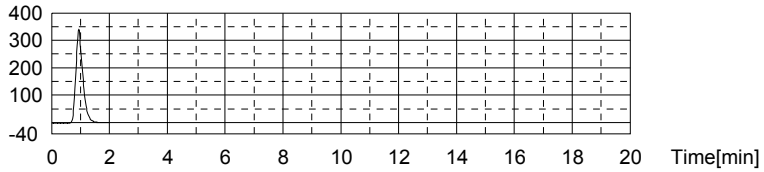
Mean Area 822.8
Mean Conc. 19.04mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	563.6	16.28mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/10/2017 11:51:50 PM

Mean Area 563.6
Mean Conc. 16.28mg/L



Sample

Sample Name: L17030558-10 (3)
Sample ID: <Untitled>
Origin: TOC-02-10-2017A.met
Status Completed
Chk. Result

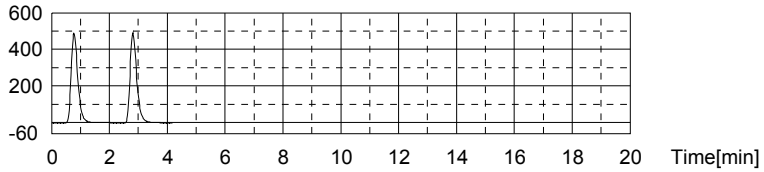
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.986mg/L TC:18.17mg/L IC:14.18mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	775.1	17.91mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/10/2017 11:59:21 PM
2	796.5	18.42mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/11/2017 12:03:54 AM

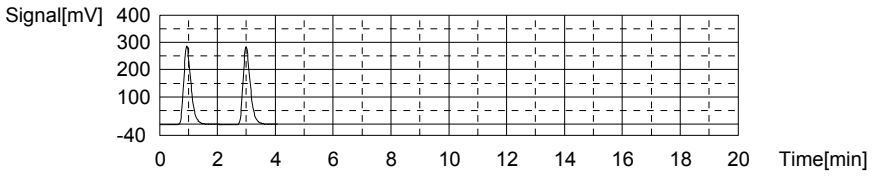
Mean Area 785.8
Mean Conc. 18.17mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	496.6	14.28mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/11/2017 12:08:53 AM
2	490.0	14.08mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/11/2017 12:13:39 AM

Mean Area 493.3
Mean Conc. 14.18mg/L



Sample

Sample Name: L17030558-11
Sample ID: <Untitled>
Origin: TOC-02-10-2017A.met
Status Completed
Chk. Result

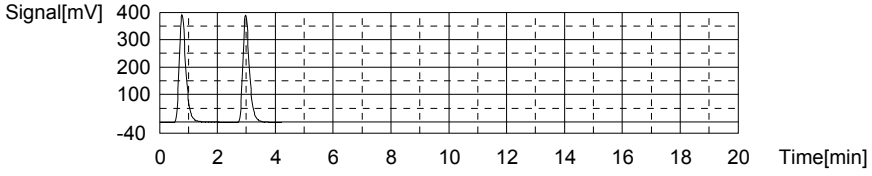
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.223mg/L TC:14.29mg/L IC:11.07mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	625.8	14.39mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/11/2017 12:21:19 AM
2	617.8	14.20mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/11/2017 12:25:40 AM

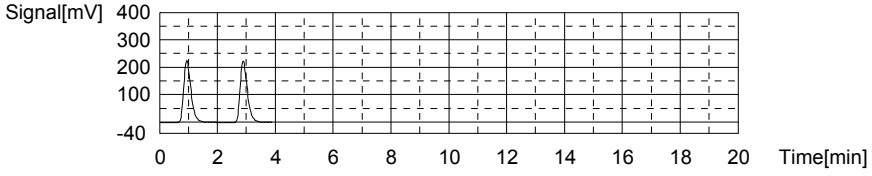
Mean Area 621.8
Mean Conc. 14.29mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	391.1	11.13mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/11/2017 12:30:34 AM
2	387.1	11.01mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/11/2017 12:35:14 AM

Mean Area 389.1
Mean Conc. 11.07mg/L



Sample

Sample Name: L17030558-12
Sample ID: <Untitled>
Origin: TOC-02-10-2017A.met
Status Completed
Chk. Result

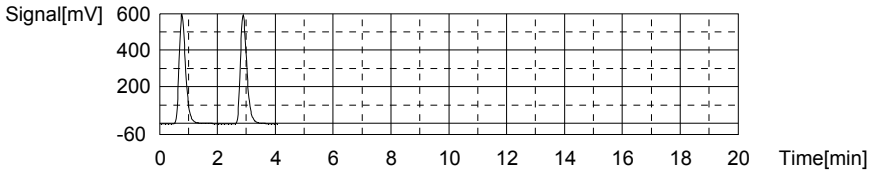
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.659mg/L TC:21.46mg/L IC:18.80mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	922.9	21.41mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/11/2017 12:42:49 AM
2	927.1	21.51mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/11/2017 12:47:04 AM

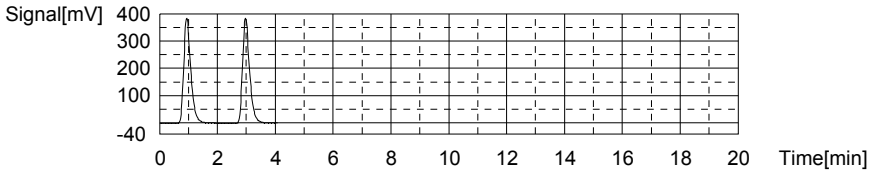
Mean Area 925.0
Mean Conc. 21.46mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	648.2	18.81mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_13	3/11/2017 12:52:04 AM
2	647.5	18.79mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_13	3/11/2017 12:56:49 AM

Mean Area 647.9
Mean Conc. 18.80mg/L



Sample

Sample Name: CCV
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

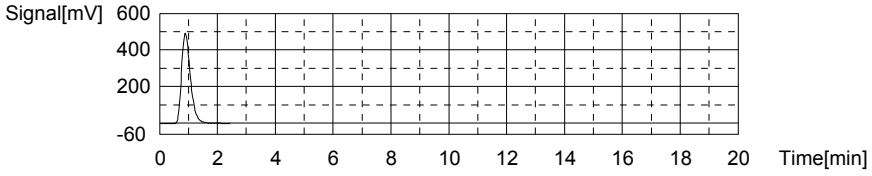
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:24.62mg/L TC:24.39mg/L IC:-0.2316mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1049	24.39mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/11/2017 1:04:44 AM

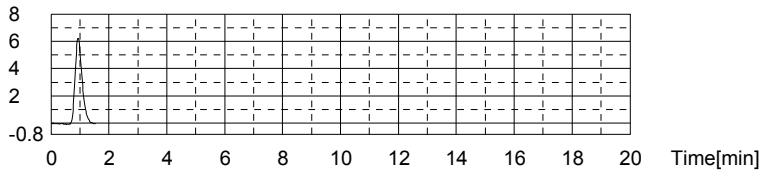
Mean Area 1049
Mean Conc. 24.39mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.66	-0.2316mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/11/2017 1:09:08 AM

Mean Area 10.66
Mean Conc. -0.2316mg/L



Sample

Sample Name: CCB
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

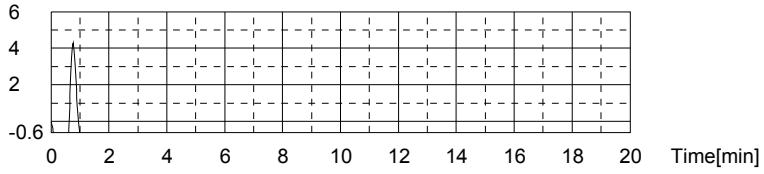
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.1102mg/L TC:-0.1736mg/L IC:-0.2838mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.518	-0.1736mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_55	3/11/2017 1:14:08 AM

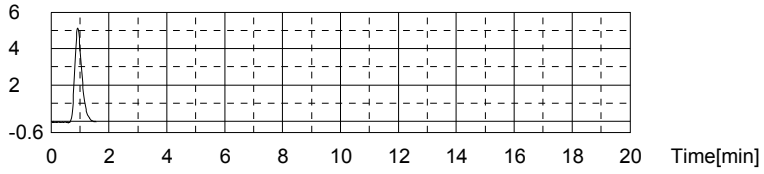
Mean Area 9.518
Mean Conc. -0.1736mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.912	-0.2838mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/11/2017 1:18:05 AM

Mean Area 8.912
Mean Conc. -0.2838mg/L



3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
March 17, 2017

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001 – BIO-CHEM TESTING WVDEP 220	002 – REIC Consultants, Inc. WVDEP 060
003 – Sturm Environmental	004 – MICROBAC PITTSBURGH
005 – ES LABORATORIES	006 – ALCOSAN LABORATORIES
007 – ALS LABORATORIES	008 – BENCHMARK LABORATORIES
010 – MICROBAC CHICAGOLAND	AC – AMBER R. CARMICHAEL
ADC – ANTHONY D. CANTER	ADG – APRIL D. GREENE
ALS – ADRIANE L. STEED	AWE – ANDREW W. ESSIG
AZH – AFTER HOURS	BJO – BRIAN J. OGDEN
BLG – BRENDA L. GREENWALT	BNB – Brandi N. Bentley
BRG – BRENDA R. GREGORY	CAS – Craig A. Smith
CEB – CHAD E. BARNES	CLC – CHRYS L. CRAWFORD
CLS – CARA L. STRICKLER	CPD – CHAD P. DAVIS
CSH – CHRIS S. HILL	CV – Carl Volkman
DAK – DEAN A. KETELSEN	DCM – DAVID C. MERCKLE
DEV – DAVID E. VANDENBERG	DIH – DEANNA I. HESSON
DLB – DAVID L. BUMGARNER	DLP – DOROTHY L. PAYNE
DSM – DAVID S. MOSSOR	DTG – DOMINIC T. GEHRET
ECL – ERIC C. LAWSON	EPT – ETHAN P. TIDD
ERP – ERIN R. PORTER	FJB – FRANCES J. BOLDEN
HRF – HEATHER R. FAIRCHILD	JDH – JUSTIN D. HESSON
JDS – JARED D. SMITH	JKP – JACQUELINE K. PARSONS
JLD – JESSICA L. DELONG	JST – JOSHUA S. TAYLOR
JTP – JOSHUA T. PEMBERTON	JWR – JOHN W. RICHARDS
JWS – JACK W. SHEAVES	JYH – JI Y. HU
KAK – KATHY A. KIRBY	KDD – Katelyn D. Daley
KEB – KATIE E. BARNES	KHR – KIM H. RHODES
KKB – KERRI K. BUCK	KRA – KATHY R. ALBERTSON
KRP – KATHY R. PARSONS	LJH – Lacey J. Hendershot
LLS – LARRY L. STEPHENS	LSB – LESLIE S. BUCINA
LSJ – LAURA S. JONES	MAP – MARLA A. PORTER
MBK – MORGAN B. KNOWLTON	MES – MARY E. SCHILLING
MMB – MAREN M. BEERY	MRT – MICHELLE R. TAYLOR
PDM – PIERCE D. MORRIS	PIT – MICROBAC WARRENDALE
REK – BOB E. KYER	RLB – BOB BUCHANAN
RNP – RICK N. PETTY	SAV – SARAH A. VANDENBERG
SCB – SARAH C. BOGOLIN	SDC – SHALYN D. CONLEY
TB – TODD BOYLE	TMB – TIFFANY M. BAILEY
TMM – TAMMY M. MORRIS	VC – VICKI COLLIER
WTD – WADE T. DELONG	XXX – UNAVAILABLE OR SUBCONTRACT

Microbac Laboratories Inc.
List of Valid Qualifiers
March 17, 2017

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
March 17, 2017

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

L17030455 / Revision: 0 / 137 total pages

CHAIN OF CUSTODY

Name Of Lab Shipping To: MICROBAC (740) 373-4071 ATTN: STEPHANIE MOSSBURG

Project: AECOM
LONGHORN ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No.
60256135.GWTPT
HRUMAR16

Job:
GROUNDWATER TREATMENT PLANT WEEKLY SAMPLES

Prepared By:
Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: AMMONIA-N	ORTHO-PHOSPHATE	TOTAL ORGANIC CARBON	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650-6422-Grab	Water	03/08/17 / 15:00		2	X		X	H2SO4	
LH18/24-SP650-6422-Grab	Water	03/08/17 / 15:00		1		X		NONE	

Additional Remarks: **Standard TAT on all parameters** Send results to Linda Raabe at linda.raabe@aecom.com or call at 210-253-7518

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
	03/08/17	15:30									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

Microbac OVD
Received: 03/09/2017 09:35
By: BRENDA GREGORY
221000097990

Brenda Gregory

(Word) S:\I-ces\Forms\Chain of Custody - BiWeekly

Generated: 03/17/2017 08:23

00844855

MICROBAC

Cooler ID 7990

COOLER TEMP >6° C LOG

SAMPLE ID	Bottle 1 °C	Bottle 2 °C	Bottle 3 °C	Bottle 4 °C	Bottle 5 °C	Bottle 6 °C

3/9/17 BG 3/9/17

pH Lot # HC693124

pH Exceptions

SAMPLE ID	Bottle 1	Bottle 2	Bottle 3	Bottle 4	Bottle 5	Bottle 6

BG 3/9/17

PRESERVATIVE EXCEPTIONS

__NONE

__AS NOTED

BG 3/9/17

Document Control # 1957
Last 10-07-2016

Issued to: Document Master File

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L17030455
Account: 2551
Project: 2551.096
Samples: 1
Due Date: 20-MAR-2017

Samplenum	Container ID	Products
L17030455-01	877639	PO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	09-MAR-2017 10:04	BRG		
2	ANALYZ	W1	WET	09-MAR-2017 11:11	SDC	BRG	
3	STORE	WET	A1	09-MAR-2017 17:33	AZH	SDC	

Samplenum	Container ID	Products
L17030455-01	877640	TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	09-MAR-2017 10:04	BRG		<2
2	ANALYZ	W1	WET	09-MAR-2017 14:20	DCM	BRG	
3	STORE	WET	A1	15-MAR-2017 08:02	AZH	TMM	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	09-MAR-2017 10:04	BRG		<2

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: L17030723

Linda Raabe
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 March 20 2017

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 #: L17030723
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.

There were no discrepancies.

Discrepancy	Resolution

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #	Temp Required?
0019900	I	3.0		1Z4016632210154830	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
9	Were samples received within EPA hold times?	Yes
10	Were correct preservatives used? (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	Yes
12	Were VOA samples free of headspace (less than 6mm)?	NA

Microbac

Lab Report #: L17030723
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
LH18/24-SP140-7423-GRAB	L17030723-01	03/13/2017 15:00	03/14/2017 09:34

Microbac Laboratories ● Ohio Valley Division
158 Starlite Drive, Marietta, OH 45750 ● T: (740)373-4071 F: (740)373-4835
www.microbac.com

Microbac REPORT L17030723
PREPARED FOR AECOM Technical Services, Inc.
WORK ID:

1.0 Summary Data 5
1.1 Narratives 6
1.2 Certificate of Analysis 25
2.0 Full Sample Data Package 31
2.1 Metals Data 32
2.1.1 Metals I C P Data 33
2.1.1.1 Summary Data 34
2.1.1.2 QC Summary Data 38
2.1.1.3 Raw Data 76
2.1.2 Metals ICP-MS Data 335
2.1.2.1 Summary Data 336
2.1.2.2 QC Summary Data 339
2.1.2.3 Raw Data 366
2.2 General Chemistry Data 469
2.2.1 Hexavalent Chromium Data 470
2.2.1.1 Summary Data 471
2.2.1.2 QC Summary Data 474
2.2.1.3 Raw Data 480
3.0 Attachments 488

1.0 Summary Data

1.1 Narratives

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030723
Project Name:		**Method:**	6010
Prep Batch Number(s):	WG606289	**Reviewer Name:**	Kim Rhodes
LRC Date:	2017-03-20 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
Kim Rhodes		Analyst III	2017-03-20 13:15:32

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030723
Project Name:		**Method:**	6010
Prep Batch Number(s):	WG606289	**Reviewer Name:**	Kim Rhodes
LRC Date:	2017-03-20 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				
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:**	L17030723
Project Name:		**Method:**	6010
Prep Batch Number(s):	WG606289	**Reviewer Name:**	Kim Rhodes
LRC Date:	2017-03-20 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:**	L17030723
Project Name:		**Method:**	6010
Prep Batch Number(s):	WG606289	**Reviewer Name:**	Kim Rhodes
LRC Date:	2017-03-20 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:**	L17030723
Project Name:		**Method:**	6010
Prep Batch Number(s):	WG606289	**Reviewer Name:**	Kim Rhodes
LRC Date:	2017-03-20 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:**	L17030723
Project Name:		**Method:**	6010
Prep Batch Number(s):	WG606289	**Reviewer Name:**	Kim Rhodes
LRC Date:	2017-03-20 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

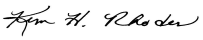
Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030723
Project Name:		**Method:**	6020
Prep Batch Number(s):	WG606254	**Reviewer Name:**	Kim Rhodes
LRC Date:	2017-03-20 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
Kim Rhodes		Analyst III	2017-03-20 13:13:13

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030723
Project Name:		**Method:**	6020
Prep Batch Number(s):	WG606254	**Reviewer Name:**	Kim Rhodes
LRC Date:	2017-03-20 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				
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				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030723
Project Name:		**Method:**	6020
Prep Batch Number(s):	WG606254	**Reviewer Name:**	Kim Rhodes
LRC Date:	2017-03-20 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:**	L17030723
Project Name:		**Method:**	6020
Prep Batch Number(s):	WG606254	**Reviewer Name:**	Kim Rhodes
LRC Date:	2017-03-20 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:**	L17030723
Project Name:		**Method:**	6020
Prep Batch Number(s):	WG606254	**Reviewer Name:**	Kim Rhodes
LRC Date:	2017-03-20 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:**	L17030723
Project Name:		**Method:**	6020
Prep Batch Number(s):	WG606254	**Reviewer Name:**	Kim Rhodes
LRC Date:	2017-03-20 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

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030723
Project Name:		**Method:**	CR-6
Prep Batch Number(s):	WG606176	**Reviewer Name:**	Deanna Hesson
LRC Date:	2017-03-17 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	2017-03-17 19:04:45

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030723
Project Name:		**Method:**	CR-6
Prep Batch Number(s):	WG606176	**Reviewer Name:**	Deanna Hesson
LRC Date:	2017-03-17 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					
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:**	L17030723
Project Name:		**Method:**	CR-6
Prep Batch Number(s):	WG606176	**Reviewer Name:**	Deanna Hesson
LRC Date:	2017-03-17 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:**	L17030723
Project Name:		**Method:**	CR-6
Prep Batch Number(s):	WG606176	**Reviewer Name:**	Deanna Hesson
LRC Date:	2017-03-17 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)			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:**	L17030723
Project Name:		**Method:**	CR-6
Prep Batch Number(s):	WG606176	**Reviewer Name:**	Deanna Hesson
LRC Date:	2017-03-17 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)	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).

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Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030723
Project Name:		**Method:**	CR-6
Prep Batch Number(s):	WG606176	**Reviewer Name:**	Deanna Hesson
LRC Date:	2017-03-17 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 #: L17030723
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030723-01	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO4
Client ID:	LH18/24-SP140-7423-GRAB	**Prep Method:**	3015A	**Prep Date:**	03/15/2017 09:47
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	03/16/2017 10:08
Workgroup #:	WG606355	**Analyst:**	KKB	**Run Date:**	03/16/2017 13:34
Collect Date:	03/13/2017 15:00	**Dilution:**	1	**File ID:**	T4.031617.133422
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Selenium, Total	7782-49-2	0.0800	U	0.0800	0.0800	0.0400

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

Microbac

Lab Report #: L17030723
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030723-01	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	LH18/24-SP140-7423-GRAB	**Prep Method:**	3015	**Prep Date:**	03/15/2017 08:03
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	03/15/2017 14:33
Workgroup #:	WG606367	**Analyst:**	JYH	**Run Date:**	03/15/2017 15:07
Collect Date:	03/13/2017 15:00	**Dilution:**	1	**File ID:**	NI.031517.150732
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Silver, Total	7440-22-4	0.00100	U	0.00200	0.00100	0.000500

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

Microbac

Lab Report #: L17030723
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030723-01	**PrePrep Method:**	N/A	**Instrument:**	UV-2600
Client ID:	LH18/24-SP140-7423-GRAB	**Prep Method:**	7196A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	7196A	**Cal Date:**	03/10/2017 13:59
Workgroup #:	WG606176	**Analyst:**	DLP	**Run Date:**	03/14/2017 14:50
Collect Date:	03/13/2017 15:00	**Dilution:**	1	**File ID:**	00.1703141450-06
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chromium, Hexavalent	18540-29-9	0.0100	U	0.0200	0.0100	0.00500

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

Microbac

Lab Report #: L17030723
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Microbac

Lab Report #: L17030723
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

2.0 Full Sample Data Package

2.1 Metals Data

2.1.1 Metals I C P Data

2.1.1.1 Summary Data

Microbac

Lab Report #: L17030723
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Microbac

Lab Report #: L17030723
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030723-01	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO4
Client ID:	LH18/24-SP140-7423-GRAB	**Prep Method:**	3015A	**Prep Date:**	03/15/2017 09:47
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	03/16/2017 10:08
Workgroup #:	WG606355	**Analyst:**	KKB	**Run Date:**	03/16/2017 13:34
Collect Date:	03/13/2017 15:00	**Dilution:**	1	**File ID:**	T4.031617.133422
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Selenium, Total	7782-49-2	0.0800	U	0.0800	0.0800	0.0400

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

Microbac

Lab Report #: L17030723
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
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2.1.1.2 QC Summary Data

Example 6010 Calculations
Thermo Scientific iCAP

1.0 Initial Calibration (ICAL) Parameters
For a multi-point calibration, the system performs linear regression from data consisting of a blank and four standards.

2.0 Calculating the concentration (C) of an element in water using data from prep log, run log, and quantitation report (note:the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:	**Example:**
Cs = Concentration computed by the data system in ug/mL (ppm)	0.1
Vf = Final volume (mL)	50
Vi = Initial volume (mL)	50
D = Dilution factor as a multiplier (10X = 10)	1
Cx = Concentration of element in ug/mL (mg/L)	0.1

3.0 Calculating the concentration (C) of an element in soil using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:	**Example:**
Cs = Concentration computed by the data system (mg/L) (ppm)	0.1
Vf = Final volume (mL)	50
Vi = Initial weight (g)	1
D = Dilution factor as a multiplier (10X = 10)	1
Cx = Concentration of element in ug/g (mg/kg)	5

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

Where:	**Example:**
Cx = Concentration calculated as received (wet basis)	5
Px = Percent solids of sample (%wt)	80
$Cdry$ = Concentration calculated as dry weight (mg/kg)	6.25

TCLP Non-Volatile

Analyst(s): BNB
Date: 3-14-17
Filter Lot #: 948e030
Microbac SOP: TCLP01 Rev #: 12

Balance ID: BAL020
pH Probe ID: T5
Temp probe ID: ☒ 1025 ☐ 1023

Analyst / Date		Analyst / Date	
BNB 3-14-17		BNB 3-15-17	
Time On	Temp On °C	Time Off	Temp Off °C
15:04	22.3	7:16	22.1

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	03-0728-01	Me	1311	F2-392	S	100	8.83	5.81	100.58	2011	4.13
16	03-0726-01	Me,Herb					7.91	6.56	100.26	2005	6.03
D	03-0737-01	Me					9.11	7.64	100.95	2019	4.49
NA	03-0737-02	Me		FIL	W	<0.5	NA	NA	100	100	7.65
NA	FBLK-2	Me,Herb	1311	F2-392	NA	NA	NA	NA	100	100	2.85

BNB 3-15-17

*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: Charles Davis

Microbac Laboratories Inc.
Microwave Digestion Log

Workgroup: WG606289
Analyst: ERP
Spike Analyst: ERP
Run Date: 03/15/2017 09:47
Method: 3015A
Balance: BAL019
Instrument: MW-1
Instrument Start: 03/15/2017 10:03

SOP: ME407 Revison 19
Spike Solution: STD80805
Spike Witness: VC
HNO3 Lot #: COA19483
HCL Lot #: COA19441
40 & 50 ML. DIGESTION TU COA19487
ICP FILTERS LOT#R6EA4780 RGT38286

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG606289-02	BLANK	1	40 mL	50 mL	206.123 g	206.11 g		
2	WG606138-01	FBLK2	17	5 mL	50 mL	206.271 g	206.277 g		
3	WG606289-03	LCS	1	40 mL	50 mL	211.258 g	211.234 g	5 mL	
4	L17030709-01	SAMP	1	40 mL	50 mL	208.153 g	208.133 g		03/21/17
5	L17030709-02	SAMP	1	40 mL	50 mL	206.687 g	206.671 g		03/21/17
6	L17030709-03	SAMP	1	40 mL	50 mL	206.121 g	206.099 g		03/21/17
7	L17030709-04	SAMP	1	40 mL	50 mL	206.136 g	206.113 g		03/21/17
8	L17030712-01	SAMP	1	40 mL	50 mL	208.657 g	208.642 g		03/21/17
9	L17030712-02	SAMP	1	40 mL	50 mL	206.22 g	206.197 g		03/21/17
10	L17030723-01	SAMP	1	40 mL	50 mL	204.967 g	204.933 g		03/24/17
11	L17030724-01	SAMP	1	40 mL	50 mL	206.54 g	206.524 g		03/24/17
12	WG606289-01	REF	17	5 mL	50 mL	207.507 g	207.483 g		
13	L17030728-01	SAMP	17	5 mL	50 mL	207.507 g	207.483 g		03/20/17
14	L17030737-01	SAMP	17	5 mL	50 mL	204.773 g	204.704 g		03/21/17
15	L17030737-02	SAMP	17	5 mL	50 mL	205.435 g	205.406 g		03/21/17
16	L17030741-01	SAMP	1	40 mL	50 mL	207.417 g	207.393 g		03/21/17
17	L17030771-01	SAMP	1	40 mL	50 mL	204.226 g	204.209 g		03/22/17
18	L17030772-01	SAMP	1	40 mL	50 mL	207.389 g	207.382 g		03/22/17
19	L17030772-02	SAMP	1	40 mL	50 mL	204.072 g	204.064 g		03/22/17
20	L17030772-03	SAMP	1	40 mL	50 mL	207.238 g	207.218 g		03/22/17
21	L17030772-04	SAMP	1	40 mL	50 mL	207.193 g	207.179 g		03/22/17
22	L17030772-05	SAMP	1	40 mL	50 mL	206.836 g	206.809 g		03/22/17
23	L17030781-01	SAMP	2	40 mL	50 mL	205.178 g	205.153 g		03/22/17
24	WG606289-04	MS	1	5 mL	50 mL	211.446 g	211.44 g	5 mL	
25	WG606289-05	MSD	1	5 mL	50 mL	211.236 g	211.195 g	5 mL	

L17030723-01	filtered digestate
L17030724-01	filtered digestate

Analyst: Erin Potter

Reviewer: Vicki Collins

MW_DIG - Modified 09/30/2009
PDF ID: 5198751
Report generated: 03/15/2017 10:48

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO4 Dataset: 031617T4.1R.TXT
Analyst1: KKB Analyst2: N/A
Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
Maintenance Log ID:

Calibration Std: STD80661 ICV Std: STD80660 Post Spike: STD80131
ICSA: STD80691 ICSAB: STD80650 Int. Std: RGT37691
CCV: ST80800 LLCCV: COA19158 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 606114, 606355, 606391, 606544

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	T4.031617.095341	WG606598-01	Calibration Point		1		03/16/17 09:53
2	T4.031617.095731	WG606598-02	Calibration Point		1		03/16/17 09:57
3	T4.031617.100121	WG606598-03	Calibration Point		1		03/16/17 10:01
4	T4.031617.100511	WG606598-04	Calibration Point		1		03/16/17 10:05
5	T4.031617.100847	WG606598-05	Calibration Point		1		03/16/17 10:08
6	T4.031617.101218	WG606598-06	Initial Calibration Verification		1		03/16/17 10:12
7	T4.031617.101554	WG606598-07	Initial Calib Blank		1		03/16/17 10:15
8	T4.031617.101944	WG606598-08	Low Level Initial Calibration V		1		03/16/17 10:19
9	T4.031617.102333	WG606598-09	Low Level Initial Calibration V		1		03/16/17 10:23
10	T4.031617.102723	WG606598-10	LLICV		1		03/16/17 10:27
11	T4.031617.103111	WG606598-11	Interference Check		1		03/16/17 10:31
12	T4.031617.103458	WG606598-12	Interference Check		1		03/16/17 10:34
13	T4.031617.103839	WG606598-13	CCV		1		03/16/17 10:38
14	T4.031617.104214	WG606598-14	CCB		1		03/16/17 10:42
15	T4.031617.113830	WG606051-02	Method/Prep Blank	40/50	1		03/16/17 11:38
16	T4.031617.114219	WG606051-03	Laboratory Control S	40/50	1		03/16/17 11:42
17	T4.031617.114559	WG606051-01	Reference Sample		1	L17030630-01	03/16/17 11:45
18	T4.031617.114956	WG606051-04	Matrix Spike	5/50	1	L17030630-01	03/16/17 11:49
19	T4.031617.115345	WG606051-05	Matrix Spike Duplica	5/50	1	L17030630-01	03/16/17 11:53
20	T4.031617.115735	L17030640-01	PPL-VACPOT	5/50	1		03/16/17 11:57
21	T4.031617.120125	L17030656-15	15005-C03-WQ-W0013	40/50	1		03/16/17 12:01
22	T4.031617.120515	L17030673-01	46003-G10-WQ-W0009	40/50	1		03/16/17 12:05
23	T4.031617.120901	WG606114-03	Post Digestion Spike		1	L17030673-01	03/16/17 12:09
24	T4.031617.121238	WG606114-04	Serial Dilution		5	L17030673-01	03/16/17 12:12
25	T4.031617.121624	WG606598-15	CCV		1		03/16/17 12:16
26	T4.031617.121956	WG606598-16	CCB		1		03/16/17 12:19
27	T4.031617.122343	L17030673-02	46003-G43-WQ-W0061	40/50	1		03/16/17 12:23
28	T4.031617.122729	L17030673-03	46007-G07-WQ-W0016	40/50	1		03/16/17 12:27
29	T4.031617.123117	L17030673-04	46007-G28-WQ-W0042	40/50	1		03/16/17 12:31
30	T4.031617.123503	L17030673-05	46007-G82-WQ-W0112	40/50	1		03/16/17 12:35
31	T4.031617.123851	WG606598-17	CCV		1		03/16/17 12:38
32	T4.031617.124222	WG606598-18	CCB		1		03/16/17 12:42
33	T4.031617.124609	WG606289-02	Method/Prep Blank		1		03/16/17 12:46
34	T4.031617.124956	WG606289-03	Laboratory Control S		1		03/16/17 12:49

Page: 1 Approved: March 17, 2017

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Instrument Run Log

Instrument: ICP-THERMO4 Dataset: 031617T4.1R.TXT
Analyst1: KKB Analyst2: N/A
Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
Maintenance Log ID:

Calibration Std: STD80661 ICV Std: STD80660 Post Spike: STD80131
ICSA: STD80691 ICSAB: STD80650 Int. Std: RGT37691
CCV: ST80800 LLCCV: COA19158 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 606114, 606355, 606391, 606544

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	T4.031617.125333	WG606138-01	Fluid Blank 2		1		03/16/17 12:53
36	T4.031617.125720	L17030709-01	59-11-11.11 W1		1		03/16/17 12:57
37	T4.031617.130103	L17030709-02	59-11-11.10 W1		1		03/16/17 13:01
38	T4.031617.130446	L17030709-03	59-10-1.22 W1		1		03/16/17 13:04
39	T4.031617.130829	L17030709-04	6-11-19 S5		1		03/16/17 13:08
40	T4.031617.131213	L17030712-01	2212-154A W1		1		03/16/17 13:12
41	T4.031617.131557	WG606289-01	Reference Sample		1	L17030728-01	03/16/17 13:15
42	T4.031617.131934	WG606289-02	Method/Prep Blank		5		03/16/17 13:19
43	T4.031617.132320	WG606598-19	CCV		1		03/16/17 13:23
44	T4.031617.132652	WG606598-20	CCB		1		03/16/17 13:26
45	T4.031617.133038	L17030712-02	2212-154A W1		1		03/16/17 13:30
46	T4.031617.133422	L17030723-01	LH18/24-SP140-7423-GRAB		1		03/16/17 13:34
47	T4.031617.133814	L17030724-01	LH18/24-SP650-6423-GRAB		1		03/16/17 13:38
48	T4.031617.134206	WG606289-01	Reference Sample		1	L17030728-01	03/16/17 13:42
49	T4.031617.134550	WG606289-04	Matrix Spike		1	L17030728-01	03/16/17 13:45
50	T4.031617.134922	WG606289-05	Matrix Spike Duplica		1	L17030728-01	03/16/17 13:49
51	T4.031617.135254	L17030737-01	J7C0849-01		1		03/16/17 13:52
52	T4.031617.135635	L17030737-02	J7C0849-02		1		03/16/17 13:56
53	T4.031617.140021	L17030741-01	USDA/ 12-20-16		1		03/16/17 14:00
54	T4.031617.140411	L17030771-01	1802-136 S10		1		03/16/17 14:04
55	T4.031617.140755	WG606598-21	CCV		1		03/16/17 14:07
56	T4.031617.141126	WG606598-22	CCB		1		03/16/17 14:11
57	T4.031617.141511	L17030772-01	45-17-1.03 W1		1		03/16/17 14:15
58	T4.031617.141854	L17030772-02	1803-126-D W1		1		03/16/17 14:18
59	T4.031617.142238	L17030772-03	1803-126-D W2		1		03/16/17 14:22
60	T4.031617.142621	L17030772-04	1803-126-D S1		1		03/16/17 14:26
61	T4.031617.143005	L17030772-05	45-17-1.04 W1		1		03/16/17 14:30
62	T4.031617.143347	L17030781-01	EGU04		1		03/16/17 14:33
63	T4.031617.143733	WG606598-23	CCV		1		03/16/17 14:37
64	T4.031617.144104	WG606598-24	CCB		1		03/16/17 14:41
65	T4.031617.145128	WG606343-02	Method/Prep Blank		1		03/16/17 14:51
66	T4.031617.145514	WG606343-03	Laboratory Control S		1		03/16/17 14:55
67	T4.031617.145852	L17030774-01	2212-118 W2		1		03/16/17 14:58
68	T4.031617.150235	L17030774-02	2212-118 W1		1		03/16/17 15:02

Page: 2 Approved: March 17, 2017

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO4 Dataset: 031617T4.1R.TXT
Analyst1: KKB Analyst2: N/A
Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
Maintenance Log ID:

Calibration Std: STD80661 ICV Std: STD80660 Post Spike: STD80131
ICSA: STD80691 ICSAB: STD80650 Int. Std: RGT37691
CCV: ST80800 LLCCV: COA19158 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 606114, 606355, 606391, 606544

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	T4.031617.150619	L17030774-03	2212-118 S1		1		03/16/17 15:06
70	T4.031617.151003	L17030774-04	2212-118 S2		1		03/16/17 15:10
71	T4.031617.151346	L17030774-05	2212-118 S3		1		03/16/17 15:13
72	T4.031617.151730	L17030774-06	2212-118 S4		1		03/16/17 15:17
73	T4.031617.152112	WG606598-25	CCV		1		03/16/17 15:21
74	T4.031617.152444	WG606598-26	CCB		1		03/16/17 15:24
75	T4.031617.152831	L17030774-07	2212-118 S5		1		03/16/17 15:28
76	T4.031617.153213	L17030777-01	1802-109 W1		1		03/16/17 15:32
77	T4.031617.153557	L17030777-02	1802-109 S1		1		03/16/17 15:35
78	T4.031617.153940	L17030777-03	1802-109 S2		1		03/16/17 15:39
79	T4.031617.154324	L17030777-04	1802-109 S3		1		03/16/17 15:43
80	T4.031617.154707	L17030779-01	2210-131 S1		1		03/16/17 15:47
81	T4.031617.155050	L17030779-02	2210-131 S2		1		03/16/17 15:50
82	T4.031617.155432	L17030780-01	1802-118 W2		1		03/16/17 15:54
83	T4.031617.155816	L17030780-02	1802-118 W3		1		03/16/17 15:58
84	T4.031617.160159	L17030780-03	1802-118 W1		1		03/16/17 16:01
85	T4.031617.160541	WG606598-27	CCV		1		03/16/17 16:05
86	T4.031617.160912	WG606598-28	CCB		1		03/16/17 16:09
87	T4.031617.161258	L17030783-01	1001-101-A S1		1		03/16/17 16:12
88	T4.031617.161641	WG606343-01	Reference Sample		1	L17030801-01	03/16/17 16:16
89	T4.031617.162027	WG606391-01	Post Digestion Spike		1	L17030801-01	03/16/17 16:20
90	T4.031617.162404	WG606391-02	Post Digestion Spike		5	L17030801-01	03/16/17 16:24
91	T4.031617.162749	WG606343-04	Matrix Spike		1	L17030801-01	03/16/17 16:27
92	T4.031617.163126	WG606343-05	Matrix Spike Duplica		1	L17030801-01	03/16/17 16:31
93	T4.031617.163502	WG606598-29	CCV		1		03/16/17 16:35
94	T4.031617.163834	WG606598-30	CCB		1		03/16/17 16:38
95	T4.031617.164219	WG606598-31	Low Level Continuing Calibra		1		03/16/17 16:42
96	T4.031617.164605	WG606598-32	Low Level Continuing Calibra		1		03/16/17 16:46
97	T4.031617.164950	WG606598-33	LLCCV		1		03/16/17 16:49
98	T4.031617.165335	WG606460-02	Method/Prep Blank		1		03/16/17 16:53
99	T4.031617.165722	WG606460-03	Laboratory Control S		1		03/16/17 16:57
100	T4.031617.170100	WG606253-02	Fluid Blank 1		1		03/16/17 17:01
101	T4.031617.170446	WG606253-01	Fluid Blank 2		1		03/16/17 17:04
102	T4.031617.170832	L17030739-01	COMPOSITE (3-10-17)		1		03/16/17 17:08

Page: 3 Approved: March 17, 2017

Kym H. Rhoden

Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO4 Dataset: 031617T4.1R.TXT
Analyst1: KKB Analyst2: N/A
Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
Maintenance Log ID:

Calibration Std: STD80661 ICV Std: STD80660 Post Spike: STD80131
ICSA: STD80691 ICSAB: STD80650 Int. Std: RGT37691
CCV: ST80800 LLCCV: COA19158 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 606114, 606355, 606391, 606544

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
103	T4.031617.171216	L17030816-02	PERMEATE		1		03/16/17 17:12
104	T4.031617.171602	L17030816-04	BLEED		1		03/16/17 17:16
105	T4.031617.171946	L17030816-06	N. DOCK FLUME		1		03/16/17 17:19
106	T4.031617.172332	WG606544-01	Post Digestion Spike		1	L17030816-06	03/16/17 17:23
107	T4.031617.172710	WG606544-02	Serial Dilution		5	L17030816-06	03/16/17 17:27
108	T4.031617.173056	WG606598-34	CCV		1		03/16/17 17:30
109	T4.031617.173427	WG606598-35	CCB		1		03/16/17 17:34
110	T4.031617.173812	L17030819-01	17C1064-01		1		03/16/17 17:38
111	T4.031617.174153	L17030821-01	17C0727-01		1		03/16/17 17:41
112	T4.031617.174536	WG606460-01	Reference Sample		1	L17030826-01	03/16/17 17:45
113	T4.031617.174921	WG606460-04	Matrix Spike		1	L17030826-01	03/16/17 17:49
114	T4.031617.175258	WG606460-05	Matrix Spike Duplica		1	L17030826-01	03/16/17 17:52
115	T4.031617.175635	L17030839-01	2402-102-A S1		1		03/16/17 17:56
116	T4.031617.180018	L17030840-01	1802-120-D S1		1		03/16/17 18:00
117	T4.031617.180402	L17030841-01	1805-106-B W1		1		03/16/17 18:04
118	T4.031617.180744	L17030842-01	1802-120-B W1		1		03/16/17 18:07
119	T4.031617.181128	L17030842-02	1802-120-B W2		1		03/16/17 18:11
120	T4.031617.181512	WG606598-36	CCV		1		03/16/17 18:15
121	T4.031617.181843	WG606598-37	CCB		1		03/16/17 18:18
122	T4.031617.182229	L17030843-01	1802-119 W1		1		03/16/17 18:22
123	T4.031617.182612	L17030843-02	1802-119 S1		1		03/16/17 18:26
124	T4.031617.182955	L17030843-03	1802-119 S4		1		03/16/17 18:29
125	T4.031617.183339	L17030843-04	1802-119 S2		1		03/16/17 18:33
126	T4.031617.183722	L17030743-05	4147		1		03/16/17 18:37
127	T4.031617.184106	WG606598-38	CCV		1		03/16/17 18:41
128	T4.031617.184439	WG606598-39	CCB		1		03/16/17 18:44

Page: 4 Approved: March 17, 2017

Kym H. Rhoden

Microbac

Microbac Laboratories Inc.

Data Checklist

Date: 16-MAR-2017
Analyst: KKB
Analyst: NA
Method: 6010B/6010C/200.7
Instrument: ICP-THERMO4
Curve Workgroup: 606598
Runlog ID: 81010
Analytical Workgroups: 606114, 606355, 606391, 606544

STD ID#s on Runlog	X
Calibration/Linearity	X
ICV/CCV	X
ICV RSD < 3% (EPA 200.7 only)	X
ICB/CCB	X
ICSA/ICSAB	X
CRI	X
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	0656, 0673, 0723, 0724, 0801
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:
17-MAR-2017

Secondary Reviewer:
17-MAR-2017

CHECKLIST1 - Modified 03/05/2008
Generated: MAR-17-2017 09:55:58

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6010C **AAB#:** WG606355

Login Number: L17030723

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
LH18/24-SP140-7423-GRAB	01	03/13/17					03/15/2017	1.8	180		03/16/17	2.9	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5204272
Report generated 03/17/2017 13:29

METHOD BLANK SUMMARY

Login Number:	L17030723	**Work Group:**	WG606355
Blank File ID:	T4.031617.124609	**Blank Sample ID:**	WG606289-02
Prep Date:	03/15/17 09:47	**Instrument ID:**	ICP-THERMO4
Analyzed Date:	03/16/17 12:46	**Method:**	6010C
Analyst:	KKB		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG606289-03	T4.031617.124956	03/16/17 12:49	01
LH18/24-SP140-7423-GRAB	L17030723-01	T4.031617.133422	03/16/17 13:34	01

Report Name: BLANK_SUMMARY
PDF File ID: 5204273
Report generated 03/17/2017 13:29

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L17030723 Prep Date: 03/15/17 09:47 Sample ID: WG606289-02
Instrument ID: ICP-THERMO4 Run Date: 03/16/17 12:46 Prep Method: 3015A
File ID: T4.031617.124609 Analyst: KKB Method: 6010C
Workgroup (AAB#): WG606355 Matrix: Water Units: mg/L
Contract #: Cal ID: ICP-TH-16-MAR-17

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Selenium, Total	0.0400	0.0800	0.0400	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: 5204274
17-MAR-2017 13:29

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17030723 **Run Date:** 03/16/2017 **Sample ID:** WG606289-03
Instrument ID: ICP-THERMO4 **Run Time:** 12:49 **Prep Method:** 3015A
File ID: T4.031617.124956 **Analyst:** KKB **Method:** 6010C
Workgroup (AAB#): WG606355 **Matrix:** Water **Units:** mg/L
QC Key: DOD4 **Lot#:** STD80805 **Cal ID:** ICP-TH-16-MAR-17

Analytes	Expected	Found	% Rec	LCS Limits	Q
Selenium, Total	0.250	0.234	93.5	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 5204275
Report generated: 03/17/2017 13:29

Microbac Laboratories Inc.

MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum: L17030723 Cal ID: ICP-THERMO4 - Worknum: WG606355

Instrument ID: ICP-THERMO4 Contract #: Method: 6010C

Parent ID: WG606289-01 File ID: T4.031617.134206 Dil: 1 Matrix: WATER

Sample ID: WG606289-04 MS File ID: T4.031617.134550 Dil: 1 Units: mg/L

Sample ID: WG606289-05 MSD File ID: T4.031617.134922 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Selenium, TCLP	ND	2.00	1.89	94.3	2.00	1.88	93.9	0.329	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: 5204276

Report generated 03/17/2017 13:29

Microbac Laboratories Inc.
Serial Dilution Report

Login: L17030723 **Worknum:** WG606355
Instrument: ICP-THERMO4 **Method:** 6010C
Serial Dil: WG606355-02 **File ID:** T4.031617.131934 **Dil:** 5 **Units:** ug/L
Sample: L17030712-01 **File ID:** T4.031617.131213 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Selenium	1.86		19.0		922.00	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: 5204270
03/17/2017 13:29

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L17030723 **Worknum:** WG606355
Instrument ID: ICP-THERMO4 **Method:** 6010C
Post Spike ID: WG606355-01 **File ID:** T4.031617.131557 **Dil:** 1 **Units:** ug/L
Sample ID: L17030712-01 **File ID:** T4.031617.131213 **Dil:** 1 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
SELENIUM	184		0	U	200	92.2	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: 5204271
Report generated: 03/17/2017 13:29

Microbac Laboratories Inc.
Initial Calibration Summary

Login:	**L17030723**	Workgroup (AAB#):	**WG606355**
Analytical Method:	**6010C**	Instrument ID:	**ICP-THERMO4**
ICAL Worknum:	**WG606598**	Initial Calibration Date:	**16-MAR-2017 10:08**

	WG606598-01		WG606598-02		WG606598-03		WG606598-04		WG606598-05			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
SELENIUM	0	0.0000300	NA	NA	.008	0.000180	.4	0.00592	.8	0.0119	.999076	

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: 5204279
Report generated: 17-MAR-2017 13:37

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L17030723 Run Date: 03/16/2017 Sample ID: WG606598-07
Instrument ID: ICP-THERMO4 Run Time: 10:15 Method: 6010C
File ID: T4.031617.101554 Analyst: KKB Units: mg/L
Workgroup (AAB#): WG606355 Cal ID: ICP-THERI - 16-MAR-17
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
SELENIUM	.032	.064	.032	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: 5204281
Report generated 03/17/2017 13:37

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L17030723	Run Date:	03/16/2017	Sample ID:	WG606598-14
Instrument ID:	ICP-THERMO4	Run Time:	10:42	Method:	6010C
File ID:	T4.031617.104214	Analyst:	KKB	Units:	mg/L
Workgroup (AAB#):	WG606355	Cal ID:	ICP-TH - 16-MAR-17		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Selenium	0.0320	0.0640	0.0320	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: 5204284
Report generated 03/17/2017 13:38

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L17030723	Run Date:	03/16/2017	Sample ID:	WG606598-18
Instrument ID:	ICP-THERMO4	Run Time:	12:42	Method:	6010C
File ID:	T4.031617.124222	Analyst:	KKB	Units:	mg/L
Workgroup (AAB#):	WG606355	Cal ID:	ICP-TH - 16-MAR-17		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Selenium	0.0320	0.0640	0.0320	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: 5204284
Report generated 03/17/2017 13:38

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L17030723	Run Date:	03/16/2017	Sample ID:	WG606598-20
Instrument ID:	ICP-THERMO4	Run Time:	13:26	Method:	6010C
File ID:	T4.031617.132652	Analyst:	KKB	Units:	mg/L
Workgroup (AAB#):	WG606355	Cal ID:	ICP-TH - 16-MAR-17		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Selenium	0.0320	0.0640	0.0320	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: 5204284
Report generated 03/17/2017 13:38

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L17030723	Run Date:	03/16/2017	Sample ID:	WG606598-22
Instrument ID:	ICP-THERMO4	Run Time:	14:11	Method:	6010C
File ID:	T4.031617.141126	Analyst:	KKB	Units:	mg/L
Workgroup (AAB#):	WG606355	Cal ID:	ICP-TH - 16-MAR-17		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Selenium	0.0320	0.0640	0.0320	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: 5204284
Report generated 03/17/2017 13:38

Microbac Laboratories Inc.

INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L17030723 Run Date: 03/16/2017 Sample ID: WG606598-06
Instrument ID: ICP-THERMO4 Run Time: 10:12 Method: 6010C
File ID: T4.031617.101218 Analyst: KKB Units: mg/L
Workgroup (AAB#): WG606355 Cal ID: ICP-TH - 16-MAR-17
QC Key: DOD4

Analyte		Expected	Found	%REC	LIMITS	Q
Selenium		.4	0.407	102	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 5204280
Report generated 03/17/2017 13:37

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17030723 Run Date: 03/16/2017 Sample ID: WG606598-13
Instrument ID: ICP-THERMO4 Run Time: 10:38 Method: 6010C
File ID: T4.031617.103839 Analyst: KKB QC Key: DOD4
Workgroup (AAB#): WG606355 Cal ID: ICP-TH - 16-MAR-17
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Selenium		0.400	0.397	mg/L	99.3	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 5204283
Report generated 03/17/2017 13:38

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17030723 Run Date: 03/16/2017 Sample ID: WG606598-17

Instrument ID: ICP-THERMO4 Run Time: 12:38 Method: 6010C

File ID: T4.031617.123851 Analyst: KKB QC Key: DOD4

Workgroup (AAB#): WG606355 Cal ID: ICP-TH - 16-MAR-17

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Selenium		0.400	0.406	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 5204283

Report generated 03/17/2017 13:38

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17030723 Run Date: 03/16/2017 Sample ID: WG606598-19

Instrument ID: ICP-THERMO4 Run Time: 13:23 Method: 6010C

File ID: T4.031617.132320 Analyst: KKB QC Key: DOD4

Workgroup (AAB#): WG606355 Cal ID: ICP-TH - 16-MAR-17

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Selenium		0.400	0.403	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 5204283

Report generated 03/17/2017 13:38

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17030723 Run Date: 03/16/2017 Sample ID: WG606598-21

Instrument ID: ICP-THERMO4 Run Time: 14:07 Method: 6010C

File ID: T4.031617.140755 Analyst: KKB QC Key: DOD4

Workgroup (AAB#): WG606355 Cal ID: ICP-TH - 16-MAR-17

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Selenium		0.400	0.399	mg/L	99.7	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 5204283

Report generated 03/17/2017 13:38

Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L17030723 **Run Date:** 03/16/2017 **Sample ID:** WG606598-08
Instrument ID: ICP-THERMO4 **Run Time:** 10:19 **Method:** 6010C
File ID: T4.031617.101944 **Analyst:** KKB **QC Key:** DOD4
Workgroup (AAB#): WG606355 **Cal ID:** ICP-TH - 16-MAR-17
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Selenium		0.0160	0.0199	mg/L	124	70 - 130		

*** Exceeds LIMITS Criteria**

LLCCV - Modified 1/7/2010
PDF File ID: 5204427
Report generated 03/17/2017 13:38

Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L17030723 Run Date: 03/16/2017 Sample ID: WG606598-31
Instrument ID: ICP-THERMO4 Run Time: 16:42 Method: 6010C
File ID: T4.031617.164219 Analyst: KKB QC Key: DOD4
Workgroup (AAB#): WG606355 Cal ID: ICP-TH - 16-MAR-17
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Selenium		0.0160	0.0173	mg/L	108	70 - 130		

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
PDF File ID: 5204427
Report generated 03/17/2017 13:38

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L17030723 **Workgroup (AAB#):** WG606355
Instrument ID: ICP-THERMO4 **Method:** 6010C
Sol. A : WG606598-11 **File ID:** T4.031617.103111 **Units:** mg/L
Sol. AB : WG606598-12 **File ID:** T4.031617.103458 **Matrix:** Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Selenium	NS	-0.00126	NS	0.250	0.237	94.8	

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: 5204282
Report generated 03/17/2017 13:37

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L17030723 **Date:** 01/04/2017
Insturment ID: ICP-THERMO4 **Method:** 6010C

Analyte	Wave Length	AG	AL	AS	B	BA
ALUMINUM	308.20	0	0	0	0	0
ANTIMONY	206.80	0	0.0000410	0	0	0
ARSENIC	189.00	0	0	0	0	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	0	0	0	0
BORON	249.60	0	0	0	0	0
CADMIUM	228.80	0	0	0.0145	0	-0.0000800
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0	0	0	0	0
COBALT	228.60	0	0	0	0	0
COPPER	224.70	0	0	0	0	0
IRON	261.10	0	0	0	0	0
LEAD	220.30	0	0.000378	0	0	0
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.10	0	0	0	0	0
MANGANESE	257.60	0	0	0	0	0
MOLYBDENUM	202.00	0	0	0	0	0
NICKEL	231.60	0	0	0	0	0
PHOSPHORUS	214.90	0	-0.000289	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.10	0	0.0000140	0	0	0
SILICON	212.40	0	0	0	0	0
SILVER	328.10	0	0	0	0	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0	0	0	0
THALLIUM	190.80	0	-0.0000120	0	0	0
TIN	189.90	0	0	0	0	0
TITANIUM	337.20	0	0	0	0	0
VANADIUM	292.40	0	0	0	0	0
ZINC	206.20	0	0.0000320	0	0	0
ZIRCONIUM	339.10	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 5204278
Report generated: 03/17/2017 13:37

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L17030723 **Date:** 01/04/2017
Insturment ID: ICP-THERMO4 **Method:** 6010C

Analyte	Wave Length	BE	CA	CD	CO	CR
ALUMINUM	308.20	0	0	0	-0.000820	0
ANTIMONY	206.80	0	0	0	0	0.0260
ARSENIC	189.00	0	0	0	0	-0.00730
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	0	0	0	0
BORON	249.60	0	0	0	0.00343	0
CADMIUM	228.80	0	0	0	-0.00390	0
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0	0	0	0	0
COBALT	228.60	0	0	0	0	-0.000200
COPPER	224.70	0	0	0	0.0000770	-0.00100
IRON	261.10	0	0	0	0	-0.00100
LEAD	220.30	0	0	0	-0.0000130	-0.000132
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.10	0	0	0	0	0
MANGANESE	257.60	0	0	0	0	0.0000500
MOLYBDENUM	202.00	0	0	0	0	0
NICKEL	231.60	0	0	0	-0.000860	0
PHOSPHORUS	214.90	0	0	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.10	0	0	0	0	0
SILICON	212.40	0	0	0	0	0
SILVER	328.10	0	0	0	0	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0.00000500	0	0	0
THALLIUM	190.80	0	0	0	0.00240	0.000276
TIN	189.90	0	0	0	0	0
TITANIUM	337.20	0	0	0	0	0
VANADIUM	292.40	0	0	0	0	-0.00350
ZINC	206.20	0	0	0	0	-0.00180
ZIRCONIUM	339.10	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 5204278
Report generated: 03/17/2017 13:37

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L17030723 **Date:** 01/04/2017
Insturment ID: ICP-THERMO4 **Method:** 6010C

Analyte	Wave Length	CU	FE	K	LI	MG
ALUMINUM	308.20	0	0	0	0	0
ANTIMONY	206.80	0	0.0000560	0	0	0
ARSENIC	189.00	0	-0.0000490	0	0	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	0	0	0	0
BORON	249.60	0	0.000648	0	0	0
CADMIUM	228.80	0	-0.00000500	0	0	0
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0	0.0000400	0	0	0
COBALT	228.60	0	0	0	0	0
COPPER	224.70	0	0.00139	0	0	0
IRON	261.10	0	0	0	0	0
LEAD	220.30	0.000609	0	0	0	0
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.10	0	0	0	0	0
MANGANESE	257.60	0	0	0	0	0.0000220
MOLYBDENUM	202.00	0	0	0	0	0
NICKEL	231.60	0	0.0000420	0	0	0
PHOSPHORUS	214.90	0.0390	0.000900	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.10	0	0	0	0	0
SILICON	212.40	0	0	0	0	0
SILVER	328.10	0	-0.000118	0	0	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.90	0	0	0	0	0
TITANIUM	337.20	0	-0.000200	0	0	0
VANADIUM	292.40	0	0.0000700	0	0	0
ZINC	206.20	0	0	0	0	0
ZIRCONIUM	339.10	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 5204278
Report generated: 03/17/2017 13:37

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L17030723 **Date:** 01/04/2017
Insturment ID: ICP-THERMO4 **Method:** 6010C

Analyte	Wave Length	MN	MO	NA	NI	P
ALUMINUM	308.20	0	0.0163	0	0	0
ANTIMONY	206.80	0	0.000910	0	-0.00190	0
ARSENIC	189.00	0	0.000139	0	0	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	0	0	0	0
BORON	249.60	0	-0.00190	0	0	0
CADMIUM	228.80	0	0.0000320	0	-0.000770	0
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0.000360	0	0	0	0
COBALT	228.60	0	-0.00200	0	0.000100	0
COPPER	224.70	0	0.00160	0	-0.0123	0
IRON	261.10	0	0	0	0	0
LEAD	220.30	0	-0.000610	0	0.000110	0
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.10	-0.00290	-0.0230	0	0	0
MANGANESE	257.60	0	0	0	0	0
MOLYBDENUM	202.00	0	0.0000300	0	0	0
NICKEL	231.60	0	0	0	0	0
PHOSPHORUS	214.90	0	0.00710	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.10	0.000600	0.000580	0	0	0
SILICON	212.40	0	-0.354	0	0	0
SILVER	328.10	0	-0.0000100	0	0	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0	0	0	0
THALLIUM	190.80	0.00100	0	0	0	0
TIN	189.90	0	0	0	0	0
TITANIUM	337.20	0	-0.000153	0	0	0
VANADIUM	292.40	-0.000200	-0.00160	0	0	0
ZINC	206.20	0	0	0	0	0
ZIRCONIUM	339.10	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 5204278
Report generated: 03/17/2017 13:37

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L17030723 **Date:** 01/04/2017
Insturment ID: ICP-THERMO4 **Method:** 6010C

Analyte	Wave Length	PB	SB	SE	SI	SN
ALUMINUM	308.20	0	0	0	0	0
ANTIMONY	206.80	0	0	0	0	-0.0320
ARSENIC	189.00	0	0	0	0	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	0	0	0	0
BORON	249.60	0	0	0	0	0
CADMIUM	228.80	0	0	0	0	0
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0	0	0	0	0
COBALT	228.60	0	0	0	0	0
COPPER	224.70	0.00440	0	0	0	0
IRON	261.10	0	0	0	0	0
LEAD	220.30	0	0	0	0	0
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.10	0	0	0	0	0
MANGANESE	257.60	0	0	0	0	0
MOLYBDENUM	202.00	0	0	0	0	0
NICKEL	231.60	0	0	0	0	0
PHOSPHORUS	214.90	0	0	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.10	0	0	0	0	0
SILICON	212.40	0	0	0	0	0
SILVER	328.10	0	0	0	0	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.90	0	0	0	0	0
TITANIUM	337.20	0	0	0	0	0
VANADIUM	292.40	0	0	0	0	0
ZINC	206.20	0	0	0	0	0
ZIRCONIUM	339.10	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 5204278
Report generated: 03/17/2017 13:37

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L17030723 **Date:** 01/04/2017
Insturment ID: ICP-THERMO4 **Method:** 6010C

Analyte	Wave Length	SR	TI	TL	V	ZN
ALUMINUM	308.20	0	0	0	0.0720	0
ANTIMONY	206.80	0	0.000500	0	-0.00360	0
ARSENIC	189.00	0	0	0	0.000107	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	-0.00000700	0	0.000990	0
BORON	249.60	0	0	0	0	0
CADMIUM	228.80	0	0	0	0.000102	0
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0	0.0000550	0	0	0
COBALT	228.60	0	0.00170	0	0.0000200	0
COPPER	224.70	0	0.000269	0	0	0
IRON	261.10	0	0	0	0	0
LEAD	220.30	0	0	0	-0.000126	0
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.10	0	-0.00290	0	0	0
MANGANESE	257.60	0	0	0	0	0
MOLYBDENUM	202.00	0	0	0	-0.000110	0
NICKEL	231.60	0	0	0	0	0
PHOSPHORUS	214.90	0	0	0	-0.00100	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.10	0	0	0	0	0
SILICON	212.40	0	0	0	0	0
SILVER	328.10	0	-0.000720	0	-0.000260	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0	0	0	0
THALLIUM	190.80	0	-0.00100	0	-0.0420	0
TIN	189.90	0	-0.00190	0	0	0
TITANIUM	337.20	0	0	0	0	0
VANADIUM	292.40	0	0.000820	0	0	0
ZINC	206.20	0	0	0	0	0
ZIRCONIUM	339.10	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 5204278
Report generated: 03/17/2017 13:37

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L17030723 **Date:** 01/04/2017
Insturment ID: ICP-THERMO4 **Method:** 6010C

Analyte	Wave Length	ZR
ALUMINUM	308.20	0
ANTIMONY	206.80	0
ARSENIC	189.00	0
BARIUM	455.40	0
BERYLLIUM	313.10	0
BORON	249.60	0
CADMIUM	228.80	0
CALCIUM	422.60	0
CHROMIUM	267.70	0
COBALT	228.60	0
COPPER	224.70	0
IRON	261.10	0
LEAD	220.30	0
LITHIUM	670.70	0
MAGNESIUM	279.10	0
MANGANESE	257.60	0
MOLYBDENUM	202.00	0
NICKEL	231.60	0
PHOSPHORUS	214.90	0
POTASSIUM	766.40	0
SELENIUM	196.10	0
SILICON	212.40	0
SILVER	328.10	0
SODIUM	589.50	0
STRONTIUM	407.70	0
THALLIUM	190.80	0
TIN	189.90	0
TITANIUM	337.20	0
VANADIUM	292.40	0
ZINC	206.20	0
ZIRCONIUM	339.10	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 5204278
Report generated: 03/17/2017 13:37

Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L17030723 **Date:** 01/24/2017
Insturment ID: ICP-THERMO4 **Method:** 6010C

Analyte	Integration Time (Sec.)	Concentration (ug/L)
Aluminum	10.00	900.0
Antimony	20.00	45.0
Arsenic	10.00	45.0
Barium	10.00	45.0
Beryllium	10.00	1.8
Boron	20.00	45.0
Cadmium	20.00	4.5
Calcium	8.00	270.0
Chromium	20.00	36.0
Cobalt	20.00	45.0
Copper	20.00	180.0
Iron	8.00	720.0
Lead	20.00	225.0
Lithium	8.00	36.0
Magnesium	8.00	900.0
Manganese	10.00	36.0
Molybdenum	20.00	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	4.5
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

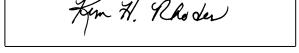
Comments:
All analytes passed acceptance criteria at the specified concentration.

LINEAR_RANGE - Modified 03/06/2008
PDF File ID: 5204277
Report generated: 03/17/2017 13:37

2.1.1.3 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}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	-0.000377	0.040947	0.000000	1.000000
Al 308.215 {109}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.001052	0.009807	0.000000	1.000000
As 189.042 {478}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000055	0.023517	0.000000	1.000000
B 249.678 {135}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000155	0.014403	0.000000	1.000000
Ba 455.403 { 74}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.011912	1.667451	0.000000	1.000000
Be 313.107 {108}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000249	0.755798	0.000000	1.000000
Ca 422.673 { 80}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000486	0.034315	0.000000	1.000000
Cd 228.802 {447}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000543	0.412574	0.000000	1.000000
Co 228.616 {447}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000314	0.314408	0.000000	1.000000
Cr 267.716 {126}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000037	0.038641	0.000000	1.000000
Cu 224.700 {450}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	-0.000345	0.096233	0.000000	1.000000
Fe 261.187 {129}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	-0.000011	0.015007	0.000000	1.000000
K 766.490 { 44}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	-0.004922	0.037360	0.000000	1.000000
Li 670.784 { 50}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	-0.002031	0.737314	0.000000	1.000000
Mg 279.079 {121}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	-0.000445	0.003212	0.000000	1.000000
Mn 257.610 {131}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000820	0.151843	0.000000	1.000000
Mo 202.030 {467}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000149	0.136077	0.000000	1.000000
Na 589.592 { 57}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	-0.008662	0.098226	0.000000	1.000000
Ni 231.604 {446}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	-0.000647	0.088890	0.000000	1.000000
P 214.914 {457}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000037	0.010596	0.000000	1.000000
Pb 220.353 {453}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	-0.000374	0.053962	0.000000	1.000000
Sb 206.833 {463}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000381	0.025000	0.000000	1.000000
Se 196.090 {472}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000026	0.014841	0.000000	1.000000
Si 212.412 {459}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000200	0.029746	0.000000	1.000000
Sn 189.989 {477}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.001459	0.070495	0.000000	1.000000
Sr 407.771 { 83}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.002520	2.437521	0.000000	1.000000
Ti 337.280 {100}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	-0.000870	0.088370	0.000000	1.000000
Tl 190.856 {477}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	-0.000118	0.019514	0.000000	1.000000
V 292.402 {115}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000074	0.053074	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}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000524	0.460070	0.000000	1.000000
Zr 339.198 { 99}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	-0.001965	0.002985	0.000000	1.000000

Approved: March 17, 2017



	Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Reslope		QC Norm	
							Slope	Y-int	Slope factor	Offset
	Ag 328.068 {103}	0.999528	0.000003	0.002400	0.008000	OK.	1.000000	0.000000	1	0
	Al 308.215 {109}	0.999861	0.000010	0.007659	0.025529	OK.	1.000000	0.000000	1	0
	As 189.042 {478}	0.999626	0.000003	0.004894	0.016312	OK.	1.000000	0.000000	1	0
	B 249.678 {135}	0.999694	0.000002	0.003360	0.011199	OK.	1.000000	0.000000	1	0
	Ba 455.403 { 74}	0.999987	0.000054	0.000831	0.002771	OK.	1.000000	0.000000	1	0
	Be 313.107 {108}	0.999952	0.000002	0.000088	0.000294	OK.	1.000000	0.000000	1	0
	Ca 422.673 { 80}	0.999979	0.000014	0.029006	0.096685	OK.	1.000000	0.000000	1	0
	Cd 228.802 {447}	0.999311	0.000005	0.000420	0.001401	OK.	1.000000	0.000000	1	0
	Co 228.616 {447}	0.999913	0.000005	0.000641	0.002138	OK.	1.000000	0.000000	1	0
	Cr 267.716 {126}	0.999824	0.000002	0.001518	0.005061	OK.	1.000000	0.000000	1	0
	Cu 224.700 {450}	0.999772	0.000007	0.002357	0.007858	OK.	1.000000	0.000000	1	0
	Fe 261.187 {129}	0.999879	0.000006	0.020959	0.069864	OK.	1.000000	0.000000	1	0
	K 766.490 { 44}	0.999976	0.000083	0.086305	0.287682	OK.	1.000000	0.000000	1	0
	Li 670.784 { 50}	0.999888	0.000108	0.004548	0.015160	OK.	1.000000	0.000000	1	0
	Mg 279.079 {121}	0.999931	0.000004	0.098161	0.327203	OK.	1.000000	0.000000	1	0
	Mn 257.610 {131}	0.999653	0.000013	0.002593	0.008644	OK.	1.000000	0.000000	1	0
	Mo 202.030 {467}	0.999984	0.000005	0.000798	0.002661	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	0.999990	0.000137	0.031103	0.103677	OK.	1.000000	0.000000	1	0
	Ni 231.604 {446}	0.999956	0.000003	0.002169	0.007231	OK.	1.000000	0.000000	1	0
	P 214.914 {457}	0.999944	0.000007	0.012054	0.040179	OK.	1.000000	0.000000	1	0
	Pb 220.353 {453}	0.998364	0.000010	0.005496	0.018321	OK.	1.000000	0.000000	1	0
	Sb 206.833 {463}	0.999901	0.000003	0.007448	0.024827	OK.	1.000000	0.000000	1	0
	Se 196.090 {472}	0.999076	0.000003	0.010472	0.034908	OK.	1.000000	0.000000	1	0
	Si 212.412 {459}	0.999988	0.000004	0.004176	0.013920	OK.	1.000000	0.000000	1	0
	Sn 189.989 {477}	0.999983	0.000003	0.001367	0.004557	OK.	1.000000	0.000000	1	0
	Sr 407.771 { 83}	0.999996	0.000046	0.000411	0.001370	OK.	1.000000	0.000000	1	0
	Ti 337.280 {100}	0.999936	0.000006	0.006407	0.021357	OK.	1.000000	0.000000	1	0
	Tl 190.856 {477}	0.999918	0.000001	0.006567	0.021891	OK.	1.000000	0.000000	1	0
	V 292.402 {115}	0.999973	0.000002	0.001210	0.004034	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}	0.999999	0.000005	0.000278	0.000928	OK.	1.000000	0.000000	1	0
	Zr 339.198 { 99}	0.612412	0.000024	0.295495	0.984985	OK.	1.000000	0.000000	1	0

Approved: March 17, 2017

Sample Name: S0 Acquired: 3/16/2017 9:53:41 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00038**	**.00105**	**.00006**	**.00016**	**.01191**	**.00025**	**.00049**
Stddev	.00007	.00002	.00016	.00001	.00145	.00007	.00084
%RSD	19.214	1.4476	287.21	7.6317	12.214	28.804	171.89
#1	-.00039	.00105	.00015	.00014	.01217	.00022	.00144
#2	-.00030	.00107	.00015	.00017	.01034	.00020	-.00011
#3	-.00044	.00104	-.00013	.00016	.01322	.00033	.00013

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	**.00054**	**.00031**	**.00004**	**-.00034**	**-.00001**	**-.00492**	**-.00203**
Stddev	.00021	.00015	.00003	.00011	.00018	.00285	.00512
%RSD	38.936	46.427	70.381	30.729	1619.3	57.865	251.69
#1	.00057	.00015	.00004	-.00024	-.00016	-.00776	-.00788
#2	.00032	.00039	.00006	-.00035	.00020	-.00206	.00014
#3	.00074	.00041	.00001	-.00045	-.00007	-.00495	.00164

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	**-.00044**	**.00082**	**.00015**	**-.00866**	**-.00065**	**.00004**	**-.00037**
Stddev	.00040	.00031	.00010	.00184	.00003	.00014	.00019
%RSD	90.124	38.227	69.178	21.258	3.9926	378.07	51.799
#1	-.00086	.00090	.00014	-.00697	-.00065	-.00013	-.00021
#2	-.00006	.00047	.00026	-.01063	-.00067	.00011	-.00032
#3	-.00042	.00109	.00005	-.00839	-.00062	.00012	-.00059

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00038**	**.00003**	**.00020**	**.00146**	**.00252**	**-.00087**	**-.00012**
Stddev	.00011	.00003	.00005	.00003	.00096	.00063	.00011
%RSD	29.821	120.42	25.119	1.9051	38.184	72.470	88.904
#1	.00029	.00006	.00015	.00148	.00341	-.00044	-.00006
#2	.00034	-.00001	.00021	.00147	.00265	-.00057	-.00006
#3	.00051	.00003	.00024	.00143	.00150	-.00159	-.00024

Approved: March 17, 2017

Sample Name: S0 Acquired: 3/16/2017 9:53:41 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: IR Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S
Avg	**.00007**	**.00052**	**-.00197**
Stddev	.00005	.00012	.00086
%RSD	69.041	22.486	43.549
#1	.00004	.00039	-.00147
#2	.00013	.00057	-.00295
#3	.00005	.00061	-.00147
Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4985.9**	**59970.**	**5422.6**
Stddev	24.4	1440.	51.7
%RSD	.48850	2.4009	.95292
#1	5010.8	58335.	5477.9
#2	4984.6	60522.	5414.3
#3	4962.2	61051.	5375.6

Approved: March 17, 2017

Sample Name: S1 Acquired: 3/16/2017 9:57:31 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00023**	**.00196**	**.02598**	**.00053**	**.00349**	**.00059**	**.00069**
Stddev	.00011	.00002	.00215	.00004	.00029	.00013	.00008
%RSD	46.712	1.0460	8.2714	6.9282	8.4091	21.614	11.298
#1	-.00011	.00198	.02421	.00050	.00315	.00056	.00060
#2	-.00027	.00194	.02535	.00053	.00369	.00073	.00074
#3	-.00032	.00196	.02837	.00057	.00362	.00048	.00073

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	**.00015**	**.00001**	**.00061**	**.01084**	**.00165**	**.00119**	**.03060**
Stddev	.00002	.00015	.00014	.00100	.00016	.00003	.00274
%RSD	14.766	1215.3	22.862	9.2209	9.4658	2.6491	8.9386
#1	.00014	.00016	.00069	.01193	.00166	.00118	.02890
#2	.00017	.00001	.00045	.00997	.00149	.00116	.03376
#3	.00013	-.00013	.00069	.01062	.00180	.00122	.02915

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	**-.00024**	**.00076**	**.00007**	**.00057**	**.00140**	**.00206**	**.02246**
Stddev	.00016	.00009	.00019	.00021	.00010	.00007	.00028
%RSD	67.459	12.089	255.74	36.296	6.9281	3.5973	1.2646
#1	-.00024	.00084	.00026	.00033	.00137	.00214	.02265
#2	-.00008	.00079	-.00012	.00072	.00151	.00204	.02259
#3	-.00040	.00066	.00009	.00066	.00132	.00199	.02213

Elem	Ti3372	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.00018**	**.00045**	**.00420**	**-.00159**
Stddev	.00009	.00006	.00009	.00063
%RSD	48.912	13.450	2.0702	39.439
#1	-.00011	.00043	.00423	-.00224
#2	-.00027	.00052	.00410	-.00156
#3	-.00014	.00041	.00426	-.00098

Approved: March 17, 2017

Sample Name: S1 Acquired: 3/16/2017 9:57:31 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**4977.3**	**61004.**	**5483.7**
Stddev	11.6	200.	20.1
%RSD	.23263	.32739	.36621
#1	4963.9	61176.	5495.0
#2	4984.3	61051.	5460.6
#3	4983.6	60785.	5495.7

Approved: March 17, 2017

Sample Name: S2 Acquired: 3/16/2017 10:01:21 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: IR Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.00001**	**.00286**	**.00015**	**.00031**	**.03944**	**.00081**	**.00592**
Stddev	.00002	.00007	.00003	.00001	.00044	.00003	.00041
%RSD	299.56	2.5772	19.824	4.1105	1.1092	3.7542	6.8902
#1	.00000	.00292	.00013	.00032	.03956	.00080	.00631
#2	.00001	.00278	.00014	.00030	.03980	.00084	.00596
#3	-.00003	.00288	.00018	.00030	.03896	.00078	.00549

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	**.00082**	**.00134**	**.00030**	**.00021**	**.00089**	**.02359**	**.01218**
Stddev	.00005	.00011	.00006	.00031	.00001	.00496	.00166
%RSD	5.7783	8.1894	20.546	152.04	.93405	21.047	13.593
#1	.00082	.00127	.00034	.00004	.00089	.02573	.01103
#2	.00077	.00128	.00023	.00001	.00090	.01791	.01142
#3	.00087	.00147	.00033	.00057	.00088	.02712	.01407

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	**.00015**	**.00234**	**.00221**	**.07256**	**.00012**	**.00169**	**.00015**
Stddev	.00029	.00020	.00008	.00400	.00015	.00015	.00015
%RSD	199.61	8.4304	3.7202	5.5119	126.04	8.6868	102.42
#1	.00013	.00244	.00213	.06795	.00011	.00169	-.00002
#2	.00045	.00211	.00221	.07516	-.00003	.00184	.00019
#3	-.00014	.00247	.00229	.07455	.00028	.00154	.00027

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00091**	**.00018**	**.00248**	**.00266**	**.04181**	**.00072**	**.00004**
Stddev	.00023	.00006	.00011	.00002	.00072	.00019	.00015
%RSD	25.280	33.751	4.4920	.90865	1.7279	25.920	386.14
#1	.00078	.00024	.00249	.00265	.04182	.00071	.00021
#2	.00077	.00013	.00236	.00264	.04253	.00054	-.00004
#3	.00117	.00016	.00258	.00268	.04108	.00092	-.00006

Approved: March 17, 2017

Sample Name: S2 Acquired: 3/16/2017 10:01:21 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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**	**.00789**	**-.00124**
Stddev	.00002	.00013	.00065
%RSD	2.2634	1.5888	52.540
#1	.00092	.00781	-.00190
#2	.00096	.00804	-.00120
#3	.00093	.00784	-.00060

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4981.2**	**61050.**	**5446.2**
Stddev	16.8	156.	33.0
%RSD	.33697	.25529	.60541
#1	4997.5	61145.	5484.1
#2	4982.1	61135.	5423.8
#3	4963.9	60870.	5430.8

Approved: March 17, 2017

Sample Name: S3 Acquired: 3/16/2017 10:05:11 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: IR Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.01589**	**.10133**	**.00936**	**.00726**	**1.6704**	**.03850**	**.34153**	**.02306**
Stddev	.00008	.00014	.00007	.00006	.0074	.00012	.00162	.00013
%RSD	.48613	.13528	.78665	.82204	.44246	.31545	.47341	.54432
#1	.01594	.10118	.00932	.00722	1.6713	.03840	.34220	.02295
#2	.01580	.10146	.00932	.00722	1.6773	.03846	.34271	.02319
#3	.01592	.10136	.00945	.00733	1.6626	.03864	.33969	.02304

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.06319**	**.01936**	**.04807**	**.05996**	**1.8489**	**.73334**	**.03141**	**.07649**
Stddev	.00013	.00009	.00024	.00021	.0076	.00253	.00023	.00009
%RSD	.19952	.45261	.49665	.35744	.41160	.34560	.74545	.11960
#1	.06333	.01931	.04779	.06009	1.8435	.73371	.03167	.07648
#2	.06311	.01930	.04822	.05971	1.8576	.73567	.03134	.07658
#3	.06311	.01946	.04819	.06008	1.8456	.73064	.03121	.07640

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.13560**	**4.8762**	**.04380**	**.10527**	**.02694**	**.02966**	**.00592**	**.13809**
Stddev	.00019	.0144	.00014	.00025	.00007	.00013	.00006	.00030
%RSD	.13879	.29507	.33094	.24158	.27667	.43967	.93108	.21452
#1	.13549	4.8816	.04396	.10512	.02695	.02965	.00599	.13842
#2	.13551	4.8871	.04368	.10512	.02702	.02980	.00591	.13786
#3	.13582	4.8599	.04376	.10556	.02687	.02954	.00588	.13798

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.07194**	**2.4306**	**.08658**	**.00895**	**.05268**	**.45928**	**.00090**
Stddev	.00024	.0116	.00063	.00011	.00007	.00032	.00067
%RSD	.33245	.47715	.73125	1.2583	.12596	.06985	75.083
#1	.07167	2.4273	.08603	.00905	.05274	.45892	.00016
#2	.07206	2.4434	.08727	.00897	.05269	.45940	.00106
#3	.07210	2.4209	.08644	.00882	.05261	.45953	.00147

Approved: March 17, 2017

Sample Name: S3 Acquired: 3/16/2017 10:05:11 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**4910.4**	**58241.**	**5448.8**
Stddev	11.7	264.	38.5
%RSD	.23727	.45361	.70601
#1	4909.9	58539.	5486.3
#2	4899.0	58036.	5409.4
#3	4922.3	58148.	5450.7

Approved: March 17, 2017

Sample Name: S4 Acquired: 3/16/2017 10:08:47 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: IR Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.03223	.19722	.01885	.01453	3.3542	.07768	.68869	.04586
Stddev	.00023	.00058	.00003	.00014	.0070	.00010	.00309	.00019
%RSD	.71997	.29280	.16468	.98325	.20816	.12810	.44857	.40441
#1	.03225	.19681	.01885	.01444	3.3477	.07759	.68715	.04587
#2	.03198	.19788	.01882	.01446	3.3534	.07779	.68667	.04567
#3	.03244	.19696	.01888	.01470	3.3616	.07767	.69224	.04604

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.12588	.03881	.09633	.12000	3.7458	1.4721	.06374	.15242
Stddev	.00052	.00011	.00027	.00101	.0086	.0089	.00049	.00014
%RSD	.41265	.27229	.27803	.83953	.22816	.60481	.77240	.09128
#1	.12590	.03869	.09661	.11927	3.7439	1.4684	.06403	.15230
#2	.12535	.03889	.09607	.11959	3.7552	1.4657	.06401	.15238
#3	.12639	.03885	.09631	.12115	3.7384	1.4823	.06317	.15257

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.27304	9.8377	.08813	.21368	.05342	.05948	.01192	.27676
Stddev	.00088	.0417	.00038	.00111	.00037	.00042	.00014	.00136
%RSD	.32070	.42342	.42818	.51767	.69465	.71450	1.1750	.49215
#1	.27300	9.8159	.08831	.21415	.05340	.05958	.01202	.27744
#2	.27219	9.8115	.08770	.21242	.05306	.05901	.01176	.27519
#3	.27394	9.8857	.08839	.21448	.05380	.05984	.01199	.27765

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.14195	4.8867	.17637	.01761	.10635	.92117	.00309
Stddev	.00071	.0133	.00085	.00020	.00019	.00304	.00056
%RSD	.49883	.27230	.47921	1.1585	.17432	.32960	17.982
#1	.14255	4.8751	.17643	.01784	.10614	.92316	.00247
#2	.14117	4.8837	.17719	.01745	.10642	.91767	.00354
#3	.14214	4.9012	.17550	.01755	.10649	.92267	.00327

Approved: March 17, 2017

Sample Name: S4 Acquired: 3/16/2017 10:08:47 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**4818.1**	**57424.**	**5382.5**
Stddev	27.4	346.	40.8
%RSD	.56790	.60225	.75792
#1	4800.4	57111.	5381.6
#2	4804.3	57795.	5342.2
#3	4849.6	57366.	5423.8

Approved: March 17, 2017

Sample Name: ICV Acquired: 3/16/2017 10:12:18 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.40077**	**10.093**	**.40616**	**.49379**	**.99352**	**.05039**	**10.072**
Stddev	.00401	.060	.00720	.00369	.00138	.00025	.077
%RSD	1.0007	.59713	1.7738	.74736	.13870	.50571	.76760
#1	.39723	10.076	.41045	.49011	.99467	.05012	10.140
#2	.40512	10.043	.41020	.49375	.99199	.05045	9.9879
#3	.39996	10.160	.39785	.49749	.99389	.05062	10.087
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	**.05054**	**.20141**	**.49945**	**.50288**	**3.9896**	**49.892**	**.99273**
Stddev	.00031	.00088	.00261	.00139	.0089	.094	.00387
%RSD	.60902	.43629	.52206	.27611	.22358	.18926	.38979
#1	.05023	.20078	.49981	.50360	3.9899	49.956	.99712
#2	.05085	.20104	.49668	.50376	3.9984	49.936	.98980
#3	.05053	.20241	.50186	.50128	3.9805	49.783	.99129
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	**10.095**	**.49880**	F **.94188**	**49.605**	**.50127**	**9.9306**	**.49731**
Stddev	.036	.00118	.00321	.251	.00232	.0402	.00218
%RSD	.35440	.23636	.34070	.50546	.46315	.40496	.43815
#1	10.103	.49786	.94404	49.885	.49862	9.9152	.49979
#2	10.126	.49841	.93819	49.402	.50231	9.9004	.49569
#3	10.056	.50012	.94341	49.528	.50290	9.9763	.49647
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value			1.0000				
Range			-5.0000%				

Approved: March 17, 2017

Sample Name: ICV Acquired: 3/16/2017 10:12:18 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**1.2173**	**.40720**	**4.9071**	**1.0050**	**.99554**	**.98996**	**.50052**
Stddev	.0033	.00097	.0220	.0056	.00192	.00601	.00678
%RSD	.27186	.23794	.44726	.55723	.19303	.60700	1.3545
#1	1.2135	.40700	4.8936	1.0037	.99650	.99533	.49728
#2	1.2191	.40635	4.8953	1.0002	.99679	.98347	.49597
#3	1.2193	.40826	4.9325	1.0112	.99332	.99108	.50831
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	**.99101**	**1.0026**	F **.64550**
Stddev	.00524	.0030	.07183
%RSD	.52924	.29989	11.129
#1	.98865	1.0020	.65576
#2	.98735	.99994	.71165
#3	.99702	1.0059	.56908
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	**4907.5**	**58305.**	**5468.6**
Stddev	13.5	667.	8.9
%RSD	.27458	1.1434	.16258
#1	4898.3	58516.	5458.5
#2	4923.0	58842.	5475.1
#3	4901.4	57559.	5472.3

Approved: March 17, 2017

Sample Name: ICB Acquired: 3/16/2017 10:15:54 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00124**	**.00159**	**-.00136**	**.00489**	**.00017**	**-.00007**	**-.03050**
Stddev	.00042	.00584	.00400	.00226	.00057	.00004	.01140
%RSD	34.112	366.75	293.42	46.210	327.91	55.496	37.393
#1	.00148	.00828	.00081	.00640	-.00033	-.00003	-.02036
#2	.00075	-.00100	.00107	.00229	.00080	-.00007	-.04284
#3	.00149	-.00250	-.00597	.00599	.00005	-.00011	-.02829
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	**-.00027**	**.00040**	**-.00143**	**-.00179**	**.01571**	**.15347**	**-.00026**
Stddev	.00033	.00045	.00117	.00333	.02058	.04886	.00197
%RSD	119.87	111.76	81.980	185.81	131.00	31.837	749.88
#1	-.00065	.00051	-.00027	-.00387	-.00632	.20641	-.00241
#2	-.00010	-.00009	-.00262	.00205	.01901	.14389	.00018
#3	-.00007	.00078	-.00140	-.00356	.03444	.11011	.00145
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	**.02218**	**.00253**	**-.00041**	**.02271**	**-.00031**	**.00374**	**-.00114**
Stddev	.00665	.00275	.00058	.03329	.00104	.00769	.00405
%RSD	29.992	108.42	139.96	146.57	332.43	205.52	354.95
#1	.01602	.00282	-.00031	.04380	-.00108	.00145	-.00010
#2	.02924	-.00035	.00011	-.01567	.00087	-.00254	.00228
#3	.02129	.00513	-.00103	.04001	-.00073	.01232	-.00561
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: ICB Acquired: 3/16/2017 10:15:54 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00085**	**.00443**	**.00088**	**.00023**	**-.00005**	**.00143**	**-.00219**
Stddev	.00349	.00512	.00090	.00076	.00049	.00138	.00309
%RSD	411.13	115.55	101.26	324.29	931.79	96.354	140.79
#1	-.00042	.00798	.00063	-.00020	.00040	.00001	-.00543
#2	.00241	.00676	.00014	.00111	.00002	.00152	-.00187
#3	-.00454	-.00144	.00188	-.00021	-.00058	.00275	.00072
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.00101**	**.00085**	F **.21915**
Stddev	.00119	.00018	.15808
%RSD	118.53	20.702	72.134
#1	.00235	.00068	.17629
#2	.00059	.00083	.39425
#3	.00008	.00104	.08692
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	**4988.5**	**60802.**	**5491.2**
Stddev	26.9	47.	17.3
%RSD	.53831	.07665	.31540
#1	4964.2	60847.	5496.8
#2	5017.4	60805.	5471.8
#3	4984.0	60754.	5505.1

Approved: March 17, 2017

Sample Name: LLICV Acquired: 3/16/2017 10:19:44 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.01235**	**.18783**	**.00400**	**.07759**	**.00857**	**.00155**	**.40930**	**.00044**
Stddev	.00134	.00596	.00171	.00175	.00015	.00002	.01525	.00026
%RSD	10.825	3.1726	42.864	2.2590	1.7165	1.2910	3.7261	58.483
#1	.01133	.19346	.00211	.07943	.00863	.00155	.39230	.00050
#2	.01186	.18845	.00545	.07739	.00840	.00157	.41382	.00016
#3	.01386	.18159	.00444	.07594	.00868	.00153	.42178	.00066
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00317**	**.00389**	**.00307**	**.08032**	**.80759**	**.08075**	**.42430**	**.00970**
Stddev	.00026	.00118	.00083	.00467	.04782	.00444	.09142	.00105
%RSD	8.1186	30.474	27.074	5.8130	5.9211	5.5029	21.546	10.802
#1	.00334	.00486	.00340	.08540	.85398	.08545	.47376	.00850
#2	.00329	.00257	.00368	.07932	.81032	.08017	.48032	.01019
#3	.00287	.00423	.00212	.07623	.75846	.07662	.31880	.01042
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	**.00766**	**.43968**	**.01615**	**.79905**	**.00882**	**.07811**	**.01988**	**.74125**
Stddev	.00026	.01485	.00118	.01799	.00084	.00368	.00777	.00268
%RSD	3.3902	3.3771	7.2763	2.2509	9.5061	4.7081	39.074	.36137
#1	.00740	.42253	.01486	.77828	.00958	.07598	.02490	.74434
#2	.00791	.44841	.01716	.80930	.00792	.07599	.01093	.73953
#3	.00767	.44809	.01642	.80956	.00896	.08236	.02381	.73989
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: LLICV Acquired: 3/16/2017 10:19:44 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.41451**	**.04093**	**.02264**	**.16818**	**.00809**	**.01818**	**27.797**
Stddev	.00100	.00021	.00282	.00225	.00106	.00033	.630
%RSD	.24091	.52400	12.475	1.3355	13.042	1.8160	2.2678
#1	.41562	.04068	.02588	.16736	.00930	.01843	28.453
#2	.41368	.04104	.02065	.16646	.00734	.01781	27.741
#3	.41424	.04107	.02140	.17072	.00764	.01831	27.196
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	**5012.3**	**61736.**	**5554.4**
Stddev	11.9	49.	40.8
%RSD	.23774	.07937	.73392
#1	5011.5	61714.	5510.3
#2	5000.8	61702.	5590.7
#3	5024.6	61792.	5562.1

Approved: March 17, 2017

Sample Name: LLICV Acquired: 3/16/2017 10:23:33 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.01141**	**.18195**	**.00859**	**.08037**	**.00863**	**.00149**	**.40664**	**.00062**
Stddev	.00120	.00725	.00166	.00293	.00026	.00006	.02031	.00019
%RSD	10.481	3.9872	19.322	3.6401	2.9589	4.0344	4.9936	29.780
#1	.01223	.17438	.00669	.08355	.00843	.00156	.42749	.00084
#2	.01004	.18884	.00927	.07978	.00856	.00145	.38693	.00052
#3	.01196	.18264	.00980	.07779	.00892	.00147	.40548	.00051
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	**.00433**	**.00258**	**.00043**	**.07734**	**.90854**	**.08150**	**.51160**	**.01046**
Stddev	.00033	.00043	.00076	.02001	.06499	.00344	.07751	.00213
%RSD	7.6549	16.477	176.35	25.875	7.1532	4.2152	15.151	20.379
#1	.00430	.00215	.00025	.07456	.96384	.08481	.43383	.00950
#2	.00401	.00260	.00127	.05886	.83696	.07795	.58886	.01290
#3	.00468	.00300	-.00022	.09859	.92483	.08175	.51212	.00897
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	**.00764**	**.43760**	**.01566**	**.78887**	**.01115**	**.08906**	**.01617**	**.73442**
Stddev	.00034	.04596	.00039	.01053	.00417	.00426	.00879	.00383
%RSD	4.4392	10.502	2.4892	1.3347	37.420	4.7871	54.361	.52204
#1	.00731	.40744	.01539	.79448	.00637	.08766	.01578	.73060
#2	.00799	.49049	.01610	.77673	.01302	.08568	.00759	.73438
#3	.00764	.41488	.01548	.79541	.01406	.09385	.02516	.73827
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: LLICV Acquired: 3/16/2017 10:23:33 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.40986**	**.04092**	**.02746**	**.16199**	**.00731**	**.01740**	**27.934**
Stddev	.00095	.00053	.00407	.00742	.00080	.00012	.083
%RSD	.23250	1.2906	14.819	4.5816	11.000	.69576	.29559
#1	.40876	.04073	.02671	.16994	.00663	.01744	27.975
#2	.41046	.04152	.02381	.16078	.00709	.01750	27.989
#3	.41035	.04052	.03185	.15524	.00820	.01727	27.839
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	**5007.4**	**61166.**	**5518.4**
Stddev	8.8	261.	12.2
%RSD	.17548	.42696	.22032
#1	5003.8	61415.	5522.1
#2	5017.4	61189.	5504.8
#3	5001.0	60894.	5528.2

Approved: March 17, 2017

Sample Name: LLICV Acquired: 3/16/2017 10:27:23 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.01203**	**.23284**	**.00726**	**.10003**	**.01115**	**.00194**	**.50169**	**.00104**
Stddev	.00177	.00731	.00587	.00016	.00094	.00007	.02196	.00045
%RSD	14.690	3.1408	80.834	.15923	8.4332	3.4763	4.3774	43.702
#1	.01406	.22497	.01350	.10015	.01071	.00197	.51461	.00051
#2	.01089	.23414	.00647	.10008	.01223	.00198	.51413	.00129
#3	.01112	.23943	.00183	.09985	.01051	.00186	.47634	.00131
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	**.00539**	**.00463**	**.00338**	**.10556**	**1.0697**	**.10224**	**.53436**	**.01050**
Stddev	.00008	.00171	.00232	.00695	.0254	.00272	.07963	.00322
%RSD	1.4023	36.984	68.497	6.5808	2.3726	2.6619	14.902	30.687
#1	.00548	.00558	.00530	.10841	1.0917	.09943	.58043	.01071
#2	.00534	.00566	.00404	.11064	1.0419	.10242	.44241	.00718
#3	.00536	.00265	.00081	.09765	1.0754	.10486	.58023	.01361
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	**.00946**	**.53022**	**.01992**	**1.0086**	**.01530**	**.10371**	**.01787**	**.93116**
Stddev	.00024	.01964	.00039	.0051	.00162	.00489	.00531	.00209
%RSD	2.5079	3.7039	1.9811	.50755	10.574	4.7156	29.727	.22435
#1	.00921	.53809	.02026	1.0135	.01352	.10935	.02130	.93163
#2	.00968	.50787	.01949	1.0033	.01573	.10064	.02056	.93297
#3	.00949	.54471	.02002	1.0090	.01667	.10114	.01175	.92888
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: LLICV Acquired: 3/16/2017 10:27:23 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	.52050	.05171	.02954	.20822	.00963	.02202	35.189
Stddev	.00217	.00009	.00636	.00170	.00053	.00011	.379
%RSD	.41690	.16852	21.540	.81831	5.5180	.48218	1.0759
#1	.52280	.05181	.03552	.20626	.00923	.02209	35.625
#2	.52020	.05166	.03025	.20930	.00943	.02190	34.951
#3	.51849	.05165	.02286	.20911	.01023	.02206	34.990
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	4967.7	60119.	5545.6
Stddev	41.5	608.	38.4
%RSD	.83508	1.0114	.69161
#1	4922.5	60821.	5545.1
#2	5004.1	59775.	5584.1
#3	4976.5	59760.	5507.4

Approved: March 17, 2017

Sample Name: ICSA Acquired: 3/16/2017 10:31:11 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00285**	**244.89**	**.00123**	**.01589**	**.00032**	**-.00005**	**226.01**
Stddev	.00179	.18	.00630	.00146	.00034	.00004	1.12
%RSD	62.951	.07294	512.42	9.1677	105.47	77.224	.49415
#1	.00182	244.89	.00392	.01615	.00060	-.00004	224.88
#2	.00180	244.72	-.00597	.01720	.00040	-.00002	226.05
#3	.00492	245.07	.00574	.01432	-.00005	-.00010	227.11
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	**.00024**	**-.00143**	**-.00243**	**-.00003**	**97.292**	**.16432**	**.00674**
Stddev	.00021	.00026	.00067	.00181	.418	.06369	.00160
%RSD	88.031	18.061	27.540	6027.7	.42924	38.763	23.722
#1	.00047	-.00173	-.00168	.00182	96.933	.10798	.00612
#2	.00005	-.00128	-.00295	-.00010	97.194	.15154	.00855
#3	.00021	-.00129	-.00266	-.00181	97.750	.23343	.00554
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	**245.39**	**.00220**	**-.00105**	**.06634**	**-.00478**	**.05064**	**.00007**
Stddev	.89	.00301	.00067	.03624	.00226	.00221	.00238
%RSD	.36217	136.81	63.738	54.622	47.279	4.3696	3505.0
#1	244.40	.00442	-.00073	.10692	-.00604	.04832	-.00266
#2	245.67	-.00122	-.00060	.05489	-.00217	.05273	.00173
#3	246.11	.00340	-.00182	.03721	-.00612	.05086	.00114
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: ICSA Acquired: 3/16/2017 10:31:11 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00236**	**-.00126**	**.01569**	**-.00011**	**.00131**	**-.00091**	**.00422**
Stddev	.00327	.01261	.00257	.00196	.00002	.00679	.00601
%RSD	138.62	1001.7	16.385	1792.2	1.7512	745.36	142.43
#1	.00162	-.00751	.01360	.00036	.00134	-.00704	.01083
#2	.00593	.01326	.01856	.00157	.00130	-.00209	-.00092
#3	-.00048	-.00952	.01491	-.00226	.00129	.00640	.00275
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	**-.00143**	**-.00617**	F **-2.8987**
Stddev	.00050	.00010	.2367
%RSD	34.861	1.6822	8.1657
#1	-.00174	-.00606	-2.8916
#2	-.00086	-.00626	-2.6656
#3	-.00171	-.00620	-3.1388
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	**4625.3**	**54858.**	**5398.8**
Stddev	22.8	229.	5.8
%RSD	.49349	.41683	.10731
#1	4605.3	55051.	5402.9
#2	4620.3	54606.	5401.3
#3	4650.2	54918.	5392.1

Approved: March 17, 2017

Sample Name: ICSAB Acquired: 3/16/2017 10:34:58 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.50777**	**246.71**	**.23656**	**.51030**	**.24764**	**.25679**	**227.43**
Stddev	.00272	.74	.00388	.00419	.00101	.00083	.85
%RSD	.53629	.30197	1.6400	.82053	.40731	.32448	.37317
#1	.50974	246.39	.23901	.50742	.24880	.25640	228.39
#2	.50467	246.17	.23209	.50838	.24720	.25622	227.15
#3	.50891	247.56	.23859	.51510	.24693	.25774	226.76
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	**.44712**	**.23733**	**.24470**	**.24451**	**98.327**	**5.2614**	**.00255**
Stddev	.00078	.00085	.00074	.00129	.203	.0955	.00219
%RSD	.17445	.35635	.30144	.52591	.20661	1.8149	85.980
#1	.44712	.23680	.24478	.24466	98.100	5.3501	.00385
#2	.44634	.23689	.24393	.24315	98.492	5.1603	.00002
#3	.44790	.23831	.24540	.24571	98.389	5.2739	.00379
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	**246.46**	**.24331**	**-.00140**	**5.1351**	**.47237**	**-.03055**	**.46480**
Stddev	.94	.00318	.00144	.0244	.00262	.02009	.00437
%RSD	.38173	1.3069	102.88	.47494	.55362	65.764	.93943
#1	247.05	.24023	-.00171	5.1577	.47428	-.00980	.46982
#2	246.96	.24658	.00017	5.1092	.46939	-.03193	.46188
#3	245.38	.24311	-.00265	5.1384	.47343	-.04990	.46270
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: ICSAB Acquired: 3/16/2017 10:34:58 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.48334**	**.23730**	**.00813**	**.48373**	**.00129**	**.00129**	**.44575**
Stddev	.00351	.01847	.00111	.00185	.00013	.00327	.00577
%RSD	.72628	7.7852	13.666	.38151	10.230	253.55	1.2953
#1	.48155	.24903	.00888	.48432	.00119	-.00068	.44041
#2	.48738	.24688	.00685	.48166	.00144	.00507	.45188
#3	.48109	.21601	.00865	.48521	.00125	-.00052	.44498
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	**.24805**	**.46914**	F **-3.0785**
Stddev	.00173	.00130	.0685
%RSD	.69639	.27765	2.2240
#1	.24820	.46864	-3.1121
#2	.24626	.46816	-2.9997
#3	.24971	.47061	-3.1236
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	**4621.4**	**54759.**	**5325.3**
Stddev	15.0	533.	32.1
%RSD	.32432	.97343	.60336
#1	4619.5	54214.	5354.9
#2	4607.4	54783.	5291.1
#3	4637.2	55279.	5329.9

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 10:38:39 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.39769**	**10.251**	**.39854**	**.49598**	**.99382**	**.04991**	**9.9775**
Stddev	.00299	.024	.00115	.00831	.00471	.00008	.0728
%RSD	.75203	.23499	.28936	1.6750	.47369	.15915	.72944
#1	.39768	10.223	.39766	.48889	.98842	.04982	9.9296
#2	.39471	10.266	.39811	.49393	.99597	.04995	9.9417
#3	.40069	10.264	.39984	.50512	.99707	.04996	10.061
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04974**	**.19999**	**.50106**	**.50351**	**3.9927**	**49.610**	**.99941**
Stddev	.00014	.00009	.00122	.00114	.0369	.465	.01207
%RSD	.28785	.04297	.24301	.22625	.92441	.93690	1.2073
#1	.04959	.20004	.50103	.50470	3.9672	49.098	.98685
#2	.04977	.20003	.49985	.50243	4.0350	49.727	1.0005
#3	.04987	.19989	.50229	.50339	3.9757	50.005	1.0109
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	**9.9192**	**.49826**	**.98748**	**49.722**	**.50377**	**9.8828**	**.50264**
Stddev	.2258	.00436	.00343	.562	.00244	.0232	.00559
%RSD	2.2767	.87561	.34717	1.1307	.48430	.23480	1.1123
#1	9.7166	.49384	.98934	49.116	.50096	9.8772	.49861
#2	10.163	.50256	.98957	49.822	.50535	9.9083	.50902
#3	9.8782	.49840	.98352	50.227	.50499	9.8629	.50028
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 10:38:39 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**1.1932**	**.39712**	**4.9273**	**.99282**	**.99262**	**.97334**	**.50680**
Stddev	.0063	.00302	.0082	.00070	.00198	.00652	.00460
%RSD	.52417	.76027	.16576	.07101	.19979	.67036	.90794
#1	1.1870	.39546	4.9213	.99201	.99043	.97058	.50150
#2	1.1995	.39531	4.9366	.99324	.99311	.96865	.50913
#3	1.1931	.40061	4.9241	.99322	.99431	.98079	.50978
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	**.99990**	**1.0046**	F **1.5699**
Stddev	.00127	.0012	.2966
%RSD	.12688	.12070	18.894
#1	.99854	1.0038	1.3408
#2	1.0001	1.0060	1.9050
#3	1.0010	1.0041	1.4641
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	**4879.7**	**58638.**	**5072.7**
Stddev	22.0	251.	329.5
%RSD	.45037	.42830	6.4951
#1	4905.1	58907.	5431.7
#2	4867.9	58599.	5002.3
#3	4866.2	58409.	4784.2

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 10:42:14 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00179**	**.00033**	**-.00177**	**.00367**	**.00054**	**-.00007**	**-.01348**
Stddev	.00183	.00307	.00182	.00024	.00082	.00002	.01321
%RSD	102.13	942.54	103.14	6.4799	150.37	23.479	97.970
#1	.00159	.00372	-.00241	.00377	.00148	-.00005	-.00061
#2	.00372	-.00227	-.00319	.00340	.00020	-.00008	-.01283
#3	.00007	-.00047	.00029	.00385	-.00005	-.00007	-.02700
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**	**.00002**	**-.00017**	**-.00270**	**-.00293**	**.04235**	**.00117**
Stddev	.00047	.00026	.00134	.00100	.00824	.11126	.00102
%RSD	773.33	1307.1	803.41	37.071	281.34	262.69	87.030
#1	-.00060	.00031	-.00108	-.00221	-.00736	.05675	.00000
#2	.00028	-.00007	-.00079	-.00204	.00658	.14571	.00187
#3	.00014	-.00018	.00137	-.00385	-.00801	-.07540	.00162
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04768**	**.00019**	**-.00060**	**.00937**	**-.00068**	**-.00837**	**.00028**
Stddev	.01266	.00178	.00018	.02103	.00056	.01020	.00086
%RSD	26.554	924.61	30.608	224.42	82.479	121.91	313.77
#1	.04210	-.00071	-.00061	-.01120	-.00070	-.01913	-.00071
#2	.06218	-.00095	-.00041	.00849	-.00011	.00118	.00065
#3	.03877	.00225	-.00077	.03084	-.00124	-.00716	.00089
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 10:42:14 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00306**	**-.00268**	**.00247**	**.00039**	**.00004**	**-.00113**	**-.00470**
Stddev	.00836	.01168	.00367	.00032	.00008	.00231	.00312
%RSD	273.18	435.66	148.57	83.911	191.80	204.12	66.385
#1	.00543	.00099	-.00073	.00074	-.00005	-.00371	-.00145
#2	-.00332	.00673	.00648	.00030	.00009	-.00042	-.00767
#3	-.01129	-.01576	.00167	.00011	.00008	.00074	-.00498
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**	**.00003**	F **.40223**
Stddev	.00070	.00037	.19392
%RSD	74.974	1254.6	48.212
#1	.00019	.00039	.55434
#2	.00159	-.00034	.46849
#3	.00102	.00004	.18386
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	**4958.2**	**60531.**	**5453.4**
Stddev	14.9	271.	24.8
%RSD	.29975	.44782	.45419
#1	4975.2	60229.	5478.5
#2	4951.6	60609.	5428.9
#3	4947.8	60754.	5452.9

Approved: March 17, 2017

Sample Name: PBW H5 Acquired: 3/16/2017 11:38:30 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606051-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00350**	**.00661**	**.00006**	**.00357**	**.00083**	**-.00005**	**-.01761**	**.00016**
Stddev	.00165	.00457	.00339	.00270	.00031	.00002	.02952	.00027
%RSD	47.113	69.098	5533.2	75.600	37.320	36.997	167.63	172.97
#1	.00210	.00149	.00373	.00285	.00063	-.00005	-.00649	.00008
#2	.00308	.00809	-.00296	.00131	.00118	-.00007	.00474	-.00007
#3	.00532	.01025	-.00058	.00656	.00067	-.00003	-.05107	.00046
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00063**	**-.00017**	**-.00078**	**.01323**	**-.02932**	**-.00257**	**.12674**	**-.00119**
Stddev	.00032	.00116	.00101	.01195	.05647	.00393	.07692	.00252
%RSD	50.324	695.83	129.29	90.300	192.64	152.76	60.692	212.77
#1	-.00099	.00043	-.00144	.02699	-.04019	.00196	.04589	-.00369
#2	-.00040	.00058	.00038	.00736	-.07956	-.00501	.13532	.00136
#3	-.00050	-.00150	-.00127	.00536	.03180	-.00466	.19902	-.00123
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	**-.00013**	**.02114**	**-.00029**	**-.01669**	**.00299**	**.00148**	**.00010**	**.00913**
Stddev	.00014	.05098	.00223	.00973	.00540	.00241	.00851	.00173
%RSD	111.44	241.10	766.10	58.310	180.38	162.56	8169.2	18.938
#1	.00004	-.01458	-.00257	-.02207	-.00001	.00151	-.00062	.01020
#2	-.00021	.07952	-.00018	-.02254	-.00023	-.00094	.00896	.01005
#3	-.00022	-.00151	.00188	-.00545	.00923	.00388	-.00802	.00714
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: PBW H5 Acquired: 3/16/2017 11:38:30 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606051-02

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00059	-.00003	-.00083	-.00282	-.00034	.00161	.31659
Stddev	.00146	.00021	.00117	.00428	.00149	.00015	.39654
%RSD	247.74	631.78	141.17	151.63	440.16	9.3303	125.25
#1	.00066	-.00017	-.00214	.00103	.00106	.00146	-.12091
#2	.00201	-.00014	-.00050	-.00208	-.00190	.00162	.65234
#3	-.00090	.00021	.00014	-.00742	-.00018	.00176	.41834
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	4949.0	59602.	5321.0
Stddev	14.7	483.	91.1
%RSD	.29739	.80992	1.7113
#1	4964.0	60146.	5249.1
#2	4934.6	59437.	5290.6
#3	4948.3	59224.	5423.4

Approved: March 17, 2017

Sample Name: LCSW H5 Acquired: 3/16/2017 11:42:19 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606051-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20404**	**5.2169**	**.19196**	**.93752**	**.50352**	**.02499**	**4.9117**	**.02462**
Stddev	.00052	.0146	.00116	.00138	.00312	.00004	.0496	.00004
%RSD	.25571	.27885	.60554	.14763	.61985	.16538	1.0107	.14715
#1	.20353	5.2237	.19126	.93862	.50130	.02496	4.8582	.02462
#2	.20400	5.2267	.19131	.93797	.50218	.02503	4.9206	.02458
#3	.20457	5.2002	.19330	.93596	.50709	.02497	4.9562	.02466
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	**.10139**	**.25377**	**.25002**	**2.0230**	**24.575**	**.49333**	**5.0889**	**.25106**
Stddev	.00046	.00087	.00128	.0060	.145	.00591	.0803	.00505
%RSD	.44908	.34208	.51111	.29712	.59051	1.1988	1.5770	2.0127
#1	.10157	.25307	.24858	2.0167	24.431	.48794	5.0073	.24888
#2	.10088	.25474	.25047	2.0287	24.721	.49240	5.1677	.24746
#3	.10174	.25350	.25101	2.0236	24.572	.49965	5.0917	.25684
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	**.48714**	**24.868**	**.25372**	**4.7695**	**.25071**	**.60385**	**.18914**	**2.4696**
Stddev	.00194	.220	.00232	.0214	.00600	.00400	.00667	.0084
%RSD	.39916	.88535	.91451	.44917	2.3937	.66313	3.5264	.33938
#1	.48555	24.670	.25155	4.7597	.24508	.60014	.19302	2.4616
#2	.48657	24.830	.25617	4.7548	.25703	.60330	.18144	2.4688
#3	.48931	25.105	.25345	4.7941	.25001	.60809	.19297	2.4783
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: LCSW H5 Acquired: 3/16/2017 11:42:19 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606051-03

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50592**	**.50014**	**.50046**	**.25594**	**.50450**	**.50117**	**.69420**
Stddev	.00118	.00357	.00126	.00300	.00116	.00225	.20527
%RSD	.23271	.71320	.25128	1.1702	.22976	.44944	29.570
#1	.50539	.49631	.49952	.25689	.50450	.49877	.49764
#2	.50510	.50075	.50189	.25259	.50566	.50151	.90720
#3	.50727	.50336	.49997	.25835	.50334	.50324	.67776
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	**4907.6**	**59385.**	**5512.3**
Stddev	27.7	278.	45.3
%RSD	.56538	.46758	.82176
#1	4934.6	59064.	5542.3
#2	4908.8	59542.	5534.4
#3	4879.2	59549.	5460.2

Approved: March 17, 2017

Sample Name: L1703063001 Acquired: 3/16/2017 11:45:59 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606051-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00191**	**.47760**	**-.00191**	**.02550**	**.01960**	**-.00006**	**5.5356**
Stddev	.00264	.00099	.00173	.00300	.00020	.00001	.0554
%RSD	138.03	.20660	90.157	11.763	1.0041	18.482	1.0013
#1	.00467	.47867	-.00139	.02760	.01938	-.00006	5.5598
#2	.00164	.47740	-.00384	.02207	.01974	-.00006	5.5747
#3	-.00058	.47672	-.00051	.02684	.01968	-.00004	5.4721
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**	**.00048**	**-.00101**	**-.00304**	**.00268**	**145.84**	**.02133**
Stddev	.00025	.00016	.00072	.00136	.00124	.38	.00203
%RSD	294.67	33.081	70.522	44.614	46.404	.25851	9.5101
#1	.00031	.00030	-.00159	-.00195	.00358	145.73	.02014
#2	.00012	.00054	-.00124	-.00456	.00126	146.27	.02019
#3	-.00018	.00059	-.00021	-.00262	.00319	145.54	.02368
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	**33.513**	**.29218**	**-.00027**	F **346.85**	**-.00026**	**.08220**	**.00240**
Stddev	.226	.00146	.00025	7.22	.00030	.00744	.00442
%RSD	.67472	.49801	92.909	2.0827	112.39	9.0497	184.45
#1	33.391	.29376	-.00035	340.20	-.00060	.08913	.00382
#2	33.774	.29190	.00001	345.81	-.00013	.07434	.00594
#3	33.375	.29089	-.00048	354.54	-.00006	.08313	-.00256
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: March 17, 2017

Sample Name: L1703063001 Acquired: 3/16/2017 11:45:59 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606051-01

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00251**	**.01614**	**.46143**	**.00112**	**.04502**	**.00215**	**-.00706**
Stddev	.00593	.00415	.00814	.00249	.00035	.00531	.00359
%RSD	236.51	25.727	1.7636	221.87	.78240	246.92	50.907
#1	.00368	.01788	.45219	-.00175	.04517	.00401	-.00515
#2	-.00813	.01913	.46459	.00270	.04526	-.00384	-.01120
#3	-.00306	.01140	.46752	.00241	.04461	.00628	-.00482
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**-.00009**	**.00288**	F **-.06984**
Stddev	.00146	.00006	.16875
%RSD	1668.1	1.9170	241.62
#1	.00145	.00290	-.03236
#2	-.00026	.00282	.07702
#3	-.00145	.00292	-.25419
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	**4674.7**	**55281.**	**5450.4**
Stddev	19.6	237.	28.2
%RSD	.41880	.42945	.51797
#1	4694.2	55117.	5482.6
#2	4674.6	55554.	5429.8
#3	4655.1	55173.	5438.8

Approved: March 17, 2017

Sample Name: L1703063001MS Acquired: 3/16/2017 11:49:56 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606051-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20370**	**5.2152**	**.19982**	**.98464**	**.51665**	**.02590**	**10.470**
Stddev	.00435	.0136	.00103	.00661	.00172	.00010	.011
%RSD	2.1343	.26145	.51300	.67162	.33240	.39224	.10896
#1	.20665	5.2260	.19984	.98582	.51566	.02596	10.469
#2	.20576	5.1999	.20083	.99058	.51863	.02578	10.482
#3	.19871	5.2197	.19878	.97752	.51566	.02595	10.459
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	**.02474**	**.09861**	**.25645**	**.24320**	**1.9993**	**169.66**	**.51709**
Stddev	.00049	.00062	.00060	.00257	.0158	.45	.00286
%RSD	1.9652	.62742	.23502	1.0547	.78873	.26556	.55330
#1	.02455	.09925	.25589	.24239	1.9862	169.56	.51973
#2	.02437	.09801	.25709	.24114	1.9950	170.15	.51405
#3	.02529	.09856	.25639	.24608	2.0168	169.26	.51749
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**38.534**	**.53904**	**.48799**	F **371.49**	**.24703**	**5.0630**	**.24231**
Stddev	.177	.00551	.00020	1.74	.00166	.0049	.00219
%RSD	.46010	1.0219	.04032	.46837	.67047	.09639	.90536
#1	38.514	.53959	.48821	370.34	.24646	5.0668	.23981
#2	38.720	.54425	.48782	370.63	.24573	5.0646	.24391
#3	38.367	.53327	.48794	373.49	.24889	5.0575	.24320
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: March 17, 2017

Sample Name: L1703063001MS Acquired: 3/16/2017 11:49:56 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606051-04

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.60875**	**.21344**	**2.7642**	**.49395**	**.53902**	**.49702**	**.23060**
Stddev	.00552	.00685	.0036	.00254	.00107	.00584	.00251
%RSD	.90731	3.2097	.12899	.51337	.19788	1.1745	1.0873
#1	.61307	.20668	2.7681	.49685	.53900	.50078	.23194
#2	.60252	.22038	2.7613	.49287	.54009	.49998	.22771
#3	.61064	.21326	2.7631	.49213	.53796	.49029	.23215
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	**.51268**	**.50725**	**.26497**
Stddev	.00083	.00078	.46412
%RSD	.16241	.15408	175.16
#1	.51173	.50793	.74800
#2	.51331	.50744	-.17760
#3	.51299	.50640	.22450
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	**4654.8**	**54571.**	**5414.8**
Stddev	14.5	103.	33.4
%RSD	.31246	.18871	.61733
#1	4639.0	54686.	5452.4
#2	4667.6	54542.	5388.2
#3	4657.8	54486.	5403.9

Approved: March 17, 2017

Sample Name: L1703063001MSD Acquired: 3/16/2017 11:53:45 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606051-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19862**	**5.1182**	**.19508**	**.97876**	**.51062**	**.02535**	**10.372**
Stddev	.00183	.0730	.00391	.01574	.00066	.00037	.012
%RSD	.92202	1.4267	2.0028	1.6086	.12888	1.4421	.11244
#1	.19774	5.0349	.19450	.96229	.51068	.02497	10.360
#2	.20073	5.1714	.19925	.99366	.50993	.02569	10.383
#3	.19740	5.1482	.19150	.98031	.51124	.02539	10.373
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	**.02446**	**.09735**	**.25116**	**.24052**	**1.9978**	**168.20**	**.50957**
Stddev	.00064	.00062	.00367	.00064	.0066	.72	.00322
%RSD	2.6194	.63938	1.4622	.26596	.32884	.42646	.63277
#1	.02519	.09761	.24701	.24076	2.0049	168.95	.50841
#2	.02401	.09663	.25400	.24100	1.9920	167.52	.50708
#3	.02417	.09779	.25247	.23979	1.9965	168.15	.51321
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**38.122**	**.53327**	**.47964**	F **366.52**	**.24199**	**4.9463**	**.24042**
Stddev	.147	.00470	.00217	.39	.00147	.0189	.00287
%RSD	.38603	.88140	.45143	.10521	.60673	.38221	1.1937
#1	38.009	.52883	.48066	366.16	.24305	4.9616	.23985
#2	38.288	.53279	.47715	366.47	.24031	4.9251	.23788
#3	38.069	.53819	.48110	366.93	.24261	4.9520	.24354
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: March 17, 2017

Sample Name: L1703063001MSD Acquired: 3/16/2017 11:53:45 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606051-05

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.58749**	**.20650**	**2.7126**	**.48432**	**.53500**	**.49797**	**.23312**
Stddev	.00336	.01325	.0099	.00117	.00102	.00547	.00841
%RSD	.57125	6.4164	.36540	.24158	.18980	1.0989	3.6091
#1	.58842	.21259	2.7072	.48471	.53617	.49171	.23201
#2	.58377	.19131	2.7066	.48300	.53430	.50036	.22532
#3	.59028	.21562	2.7241	.48524	.53454	.50185	.24204
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	**.50262**	**.49909**	**.44276**
Stddev	.00679	.00103	.28197
%RSD	1.3518	.20623	63.684
#1	.49523	.49945	.75691
#2	.50860	.49793	.35980
#3	.50402	.49990	.21158
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	**4585.0**	**55195.**	**5452.2**
Stddev	12.3	1086.	11.4
%RSD	.26900	1.9667	.20906
#1	4587.5	56428.	5442.7
#2	4595.9	54383.	5449.0
#3	4571.6	54774.	5464.8

Approved: March 17, 2017

Sample Name: L1703064001 Acquired: 3/16/2017 11:57:35 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00427**	**.02496**	**.00223**	**.15443**	**.00136**	**-.00011**	**.27490**	**-.00006**
Stddev	.00297	.00245	.00192	.00283	.00069	.00003	.02854	.00025
%RSD	69.537	9.8335	86.053	1.8309	50.931	24.766	10.383	398.98
#1	.00221	.02772	.00082	.15676	.00211	-.00014	.24419	.00022
#2	.00293	.02302	.00441	.15129	.00074	-.00008	.30061	-.00017
#3	.00768	.02413	.00145	.15526	.00124	-.00012	.27990	-.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	**-.00022**	**-.00053**	**-.00238**	**.01086**	**2.0537**	**-.00037**	**.37077**	**.00352**
Stddev	.00052	.00041	.00169	.01690	.0728	.00349	.07291	.00072
%RSD	234.67	77.552	70.967	155.66	3.5464	952.65	19.666	20.532
#1	.00018	-.00029	-.00111	.01103	2.0891	-.00209	.33152	.00353
#2	-.00081	-.00101	-.00429	.02766	2.1022	.00365	.45490	.00424
#3	-.00003	-.00030	-.00173	-.00613	1.9700	-.00266	.32588	.00280
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	**-.00054**	**140.21**	**-.00107**	**.08891**	**.00302**	**.00215**	**-.00571**	**.04927**
Stddev	.00053	.45	.00147	.00566	.00407	.00106	.00718	.00287
%RSD	97.873	.31983	136.98	6.3610	134.76	49.160	125.84	5.8211
#1	-.00088	140.72	.00049	.09507	.00123	.00332	-.01067	.04928
#2	-.00081	140.03	-.00129	.08396	.00768	.00186	-.00899	.05213
#3	.00007	139.87	-.00242	.08769	.00015	.00127	.00253	.04639
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703064001 Acquired: 3/16/2017 11:57:35 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00059**	**.00057**	**.00576**	**-.00752**	**.00036**	**.01612**	**.09695**
Stddev	.00087	.00065	.00075	.00773	.00067	.00026	.16765
%RSD	147.58	113.12	13.018	102.78	185.91	1.5990	172.92
#1	-.00018	-.00008	.00508	-.01395	-.00011	.01593	.19084
#2	.00154	.00122	.00565	-.00967	.00006	.01601	.19662
#3	.00042	.00057	.00656	.00106	.00113	.01641	-.09661
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	**4923.1**	**59427.**	**5732.0**
Stddev	17.7	999.	20.6
%RSD	.35915	1.6803	.35982
#1	4912.7	59949.	5755.1
#2	4913.1	58275.	5715.4
#3	4943.6	60056.	5725.7

Approved: March 17, 2017

Sample Name: L1703065615 Acquired: 3/16/2017 12:01:25 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00286**	**.86308**	**.00138**	**.01226**	**.01021**	**-.00010**	**3.1859**	**.00012**
Stddev	.00021	.00561	.00279	.00131	.00065	.00006	.0353	.00048
%RSD	7.1772	.64967	202.36	10.707	6.3854	55.163	1.1073	392.68
#1	.00304	.86570	.00220	.01125	.00950	-.00016	3.1624	-.00043
#2	.00289	.86689	-.00173	.01374	.01036	-.00008	3.2264	.00041
#3	.00264	.85664	.00366	.01178	.01078	-.00006	3.1688	.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	**.00004**	**.00102**	**.09176**	**.65824**	**.55556**	**-.00105**	**.63243**	**.02554**
Stddev	.00056	.00064	.00095	.01455	.08244	.00594	.04338	.00113
%RSD	1446.6	62.390	1.0375	2.2106	14.839	563.28	6.8585	4.4106
#1	.00043	.00145	.09079	.66751	.47173	-.00427	.68252	.02642
#2	-.00060	.00131	.09269	.66573	.55841	-.00469	.60703	.02427
#3	.00028	.00029	.09178	.64147	.63653	.00580	.60776	.02593
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**	**.56257**	**.00221**	**.00870**	**.00886**	**-.00130**	**.00366**	**1.6182**
Stddev	.00011	.00610	.00041	.00622	.00356	.00557	.00521	.0032
%RSD	134.54	1.0844	18.659	71.537	40.188	427.86	142.40	.19724
#1	-.00013	.56811	.00215	.01578	.01264	.00326	.00966	1.6219
#2	.00004	.56357	.00183	.00408	.00836	-.00752	.00042	1.6164
#3	-.00017	.55603	.00265	.00624	.00558	.00035	.00089	1.6164
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703065615 Acquired: 3/16/2017 12:01:25 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00131**	**.00639**	**.02907**	**-.00492**	**.00213**	**.04405**	**.35445**
Stddev	.00160	.00021	.00433	.00444	.00022	.00040	.15277
%RSD	122.04	3.2189	14.897	90.175	10.464	.91866	43.101
#1	.00306	.00616	.03342	-.01004	.00237	.04360	.52935
#2	-.00008	.00646	.02903	-.00211	.00210	.04418	.24705
#3	.00096	.00656	.02476	-.00261	.00193	.04438	.28696
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	**5018.7**	**60597.**	**5406.0**
Stddev	9.2	233.	28.7
%RSD	.18408	.38382	.53108
#1	5009.3	60390.	5400.8
#2	5019.2	60849.	5437.0
#3	5027.8	60552.	5380.3

Approved: March 17, 2017

Sample Name: L1703067301 Acquired: 3/16/2017 12:05:15 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00215**	**.07243**	**-.00292**	**.00899**	**.00180**	**-.00009**	**.26762**	**.00034**
Stddev	.00064	.00717	.00047	.00170	.00053	.00005	.01639	.00016
%RSD	29.619	9.9017	16.181	18.930	29.395	51.227	6.1226	47.322
#1	.00173	.07937	-.00342	.01081	.00227	-.00008	.25571	.00016
#2	.00184	.06505	-.00248	.00869	.00123	-.00005	.26084	.00046
#3	.00288	.07286	-.00285	.00745	.00189	-.00014	.28631	.00041
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00043**	**.00022**	**.01966**	**.06206**	**.27290**	**-.00049**	**.00061**	**.00080**
Stddev	.00023	.00099	.00090	.00648	.02072	.00448	.10305	.00397
%RSD	53.078	455.07	4.5652	10.448	7.5925	916.24	16870.	499.12
#1	-.00051	.00135	.01864	.06297	.28558	-.00535	.09254	.00527
#2	-.00060	-.00037	.02032	.05517	.24899	.00346	-.11079	-.00054
#3	-.00017	-.00034	.02001	.06804	.28413	.00042	.02008	-.00234
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**	**.26083**	**-.00115**	**-.01345**	**.00175**	**.00343**	**-.00061**	**.11789**
Stddev	.00019	.03219	.00102	.00926	.00505	.00533	.00283	.00241
%RSD	225.66	12.340	88.647	68.852	289.21	155.61	460.79	2.0466
#1	.00015	.29793	-.00136	-.01024	.00696	-.00209	-.00388	.11829
#2	-.00013	.24414	-.00205	-.00622	.00142	.00381	.00121	.12008
#3	.00023	.24042	-.00004	-.02389	-.00314	.00856	.00082	.11531
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703067301 Acquired: 3/16/2017 12:05:15 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00134**	**.00083**	**.00448**	**-.00141**	**.00095**	**.00532**	**.16510**
Stddev	.00083	.00014	.00693	.00407	.00020	.00008	.25941
%RSD	61.892	17.287	154.65	288.96	21.391	1.4269	157.12
#1	.00101	.00068	-.00269	.00053	.00103	.00540	.30681
#2	.00228	.00096	.01114	-.00609	.00072	.00525	.32279
#3	.00073	.00086	.00499	.00133	.00110	.00531	-.13430
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	**4924.8**	**60735.**	**5393.7**
Stddev	13.9	419.	23.2
%RSD	.28193	.68912	.43036
#1	4937.0	60257.	5390.9
#2	4909.7	61036.	5418.3
#3	4927.8	60911.	5372.1

Approved: March 17, 2017

Sample Name: L1703067301PS Acquired: 3/16/2017 12:09:01 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606114-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20138**	**5.2798**	**.19475**	**.94245**	**.50680**	**.02488**	**5.1932**	**.02502**
Stddev	.00292	.0153	.00246	.00522	.00145	.00022	.0123	.00030
%RSD	1.4522	.28967	1.2655	.55344	.28624	.90206	.23771	1.2115
#1	.20322	5.2657	.19358	.94377	.50839	.02474	5.1932	.02476
#2	.19801	5.2775	.19309	.93669	.50647	.02514	5.2055	.02495
#3	.20292	5.2961	.19758	.94687	.50555	.02477	5.1808	.02535
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	**.10122**	**.25296**	**.26962**	**2.0597**	**25.040**	**.49643**	**5.1048**	**.25136**
Stddev	.00151	.00022	.00349	.0374	.136	.00329	.1775	.00215
%RSD	1.4876	.08792	1.2951	1.8135	.54217	.66313	3.4778	.85653
#1	.09991	.25291	.26780	2.1021	25.071	.49856	5.3076	.25202
#2	.10089	.25277	.27365	2.0454	25.157	.49264	4.9777	.25310
#3	.10287	.25321	.26741	2.0316	24.891	.49809	5.0290	.24895
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	**.48889**	**25.165**	**.25352**	**4.7838**	**.26278**	**.60322**	**.18992**	**2.5608**
Stddev	.00172	.141	.00271	.0196	.00116	.00788	.00725	.0041
%RSD	.35088	.55863	1.0702	.40958	.44152	1.3065	3.8198	.15981
#1	.48692	25.326	.25247	4.7666	.26171	.59508	.19653	2.5571
#2	.49003	25.097	.25148	4.8051	.26261	.61082	.19106	2.5652
#3	.48974	25.071	.25660	4.7797	.26401	.60377	.18216	2.5602
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703067301PS Acquired: 3/16/2017 12:09:01 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606114-03

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50536**	**.50307**	**.50443**	**.24841**	**.50407**	**.50638**	**.77093**
Stddev	.00241	.00174	.00544	.00523	.00153	.00172	.20009
%RSD	.47620	.34618	1.0782	2.1049	.30255	.33948	25.954
#1	.50258	.50438	.49871	.24344	.50462	.50455	.55640
#2	.50691	.50372	.50954	.24792	.50234	.50664	.95247
#3	.50658	.50109	.50504	.25386	.50524	.50796	.80391
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	**4881.8**	**59998.**	**5457.2**
Stddev	13.6	427.	47.8
%RSD	.27803	.71210	.87650
#1	4878.6	60224.	5430.6
#2	4896.7	60266.	5512.5
#3	4870.1	59506.	5428.7

Approved: March 17, 2017

Sample Name: L1703067301SDL Acquired: 3/16/2017 12:12:38 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG606114-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00400**	**.01677**	**.00155**	**.00424**	**.00056**	**-.00003**	**.03745**	**-.00016**
Stddev	.00323	.00356	.00160	.00087	.00023	.00005	.03589	.00028
%RSD	80.844	21.204	103.38	20.546	41.904	139.59	95.827	171.11
#1	.00133	.01391	-.00028	.00325	.00082	-.00006	.02142	-.00003
#2	.00308	.02075	.00268	.00485	.00038	.00002	.01237	.00002
#3	.00759	.01564	.00224	.00464	.00047	-.00006	.07857	-.00048
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00017**	**-.00189**	**.00224**	**.01201**	**.24597**	**-.00151**	**.08285**	**.00218**
Stddev	.00003	.00136	.00020	.02532	.08659	.00202	.03435	.00079
%RSD	20.037	72.054	8.8396	210.90	35.204	134.15	41.464	36.322
#1	-.00018	-.00055	.00214	.03442	.24587	-.00190	.04427	.00299
#2	-.00020	-.00327	.00211	.01706	.15943	-.00330	.11012	.00141
#3	-.00013	-.00184	.00247	-.01546	.33261	.00068	.09416	.00214
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**	**.07851**	**.00041**	**-.00562**	**.00312**	**-.00677**	**-.00854**	**.02482**
Stddev	.00065	.02528	.00110	.00661	.00277	.00186	.00657	.00512
%RSD	289.43	32.201	267.44	117.55	88.757	27.565	76.995	20.613
#1	-.00005	.08886	.00149	-.00725	.00372	-.00537	-.00288	.03070
#2	-.00094	.04969	.00046	-.01127	.00553	-.00605	-.01575	.02242
#3	.00032	.09696	-.00071	.00165	.00010	-.00888	-.00699	.02136
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703067301SDL Acquired: 3/16/2017 12:12:38 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG606114-04

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00029**	**-.00011**	**.00093**	**-.00482**	**.00002**	**.00168**	**.29097**
Stddev	.00129	.00042	.00495	.00423	.00062	.00010	.27404
%RSD	438.34	377.76	530.34	87.609	3915.1	6.1218	94.183
#1	.00119	.00020	.00140	-.00665	-.00063	.00166	.60518
#2	-.00103	.00006	-.00424	-.00783	.00008	.00179	.16629
#3	-.00104	-.00059	.00564	.00001	.00060	.00159	.10144
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	**4919.5**	**60343.**	**5461.3**
Stddev	16.8	306.	42.7
%RSD	.34227	.50756	.78260
#1	4904.0	60157.	5492.1
#2	4917.2	60696.	5479.3
#3	4937.4	60175.	5412.5

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 12:16:24 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.39902**	**10.262**	**.39835**	**.50428**	**1.0024**	**.05123**	**9.9241**
Stddev	.00172	.033	.00466	.00123	.0008	.00013	.0265
%RSD	.43082	.32132	1.1709	.24374	.07658	.25053	.26746
#1	.40098	10.225	.40365	.50561	1.0028	.05109	9.9002
#2	.39775	10.288	.39487	.50319	1.0028	.05126	9.9527
#3	.39833	10.273	.39653	.50405	1.0015	.05134	9.9194
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	**.05027**	**.20148**	**.51335**	**.50754**	**4.0627**	**49.882**	**.99000**
Stddev	.00061	.00107	.00271	.00275	.0144	.347	.00319
%RSD	1.2041	.53115	.52887	.54180	.35444	.69573	.32256
#1	.04962	.20270	.51044	.51050	4.0470	50.280	.98651
#2	.05037	.20108	.51380	.50708	4.0754	49.726	.99278
#3	.05082	.20067	.51582	.50505	4.0655	49.640	.99070
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	**9.9326**	**.49726**	**.99554**	**49.571**	**.50700**	**9.8664**	**.50645**
Stddev	.0934	.00447	.00304	.061	.00150	.0245	.00752
%RSD	.94078	.89887	.30549	.12211	.29637	.24821	1.4856
#1	9.8299	.49248	.99830	49.528	.50674	9.8934	.51329
#2	9.9554	.50134	.99228	49.640	.50565	9.8599	.49839
#3	10.013	.49796	.99604	49.545	.50862	9.8458	.50768
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 12:16:24 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**1.2033**	**.39186**	**4.9375**	**1.0015**	**.99829**	**.99565**	**.50930**
Stddev	.0026	.00312	.0106	.0006	.00168	.01012	.00441
%RSD	.21738	.79709	.21410	.06037	.16802	1.0165	.86586
#1	1.2008	.39453	4.9371	1.0019	.99636	1.0032	.51229
#2	1.2033	.38842	4.9271	1.0008	.99939	.99965	.51136
#3	1.2060	.39262	4.9482	1.0019	.99912	.98414	.50423
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**1.0150**	**1.0212**	F **.82993**
Stddev	.0022	.0017	.05910
%RSD	.22037	.17081	7.1207
#1	1.0127	1.0232	.87575
#2	1.0152	1.0203	.76323
#3	1.0171	1.0201	.85081
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	**4806.0**	**57654.**	**5395.4**
Stddev	33.8	252.	40.5
%RSD	.70398	.43654	.74971
#1	4768.4	57933.	5350.5
#2	4834.0	57585.	5406.7
#3	4815.6	57444.	5429.0

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 12:19:56 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00262**	**.00773**	**.00136**	**.00509**	**-.00014**	**-.00005**	**-.00821**
Stddev	.00244	.00203	.00075	.00071	.00085	.00004	.00402
%RSD	93.314	26.328	55.217	14.051	611.51	88.820	49.015
#1	-.00001	.00882	.00061	.00469	-.00105	-.00004	-.00570
#2	.00304	.00538	.00136	.00591	.00063	-.00009	-.00607
#3	.00482	.00898	.00211	.00466	.00001	-.00001	-.01285
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**	**-.00001**	**-.00006**	**-.00235**	**-.01523**	**.21701**	**.00418**
Stddev	.00032	.00061	.00202	.00240	.00514	.06681	.00024
%RSD	296.50	4108.3	3271.1	102.28	33.780	30.785	5.8041
#1	-.00026	.00002	-.00194	.00006	-.00982	.26863	.00441
#2	.00030	-.00064	.00208	-.00474	-.01581	.14156	.00421
#3	.00029	.00058	-.00033	-.00237	-.02006	.24085	.00393
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	**.08612**	**-.00039**	**-.00103**	**.05097**	**.00039**	**-.00823**	**.00287**
Stddev	.07148	.00289	.00051	.02697	.00080	.00690	.00318
%RSD	82.999	749.03	50.045	52.915	205.25	83.884	110.66
#1	.01364	.00287	-.00162	.08185	.00107	-.01176	.00564
#2	.08817	-.00139	-.00076	.03202	-.00050	-.01266	.00357
#3	.15656	-.00263	-.00070	.03905	.00060	-.00028	-.00060
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 12:19:56 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00090**	**-.00204**	**.00276**	**-.00053**	**-.00002**	**.00172**	**-.00360**
Stddev	.00091	.00176	.00286	.00166	.00039	.00370	.00340
%RSD	101.74	86.196	103.70	316.37	2015.3	215.83	94.613
#1	.00087	-.00317	.00547	-.00210	-.00044	-.00179	-.00491
#2	-.00000	-.00293	.00305	-.00069	.00005	.00135	.00027
#3	.00182	-.00001	-.00024	.00121	.00033	.00559	-.00614
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.00071**	**.00006**	F **.16254**
Stddev	.00055	.00010	.07281
%RSD	77.768	171.01	44.796
#1	.00081	-.00001	.16551
#2	.00011	.00001	.23383
#3	.00120	.00017	.08829
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	**4869.0**	**58929.**	**5345.8**
Stddev	16.4	233.	29.9
%RSD	.33629	.39502	.55903
#1	4886.5	59079.	5360.9
#2	4866.2	59047.	5365.2
#3	4854.1	58661.	5311.4

Approved: March 17, 2017

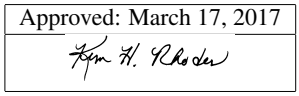
Sample Name: L1703067302 Acquired: 3/16/2017 12:23:43 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00484**	**.05169**	**.00019**	**.00899**	**.00080**	**-.00007**	**.13383**	**.00023**
Stddev	.00142	.00803	.00446	.00611	.00071	.00006	.01741	.00070
%RSD	29.337	15.531	2406.9	67.961	88.439	88.467	13.006	308.52
#1	.00537	.04504	-.00424	.00764	.00161	-.00005	.11550	.00100
#2	.00593	.04942	.00468	.01565	.00047	-.00002	.13585	-.00036
#3	.00323	.06061	.00011	.00366	.00032	-.00013	.15014	.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00036**	**-.00058**	**.00862**	**.06096**	**.12768**	**-.00096**	**.04574**	**.00211**
Stddev	.00077	.00022	.00181	.01464	.05725	.00305	.04335	.00155
%RSD	215.89	36.901	20.955	24.020	44.837	319.58	94.777	73.472
#1	-.00040	-.00079	.00657	.04636	.16185	-.00221	-.00389	.00355
#2	-.00111	-.00060	.00998	.06089	.06159	.00252	.06493	.00047
#3	.00044	-.00036	.00931	.07565	.15960	-.00318	.07618	.00230
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	**-.00029**	**.08485**	**.00144**	**-.01405**	**.00018**	**-.00144**	**-.00065**	**.08617**
Stddev	.00038	.01369	.00188	.00209	.00086	.00434	.00646	.00126
%RSD	134.20	16.131	130.10	14.859	484.80	301.64	993.13	1.4582
#1	-.00004	.09857	.00238	-.01192	.00049	-.00220	-.00793	.08656
#2	-.00009	.08479	-.00072	-.01413	.00084	-.00534	.00158	.08719
#3	-.00073	.07119	.00266	-.01610	-.00080	.00323	.00440	.08477
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017



Sample Name: L1703067302 Acquired: 3/16/2017 12:23:43 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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**	**.00045**	**.00022**	**-.00657**	**.00031**	**.00311**	**.28177**
Stddev	.00068	.00015	.00929	.00411	.00047	.00013	.07811
%RSD	91.851	34.383	4139.2	62.650	148.67	4.1585	27.722
#1	.00090	.00033	-.00402	-.00273	.00028	.00322	.20989
#2	.00132	.00040	.01088	-.00607	-.00013	.00315	.36489
#3	-.00001	.00062	-.00619	-.01091	.00080	.00297	.27052
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	**4954.8**	**60501.**	**5433.3**
Stddev	23.8	333.	53.5
%RSD	.47975	.55054	.98550
#1	4950.4	60404.	5393.4
#2	4933.5	60227.	5494.1
#3	4980.4	60872.	5412.3

Approved: March 17, 2017

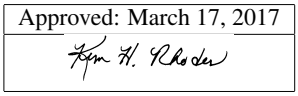
Sample Name: L1703067303 Acquired: 3/16/2017 12:27:29 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00366**	**.06243**	**-.00179**	**.00759**	**.00095**	**-.00009**	**.42168**	**.00025**
Stddev	.00223	.00805	.00292	.00259	.00024	.00002	.03078	.00025
%RSD	60.935	12.893	163.04	34.055	25.602	25.875	7.3003	98.628
#1	.00464	.05368	.00144	.00470	.00123	-.00006	.45635	.00054
#2	.00111	.06952	-.00258	.00842	.00082	-.00010	.41115	.00016
#3	.00524	.06410	-.00423	.00967	.00079	-.00011	.39754	.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	**-.00030**	**-.00076**	**.05534**	**.06019**	**.19732**	**.00066**	**.08313**	**.00157**
Stddev	.00062	.00068	.00074	.01094	.09485	.00345	.09283	.00134
%RSD	205.23	89.452	1.3402	18.182	48.073	525.37	111.67	85.566
#1	.00032	-.00000	.05580	.06428	.16856	-.00333	.03438	.00298
#2	-.00091	-.00096	.05574	.04779	.30322	.00265	.19018	.00032
#3	-.00032	-.00131	.05449	.06849	.12017	.00265	.02483	.00140
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	**.00013**	**.35047**	**.00077**	**-.03006**	**.00589**	**.00067**	**-.00561**	**.11421**
Stddev	.00045	.02218	.00159	.00357	.00465	.01075	.00338	.00437
%RSD	335.69	6.3281	206.42	11.870	78.937	1602.7	60.319	3.8253
#1	.00057	.36762	.00256	-.02912	.00054	.00712	-.00499	.11870
#2	-.00032	.35837	-.00048	-.03400	.00821	-.01174	-.00258	.11395
#3	.00015	.32543	.00023	-.02706	.00894	.00663	-.00926	.10997
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017



Sample Name: L1703067303 Acquired: 3/16/2017 12:27:29 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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**	**.00113**	**.00402**	**-.00644**	**-.00012**	**.01050**	**.29208**
Stddev	.00139	.00009	.00359	.00506	.00078	.00004	.13767
%RSD	163.39	7.9739	89.391	78.613	645.29	.35522	47.135
#1	.00055	.00105	.00470	-.01162	.00078	.01045	.17982
#2	.00236	.00111	.00722	-.00618	-.00054	.01052	.25072
#3	-.00036	.00123	.00013	-.00151	-.00061	.01051	.44568
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	**4975.6**	**61151.**	**5529.5**
Stddev	18.9	130.	34.8
%RSD	.37954	.21306	.62957
#1	4991.4	61014.	5549.9
#2	4954.7	61274.	5489.3
#3	4980.8	61164.	5549.3

Approved: March 17, 2017

Sample Name: L1703067304 Acquired: 3/16/2017 12:31:17 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00302**	**.03692**	**.00001**	**.00791**	**.00089**	**-.00011**	**.25280**	**.00012**
Stddev	.00140	.01046	.00252	.00654	.00033	.00006	.01709	.00014
%RSD	46.242	28.340	25198.	82.688	37.133	56.971	6.7600	112.47
#1	.00236	.04229	.00043	.00627	.00052	-.00018	.26497	.00013
#2	.00462	.04362	-.00269	.01512	.00099	-.00008	.23326	.00026
#3	.00207	.02486	.00229	.00235	.00116	-.00006	.26017	-.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	**-.00031**	**.00126**	**.00564**	**.18329**	**.04400**	**-.00135**	**.00428**	**.00110**
Stddev	.00074	.00235	.00155	.01295	.00703	.00371	.03165	.00050
%RSD	241.67	186.35	27.396	7.0627	15.988	275.32	738.61	45.256
#1	-.00082	.00179	.00563	.19246	.04841	.00203	.03822	.00162
#2	.00054	.00331	.00720	.18894	.03589	-.00532	-.00095	.00063
#3	-.00065	-.00131	.00410	.16848	.04769	-.00076	-.02442	.00106
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**	**.08321**	**.00027**	**-.01483**	**.00457**	**.00124**	**.00026**	**.06998**
Stddev	.00024	.02186	.00112	.00954	.00063	.00067	.00597	.00246
%RSD	86.678	26.266	413.00	64.366	13.866	53.749	2263.2	3.5184
#1	-.00054	.09531	-.00101	-.01786	.00519	.00048	-.00286	.07281
#2	-.00024	.05798	.00079	-.00414	.00392	.00150	-.00349	.06836
#3	-.00006	.09634	.00103	-.02249	.00460	.00174	.00715	.06876
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703067304 Acquired: 3/16/2017 12:31:17 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00120**	**.00082**	**.00230**	**-.00177**	**.00022**	**.00380**	**.05672**
Stddev	.00037	.00031	.00191	.00599	.00086	.00004	.30929
%RSD	30.411	37.963	83.078	339.64	396.64	1.1837	545.29
#1	.00122	.00079	.00337	-.00559	.00121	.00375	-.26433
#2	.00083	.00115	.00009	-.00485	-.00034	.00382	.08177
#3	.00156	.00053	.00343	.00514	-.00022	.00383	.35272
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	**4954.9**	**61522.**	**5467.4**
Stddev	19.7	123.	38.7
%RSD	.39810	.19915	.70860
#1	4973.7	61401.	5503.5
#2	4934.4	61646.	5426.4
#3	4956.6	61519.	5472.3

Approved: March 17, 2017

Sample Name: L1703067305 Acquired: 3/16/2017 12:35:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00186**	**.02396**	**-.00229**	**.00736**	**.00089**	**-.00010**	**.17985**	**.00011**
Stddev	.00119	.00444	.00258	.00115	.00087	.00012	.01768	.00019
%RSD	63.985	18.514	112.50	15.688	97.603	122.90	9.8287	175.41
#1	.00049	.01947	.00050	.00838	.00025	.00003	.16190	.00025
#2	.00246	.02408	-.00460	.00760	.00188	-.00020	.18041	-.00011
#3	.00263	.02834	-.00278	.00611	.00054	-.00012	.19724	.00018
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00053**	**-.00040**	**.00825**	**.02321**	**.04866**	**.00314**	**.04998**	**.00249**
Stddev	.00042	.00067	.00184	.01360	.08793	.00157	.15909	.00314
%RSD	78.959	166.11	22.271	58.600	180.70	49.993	318.28	126.25
#1	-.00069	.00030	.01012	.02740	.00893	.00466	-.12958	-.00106
#2	-.00005	-.00048	.00645	.03421	.14945	.00324	.10618	.00359
#3	-.00084	-.00103	.00819	.00800	-.01239	.00152	.17335	.00492
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00067**	**.15602**	**-.00052**	**-.01734**	**.00512**	**.00130**	**.00361**	**.04064**
Stddev	.00060	.01606	.00081	.00690	.00575	.00354	.00213	.00173
%RSD	89.952	10.295	156.97	39.795	112.47	272.44	59.078	4.2512
#1	-.00123	.15185	.00001	-.01330	.00935	-.00265	.00115	.04145
#2	-.00004	.14246	-.00011	-.01341	.00743	.00419	.00472	.03866
#3	-.00073	.17376	-.00145	-.02531	-.00143	.00236	.00496	.04182
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703067305 Acquired: 3/16/2017 12:35:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00151**	**.00047**	**.00094**	**-.00688**	**-.00022**	**.00245**	**1.1164**
Stddev	.00122	.00020	.00441	.00084	.00051	.00006	.2433
%RSD	80.637	43.399	471.04	12.251	231.04	2.4763	21.794
#1	.00289	.00027	.00190	-.00740	.00002	.00243	.93318
#2	.00057	.00067	-.00388	-.00732	.00013	.00240	1.3924
#3	.00108	.00046	.00479	-.00591	-.00081	.00251	1.0236
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	**4897.9**	**60782.**	**5368.2**
Stddev	33.2	540.	21.4
%RSD	.67783	.88852	.39906
#1	4936.2	60170.	5354.3
#2	4878.1	61194.	5392.9
#3	4879.3	60981.	5357.5

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 12:38:51 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.40250**	**10.331**	**.39823**	**.49988**	**1.0097**	**.05138**	**9.9561**
Stddev	.00099	.030	.00218	.00494	.0036	.00011	.0269
%RSD	.24662	.29323	.54634	.98892	.35655	.20513	.27006
#1	.40138	10.296	.40074	.50200	1.0056	.05141	9.9789
#2	.40325	10.349	.39686	.49423	1.0122	.05126	9.9629
#3	.40288	10.348	.39709	.50342	1.0114	.05147	9.9265
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	**.05048**	**.20187**	**.51591**	**.50795**	**4.0806**	**50.068**	**.99056**
Stddev	.00045	.00109	.00210	.00248	.0030	.122	.00483
%RSD	.88526	.54031	.40702	.48781	.07442	.24272	.48770
#1	.05043	.20308	.51769	.51076	4.0773	49.929	.99240
#2	.05006	.20159	.51359	.50702	4.0811	50.125	.99419
#3	.05095	.20095	.51645	.50608	4.0834	50.151	.98508
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	**9.8646**	**.49742**	**.99854**	**49.909**	**.50889**	**9.8905**	**.50430**
Stddev	.1788	.00933	.00176	.177	.00216	.0375	.00462
%RSD	1.8128	1.8750	.17632	.35441	.42392	.37939	.91593
#1	9.7665	.49830	.99996	49.910	.50750	9.9338	.50761
#2	10.071	.50627	.99909	50.085	.50778	9.8708	.50627
#3	9.7563	.48768	.99657	49.732	.51137	9.8669	.49903
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 12:38:51 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**1.2190**	**.40596**	**4.9533**	**1.0019**	**1.0043**	**1.0040**	**.51730**
Stddev	.0052	.01017	.0098	.0026	.0052	.0082	.00251
%RSD	.42463	2.5042	.19867	.25798	.51704	.81304	.48600
#1	1.2243	.41278	4.9642	1.0046	.99834	1.0030	.51998
#2	1.2188	.41082	4.9508	1.0018	1.0071	1.0126	.51500
#3	1.2139	.39427	4.9450	.99940	1.0076	.99632	.51691
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**1.0200**	**1.0233**	F **.89916**
Stddev	.0037	.0047	.17724
%RSD	.36743	.46082	19.712
#1	1.0168	1.0286	.69525
#2	1.0192	1.0215	.98606
#3	1.0241	1.0197	1.0162
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	**4869.9**	**58599.**	**5333.5**
Stddev	35.4	432.	127.7
%RSD	.72770	.73774	2.3933
#1	4829.0	58925.	5299.5
#2	4891.1	58763.	5226.4
#3	4889.6	58108.	5474.8

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 12:42:22 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00197**	**-.00212**	**.00211**	**.00406**	**-.00047**	**-.00007**	**-.01390**
Stddev	.00262	.00276	.00076	.00125	.00005	.00002	.00771
%RSD	133.00	129.95	36.148	30.860	10.221	29.802	55.460
#1	.00091	-.00529	.00127	.00472	-.00045	-.00005	-.02092
#2	.00495	-.00082	.00276	.00485	-.00044	-.00008	-.01511
#3	.00004	-.00026	.00230	.00262	-.00053	-.00009	-.00565
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**	**-.00012**	**-.00062**	**-.00082**	**.00288**	**.14269**	**.00353**
Stddev	.00037	.00056	.00062	.00084	.01662	.04877	.00096
%RSD	112.39	466.13	100.01	102.39	577.54	34.183	27.332
#1	-.00074	-.00029	-.00129	-.00001	-.01621	.12913	.00424
#2	-.00001	-.00058	-.00006	-.00077	.01063	.10212	.00392
#3	-.00024	.00051	-.00051	-.00169	.01421	.19681	.00243
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	**-.01994**	**.00020**	**-.00044**	**.04875**	**-.00056**	**-.00346**	**.00149**
Stddev	.13166	.00291	.00021	.00756	.00094	.00987	.00505
%RSD	660.38	1451.8	48.261	15.511	165.68	284.91	340.15
#1	.12661	.00351	-.00031	.05207	.00040	.00311	.00684
#2	-.05815	-.00198	-.00032	.05408	-.00147	.00130	-.00319
#3	-.12827	-.00093	-.00068	.04009	-.00062	-.01481	.00081
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 12:42:22 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00026**	**-.00423**	**-.00162**	**-.00099**	**-.00002**	**.00223**	**-.00308**
Stddev	.00395	.00498	.00109	.00102	.00033	.00631	.00174
%RSD	1541.4	117.91	67.459	102.22	1445.1	282.74	56.569
#1	-.00219	.00121	-.00246	-.00195	.00030	.00253	-.00402
#2	-.00186	-.00857	-.00201	.00007	-.00001	-.00422	-.00415
#3	.00481	-.00532	-.00038	-.00111	-.00036	.00839	-.00107
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**-.00041**	**.00018**	F **-.04741**
Stddev	.00065	.00014	.09558
%RSD	160.21	76.222	201.61
#1	.00012	.00019	.02046
#2	-.00021	.00004	-.15671
#3	-.00113	.00031	-.00597
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	**4848.4**	**60362.**	**5455.3**
Stddev	63.3	334.	12.9
%RSD	1.3055	.55413	.23691
#1	4830.4	60735.	5469.5
#2	4796.0	60261.	5452.2
#3	4918.7	60089.	5444.2

Approved: March 17, 2017

Sample Name: PBW 4W Acquired: 3/16/2017 12:46:09 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606289-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00197**	**.00791**	**-.00225**	**.00148**	**.00017**	**-.00015**	**.02574**	**.00008**
Stddev	.00161	.01117	.00110	.00281	.00016	.00004	.03214	.00039
%RSD	81.706	141.31	49.165	189.77	98.321	27.332	124.86	490.97
#1	.00059	.00554	-.00098	.00467	.00031	-.00014	.01434	-.00009
#2	.00159	.02007	-.00303	.00040	-.00001	-.00012	.06204	-.00020
#3	.00374	-.00189	-.00272	-.00063	.00020	-.00019	.00086	.00052
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00053**	**-.00063**	**-.00052**	**-.00778**	**.09004**	**.00344**	**.02787**	**.00159**
Stddev	.00018	.00043	.00103	.01833	.08258	.00426	.03726	.00094
%RSD	34.689	68.487	198.19	235.60	91.714	124.10	133.70	58.916
#1	-.00045	-.00076	.00047	.00939	.18509	.00747	.01360	.00055
#2	-.00074	-.00098	-.00158	-.02708	.03589	-.00103	.07016	.00184
#3	-.00040	-.00015	-.00045	-.00565	.04914	.00387	-.00015	.00238
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00006**	**.03319**	**.00128**	**-.02144**	**.00529**	**-.00035**	**-.00207**	**.00388**
Stddev	.00015	.01328	.00062	.00447	.00578	.00444	.00978	.00105
%RSD	269.63	39.994	48.835	20.853	109.35	1254.8	473.07	26.992
#1	-.00009	.02704	.00158	-.02482	.00993	-.00538	.00914	.00276
#2	.00011	.02411	.00056	-.02312	-.00119	.00303	-.00888	.00484
#3	-.00018	.04843	.00170	-.01637	.00713	.00129	-.00646	.00403
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: PBW 4W Acquired: 3/16/2017 12:46:09 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606289-02

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00078**	**-.00022**	**.00241**	**-.00413**	**-.00042**	**.00098**	**.08352**
Stddev	.00130	.00030	.00695	.00830	.00033	.00005	.27208
%RSD	166.91	140.69	288.10	200.91	79.474	5.4652	325.78
#1	.00179	-.00033	-.00229	-.00882	-.00016	.00095	.12010
#2	.00123	-.00045	-.00087	-.00904	-.00030	.00095	.33546
#3	-.00069	.00013	.01040	.00545	-.00080	.00104	-.20500
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	**4982.3**	**62029.**	**5524.1**
Stddev	3.0	53.	35.1
%RSD	.05974	.08519	.63605
#1	4979.0	62053.	5527.8
#2	4983.1	61969.	5487.3
#3	4984.7	62067.	5557.3

Approved: March 17, 2017

Sample Name: LCSW 4W Acquired: 3/16/2017 12:49:56 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606289-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20116**	**5.2242**	**.19484**	**.92964**	**.50424**	**.02481**	**4.9286**	**.02479**
Stddev	.00115	.0063	.00407	.00427	.00029	.00012	.0473	.00038
%RSD	.57190	.12129	2.0907	.45910	.05732	.47911	.95933	1.5129
#1	.20098	5.2241	.19335	.92514	.50405	.02494	4.8876	.02523
#2	.20012	5.2305	.19945	.93364	.50409	.02470	4.9179	.02457
#3	.20240	5.2179	.19172	.93015	.50457	.02480	4.9803	.02458
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	**.10073**	**.25387**	**.24917**	**2.0357**	**24.738**	**.49564**	**5.0444**	**.24796**
Stddev	.00023	.00133	.00064	.0386	.075	.00677	.1350	.00471
%RSD	.22868	.52254	.25764	1.8965	.30299	1.3650	2.6769	1.8981
#1	.10073	.25458	.24923	1.9912	24.705	.48978	5.0903	.25280
#2	.10096	.25470	.24978	2.0607	24.685	.49411	4.8924	.24770
#3	.10050	.25234	.24850	2.0551	24.824	.50304	5.1505	.24339
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	**.48915**	**24.908**	**.25301**	**4.7745**	**.25475**	**.60111**	**.18702**	**2.4715**
Stddev	.00133	.121	.00055	.0130	.00075	.00872	.00587	.0099
%RSD	.27230	.48653	.21787	.27276	.29573	1.4505	3.1399	.40075
#1	.49047	24.792	.25331	4.7861	.25551	.59107	.18063	2.4720
#2	.48919	24.898	.25238	4.7770	.25400	.60672	.18827	2.4812
#3	.48781	25.034	.25334	4.7604	.25475	.60555	.19217	2.4614
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: LCSW 4W Acquired: 3/16/2017 12:49:56 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606289-03

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50509**	**.50185**	**.50065**	**.25383**	**.50297**	**.49999**	**.20400**
Stddev	.00048	.00105	.00247	.00396	.00089	.00114	.19833
%RSD	.09522	.20828	.49251	1.5604	.17770	.22852	97.222
#1	.50457	.50249	.49908	.25501	.50226	.50131	.28406
#2	.50519	.50065	.50349	.25706	.50397	.49941	-.02185
#3	.50552	.50241	.49938	.24941	.50269	.49926	.34979
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	**4911.5**	**59838.**	**5582.5**
Stddev	57.4	185.	72.5
%RSD	1.1690	.30954	1.2995
#1	4845.5	60043.	5665.8
#2	4950.1	59792.	5533.2
#3	4938.8	59681.	5548.5

Approved: March 17, 2017

Sample Name: FBLK2 Acquired: 3/16/2017 12:53:33 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606138-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00275**	**.00504**	**-.00064**	**.00521**	**.00024**	**-.00006**	**.02046**	**-.00020**
Stddev	.00256	.00184	.00352	.00129	.00051	.00009	.01571	.00030
%RSD	93.265	36.588	551.60	24.827	212.83	134.78	76.769	146.19
#1	.00020	.00379	-.00461	.00638	-.00002	-.00003	.02718	-.00051
#2	.00271	.00716	.00056	.00542	.00083	-.00016	.03170	-.00017
#3	.00533	.00418	.00213	.00382	-.00009	.00000	.00251	.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	**-.00063**	**-.00087**	**-.00150**	**.02069**	**.13687**	**.00097**	**.10447**	**.00013**
Stddev	.00054	.00091	.00138	.01329	.04233	.00313	.04079	.00091
%RSD	85.852	103.88	92.262	64.238	30.926	321.70	39.040	685.37
#1	-.00095	-.00192	-.00293	.00555	.10051	.00409	.07878	.00033
#2	-.00001	-.00041	-.00138	.02611	.12677	-.00217	.15150	.00093
#3	-.00095	-.00029	-.00018	.03041	.18334	.00099	.08314	-.00086
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**	**.05852**	**.00030**	**-.01404**	**.00293**	**-.00134**	**-.00542**	**.00977**
Stddev	.00019	.02171	.00032	.00219	.00491	.00835	.01469	.00297
%RSD	87.614	37.100	106.99	15.612	167.81	621.85	270.90	30.396
#1	-.00038	.08021	.00042	-.01657	-.00227	.00822	-.02040	.00641
#2	-.00001	.03679	.00054	-.01265	.00357	-.00507	-.00485	.01085
#3	-.00027	.05855	-.00006	-.01290	.00749	-.00718	.00897	.01206
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: FBLK2 Acquired: 3/16/2017 12:53:33 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606138-01

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00143**	**.00013**	**.00248**	**-.00585**	**-.00037**	**.00303**	**.27620**
Stddev	.00124	.00039	.00271	.00749	.00072	.00010	.21245
%RSD	87.136	303.43	109.33	127.89	194.03	3.1787	76.919
#1	.00270	-.00032	-.00004	-.00869	-.00090	.00295	.51976
#2	.00136	.00034	.00213	-.01150	-.00066	.00300	.17980
#3	.00022	.00037	.00535	.00264	.00045	.00313	.12904
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	**5016.0**	**61289.**	**5529.8**
Stddev	80.9	469.	48.2
%RSD	1.6135	.76486	.87204
#1	4922.6	61401.	5555.7
#2	5065.0	60775.	5474.2
#3	5060.3	61692.	5559.6

Approved: March 17, 2017

Sample Name: L1703070901 Acquired: 3/16/2017 12:57:20 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00348**	**.04464**	**.00372**	**.03256**	**.16804**	**-.00005**	**48.843**	**.00028**
Stddev	.00129	.00491	.00203	.00374	.00020	.00002	.121	.00015
%RSD	36.958	11.011	54.507	11.472	.11755	31.394	.24829	55.058
#1	.00343	.03904	.00163	.03063	.16785	-.00007	48.974	.00030
#2	.00222	.04660	.00386	.03019	.16824	-.00004	48.822	.00012
#3	.00479	.04826	.00568	.03686	.16803	-.00004	48.734	.00042
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00014**	**-.00109**	**.00655**	**.09458**	**1.1624**	**.01146**	**14.530**	**.00254**
Stddev	.00039	.00101	.00156	.00283	.0249	.00079	.031	.00066
%RSD	267.99	92.053	23.760	2.9884	2.1430	6.9184	.21385	25.852
#1	.00023	-.00223	.00693	.09482	1.1493	.01236	14.559	.00318
#2	-.00054	-.00071	.00789	.09728	1.1912	.01110	14.533	.00257
#3	-.00012	-.00033	.00484	.09165	1.1468	.01090	14.497	.00187
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00016**	**5.8956**	**-.00006**	**-.02474**	**-.00277**	**-.00193**	**.00341**	**5.0608**
Stddev	.00071	.0314	.00132	.00755	.00249	.00684	.00955	.0103
%RSD	452.82	.53310	2060.8	30.524	89.890	355.06	280.07	.20317
#1	.00067	5.9235	.00141	-.02370	-.00193	.00401	-.00542	5.0548
#2	-.00066	5.8615	-.00114	-.01777	-.00557	-.00039	.01354	5.0548
#3	.00046	5.9018	-.00045	-.03277	-.00081	-.00940	.00211	5.0726
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703070901 Acquired: 3/16/2017 12:57:20 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00009**	**.49011**	**-.00750**	**-.00602**	**-.00034**	**.00296**	**.28540**
Stddev	.00153	.00057	.00289	.00247	.00066	.00028	.13864
%RSD	1786.4	.11568	38.567	40.962	191.48	9.5410	48.577
#1	-.00172	.49054	-.00512	-.00389	.00033	.00274	.26648
#2	.00132	.48947	-.00666	-.00545	-.00099	.00287	.43254
#3	.00014	.49033	-.01072	-.00873	-.00038	.00328	.15720
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	**4857.9**	**58736.**	**5450.1**
Stddev	11.7	581.	29.5
%RSD	.24097	.98853	.54212
#1	4853.3	59327.	5483.6
#2	4849.2	58715.	5439.0
#3	4871.2	58166.	5427.7

Approved: March 17, 2017

Sample Name: L1703070902 Acquired: 3/16/2017 13:01:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00437**	**.00493**	**-.00083**	**.07312**	**.17712**	**-.00006**	**42.427**
Stddev	.00151	.00681	.00270	.00131	.00097	.00002	.179
%RSD	34.492	137.97	325.74	1.7954	.54530	37.886	.42228
#1	.00389	.00595	-.00192	.07162	.17601	-.00008	42.278
#2	.00606	-.00232	-.00281	.07404	.17759	-.00005	42.377
#3	.00316	.01117	.00224	.07369	.17777	-.00004	42.625
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00010**	**.00025**	**.00028**	**.00142**	**.05684**	**1.4014**	**.01007**
Stddev	.00023	.00042	.00088	.00076	.01447	.0730	.00104
%RSD	231.94	167.05	314.58	53.497	25.450	5.2095	10.371
#1	-.00007	.00072	.00103	.00141	.05531	1.4396	.00894
#2	.00012	-.00012	.00051	.00218	.04320	1.4473	.01099
#3	-.00035	.00016	-.00069	.00066	.07201	1.3172	.01030
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**15.127**	**.00437**	**.00052**	**9.4799**	**.00055**	**-.01862**	**.00393**
Stddev	.057	.00102	.00069	.0534	.00296	.00820	.00332
%RSD	.37921	23.234	133.67	.56349	540.90	44.042	84.555
#1	15.118	.00505	-.00001	9.5365	-.00255	-.01030	.00177
#2	15.075	.00486	.00130	9.4304	.00333	-.01887	.00226
#3	15.188	.00320	.00027	9.4727	.00086	-.02669	.00775
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: L1703070902 Acquired: 3/16/2017 13:01:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00175**	F **-.01580**	**5.7440**	**-.00036**	**1.2760**	**-.00577**	**-.00383**
Stddev	.01078	.00313	.0119	.00080	.0046	.00312	.00419
%RSD	616.58	19.795	.20648	226.17	.36444	53.961	109.46
#1	-.01152	-.01715	5.7310	-.00122	1.2714	-.00903	.00084
#2	-.00354	-.01802	5.7468	-.00022	1.2760	-.00547	-.00726
#3	.00981	-.01222	5.7543	.00037	1.2807	-.00282	-.00507
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		90.000					
Low Limit		-.01000					

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.00067**	**.00242**	**.42525**
Stddev	.00037	.00006	.10713
%RSD	54.793	2.6395	25.193
#1	.00037	.00240	.37672
#2	.00108	.00236	.35097
#3	.00056	.00249	.54806
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	**4841.2**	**59396.**	**5417.6**
Stddev	48.1	411.	34.3
%RSD	.99316	.69218	.63361
#1	4790.8	59591.	5380.3
#2	4846.1	59674.	5447.9
#3	4886.6	58924.	5424.5

Approved: March 17, 2017

Sample Name: L1703070903 Acquired: 3/16/2017 13:04:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00171**	**.02110**	**-.00140**	**.00932**	**.10507**	**-.00007**	**51.719**	**-.00001**
Stddev	.00141	.00333	.00203	.00057	.00075	.00006	.208	.00015
%RSD	82.744	15.792	145.59	6.1323	.71304	83.581	.40311	1709.9
#1	.00319	.01746	.00005	.00930	.10587	-.00013	51.736	-.00006
#2	.00156	.02184	-.00051	.00875	.10496	-.00003	51.918	.00016
#3	.00038	.02400	-.00372	.00989	.10438	-.00004	51.502	-.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	**-.00041**	**.00012**	**-.00021**	**.04351**	**.68630**	**.00066**	**3.4042**	**.00514**
Stddev	.00053	.00047	.00093	.00884	.07794	.00221	.0768	.00343
%RSD	127.85	399.14	442.29	20.305	11.356	332.12	2.2548	66.680
#1	-.00087	.00033	.00053	.05032	.73205	-.00059	3.4912	.00452
#2	-.00054	-.00042	-.00125	.03353	.59632	-.00063	3.3459	.00883
#3	.00017	.00045	.00009	.04670	.73054	.00321	3.3755	.00206
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	**.00005**	**3.0407**	**.00017**	**-.01465**	**.00459**	**-.00025**	**-.00191**	**3.7728**
Stddev	.00068	.0060	.00023	.00327	.00225	.01051	.00924	.0039
%RSD	1303.3	.19710	133.66	22.296	49.045	4157.2	483.82	.10338
#1	-.00059	3.0408	-.00005	-.01113	.00464	.01179	-.00881	3.7726
#2	-.00002	3.0466	.00041	-.01525	.00681	-.00760	.00858	3.7768
#3	.00077	3.0346	.00016	-.01758	.00231	-.00495	-.00550	3.7690
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703070903 Acquired: 3/16/2017 13:04:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00025**	**.10163**	**.00252**	**-.00446**	**.00014**	**.00180**	**-.01795**
Stddev	.00169	.00030	.00507	.00888	.00107	.00035	.22460
%RSD	682.56	.29148	201.16	199.08	769.76	19.285	1251.2
#1	-.00015	.10131	-.00217	.00097	.00131	.00217	.22580
#2	-.00198	.10169	.00182	.00036	-.00010	.00149	-.06312
#3	.00139	.10189	.00791	-.01472	-.00079	.00172	-.21653
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	**4933.4**	**59988.**	**5377.8**
Stddev	4.4	1065.	51.4
%RSD	.08965	1.7757	.95578
#1	4935.4	61000.	5384.5
#2	4928.3	60086.	5323.4
#3	4936.5	58876.	5425.5

Approved: March 17, 2017

Sample Name: L1703070904 Acquired: 3/16/2017 13:08:29 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00260**	**.76990**	**.00138**	**.01181**	**.06063**	**-.00003**	**41.011**	**-.00024**
Stddev	.00182	.00874	.00121	.00457	.00028	.00001	.159	.00047
%RSD	69.966	1.1349	87.792	38.677	.45888	29.939	.38763	192.00
#1	.00439	.76695	.00162	.00654	.06095	-.00003	40.888	-.00058
#2	.00076	.77972	.00007	.01464	.06054	-.00004	40.953	.00029
#3	.00263	.76301	.00245	.01426	.06042	-.00003	41.190	-.00045
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00014**	**.00021**	**.00123**	**1.2578**	**2.2085**	**.00065**	**5.3028**	**.11531**
Stddev	.00108	.00076	.00057	.0223	.1227	.00392	.1053	.00145
%RSD	751.01	354.97	46.869	1.7746	5.5575	604.07	1.9860	1.2615
#1	-.00110	.00057	.00184	1.2463	2.2953	-.00377	5.1889	.11389
#2	.00072	-.00066	.00071	1.2836	2.0681	.00203	5.3966	.11680
#3	.00081	.00074	.00113	1.2436	2.2621	.00368	5.3229	.11525
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00018**	**4.1715**	**.00132**	**.03596**	**.00566**	**-.00031**	**-.00579**	**3.2420**
Stddev	.00080	.0144	.00230	.00875	.00421	.00275	.01070	.0091
%RSD	442.43	.34390	173.98	24.342	74.295	883.40	184.87	.28063
#1	.00111	4.1825	.00021	.02586	.00105	.00004	.00068	3.2327
#2	-.00034	4.1553	.00397	.04087	.00929	.00225	.00010	3.2423
#3	-.00022	4.1766	-.00021	.04116	.00666	-.00322	-.01813	3.2509
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703070904 Acquired: 3/16/2017 13:08:29 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00162**	**.12379**	**.01319**	**-.00628**	**.00095**	**.00554**	**.50514**
Stddev	.00049	.00066	.00126	.00273	.00146	.00008	.11963
%RSD	30.093	.53388	9.5190	43.532	153.49	1.4248	23.682
#1	.00148	.12319	.01461	-.00585	-.00046	.00545	.36775
#2	.00216	.12368	.01223	-.00378	.00086	.00556	.58620
#3	.00121	.12450	.01273	-.00920	.00245	.00561	.56147
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	**4940.6**	**60828.**	**5584.2**
Stddev	57.5	166.	17.5
%RSD	1.1643	.27246	.31313
#1	4966.6	60815.	5588.2
#2	4980.7	60669.	5599.4
#3	4874.7	61000.	5565.1

Approved: March 17, 2017

Sample Name: L1703071201 Acquired: 3/16/2017 13:12:13 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00509**	**.09440**	**-.00207**	**.13652**	**.07709**	**-.00009**	**3.9306**	**.00019**
Stddev	.00015	.00911	.00215	.00258	.00060	.00004	.0264	.00059
%RSD	2.8814	9.6542	104.05	1.8907	.78427	44.556	.67052	313.24
#1	.00526	.10449	.00003	.13473	.07699	-.00009	3.9044	-.00034
#2	.00504	.08677	-.00427	.13535	.07655	-.00013	3.9305	.00082
#3	.00498	.09193	-.00197	.13948	.07774	-.00005	3.9571	.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	**-.00008**	**-.00048**	**-.00024**	**.32065**	**.54035**	**.00791**	**.80011**	**.05742**
Stddev	.00072	.00172	.00121	.02197	.01310	.00081	.09111	.00212
%RSD	938.86	362.66	497.96	6.8523	2.4252	10.188	11.387	3.6872
#1	.00070	-.00210	-.00163	.34210	.53978	.00875	.70589	.05525
#2	-.00073	-.00066	.00035	.32165	.52754	.00784	.88775	.05948
#3	-.00019	.00133	.00055	.29819	.55373	.00714	.80668	.05754
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	**.00805**	**138.76**	**.00020**	**.00733**	**.00101**	**.00133**	**.00186**	**3.0628**
Stddev	.00062	.23	.00076	.01063	.00294	.00434	.00254	.0038
%RSD	7.7233	.16454	373.29	145.05	291.65	326.72	136.64	.12340
#1	.00869	138.78	.00075	.00062	-.00204	-.00355	-.00107	3.0605
#2	.00802	138.52	-.00067	.01959	.00123	.00278	.00346	3.0606
#3	.00745	138.97	.00053	.00178	.00384	.00475	.00319	3.0671
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703071201 Acquired: 3/16/2017 13:12:13 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00039**	**.07939**	**.00196**	**.00452**	**-.00010**	**.00257**	**.10051**
Stddev	.00039	.00095	.01038	.00215	.00053	.00015	.23214
%RSD	98.322	1.2020	529.22	47.528	514.07	5.9167	230.96
#1	-.00076	.07841	.00669	.00343	-.00070	.00265	.08159
#2	-.00044	.07946	.00914	.00699	.00031	.00239	.34153
#3	.00001	.08031	-.00994	.00313	.00008	.00266	-.12159
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	**4791.2**	**58456.**	**5464.8**
Stddev	15.2	205.	24.4
%RSD	.31789	.35086	.44736
#1	4802.4	58274.	5492.8
#2	4797.3	58678.	5447.6
#3	4773.9	58415.	5453.9

Approved: March 17, 2017

Sample Name: L1703071201PS Acquired: 3/16/2017 13:15:57 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606289-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19595**	**5.0157**	**.19341**	**1.0485**	**.56321**	**.02481**	**8.4138**	**.02477**
Stddev	.00143	.0116	.00428	.0072	.00104	.00022	.0604	.00030
%RSD	.73186	.23191	2.2117	.68902	.18497	.89111	.71820	1.2201
#1	.19681	5.0026	.19566	1.0461	.56222	.02455	8.3911	.02507
#2	.19429	5.0196	.18848	1.0566	.56313	.02493	8.4824	.02446
#3	.19674	5.0248	.19609	1.0427	.56429	.02494	8.3681	.02477
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	**.09876**	**.25105**	**.24492**	**2.2447**	**25.441**	**.49249**	**5.5400**	**.29231**
Stddev	.00031	.00177	.00087	.0061	.078	.00455	.0825	.00362
%RSD	.31222	.70639	.35486	.27294	.30720	.92418	1.4890	1.2396
#1	.09842	.25277	.24592	2.2419	25.351	.49019	5.4992	.29448
#2	.09900	.24923	.24452	2.2404	25.475	.49773	5.6350	.29432
#3	.09888	.25115	.24433	2.2517	25.496	.48954	5.4859	.28813
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	**.49199**	**149.42**	**.24534**	**4.7332**	**.24449**	**.59027**	**.18431**	**5.2256**
Stddev	.00172	.55	.00287	.0228	.00130	.01056	.01102	.0156
%RSD	.34918	.36565	1.1711	.48167	.53206	1.7897	5.9814	.29749
#1	.49015	149.03	.24283	4.7107	.24306	.59818	.17735	5.2156
#2	.49227	150.04	.24473	4.7325	.24559	.59437	.19702	5.2177
#3	.49355	149.19	.24848	4.7563	.24483	.57827	.17856	5.2435
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703071201PS Acquired: 3/16/2017 13:15:57 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606289-01

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48968**	**.56250**	**.49539**	**.24120**	**.49739**	**.49448**	**.59310**
Stddev	.00200	.00185	.00217	.00442	.00157	.00129	.21980
%RSD	.40930	.32816	.43789	1.8312	.31475	.25993	37.059
#1	.48767	.56045	.49516	.23886	.49602	.49307	.83864
#2	.48968	.56403	.49767	.24629	.49909	.49480	.52599
#3	.49168	.56302	.49335	.23844	.49706	.49558	.41468
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	**4738.2**	**57130.**	**5388.5**
Stddev	43.0	183.	34.1
%RSD	.90804	.32102	.63289
#1	4715.1	57339.	5387.9
#2	4711.7	56996.	5354.8
#3	4787.8	57054.	5423.0

Approved: March 17, 2017

Sample Name: L1703071201SDL Acquired: 3/16/2017 13:19:34 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG606289-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00372**	**.02379**	**.00346**	**.03265**	**.01590**	**-.00015**	**.78618**	**-.00040**
Stddev	.00105	.00265	.00293	.00261	.00082	.00002	.02824	.00006
%RSD	28.356	11.149	84.618	8.0086	5.1451	13.685	3.5920	15.940
#1	.00256	.02111	.00067	.03007	.01684	-.00013	.81650	-.00040
#2	.00462	.02385	.00651	.03257	.01539	-.00017	.76064	-.00047
#3	.00398	.02641	.00321	.03530	.01547	-.00015	.78139	-.00034
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00010**	**-.00145**	**-.00133**	**.06589**	**.11137**	**-.00081**	**.10914**	**.01137**
Stddev	.00057	.00093	.00116	.01489	.04071	.00624	.06093	.00122
%RSD	541.40	64.035	86.548	22.592	36.550	771.15	55.826	10.726
#1	.00059	-.00227	-.00029	.07833	.10238	-.00767	.05877	.01240
#2	.00024	-.00165	-.00115	.06995	.07592	.00454	.09178	.01170
#3	-.00052	-.00044	-.00257	.04940	.15583	.00070	.17686	.01002
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	**.00121**	**28.253**	**-.00088**	**.00074**	**.00304**	**.00085**	**.00380**	**.63271**
Stddev	.00044	.198	.00088	.01294	.00084	.00734	.01146	.00293
%RSD	36.036	.70113	99.967	1744.4	27.506	865.13	301.43	.46302
#1	.00167	28.462	-.00188	-.01147	.00289	.00924	.01653	.62995
#2	.00080	28.226	-.00051	.01431	.00229	-.00232	-.00570	.63579
#3	.00115	28.069	-.00025	-.00061	.00394	-.00438	.00058	.63239
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703071201SDL Acquired: 3/16/2017 13:19:34 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG606289-02

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00001**	**.01546**	**.00316**	**-.00273**	**.00065**	**.00079**	**.21519**
Stddev	.00146	.00029	.00098	.00367	.00161	.00015	.24132
%RSD	14773.	1.9007	31.128	134.65	249.93	18.558	112.14
#1	-.00103	.01522	.00387	-.00024	.00118	.00093	.12855
#2	-.00066	.01579	.00357	-.00694	-.00117	.00064	.02915
#3	.00166	.01538	.00204	-.00099	.00193	.00082	.48787
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	**5030.9**	**61310.**	**5574.3**
Stddev	20.3	297.	130.4
%RSD	.40359	.48432	2.3395
#1	5017.7	61418.	5424.3
#2	5054.3	61538.	5660.9
#3	5020.7	60974.	5637.6

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 13:23:20 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.40295**	**10.408**	**.40222**	**.50819**	**1.0124**	**.05126**	**10.004**
Stddev	.00190	.024	.00057	.00173	.0031	.00006	.049
%RSD	.47188	.23090	.14094	.34013	.30235	.12515	.48661
#1	.40455	10.383	.40253	.50719	1.0121	.05123	9.9790
#2	.40346	10.431	.40156	.51018	1.0095	.05133	9.9732
#3	.40085	10.410	.40256	.50719	1.0156	.05121	10.060
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	**.05111**	**.20350**	**.51442**	**.50933**	**4.0690**	**50.043**	**1.0002**
Stddev	.00091	.00033	.00179	.00263	.0506	.272	.0057
%RSD	1.7739	.16130	.34844	.51687	1.2431	.54263	.56707
#1	.05118	.20353	.51622	.50698	4.0803	49.787	.99859
#2	.05198	.20381	.51263	.51218	4.0137	50.015	.99551
#3	.05017	.20315	.51440	.50883	4.1129	50.328	1.0065
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	**10.003**	**.49697**	**1.0036**	**50.165**	**.51213**	**9.9671**	**.50929**
Stddev	.073	.00092	.0031	.126	.00243	.0115	.00236
%RSD	.73034	.18444	.30927	.25212	.47354	.11530	.46269
#1	9.9241	.49607	1.0035	50.035	.51477	9.9582	.50722
#2	10.069	.49790	1.0068	50.171	.51001	9.9801	.50881
#3	10.015	.49695	1.0006	50.288	.51159	9.9632	.51185
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 13:23:20 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**1.2227**	**.40268**	**4.9927**	**1.0062**	**1.0067**	**1.0025**	**.51785**
Stddev	.0087	.00233	.0180	.0023	.0052	.0171	.01267
%RSD	.70945	.57874	.36102	.22932	.51243	1.7013	2.4468
#1	1.2149	.40301	4.9877	1.0078	1.0025	1.0066	.50322
#2	1.2320	.40021	5.0127	1.0072	1.0050	.98372	.52500
#3	1.2211	.40483	4.9777	1.0035	1.0124	1.0171	.52534
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**1.0191**	**1.0243**	F **.73596**
Stddev	.0014	.0021	.09911
%RSD	.13207	.20312	13.467
#1	1.0178	1.0243	.84106
#2	1.0190	1.0263	.64420
#3	1.0205	1.0221	.72261
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	**4858.7**	**58796.**	**5461.3**
Stddev	15.0	88.	42.5
%RSD	.30946	.14992	.77788
#1	4852.0	58842.	5475.3
#2	4848.3	58694.	5413.6
#3	4876.0	58851.	5495.0

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 13:26:52 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00526**	**.00058**	**-.00187**	**.00606**	**.00069**	**-.00001**	**-.01023**
Stddev	.00084	.00550	.00328	.00262	.00109	.00005	.01558
%RSD	15.939	941.86	175.91	43.302	157.69	475.54	152.29
#1	.00553	-.00575	.00192	.00328	.00191	.00004	-.01768
#2	.00593	.00415	-.00371	.00849	.00034	-.00002	-.02069
#3	.00432	.00335	-.00381	.00641	-.00018	-.00005	.00768
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**	**-.00015**	**.00030**	**-.00282**	**.01039**	**.16722**	**-.00108**
Stddev	.00009	.00050	.00094	.00127	.01251	.08844	.00180
%RSD	114.61	346.19	318.29	44.983	120.41	52.889	166.31
#1	-.00002	-.00071	.00051	-.00421	-.00206	.15967	-.00190
#2	.00013	.00025	.00112	-.00256	.02295	.25919	-.00233
#3	.00012	.00002	-.00074	-.00171	.01027	.08279	.00098
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	**.00014**	**.00076**	**-.00026**	**.06463**	**-.00089**	**-.00493**	**.00193**
Stddev	.04844	.00229	.00054	.00638	.00174	.00887	.00259
%RSD	33926.	301.24	207.50	9.8700	195.80	179.83	134.47
#1	.01592	-.00145	-.00040	.05883	-.00254	-.01255	.00373
#2	.03872	.00313	-.00071	.06360	.00094	-.00704	-.00104
#3	-.05422	.00061	.00033	.07146	-.00107	.00480	.00309
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 13:26:52 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00095**	**.00079**	**.00354**	**.00086**	**-.00041**	**.00004**	**-.00379**
Stddev	.00209	.00705	.00201	.00089	.00021	.00564	.00134
%RSD	219.01	893.79	56.605	102.80	50.837	15570.	35.462
#1	-.00332	.00112	.00128	.00119	-.00050	-.00647	-.00376
#2	-.00017	-.00642	.00426	-.00014	-.00017	.00308	-.00246
#3	.00063	.00766	.00509	.00154	-.00056	.00350	-.00514
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.00032**	**.00016**	F **.04785**
Stddev	.00037	.00019	.30292
%RSD	116.41	117.89	633.06
#1	.00009	-.00006	.23605
#2	.00075	.00026	-.30158
#3	.00012	.00028	.20909
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	**4883.5**	**59830.**	**5343.7**
Stddev	25.0	89.	21.4
%RSD	.51118	.14864	.40090
#1	4909.7	59917.	5335.5
#2	4880.6	59739.	5327.6
#3	4860.0	59833.	5368.0

Approved: March 17, 2017

Sample Name: L1703071202 Acquired: 3/16/2017 13:30:38 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00387**	**.05608**	**.00215**	**.13149**	**.05789**	**-.00015**	**3.3588**	**-.00010**
Stddev	.00264	.00241	.00363	.00168	.00052	.00004	.0374	.00034
%RSD	68.251	4.2979	168.82	1.2802	.89249	24.076	1.1134	327.07
#1	.00601	.05381	.00473	.12982	.05756	-.00013	3.3207	.00028
#2	.00466	.05582	.00372	.13148	.05763	-.00013	3.3603	-.00023
#3	.00092	.05860	-.00200	.13318	.05849	-.00019	3.3954	-.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	**-.00020**	**-.00084**	**-.00228**	**.09311**	**.65499**	**.00705**	**.71802**	**.03939**
Stddev	.00016	.00094	.00118	.01574	.08913	.00384	.08136	.00213
%RSD	79.112	110.78	51.957	16.906	13.608	54.427	11.331	5.4191
#1	-.00013	-.00005	-.00333	.07587	.73118	.00744	.81004	.03763
#2	-.00009	-.00061	-.00100	.10671	.67681	.01067	.65563	.04177
#3	-.00038	-.00187	-.00250	.09674	.55698	.00303	.68840	.03877
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	**.00686**	**144.94**	**.00396**	**.00247**	**.00557**	**.00369**	**-.00085**	**2.8947**
Stddev	.00048	.73	.00077	.00783	.00298	.00706	.01153	.0094
%RSD	6.9702	.50439	19.458	316.58	53.450	191.40	1351.6	.32430
#1	.00638	144.12	.00356	.01102	.00745	-.00346	-.01293	2.9053
#2	.00734	145.54	.00347	.00075	.00214	.00387	.00031	2.8916
#3	.00686	145.15	.00485	-.00435	.00712	.01066	.01005	2.8873
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703071202 Acquired: 3/16/2017 13:30:38 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00068**	**.06534**	**.00244**	**-.00469**	**.00018**	**.00635**	**.09496**
Stddev	.00038	.00050	.00212	.00742	.00105	.00013	.07708
%RSD	55.441	.76603	87.198	158.33	599.66	2.0758	81.172
#1	-.00028	.06490	.00489	.00137	-.00104	.00630	.17384
#2	-.00103	.06523	.00117	-.01297	.00081	.00650	.09122
#3	-.00074	.06588	.00125	-.00246	.00076	.00625	.01981
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	**4699.2**	**56870.**	**5254.0**
Stddev	14.2	259.	40.8
%RSD	.30199	.45482	.77567
#1	4714.8	56580.	5300.3
#2	4696.1	56952.	5238.4
#3	4686.9	57078.	5223.4

Approved: March 17, 2017

Sample Name: L1703072301 Acquired: 3/16/2017 13:34:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00072**	**.06550**	**-.00042**	**.12108**	**.13881**	**.00002**	**25.924**
Stddev	.00112	.00646	.00362	.00460	.00071	.00006	.085
%RSD	155.75	9.8580	852.46	3.7970	.51039	326.21	.32911
#1	-.00030	.06700	-.00328	.12605	.13913	-.00002	25.899
#2	.00054	.05842	.00364	.12020	.13930	.00009	26.019
#3	.00191	.07107	-.00163	.11698	.13800	-.00001	25.853
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	**-.00027**	**.00497**	**.00509**	**-.00016**	**.52524**	**5.5597**	**.01994**
Stddev	.00013	.00020	.00200	.00046	.03771	.0979	.00278
%RSD	47.349	3.9935	39.331	282.50	7.1792	1.7616	13.920
#1	-.00013	.00519	.00361	.00023	.52938	5.4482	.02101
#2	-.00029	.00480	.00737	-.00066	.48564	5.5992	.01679
#3	-.00038	.00493	.00430	-.00005	.56071	5.6318	.02203
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	**11.397**	**.09682**	**.00693**	F **1725.1**	**.01642**	**2.9627**	**.00455**
Stddev	.073	.00111	.00046	17.6	.00042	.0174	.00668
%RSD	.63646	1.1415	6.7027	1.0230	2.5818	.58641	146.82
#1	11.382	.09744	.00727	1734.1	.01607	2.9427	-.00131
#2	11.333	.09748	.00640	1736.4	.01629	2.9739	.01182
#3	11.476	.09554	.00712	1704.7	.01689	2.9715	.00313
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: March 17, 2017

Sample Name: L1703072301 Acquired: 3/16/2017 13:34:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00506**	**-.00192**	**4.0730**	**.00010**	**1.6845**	**-.00038**	**-.01084**
Stddev	.00167	.00054	.0077	.00167	.0029	.00758	.00389
%RSD	33.052	28.052	.18960	1695.9	.17206	1988.1	35.916
#1	.00575	-.00205	4.0806	.00201	1.6825	-.00909	-.01506
#2	.00627	-.00239	4.0652	-.00105	1.6878	.00318	-.01007
#3	.00315	-.00133	4.0731	-.00067	1.6831	.00476	-.00739
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	**.00047**	**.09085**	F **-.37101**
Stddev	.00088	.00032	.05832
%RSD	189.06	.35344	15.719
#1	-.00030	.09049	-.43478
#2	.00027	.09095	-.32040
#3	.00143	.09111	-.35783
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	**4260.9**	**49256.**	**5303.0**
Stddev	10.3	558.	8.9
%RSD	.24063	1.1333	.16727
#1	4271.4	49128.	5313.0
#2	4260.4	48772.	5296.0
#3	4250.9	49867.	5300.1

Approved: March 17, 2017

Sample Name: L1703072401 Acquired: 3/16/2017 13:38:14 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00546**	**.04568**	**.00152**	**.12056**	**.08916**	**-.00001**	**12.810**
Stddev	.00199	.00586	.00248	.00290	.00079	.00006	.072
%RSD	36.433	12.834	163.95	2.4053	.88505	828.19	.56165
#1	.00318	.03995	-.00126	.12098	.09004	.00002	12.742
#2	.00683	.05167	.00227	.11748	.08895	-.00007	12.804
#3	.00638	.04544	.00353	.12323	.08850	.00003	12.885
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00014**	**.00487**	**.00227**	**-.00053**	**.12608**	**5.5700**	**.02303**
Stddev	.00016	.00069	.00238	.00040	.01143	.1039	.00480
%RSD	112.14	14.151	104.93	74.623	9.0677	1.8648	20.837
#1	-.00032	.00566	.00184	-.00067	.12711	5.4560	.02021
#2	-.00009	.00460	.00013	-.00085	.11416	5.5947	.02857
#3	-.00002	.00437	.00484	-.00009	.13696	5.6593	.02030
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	**6.0747**	**.01112**	**.00610**	F **1765.8**	**.01438**	**4.1070**	**.00093**
Stddev	.0759	.00277	.00058	26.2	.00157	.0126	.00244
%RSD	1.2486	24.865	9.4888	1.4859	10.931	.30727	262.25
#1	6.1337	.01364	.00544	1795.9	.01617	4.1123	-.00165
#2	6.1012	.01157	.00653	1748.1	.01325	4.1161	.00124
#3	5.9891	.00816	.00633	1753.3	.01371	4.0926	.00320
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: March 17, 2017

Sample Name: L1703072401 Acquired: 3/16/2017 13:38:14 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00447**	**-.00357**	**3.6489**	**-.00036**	**1.2965**	**.00174**	**-.00455**
Stddev	.00533	.01208	.0063	.00159	.0044	.00786	.00478
%RSD	119.14	338.51	.17175	443.12	.34075	450.55	104.96
#1	.00476	-.00705	3.6495	-.00024	1.3010	-.00622	-.00052
#2	-.00099	.00987	3.6549	-.00200	1.2921	.00949	-.00331
#3	.00965	-.01353	3.6424	.00116	1.2965	.00196	-.00983
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.00122**	**.05433**	F **-.45270**
Stddev	.00091	.00010	.34046
%RSD	74.118	.18106	75.206
#1	.00192	.05432	-.22650
#2	.00020	.05424	-.28735
#3	.00156	.05443	-.84426
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	**4268.8**	**49758.**	**5313.5**
Stddev	9.5	106.	54.9
%RSD	.22217	.21204	1.0339
#1	4264.0	49785.	5250.2
#2	4279.8	49642.	5341.7
#3	4262.8	49848.	5348.5

Approved: March 17, 2017

Sample Name: L1703072801 Acquired: 3/16/2017 13:42:06 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606289-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00627**	**.02462**	**-.00743**	**.20657**	**.00143**	**-.00012**	**.21114**
Stddev	.00079	.00199	.00180	.00357	.00056	.00012	.02127
%RSD	12.678	8.0936	24.182	1.7290	39.407	97.508	10.072
#1	.00718	.02484	-.00926	.20313	.00079	-.00019	.19489
#2	.00575	.02650	-.00567	.21026	.00183	.00001	.23521
#3	.00587	.02253	-.00736	.20632	.00168	-.00018	.20333
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	**.00632**	**.01465**	**.01978**	**.23148**	**120.67**	**45.257**	**-.00146**
Stddev	.00038	.00071	.00085	.00121	.59	.270	.00319
%RSD	5.9424	4.8381	4.3215	.52381	.49295	.59681	218.86
#1	.00607	.01453	.02068	.23145	120.36	44.946	.00200
#2	.00613	.01401	.01898	.23028	121.36	45.422	-.00430
#3	.00675	.01541	.01969	.23271	120.30	45.405	-.00208
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	**.13126**	**1.3915**	**-.00167**	**15.531**	**13.189**	**-.07700**	**.02390**
Stddev	.03453	.0057	.00034	.063	.002	.00809	.00253
%RSD	26.306	.40820	20.560	.40650	.01224	10.512	10.601
#1	.09623	1.3904	-.00169	15.533	13.191	-.07462	.02215
#2	.16526	1.3976	-.00132	15.593	13.189	-.07036	.02274
#3	.13229	1.3864	-.00201	15.467	13.187	-.08602	.02680
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: L1703072801 Acquired: 3/16/2017 13:42:06 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606289-01

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00112**	**-.00231**	**.23601**	**.00051**	**.00031**	**.02577**	**-.00261**
Stddev	.00344	.00937	.00123	.00174	.00020	.00413	.00587
%RSD	308.34	405.04	.51968	342.52	63.312	16.024	225.08
#1	-.00249	.00758	.23466	-.00014	.00044	.02665	-.00717
#2	.00437	-.01106	.23706	-.00081	.00041	.02939	-.00467
#3	.00147	-.00346	.23632	.00247	.00008	.02127	.00401
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	**-.00206**	**.09581**	F **-4.2940**
Stddev	.00086	.00030	.0833
%RSD	41.505	.31658	1.9402
#1	-.00190	.09553	-4.1983
#2	-.00129	.09577	-4.3507
#3	-.00298	.09613	-4.3329
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	**4942.6**	**59230.**	**5474.7**
Stddev	6.2	555.	104.1
%RSD	.12445	.93733	1.9006
#1	4943.3	59039.	5594.8
#2	4948.3	58795.	5414.6
#3	4936.1	59855.	5414.5

Approved: March 17, 2017

Sample Name: L1703072801MS Acquired: 3/16/2017 13:45:50 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606289-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20669**	**5.2205**	**.19180**	**1.1599**	**.51148**	**.02536**	**5.2474**
Stddev	.00061	.0109	.00219	.0047	.00275	.00005	.0266
%RSD	.29468	.20925	1.1409	.40228	.53806	.18502	.50633
#1	.20691	5.2185	.19379	1.1635	.50949	.02540	5.2244
#2	.20716	5.2108	.18946	1.1615	.51462	.02531	5.2765
#3	.20600	5.2323	.19215	1.1546	.51033	.02537	5.2413
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	**.03188**	**.11703**	**.27747**	**.48022**	**122.21**	**70.403**	**.50789**
Stddev	.00049	.00035	.00027	.00051	.49	.081	.00388
%RSD	1.5512	.29479	.09829	.10650	.40224	.11476	.76432
#1	.03238	.11737	.27719	.47968	121.69	70.356	.50610
#2	.03140	.11668	.27774	.48069	122.67	70.497	.51234
#3	.03185	.11706	.27747	.48030	122.26	70.357	.50522
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	**5.0954**	**1.6285**	**.49503**	**40.667**	**13.297**	**4.7670**	**.27453**
Stddev	.0555	.0034	.00133	.160	.007	.0222	.00499
%RSD	1.0895	.20914	.26788	.39359	.05041	.46503	1.8165
#1	5.1445	1.6312	.49374	40.680	13.299	4.7782	.28029
#2	5.1066	1.6297	.49495	40.821	13.303	4.7415	.27175
#3	5.0352	1.6247	.49639	40.501	13.290	4.7813	.27155
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: L1703072801MS Acquired: 3/16/2017 13:45:50 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606289-04

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.61129**	**.18851**	**2.7215**	**.50117**	**.50797**	**.52903**	**.09692**
Stddev	.00464	.00496	.0022	.00213	.00130	.00654	.00134
%RSD	.75940	2.6307	.08087	.42407	.25652	1.2358	1.3824
#1	.60652	.18378	2.7237	.50077	.50658	.53465	.09626
#2	.61579	.19367	2.7215	.50347	.50916	.52186	.09603
#3	.61157	.18808	2.7193	.49927	.50818	.53060	.09846
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	**.50879**	**.59881**	F **-3.9287**
Stddev	.00068	.00121	.0348
%RSD	.13377	.20218	.88720
#1	.50818	.60021	-3.9545
#2	.50867	.59819	-3.9425
#3	.50952	.59804	-3.8890
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	**4821.4**	**58584.**	**5403.2**
Stddev	12.4	175.	22.7
%RSD	.25637	.29866	.42069
#1	4819.7	58447.	5402.3
#2	4810.0	58781.	5381.0
#3	4834.5	58524.	5426.4

Approved: March 17, 2017

Sample Name: L1703072801MSD Acquired: 3/16/2017 13:49:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606289-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20800**	**5.2391**	**.19479**	**1.1516**	**.51123**	**.02519**	**5.2604**
Stddev	.00228	.0327	.00270	.0088	.00075	.00007	.0117
%RSD	1.0948	.62413	1.3849	.76559	.14653	.26829	.22324
#1	.20673	5.2112	.19584	1.1504	.51054	.02512	5.2720
#2	.21063	5.2751	.19680	1.1610	.51113	.02526	5.2485
#3	.20664	5.2311	.19172	1.1435	.51203	.02520	5.2606
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	**.03122**	**.11663**	**.27516**	**.48161**	**121.39**	**70.504**	**.51149**
Stddev	.00030	.00052	.00154	.00087	.12	.202	.00402
%RSD	.95370	.44183	.55975	.17989	.10154	.28702	.78601
#1	.03151	.11718	.27549	.48160	121.47	70.446	.50916
#2	.03091	.11615	.27651	.48076	121.46	70.337	.50916
#3	.03124	.11656	.27349	.48249	121.25	70.729	.51613
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	**5.0717**	**1.6223**	**.49500**	**40.686**	**13.279**	**4.7616**	**.27309**
Stddev	.1529	.0071	.00103	.220	.022	.0143	.00520
%RSD	3.0144	.43813	.20759	.54060	.16517	.29982	1.9023
#1	4.9676	1.6238	.49471	40.544	13.254	4.7472	.26906
#2	5.0002	1.6146	.49414	40.574	13.290	4.7757	.27895
#3	5.2472	1.6286	.49614	40.939	13.293	4.7620	.27126
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: L1703072801MSD Acquired: 3/16/2017 13:49:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606289-05

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.60728**	**.18789**	**2.7387**	**.50161**	**.50714**	**.53473**	**.08077**
Stddev	.00294	.01099	.0102	.00132	.00100	.00704	.00364
%RSD	.48495	5.8508	.37222	.26240	.19643	1.3161	4.5040
#1	.61067	.18092	2.7277	.50294	.50767	.53749	.08308
#2	.60586	.18218	2.7479	.50158	.50599	.52674	.08265
#3	.60531	.20056	2.7406	.50031	.50775	.53998	.07658
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	**.50858**	**.59528**	F **-3.8920**
Stddev	.00087	.00077	.1732
%RSD	.17199	.12868	4.4514
#1	.50769	.59441	-4.0898
#2	.50860	.59557	-3.7669
#3	.50944	.59586	-3.8194
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	**4856.0**	**58839.**	**5286.1**
Stddev	14.2	314.	107.4
%RSD	.29339	.53430	2.0323
#1	4839.6	58574.	5344.9
#2	4865.5	58756.	5351.4
#3	4862.8	59186.	5162.1

Approved: March 17, 2017

Sample Name: L1703073701 Acquired: 3/16/2017 13:52:54 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00227**	**.09426**	**.01269**	F **73.299**	**.02587**	**-.00010**	**41.432**
Stddev	.00274	.00652	.00294	.132	.00033	.00001	.103
%RSD	120.60	6.9119	23.140	.18059	1.2573	5.2974	.24962
#1	.00542	.09951	.01540	73.428	.02571	-.00010	41.527
#2	.00087	.09631	.00957	73.164	.02566	-.00009	41.448
#3	.00051	.08697	.01312	73.305	.02625	-.00010	41.322
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				45.000			
Low Limit				-.10000			

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00007**	**.01110**	**.00428**	**.01803**	**2.9252**	**95.270**	**.11010**
Stddev	.00045	.00048	.00062	.00285	.0160	.205	.00147
%RSD	610.76	4.3260	14.580	15.782	.54614	.21560	1.3337
#1	-.00034	.01157	.00448	.02106	2.9397	95.078	.11171
#2	.00056	.01061	.00478	.01760	2.9277	95.246	.10883
#3	-.00000	.01112	.00358	.01542	2.9080	95.486	.10978
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	**3.7828**	**1.2431**	**.00563**	**120.62**	**.07591**	**4.1311**	**.00143**
Stddev	.0391	.0057	.00046	.55	.00140	.0330	.00427
%RSD	1.0332	.46152	8.1968	.45709	1.8447	.79966	299.41
#1	3.7377	1.2385	.00578	120.72	.07444	4.1564	.00519
#2	3.8066	1.2413	.00512	121.11	.07607	4.0938	.00230
#3	3.8041	1.2495	.00600	120.02	.07723	4.1433	-.00321
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: L1703073701 Acquired: 3/16/2017 13:52:54 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00473**	**-.00706**	**3.3139**	**.00111**	**.08149**	**-.00044**	**-.00113**
Stddev	.00408	.00308	.0039	.00119	.00021	.00230	.00570
%RSD	86.200	43.554	.11706	107.07	.25602	524.12	505.31
#1	.00497	-.00868	3.3146	.00123	.08126	.00022	-.00685
#2	.00054	-.00900	3.3174	-.00014	.08157	.00146	-.00109
#3	.00868	-.00352	3.3097	.00223	.08165	-.00300	.00456
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	**.00207**	**.38541**	**.08851**
Stddev	.00070	.00037	.05592
%RSD	33.622	.09473	63.179
#1	.00187	.38508	.15150
#2	.00150	.38534	.04469
#3	.00285	.38580	.06935
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	**4762.7**	**57303.**	**5431.2**
Stddev	12.7	303.	15.8
%RSD	.26767	.52876	.29086
#1	4755.1	57553.	5446.0
#2	4777.4	56966.	5414.5
#3	4755.6	57390.	5433.0

Approved: March 17, 2017

Sample Name: L1703073702 Acquired: 3/16/2017 13:56:35 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00217**	**.01869**	**-.00144**	**.21942**	**.02578**	**-.00004**	**3.1692**	**.00287**
Stddev	.00104	.00614	.00168	.01798	.00038	.00006	.0268	.00037
%RSD	47.868	32.835	117.11	8.1947	1.4666	136.77	.84601	12.945
#1	.00336	.01328	-.00149	.22307	.02553	-.00011	3.1384	.00327
#2	.00139	.01743	-.00309	.23529	.02559	.00001	3.1816	.00279
#3	.00178	.02535	.00027	.19989	.02621	-.00003	3.1876	.00254
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	**.00491**	**-.00137**	**-.00209**	**.04385**	**3.9422**	**.00924**	**.87191**	**.00504**
Stddev	.00033	.00057	.00241	.01169	.0999	.00518	.04939	.00292
%RSD	6.6403	41.552	115.29	26.662	2.5332	56.134	5.6649	58.022
#1	.00518	-.00197	-.00037	.05644	3.9639	.00335	.84795	.00811
#2	.00455	-.00132	-.00105	.03334	3.8333	.01314	.83906	.00472
#3	.00500	-.00083	-.00484	.04177	4.0294	.01121	.92871	.00229
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	**.00002**	**111.94**	**.00381**	**-.01405**	**.01769**	**.00120**	**-.00686**	**.16723**
Stddev	.00066	.62	.00185	.00920	.00170	.00831	.00432	.00674
%RSD	3079.6	.55197	48.578	65.475	9.6221	689.89	62.903	4.0301
#1	.00071	111.24	.00325	-.02433	.01693	.01074	-.00395	.17457
#2	-.00004	112.17	.00587	-.01127	.01964	-.00266	-.01182	.16582
#3	-.00061	112.41	.00230	-.00657	.01650	-.00447	-.00482	.16131
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703073702 Acquired: 3/16/2017 13:56:35 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00041**	**.01650**	**-.00093**	**-.00497**	**.00044**	**.01450**	**.20738**
Stddev	.00070	.00018	.00254	.00160	.00078	.00020	.17964
%RSD	171.06	1.0895	273.17	32.254	175.85	1.3758	86.622
#1	-.00002	.01629	.00057	-.00601	-.00042	.01465	.38108
#2	.00121	.01657	-.00387	-.00577	.00109	.01428	.02234
#3	.00003	.01663	.00051	-.00312	.00067	.01459	.21873
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	**4879.7**	**58986.**	**5320.1**
Stddev	10.4	169.	52.3
%RSD	.21370	.28709	.98392
#1	4885.2	58830.	5376.6
#2	4867.6	58962.	5310.5
#3	4886.1	59166.	5273.2

Approved: March 17, 2017

Sample Name: L1703074101 Acquired: 3/16/2017 14:00:21 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00103**	**.19347**	**.00202**	**13.738**	**.45285**	**-.00007**	**94.134**
Stddev	.00267	.00244	.00449	.052	.00101	.00006	.295
%RSD	259.63	1.2632	222.23	.37658	.22206	88.665	.31384
#1	.00087	.19620	-.00047	13.786	.45203	-.00001	94.046
#2	.00377	.19148	-.00067	13.684	.45254	-.00014	93.893
#3	-.00156	.19274	.00720	13.745	.45397	-.00008	94.464
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	**.00135**	**.00140**	**.00602**	**.00795**	**.70646**	**150.65**	**.08482**
Stddev	.00019	.00038	.00133	.00348	.01034	.64	.00083
%RSD	13.809	27.210	22.000	43.699	1.4635	.42614	.97656
#1	.00135	.00140	.00458	.00619	.70912	150.26	.08578
#2	.00154	.00178	.00718	.01196	.69505	150.29	.08427
#3	.00116	.00102	.00632	.00571	.71520	151.39	.08443
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	**39.992**	**6.7902**	**.00234**	F **560.32**	**.02464**	**.34205**	**.00752**
Stddev	.263	.0141	.00019	3.36	.00143	.00984	.00333
%RSD	.65864	.20818	8.2210	.59975	5.7860	2.8767	44.259
#1	39.791	6.7934	.00243	562.99	.02623	.35191	.00372
#2	39.894	6.7747	.00212	556.55	.02421	.34201	.00992
#3	40.290	6.8024	.00247	561.42	.02348	.33223	.00891
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: March 17, 2017

Sample Name: L1703074101 Acquired: 3/16/2017 14:00:21 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00064**	**.00616**	**6.1696**	**.00129**	**.72936**	**.00101**	**.00182**
Stddev	.00161	.00506	.0049	.00168	.00132	.00718	.00500
%RSD	251.90	82.203	.07970	130.33	.18094	709.04	274.40
#1	.00223	.00276	6.1655	-.00049	.72882	.00333	.00202
#2	.00069	.00374	6.1751	.00283	.72840	.00674	-.00328
#3	-.00100	.01198	6.1684	.00152	.73087	-.00704	.00673
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	**.07060**	**.03629**	**1.2916**
Stddev	.00063	.00022	.0546
%RSD	.88891	.60489	4.2265
#1	.07132	.03654	1.3543
#2	.07026	.03611	1.2650
#3	.07021	.03623	1.2553
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	**4559.3**	**53875.**	**5431.9**
Stddev	7.0	324.	46.5
%RSD	.15395	.60088	.85669
#1	4553.3	54171.	5433.3
#2	4567.0	53924.	5477.8
#3	4557.5	53529.	5384.8

Approved: March 17, 2017

Sample Name: L1703077101 Acquired: 3/16/2017 14:04:11 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00259**	**.19545**	**-.00119**	**.08838**	**.03799**	**-.00000**	**35.021**	**-.00011**
Stddev	.00098	.00717	.00321	.00232	.00048	.00004	.055	.00017
%RSD	37.679	3.6687	270.51	2.6248	1.2696	2080.0	.15720	162.88
#1	.00359	.19687	.00035	.08999	.03804	.00003	34.960	-.00024
#2	.00255	.18767	.00096	.08944	.03844	-.00000	35.035	-.00017
#3	.00164	.20180	-.00487	.08572	.03748	-.00004	35.068	.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	**-.00041**	**-.00098**	**-.00072**	**.11401**	**1.6426**	**.00767**	**3.8396**	**.00464**
Stddev	.00015	.00071	.00177	.01930	.0929	.00177	.0522	.00165
%RSD	36.473	72.913	244.49	16.924	5.6569	23.061	1.3596	35.546
#1	-.00049	-.00173	.00132	.09750	1.6155	.00941	3.8430	.00282
#2	-.00050	-.00031	-.00167	.13522	1.7460	.00587	3.8900	.00604
#3	-.00024	-.00090	-.00183	.10932	1.5662	.00772	3.7857	.00505
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**	**4.5910**	**-.00094**	**.01302**	**.00345**	**-.00113**	**.00286**	**3.5560**
Stddev	.00060	.0236	.00270	.01169	.00154	.00922	.00400	.0185
%RSD	271.75	.51451	285.68	89.786	44.713	812.60	139.84	.51966
#1	.00019	4.6180	.00078	.00780	.00175	-.01060	.00563	3.5463
#2	.00084	4.5741	-.00405	.00485	.00476	-.00062	-.00173	3.5444
#3	-.00037	4.5809	.00044	.02642	.00385	.00781	.00468	3.5773
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077101 Acquired: 3/16/2017 14:04:11 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00125**	**.11673**	**.01045**	**-.00367**	**-.00037**	**.00132**	**.33463**
Stddev	.00037	.00035	.00280	.01048	.00075	.00034	.28329
%RSD	29.409	.30242	26.830	285.65	202.19	25.880	84.657
#1	.00101	.11708	.00990	-.00491	-.00024	.00154	.08963
#2	.00107	.11637	.01349	-.01348	.00030	.00150	.26943
#3	.00168	.11674	.00796	.00738	-.00118	.00093	.64483
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	**4842.2**	**59039.**	**5263.1**
Stddev	25.2	173.	30.4
%RSD	.52097	.29294	.57739
#1	4817.8	59238.	5257.3
#2	4840.6	58927.	5236.0
#3	4868.2	58951.	5296.0

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 14:07:55 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.40207**	**10.408**	**.39542**	F **.56160**	**1.0142**	**.05106**	**10.107**
Stddev	.00149	.035	.00431	.00127	.0022	.00010	.055
%RSD	.36938	.33414	1.0891	.22541	.21478	.19624	.54266
#1	.40288	10.408	.39523	.56124	1.0116	.05095	10.066
#2	.40297	10.373	.39982	.56301	1.0153	.05108	10.087
#3	.40035	10.443	.39121	.56056	1.0155	.05114	10.170
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value				.50000			
Range				10.000%			

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05104**	**.20314**	**.51576**	**.51015**	**4.0411**	**51.052**	**1.0255**
Stddev	.00018	.00126	.00139	.00173	.0291	.449	.0047
%RSD	.35776	.61793	.26977	.33880	.72071	.87864	.45595
#1	.05086	.20274	.51638	.51154	4.0076	50.543	1.0201
#2	.05123	.20213	.51417	.50821	4.0594	51.221	1.0286
#3	.05104	.20455	.51674	.51070	4.0565	51.392	1.0276
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.051**	**.49796**	**1.0033**	**50.982**	**.51323**	**9.9283**	**.50667**
Stddev	.022	.00518	.0004	.013	.00187	.0116	.00256
%RSD	.21785	1.0394	.03966	.02496	.36381	.11687	.50541
#1	10.027	.49887	1.0030	50.995	.51154	9.9230	.50960
#2	10.069	.49239	1.0038	50.969	.51292	9.9203	.50486
#3	10.057	.50262	1.0033	50.983	.51524	9.9416	.50555
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 14:07:55 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**1.2140**	**.39879**	**4.9742**	**1.0074**	**1.0077**	**1.0007**	**.51949**
Stddev	.0048	.00745	.0105	.0018	.0041	.0076	.00244
%RSD	.39202	1.8670	.21150	.17436	.41085	.76130	.46927
#1	1.2190	.39998	4.9641	1.0067	1.0040	1.0033	.52068
#2	1.2135	.40556	4.9734	1.0062	1.0071	1.0066	.52110
#3	1.2095	.39082	4.9851	1.0095	1.0122	.99208	.51668
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**1.0178**	**1.0224**	F **.71636**
Stddev	.0021	.0016	.03764
%RSD	.20285	.15212	5.2541
#1	1.0156	1.0207	.75850
#2	1.0196	1.0229	.68610
#3	1.0183	1.0237	.70446
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	**4833.9**	**58291.**	**5316.9**
Stddev	14.9	93.	53.5
%RSD	.30727	.16036	1.0055
#1	4827.0	58389.	5370.2
#2	4823.8	58203.	5263.3
#3	4851.0	58282.	5317.1

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 14:11:26 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00408**	**.00470**	**.00187**	**.05458**	**.00098**	**-.00006**	**.01391**	**-.00010**
Stddev	.00101	.00219	.00345	.00151	.00080	.00004	.02767	.00032
%RSD	24.775	46.553	183.79	2.7698	82.003	60.633	198.88	312.67
#1	.00291	.00692	-.00187	.05291	.00155	-.00005	-.00850	.00007
#2	.00469	.00464	.00491	.05499	.00006	-.00010	.00541	-.00047
#3	.00463	.00255	.00259	.05584	.00132	-.00003	.04484	.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	**.00009**	**-.00058**	**-.00178**	**.00999**	**.26124**	**.00071**	**.11780**	**.00023**
Stddev	.00024	.00102	.00167	.03305	.04418	.00136	.07760	.00082
%RSD	272.10	175.02	93.690	330.94	16.911	192.36	65.875	357.40
#1	-.00013	.00058	-.00314	-.00399	.27230	.00211	.18350	.00014
#2	.00034	-.00130	-.00229	.04773	.29884	.00063	.03218	-.00054
#3	.00005	-.00103	.00008	-.01378	.21258	-.00061	.13773	.00109
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**	**.18803**	**-.00198**	**-.00495**	**.00207**	**.00109**	**-.00566**	**.00319**
Stddev	.00061	.01067	.00272	.00222	.00494	.00410	.01429	.00301
%RSD	176.72	5.6768	136.99	44.771	238.35	375.07	252.25	94.410
#1	-.00103	.19642	-.00467	-.00738	.00245	.00580	-.01817	-.00018
#2	-.00015	.19166	-.00204	-.00304	-.00305	-.00078	.00991	.00562
#3	.00014	.17602	.00076	-.00443	.00682	-.00174	-.00874	.00411
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 14:11:26 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00022**	**-.00016**	**.00531**	**-.00169**	**.00082**	**-.00006**	**.01561**
Stddev	.00051	.00039	.00249	.00174	.00091	.00009	.40301
%RSD	232.20	241.17	46.851	102.56	110.38	153.54	2582.4
#1	.00001	-.00060	.00264	-.00358	.00007	.00003	-.17569
#2	.00014	-.00004	.00571	-.00134	.00183	-.00007	-.25613
#3	-.00080	.00016	.00757	-.00016	.00057	-.00014	.47864
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	**4888.2**	**59102.**	**5276.0**
Stddev	31.5	307.	7.4
%RSD	.64390	.51863	.13984
#1	4885.4	59456.	5268.7
#2	4858.3	58924.	5283.5
#3	4921.1	58927.	5275.7

Approved: March 17, 2017

Sample Name: L1703077201 Acquired: 3/16/2017 14:15:11 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00328**	**.02770**	**-.00136**	**.09160**	**.06978**	**-.00003**	**55.197**	**-.00009**
Stddev	.00081	.02383	.00201	.05838	.00092	.00011	.040	.00041
%RSD	24.741	86.022	148.01	63.730	1.3139	457.52	.07276	466.06
#1	.00362	.01490	.00077	.05968	.07019	-.00008	55.151	-.00039
#2	.00387	.01301	-.00163	.05614	.07041	-.00010	55.228	.00038
#3	.00236	.05520	-.00322	.15897	.06872	.00011	55.211	-.00026
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00013**	**.00063**	**.01420**	**.01723**	**1.4910**	**.00826**	**16.359**	**-.00014**
Stddev	.00065	.00206	.00225	.01326	.0257	.00346	.219	.00184
%RSD	514.73	326.16	15.851	76.927	1.7226	41.893	1.3382	1274.0
#1	-.00039	-.00012	.01234	.02737	1.5138	.00486	16.304	-.00224
#2	.00062	-.00095	.01357	.00223	1.4632	.01177	16.601	.00121
#3	-.00060	.00296	.01670	.02209	1.4961	.00814	16.174	.00060
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	**.00056**	**5.4597**	**.00011**	**-.01498**	**.00554**	**-.00089**	**.00971**	**4.4184**
Stddev	.00068	.0281	.00303	.00770	.00323	.00711	.01043	.0040
%RSD	121.00	.51410	2775.5	51.420	58.302	800.28	107.47	.08942
#1	.00125	5.4837	-.00335	-.01198	.00835	-.00906	.00642	4.4214
#2	.00052	5.4665	.00136	-.00922	.00201	.00388	.00131	4.4198
#3	-.00010	5.4288	.00231	-.02372	.00626	.00251	.02139	4.4139
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077201 Acquired: 3/16/2017 14:15:11 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00039**	**.38894**	**-.00282**	**-.00456**	**.00073**	**.02104**	**.02688**
Stddev	.00087	.00123	.00019	.00448	.00243	.00021	.19618
%RSD	221.43	.31717	6.8866	98.340	332.32	.98647	729.80
#1	-.00035	.38836	-.00270	-.00946	-.00109	.02109	.05764
#2	.00017	.38809	-.00272	-.00353	-.00020	.02081	.20586
#3	.00135	.39035	-.00305	-.00068	.00350	.02122	-.18286
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	**4756.0**	**58614.**	**5236.8**
Stddev	6.2	348.	20.0
%RSD	.13090	.59387	.38110
#1	4761.5	58313.	5259.8
#2	4749.2	58533.	5225.0
#3	4757.2	58995.	5225.5

Approved: March 17, 2017

Sample Name: L1703077202 Acquired: 3/16/2017 14:18:54 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00235**	**.01996**	**-.00091**	**.04123**	**.05261**	**-.00006**	**56.260**	**.00011**
Stddev	.00300	.00416	.00728	.00055	.00044	.00005	.197	.00059
%RSD	127.81	20.824	802.42	1.3257	.83086	81.899	.34976	556.31
#1	.00425	.01979	-.00627	.04126	.05211	-.00010	56.214	-.00056
#2	-.00111	.01589	-.00384	.04176	.05295	-.00001	56.091	.00032
#3	.00390	.02420	.00738	.04066	.05275	-.00007	56.476	.00056
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00036**	**-.00040**	**-.00361**	**.00001**	**1.1638**	**.00999**	**9.8235**	**.00327**
Stddev	.00081	.00127	.00146	.02453	.0799	.00298	.1994	.00116
%RSD	222.98	315.99	40.459	247260.	6.8697	29.816	2.0300	35.452
#1	.00053	-.00077	-.00513	-.01378	1.1866	.00800	10.033	.00199
#2	-.00056	-.00144	-.00348	.02833	1.2299	.01342	9.8017	.00357
#3	-.00106	.00101	-.00222	-.01452	1.0749	.00857	9.6358	.00424
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	**.00079**	**4.0937**	**.00027**	**-.00234**	**.00031**	**.00199**	**.00000**	**4.2611**
Stddev	.00063	.0296	.00288	.00485	.00570	.00515	.00495	.0198
%RSD	79.787	.72214	1064.7	207.22	1837.7	258.41	154270.	.46484
#1	.00037	4.0600	.00307	-.00738	-.00543	.00744	-.00572	4.2679
#2	.00048	4.1151	.00043	-.00194	.00040	.00134	.00286	4.2388
#3	.00151	4.1061	-.00269	.00230	.00596	-.00280	.00287	4.2767
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077202 Acquired: 3/16/2017 14:18:54 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00087**	**.25047**	**-.00680**	**-.00356**	**-.00021**	**.00576**	**.02724**
Stddev	.00057	.00029	.00789	.00719	.00186	.00028	.22951
%RSD	65.634	.11515	116.06	202.32	892.19	4.9474	842.56
#1	.00022	.25039	-.00362	.00083	-.00108	.00608	.26694
#2	.00111	.25023	-.01577	-.01186	-.00147	.00554	-.19050
#3	.00129	.25079	-.00099	.00037	.00193	.00565	.00529
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	**4758.3**	**57932.**	**5213.1**
Stddev	27.7	160.	16.4
%RSD	.58229	.27618	.31449
#1	4789.7	58090.	5194.2
#2	4747.6	57770.	5221.6
#3	4737.5	57935.	5223.5

Approved: March 17, 2017

Sample Name: L1703077203 Acquired: 3/16/2017 14:22:38 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00229**	**.08667**	**-.00003**	**.04572**	**.05255**	**-.00004**	**68.752**	**.00020**
Stddev	.00004	.00983	.00358	.00320	.00112	.00001	.268	.00017
%RSD	1.8291	11.340	10539.	7.0026	2.1294	20.894	.38910	84.515
#1	.00225	.07886	.00304	.04812	.05256	-.00005	68.565	.00029
#2	.00233	.08345	.00083	.04208	.05143	-.00005	69.058	.00031
#3	.00229	.09771	-.00397	.04695	.05367	-.00003	68.632	.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	**-.00010**	**-.00064**	**-.00210**	**.10266**	**1.1573**	**.01090**	**11.602**	**.00636**
Stddev	.00018	.00010	.00312	.02490	.0566	.00332	.104	.00240
%RSD	177.87	14.964	148.30	24.253	4.8902	30.464	.89788	37.695
#1	.00008	-.00074	-.00081	.07571	1.1258	.00743	11.482	.00896
#2	-.00027	-.00055	-.00566	.12480	1.1234	.01404	11.659	.00587
#3	-.00011	-.00063	.00016	.10747	1.2226	.01124	11.665	.00424
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00075**	**5.0517**	**-.00115**	**-.00908**	**.00777**	**-.00131**	**.00362**	**4.4365**
Stddev	.00030	.0245	.00177	.01619	.00298	.00357	.00596	.0048
%RSD	40.196	.48483	153.47	178.38	38.405	272.32	164.54	.10813
#1	.00093	5.0479	-.00264	-.02233	.00997	-.00543	-.00291	4.4310
#2	.00092	5.0778	-.00163	-.01386	.00437	.00082	.00502	4.4391
#3	.00040	5.0293	.00081	.00897	.00897	.00068	.00876	4.4395
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077203 Acquired: 3/16/2017 14:22:38 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00112**	**.33804**	**.00096**	**-.00430**	**-.00051**	**.00443**	**.00945**
Stddev	.00098	.00147	.00124	.00417	.00116	.00019	.07152
%RSD	87.333	.43488	129.14	96.948	227.45	4.2488	756.62
#1	.00026	.33664	-.00031	.00047	.00076	.00429	-.07305
#2	.00092	.33957	.00103	-.00724	-.00152	.00437	.05387
#3	.00219	.33789	.00217	-.00614	-.00077	.00465	.04754
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	**4792.0**	**58550.**	**5319.3**
Stddev	14.4	402.	19.2
%RSD	.30098	.68642	.36051
#1	4775.5	58912.	5327.3
#2	4798.6	58622.	5297.4
#3	4802.0	58118.	5333.1

Approved: March 17, 2017

Sample Name: L1703077204 Acquired: 3/16/2017 14:26:21 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00175**	**.41285**	**-.00071**	**.04265**	**.03452**	**-.00003**	**38.943**	**.00034**
Stddev	.00150	.01013	.00240	.00062	.00037	.00004	.190	.00028
%RSD	85.797	2.4537	337.99	1.4505	1.0671	145.00	.48899	83.732
#1	.00191	.41110	-.00245	.04273	.03412	.00000	38.761	.00060
#2	.00317	.40371	-.00171	.04200	.03461	-.00007	39.141	.00039
#3	.00018	.42375	.00203	.04323	.03484	-.00001	38.926	.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**	**-.00017**	**-.00170**	**.38238**	**.45416**	**.00541**	**4.4282**	**.11477**
Stddev	.00038	.00146	.00167	.02340	.02771	.00405	.0601	.00652
%RSD	534.74	847.35	98.303	6.1201	6.1010	74.910	1.3577	5.6814
#1	-.00003	.00149	-.00347	.35537	.43527	.00275	4.4365	.12004
#2	.00029	-.00074	-.00016	.39525	.48597	.00340	4.3643	.10748
#3	-.00047	-.00126	-.00146	.39653	.44123	.01007	4.4837	.11679
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00006**	**4.0797**	**.00004**	**.00505**	**.00297**	**-.00662**	**-.00521**	**2.9189**
Stddev	.00020	.0281	.00124	.00576	.00281	.00646	.00536	.0073
%RSD	323.51	.68952	3309.4	113.92	94.880	97.634	102.87	.24829
#1	-.00010	4.0755	-.00140	.00773	-.00021	-.00852	-.01083	2.9189
#2	.00029	4.1097	.00079	-.00156	.00514	-.01191	-.00463	2.9262
#3	-.00000	4.0540	.00072	.00898	.00397	.00058	-.00016	2.9117
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077204 Acquired: 3/16/2017 14:26:21 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00034**	**.11073**	**.00370**	**-.00446**	**.00120**	**.00191**	**.20607**
Stddev	.00078	.00042	.00114	.00362	.00042	.00009	.39097
%RSD	228.82	.37526	30.718	81.013	35.118	4.4664	189.72
#1	.00120	.11027	.00306	-.00088	.00109	.00197	.59548
#2	-.00029	.11107	.00501	-.00811	.00084	.00181	.20917
#3	.00011	.11087	.00302	-.00440	.00166	.00195	-.18643
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	**4861.6**	**58914.**	**5268.1**
Stddev	85.3	510.	31.0
%RSD	1.7540	.86504	.58895
#1	4763.4	58998.	5304.0
#2	4905.1	59376.	5249.6
#3	4916.3	58367.	5250.9

Approved: March 17, 2017

Sample Name: L1703077205 Acquired: 3/16/2017 14:30:05 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00170**	**.01527**	**.00385**	**.07515**	**.06332**	**-.00008**	**42.916**	**.00030**
Stddev	.00258	.00292	.00114	.00154	.00030	.00006	.116	.00020
%RSD	151.61	19.134	29.611	2.0430	.47547	71.714	.26947	66.408
#1	.00247	.01706	.00279	.07342	.06310	-.00001	42.808	.00011
#2	.00382	.01190	.00506	.07569	.06366	-.00011	42.900	.00028
#3	-.00117	.01686	.00371	.07635	.06319	-.00012	43.038	.00051
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	**-.00020**	**-.00039**	**.00170**	**.12350**	**1.5093**	**.01368**	**12.301**	**.03596**
Stddev	.00017	.00062	.00048	.02634	.0138	.00441	.228	.00302
%RSD	84.771	157.99	28.163	21.332	.91550	32.261	1.8505	8.4008
#1	-.00033	-.00033	.00196	.13640	1.5192	.00984	12.233	.03781
#2	-.00027	-.00104	.00115	.09319	1.4935	.01270	12.116	.03760
#3	-.00001	.00020	.00200	.14091	1.5152	.01850	12.555	.03248
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**	**44.868**	**.00071**	**-.00380**	**.00183**	**.00188**	**.00060**	**5.2672**
Stddev	.00091	.183	.00212	.00921	.00710	.00137	.01167	.0145
%RSD	327.36	.40679	299.73	242.38	388.13	73.087	1949.3	.27458
#1	.00011	44.774	-.00074	.00438	.00722	.00105	.01355	5.2539
#2	-.00053	44.751	-.00028	-.01379	.00448	.00113	-.00911	5.2826
#3	.00126	45.078	.00313	-.00200	-.00621	.00346	-.00264	5.2650
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077205 Acquired: 3/16/2017 14:30:05 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00011**	**.95839**	**.00283**	**-.00699**	**.00047**	**.00497**	**-.03889**
Stddev	.00116	.00227	.00149	.00502	.00153	.00023	.21221
%RSD	1083.3	.23714	52.621	71.756	327.41	4.5419	545.62
#1	.00091	.95629	.00395	-.01039	.00119	.00517	.20592
#2	.00063	.95807	.00114	-.00123	-.00129	.00472	-.15208
#3	-.00122	.96081	.00341	-.00935	.00150	.00500	-.17052
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	**4734.1**	**58321.**	**5275.4**
Stddev	28.6	141.	8.8
%RSD	.60516	.24135	.16712
#1	4756.0	58343.	5284.6
#2	4744.6	58449.	5267.0
#3	4701.7	58170.	5274.6

Approved: March 17, 2017

Sample Name: L1703078101 Acquired: 3/16/2017 14:33:47 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00230**	**.25719**	**.00153**	**.02528**	**.03374**	**-.00007**	**22.174**	**.00008**
Stddev	.00078	.00826	.00201	.00200	.00012	.00000	.033	.00025
%RSD	33.762	3.2135	131.19	7.9226	.34322	2.2296	.15048	316.03
#1	.00309	.25591	.00316	.02540	.03367	-.00007	22.157	.00015
#2	.00154	.26602	-.00071	.02722	.03368	-.00007	22.152	-.00020
#3	.00228	.24964	.00214	.02322	.03388	-.00007	22.212	.00029
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00029**	**-.00020**	**-.00134**	**.16421**	**3.7986**	**.00144**	**3.3930**	**.00636**
Stddev	.00047	.00179	.00140	.01780	.0390	.00368	.0086	.00171
%RSD	162.40	889.37	104.70	10.839	1.0273	255.31	.25363	26.912
#1	-.00073	-.00226	-.00266	.14944	3.8364	-.00232	3.4002	.00449
#2	-.00034	.00075	-.00149	.18397	3.7585	.00161	3.3952	.00785
#3	.00020	.00091	.00013	.15921	3.8008	.00503	3.3835	.00675
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00044**	**3.5390**	**-.00011**	**.00131**	**.00294**	**-.00610**	**-.00792**	**1.6699**
Stddev	.00022	.0139	.00262	.00755	.00213	.00525	.00635	.0022
%RSD	51.304	.39300	2395.0	576.96	72.484	85.927	80.179	.13484
#1	-.00058	3.5549	.00237	-.00587	.00421	-.00060	-.00511	1.6684
#2	-.00018	3.5332	.00014	.00917	.00411	-.01105	-.00346	1.6725
#3	-.00055	3.5290	-.00284	.00062	.00048	-.00667	-.01520	1.6688
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703078101 Acquired: 3/16/2017 14:33:47 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00024**	**.07217**	**.00585**	**-.00516**	**-.00027**	**.00201**	**.29844**
Stddev	.00073	.00069	.00812	.00203	.00102	.00012	.38593
%RSD	299.74	.95642	138.75	39.357	385.30	5.9146	129.32
#1	-.00087	.07219	.01004	-.00406	-.00109	.00205	-.14702
#2	-.00042	.07148	-.00351	-.00750	.00088	.00187	.51010
#3	.00056	.07286	.01102	-.00392	-.00059	.00210	.53223
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	**4899.5**	**60422.**	**5457.9**
Stddev	13.2	258.	39.1
%RSD	.27041	.42651	.71607
#1	4884.4	60129.	5414.9
#2	4904.5	60614.	5467.5
#3	4909.4	60523.	5491.3

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 14:37:33 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.40639**	**10.351**	**.40092**	**.51498**	**1.0143**	**.05093**	**9.9988**
Stddev	.00453	.016	.00305	.00263	.0050	.00020	.0215
%RSD	1.1158	.15331	.76152	.51033	.48938	.40037	.21459
#1	.40183	10.333	.40435	.51454	1.0087	.05070	10.013
#2	.41089	10.357	.39988	.51781	1.0159	.05108	9.9741
#3	.40645	10.363	.39851	.51261	1.0182	.05102	10.010
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	**.05110**	**.20341**	**.51343**	**.51209**	**4.0252**	**50.442**	**1.0128**
Stddev	.00076	.00096	.00300	.00153	.0385	.371	.0034
%RSD	1.4783	.47017	.58479	.29820	.95602	.73605	.33058
#1	.05023	.20303	.51504	.51384	3.9819	50.020	1.0108
#2	.05158	.20270	.50997	.51140	4.0381	50.591	1.0109
#3	.05149	.20450	.51528	.51102	4.0555	50.716	1.0167
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	**10.108**	**.49877**	**1.0060**	**50.608**	**.51100**	**9.9473**	**.50718**
Stddev	.073	.00619	.0016	.028	.00237	.0474	.00571
%RSD	.72686	1.2401	.15535	.05479	.46443	.47645	1.1250
#1	10.083	.49266	1.0042	50.606	.50917	9.8976	.50409
#2	10.190	.49864	1.0068	50.582	.51016	9.9524	.50368
#3	10.050	.50503	1.0071	50.638	.51369	9.9920	.51376
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 14:37:33 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**1.2224**	**.40871**	**4.9976**	**1.0091**	**1.0093**	**.99004**	**.51502**
Stddev	.0049	.01500	.0142	.0032	.0040	.00473	.00051
%RSD	.40385	3.6708	.28345	.32210	.39596	.47805	.09972
#1	1.2197	.40523	4.9895	1.0055	1.0049	.98783	.51455
#2	1.2281	.42514	4.9895	1.0118	1.0102	.98682	.51493
#3	1.2195	.39574	5.0140	1.0101	1.0127	.99548	.51557
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**1.0179**	**1.0201**	F **1.1342**
Stddev	.0010	.0016	.4011
%RSD	.09371	.16003	35.364
#1	1.0174	1.0182	.70854
#2	1.0172	1.0209	1.5051
#3	1.0190	1.0211	1.1889
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	**4870.3**	**59046.**	**5514.9**
Stddev	11.4	83.	25.1
%RSD	.23441	.14093	.45449
#1	4871.6	59039.	5533.9
#2	4881.1	59132.	5524.3
#3	4858.4	58966.	5486.5

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 14:41:04 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00259**	**-.00072**	**-.00134**	**.01520**	**.00044**	**-.00005**	**-.00173**
Stddev	.00117	.00609	.00031	.00269	.00054	.00002	.03510
%RSD	45.292	843.56	23.331	17.677	123.11	49.491	2023.4
#1	.00308	.00038	-.00098	.01660	-.00002	-.00004	.03879
#2	.00125	.00474	-.00146	.01211	.00104	-.00008	-.02151
#3	.00343	-.00729	-.00157	.01691	.00030	-.00003	-.02248
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**	**.00000**	**-.00137**	**-.00223**	**-.01008**	**.11951**	**.00285**
Stddev	.00018	.00041	.00103	.00161	.02216	.08925	.00244
%RSD	4547.9	17472.	75.695	72.022	219.93	74.683	85.484
#1	.00011	.00014	-.00083	-.00062	-.01328	.15156	.00298
#2	-.00021	.00032	-.00256	-.00384	.01351	.18831	.00035
#3	.00009	-.00046	-.00071	-.00224	-.03046	.01866	.00523
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	**-.01154**	**-.00037**	**-.00072**	**.09376**	**-.00046**	**.00093**	**.00326**
Stddev	.09290	.00225	.00147	.01224	.00056	.00178	.00406
%RSD	804.90	615.39	203.13	13.054	120.40	191.29	124.57
#1	.08094	-.00253	-.00202	.09281	.00018	-.00023	.00034
#2	-.01070	.00196	.00087	.08202	-.00081	.00297	.00154
#3	-.10486	-.00053	-.00102	.10644	-.00076	.00004	.00789
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 14:41:04 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00078**	**-.00360**	**.00321**	**-.00007**	**.00004**	**-.00175**	**-.00606**
Stddev	.00453	.00841	.00407	.00172	.00005	.00523	.00369
%RSD	581.32	233.91	126.84	2319.5	131.53	298.65	60.837
#1	.00025	-.01330	.00257	-.00167	-.00000	-.00324	-.00945
#2	.00315	.00095	.00756	-.00029	.00002	-.00608	-.00661
#3	-.00574	.00157	-.00051	.00174	.00010	.00406	-.00213
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	**.00066**	**-.00001**	F **.21126**
Stddev	.00049	.00031	.24711
%RSD	74.117	2422.5	116.97
#1	.00087	-.00001	.00327
#2	.00010	.00030	.14608
#3	.00100	-.00032	.48443
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	**4892.3**	**59731.**	**5409.1**
Stddev	23.4	178.	14.8
%RSD	.47815	.29787	.27319
#1	4917.1	59807.	5424.3
#2	4870.7	59527.	5394.8
#3	4889.1	59858.	5408.3

Approved: March 17, 2017

Sample Name: PBW 5W Acquired: 3/16/2017 14:51:28 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606343-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00131**	**.00518**	**-.00355**	**.00601**	**-.00001**	**-.00007**	**.00003**	**-.00012**
Stddev	.00161	.00787	.00461	.00226	.00116	.00001	.01652	.00018
%RSD	122.39	151.96	129.56	37.667	17242.	16.214	54065.	147.92
#1	-.00049	-.00383	.00176	.00530	.00107	-.00008	.01253	-.00002
#2	.00259	.01072	-.00619	.00854	-.00123	-.00006	.00626	-.00032
#3	.00185	.00865	-.00624	.00418	.00014	-.00007	-.01870	-.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	**-.00019**	**.00036**	**-.00100**	**.01285**	**.12203**	**-.00004**	**.06415**	**.00050**
Stddev	.00067	.00095	.00240	.02301	.05991	.00515	.07514	.00172
%RSD	356.81	263.76	239.56	179.07	49.097	14106.	117.13	340.95
#1	.00054	.00086	-.00028	.02647	.15591	.00583	-.02245	.00164
#2	-.00078	.00095	-.00367	-.01372	.15734	-.00214	.11205	-.00147
#3	-.00032	-.00073	.00095	.02581	.05285	-.00381	.10285	.00134
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**	**.06806**	**-.00020**	**-.00847**	**.00366**	**.00222**	**-.00101**	**.00918**
Stddev	.00059	.01240	.00061	.01590	.00194	.00548	.00305	.00117
%RSD	667.25	18.214	303.08	187.63	53.123	246.43	302.41	12.781
#1	.00012	.05455	.00047	-.01697	.00155	-.00368	.00246	.01011
#2	.00065	.07891	-.00035	-.01833	.00404	.00319	-.00220	.00786
#3	-.00051	.07073	-.00073	.00987	.00538	.00715	-.00329	.00956
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: PBW 5W Acquired: 3/16/2017 14:51:28 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606343-02

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00101**	**.00005**	**-.00108**	**-.00676**	**.00029**	**.00049**	**.20999**
Stddev	.00106	.00025	.00660	.00245	.00026	.00014	.25752
%RSD	104.62	537.65	610.09	36.235	87.963	27.851	122.63
#1	.00124	.00029	-.00613	-.00395	.00019	.00053	.01547
#2	-.00014	-.00022	.00639	-.00847	.00059	.00034	.50203
#3	.00193	.00008	-.00351	-.00785	.00011	.00061	.11249
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	**4977.3**	**61097.**	**5494.5**
Stddev	7.1	146.	27.6
%RSD	.14217	.23913	.50286
#1	4972.9	61177.	5483.8
#2	4985.4	60928.	5525.9
#3	4973.5	61186.	5473.8

Approved: March 17, 2017

Sample Name: LCSW 5W Acquired: 3/16/2017 14:55:14 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606343-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20315**	**5.2195**	**.19022**	**.94771**	**.50565**	**.02470**	**4.9492**	**.02471**
Stddev	.00427	.0154	.00254	.00374	.00248	.00011	.0415	.00012
%RSD	2.1039	.29454	1.3327	.39434	.48985	.44740	.83946	.48325
#1	.19834	5.2322	.19075	.95137	.50325	.02479	4.9115	.02478
#2	.20651	5.2238	.18746	.94390	.50820	.02457	4.9424	.02478
#3	.20460	5.2024	.19244	.94786	.50551	.02473	4.9937	.02457
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.10127**	**.25182**	**.25139**	**2.0022**	**25.012**	**.50260**	**5.0508**	**.25078**
Stddev	.00028	.00073	.00042	.0097	.111	.00752	.1046	.00689
%RSD	.27981	.28863	.16825	.48601	.44427	1.4959	2.0710	2.7486
#1	.10133	.25168	.25104	2.0055	25.072	.49539	4.9329	.24406
#2	.10152	.25117	.25128	2.0098	25.080	.51039	5.0874	.25044
#3	.10096	.25260	.25186	1.9912	24.884	.50201	5.1323	.25783
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	**.48782**	**25.289**	**.25176**	**4.7509**	**.25597**	**.60002**	**.19581**	**2.4743**
Stddev	.00099	.225	.00318	.0049	.01124	.00559	.00578	.0010
%RSD	.20246	.88776	1.2627	.10358	4.3917	.93181	2.9517	.03959
#1	.48669	25.030	.25327	4.7517	.24386	.60642	.20223	2.4738
#2	.48828	25.400	.25390	4.7553	.25797	.59755	.19415	2.4755
#3	.48850	25.436	.24811	4.7456	.26607	.59610	.19104	2.4737
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: LCSW 5W Acquired: 3/16/2017 14:55:14 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606343-03

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50572**	**.50215**	**.49700**	**.25649**	**.50132**	**.49838**	**.36711**
Stddev	.00137	.00157	.00851	.00262	.00089	.00114	.14750
%RSD	.27093	.31228	1.7121	1.0217	.17658	.22949	40.177
#1	.50689	.50049	.50112	.25767	.50175	.49731	.22314
#2	.50607	.50237	.50266	.25832	.50030	.49958	.51790
#3	.50421	.50360	.48721	.25349	.50191	.49825	.36030
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	**4862.5**	**58546.**	**5295.3**
Stddev	25.7	1156.	34.3
%RSD	.52843	1.9746	.64708
#1	4890.4	57218.	5334.0
#2	4857.4	59332.	5283.0
#3	4839.7	59087.	5268.8

Approved: March 17, 2017

Sample Name: L1703077401 Acquired: 3/16/2017 14:58:52 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00329**	**.03238**	**.00036**	**.03396**	**.17979**	**.00000**	**67.115**	**.00015**
Stddev	.00155	.00548	.00539	.00145	.00051	.00007	.680	.00072
%RSD	47.209	16.927	1494.0	4.2759	.28577	2785.1	1.0128	462.63
#1	.00242	.03852	.00275	.03520	.17929	.00009	66.348	-.00022
#2	.00236	.02799	-.00581	.03431	.17978	-.00005	67.352	.00098
#3	.00508	.03062	.00414	.03236	.18031	-.00003	67.644	-.00029
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	**-.00042**	**-.00029**	**.04376**	**.10634**	**1.6249**	**.00871**	**10.954**	**.03792**
Stddev	.00058	.00087	.00167	.03165	.0710	.00441	.103	.00226
%RSD	140.11	299.37	3.8266	29.767	4.3722	50.624	.93855	5.9728
#1	-.00047	.00071	.04242	.13462	1.7036	.00411	10.945	.03841
#2	.00019	-.00082	.04564	.11226	1.6054	.01289	10.855	.03545
#3	-.00097	-.00077	.04323	.07215	1.5656	.00912	11.060	.03990
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	**.00029**	**30.320**	**-.00077**	**-.02866**	**.00602**	**-.00207**	**-.00034**	**3.3775**
Stddev	.00055	.280	.00174	.00365	.00684	.00335	.00822	.0047
%RSD	186.42	.92501	226.90	12.721	113.73	162.15	2419.6	.13931
#1	-.00032	29.997	.00034	-.02851	-.00015	.00177	.00656	3.3744
#2	.00074	30.461	-.00278	-.03238	.00483	-.00445	.00186	3.3829
#3	.00046	30.501	.00013	-.02510	.01338	-.00353	-.00944	3.3752
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077401 Acquired: 3/16/2017 14:58:52 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00017**	**.45024**	**-.00534**	**-.00701**	**.00021**	**.02884**	**-.00222**
Stddev	.00066	.00148	.00397	.00189	.00120	.00003	.10733
%RSD	388.00	.32881	74.403	26.984	581.19	.10198	4827.5
#1	-.00015	.44868	-.00515	-.00497	-.00046	.02887	-.05801
#2	-.00026	.45039	-.00147	-.00870	.00159	.02881	.12151
#3	.00092	.45163	-.00941	-.00735	-.00051	.02883	-.07017
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	**4736.2**	**57721.**	**5192.6**
Stddev	15.0	1081.	83.5
%RSD	.31658	1.8722	1.6078
#1	4753.2	56505.	5288.5
#2	4724.7	58087.	5153.5
#3	4730.9	58572.	5135.8

Approved: March 17, 2017

Sample Name: L1703077402 Acquired: 3/16/2017 15:02:35 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00300**	**.14018**	**.00355**	**.02700**	**.07057**	**-.00009**	**52.911**	**.00017**
Stddev	.00026	.00319	.00140	.00249	.00029	.00003	.092	.00014
%RSD	8.7601	2.2751	39.347	9.2149	.41076	35.081	.17375	79.366
#1	.00300	.14383	.00462	.02478	.07076	-.00012	52.806	.00018
#2	.00327	.13877	.00408	.02652	.07072	-.00006	52.980	.00030
#3	.00274	.13794	.00197	.02969	.07024	-.00009	52.945	.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	**-.00051**	**.00093**	**-.00203**	**.15325**	**1.8690**	**.00246**	**8.6388**	**.00615**
Stddev	.00053	.00085	.00187	.01655	.0426	.00490	.0260	.00258
%RSD	104.25	91.506	91.968	10.802	2.2811	198.81	.30108	41.991
#1	-.00079	.00094	-.00186	.16828	1.8844	.00025	8.6174	.00705
#2	.00010	.00178	-.00025	.15597	1.9018	-.00094	8.6311	.00816
#3	-.00083	.00007	-.00397	.13551	1.8208	.00807	8.6677	.00324
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	**.00045**	**28.151**	**.00029**	**.00863**	**.00693**	**.00045**	**-.00717**	**2.7992**
Stddev	.00045	.041	.00142	.00586	.00497	.00814	.00501	.0076
%RSD	99.614	.14425	484.09	67.886	71.655	1795.9	69.926	.27254
#1	.00071	28.108	-.00130	.00333	.00973	-.00521	-.01191	2.7983
#2	.00071	28.156	.00141	.01493	.00986	-.00320	-.00769	2.8072
#3	-.00007	28.188	.00076	.00764	.00120	.00978	-.00192	2.7920
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077402 Acquired: 3/16/2017 15:02:35 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00025**	**.17468**	**.00184**	**.00025**	**.00012**	**.00376**	**.16072**
Stddev	.00032	.00050	.00320	.00070	.00049	.00006	.43860
%RSD	128.53	.28811	174.12	277.23	405.59	1.5600	272.91
#1	-.00004	.17419	-.00145	-.00049	.00036	.00369	-.33442
#2	.00020	.17464	.00201	.00090	.00044	.00379	.31607
#3	.00060	.17520	.00495	.00034	-.00044	.00380	.50050
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	**4815.6**	**58974.**	**5358.6**
Stddev	17.4	99.	61.2
%RSD	.36196	.16730	1.1413
#1	4828.9	59082.	5290.7
#2	4795.9	58889.	5375.9
#3	4822.2	58951.	5409.2

Approved: March 17, 2017

Sample Name: L1703077403 Acquired: 3/16/2017 15:06:19 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00356**	**.45698**	**-.00326**	**.01197**	**.01939**	**-.00006**	**12.563**	**.00000**
Stddev	.00148	.00432	.00168	.00419	.00092	.00010	.069	.00028
%RSD	41.715	.94594	51.410	34.980	4.7475	174.98	.54795	8324.2
#1	.00431	.46197	-.00235	.01678	.01844	-.00005	12.484	-.00029
#2	.00185	.45452	-.00224	.00915	.01946	-.00017	12.596	.00004
#3	.00451	.45445	-.00519	.00997	.02027	.00004	12.610	.00026
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00033**	**-.00054**	**-.00155**	**.35372**	**.50937**	**.00084**	**2.8202**	**.04112**
Stddev	.00035	.00164	.00057	.01723	.01617	.00260	.0835	.00307
%RSD	107.79	303.56	36.822	4.8698	3.1746	310.55	2.9601	7.4742
#1	-.00021	.00072	-.00092	.34748	.52289	.00052	2.8652	.03930
#2	-.00005	-.00239	-.00172	.34048	.49146	.00359	2.8715	.03939
#3	-.00072	.00006	-.00202	.37319	.51378	-.00159	2.7239	.04467
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00044**	**1.4292**	**.00042**	**-.00127**	**.00171**	**.00008**	**-.00523**	**2.6329**
Stddev	.00076	.0297	.00017	.01392	.00156	.00749	.00777	.0137
%RSD	173.11	2.0778	41.077	1096.8	91.295	8888.9	148.51	.52039
#1	-.00111	1.4293	.00030	-.00869	.00156	-.00423	-.00783	2.6450
#2	-.00059	1.3995	.00062	-.00990	.00023	-.00426	-.01137	2.6358
#3	.00038	1.4589	.00034	.01479	.00334	.00873	.00351	2.6180
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077403 Acquired: 3/16/2017 15:06:19 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00032**	**.04650**	**.01138**	**-.00272**	**.00152**	**.00137**	**.25360**
Stddev	.00061	.00015	.00200	.00928	.00091	.00053	.13850
%RSD	191.84	.31478	17.571	340.64	60.199	38.512	54.614
#1	-.00003	.04635	.01282	.00522	.00049	.00194	.32140
#2	.00009	.04649	.00910	-.01292	.00224	.00091	.34514
#3	-.00102	.04665	.01223	-.00047	.00183	.00124	.09426
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	**4957.7**	**59781.**	**5354.4**
Stddev	13.2	733.	58.4
%RSD	.26525	1.2262	1.0913
#1	4969.5	60477.	5416.4
#2	4960.2	59850.	5346.4
#3	4943.5	59016.	5300.3

Approved: March 17, 2017

Sample Name: L1703077404 Acquired: 3/16/2017 15:10:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	.00171	.46148	.00086	.01588	.01998	-.00004	14.149	-.00019
Stddev	.00046	.00704	.00353	.00326	.00063	.00004	.099	.00057
%RSD	26.891	1.5250	412.39	20.521	3.1311	110.00	.70112	293.39
#1	.00121	.46951	.00127	.01894	.02060	-.00007	14.056	-.00033
#2	.00210	.45857	-.00286	.01245	.01935	-.00006	14.138	.00043
#3	.00183	.45637	.00416	.01625	.01999	.00001	14.253	-.00068
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00003	-.00054	-.00199	.39679	.55160	.00041	3.4433	.03389
Stddev	.00051	.00124	.00175	.01041	.05674	.00302	.1119	.00279
%RSD	1760.4	227.50	87.826	2.6228	10.286	742.03	3.2494	8.2426
#1	-.00029	-.00192	-.00395	.40444	.51248	.00311	3.4751	.03105
#2	.00056	.00047	-.00145	.38494	.52564	.00095	3.3190	.03398
#3	-.00036	-.00018	-.00058	.40099	.61667	-.00284	3.5359	.03664
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	.00011	2.2082	-.00088	-.00133	.00607	.00303	-.00369	2.6496
Stddev	.00010	.0058	.00056	.00667	.00184	.00908	.00666	.0195
%RSD	86.471	.26433	63.734	502.07	30.242	299.44	180.27	.73449
#1	.00014	2.2117	-.00073	.00349	.00792	-.00562	.00064	2.6712
#2	.00000	2.2015	-.00042	-.00894	.00424	.01248	-.00036	2.6441
#3	.00019	2.2114	-.00151	.00147	.00605	.00224	-.01136	2.6334
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077404 Acquired: 3/16/2017 15:10:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00062**	**.07904**	**.01285**	**-.00318**	**.00068**	**.00149**	**.30658**
Stddev	.00015	.00082	.00540	.00421	.00122	.00021	.10061
%RSD	24.987	1.0354	42.010	132.15	178.82	14.365	32.817
#1	-.00055	.07811	.00849	-.00109	.00145	.00173	.20283
#2	-.00051	.07965	.01118	-.00043	.00132	.00137	.40373
#3	-.00079	.07936	.01889	-.00803	-.00072	.00135	.31318
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	**4947.9**	**60406.**	**5378.3**
Stddev	10.9	1090.	77.8
%RSD	.22093	1.8036	1.4463
#1	4945.5	59169.	5455.4
#2	4959.8	60823.	5379.7
#3	4938.4	61225.	5299.9

Approved: March 17, 2017

Sample Name: L1703077405 Acquired: 3/16/2017 15:13:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00275**	**.20607**	**-.00080**	**.01589**	**.02186**	**-.00008**	**17.742**	**.00022**
Stddev	.00071	.00791	.00495	.00180	.00127	.00002	.017	.00025
%RSD	25.841	3.8385	617.03	11.331	5.8049	27.591	.09336	110.62
#1	.00308	.20886	-.00651	.01637	.02330	-.00006	17.730	.00041
#2	.00323	.19714	.00233	.01389	.02141	-.00011	17.736	-.00006
#3	.00193	.21220	.00177	.01740	.02088	-.00008	17.761	.00032
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00035**	**-.00050**	**-.00158**	**.10484**	**.56791**	**.00221**	**3.4420**	**.00252**
Stddev	.00056	.00066	.00234	.00539	.08479	.00523	.0503	.00117
%RSD	159.39	131.25	148.71	5.1383	14.930	236.80	1.4623	46.224
#1	-.00041	-.00123	-.00126	.10142	.48363	.00568	3.3861	.00347
#2	.00024	-.00035	-.00406	.11105	.65320	-.00381	3.4562	.00122
#3	-.00088	.00007	.00059	.10204	.56688	.00475	3.4837	.00288
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**	**5.1772**	**-.00004**	**-.00364**	**.00367**	**-.00127**	**-.00507**	**2.6395**
Stddev	.00012	.0153	.00099	.00033	.00145	.00693	.01033	.0083
%RSD	30.751	.29452	2684.6	8.9353	39.549	544.32	203.73	.31364
#1	.00035	5.1597	-.00117	-.00368	.00201	.00390	-.00742	2.6300
#2	.00028	5.1842	.00041	-.00395	.00432	.00143	-.01403	2.6445
#3	.00050	5.1877	.00065	-.00330	.00469	-.00914	.00623	2.6441
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077405 Acquired: 3/16/2017 15:13:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00092**	**.08464**	**.00399**	**-.00208**	**.00038**	**.00079**	**.22337**
Stddev	.00087	.00021	.00441	.00079	.00169	.00008	.15461
%RSD	94.791	.24347	110.50	38.115	445.13	10.702	69.219
#1	.00050	.08488	.00414	-.00135	.00160	.00087	.08063
#2	.00033	.08449	-.00049	-.00292	.00108	.00079	.38761
#3	.00192	.08456	.00833	-.00197	-.00154	.00070	.20187
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	**4847.8**	**59729.**	**5344.0**
Stddev	26.1	157.	7.0
%RSD	.53798	.26325	.13120
#1	4856.0	59577.	5344.8
#2	4818.6	59718.	5336.6
#3	4868.8	59891.	5350.6

Approved: March 17, 2017

Sample Name: L1703077406 Acquired: 3/16/2017 15:17:30 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00241**	**.28592**	**-.00590**	**.01179**	**.02068**	**-.00008**	**18.109**	**.00021**
Stddev	.00173	.00286	.00253	.00363	.00045	.00008	.057	.00027
%RSD	71.982	1.0018	42.920	30.782	2.1768	99.801	.31277	129.23
#1	.00370	.28299	-.00322	.01595	.02023	.00001	18.076	.00001
#2	.00044	.28607	-.00826	.00927	.02070	-.00015	18.075	.00052
#3	.00309	.28871	-.00621	.01014	.02113	-.00010	18.174	.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	**-.00012**	**-.00097**	**-.00396**	**.16119**	**.66072**	**.00007**	**3.2739**	**.00208**
Stddev	.00071	.00022	.00108	.01030	.03276	.00153	.0663	.00139
%RSD	603.33	22.256	27.280	6.3910	4.9579	2132.3	2.0256	66.912
#1	-.00077	-.00082	-.00387	.15574	.67435	-.00167	3.3426	.00206
#2	-.00023	-.00122	-.00508	.15476	.68446	.00072	3.2688	.00348
#3	.00064	-.00087	-.00293	.17307	.62335	.00117	3.2103	.00070
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**	**3.5452**	**.00087**	**-.00849**	**-.00068**	**.00260**	**.00259**	**3.0544**
Stddev	.00089	.0281	.00183	.00706	.00352	.00377	.00937	.0099
%RSD	215.04	.79201	211.18	83.095	518.11	145.03	361.65	.32289
#1	.00135	3.5128	.00202	-.01659	.00333	.00650	.01337	3.0463
#2	-.00042	3.5592	-.00124	-.00529	-.00211	.00234	-.00207	3.0514
#3	.00031	3.5635	.00182	-.00361	-.00325	-.00104	-.00354	3.0654
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077406 Acquired: 3/16/2017 15:17:30 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00080**	**.06535**	**.00607**	**-.00516**	**-.00034**	**.00134**	**.27422**
Stddev	.00225	.00001	.00394	.00441	.00152	.00020	.08692
%RSD	279.66	.01949	65.018	85.335	451.05	15.335	31.697
#1	-.00100	.06535	.00941	-.00172	.00133	.00152	.18179
#2	.00009	.06537	.00708	-.01013	-.00166	.00111	.28655
#3	.00332	.06534	.00171	-.00365	-.00069	.00138	.35432
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	**4877.4**	**59840.**	**5322.9**
Stddev	69.3	528.	49.9
%RSD	1.4206	.88240	.93730
#1	4838.4	60407.	5266.8
#2	4836.3	59749.	5339.9
#3	4957.4	59363.	5362.1

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 15:21:12 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.39812**	**10.165**	**.39609**	**.50206**	**.99755**	**.05001**	**9.8678**
Stddev	.00186	.018	.00391	.00081	.00214	.00010	.0164
%RSD	.46719	.17707	.98670	.16156	.21451	.20296	.16601
#1	.40006	10.179	.39916	.50140	.99732	.05003	9.8511
#2	.39635	10.145	.39169	.50182	.99980	.04990	9.8838
#3	.39796	10.172	.39742	.50297	.99553	.05010	9.8685
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	**.05013**	**.19963**	**.50490**	**.50570**	**3.9991**	**49.914**	**1.0024**
Stddev	.00029	.00066	.00216	.00435	.0408	.259	.0037
%RSD	.58550	.33118	.42719	.86058	1.0215	.51835	.37127
#1	.04998	.19946	.50582	.50914	4.0461	50.210	.99839
#2	.05047	.19907	.50244	.50081	3.9780	49.798	1.0057
#3	.04995	.20036	.50646	.50716	3.9730	49.733	1.0032
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	**9.8281**	**.49179**	**.98534**	**50.007**	**.50294**	**9.8271**	**.50208**
Stddev	.1076	.00382	.00122	.141	.00166	.0191	.00467
%RSD	1.0952	.77725	.12361	.28217	.32943	.19434	.93106
#1	9.7382	.49274	.98674	49.884	.50479	9.8176	.50109
#2	9.9474	.48759	.98454	49.976	.50161	9.8490	.50717
#3	9.7988	.49506	.98475	50.161	.50240	9.8145	.49798
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 15:21:12 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.1996**	**.39494**	**4.9067**	**.98705**	**.99283**	**.97438**	**.50736**
Stddev	.0037	.00492	.0053	.00207	.00197	.00637	.00211
%RSD	.31153	1.2464	.10882	.21007	.19857	.65327	.41537
#1	1.2026	.39016	4.9057	.98819	.99111	.97679	.50928
#2	1.2009	.40000	4.9020	.98466	.99498	.97919	.50769
#3	1.1954	.39467	4.9125	.98830	.99240	.96716	.50510
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	**.99828**	**1.0030**	F **.83211**
Stddev	.00133	.0004	.27936
%RSD	.13274	.03908	33.573
#1	.99977	1.0034	.51625
#2	.99786	1.0027	1.0467
#3	.99722	1.0028	.93336
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	**4844.5**	**58643.**	**5402.7**
Stddev	26.0	260.	22.4
%RSD	.53663	.44270	.41505
#1	4822.8	58941.	5402.6
#2	4873.3	58471.	5380.3
#3	4837.5	58516.	5425.1

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 15:24:44 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	.00301	.00481	.00075	.00679	.00045	-.00008	-.01673
Stddev	.00066	.00156	.00347	.00216	.00016	.00004	.02074
%RSD	21.783	32.438	465.35	31.791	35.140	52.994	123.98
#1	.00278	.00301	-.00270	.00877	.00031	-.00013	-.03598
#2	.00375	.00561	.00070	.00449	.00041	-.00007	.00524
#3	.00250	.00580	.00425	.00710	.00062	-.00005	-.01945
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00001	.00015	.00029	-.00123	-.00663	.02267	.00286
Stddev	.00025	.00033	.00063	.00036	.01850	.11399	.00117
%RSD	2103.9	224.35	218.34	28.865	279.07	502.90	41.071
#1	-.00029	.00033	.00079	-.00148	.01385	.11793	.00224
#2	.00017	.00033	-.00042	-.00139	-.02212	.05370	.00212
#3	.00009	-.00023	.00050	-.00083	-.01162	-.10363	.00422
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	.03966	.00111	-.00026	.07502	.00050	F -.01408	F .00528
Stddev	.08758	.00325	.00071	.01099	.00065	.00059	.00786
%RSD	220.82	291.93	279.70	14.646	129.84	4.2057	148.85
#1	.07438	.00484	.00057	.06247	.00071	-.01383	.01417
#2	-.05995	-.00037	-.00061	.08294	.00101	-.01365	-.00073
#3	.10456	-.00113	-.00072	.07964	-.00023	-.01475	.00240
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail
High Limit						.01000	.00500
Low Limit						-.01000	-.00500

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 15:24:44 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00175**	**-.01108**	**.00383**	**.00127**	**-.00035**	**.00140**	**.00004**
Stddev	.00382	.01022	.00086	.00039	.00035	.01031	.00332
%RSD	218.70	92.277	22.375	30.406	99.191	736.51	7783.9
#1	.00613	-.01505	.00331	.00089	-.00016	-.00146	-.00100
#2	.00006	-.01872	.00336	.00126	-.00014	.01284	-.00263
#3	-.00094	.00053	.00482	.00166	-.00075	-.00718	.00376
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	**.00079**	**-.00024**	F **.37998**
Stddev	.00104	.00027	.26660
%RSD	132.37	111.11	70.161
#1	.00054	-.00054	.42528
#2	-.00011	-.00018	.09363
#3	.00193	-.00001	.62103
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	**4884.7**	**59187.**	**5377.7**
Stddev	75.7	405.	42.8
%RSD	1.5499	.68497	.79601
#1	4930.0	59322.	5424.8
#2	4797.3	59508.	5367.3
#3	4926.8	58732.	5341.1

Approved: March 17, 2017

Sample Name: L1703077407 Acquired: 3/16/2017 15:28:31 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00326**	**.46941**	**-.00247**	**.01365**	**.02498**	**-.00001**	**23.779**	**-.00003**
Stddev	.00030	.00255	.00429	.00214	.00058	.00006	.042	.00027
%RSD	9.0802	.54378	173.43	15.695	2.3280	723.03	.17864	1073.2
#1	.00314	.47226	-.00668	.01137	.02459	.00001	23.768	.00008
#2	.00360	.46735	-.00262	.01396	.02470	-.00008	23.742	.00018
#3	.00304	.46862	.00188	.01561	.02565	.00004	23.825	-.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	**-.00055**	**-.00031**	**-.00003**	**.33047**	**.60839**	**.00045**	**3.4182**	**.04190**
Stddev	.00007	.00087	.00318	.03357	.07275	.00164	.0574	.00078
%RSD	13.195	282.79	11917.	10.157	11.959	362.53	1.6800	1.8617
#1	-.00050	-.00123	-.00314	.32751	.65844	.00180	3.4493	.04123
#2	-.00063	-.00021	-.00016	.36542	.52493	.00092	3.3519	.04172
#3	-.00051	.00051	.00322	.29848	.64179	-.00137	3.4534	.04276
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	**-.00015**	**1.8700**	**-.00077**	**-.00125**	**.00281**	**-.00106**	**.00496**	**2.7812**
Stddev	.00025	.0353	.00212	.01458	.00058	.00126	.00501	.0110
%RSD	163.05	1.8887	275.07	1163.8	20.639	118.89	101.15	.39614
#1	-.00032	1.8931	.00045	-.01151	.00321	-.00053	.01069	2.7691
#2	-.00027	1.8293	-.00321	-.00768	.00214	-.00251	.00279	2.7905
#3	.00013	1.8876	.00045	.01543	.00307	-.00016	.00139	2.7841
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077407 Acquired: 3/16/2017 15:28:31 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00120**	**.07009**	**.01282**	**-.00620**	**.00110**	**.00164**	**.31213**
Stddev	.00091	.00061	.00065	.00594	.00028	.00019	.07497
%RSD	75.811	.87557	5.1031	95.757	25.496	11.418	24.020
#1	-.00017	.07054	.01238	-.00359	.00142	.00180	.22700
#2	-.00188	.07035	.01251	-.01300	.00098	.00169	.34106
#3	-.00156	.06939	.01358	-.00201	.00090	.00144	.36832
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	**4848.3**	**59383.**	**5379.6**
Stddev	70.5	620.	48.1
%RSD	1.4533	1.0439	.89461
#1	4767.0	60005.	5324.2
#2	4890.0	59378.	5404.1
#3	4888.0	58765.	5410.6

Approved: March 17, 2017

Sample Name: L1703077701 Acquired: 3/16/2017 15:32:13 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00290**	**.28984**	**-.00241**	**.01642**	**.05102**	**-.00005**	**46.727**	**.00031**
Stddev	.00142	.01044	.00383	.00101	.00018	.00006	.109	.00006
%RSD	48.811	3.6010	158.65	6.1522	.34408	121.79	.23353	17.963
#1	.00151	.29706	-.00476	.01717	.05082	-.00001	46.853	.00035
#2	.00435	.27787	-.00448	.01683	.05109	-.00011	46.671	.00025
#3	.00285	.29458	.00200	.01527	.05114	-.00002	46.658	.00034
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00045**	**-.00063**	**.00107**	**.20459**	**1.7321**	**.00246**	**4.1060**	**.00900**
Stddev	.00064	.00175	.00094	.01999	.0165	.00533	.0240	.00194
%RSD	142.93	276.74	87.783	9.7686	.95455	216.85	.58460	21.589
#1	.00119	-.00187	.00169	.19911	1.7488	.00462	4.0981	.01037
#2	.00008	.00137	-.00001	.18792	1.7317	-.00361	4.1330	.00677
#3	.00008	-.00140	.00154	.22675	1.7158	.00637	4.0871	.00985
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	**.00000**	**3.7237**	**.00077**	**.03530**	**.00707**	**-.00028**	**-.00760**	**2.9678**
Stddev	.00111	.0206	.00130	.00922	.00302	.00656	.00768	.0323
%RSD	118320.	.55327	168.69	26.115	42.765	2327.5	101.04	1.0898
#1	.00094	3.7138	.00019	.02476	.01030	.00647	-.01182	2.9326
#2	-.00122	3.7100	.00226	.03929	.00658	-.00664	-.01225	2.9748
#3	.00028	3.7474	-.00014	.04186	.00432	-.00067	.00126	2.9961
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077701 Acquired: 3/16/2017 15:32:13 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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**	**.13378**	**.00712**	**-.00683**	**-.00021**	**.00566**	**.04421**
Stddev	.00116	.00043	.00258	.00164	.00128	.00016	.17131
%RSD	305.75	.32500	36.219	23.998	597.51	2.8396	387.45
#1	-.00071	.13422	.00981	-.00871	.00124	.00568	.09368
#2	.00025	.13335	.00466	-.00570	-.00072	.00549	-.14639
#3	.00160	.13378	.00689	-.00608	-.00116	.00580	.18535
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	**4829.9**	**59055.**	**5167.8**
Stddev	17.0	103.	65.0
%RSD	.35132	.17397	1.2569
#1	4849.0	58937.	5092.8
#2	4823.8	59126.	5203.5
#3	4816.7	59102.	5207.1

Approved: March 17, 2017

Sample Name: L1703077702 Acquired: 3/16/2017 15:35:57 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00303**	**.07836**	**-.00303**	**.00930**	**.04473**	**-.00003**	**41.453**	**.00020**
Stddev	.00215	.00409	.00217	.00119	.00021	.00007	.043	.00039
%RSD	70.829	5.2213	71.686	12.829	.47466	253.20	.10360	195.35
#1	.00107	.07391	-.00077	.01067	.04476	-.00006	41.435	.00045
#2	.00532	.07919	-.00509	.00864	.04450	-.00007	41.502	-.00025
#3	.00270	.08196	-.00321	.00858	.04492	.00005	41.422	.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	**-.00019**	**.00042**	**-.00169**	**.05775**	**.63363**	**.00815**	**4.0872**	**.00731**
Stddev	.00011	.00036	.00321	.00684	.04788	.00545	.1356	.00062
%RSD	55.059	84.333	189.86	11.839	7.5570	66.807	3.3168	8.4913
#1	-.00031	.00063	.00094	.06202	.62025	.00620	4.0091	.00766
#2	-.00018	.00063	-.00075	.04986	.59386	.01431	4.2437	.00660
#3	-.00010	.00001	-.00526	.06137	.68678	.00395	4.0088	.00768
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00010**	**2.8093**	**.00045**	**.00189**	**.00479**	**.00590**	**.00002**	**3.5686**
Stddev	.00051	.0259	.00094	.00946	.00385	.00719	.00746	.0042
%RSD	533.03	.92236	209.88	500.59	80.327	121.88	41553.	.11701
#1	.00030	2.8341	.00036	-.00723	.00099	.01146	.00790	3.5638
#2	.00047	2.7824	.00143	.00124	.00469	-.00222	-.00091	3.5713
#3	-.00049	2.8114	-.00044	.01166	.00868	.00845	-.00694	3.5708
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077702 Acquired: 3/16/2017 15:35:57 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00054**	**.10555**	**-.00275**	**-.00451**	**.00041**	**.00100**	**.34443**
Stddev	.00063	.00045	.00718	.00197	.00047	.00038	.19775
%RSD	118.31	.42310	261.18	43.795	115.36	37.780	57.413
#1	.00106	.10529	-.00837	-.00475	.00095	.00118	.55721
#2	.00072	.10606	.00534	-.00634	.00023	.00056	.16630
#3	-.00017	.10528	-.00522	-.00242	.00006	.00125	.30978
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	**4836.0**	**59647.**	**5427.7**
Stddev	73.7	325.	31.8
%RSD	1.5231	.54406	.58558
#1	4861.7	59954.	5407.4
#2	4893.3	59681.	5411.4
#3	4752.9	59307.	5464.3

Approved: March 17, 2017

Sample Name: L1703077703 Acquired: 3/16/2017 15:39:40 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00146**	**.04648**	**.00214**	**.01386**	**.09548**	**-.00004**	**46.327**	**.00001**
Stddev	.00157	.00192	.00279	.00294	.00068	.00008	.064	.00018
%RSD	107.48	4.1246	130.84	21.186	.70739	186.97	.13766	2594.2
#1	.00127	.04867	.00505	.01496	.09624	-.00006	46.385	.00018
#2	-.00001	.04569	.00188	.01054	.09525	.00004	46.338	.00002
#3	.00312	.04510	-.00052	.01609	.09495	-.00011	46.259	-.00018
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**	**-.00050**	**-.00080**	**.04073**	**.68985**	**.00358**	**7.1978**	**.00604**
Stddev	.00021	.00132	.00131	.01137	.03428	.00235	.0423	.00135
%RSD	114.90	262.09	163.95	27.923	4.9685	65.828	.58786	22.390
#1	-.00014	-.00140	.00068	.03958	.65670	.00340	7.2209	.00495
#2	.00000	.00101	-.00127	.05263	.72515	.00602	7.1490	.00756
#3	-.00041	-.00112	-.00182	.02997	.68771	.00132	7.2236	.00562
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	**.00045**	**3.0251**	**.00047**	**-.00834**	**.00293**	**.00180**	**-.00658**	**3.3613**
Stddev	.00025	.0377	.00083	.00544	.00460	.00181	.00390	.0195
%RSD	54.595	1.2459	174.71	65.265	157.41	100.92	59.195	.57905
#1	.00071	3.0633	-.00046	-.00538	.00802	.00031	-.01067	3.3710
#2	.00044	3.0240	.00112	-.00502	.00171	.00381	-.00291	3.3740
#3	.00022	2.9880	.00075	-.01462	-.00095	.00127	-.00617	3.3389
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077703 Acquired: 3/16/2017 15:39:40 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00026**	**.31951**	**-.00213**	**-.00342**	**.00001**	**.00069**	**.26424**
Stddev	.00110	.00087	.00402	.00627	.00041	.00031	.22579
%RSD	427.92	.27235	188.96	183.48	3776.4	44.449	85.449
#1	-.00072	.32051	-.00498	-.00963	-.00021	.00039	.52441
#2	.00144	.31915	.00247	-.00354	-.00024	.00100	.11942
#3	.00005	.31888	-.00387	.00291	.00048	.00067	.14890
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	**4810.6**	**59645.**	**5357.9**
Stddev	25.9	1098.	18.4
%RSD	.53770	1.8415	.34412
#1	4809.2	59865.	5361.2
#2	4785.5	58453.	5338.0
#3	4837.2	60617.	5374.5

Approved: March 17, 2017

Sample Name: L1703077704 Acquired: 3/16/2017 15:43:24 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00362**	**.32271**	**-.00062**	**.01543**	**.03270**	**-.00003**	**38.128**	**.00060**
Stddev	.00228	.00644	.00332	.00570	.00049	.00007	.153	.00015
%RSD	62.983	1.9951	539.19	36.925	1.5040	264.01	.40104	24.596
#1	.00376	.32469	-.00406	.01124	.03270	-.00010	38.289	.00059
#2	.00582	.32793	.00256	.02192	.03319	.00003	38.110	.00075
#3	.00127	.31552	-.00035	.01314	.03221	-.00001	37.985	.00046
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00026**	**-.00005**	**-.00161**	**.20348**	**1.0275**	**.00098**	**6.5428**	**.00855**
Stddev	.00001	.00101	.00073	.00566	.0645	.00216	.0458	.00192
%RSD	4.1702	1875.2	45.527	2.7792	6.2735	219.45	.70048	22.424
#1	-.00026	-.00117	-.00169	.20973	.95309	.00308	6.5605	.01076
#2	-.00024	.00022	-.00230	.19872	1.0661	.00109	6.4908	.00737
#3	-.00027	.00080	-.00084	.20198	1.0634	-.00123	6.5771	.00752
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	**-.00046**	**3.2285**	**-.00044**	**.00331**	**.00502**	**.00288**	**-.00305**	**3.3074**
Stddev	.00039	.0361	.00066	.01725	.00532	.00308	.00321	.0119
%RSD	84.689	1.1178	150.63	521.40	105.90	106.65	105.10	.36022
#1	-.00002	3.1897	-.00113	-.01188	.00265	.00500	-.00268	3.3207
#2	-.00058	3.2347	.00018	.02206	.01111	.00429	-.00004	3.3037
#3	-.00077	3.2610	-.00036	-.00026	.00130	-.00064	-.00643	3.2977
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077704 Acquired: 3/16/2017 15:43:24 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00097**	**.12779**	**.00138**	**-.00006**	**.00051**	**.00145**	**.37375**
Stddev	.00073	.00078	.00642	.00275	.00020	.00005	.21518
%RSD	75.306	.61370	466.64	4764.0	39.705	3.3874	57.574
#1	.00048	.12858	.00569	-.00125	.00051	.00150	.25684
#2	.00181	.12701	.00444	.00308	.00072	.00143	.62209
#3	.00062	.12778	-.00600	-.00201	.00031	.00141	.24233
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	**4914.1**	**60526.**	**5457.9**
Stddev	39.1	463.	53.9
%RSD	.79636	.76418	.98688
#1	4956.5	61025.	5396.3
#2	4906.3	60440.	5496.0
#3	4879.4	60112.	5481.4

Approved: March 17, 2017

Sample Name: L1703077901 Acquired: 3/16/2017 15:47:07 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00101**	**.10792**	**-.00307**	**.01293**	**.07436**	**-.00010**	**52.335**	**.00041**
Stddev	.00221	.00411	.00205	.00064	.00034	.00007	.131	.00014
%RSD	219.06	3.8079	66.972	4.9454	.45195	73.221	.25021	33.763
#1	.00268	.10774	-.00071	.01290	.07461	-.00018	52.302	.00025
#2	-.00150	.10391	-.00446	.01230	.07398	-.00007	52.479	.00050
#3	.00185	.11212	-.00403	.01358	.07449	-.00005	52.224	.00048
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00016**	**.00068**	**-.00115**	**.10496**	**.95984**	**.00305**	**4.2520**	**.00840**
Stddev	.00003	.00081	.00188	.02505	.02601	.00452	.0836	.00153
%RSD	20.308	118.93	163.68	23.864	2.7094	148.07	1.9652	18.157
#1	-.00019	-.00000	-.00314	.12845	.98938	.00063	4.2241	.00898
#2	-.00013	.00047	.00061	.07860	.94972	.00026	4.3459	.00956
#3	-.00018	.00157	-.00093	.10783	.94041	.00827	4.1860	.00667
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**	**2.6358**	**-.00043**	**.00145**	**.00353**	**-.00153**	**-.00816**	**2.8649**
Stddev	.00065	.0222	.00192	.00943	.00420	.00780	.00854	.0101
%RSD	131.85	.84264	447.65	652.70	118.79	511.43	104.62	.35091
#1	-.00123	2.6258	.00091	.00476	.00252	-.00956	-.00581	2.8710
#2	.00000	2.6204	.00043	-.00920	-.00006	-.00104	-.00104	2.8533
#3	-.00025	2.6613	-.00262	.00877	.00814	.00602	-.01763	2.8703
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077901 Acquired: 3/16/2017 15:47:07 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00050**	**.12246**	**.00042**	**.00032**	**.00010**	**.02602**	**.06171**
Stddev	.00046	.00041	.00411	.00307	.00042	.00033	.13366
%RSD	92.538	.33659	977.36	962.34	426.49	1.2592	216.58
#1	-.00028	.12225	.00161	.00348	.00057	.02570	-.00261
#2	-.00103	.12294	-.00415	.00011	-.00007	.02598	-.02763
#3	-.00019	.12220	.00381	-.00264	-.00021	.02636	.21537
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	**4849.1**	**59874.**	**5385.9**
Stddev	8.3	107.	42.3
%RSD	.17093	.17927	.78590
#1	4858.7	59760.	5346.4
#2	4844.2	59973.	5380.8
#3	4844.5	59888.	5430.6

Approved: March 17, 2017

Sample Name: L1703077902 Acquired: 3/16/2017 15:50:50 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00345**	**.06943**	**-.00044**	**.01307**	**.04899**	**-.00005**	**65.185**	**.00029**
Stddev	.00228	.00409	.00296	.00042	.00082	.00004	.143	.00011
%RSD	66.097	5.8916	671.63	3.2147	1.6646	75.362	.22009	36.953
#1	.00604	.07410	.00104	.01355	.04823	-.00003	65.234	.00033
#2	.00173	.06775	.00148	.01294	.04890	-.00003	65.024	.00017
#3	.00258	.06645	-.00385	.01274	.04985	-.00010	65.298	.00037
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00039**	**.00029**	**-.00137**	**.04984**	**.80073**	**.00300**	**9.0172**	**.00233**
Stddev	.00036	.00216	.00031	.01263	.06426	.00208	.1374	.00283
%RSD	93.114	739.62	22.837	25.341	8.0253	69.435	1.5233	121.63
#1	-.00024	.00245	-.00106	.06286	.79892	.00127	9.1544	.00147
#2	-.00013	-.00186	-.00168	.03764	.73740	.00531	8.8796	.00548
#3	-.00081	.00028	-.00136	.04902	.86588	.00242	9.0177	.00002
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**	**4.8045**	**-.00039**	**-.01148**	**.00306**	**-.00174**	**.00406**	**2.6569**
Stddev	.00010	.0495	.00191	.00730	.00576	.00441	.00883	.0027
%RSD	49.353	1.0300	488.37	63.584	188.28	252.98	217.77	.10174
#1	-.00031	4.8440	-.00239	-.00851	.00492	-.00683	-.00408	2.6539
#2	-.00010	4.8206	.00141	-.00613	-.00340	.00101	.00280	2.6577
#3	-.00022	4.7490	-.00019	-.01980	.00765	.00059	.01345	2.6591
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077902 Acquired: 3/16/2017 15:50:50 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00053**	**.20015**	**-.00441**	**-.00688**	**.00081**	**.00091**	**.19088**
Stddev	.00108	.00075	.00208	.00299	.00113	.00014	.21985
%RSD	205.07	.37523	47.076	43.429	140.07	15.836	115.18
#1	-.00011	.19977	-.00662	-.00440	.00144	.00080	-.05908
#2	.00177	.19966	-.00411	-.01020	-.00050	.00107	.27746
#3	-.00008	.20101	-.00250	-.00605	.00148	.00086	.35425
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	**4807.5**	**58630.**	**5318.5**
Stddev	3.6	120.	18.3
%RSD	.07408	.20515	.34442
#1	4806.5	58561.	5297.5
#2	4804.6	58561.	5331.4
#3	4811.5	58769.	5326.6

Approved: March 17, 2017

Sample Name: L1703078001 Acquired: 3/16/2017 15:54:32 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00312**	**.04089**	**.00017**	**.17027**	**.19916**	**-.00007**	**2.2542**	**-.00023**
Stddev	.00153	.00925	.00201	.00081	.00154	.00004	.0492	.00028
%RSD	48.990	22.626	1179.5	.47684	.77288	60.418	2.1820	119.89
#1	.00231	.03034	-.00090	.17086	.19953	-.00010	2.1977	.00007
#2	.00216	.04763	.00249	.16934	.20048	-.00008	2.2877	-.00029
#3	.00488	.04471	-.00108	.17061	.19747	-.00002	2.2771	-.00048
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00047**	**-.00077**	**.00008**	**.03419**	**.67981**	**.00887**	**1.9663**	**-.00097**
Stddev	.00040	.00147	.00207	.03554	.12471	.00204	.0597	.00098
%RSD	84.951	191.82	2439.8	103.97	18.344	23.044	3.0371	101.03
#1	-.00079	-.00026	.00072	-.00658	.58934	.00839	1.9048	-.00206
#2	-.00058	-.00242	-.00223	.05043	.82207	.00710	1.9700	-.00015
#3	-.00002	.00038	.00176	.05870	.62802	.01111	2.0241	-.00070
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	**.00208**	**236.84**	**.00007**	**.01537**	**.00447**	**.00402**	**-.00269**	**2.3315**
Stddev	.00023	1.45	.00116	.00178	.00293	.00382	.00285	.0124
%RSD	11.107	.61064	1655.2	11.602	65.529	94.956	106.01	.53283
#1	.00231	236.88	.00010	.01730	.00466	.00816	-.00584	2.3268
#2	.00207	238.26	.00122	.01379	.00145	.00324	-.00027	2.3221
#3	.00185	235.37	-.00110	.01503	.00730	.00065	-.00197	2.3456
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703078001 Acquired: 3/16/2017 15:54:32 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00114**	**.18008**	**.00280**	**-.00128**	**-.00080**	**.01808**	**.23090**
Stddev	.00141	.00074	.00341	.00583	.00115	.00007	.12579
%RSD	123.54	.41204	121.95	454.87	144.73	.38180	54.477
#1	.00015	.17926	.00400	-.00564	-.00028	.01815	.36764
#2	-.00092	.18027	-.00105	-.00355	-.00212	.01801	.20497
#3	-.00264	.18070	.00545	.00534	.00001	.01809	.12010
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	**4720.1**	**57129.**	**5382.7**
Stddev	17.1	290.	55.2
%RSD	.36154	.50702	1.0260
#1	4702.7	57302.	5369.5
#2	4720.6	57290.	5335.2
#3	4736.8	56794.	5443.3

Approved: March 17, 2017

Sample Name: L1703078002 Acquired: 3/16/2017 15:58:16 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00377**	**.12092**	**-.00401**	**.01941**	**.04593**	**-.00003**	**31.005**	**.00009**
Stddev	.00244	.00383	.00214	.00053	.00021	.00003	.011	.00033
%RSD	64.855	3.1683	53.351	2.7224	.45628	122.03	.03583	371.55
#1	.00102	.12454	-.00537	.02001	.04594	-.00005	31.002	-.00029
#2	.00457	.11691	-.00513	.01917	.04614	.00001	31.018	.00031
#3	.00571	.12130	-.00154	.01904	.04572	-.00005	30.996	.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	**-.00033**	**-.00059**	**-.00017**	**.10907**	**5.2664**	**-.00194**	**3.8859**	**.00607**
Stddev	.00088	.00021	.00168	.03683	.0225	.00137	.1386	.00050
%RSD	262.80	35.934	987.06	33.764	.42699	70.343	3.5662	8.2803
#1	.00039	-.00037	.00159	.10572	5.2429	-.00054	4.0317	.00623
#2	-.00131	-.00079	-.00033	.14746	5.2687	-.00201	3.8702	.00648
#3	-.00008	-.00060	-.00176	.07403	5.2877	-.00327	3.7559	.00551
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	**.00078**	**7.3182**	**.00491**	**.16108**	**.00168**	**.00415**	**-.00376**	**2.3713**
Stddev	.00011	.0459	.00130	.01135	.00161	.00452	.00503	.0066
%RSD	13.534	.62650	26.470	7.0484	95.495	108.93	133.80	.27896
#1	.00067	7.3436	.00481	.17356	.00272	.00392	-.00730	2.3749
#2	.00088	7.3458	.00625	.15138	.00250	-.00025	-.00597	2.3753
#3	.00079	7.2653	.00366	.15829	-.00017	.00879	.00200	2.3636
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703078002 Acquired: 3/16/2017 15:58:16 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00030**	**.09107**	**-.00463**	**-.00729**	**.00137**	**.00587**	**.33323**
Stddev	.00221	.00075	.00661	.00258	.00081	.00033	.13020
%RSD	738.93	.82212	142.73	35.373	59.239	5.6879	39.071
#1	-.00285	.09097	-.00118	-.00738	.00075	.00617	.38957
#2	.00109	.09186	-.00046	-.00982	.00107	.00551	.18435
#3	.00087	.09038	-.01225	-.00467	.00228	.00592	.42578
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	**4845.6**	**58921.**	**5162.0**
Stddev	24.9	986.	97.3
%RSD	.51460	1.6729	1.8857
#1	4871.8	58911.	5263.3
#2	4842.7	57940.	5153.5
#3	4822.2	59911.	5069.2

Approved: March 17, 2017

Sample Name: L1703078003 Acquired: 3/16/2017 16:01:59 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00303**	**.01622**	**-.00263**	**.02642**	**.02261**	**-.00008**	**20.105**
Stddev	.00202	.00652	.00295	.00256	.00078	.00003	.085
%RSD	66.640	40.176	112.36	9.6834	3.4700	39.293	.42475
#1	.00367	.01894	.00013	.02540	.02348	-.00009	20.202
#2	.00465	.00878	-.00575	.02933	.02242	-.00005	20.073
#3	.00077	.02094	-.00227	.02453	.02195	-.00011	20.041
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**	**-.00016**	**-.00115**	**.00705**	**.60242**	**1.1746**	**.00578**
Stddev	.00006	.00011	.00137	.00271	.02250	.0164	.00782
%RSD	38.934	70.568	118.85	38.394	3.7341	1.3947	135.30
#1	.00024	-.00003	-.00272	.00974	.62768	1.1778	.00023
#2	.00012	-.00025	-.00050	.00433	.59504	1.1569	.00239
#3	.00013	-.00020	-.00023	.00707	.58455	1.1891	.01473
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	**5.0266**	**.01683**	**.00072**	**22.410**	**.00531**	**-.00638**	**.00067**
Stddev	.1259	.00241	.00044	.076	.00073	.00633	.00207
%RSD	2.5041	14.295	61.163	.33976	13.657	99.158	309.74
#1	5.1680	.01521	.00028	22.498	.00574	-.00392	.00300
#2	4.9853	.01570	.00116	22.369	.00447	-.00166	-.00095
#3	4.9266	.01960	.00072	22.363	.00572	-.01357	-.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: L1703078003 Acquired: 3/16/2017 16:01:59 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00352**	**-.00414**	**1.3910**	**.00135**	**.12179**	**.00049**	**-.00574**
Stddev	.00498	.00556	.0062	.00078	.00058	.00601	.00053
%RSD	141.49	134.46	.44892	57.657	.47504	1215.6	9.2609
#1	.00538	.00054	1.3859	.00070	.12223	.00363	-.00621
#2	.00731	-.01029	1.3980	.00221	.12200	-.00643	-.00585
#3	-.00212	-.00267	1.3892	.00113	.12113	.00428	-.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	**-.00051**	**.55588**	F **-.04649**
Stddev	.00111	.00168	.13007
%RSD	217.26	.30227	279.79
#1	.00054	.55781	.08785
#2	-.00040	.55477	-.17183
#3	-.00168	.55506	-.05549
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	**4807.4**	**58988.**	**5255.7**
Stddev	21.4	383.	42.2
%RSD	.44444	.64869	.80201
#1	4784.7	58594.	5219.1
#2	4827.2	59358.	5301.8
#3	4810.3	59012.	5246.3

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 16:05:41 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.39692**	**10.236**	**.39279**	**.49434**	**.99312**	**.04995**	**9.8722**	**.05008**
Stddev	.00120	.074	.00112	.00234	.00073	.00020	.0219	.00042
%RSD	.30256	.72366	.28601	.47338	.07400	.39957	.22184	.84484
#1	.39776	10.172	.39268	.49522	.99302	.04981	9.8963	.05026
#2	.39746	10.317	.39397	.49169	.99389	.05018	9.8666	.05039
#3	.39555	10.218	.39173	.49611	.99244	.04986	9.8536	.04960
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	**.20054**	**.50068**	**.50077**	**3.9688**	**49.648**	**1.0052**	**9.8580**	**.49485**
Stddev	.00045	.00610	.00228	.0430	.031	.0030	.0755	.00105
%RSD	.22315	1.2190	.45624	1.0830	.06301	.29706	.76542	.21209
#1	.20025	.49764	.50140	3.9322	49.618	1.0067	9.9394	.49505
#2	.20031	.50770	.50267	4.0161	49.681	1.0072	9.8443	.49579
#3	.20106	.49669	.49823	3.9581	49.645	1.0018	9.7904	.49372
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	**.99000**	**50.090**	**.50341**	**9.7310**	**.49828**	**1.1984**	**.39790**	**4.9155**
Stddev	.00091	.141	.00091	.0100	.00220	.0057	.00803	.0077
%RSD	.09208	.28241	.18134	.10316	.44163	.47940	2.0174	.15776
#1	.99098	50.104	.50296	9.7194	.49684	1.1981	.39919	4.9067
#2	.98918	50.224	.50446	9.7359	.49719	1.2043	.38931	4.9214
#3	.98983	49.942	.50280	9.7376	.50082	1.1928	.40521	4.9184
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 16:05:41 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.98878**	**.98885**	**.97644**	**.51340**	**.99656**	**1.0009**	**.95931**
Stddev	.00109	.00345	.00469	.00493	.00409	.0007	.36809
%RSD	.11063	.34855	.47985	.96107	.41085	.06907	38.370
#1	.98755	.98969	.97862	.51904	.99258	1.0009	1.3152
#2	.98916	.99181	.97964	.50988	1.0008	1.0015	.98261
#3	.98963	.98507	.97106	.51129	.99633	1.0002	.58013
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	**4838.2**	**56848.**	**5292.3**
Stddev	10.9	473.	74.9
%RSD	.22490	.83227	1.4154
#1	4825.7	56784.	5352.2
#2	4844.9	56411.	5316.4
#3	4844.1	57350.	5208.3

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 16:09:12 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00359**	**.00883**	**-.00190**	**.00308**	**.00007**	**-.00006**	**-.00601**
Stddev	.00139	.00346	.00137	.00098	.00062	.00004	.01760
%RSD	38.714	39.147	72.158	31.759	848.45	72.497	292.87
#1	.00341	.00722	-.00293	.00400	.00006	-.00007	-.02289
#2	.00507	.00647	-.00034	.00205	.00070	-.00001	.01224
#3	.00231	.01280	-.00243	.00320	-.00054	-.00010	-.00738
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00004**	**.00020**	**-.00173**	**-.00188**	**.00860**	**.00886**	**-.00118**
Stddev	.00033	.00018	.00046	.00099	.03593	.08304	.00067
%RSD	913.86	88.057	26.741	52.965	417.51	937.04	56.353
#1	-.00001	.00019	-.00144	-.00152	-.02569	-.00045	-.00050
#2	-.00027	.00003	-.00227	-.00111	.04596	.09617	-.00123
#3	.00039	.00039	-.00149	-.00300	.00555	-.06913	-.00183
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	**.06208**	**.00024**	**-.00012**	**.07092**	**.00077**	**.00233**	**-.00053**
Stddev	.01861	.00035	.00035	.01385	.00113	.01098	.00296
%RSD	29.974	149.98	294.53	19.523	147.14	471.07	562.65
#1	.04102	.00064	-.00023	.07979	.00192	.00453	-.00224
#2	.07631	-.00002	-.00039	.05497	-.00033	.01204	-.00223
#3	.06889	.00008	.00027	.07802	.00071	-.00958	.00289
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 16:09:12 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00118**	**-.00099**	**-.00139**	**.00009**	**-.00012**	**-.00397**	**-.00814**
Stddev	.00992	.00535	.00242	.00130	.00037	.00251	.00225
%RSD	839.68	540.79	173.90	1517.3	292.64	63.249	27.708
#1	.00694	.00250	-.00372	-.00067	.00015	-.00643	-.00940
#2	-.01028	.00169	-.00157	.00159	-.00054	-.00141	-.00947
#3	.00689	-.00715	.00111	-.00066	.00001	-.00408	-.00553
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.00031**	**-.00010**	F **.37525**
Stddev	.00069	.00018	.12416
%RSD	227.51	173.94	33.087
#1	.00021	.00007	.37023
#2	-.00034	-.00028	.50184
#3	.00104	-.00010	.25367
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	**4922.2**	**60321.**	**5359.5**
Stddev	7.3	86.	31.3
%RSD	.14787	.14309	.58490
#1	4930.0	60346.	5375.9
#2	4921.1	60392.	5379.1
#3	4915.5	60225.	5323.3

Approved: March 17, 2017

Sample Name: L1703078301 Acquired: 3/16/2017 16:12:58 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00344**	**.42952**	**.00021**	**.00950**	**.03392**	**-.00008**	**19.691**	**.00032**
Stddev	.00208	.00641	.00080	.00146	.00064	.00003	.084	.00026
%RSD	60.480	1.4916	382.40	15.365	1.8806	31.758	.42477	80.769
#1	.00411	.42370	.00051	.00788	.03430	-.00010	19.657	.00049
#2	.00110	.42848	.00081	.00991	.03319	-.00005	19.631	.00002
#3	.00509	.43639	-.00070	.01072	.03428	-.00010	19.787	.00043
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00029**	**-.00009**	**.00037**	**.19760**	**.51096**	**-.00365**	**2.3720**	**.00335**
Stddev	.00052	.00112	.00097	.03517	.03684	.00059	.0501	.00230
%RSD	179.67	1195.3	264.48	17.800	7.2104	16.230	2.1138	68.527
#1	.00011	-.00003	.00081	.23770	.47721	-.00305	2.3143	.00153
#2	-.00010	-.00124	-.00075	.17196	.55027	-.00367	2.3968	.00593
#3	-.00088	.00099	.00105	.18315	.50541	-.00423	2.4050	.00260
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**	**3.3862**	**-.00024**	**.00906**	**.00526**	**-.00161**	**-.00695**	**3.5822**
Stddev	.00038	.0216	.00033	.00334	.00504	.00195	.00414	.0086
%RSD	108.44	.63697	137.04	36.849	95.816	121.53	59.554	.24117
#1	.00001	3.3913	-.00063	.00987	.01096	-.00128	-.00646	3.5918
#2	-.00075	3.4048	-.00007	.01193	.00339	.00016	-.00307	3.5796
#3	-.00032	3.3626	-.00003	.00540	.00142	-.00370	-.01131	3.5751
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703078301 Acquired: 3/16/2017 16:12:58 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00040**	**.04820**	**.01134**	**-.00344**	**.00065**	**.00119**	**.44582**
Stddev	.00150	.00033	.01024	.00339	.00035	.00019	.04879
%RSD	378.67	.68684	90.322	98.638	53.481	15.909	10.945
#1	-.00153	.04789	.00916	-.00261	.00052	.00136	.48966
#2	-.00096	.04815	.00236	-.00717	.00038	.00099	.39325
#3	.00130	.04855	.02249	-.00054	.00104	.00124	.45456
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	**4919.7**	**59385.**	**5409.9**
Stddev	17.0	710.	55.1
%RSD	.34647	1.1959	1.0177
#1	4938.5	59694.	5415.8
#2	4915.3	59888.	5461.7
#3	4905.2	58572.	5352.1

Approved: March 17, 2017

Sample Name: L1703080101 Acquired: 3/16/2017 16:16:41 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606343-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00244**	**.03418**	**-.00044**	**.00831**	**.00069**	**-.00004**	**.19569**	**-.00025**
Stddev	.00362	.00680	.00341	.00230	.00037	.00003	.01564	.00024
%RSD	148.76	19.908	767.27	27.687	53.237	78.133	7.9937	93.868
#1	-.00128	.02714	.00338	.00622	.00108	-.00004	.20344	-.00000
#2	.00596	.04072	-.00318	.01078	.00035	-.00001	.20595	-.00029
#3	.00263	.03468	-.00154	.00793	.00064	-.00007	.17769	-.00047
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	**-.00050**	**-.00097**	**.00281**	**.02334**	**.10473**	**-.00484**	**-.04708**	**.00269**
Stddev	.00064	.00052	.00169	.01720	.16456	.00278	.03598	.00226
%RSD	129.11	54.194	60.326	73.701	157.13	57.517	76.439	84.228
#1	.00007	-.00153	.00228	.03370	.18617	-.00173	-.05041	.00070
#2	-.00120	-.00050	.00470	.00348	-.08467	-.00569	-.08128	.00221
#3	-.00037	-.00088	.00144	.03285	.21268	-.00709	-.00954	.00515
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**	**.09830**	**-.00097**	**-.01991**	**.00477**	**-.00220**	**.00321**	**.05243**
Stddev	.00010	.03429	.00083	.00825	.00212	.00354	.00900	.00120
%RSD	29.661	34.885	85.492	41.415	44.335	160.55	280.07	2.2931
#1	-.00041	.05908	-.00172	-.02750	.00708	.00182	.00552	.05216
#2	-.00039	.11318	-.00113	-.01114	.00291	-.00482	.01083	.05139
#3	-.00022	.12263	-.00008	-.02109	.00434	-.00362	-.00671	.05375
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703080101 Acquired: 3/16/2017 16:16:41 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606343-01

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00005**	**.00065**	**.00139**	**-.00782**	**-.00021**	**.00216**	**.32219**
Stddev	.00064	.00018	.00382	.00179	.00046	.00023	.24378
%RSD	1179.0	27.598	274.64	22.868	216.02	10.496	75.663
#1	-.00080	.00054	.00126	-.00583	.00030	.00238	.06624
#2	.00033	.00086	-.00236	-.00835	-.00060	.00193	.34869
#3	.00031	.00055	.00528	-.00928	-.00035	.00216	.55163
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	**4856.8**	**59658.**	**5141.8**
Stddev	22.5	459.	87.6
%RSD	.46314	.76973	1.7042
#1	4862.7	59192.	5106.7
#2	4875.7	59671.	5077.2
#3	4831.9	60111.	5241.5

Approved: March 17, 2017

Sample Name: L1703080101PS Acquired: 3/16/2017 16:20:27 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606391-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19850**	**5.1102**	**.19227**	**.91130**	**.49501**	**.02404**	**5.0072**	**.02443**
Stddev	.00086	.0249	.00389	.00981	.00121	.00009	.0341	.00019
%RSD	.43376	.48671	2.0240	1.0761	.24404	.35641	.68128	.76684
#1	.19904	5.0855	.19661	.90179	.49412	.02411	5.0435	.02436
#2	.19751	5.1097	.18910	.92138	.49452	.02407	4.9758	.02428
#3	.19895	5.1353	.19110	.91074	.49638	.02394	5.0025	.02464
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	**.09892**	**.24635**	**.25027**	**1.9879**	**24.501**	**.49681**	**4.9238**	**.24337**
Stddev	.00019	.00050	.00023	.0161	.088	.00650	.0406	.00269
%RSD	.18750	.20298	.09116	.81207	.35825	1.3094	.82535	1.1056
#1	.09886	.24578	.25038	1.9705	24.518	.49973	4.8902	.24128
#2	.09912	.24673	.25001	2.0024	24.406	.50134	4.9121	.24242
#3	.09877	.24653	.25044	1.9909	24.579	.48935	4.9690	.24640
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	**.47932**	**24.796**	**.24915**	**4.6354**	**.25175**	**.58551**	**.18933**	**2.4487**
Stddev	.00063	.062	.00233	.0102	.00106	.01309	.00761	.0055
%RSD	.13158	.24848	.93504	.21961	.42208	2.2361	4.0199	.22380
#1	.47927	24.730	.25183	4.6237	.25105	.58571	.19777	2.4435
#2	.47998	24.851	.24791	4.6413	.25123	.57232	.18299	2.4481
#3	.47872	24.809	.24769	4.6413	.25297	.59850	.18724	2.4544
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703080101PS Acquired: 3/16/2017 16:20:27 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606391-01

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49264**	**.49221**	**.48559**	**.25332**	**.48610**	**.48682**	**.77683**
Stddev	.00224	.00092	.00274	.00443	.00202	.00127	.08667
%RSD	.45372	.18758	.56528	1.7474	.41472	.26171	11.157
#1	.49027	.49302	.48778	.25322	.48383	.48549	.75932
#2	.49292	.49121	.48251	.24895	.48769	.48802	.70026
#3	.49471	.49240	.48647	.25780	.48677	.48696	.87093
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	**4863.9**	**59360.**	**5312.0**
Stddev	13.9	168.	62.5
%RSD	.28567	.28288	1.1759
#1	4853.3	59256.	5379.9
#2	4858.8	59554.	5257.0
#3	4879.6	59270.	5299.2

Approved: March 17, 2017

Sample Name: L1703080101SDL Acquired: 3/16/2017 16:24:04 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG606391-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00182**	**.01143**	**-.00119**	**.00508**	**.00061**	**-.00012**	**.02704**	**.00004**
Stddev	.00274	.01073	.00145	.00138	.00079	.00001	.00134	.00012
%RSD	150.44	93.884	121.54	27.059	129.76	4.9237	4.9457	305.14
#1	.00431	.01003	-.00274	.00647	-.00030	-.00012	.02551	-.00010
#2	-.00112	.00147	.00013	.00506	.00106	-.00012	.02793	.00010
#3	.00228	.02280	-.00097	.00372	.00106	-.00013	.02770	.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	**-.00032**	**-.00084**	**-.00185**	**.02831**	**-.01212**	**.00102**	**.11924**	**.00104**
Stddev	.00029	.00068	.00140	.00741	.04463	.00398	.10795	.00185
%RSD	90.244	80.388	75.463	26.178	368.14	388.91	90.533	177.87
#1	-.00056	-.00062	-.00345	.03629	.02785	.00401	.07550	-.00109
#2	-.00000	-.00030	-.00128	.02164	-.06027	-.00350	.24220	.00202
#3	-.00039	-.00160	-.00083	.02702	-.00394	.00257	.04003	.00220
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00016**	**.05791**	**-.00144**	**-.00252**	**-.00054**	**-.00020**	**-.00382**	**.01207**
Stddev	.00026	.01387	.00062	.00241	.00326	.00607	.00360	.00147
%RSD	167.09	23.946	43.133	95.389	604.42	3101.5	94.344	12.190
#1	.00022	.04699	-.00074	.00004	-.00430	.00504	-.00332	.01314
#2	.00038	.07351	-.00193	-.00287	.00155	.00122	-.00049	.01039
#3	-.00013	.05323	-.00166	-.00473	.00113	-.00684	-.00764	.01267
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703080101SDL Acquired: 3/16/2017 16:24:04 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG606391-02

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00075**	**-.00006**	**-.00141**	**-.00192**	**-.00052**	**.00097**	**.08669**
Stddev	.00129	.00052	.00621	.00230	.00035	.00029	.11262
%RSD	172.73	844.82	439.59	119.47	66.921	30.288	129.91
#1	-.00046	.00048	-.00743	.00030	-.00022	.00076	.17186
#2	.00038	-.00055	-.00178	-.00179	-.00090	.00083	.12919
#3	-.00215	-.00011	.00497	-.00428	-.00044	.00130	-.04100
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	**5006.6**	**59966.**	**5081.6**
Stddev	26.7	476.	330.6
%RSD	.53416	.79325	6.5059
#1	5011.5	59733.	5453.2
#2	4977.7	60513.	4971.8
#3	5030.5	59651.	4819.9

Approved: March 17, 2017

Sample Name: L1703080101MS Acquired: 3/16/2017 16:27:49 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606343-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20147**	**5.1876**	**.19227**	**.92474**	**.50295**	**.02456**	**5.0579**	**.02464**
Stddev	.00110	.0283	.00285	.00477	.00031	.00007	.0533	.00037
%RSD	.54738	.54516	1.4823	.51586	.06067	.26927	1.0546	1.4883
#1	.20143	5.1719	.19010	.92999	.50329	.02460	5.0077	.02430
#2	.20039	5.2202	.19550	.92356	.50286	.02459	5.1139	.02460
#3	.20260	5.1706	.19121	.92067	.50269	.02448	5.0520	.02502
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	**.10019**	**.25078**	**.25223**	**2.0632**	**24.759**	**.49542**	**5.0300**	**.25022**
Stddev	.00046	.00019	.00174	.0131	.061	.00277	.0824	.00275
%RSD	.46158	.07629	.69023	.63295	.24742	.55902	1.6389	1.1003
#1	.09987	.25065	.25338	2.0688	24.704	.49223	5.0795	.24828
#2	.10072	.25068	.25023	2.0725	24.748	.49688	4.9348	.24900
#3	.09999	.25100	.25309	2.0482	24.825	.49716	5.0757	.25337
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	**.48333**	**24.954**	**.25130**	**4.7322**	**.25127**	**.59768**	**.18631**	**2.5065**
Stddev	.00040	.034	.00090	.0232	.00350	.00678	.01320	.0007
%RSD	.08273	.13602	.36002	.49016	1.3917	1.1341	7.0838	.02767
#1	.48289	24.973	.25069	4.7191	.24798	.59183	.19863	2.5067
#2	.48367	24.914	.25234	4.7185	.25495	.59611	.18791	2.5070
#3	.48343	24.973	.25087	4.7590	.25089	.60511	.17238	2.5057
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703080101MS Acquired: 3/16/2017 16:27:49 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606343-04

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49981**	**.49890**	**.49911**	**.24882**	**.49707**	**.49612**	**.76483**
Stddev	.00105	.00100	.00484	.00316	.00160	.00084	.05553
%RSD	.21093	.19975	.96931	1.2687	.32176	.16848	7.2598
#1	.49905	.49894	.49656	.24522	.49795	.49557	.70442
#2	.50102	.49788	.49608	.25110	.49523	.49571	.77644
#3	.49938	.49987	.50469	.25014	.49804	.49709	.81363
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	**4862.4**	**58666.**	**5392.5**
Stddev	11.4	172.	34.8
%RSD	.23544	.29285	.64580
#1	4857.3	58659.	5432.6
#2	4854.3	58841.	5374.6
#3	4875.5	58498.	5370.2

Approved: March 17, 2017

Sample Name: L1703080101MSD Acquired: 3/16/2017 16:31:26 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606343-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19564**	**5.1536**	**.19127**	**.91503**	**.49929**	**.02424**	**5.0565**	**.02443**
Stddev	.00307	.0033	.00268	.00743	.00208	.00018	.0249	.00007
%RSD	1.5695	.06477	1.4004	.81230	.41677	.73917	.49205	.28649
#1	.19757	5.1544	.19352	.92217	.50117	.02441	5.0302	.02436
#2	.19726	5.1565	.18831	.91560	.49705	.02425	5.0596	.02442
#3	.19210	5.1500	.19199	.90733	.49964	.02406	5.0796	.02450
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.09926**	**.24932**	**.25092**	**2.0482**	**24.753**	**.50165**	**5.0616**	**.24740**
Stddev	.00081	.00273	.00146	.0301	.049	.00553	.1273	.00493
%RSD	.81219	1.0937	.58081	1.4697	.19864	1.1022	2.5145	1.9937
#1	.10006	.25071	.25125	2.0197	24.760	.50371	4.9146	.24919
#2	.09927	.25107	.25219	2.0451	24.799	.49539	5.1351	.25119
#3	.09845	.24618	.24933	2.0797	24.701	.50585	5.1351	.24182
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	**.48096**	**24.969**	**.24932**	**4.6339**	**.25106**	**.58269**	**.19044**	**2.4791**
Stddev	.00144	.067	.00097	.0243	.00454	.00436	.00749	.0045
%RSD	.30026	.26917	.39030	.52330	1.8103	.74794	3.9334	.18270
#1	.48097	25.024	.24821	4.6531	.24821	.58660	.19489	2.4816
#2	.48240	24.894	.24973	4.6420	.24867	.58349	.18180	2.4818
#3	.47952	24.989	.25001	4.6067	.25630	.57799	.19465	2.4739
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703080101MSD Acquired: 3/16/2017 16:31:26 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606343-05

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49233**	**.49546**	**.49401**	**.24896**	**.49205**	**.48888**	**.43269**
Stddev	.00048	.00082	.00228	.00919	.00142	.00116	.20451
%RSD	.09705	.16589	.46157	3.6916	.28823	.23650	47.264
#1	.49183	.49632	.49485	.24457	.49369	.49019	.62032
#2	.49278	.49468	.49575	.24280	.49132	.48842	.46306
#3	.49239	.49538	.49143	.25952	.49115	.48802	.21470
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	**4819.6**	**58742.**	**5308.6**
Stddev	19.4	393.	56.4
%RSD	.40246	.66932	1.0616
#1	4835.6	59105.	5248.0
#2	4825.2	58795.	5359.4
#3	4798.1	58324.	5318.5

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 16:35:02 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.39786**	**10.348**	**.39974**	**.50149**	**1.0047**	**.05039**	**9.9983**
Stddev	.00100	.036	.00484	.00237	.0013	.00010	.0130
%RSD	.25025	.35083	1.2097	.47161	.12893	.18906	.13047
#1	.39825	10.376	.40143	.50157	1.0037	.05050	9.9856
#2	.39861	10.307	.40351	.49908	1.0061	.05034	10.012
#3	.39673	10.361	.39429	.50381	1.0043	.05033	9.9977
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	**.05018**	**.20150**	**.50785**	**.50728**	**4.0444**	**50.463**	**1.0182**
Stddev	.00016	.00039	.00209	.00259	.0081	.149	.0008
%RSD	.31874	.19376	.41205	.51113	.19997	.29436	.07467
#1	.05000	.20170	.50590	.50490	4.0516	50.622	1.0180
#2	.05031	.20105	.51006	.50690	4.0458	50.328	1.0176
#3	.05023	.20174	.50760	.51004	4.0357	50.439	1.0191
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	**9.9685**	**.49492**	**.99837**	**50.426**	**.50546**	**9.7893**	**.50130**
Stddev	.0341	.00262	.00136	.038	.00095	.0045	.00348
%RSD	.34192	.53038	.13632	.07619	.18866	.04544	.69322
#1	9.9332	.49213	.99724	50.463	.50542	9.7855	.50416
#2	9.9709	.49530	.99799	50.386	.50643	9.7942	.50230
#3	10.001	.49734	.99988	50.429	.50452	9.7882	.49743
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 16:35:02 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**1.2075**	**.40174**	**4.9353**	**.99732**	**.99931**	**.97701**	**.51134**
Stddev	.0026	.01368	.0109	.00365	.00100	.00711	.00483
%RSD	.21214	3.4054	.22130	.36631	.10047	.72763	.94514
#1	1.2102	.38670	4.9361	.99314	.99889	.96891	.50598
#2	1.2051	.40505	4.9240	.99990	1.0005	.97990	.51536
#3	1.2071	.41345	4.9458	.99893	.99860	.98221	.51269
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**1.0084**	**1.0091**	F **.75697**
Stddev	.0012	.0020	.32697
%RSD	.11924	.19748	43.194
#1	1.0082	1.0068	1.1182
#2	1.0097	1.0101	.48118
#3	1.0074	1.0105	.67157
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	**4623.6**	**56298.**	**5283.8**
Stddev	10.9	239.	101.4
%RSD	.23673	.42527	1.9184
#1	4620.2	56565.	5327.9
#2	4614.8	56227.	5355.8
#3	4635.8	56102.	5167.9

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 16:38:34 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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**	**.00636**	**-.00023**	**.00693**	**.00042**	**-.00005**	**-.01625**
Stddev	.00376	.00859	.00641	.00027	.00065	.00003	.01096
%RSD	102.42	135.07	2758.2	3.9616	156.66	64.994	67.423
#1	-.00052	.01592	.00704	.00702	.00023	-.00006	-.00561
#2	.00477	.00383	-.00509	.00715	-.00012	-.00001	-.01564
#3	.00676	-.00068	-.00264	.00662	.00114	-.00006	-.02750
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**	**-.00067**	**-.00092**	**-.00271**	**-.00955**	**.05944**	**.00026**
Stddev	.00036	.00072	.00073	.00290	.00742	.07024	.00147
%RSD	144.66	108.16	79.461	107.14	77.636	118.17	569.27
#1	-.00041	-.00068	-.00140	.00008	-.00568	.01713	.00186
#2	-.00051	.00006	-.00008	-.00250	-.01810	.02067	-.00102
#3	.00016	-.00138	-.00127	-.00571	-.00488	.14053	-.00007
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	**-.02224**	**.00006**	**-.00006**	**.07177**	**-.00088**	**-.00655**	**.00496**
Stddev	.05393	.00198	.00043	.00578	.00153	.00634	.00470
%RSD	242.49	3422.9	720.14	8.0538	173.85	96.832	94.803
#1	.02506	.00141	.00022	.07326	-.00221	-.00072	.01038
#2	-.08098	-.00221	.00016	.06540	-.00121	-.01331	.00247
#3	-.01081	.00098	-.00056	.07667	.00079	-.00563	.00202
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 16:38:34 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00005**	**-.00458**	**.00105**	**-.00027**	**-.00011**	**.00131**	**-.00335**
Stddev	.00638	.00724	.00582	.00162	.00025	.00043	.00333
%RSD	12073.	158.33	551.86	597.43	228.73	32.922	99.428
#1	.00009	-.01099	.00745	-.00136	-.00040	.00094	.00045
#2	-.00650	.00328	-.00036	-.00105	.00008	.00178	-.00474
#3	.00625	-.00602	-.00393	.00159	-.00001	.00120	-.00577
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	**-.00091**	**-.00009**	F **.04437**
Stddev	.00036	.00028	.11605
%RSD	39.386	301.07	261.55
#1	-.00050	-.00002	.15094
#2	-.00108	.00014	.06144
#3	-.00115	-.00040	-.07927
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	**4924.9**	**59377.**	**5326.0**
Stddev	15.5	1050.	109.0
%RSD	.31413	1.7683	2.0460
#1	4923.5	58181.	5445.1
#2	4910.1	59808.	5301.8
#3	4941.0	60144.	5231.3

Approved: March 17, 2017

Sample Name: LLCCV Acquired: 3/16/2017 16:42:19 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.01034**	**.19344**	**.01051**	**.08310**	**.00937**	**.00159**	**.41705**	**.00094**
Stddev	.00035	.00288	.00355	.00336	.00052	.00005	.03003	.00025
%RSD	3.4027	1.4878	33.753	4.0456	5.5033	3.2627	7.2004	26.747
#1	.01066	.19645	.01341	.07975	.00981	.00162	.43405	.00122
#2	.00996	.19071	.01157	.08648	.00881	.00153	.38238	.00086
#3	.01040	.19315	.00655	.08307	.00950	.00163	.43473	.00074
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	**.00396**	**.00277**	**-.00002**	**.08447**	**.94909**	**.07952**	**.49551**	**.00906**
Stddev	.00045	.00078	.00140	.01112	.01485	.00392	.04891	.00019
%RSD	11.358	27.967	7120.3	13.159	1.5649	4.9250	9.8705	2.1060
#1	.00345	.00301	-.00159	.07230	.93202	.07753	.55129	.00886
#2	.00414	.00340	.00111	.08705	.95904	.08403	.45996	.00924
#3	.00430	.00191	.00042	.09407	.95620	.07700	.47527	.00908
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	**.00772**	**.47063**	**.01782**	**.80805**	**.01358**	**.08234**	**.01725**	**.73941**
Stddev	.00071	.02624	.00123	.01206	.00154	.00642	.00775	.00298
%RSD	9.2462	5.5752	6.9047	1.4924	11.371	7.7955	44.962	.40346
#1	.00690	.46722	.01836	.82078	.01536	.08433	.01974	.73685
#2	.00819	.49840	.01868	.79680	.01275	.08753	.02345	.74268
#3	.00808	.44626	.01641	.80658	.01263	.07516	.00855	.73869
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: LLCCV Acquired: 3/16/2017 16:42:19 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.41605**	**.04098**	**.02104**	**.16787**	**.00832**	**.01793**	**27.954**
Stddev	.00208	.00053	.00412	.00325	.00035	.00018	.231
%RSD	.49952	1.2862	19.575	1.9335	4.1589	1.0070	.82726
#1	.41718	.04039	.02295	.17080	.00793	.01783	28.010
#2	.41732	.04112	.02386	.16843	.00845	.01783	28.153
#3	.41365	.04142	.01631	.16438	.00859	.01814	27.700
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	**4923.7**	**59407.**	**5332.7**
Stddev	33.5	573.	49.4
%RSD	.68138	.96470	.92574
#1	4895.0	59929.	5386.6
#2	4915.6	59498.	5321.7
#3	4960.6	58794.	5289.7

Approved: March 17, 2017

Sample Name: LLCCV Acquired: 3/16/2017 16:46:05 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.01125**	**.18403**	**.00626**	**.08013**	**.00788**	**.00151**	**.39882**	**.00093**
Stddev	.00096	.00208	.00348	.00464	.00077	.00004	.01520	.00032
%RSD	8.5653	1.1321	55.597	5.7961	9.8266	2.6021	3.8120	34.403
#1	.01225	.18276	.00383	.08496	.00768	.00147	.38738	.00128
#2	.01032	.18289	.00471	.07570	.00722	.00154	.39301	.00085
#3	.01118	.18644	.01025	.07971	.00873	.00153	.41607	.00066
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00421**	**.00342**	**.00422**	**.08795**	**.88350**	**.07657**	**.47154**	**.01132**
Stddev	.00047	.00043	.00132	.00681	.03858	.00472	.03713	.00113
%RSD	11.261	12.578	31.284	7.7398	4.3668	6.1628	7.8736	9.9791
#1	.00377	.00296	.00402	.09581	.89817	.07323	.51189	.01107
#2	.00471	.00381	.00300	.08400	.91260	.07451	.43882	.01255
#3	.00415	.00351	.00562	.08404	.83974	.08197	.46391	.01033
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	**.00745**	**.44841**	**.01567**	**.78080**	**.00850**	**.07818**	**.00846**	**.72951**
Stddev	.00050	.00815	.00191	.00778	.00447	.00730	.00716	.00340
%RSD	6.7099	1.8184	12.209	.99686	52.532	9.3406	84.575	.46650
#1	.00687	.43930	.01777	.78030	.01364	.08308	.01401	.72944
#2	.00777	.45093	.01403	.78883	.00633	.08166	.01100	.73295
#3	.00770	.45501	.01522	.77328	.00554	.06979	.00038	.72614
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: LLCCV Acquired: 3/16/2017 16:46:05 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.40874**	**.04064**	**.02678**	**.16851**	**.00935**	**.01766**	**28.684**
Stddev	.00070	.00017	.00341	.00493	.00047	.00024	.420
%RSD	.17141	.42360	12.734	2.9251	5.0150	1.3667	1.4659
#1	.40889	.04072	.02754	.17049	.00963	.01778	28.295
#2	.40935	.04075	.02975	.17215	.00881	.01782	28.628
#3	.40797	.04044	.02305	.16290	.00960	.01738	29.130
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	**4911.8**	**60394.**	**5408.5**
Stddev	14.7	166.	34.7
%RSD	.29854	.27565	.64132
#1	4924.4	60547.	5409.1
#2	4895.7	60420.	5442.9
#3	4915.2	60217.	5373.5

Approved: March 17, 2017

Sample Name: LLCCV Acquired: 3/16/2017 16:49:50 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.01331**	**.22293**	**.01037**	**.09920**	**.01059**	**.00198**	**.51710**	**.00107**
Stddev	.00171	.00506	.00280	.00101	.00031	.00002	.01250	.00014
%RSD	12.833	2.2711	26.998	1.0230	2.8859	1.1256	2.4175	12.676
#1	.01197	.21733	.00754	.09908	.01091	.00198	.51118	.00095
#2	.01273	.22428	.01314	.10027	.01031	.00196	.53146	.00103
#3	.01523	.22719	.01045	.09825	.01054	.00201	.50865	.00122
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	**.00484**	**.00358**	**.00341**	**.11401**	**.98200**	**.10346**	**.62647**	**.01208**
Stddev	.00030	.00065	.00188	.00639	.08323	.00455	.09830	.00087
%RSD	6.1870	18.068	55.051	5.6029	8.4754	4.3946	15.691	7.1844
#1	.00477	.00336	.00241	.11429	.88868	.09839	.51413	.01293
#2	.00517	.00308	.00225	.12026	1.0486	.10718	.66855	.01211
#3	.00459	.00431	.00558	.10749	1.0087	.10481	.69672	.01120
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	**.00964**	**.53897**	**.01905**	**.97476**	**.01716**	**.11054**	**.01744**	**.90762**
Stddev	.00044	.00778	.00174	.00301	.00106	.00321	.00668	.00357
%RSD	4.5711	1.4442	9.1197	.30852	6.1641	2.9020	38.326	.39281
#1	.01006	.53417	.01942	.97792	.01594	.10903	.02490	.90544
#2	.00968	.53478	.01716	.97193	.01779	.10836	.01541	.91173
#3	.00918	.54795	.02058	.97442	.01774	.11422	.01200	.90569
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: LLCCV Acquired: 3/16/2017 16:49:50 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.50652**	**.05091**	**.03335**	**.20229**	**.00947**	**.02197**	**36.744**
Stddev	.00038	.00055	.00217	.00164	.00081	.00026	.211
%RSD	.07507	1.0871	6.5033	.81024	8.5353	1.1949	.57370
#1	.50693	.05030	.03420	.20119	.00949	.02187	36.519
#2	.50643	.05106	.03089	.20417	.00865	.02177	36.937
#3	.50619	.05137	.03497	.20149	.01027	.02226	36.775
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	**4827.2**	**59296.**	**5185.4**
Stddev	55.2	221.	20.4
%RSD	1.1425	.37336	.39300
#1	4773.7	59462.	5208.7
#2	4823.9	59382.	5176.3
#3	4883.9	59045.	5171.2

Approved: March 17, 2017

Sample Name: PBW 99 Acquired: 3/16/2017 16:53:35 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606460-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00249**	**.00661**	**.00077**	**.00036**	**.00072**	**-.00007**	**.01877**	**.00006**
Stddev	.00256	.00511	.00599	.00088	.00035	.00003	.03545	.00017
%RSD	102.45	77.294	779.20	242.46	48.909	35.996	188.84	272.46
#1	.00288	.01222	-.00602	-.00011	.00109	-.00010	.00590	.00010
#2	.00484	.00222	.00306	.00138	.00039	-.00007	-.00844	.00020
#3	-.00023	.00540	.00527	-.00018	.00069	-.00005	.05886	-.00012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00043**	**.00005**	**-.00201**	**.01108**	**-.00535**	**-.00073**	**.00323**	**-.00069**
Stddev	.00085	.00015	.00079	.01666	.08192	.00103	.04481	.00335
%RSD	196.56	287.74	39.308	150.29	1532.3	141.45	1385.3	484.03
#1	-.00125	-.00010	-.00234	.03017	.03377	-.00184	.04266	-.00418
#2	.00045	.00019	-.00111	-.00051	-.09949	.00018	-.04550	-.00038
#3	-.00050	.00007	-.00259	.00359	.04968	-.00052	.01254	.00249
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00003**	**.07078**	**-.00012**	**-.01578**	**.00261**	**-.00369**	**.00333**	**.00463**
Stddev	.00046	.01753	.00158	.01404	.00198	.00848	.01256	.00086
%RSD	1566.2	24.764	1288.2	88.958	75.739	230.15	377.01	18.459
#1	-.00048	.09020	.00045	-.00025	.00371	-.01348	-.01034	.00365
#2	-.00004	.05612	-.00191	-.01952	.00379	.00097	.01434	.00512
#3	.00043	.06603	.00109	-.02757	.00033	.00145	.00599	.00514
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: PBW 99 Acquired: 3/16/2017 16:53:35 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606460-02

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00030**	**-.00001**	**-.00073**	**-.00473**	**.00065**	**.00137**	**.38264**
Stddev	.00024	.00026	.00118	.00185	.00125	.00027	.35168
%RSD	81.239	1920.5	160.47	39.114	193.01	19.691	91.908
#1	.00047	.00008	.00039	-.00460	-.00058	.00158	.04183
#2	.00002	-.00031	-.00064	-.00295	.00061	.00146	.36183
#3	.00040	.00019	-.00196	-.00665	.00192	.00106	.74426
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	**4816.9**	**59684.**	**5267.7**
Stddev	26.3	618.	35.1
%RSD	.54656	1.0354	.66687
#1	4846.6	60031.	5227.4
#2	4796.5	58971.	5292.0
#3	4807.7	60051.	5283.7

Approved: March 17, 2017

Sample Name: LCSW 99 Acquired: 3/16/2017 16:57:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606460-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19800**	**5.0875**	**.19062**	**.91165**	**.49628**	**.02443**	**4.8492**	**.02465**
Stddev	.00157	.0351	.00589	.00215	.00144	.00012	.0170	.00031
%RSD	.79201	.69050	3.0876	.23572	.29056	.51052	.35032	1.2632
#1	.19657	5.0571	.19206	.90925	.49789	.02437	4.8296	.02493
#2	.19968	5.0794	.18414	.91232	.49512	.02435	4.8595	.02471
#3	.19777	5.1260	.19564	.91338	.49583	.02457	4.8585	.02431
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	**.10020**	**.24900**	**.24748**	**1.9974**	**24.659**	**.49340**	**4.9375**	**.24321**
Stddev	.00067	.00135	.00094	.0169	.115	.00244	.0557	.00383
%RSD	.66883	.54143	.38169	.84752	.46584	.49400	1.1275	1.5767
#1	.10082	.24789	.24856	2.0016	24.780	.49094	4.9685	.24304
#2	.10027	.24860	.24686	1.9787	24.552	.49581	4.9708	.24713
#3	.09949	.25050	.24701	2.0118	24.645	.49345	4.8732	.23947
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	**.48106**	**24.703**	**.24942**	**4.6864**	**.25074**	**.59095**	**.17922**	**2.4388**
Stddev	.00024	.049	.00323	.0118	.00102	.00398	.01070	.0031
%RSD	.05008	.20008	1.2957	.25102	.40721	.67378	5.9693	.12541
#1	.48116	24.733	.25203	4.6792	.24958	.59528	.17219	2.4370
#2	.48123	24.646	.24580	4.6800	.25116	.59015	.17394	2.4371
#3	.48078	24.729	.25044	4.7000	.25149	.58744	.19153	2.4423
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: LCSW 99 Acquired: 3/16/2017 16:57:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606460-03

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49888**	**.49193**	**.48864**	**.25470**	**.49423**	**.49435**	**1.2889**
Stddev	.00167	.00083	.01222	.00267	.00395	.00124	.2191
%RSD	.33467	.16947	2.5004	1.0468	.79832	.25080	16.996
#1	.50075	.49273	.48789	.25541	.48969	.49497	1.5419
#2	.49753	.49201	.47682	.25175	.49683	.49292	1.1615
#3	.49837	.49106	.50122	.25694	.49618	.49516	1.1634
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	**4792.5**	**57921.**	**5226.5**
Stddev	2.8	432.	17.4
%RSD	.05829	.74592	.33277
#1	4790.0	57993.	5213.0
#2	4792.1	57458.	5220.3
#3	4795.5	58313.	5246.1

Approved: March 17, 2017

Sample Name: FBLK1 Acquired: 3/16/2017 17:01:00 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606253-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00487**	**.01149**	**-.00297**	**.00498**	**.00016**	**-.00005**	**-.00543**	**.00023**
Stddev	.00107	.00196	.00574	.00157	.00083	.00004	.01168	.00015
%RSD	21.989	17.065	193.45	31.629	526.30	78.603	215.32	63.357
#1	.00386	.00981	-.00595	.00361	.00098	-.00002	-.00143	.00023
#2	.00476	.01364	.00365	.00669	-.00068	-.00010	.00374	.00008
#3	.00599	.01101	-.00661	.00463	.00017	-.00005	-.01858	.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	**-.00045**	**-.00086**	**-.00290**	**.03829**	**-.00118**	**.00093**	**.08195**	**-.00028**
Stddev	.00038	.00109	.00217	.01952	.02915	.00203	.08393	.00195
%RSD	83.446	126.83	74.764	50.981	2476.4	217.99	102.40	698.12
#1	-.00081	-.00006	-.00525	.04221	.03157	.00218	.17885	-.00226
#2	-.00048	-.00042	-.00096	.01711	-.02431	-.00141	.03475	-.00021
#3	-.00006	-.00209	-.00250	.05556	-.01079	.00203	.03226	.00164
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00014**	**.08361**	**-.00056**	**-.01595**	**.00077**	**.00239**	**-.00084**	**.00943**
Stddev	.00046	.00774	.00137	.00080	.00319	.00443	.00674	.00219
%RSD	339.70	9.2623	247.65	5.0277	414.65	185.20	797.39	23.178
#1	-.00009	.09252	-.00144	-.01511	.00389	.00715	-.00830	.00851
#2	-.00062	.07971	.00103	-.01605	.00091	.00165	.00095	.00785
#3	.00030	.07858	-.00125	-.01670	-.00249	-.00162	.00481	.01192
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: FBLK1 Acquired: 3/16/2017 17:01:00 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606253-02

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00006**	**-.00011**	**.00169**	**-.00563**	**-.00021**	**.00379**	**.18941**
Stddev	.00010	.00018	.00167	.00600	.00036	.00022	.45016
%RSD	163.04	168.82	98.452	106.57	167.55	5.8755	237.66
#1	.00003	.00006	.00052	-.01254	-.00029	.00405	.46282
#2	-.00004	-.00030	.00096	-.00255	.00018	.00370	.43556
#3	-.00017	-.00008	.00360	-.00179	-.00053	.00363	-.33015
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	**4774.6**	**59334.**	**5274.2**
Stddev	1.3	374.	84.6
%RSD	.02698	.63052	1.6044
#1	4774.0	59731.	5317.3
#2	4776.1	58987.	5328.6
#3	4773.7	59284.	5176.7

Approved: March 17, 2017

Sample Name: FBLK2 Acquired: 3/16/2017 17:04:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606253-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00245**	**.02158**	**.00029**	**.00359**	**.00079**	**-.00004**	**.02922**	**-.00002**
Stddev	.00132	.00231	.00525	.00219	.00056	.00004	.03930	.00021
%RSD	54.043	10.699	1806.3	61.033	70.746	96.452	134.51	1150.4
#1	.00200	.02361	-.00448	.00388	.00027	-.00003	.06197	.00020
#2	.00394	.02207	-.00055	.00126	.00071	-.00008	-.01436	-.00022
#3	.00141	.01907	.00591	.00561	.00138	-.00001	.04004	-.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00046**	**-.00187**	**-.00076**	**.02045**	**.03072**	**-.00255**	**.04871**	**-.00045**
Stddev	.00057	.00126	.00194	.00680	.01738	.00273	.03145	.00226
%RSD	122.00	67.459	256.69	33.239	56.567	107.22	64.556	506.11
#1	-.00059	-.00103	-.00291	.01957	.01432	.00020	.05872	-.00266
#2	.00015	-.00126	.00085	.02764	.04894	-.00527	.01348	.00185
#3	-.00096	-.00332	-.00021	.01413	.02891	-.00259	.07393	-.00053
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	**.00015**	**141.55**	**.00002**	**-.01236**	**.00329**	**-.00216**	**-.00136**	**.01657**
Stddev	.00067	.40	.00216	.00710	.00608	.00219	.01172	.00222
%RSD	449.11	.27983	10979.	57.413	184.85	101.37	863.88	13.395
#1	.00087	141.96	-.00054	-.00716	.00104	-.00443	.01040	.01667
#2	-.00045	141.53	.00240	-.02045	.01018	-.00006	-.01305	.01873
#3	.00003	141.17	-.00181	-.00948	-.00135	-.00199	-.00142	.01429
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: FBLK2 Acquired: 3/16/2017 17:04:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606253-01

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00066**	**.00012**	**.00274**	**-.00542**	**-.00140**	**.00465**	**.00617**
Stddev	.00064	.00020	.00251	.00562	.00149	.00023	.12079
%RSD	96.016	165.18	91.946	103.59	106.69	4.8436	1958.7
#1	-.00019	.00029	.00001	.00024	-.00309	.00488	-.13300
#2	-.00139	-.00010	.00497	-.01099	-.00027	.00443	.06763
#3	-.00041	.00017	.00322	-.00551	-.00084	.00464	.08387
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	**4663.5**	**56801.**	**5151.1**
Stddev	48.2	111.	98.9
%RSD	1.0331	.19600	1.9197
#1	4640.8	56929.	5038.2
#2	4630.9	56726.	5192.7
#3	4718.9	56748.	5222.4

Approved: March 17, 2017

Sample Name: L1703073901 Acquired: 3/16/2017 17:08:32 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00337**	**.14101**	**-.00099**	**.03518**	**.13598**	**.00007**	**145.58**	**.00041**
Stddev	.00178	.00745	.00372	.00076	.00031	.00003	.17	.00025
%RSD	52.811	5.2845	376.18	2.1703	.22830	43.022	.11477	59.593
#1	.00304	.13536	.00254	.03505	.13562	.00011	145.42	.00062
#2	.00178	.14945	-.00487	.03449	.13619	.00005	145.56	.00049
#3	.00530	.13821	-.00063	.03600	.13613	.00006	145.76	.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	**.00240**	**.00108**	**-.00004**	**.03976**	**2.3366**	**.00638**	**18.142**	**1.0149**
Stddev	.00039	.00044	.00134	.02091	.0418	.00471	.185	.0051
%RSD	16.251	40.738	3340.1	52.593	1.7901	73.903	1.0178	.50279
#1	.00282	.00090	-.00144	.02965	2.3793	.00535	18.024	1.0107
#2	.00234	.00158	.00123	.02583	2.3349	.00226	18.046	1.0133
#3	.00205	.00075	.00009	.06381	2.2956	.01152	18.354	1.0206
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00059**	**4.2082**	**.00476**	**-.01697**	**.00549**	**-.00309**	**.00616**	**1.5742**
Stddev	.00031	.0298	.00054	.00922	.00375	.00816	.00253	.0093
%RSD	53.229	.70722	11.374	54.307	68.353	263.92	41.108	.59357
#1	-.00072	4.2066	.00428	-.02662	.00932	-.00404	.00784	1.5638
#2	-.00023	4.1793	.00465	-.00826	.00181	.00550	.00740	1.5769
#3	-.00081	4.2388	.00534	-.01602	.00535	-.01074	.00325	1.5819
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703073901 Acquired: 3/16/2017 17:08:32 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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**	**.24053**	**-.00269**	**-.00806**	**-.00015**	**.02027**	**.26528**
Stddev	.00068	.00077	.00129	.00264	.00037	.00046	.37553
%RSD	180.41	.32076	47.982	32.740	244.00	2.2879	141.56
#1	.00022	.23967	-.00282	-.00966	.00003	.02002	.63653
#2	-.00021	.24074	-.00134	-.00502	-.00057	.01999	-.11438
#3	.00113	.24117	-.00392	-.00952	.00009	.02081	.27370
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	**4709.6**	**58114.**	**5350.7**
Stddev	35.3	123.	51.9
%RSD	.74991	.21175	.97024
#1	4672.5	58004.	5410.3
#2	4713.4	58247.	5326.1
#3	4742.9	58092.	5315.7

Approved: March 17, 2017

Sample Name: L1703081602 Acquired: 3/16/2017 17:12:16 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00320**	**.01071**	**.00068**	**.00862**	**.00096**	**-.00003**	**5.6470**	**.00023**
Stddev	.00086	.00194	.00403	.00295	.00031	.00004	.0102	.00052
%RSD	26.974	18.135	596.29	34.173	32.846	117.62	.18107	225.03
#1	.00403	.00965	-.00368	.01079	.00127	.00001	5.6381	.00027
#2	.00231	.01295	.00145	.00527	.00096	-.00007	5.6582	-.00031
#3	.00327	.00953	.00426	.00982	.00064	-.00004	5.6447	.00074
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	**-.00017**	**-.00176**	**-.00175**	**.03591**	**13.146**	**.00042**	**.82027**	**.00452**
Stddev	.00005	.00180	.00115	.00309	.077	.00202	.06474	.00079
%RSD	31.523	102.20	65.371	8.6066	.58769	481.89	7.8923	17.503
#1	-.00013	-.00032	-.00141	.03890	13.068	.00205	.74801	.00465
#2	-.00016	-.00118	-.00082	.03608	13.146	.00105	.87300	.00523
#3	-.00023	-.00377	-.00303	.03273	13.223	-.00184	.83979	.00366
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00068**	**29.411**	**.00154**	**.94680**	**.00858**	**.00253**	**-.00705**	**.17966**
Stddev	.00060	.114	.00110	.00797	.00507	.00484	.00912	.00333
%RSD	88.630	.38787	71.415	.84155	59.080	191.16	129.33	1.8544
#1	.00137	29.280	.00060	.93761	.00273	-.00130	.00254	.17753
#2	.00025	29.463	.00126	.95172	.01135	.00093	-.01562	.17795
#3	.00042	29.490	.00274	.95107	.01165	.00797	-.00808	.18350
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703081602 Acquired: 3/16/2017 17:12:16 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00138**	**.00424**	**.00169**	**-.00672**	**.00073**	**.00747**	**.08112**
Stddev	.00099	.00027	.00358	.00417	.00067	.00012	.09547
%RSD	72.274	6.3774	211.71	62.081	91.659	1.5399	117.69
#1	-.00028	.00453	.00525	-.00320	.00128	.00740	-.02910
#2	-.00161	.00399	.00173	-.00563	-.00001	.00740	.13805
#3	-.00223	.00419	-.00191	-.01133	.00092	.00760	.13441
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	**4816.9**	**59243.**	**5402.3**
Stddev	17.4	371.	33.0
%RSD	.36021	.62642	.61156
#1	4822.5	59326.	5436.8
#2	4830.8	59565.	5371.0
#3	4797.5	58837.	5399.1

Approved: March 17, 2017

Sample Name: L1703081604 Acquired: 3/16/2017 17:16:02 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00313**	**.13136**	**.00073**	**.01600**	**.01073**	**-.00008**	**62.062**	**.00009**
Stddev	.00232	.00376	.00297	.00265	.00087	.00008	.356	.00002
%RSD	74.131	2.8624	407.81	16.535	8.1053	100.47	.57420	21.525
#1	.00055	.13565	.00416	.01699	.01119	-.00015	61.746	.00010
#2	.00380	.12977	-.00090	.01800	.00972	.00001	61.991	.00006
#3	.00504	.12866	-.00108	.01300	.01126	-.00009	62.448	.00010
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**	**.00283**	**.01375**	**1.0134**	**14.619**	**.00343**	**3.2076**	**.16609**
Stddev	.00030	.00113	.00201	.0040	.085	.00267	.0378	.00402
%RSD	172.90	39.859	14.600	.39766	.57843	77.882	1.1791	2.4208
#1	.00034	.00403	.01191	1.0087	14.543	.00154	3.2136	.16319
#2	-.00018	.00179	.01345	1.0159	14.605	.00226	3.2421	.16441
#3	.00036	.00267	.01589	1.0154	14.710	.00648	3.1672	.17068
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	**.00114**	**32.145**	**.00321**	**34.056**	**.00319**	**.00548**	**.00056**	**.48600**
Stddev	.00029	.154	.00147	.056	.00119	.00451	.00484	.00523
%RSD	25.801	.47948	45.676	.16359	37.282	82.231	871.70	1.0756
#1	.00139	31.998	.00458	34.027	.00456	.00708	-.00496	.48030
#2	.00081	32.130	.00338	34.120	.00260	.00897	.00414	.49056
#3	.00121	32.306	.00167	34.020	.00241	.00039	.00249	.48715
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703081604 Acquired: 3/16/2017 17:16:02 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00062**	**.04290**	**.00442**	**-.00676**	**.00070**	**.10366**	**.18233**
Stddev	.00058	.00047	.00159	.00276	.00060	.00044	.15495
%RSD	93.525	1.0961	36.080	40.889	85.267	.42620	84.982
#1	.00118	.04258	.00335	-.00588	.00095	.10401	.16746
#2	.00001	.04269	.00625	-.00454	.00114	.10381	.34417
#3	.00069	.04344	.00366	-.00985	.00002	.10317	.03535
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	**4889.6**	**58670.**	**5391.6**
Stddev	58.9	404.	108.8
%RSD	1.2048	.68776	2.0175
#1	4822.2	58224.	5454.7
#2	4915.2	58779.	5454.1
#3	4931.4	59008.	5266.0

Approved: March 17, 2017

Sample Name: L1703081606 Acquired: 3/16/2017 17:19:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00216**	**.01198**	**-.00457**	**.00446**	**.00108**	**-.00011**	**6.1242**	**.00009**
Stddev	.00187	.01004	.00199	.00280	.00072	.00002	.0174	.00043
%RSD	86.611	83.813	43.546	62.679	66.581	22.478	.28386	456.03
#1	.00047	.01449	-.00265	.00740	.00078	-.00011	6.1120	.00055
#2	.00417	.02053	-.00663	.00184	.00190	-.00008	6.1441	.00004
#3	.00183	.00092	-.00443	.00415	.00056	-.00013	6.1165	-.00030
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	**.00025**	**-.00183**	**-.00027**	**.00397**	**2.3565**	**-.00063**	**.34653**	**.03863**
Stddev	.00039	.00053	.00133	.01701	.0853	.00131	.12768	.00194
%RSD	160.29	29.217	499.33	428.74	3.6203	207.03	36.846	5.0277
#1	.00031	-.00175	-.00179	-.00112	2.3992	-.00070	.41365	.03901
#2	-.00018	-.00134	.00029	.02294	2.4121	-.00191	.19928	.04036
#3	.00060	-.00240	.00070	-.00992	2.2583	.00071	.42665	.03653
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	**-.00056**	**.78588**	**.00064**	**.11782**	**.00435**	**-.00253**	**-.00088**	**.08542**
Stddev	.00035	.02566	.00032	.00810	.00300	.00393	.00618	.00308
%RSD	62.402	3.2655	50.146	6.8732	69.108	155.50	703.30	3.6112
#1	-.00082	.78123	.00101	.12661	.00465	-.00707	.00474	.08506
#2	-.00070	.76286	.00051	.11066	.00718	-.00018	-.00750	.08867
#3	-.00016	.81355	.00041	.11619	.00120	-.00034	.00012	.08253
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703081606 Acquired: 3/16/2017 17:19:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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**	**.01147**	**.00043**	**-.00359**	**.00080**	**.00499**	**.06412**
Stddev	.00064	.00032	.00628	.00287	.00078	.00026	.14883
%RSD	772.44	2.7596	1460.6	79.730	97.344	5.2154	232.13
#1	.00034	.01162	.00135	-.00686	.00163	.00470	.03331
#2	-.00065	.01110	.00620	-.00244	.00069	.00505	.22594
#3	.00055	.01168	-.00626	-.00148	.00008	.00521	-.06690
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	**4954.6**	**60406.**	**5333.7**
Stddev	15.3	1347.	27.4
%RSD	.30967	2.2299	.51405
#1	4955.5	58851.	5362.9
#2	4969.5	61212.	5329.7
#3	4938.8	61155.	5308.5

Approved: March 17, 2017

Sample Name: L1703081606PS Acquired: 3/16/2017 17:23:32 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606544-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19523**	**5.0255**	**.18839**	**.91217**	**.49248**	**.02433**	**10.310**	**.02425**
Stddev	.00328	.0102	.00338	.00250	.00223	.00010	.067	.00033
%RSD	1.6825	.20238	1.7917	.27364	.45229	.39790	.65093	1.3767
#1	.19823	5.0274	.18450	.90950	.48992	.02428	10.244	.02456
#2	.19172	5.0145	.19051	.91257	.49402	.02444	10.308	.02428
#3	.19574	5.0345	.19016	.91445	.49349	.02427	10.378	.02390
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	**.09856**	**.24748**	**.24486**	**1.9825**	**26.566**	**.49741**	**5.1612**	**.27659**
Stddev	.00058	.00286	.00237	.0380	.145	.00222	.0716	.00093
%RSD	.59132	1.1573	.96766	1.9181	.54442	.44603	1.3871	.33799
#1	.09892	.24921	.24756	1.9411	26.633	.49536	5.1622	.27568
#2	.09789	.24905	.24314	1.9903	26.664	.49977	5.2322	.27655
#3	.09888	.24417	.24387	2.0160	26.400	.49710	5.0891	.27755
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	**.47575**	**25.341**	**.24577**	**4.7133**	**.24922**	**.58364**	**.18538**	**2.4471**
Stddev	.00015	.087	.00357	.0275	.00483	.00112	.01209	.0022
%RSD	.03190	.34346	1.4517	.58328	1.9394	.19170	6.5222	.09175
#1	.47591	25.251	.24718	4.7401	.25302	.58418	.17263	2.4466
#2	.47562	25.347	.24171	4.6852	.25086	.58439	.18684	2.4496
#3	.47571	25.425	.24842	4.7147	.24378	.58236	.19668	2.4452
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703081606PS Acquired: 3/16/2017 17:23:32 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606544-01

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48686**	**.49863**	**.48192**	**.24910**	**.48825**	**.48943**	**.86191**
Stddev	.00078	.00105	.00530	.00573	.00113	.00149	.28774
%RSD	.16003	.21077	1.1007	2.3011	.23245	.30367	33.384
#1	.48733	.49756	.47611	.24435	.48885	.49106	1.1939
#2	.48729	.49867	.48651	.24748	.48897	.48909	.68442
#3	.48596	.49966	.48313	.25547	.48694	.48815	.70741
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	**4735.7**	**57942.**	**5189.8**
Stddev	35.5	47.	131.9
%RSD	.74882	.08080	2.5407
#1	4722.6	57950.	5044.1
#2	4708.7	57891.	5224.5
#3	4775.9	57984.	5300.8

Approved: March 17, 2017

Sample Name: L1703081606SDL Acquired: 3/16/2017 17:27:10 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG606544-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00365**	**.00146**	**.00055**	**.00649**	**.00070**	**-.00007**	**1.2131**	**-.00027**
Stddev	.00211	.00095	.00157	.00231	.00070	.00006	.0154	.00031
%RSD	57.919	65.288	283.48	35.633	100.85	79.355	1.2677	113.25
#1	.00535	.00202	.00058	.00749	.00106	-.00001	1.1992	-.00063
#2	.00128	.00200	-.00103	.00813	-.00011	-.00008	1.2297	-.00015
#3	.00431	.00036	.00211	.00384	.00114	-.00012	1.2105	-.00005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00030**	**-.00131**	**-.00166**	**.00181**	**.53819**	**-.00153**	**.07419**	**.00831**
Stddev	.00050	.00178	.00141	.01475	.04330	.00311	.17428	.00234
%RSD	164.31	136.04	84.621	813.36	8.0462	202.52	234.89	28.149
#1	.00027	-.00309	-.00007	.01793	.51099	.00121	-.11084	.01045
#2	-.00056	-.00131	-.00275	-.00148	.58812	-.00491	.23523	.00581
#3	-.00063	.00047	-.00216	-.01101	.51545	-.00091	.09820	.00867
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**	**.18145**	**.00046**	**.02416**	**.00225**	**-.00262**	**-.00757**	**.01590**
Stddev	.00135	.01402	.00058	.01961	.00333	.00638	.00181	.00039
%RSD	266.98	7.7256	125.16	81.189	148.08	243.39	23.897	2.4319
#1	-.00090	.18576	.00063	.02272	.00596	.00377	-.00959	.01634
#2	-.00161	.16579	.00095	.00530	.00121	-.00899	-.00705	.01562
#3	.00099	.19281	-.00018	.04445	-.00044	-.00265	-.00608	.01574
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703081606SDL Acquired: 3/16/2017 17:27:10 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG606544-02

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00031**	**.00212**	**.00128**	**-.00073**	**.00030**	**.00128**	**.28928**
Stddev	.00078	.00008	.00231	.00410	.00007	.00016	.29309
%RSD	248.65	3.8339	180.80	558.59	23.803	12.216	101.32
#1	.00038	.00212	.00112	-.00149	.00023	.00145	.33528
#2	-.00116	.00220	-.00095	.00369	.00037	.00116	-.02409
#3	-.00016	.00204	.00367	-.00440	.00031	.00121	.55665
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	**5071.1**	**62385.**	**5232.6**
Stddev	26.7	241.	99.4
%RSD	.52597	.38633	1.8998
#1	5049.7	62658.	5136.9
#2	5062.7	62201.	5225.7
#3	5101.0	62297.	5335.4

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 17:30:56 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.39962**	**10.292**	**.40265**	**.50099**	**1.0095**	**.05065**	**9.9539**
Stddev	.00176	.022	.00107	.00521	.0052	.00007	.0892
%RSD	.44098	.21423	.26633	1.0406	.51201	.13643	.89653
#1	.39759	10.301	.40388	.49946	1.0046	.05057	9.8531
#2	.40047	10.307	.40219	.50680	1.0149	.05071	10.023
#3	.40079	10.266	.40189	.49672	1.0089	.05066	9.9858
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	**.05070**	**.20179**	**.50969**	**.50653**	**4.0609**	**50.543**	**1.0101**
Stddev	.00049	.00064	.00213	.00066	.0306	.349	.0103
%RSD	.96317	.31544	.41822	.12994	.75355	.69014	1.0166
#1	.05106	.20153	.50735	.50601	4.0760	50.149	.99917
#2	.05014	.20251	.51020	.50631	4.0810	50.813	1.0195
#3	.05089	.20132	.51152	.50727	4.0257	50.665	1.0117
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	**10.038**	**.49731**	**.99777**	**50.243**	**.50637**	**9.9055**	**.50308**
Stddev	.067	.00340	.00077	.313	.00143	.0361	.00057
%RSD	.66727	.68345	.07727	.62339	.28159	.36473	.11349
#1	9.9780	.49578	.99844	49.938	.50725	9.9295	.50255
#2	10.110	.50121	.99693	50.564	.50473	9.8640	.50301
#3	10.027	.49495	.99795	50.228	.50715	9.9230	.50369
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 17:30:56 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**1.2093**	**.40762**	**4.9832**	**.99963**	**1.0036**	**.99471**	**.51639**
Stddev	.0078	.00761	.0180	.00163	.0046	.01977	.00204
%RSD	.64760	1.8670	.36142	.16312	.46228	1.9880	.39538
#1	1.2158	.40616	4.9796	.99814	.99957	.97629	.51591
#2	1.2006	.41586	4.9673	1.0014	1.0086	1.0156	.51863
#3	1.2114	.40085	5.0027	.99938	1.0024	.99224	.51463
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**1.0101**	**1.0111**	F **1.1065**
Stddev	.0006	.0023	.3374
%RSD	.06473	.22333	30.489
#1	1.0093	1.0120	.94834
#2	1.0105	1.0085	.87733
#3	1.0104	1.0128	1.4939
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	**4900.9**	**59214.**	**5459.5**
Stddev	19.6	137.	37.2
%RSD	.40053	.23134	.68119
#1	4878.4	59181.	5493.2
#2	4909.3	59096.	5419.6
#3	4914.9	59364.	5465.6

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 17:34:27 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00448**	**-.00174**	**-.00168**	**.00409**	**.00030**	**-.00006**	**-.00830**
Stddev	.00070	.00184	.00394	.00198	.00072	.00005	.01408
%RSD	15.716	106.08	234.27	48.300	240.75	88.831	169.72
#1	.00497	.00024	.00286	.00590	-.00044	-.00012	-.02443
#2	.00367	-.00203	-.00416	.00198	.00033	-.00002	-.00201
#3	.00479	-.00341	-.00374	.00441	.00101	-.00003	.00155
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**	**-.00023**	**-.00052**	**-.00306**	**-.00038**	**.05999**	**.00157**
Stddev	.00024	.00021	.00077	.00086	.01862	.01023	.00097
%RSD	161.48	91.393	148.78	27.965	4954.6	17.046	61.831
#1	.00013	-.00046	-.00086	-.00385	-.01272	.04971	.00084
#2	-.00025	-.00015	.00036	-.00215	.02105	.06008	.00121
#3	-.00032	-.00007	-.00106	-.00319	-.00945	.07016	.00268
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	**.07137**	**.00071**	**.00013**	**.07759**	**.00012**	**-.00523**	**.00133**
Stddev	.05650	.00148	.00117	.03058	.00098	.01054	.00375
%RSD	79.160	208.63	900.92	39.415	798.45	201.53	282.27
#1	.01362	-.00016	.00050	.07986	.00122	.00621	.00266
#2	.07398	.00242	-.00118	.10697	-.00017	-.00734	-.00290
#3	.12652	-.00013	.00108	.04594	-.00068	-.01456	.00422
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 17:34:27 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00169**	**.00089**	**.00125**	**.00027**	**.00019**	**.00188**	**-.00063**
Stddev	.00865	.00710	.00835	.00208	.00021	.00541	.00643
%RSD	512.42	794.55	669.70	783.18	108.33	287.41	1014.0
#1	-.00951	.00768	.01021	.00188	-.00004	.00804	.00456
#2	.00760	.00148	-.00014	.00099	.00035	-.00208	-.00783
#3	-.00315	-.00648	-.00633	-.00208	.00027	-.00032	.00136
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**	**-.00008**	F **.25580**
Stddev	.00077	.00009	.18501
%RSD	988.62	112.42	72.324
#1	-.00068	.00001	.46275
#2	.00079	-.00016	.10643
#3	-.00034	-.00009	.19823
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	**4955.0**	**61555.**	**5456.9**
Stddev	43.6	574.	50.8
%RSD	.88000	.93249	.93108
#1	5001.8	61361.	5400.2
#2	4947.9	62200.	5472.2
#3	4915.5	61102.	5498.4

Approved: March 17, 2017

Sample Name: L1703081901 Acquired: 3/16/2017 17:38:12 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00470**	**1.1303**	**-.00567**	**.06461**	**.02006**	**.00006**	**75.998**
Stddev	.00107	.0102	.00138	.00235	.00055	.00007	.110
%RSD	22.845	.89915	24.355	3.6325	2.7633	128.90	.14420
#1	.00402	1.1396	-.00465	.06198	.02048	.00001	75.899
#2	.00593	1.1195	-.00511	.06649	.02026	.00002	75.980
#3	.00413	1.1319	-.00724	.06536	.01943	.00014	76.116
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	**.55465**	**.03047**	**.18795**	**.09426**	**17.431**	**8.3806**	**.02211**
Stddev	.00059	.00058	.00059	.00112	.131	.0383	.00358
%RSD	.10702	1.9018	.31616	1.1837	.74874	.45663	16.191
#1	.55427	.03085	.18832	.09301	17.581	8.3498	.02623
#2	.55533	.02981	.18727	.09514	17.341	8.3686	.02037
#3	.55434	.03077	.18827	.09464	17.372	8.4235	.01973
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	**8.3526**	**2.1274**	**.00141**	**159.01**	**.13015**	**.09924**	**.19734**
Stddev	.1257	.0097	.00093	.28	.00159	.00886	.00313
%RSD	1.5050	.45546	66.276	.17448	1.2234	8.9298	1.5859
#1	8.4936	2.1241	.00216	158.73	.12930	.09428	.19963
#2	8.3123	2.1197	.00036	159.01	.12915	.09398	.19863
#3	8.2521	2.1382	.00170	159.29	.13198	.10948	.19378
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: L1703081901 Acquired: 3/16/2017 17:38:12 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.01647**	**.00177**	**.96827**	**.00134**	**.10833**	**.00209**	**-.00452**
Stddev	.00315	.00413	.00781	.00124	.00013	.00688	.00355
%RSD	19.152	232.84	.80697	92.789	.12015	329.32	78.660
#1	-.01289	.00267	.96281	.00203	.10829	-.00175	-.00218
#2	-.01766	.00538	.96478	-.00010	.10821	-.00201	-.00860
#3	-.01886	-.00273	.97722	.00207	.10847	.01003	-.00276
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.00155**	**36.093**	F **-.26620**
Stddev	.00031	.045	.16066
%RSD	19.708	.12351	60.355
#1	.00126	36.045	-.25619
#2	.00153	36.133	-.11077
#3	.00187	36.102	-.43163
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	**4897.5**	**59435.**	**5703.7**
Stddev	24.6	223.	15.4
%RSD	.50202	.37562	.26952
#1	4869.4	59588.	5691.4
#2	4908.2	59538.	5698.8
#3	4914.9	59179.	5720.9

Approved: March 17, 2017

Sample Name: L1703082101 Acquired: 3/16/2017 17:41:53 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00245**	**7.6965**	**.03840**	**.17698**	**.00902**	**.00161**	**19.086**	**.00449**
Stddev	.00040	.0122	.00368	.00200	.00133	.00005	.066	.00032
%RSD	16.361	.15828	9.5951	1.1275	14.754	3.3915	.34334	7.1419
#1	.00265	7.6987	.03815	.17909	.00871	.00155	19.097	.00476
#2	.00271	7.6834	.03484	.17671	.00787	.00163	19.146	.00457
#3	.00199	7.7075	.04220	.17512	.01047	.00165	19.016	.00414
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	**.00854**	**.01249**	**.00603**	**.58244**	**5.6437**	**.11581**	**2.0694**	**.20057**
Stddev	.00063	.00069	.00067	.04426	.0264	.00083	.0928	.00084
%RSD	7.3817	5.5302	11.163	7.5993	.46714	.71422	4.4822	.42035
#1	.00837	.01255	.00656	.59100	5.6237	.11552	2.1116	.20050
#2	.00923	.01315	.00625	.62180	5.6736	.11516	1.9631	.20145
#3	.00801	.01177	.00527	.53453	5.6338	.11674	2.1336	.19977
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**	**141.26**	**.04484**	**.03363**	**.01081**	**.00353**	**-.00111**	**.44194**
Stddev	.00059	.37	.00052	.01723	.00340	.00229	.01412	.00466
%RSD	80.965	.26530	1.1690	51.234	31.463	64.893	1277.0	1.0545
#1	.00011	140.98	.04429	.03281	.00688	.00096	.00589	.43754
#2	.00078	141.69	.04533	.01683	.01267	.00535	.00815	.44682
#3	.00129	141.12	.04491	.05126	.01288	.00428	-.01736	.44147
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703082101 Acquired: 3/16/2017 17:41:53 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00069**	**.40042**	**.01277**	**-.00160**	**.00249**	**1.2908**	**.32513**
Stddev	.00055	.00023	.00545	.00365	.00020	.0068	.40112
%RSD	79.368	.05621	42.677	227.79	7.8813	.52817	123.37
#1	-.00019	.40024	.00992	.00239	.00255	1.2940	.78803
#2	-.00128	.40067	.00933	-.00477	.00227	1.2954	.10760
#3	-.00061	.40035	.01905	-.00243	.00265	1.2830	.07977
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	**4889.9**	**58952.**	**5319.7**
Stddev	20.2	213.	40.4
%RSD	.41360	.36105	.75872
#1	4876.3	59180.	5351.1
#2	4880.2	58758.	5333.9
#3	4913.2	58920.	5274.2

Approved: March 17, 2017

Sample Name: L1703082601 Acquired: 3/16/2017 17:45:36 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606460-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00581**	**.00983**	**.00209**	**.01533**	**.00024**	**-.00015**	**.05597**	**-.00010**
Stddev	.00038	.00318	.00183	.00365	.00028	.00001	.04507	.00044
%RSD	6.5793	32.314	87.149	23.830	117.18	4.4966	80.528	432.96
#1	.00544	.00640	.00162	.01924	.00035	-.00015	.10352	-.00058
#2	.00579	.01044	.00055	.01200	.00046	-.00014	.05053	.00030
#3	.00620	.01267	.00411	.01476	-.00008	-.00015	.01387	-.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	**-.00049**	**-.00017**	**-.00134**	**.02253**	**.06399**	**-.00218**	**.05743**	**-.00216**
Stddev	.00081	.00077	.00220	.01117	.05695	.00284	.07918	.00193
%RSD	164.95	466.95	163.80	49.571	88.994	130.15	137.88	89.288
#1	-.00080	-.00101	-.00042	.03504	.06994	.00092	.01952	-.00421
#2	-.00110	-.00001	-.00385	.01900	.00430	-.00282	.00433	-.00189
#3	.00043	.00052	.00025	.01356	.11774	-.00465	.14844	-.00038
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00066**	**13.860**	**.00005**	**-.01126**	**.00552**	**.00099**	**.00551**	**.03108**
Stddev	.00108	.057	.00105	.00352	.00681	.00552	.01086	.00340
%RSD	163.58	.40968	2327.3	31.270	123.40	555.37	197.21	10.954
#1	.00053	13.795	-.00114	-.00973	.00687	.00161	.01719	.03492
#2	-.00093	13.883	.00041	-.00876	-.00186	.00618	.00361	.02992
#3	-.00157	13.901	.00086	-.01528	.01156	-.00481	-.00428	.02842
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703082601 Acquired: 3/16/2017 17:45:36 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606460-01

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00012**	**-.00011**	**.00120**	**-.01339**	**.00041**	**.00373**	**.52575**
Stddev	.00150	.00039	.00169	.00773	.00056	.00010	.14662
%RSD	1306.8	356.19	141.55	57.699	134.64	2.6633	27.888
#1	-.00042	.00017	.00235	-.02125	.00102	.00361	.49172
#2	-.00145	-.00055	.00198	-.00580	.00030	.00380	.68640
#3	.00152	.00006	-.00075	-.01313	-.00008	.00376	.39914
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	**5072.6**	**63353.**	**5548.7**
Stddev	15.4	372.	66.3
%RSD	.30430	.58688	1.1940
#1	5082.6	63088.	5517.0
#2	5054.8	63778.	5504.2
#3	5080.4	63193.	5624.8

Approved: March 17, 2017

Sample Name: L1703082601MS Acquired: 3/16/2017 17:49:21 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606460-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19991**	**5.2944**	**.19355**	**.94079**	**.50444**	**.02435**	**4.9428**	**.02511**
Stddev	.00139	.0177	.00255	.00040	.00133	.00003	.0114	.00019
%RSD	.69410	.33397	1.3151	.04257	.26437	.12333	.23146	.76234
#1	.19888	5.2968	.19073	.94050	.50523	.02435	4.9384	.02533
#2	.19936	5.2757	.19567	.94063	.50290	.02438	4.9343	.02503
#3	.20148	5.3108	.19426	.94125	.50520	.02432	4.9558	.02497
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	**.10188**	**.24958**	**.24940**	**2.0371**	**24.997**	**.50268**	**4.8653**	**.24738**
Stddev	.00043	.00107	.00237	.0268	.031	.00441	.1585	.00179
%RSD	.42508	.42845	.94863	1.3158	.12449	.87818	3.2568	.72501
#1	.10190	.25046	.24782	2.0677	25.025	.50759	4.8915	.24943
#2	.10229	.24839	.24826	2.0261	24.964	.49903	4.6954	.24613
#3	.10143	.24989	.25212	2.0176	25.003	.50142	5.0091	.24657
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	**.49085**	**38.705**	**.25185**	**4.7795**	**.24883**	**.60715**	**.19974**	**2.5114**
Stddev	.00103	.148	.00223	.0215	.00410	.00652	.00780	.0019
%RSD	.21033	.38280	.88392	.44888	1.6483	1.0736	3.9029	.07749
#1	.49189	38.838	.25117	4.7740	.24848	.60474	.19520	2.5123
#2	.49085	38.545	.25005	4.7613	.24492	.61453	.19529	2.5128
#3	.48982	38.731	.25434	4.8032	.25310	.60218	.20875	2.5092
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703082601MS Acquired: 3/16/2017 17:49:21 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606460-04

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50043**	**.50115**	**.50791**	**.25208**	**.49831**	**.49416**	**.55552**
Stddev	.00138	.00088	.01042	.00176	.00233	.00028	.21170
%RSD	.27547	.17589	2.0515	.69707	.46858	.05756	38.108
#1	.50197	.50201	.50127	.25150	.49745	.49391	.31198
#2	.49930	.50119	.51992	.25405	.49653	.49410	.69556
#3	.50001	.50024	.50254	.25069	.50095	.49447	.65901
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	**4931.5**	**60526.**	**5592.4**
Stddev	84.6	92.	51.0
%RSD	1.7150	.15227	.91151
#1	4840.7	60548.	5651.0
#2	4945.7	60425.	5558.8
#3	5008.1	60605.	5567.3

Approved: March 17, 2017

Sample Name: L1703082601MSD Acquired: 3/16/2017 17:52:58 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606460-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20007**	**5.1855**	**.19452**	**.93488**	**.49935**	**.02427**	**4.9189**	**.02507**
Stddev	.00285	.0087	.00266	.00591	.00191	.00009	.0283	.00029
%RSD	1.4230	.16773	1.3683	.63238	.38278	.38965	.57610	1.1698
#1	.20336	5.1954	.19755	.94045	.50058	.02426	4.9076	.02512
#2	.19842	5.1822	.19340	.93553	.49715	.02436	4.8980	.02476
#3	.19844	5.1789	.19259	.92868	.50032	.02418	4.9512	.02534
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	**.10104**	**.24916**	**.24819**	**2.0219**	**24.776**	**.49920**	**4.8813**	**.24755**
Stddev	.00018	.00031	.00023	.0150	.072	.00356	.0518	.00277
%RSD	.17683	.12399	.09452	.74204	.29035	.71300	1.0618	1.1203
#1	.10120	.24950	.24793	2.0046	24.842	.49894	4.8246	.24555
#2	.10107	.24907	.24828	2.0301	24.700	.50289	4.8928	.24640
#3	.10084	.24891	.24837	2.0310	24.787	.49578	4.9264	.25072
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	**.48670**	**38.859**	**.25558**	**4.7581**	**.25321**	**.60206**	**.19958**	**2.4850**
Stddev	.00050	.155	.00017	.0032	.00649	.00138	.00730	.0040
%RSD	.10244	.39966	.06735	.06742	2.5632	.22994	3.6600	.16245
#1	.48682	39.021	.25538	4.7603	.26064	.60355	.19631	2.4840
#2	.48615	38.846	.25567	4.7544	.24865	.60081	.19448	2.4816
#3	.48713	38.711	.25568	4.7595	.25034	.60183	.20795	2.4894
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703082601MSD Acquired: 3/16/2017 17:52:58 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606460-05

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49835**	**.49676**	**.49564**	**.24600**	**.49705**	**.49347**	**.52359**
Stddev	.00205	.00066	.00518	.00403	.00195	.00142	.13267
%RSD	.41112	.13227	1.0457	1.6383	.39173	.28788	25.338
#1	.50072	.49643	.49181	.24936	.49774	.49226	.40089
#2	.49710	.49634	.49357	.24712	.49855	.49312	.66437
#3	.49724	.49752	.50154	.24153	.49485	.49504	.50551
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	**5003.5**	**62402.**	**5706.6**
Stddev	17.3	457.	45.6
%RSD	.34519	.73207	.79932
#1	5001.6	61910.	5657.5
#2	5021.6	62484.	5714.5
#3	4987.2	62812.	5747.7

Approved: March 17, 2017

Sample Name: L1703083901 Acquired: 3/16/2017 17:56:35 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00296**	**.19398**	**-.00093**	**.01335**	**.02342**	**-.00008**	**16.762**	**.00007**
Stddev	.00090	.00623	.00372	.00178	.00079	.00001	.098	.00015
%RSD	30.526	3.2137	400.58	13.356	3.3898	8.4852	.58299	217.36
#1	.00205	.19166	-.00521	.01200	.02251	-.00007	16.661	.00019
#2	.00386	.20104	.00093	.01268	.02397	-.00008	16.856	.00012
#3	.00297	.18924	.00150	.01537	.02378	-.00008	16.769	-.00010
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**	**.00043**	**-.00241**	**.11328**	**.65733**	**.00168**	**2.9571**	**.00266**
Stddev	.00048	.00053	.00240	.00450	.04584	.00135	.0988	.00029
%RSD	181.67	123.58	99.864	3.9684	6.9740	80.637	3.3418	10.767
#1	-.00073	.00104	-.00310	.11193	.70041	.00039	2.8441	.00298
#2	-.00030	.00012	-.00439	.10961	.60915	.00308	3.0276	.00244
#3	.00023	.00012	.00027	.11829	.66243	.00155	2.9996	.00255
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	**-.00007**	**2.4242**	**-.00033**	**.00613**	**.00881**	**-.00710**	**.00281**	**3.5799**
Stddev	.00109	.0396	.00081	.00789	.00501	.00796	.00364	.0039
%RSD	1653.3	1.6328	247.13	128.70	56.841	112.20	129.62	.10834
#1	-.00083	2.4389	-.00126	.01095	.00795	-.01431	.00690	3.5766
#2	.00118	2.4543	.00015	-.00298	.01419	.00144	-.00006	3.5788
#3	-.00055	2.3793	.00013	.01042	.00429	-.00841	.00158	3.5842
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703083901 Acquired: 3/16/2017 17:56:35 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00120**	**.04915**	**.00107**	**-.00815**	**-.00056**	**.03127**	**.24142**
Stddev	.00059	.00048	.00287	.00334	.00067	.00038	.19757
%RSD	48.917	.96721	268.39	41.007	119.01	1.2062	81.836
#1	.00088	.04865	.00033	-.00763	-.00129	.03096	.45925
#2	.00084	.04922	.00423	-.00510	-.00041	.03116	.07381
#3	.00188	.04959	-.00136	-.01173	.00002	.03169	.19120
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	**4950.6**	**61165.**	**5411.4**
Stddev	16.5	294.	75.7
%RSD	.33426	.48133	1.3987
#1	4956.4	61274.	5394.1
#2	4963.5	61389.	5345.9
#3	4931.9	60831.	5494.3

Approved: March 17, 2017

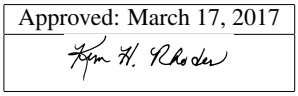
Sample Name: L1703084001 Acquired: 3/16/2017 18:00:18 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00181**	**.36542**	**-.00257**	**.01580**	**.02059**	**-.00014**	**18.396**	**.00021**
Stddev	.00111	.00324	.00046	.00174	.00042	.00005	.035	.00012
%RSD	61.392	.88741	17.927	11.035	2.0497	35.770	.19047	57.227
#1	.00153	.36188	-.00302	.01449	.02085	-.00019	18.433	.00034
#2	.00304	.36613	-.00210	.01512	.02081	-.00013	18.364	.00019
#3	.00087	.36825	-.00261	.01778	.02010	-.00009	18.391	.00010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00034**	**.00042**	**-.00108**	**.17346**	**.91157**	**.00344**	**3.5654**	**.00266**
Stddev	.00032	.00080	.00138	.01327	.07634	.00095	.1196	.00195
%RSD	93.555	193.28	127.79	7.6526	8.3749	27.753	3.3541	73.506
#1	.00000	.00129	.00029	.18855	.82465	.00373	3.6177	.00487
#2	-.00040	.00026	-.00105	.16829	.96776	.00237	3.4286	.00115
#3	-.00062	-.00030	-.00248	.16356	.94230	.00421	3.6500	.00196
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	**-.00013**	**3.4273**	**.00132**	**-.01133**	**.00636**	**-.00172**	**-.00267**	**3.6917**
Stddev	.00011	.0314	.00196	.00756	.00186	.00436	.00714	.0105
%RSD	85.508	.91705	148.64	66.779	29.166	252.86	266.88	.28539
#1	-.00026	3.4301	.00172	-.01931	.00449	-.00226	-.00964	3.6923
#2	-.00006	3.4573	.00304	-.00427	.00638	-.00579	.00462	3.6808
#3	-.00008	3.3946	-.00081	-.01040	.00820	.00288	-.00301	3.7019
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017



Sample Name: L1703084001 Acquired: 3/16/2017 18:00:18 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00055**	**.07206**	**.01164**	**-.00316**	**-.00008**	**.00230**	**.49084**
Stddev	.00016	.00025	.00689	.00885	.00113	.00124	.12753
%RSD	28.827	.34086	59.166	280.36	1468.2	53.835	25.982
#1	.00072	.07205	.01514	-.00140	.00112	.00373	.61742
#2	.00051	.07231	.01608	-.01275	-.00021	.00149	.36238
#3	.00041	.07182	.00371	.00468	-.00114	.00168	.49272
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	**5030.5**	**61420.**	**5400.7**
Stddev	40.4	132.	29.4
%RSD	.80392	.21494	.54444
#1	5045.9	61285.	5408.1
#2	5061.0	61549.	5425.8
#3	4984.7	61426.	5368.4

Approved: March 17, 2017

Sample Name: L1703084101 Acquired: 3/16/2017 18:04:02 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00508**	**.18686**	**-.00218**	**.05870**	**.50855**	**-.00007**	**61.229**	**.00024**
Stddev	.00087	.00469	.00462	.00096	.00130	.00003	.147	.00036
%RSD	17.053	2.5093	211.69	1.6339	.25597	40.256	.23939	147.15
#1	.00412	.18788	-.00345	.05759	.50705	-.00004	61.077	-.00014
#2	.00533	.19095	-.00604	.05924	.50926	-.00008	61.241	.00030
#3	.00580	.18174	.00294	.05927	.50934	-.00010	61.370	.00057
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00083**	**.00056**	**-.00114**	**.30947**	**1.7844**	**.01699**	**13.772**	**.02058**
Stddev	.00014	.00103	.00211	.01760	.0174	.00078	.241	.00287
%RSD	16.783	183.91	184.24	5.6866	.97704	4.5695	1.7475	13.949
#1	-.00094	.00170	-.00252	.32714	1.7684	.01642	13.544	.01737
#2	-.00089	-.00029	-.00220	.29194	1.8030	.01668	13.749	.02292
#3	-.00068	.00026	.00128	.30932	1.7818	.01788	14.024	.02144
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	**.00062**	**23.684**	**.00034**	**-.00885**	**.00094**	**.00168**	**.00412**	**5.6308**
Stddev	.00081	.079	.00244	.00944	.00243	.00621	.00336	.0237
%RSD	131.03	.33474	719.63	106.67	259.67	369.66	81.422	.42029
#1	-.00017	23.596	-.00140	-.01819	.00343	.00182	.00062	5.6070
#2	.00145	23.750	.00313	-.00905	.00081	.00781	.00731	5.6543
#3	.00058	23.707	-.00071	.00069	-.00143	-.00460	.00445	5.6310
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703084101 Acquired: 3/16/2017 18:04:02 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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**	**1.7964**	**.00143**	**-.00140**	**.00012**	**.00313**	**.14686**
Stddev	.00024	.0079	.00739	.00346	.00086	.00033	.13400
%RSD	125.15	.44036	516.03	246.33	704.52	10.658	91.243
#1	-.00008	1.7879	-.00710	.00244	-.00065	.00280	.27375
#2	.00027	1.7979	.00575	-.00237	-.00003	.00313	.00673
#3	.00038	1.8035	.00565	-.00427	.00105	.00347	.16011
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	**4922.5**	**60314.**	**5480.4**
Stddev	10.2	131.	38.4
%RSD	.20766	.21666	.70046
#1	4927.8	60180.	5464.8
#2	4910.7	60441.	5524.2
#3	4929.0	60322.	5452.3

Approved: March 17, 2017

Sample Name: L1703084201 Acquired: 3/16/2017 18:07:44 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00304**	**.12438**	**.00290**	**.02023**	**.12907**	**-.00009**	**83.357**	**.00045**
Stddev	.00127	.00360	.00311	.00376	.00120	.00005	.157	.00028
%RSD	41.935	2.8942	107.39	18.588	.93007	62.577	.18808	61.528
#1	.00447	.12842	.00293	.02390	.12829	-.00015	83.532	.00078
#2	.00204	.12152	-.00023	.02041	.13045	-.00006	83.312	.00029
#3	.00260	.12319	.00600	.01638	.12846	-.00005	83.228	.00030
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00047**	**-.00085**	**.00104**	**.27444**	**.82993**	**.00565**	**9.7432**	**.05854**
Stddev	.00015	.00100	.00162	.01929	.01837	.00178	.0958	.00029
%RSD	33.030	118.14	155.23	7.0301	2.2133	31.440	.98273	.49278
#1	-.00049	-.00026	-.00077	.29407	.83670	.00672	9.6812	.05848
#2	-.00060	-.00200	.00156	.27373	.80913	.00663	9.6949	.05829
#3	-.00030	-.00028	.00234	.25550	.84395	.00360	9.8535	.05886
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00010**	**20.625**	**.00040**	**-.00582**	**.00433**	**.00040**	**-.00940**	**4.1937**
Stddev	.00048	.132	.00108	.00441	.00107	.00818	.01117	.0231
%RSD	468.40	.63985	268.17	75.762	24.763	2052.9	118.93	.55055
#1	-.00035	20.759	.00136	-.01090	.00545	-.00625	-.00981	4.1688
#2	.00061	20.620	.00062	-.00364	.00332	.00953	-.02036	4.2144
#3	.00005	20.495	-.00077	-.00293	.00422	-.00208	.00198	4.1978
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703084201 Acquired: 3/16/2017 18:07:44 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00020**	**.32035**	**-.00357**	**-.00016**	**-.00033**	**.00178**	**.18622**
Stddev	.00063	.00058	.00134	.00121	.00067	.00018	.21250
%RSD	318.74	.18159	37.388	743.16	200.92	10.332	114.11
#1	.00001	.32087	-.00209	.00034	-.00109	.00175	.08888
#2	-.00091	.32045	-.00397	-.00154	-.00007	.00161	.03982
#3	.00030	.31972	-.00467	.00072	.00016	.00198	.42996
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	**4916.0**	**59028.**	**5406.9**
Stddev	20.0	464.	39.6
%RSD	.40596	.78530	.73240
#1	4925.7	58540.	5372.4
#2	4893.1	59081.	5450.1
#3	4929.3	59463.	5398.2

Approved: March 17, 2017

Sample Name: L1703084202 Acquired: 3/16/2017 18:11:28 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00448**	**.03088**	**-.00077**	**.02462**	**.32912**	**-.00010**	**70.053**	**-.00002**
Stddev	.00063	.00402	.00097	.00208	.00200	.00006	.373	.00047
%RSD	14.158	13.018	125.95	8.4483	.60817	58.713	.53264	2869.3
#1	.00517	.03326	-.00105	.02288	.32716	-.00016	69.692	.00032
#2	.00393	.03313	.00031	.02693	.33116	-.00010	70.437	.00018
#3	.00435	.02624	-.00157	.02407	.32904	-.00004	70.029	-.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	**.00006**	**.00170**	**-.00038**	**.29718**	**1.0737**	**.00639**	**10.837**	**.28122**
Stddev	.00066	.00041	.00204	.01055	.0527	.00066	.091	.00383
%RSD	1150.1	24.135	530.22	3.5513	4.9072	10.275	.83855	1.3634
#1	.00053	.00157	.00139	.29497	1.0508	.00570	10.742	.27802
#2	.00033	.00216	-.00261	.28791	1.0363	.00648	10.923	.28547
#3	-.00069	.00137	.00006	.30867	1.1339	.00700	10.845	.28016
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	**-.00023**	**27.944**	**.00048**	**.01108**	**.00567**	**-.00323**	**.00575**	**4.1856**
Stddev	.00012	.113	.00044	.00525	.00238	.00756	.00334	.0181
%RSD	50.655	.40392	92.664	47.418	42.066	234.00	58.053	.43145
#1	-.00036	27.819	.00027	.00629	.00534	-.01131	.00229	4.2049
#2	-.00017	28.038	.00098	.01670	.00346	.00366	.00895	4.1691
#3	-.00016	27.974	.00018	.01024	.00820	-.00204	.00601	4.1829
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703084202 Acquired: 3/16/2017 18:11:28 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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**	**.48486**	**-.00296**	**-.00570**	**-.00007**	**.00293**	**.12058**
Stddev	.00075	.00172	.00942	.00606	.00055	.00035	.15580
%RSD	87.958	.35520	318.02	106.49	798.58	12.024	129.21
#1	-.00005	.48400	.00083	-.00588	.00036	.00280	-.05664
#2	-.00153	.48684	.00397	.00046	-.00069	.00267	.18238
#3	-.00096	.48373	-.01368	-.01167	.00012	.00333	.23600
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	**4857.0**	**58267.**	**5455.0**
Stddev	11.8	991.	55.3
%RSD	.24347	1.7015	1.0143
#1	4864.7	58219.	5518.0
#2	4863.1	57301.	5414.3
#3	4843.4	59282.	5432.7

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 18:15:12 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.39962**	**10.308**	**.40091**	**.49927**	**1.0118**	**.05048**	**10.066**
Stddev	.00252	.034	.00162	.00222	.0025	.00015	.012
%RSD	.63091	.32942	.40480	.44383	.24994	.29696	.11762
#1	.39889	10.306	.39961	.50087	1.0096	.05044	10.077
#2	.40243	10.275	.40040	.50020	1.0146	.05036	10.066
#3	.39755	10.343	.40273	.49674	1.0113	.05065	10.054
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	**.05069**	**.20110**	**.50717**	**.50490**	**4.0351**	**50.891**	**1.0180**
Stddev	.00061	.00096	.00392	.00080	.0206	.118	.0067
%RSD	1.2053	.47720	.77328	.15882	.51010	.23216	.66034
#1	.04999	.20028	.50893	.50566	4.0557	50.788	1.0167
#2	.05104	.20087	.50268	.50406	4.0146	51.020	1.0253
#3	.05105	.20216	.50991	.50499	4.0350	50.864	1.0121
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	**9.9369**	**.49474**	**.99858**	**50.660**	**.50623**	**9.8374**	**.50190**
Stddev	.0956	.00211	.00176	.026	.00171	.0249	.00241
%RSD	.96220	.42622	.17618	.05204	.33746	.25278	.48068
#1	9.9984	.49293	.99972	50.689	.50749	9.8355	.49958
#2	9.8267	.49706	.99655	50.638	.50429	9.8135	.50439
#3	9.9855	.49423	.99946	50.652	.50692	9.8631	.50174
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 18:15:12 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**1.2134**	**.39679**	**4.9608**	**.99553**	**1.0080**	**1.0004**	**.51021**
Stddev	.0048	.00170	.0094	.00231	.0034	.0120	.00465
%RSD	.39313	.42766	.18905	.23215	.33870	1.1941	.91168
#1	1.2176	.39875	4.9649	.99503	1.0053	1.0022	.51453
#2	1.2082	.39586	4.9500	.99352	1.0119	1.0114	.50529
#3	1.2145	.39576	4.9674	.99806	1.0070	.98769	.51081
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**1.0088**	**1.0069**	F **.64624**
Stddev	.0029	.0015	.08867
%RSD	.28786	.14960	13.721
#1	1.0112	1.0073	.72916
#2	1.0056	1.0052	.65680
#3	1.0096	1.0082	.55276
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	**4922.0**	**58541.**	**5378.2**
Stddev	14.4	629.	27.5
%RSD	.29270	1.0739	.51189
#1	4937.7	59216.	5409.9
#2	4909.4	58434.	5360.6
#3	4918.9	57973.	5364.0

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 18:18:43 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00348**	**.00573**	**-.00224**	**.00398**	**.00056**	**-.00008**	**-.01075**
Stddev	.00071	.00325	.00297	.00117	.00065	.00004	.04011
%RSD	20.479	56.662	133.04	29.446	115.88	45.433	373.06
#1	.00309	.00525	-.00309	.00445	-.00019	-.00012	.03447
#2	.00431	.00920	.00107	.00265	.00088	-.00005	-.02471
#3	.00305	.00275	-.00469	.00485	.00100	-.00007	-.04202
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	**-.00023**	**.00025**	**-.00132**	**-.00121**	**.02003**	**.09596**	**.00490**
Stddev	.00007	.00010	.00029	.00093	.01805	.07629	.00167
%RSD	29.974	39.548	21.782	77.007	90.116	79.506	34.015
#1	-.00020	.00019	-.00149	-.00108	.00303	.17767	.00502
#2	-.00018	.00020	-.00149	-.00035	.01808	.02660	.00650
#3	-.00031	.00037	-.00099	-.00219	.03897	.08360	.00317
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	**.02981**	**.00077**	**-.00035**	**.08511**	**-.00012**	**.00118**	**.00437**
Stddev	.06050	.00088	.00019	.02518	.00125	.00832	.00292
%RSD	202.97	114.30	54.127	29.590	1047.5	702.04	66.723
#1	-.00668	.00141	-.00054	.11358	.00108	.00243	.00135
#2	-.00354	-.00023	-.00016	.06573	-.00142	.00881	.00717
#3	.09965	.00113	-.00035	.07603	-.00003	-.00768	.00460
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 18:18:43 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00396**	**-.00885**	**.00208**	**-.00085**	**-.00002**	**-.00063**	**-.00510**
Stddev	.00893	.00430	.00274	.00152	.00034	.00331	.00642
%RSD	225.52	48.599	132.01	178.97	1381.8	521.89	125.74
#1	-.00383	-.00721	.00134	-.00256	.00033	.00318	-.01080
#2	.00200	-.01374	-.00022	-.00037	-.00007	-.00235	.00185
#3	.01371	-.00562	.00512	.00037	-.00034	-.00273	-.00636
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.00046**	**-.00007**	F **-.10665**
Stddev	.00086	.00015	.30430
%RSD	186.42	234.18	285.34
#1	-.00035	-.00005	-.26737
#2	.00136	-.00022	-.29689
#3	.00037	.00008	.24432
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	**4968.3**	**60296.**	**5349.6**
Stddev	14.1	114.	2.6
%RSD	.28454	.18939	.04886
#1	4952.0	60390.	5351.8
#2	4976.1	60328.	5350.1
#3	4976.9	60169.	5346.7

Approved: March 17, 2017

Sample Name: L1703084301 Acquired: 3/16/2017 18:22:29 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00364**	**1.0097**	**.00079**	**.02655**	**.06559**	**-.00009**	**18.233**	**.00022**
Stddev	.00068	.0019	.00649	.00114	.00063	.00008	.058	.00030
%RSD	18.761	.18756	823.01	4.2928	.96623	79.862	.31777	137.80
#1	.00309	1.0119	.00599	.02524	.06543	-.00003	18.286	.00025
#2	.00343	1.0086	-.00649	.02717	.06629	-.00018	18.242	-.00010
#3	.00441	1.0086	.00287	.02725	.06506	-.00008	18.171	.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	**-.00003**	**.00121**	**.00443**	**1.2637**	**1.9199**	**.00625**	**2.8878**	**.01892**
Stddev	.00058	.00079	.00064	.0085	.0631	.00222	.0288	.00020
%RSD	1887.1	65.175	14.517	.67599	3.2862	35.522	.99836	1.0711
#1	.00040	.00107	.00477	1.2728	1.8675	.00853	2.9196	.01869
#2	.00019	.00206	.00369	1.2625	1.9024	.00611	2.8805	.01909
#3	-.00069	.00050	.00483	1.2559	1.9899	.00410	2.8634	.01897
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	**.00051**	**15.991**	**.00041**	**.04684**	**.00641**	**-.00397**	**-.00504**	**3.6028**
Stddev	.00040	.038	.00124	.00434	.00189	.00331	.00578	.0247
%RSD	79.515	.23994	303.34	9.2554	29.415	83.476	114.77	.68433
#1	.00058	15.982	.00036	.04998	.00753	-.00282	-.01136	3.6117
#2	.00007	16.033	.00167	.04866	.00747	-.00770	-.00000	3.5749
#3	.00087	15.958	-.00081	.04190	.00423	-.00138	-.00376	3.6218
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703084301 Acquired: 3/16/2017 18:22:29 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00057**	**.11166**	**.02013**	**-.00163**	**.00135**	**.00976**	**.70613**
Stddev	.00113	.00021	.00160	.00079	.00080	.00214	.19267
%RSD	199.56	.18440	7.9631	48.495	59.471	21.883	27.286
#1	-.00069	.11152	.02048	-.00086	.00212	.00885	.51007
#2	.00062	.11190	.01838	-.00160	.00141	.00823	.89523
#3	-.00163	.11157	.02153	-.00244	.00052	.01220	.71309
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	**4930.1**	**61128.**	**5438.8**
Stddev	91.5	118.	99.4
%RSD	1.8555	.19322	1.8283
#1	4840.9	61202.	5399.2
#2	5023.7	61190.	5365.3
#3	4925.6	60992.	5551.9

Approved: March 17, 2017

Sample Name: L1703084302 Acquired: 3/16/2017 18:26:12 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00299**	**.31479**	**.00089**	**.01124**	**.05686**	**-.00002**	**51.533**	**.00004**
Stddev	.00106	.00273	.00502	.00122	.00056	.00002	.140	.00022
%RSD	35.468	.86597	566.25	10.858	.97967	83.517	.27177	558.70
#1	.00184	.31618	.00528	.01260	.05628	-.00000	51.534	.00016
#2	.00394	.31165	.00196	.01091	.05689	-.00003	51.392	-.00022
#3	.00319	.31653	-.00458	.01023	.05739	-.00003	51.672	.00018
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	**-.00032**	**.00008**	**.00045**	**.22399**	**.86506**	**.00259**	**6.0117**	**.00613**
Stddev	.00039	.00088	.00202	.00603	.06912	.00248	.0499	.00238
%RSD	123.26	1040.5	450.72	2.6899	7.9896	95.943	.82953	38.800
#1	-.00047	-.00022	-.00102	.21723	.94486	-.00023	5.9614	.00355
#2	.00013	-.00060	-.00040	.22594	.82469	.00446	6.0125	.00661
#3	-.00060	.00107	.00276	.22880	.82562	.00353	6.0612	.00824
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	**.00039**	**3.1784**	**.00044**	**.01616**	**.00069**	**-.00335**	**-.00411**	**3.7155**
Stddev	.00025	.0348	.00102	.00407	.00355	.00158	.00467	.0053
%RSD	65.777	1.0934	233.17	25.202	512.44	47.044	113.57	.14287
#1	.00045	3.2072	-.00064	.01151	.00426	-.00480	-.00235	3.7109
#2	.00060	3.1398	.00138	.01786	-.00284	-.00357	-.00058	3.7213
#3	.00011	3.1881	.00057	.01911	.00067	-.00167	-.00940	3.7143
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703084302 Acquired: 3/16/2017 18:26:12 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00013**	**.15114**	**.00361**	**-.00315**	**.00044**	**.00204**	**.37005**
Stddev	.00031	.00020	.00363	.00543	.00115	.00010	.17983
%RSD	228.39	.13374	100.43	172.18	262.20	4.9339	48.596
#1	.00048	.15092	-.00045	-.00661	.00080	.00211	.50751
#2	-.00001	.15120	.00652	.00311	-.00085	.00192	.16653
#3	-.00008	.15131	.00477	-.00595	.00137	.00207	.43610
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	**4935.3**	**60687.**	**5455.5**
Stddev	19.3	239.	19.3
%RSD	.39087	.39404	.35308
#1	4919.9	60543.	5476.5
#2	4929.0	60963.	5451.3
#3	4956.9	60555.	5438.7

Approved: March 17, 2017

Sample Name: L1703084303 Acquired: 3/16/2017 18:29:55 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00425**	**.17915**	**-.00090**	**.00980**	**.03206**	**-.00007**	**31.678**	**-.00000**
Stddev	.00154	.00627	.00400	.00321	.00055	.00011	.213	.00021
%RSD	36.240	3.5004	446.05	32.771	1.7233	169.62	.67179	9369.4
#1	.00252	.18318	-.00265	.01342	.03165	-.00015	31.450	.00024
#2	.00546	.18234	-.00372	.00730	.03185	.00006	31.712	-.00010
#3	.00478	.17192	.00368	.00867	.03269	-.00012	31.872	-.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	**-.00060**	**-.00134**	**-.00150**	**.08398**	**.68594**	**-.00023**	**4.2781**	**.00226**
Stddev	.00019	.00022	.00072	.02511	.01316	.00366	.1877	.00074
%RSD	31.382	16.352	48.226	29.904	1.9183	1583.7	4.3880	32.954
#1	-.00081	-.00110	-.00197	.11297	.67078	.00345	4.1477	.00161
#2	-.00051	-.00140	-.00186	.06904	.69267	-.00027	4.1934	.00307
#3	-.00046	-.00152	-.00067	.06992	.69438	-.00387	4.4933	.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	**.00027**	**2.1863**	**.00078**	**.00265**	**.00467**	**.00125**	**-.00018**	**2.7024**
Stddev	.00028	.0210	.00162	.00760	.00709	.00520	.00290	.0046
%RSD	105.67	.96007	207.94	286.52	151.75	417.42	1576.4	.17136
#1	.00047	2.1836	-.00097	-.00602	-.00349	-.00419	.00284	2.7075
#2	-.00006	2.2086	.00108	.00581	.00929	.00617	-.00296	2.6985
#3	.00039	2.1669	.00223	.00817	.00820	.00175	-.00043	2.7013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703084303 Acquired: 3/16/2017 18:29:55 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00051**	**.06709**	**.00350**	**-.00359**	**-.00066**	**.00139**	**.32447**
Stddev	.00184	.00119	.00822	.00285	.00022	.00024	.13065
%RSD	359.15	1.7718	235.15	79.513	33.218	17.348	40.267
#1	.00039	.06591	.01237	-.00335	-.00069	.00111	.42421
#2	-.00263	.06707	-.00386	-.00086	-.00087	.00157	.37262
#3	.00070	.06828	.00198	-.00655	-.00043	.00147	.17657
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	**4969.5**	**60955.**	**5405.2**
Stddev	26.8	204.	39.4
%RSD	.54002	.33449	.72967
#1	4973.6	60745.	5413.4
#2	4994.0	60969.	5439.9
#3	4940.8	61152.	5362.3

Approved: March 17, 2017

Sample Name: L1703084304 Acquired: 3/16/2017 18:33:39 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00286**	**.17693**	**.00023**	**.01482**	**.04383**	**-.00011**	**39.608**	**.00004**
Stddev	.00252	.00424	.00194	.00047	.00060	.00014	.124	.00038
%RSD	88.026	2.3991	847.31	3.1466	1.3672	124.22	.31227	1034.7
#1	.00575	.17388	.00067	.01430	.04428	-.00023	39.742	.00005
#2	.00113	.18178	.00191	.01521	.04315	-.00015	39.498	-.00035
#3	.00170	.17513	-.00190	.01495	.04407	.00004	39.585	.00041
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**	**-.00020**	**-.00231**	**.09138**	**.94240**	**.00018**	**7.4040**	**.00511**
Stddev	.00040	.00056	.00085	.01053	.03175	.00548	.0581	.00348
%RSD	154.36	281.16	36.744	11.526	3.3694	3017.1	.78439	68.096
#1	-.00020	.00007	-.00326	.10153	.90615	-.00198	7.3834	.00421
#2	.00011	-.00084	-.00164	.08050	.95580	.00642	7.4696	.00217
#3	-.00068	.00018	-.00202	.09210	.96526	-.00389	7.3591	.00895
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**	**3.4152**	**-.00003**	**.00600**	**.00236**	**.00082**	**-.00206**	**3.1923**
Stddev	.00065	.0242	.00295	.00623	.00088	.00432	.01056	.0049
%RSD	207.04	.70887	10780.	103.87	37.287	527.65	511.79	.15190
#1	-.00043	3.3936	-.00178	.00085	.00245	-.00165	-.01416	3.1867
#2	.00059	3.4414	.00338	.00423	.00319	.00581	.00270	3.1950
#3	.00078	3.4107	-.00168	.01293	.00144	-.00170	.00527	3.1952
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703084304 Acquired: 3/16/2017 18:33:39 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00040**	**.13749**	**.00506**	**-.00173**	**.00002**	**.00486**	**.14623**
Stddev	.00051	.00031	.00184	.00172	.00034	.00026	.06197
%RSD	128.14	.22797	36.274	99.332	1678.4	5.3285	42.379
#1	.00057	.13781	.00397	-.00316	-.00034	.00516	.10581
#2	.00080	.13747	.00718	.00018	.00034	.00475	.21758
#3	-.00018	.13719	.00404	-.00221	.00006	.00468	.11530
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	**4938.9**	**60800.**	**5435.7**
Stddev	40.8	308.	92.7
%RSD	.82694	.50646	1.7046
#1	4960.3	60912.	5334.1
#2	4964.5	61036.	5515.5
#3	4891.8	60452.	5457.5

Approved: March 17, 2017

Sample Name: L1703074305 Acquired: 3/16/2017 18:37:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00447**	**.07069**	**.00017**	**.01514**	**.06941**	**-.00014**	**46.689**	**.00014**
Stddev	.00145	.00235	.00501	.00185	.00038	.00006	.312	.00023
%RSD	32.360	3.3255	2901.3	12.244	.54236	42.847	.66748	156.92
#1	.00294	.07339	.00565	.01710	.06982	-.00009	46.822	-.00011
#2	.00465	.06948	-.00419	.01342	.06908	-.00020	46.912	.00023
#3	.00582	.06918	-.00094	.01490	.06933	-.00012	46.333	.00032
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00072**	**-.00132**	**.00069**	**.04491**	**.69504**	**.00251**	**7.6845**	**.00736**
Stddev	.00044	.00146	.00111	.00435	.03180	.00453	.0655	.00149
%RSD	61.103	110.93	161.70	9.6973	4.5746	180.82	.85268	20.197
#1	-.00021	-.00128	.00197	.04764	.69214	-.00268	7.7491	.00876
#2	-.00094	.00012	-.00005	.03989	.66480	.00451	7.6862	.00580
#3	-.00100	-.00281	.00015	.04720	.72819	.00569	7.6181	.00751
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**	**44.438**	**-.00057**	**-.00589**	**.00528**	**-.00112**	**-.00130**	**3.3279**
Stddev	.00036	.439	.00243	.00905	.00208	.00769	.00573	.0048
%RSD	71.882	.98718	426.13	153.53	39.332	688.03	442.11	.14406
#1	.00035	44.707	.00134	-.00014	.00712	.00603	-.00105	3.3319
#2	.00024	44.676	.00026	-.01633	.00570	-.00926	-.00714	3.3293
#3	.00091	43.932	-.00331	-.00122	.00303	-.00013	.00431	3.3226
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703074305 Acquired: 3/16/2017 18:37:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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**	**.26076**	**-.00091**	**-.00274**	**.00033**	**.00119**	**.15437**
Stddev	.00059	.00077	.00914	.00327	.00102	.00009	.15317
%RSD	64.458	.29626	1009.1	119.24	309.95	7.2732	99.226
#1	.00036	.26161	-.00058	.00091	.00066	.00113	.05321
#2	.00153	.26058	-.01020	-.00540	.00113	.00129	.33060
#3	.00084	.26009	.00806	-.00374	-.00081	.00116	.07930
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	**4909.1**	**58833.**	**5308.9**
Stddev	16.8	544.	123.2
%RSD	.34289	.92536	2.3204
#1	4905.5	59333.	5301.0
#2	4927.5	58914.	5189.8
#3	4894.4	58253.	5435.8

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 18:41:06 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.40268**	**10.413**	**.40460**	**.50401**	**1.0117**	**.05125**	**9.9942**
Stddev	.00172	.009	.00354	.00621	.0017	.00005	.0564
%RSD	.42615	.08376	.87564	1.2320	.16289	.09421	.56447
#1	.40185	10.423	.40207	.50885	1.0100	.05128	9.9908
#2	.40154	10.408	.40865	.50617	1.0133	.05127	10.052
#3	.40465	10.408	.40308	.49701	1.0117	.05119	9.9395
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	**.05119**	**.20259**	**.51286**	**.50718**	**4.0506**	**50.717**	**1.0119**
Stddev	.00048	.00098	.00192	.00273	.0223	.178	.0036
%RSD	.94288	.48364	.37364	.53741	.54994	.35160	.35366
#1	.05103	.20203	.51457	.50404	4.0250	50.743	1.0078
#2	.05081	.20202	.51323	.50878	4.0615	50.881	1.0137
#3	.05173	.20372	.51079	.50873	4.0654	50.527	1.0143
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	**9.9234**	**.49634**	**1.0006**	**50.398**	**.50999**	**9.9867**	**.50442**
Stddev	.2231	.00589	.0008	.076	.00153	.0104	.00332
%RSD	2.2482	1.1870	.08424	.15101	.30005	.10403	.65778
#1	10.181	.50299	1.0016	50.473	.51172	9.9920	.50319
#2	9.8003	.49423	.99998	50.321	.50942	9.9747	.50189
#3	9.7890	.49179	1.0003	50.398	.50883	9.9934	.50817
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 18:41:06 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**1.2175**	**.39810**	**4.9859**	**1.0054**	**1.0040**	**.99426**	**.51422**
Stddev	.0095	.00838	.0038	.0042	.0035	.00252	.00407
%RSD	.77874	2.1038	.07696	.41231	.35107	.25368	.79077
#1	1.2150	.40230	4.9815	1.0086	1.0055	.99554	.51478
#2	1.2280	.40354	4.9885	1.0007	1.0065	.99135	.51797
#3	1.2096	.38846	4.9878	1.0069	1.00000	.99588	.50990
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**1.0175**	**1.0225**	F **.82275**
Stddev	.0016	.0011	.16450
%RSD	.15786	.10838	19.994
#1	1.0157	1.0237	.97628
#2	1.0181	1.0218	.64913
#3	1.0188	1.0218	.84283
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	**4927.3**	**58571.**	**5434.2**
Stddev	42.1	194.	33.1
%RSD	.85344	.33104	.60876
#1	4879.9	58559.	5431.0
#2	4960.2	58384.	5468.8
#3	4941.8	58771.	5402.9

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 18:44:39 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00213**	**.00296**	**-.00060**	**.00224**	**.00013**	**-.00011**	**.00074**
Stddev	.00289	.00457	.00172	.00131	.00031	.00009	.01172
%RSD	135.95	154.49	284.99	58.636	238.48	82.370	1577.6
#1	.00528	-.00182	-.00257	.00320	.00001	-.00003	.00773
#2	.00151	.00341	.00061	.00074	.00048	-.00021	.00729
#3	-.00041	.00728	.00015	.00278	-.00010	-.00009	-.01279
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00017**	**-.00034**	**-.00040**	**-.00130**	**.01628**	**.06029**	**.00126**
Stddev	.00036	.00058	.00175	.00273	.00989	.02580	.00192
%RSD	207.98	172.48	435.07	209.73	60.774	42.795	152.73
#1	-.00047	-.00072	-.00241	-.00137	.01792	.03746	-.00096
#2	-.00027	.00033	.00035	.00146	.00567	.05512	.00230
#3	.00023	-.00063	.00085	-.00399	.02525	.08828	.00243
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	**-.00148**	**.00172**	**.00064**	**.07540**	**-.00065**	**.00128**	**.00376**
Stddev	.04124	.00366	.00041	.01855	.00169	.00982	.00417
%RSD	2780.1	212.39	63.848	24.596	259.93	765.65	110.99
#1	-.01841	.00452	.00101	.09054	.00060	.00506	.00173
#2	-.03157	.00306	.00020	.08095	.00002	-.00987	.00855
#3	.04553	-.00242	.00070	.05472	-.00258	.00866	.00099
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 18:44:39 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00026**	**-.00549**	**.00388**	**-.00018**	**-.00023**	**-.00028**	**-.00781**
Stddev	.00614	.00639	.00222	.00093	.00020	.00494	.00160
%RSD	2352.5	116.49	57.069	508.97	85.723	1758.1	20.499
#1	.00666	-.01283	.00451	-.00109	-.00043	.00179	-.00928
#2	-.00029	-.00248	.00142	.00077	-.00022	-.00592	-.00610
#3	-.00558	-.00116	.00572	-.00023	-.00004	.00329	-.00806
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	**.00076**	**-.00019**	F **-.19160**
Stddev	.00048	.00028	.09872
%RSD	63.375	148.34	51.521
#1	.00124	-.00007	-.20472
#2	.00028	-.00051	-.28311
#3	.00076	.00001	-.08699
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	**5006.5**	**61061.**	**5441.8**
Stddev	7.4	25.	22.5
%RSD	.14688	.04046	.41379
#1	4998.3	61088.	5465.2
#2	5008.9	61039.	5420.2
#3	5012.4	61058.	5440.1

Approved: March 17, 2017

2.1.2 Metals ICP-MS Data

2.1.2.1 Summary Data

Microbac

Lab Report #: L17030723
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030723-01	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	LH18/24-SP140-7423-GRAB	**Prep Method:**	3015	**Prep Date:**	03/15/2017 08:03
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	03/15/2017 14:33
Workgroup #:	WG606367	**Analyst:**	JYH	**Run Date:**	03/15/2017 15:07
Collect Date:	03/13/2017 15:00	**Dilution:**	1	**File ID:**	NI.031517.150732
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Silver, Total	7440-22-4	0.00100	U	0.00200	0.00100	0.000500

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

Microbac

Lab Report #: L17030723
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

2.1.2.2 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: WG606254
Analyst: VC
Spike Analyst: VC
Run Date: 03/15/2017 08:03
Method: 3015
Balance: BAL016
Instrument: MW-3
Instrument Start: 03/15/2017 08:07

SOP: ME407 Revison 19
Spike Solution: STD78216
Spike Witness: ERP
40 & 50 ML. DIGESTION TU: COA19487
HNO3 Lot #: COA19483
MS Filters- fisher-Lot#R: RGT38288

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG606254-02	BLANK	1	20 mL	50 mL	183.506 g	183.503 g		
2	WG606254-03	LCS	1	20 mL	50 mL	185.393 g	185.361 g	.25 mL	
3	L17030705-01	SAMP	1	20 mL	50 mL	182.463 g	182.45 g		03/16/17
4	WG606254-01	REF	1	20 mL	50 mL	182.184 g	182.181 g		
5	L17030723-01	SAMP	1	20 mL	50 mL	182.184 g	182.181 g		03/24/17
6	L17030724-01	SAMP	1	20 mL	50 mL	184.781 g	184.774 g		03/24/17
7	WG606254-04	MS	1	20 mL	50 mL	184.714 g	184.703 g	.25 mL	
8	WG606254-05	MSD	1	20 mL	50 mL	182.508 g	182.496 g	.25 mL	

WG606254-04	FILTERED DIGESTATE
WG606254-05	FILTERED DIGESTATE
L17030705-01	FILTERED DIGESTATE
L17030723-01	FILTERED DIGESTATE
WG606254-01	FILTERED DIGESTATE
L17030724-01	FILTERED DIGESTATE

Analyst: Vicki Collins

Reviewer: Erin Potter

MW_DIG - Modified 09/30/2009
PDF ID: 5198039
Report generated: 03/15/2017 09:11

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 031517A.REP
Analyst1: JYH Analyst2: N/A
Method: 6020/6020A/200.8 SOP: ME700A Rev: 3
Maintenance Log ID:

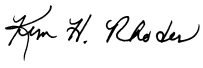
Calibration Std: STD80851 ICV Std: STD80849 Post Spike: STD79415
ICSA: STD80854 ICSAB: STD80855 Int. Std: RGT39300
CCV: STD80850 LLCCV: STD80853 Tuning Sol : STD80856
Stannous : Hydroxylamine :

Workgroups: 606367

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	NI.031517.142101	Blank	Blank		1		03/15/17 14:21
2	NI.031517.142407	WG606470-01	Calibration Point		1		03/15/17 14:24
3	NI.031517.142712	WG606470-02	Calibration Point		1		03/15/17 14:27
4	NI.031517.143017	WG606470-03	Calibration Point		1		03/15/17 14:30
5	NI.031517.143322	WG606470-04	Calibration Point		1		03/15/17 14:33
6	NI.031517.143629	WG606470-05	Initial Calibration Verification		1		03/15/17 14:36
7	NI.031517.143936	WG606470-06	Initial Calib Blank		1		03/15/17 14:39
8	NI.031517.144243	WG606470-07	Low Level Initial Calibration V		1		03/15/17 14:42
9	NI.031517.144549	WG606470-08	Interference Check		1		03/15/17 14:45
10	NI.031517.144854	WG606470-09	Interference Check		1		03/15/17 14:48
11	NI.031517.145201	WG606470-10	CCV		1		03/15/17 14:52
12	NI.031517.145506	WG606470-11	CCB		1		03/15/17 14:55
13	NI.031517.145813	WG606254-02	Method/Prep Blank	20/50	1		03/15/17 14:58
14	NI.031517.150119	WG606254-03	Laboratory Control S	20/50	1		03/15/17 15:01
15	NI.031517.150427	L17030705-01	\#2 LF SUPERNATE	20/50	1		03/15/17 15:04
16	NI.031517.150732	L17030723-01	LH18/24-SP140-7423-GRAB		1	WG606254-01	03/15/17 15:07
17	NI.031517.151037	WG606254-04	Matrix Spike	20/50	1	L17030723-01	03/15/17 15:10
18	NI.031517.151343	WG606254-05	Matrix Spike Duplica	20/50	1	L17030723-01	03/15/17 15:13
19	NI.031517.151648	L17030724-01	LH18/24-SP650-6423-GRAB	20/50	1		03/15/17 15:16
20	NI.031517.151954	WG606367-01	Post Digestion Spike		1	L17030724-01	03/15/17 15:19
21	NI.031517.152300	WG606367-02	Serial Dilution		5	L17030724-01	03/15/17 15:23
22	NI.031517.152604	WG606367-02	Serial Dilution		25	L17030724-01	03/15/17 15:26
23	NI.031517.152912	WG606470-12	CCV		1		03/15/17 15:29
24	NI.031517.153217	WG606470-13	CCB		1		03/15/17 15:32
25	NI.031517.153856	WG606367-03	Post Digestion Spike		1	L17030705-01	03/15/17 15:38
26	NI.031517.154203	WG606367-04	Serial Dilution		5	L17030705-01	03/15/17 15:42
27	NI.031517.154508	WG606367-04	Serial Dilution		25	L17030705-01	03/15/17 15:45
28	NI.031517.154815	WG606470-14	CCV		1		03/15/17 15:48
29	NI.031517.155121	WG606470-15	CCB		1		03/15/17 15:51
30	NI.031517.155428	WG606470-16	Low Level Continuing Calibra		1		03/15/17 15:54

Page: 1 Approved: March 16, 2017



Microbac Laboratories Inc.

Data Checklist

Date: 15-MAR-2017
Analyst: JYH
Analyst: NA
Method: 6020/6020A/200.8
Instrument: ICP-MS2
Curve Workgroup: 606470
Runlog ID: 80997
Analytical Workgroups: 606367

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	723,724
Client Forms	X
Level X	
Level 3	
Level 4	723,724
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	JYH
Secondary Reviewer	KHR
Comments	

Primary Reviewer:

Secondary Reviewer:
16-MAR-2017

CHECKLIST1 - Modified 03/05/2008
Generated: MAR-16-2017 10:33:50

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6020A **AAB#:** WG606367

Login Number: L17030723

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
LH18/24-SP140-7423-GRAB	01	03/13/17					03/15/2017	1.7	180		03/15/17	2	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5201138
Report generated 03/16/2017 09:52

METHOD BLANK SUMMARY

Login Number:	L17030723	**Work Group:**	WG606367
Blank File ID:	NI.031517.145813	**Blank Sample ID:**	WG606254-02
Prep Date:	03/15/17 08:03	**Instrument ID:**	ICP-MS2
Analyzed Date:	03/15/17 14:58	**Method:**	6020A
Analyst:	JYH		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG606254-03	NI.031517.150119	03/15/17 15:01	01
LH18/24-SP140-7423-GRAB	L17030723-01	NI.031517.150732	03/15/17 15:07	01

Report Name: BLANK_SUMMARY
PDF File ID: 5201139
Report generated 03/16/2017 09:52

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L17030723 Prep Date: 03/15/17 08:03 Sample ID: WG606254-02
Instrument ID: ICP-MS2 Run Date: 03/15/17 14:58 Prep Method: 3015
File ID: NI.031517.145813 Analyst: JYH Method: 6020A
Workgroup (AAB#): WG606367 Matrix: Water Units: mg/L
Contract #: Cal ID: ICP-MS-15-MAR-17

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Silver, Total	0.000500	0.00200	0.000500	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: 5201140
16-MAR-2017 09:52

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17030723 **Run Date:** 03/15/2017 **Sample ID:** WG606254-03
Instrument ID: ICP-MS2 **Run Time:** 15:01 **Prep Method:** 3015
File ID: NI.031517.150119 **Analyst:** JYH **Method:** 6020A
Workgroup (AAB#): WG606367 **Matrix:** Water **Units:** mg/L
QC Key: DOD4 **Lot#:** STD78216 **Cal ID:** ICP-MS-15-MAR-17

Analytes	Expected	Found	% Rec	LCS Limits	Q
Silver, Total	0.125	0.124	99.6	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 5201141
Report generated: 03/16/2017 09:52

Loginnum:L17030723 Cal ID:ICP-MS2- Worknum:WG606367
Instrument ID:ICP-MS2 Contract #: Method:6020A
Parent ID:WG606254-01 File ID:NI.031517.150732 Dil:1 Matrix:WATER
Sample ID:WG606254-04 MS File ID:NI.031517.151037 Dil:1 Units:mg/L
Sample ID:WG606254-05 MSD File ID:NI.031517.151343 Dil:1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Silver, Total	ND	0.125	0.116	92.7	0.125	0.117	93.5	0.777	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: 5201142
Report generated 03/16/2017 09:52

Microbac Laboratories Inc.
Serial Dilution Report

Login: L17030723 **Worknum:** WG606367
Instrument: ICP-MS2 **Method:** 6020A
Serial Dil: WG606367-02 **File ID:** NI.031517.152300 **Dil:** 5 **Units:** ug/L
Sample: L17030724-01 **File ID:** NI.031517.151648 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Silver	ND	U	ND	U		

U = Result is below MDL.
F = Result is greater than or equal to MDL and less than the RL.
X = Result is greater than or equal to RL and less than 100 times the MDL.
E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 100 times the MDL.

SERIAL_DIL - Modified 09/22/2008
PDF File ID: 5201136
03/16/2017 09:52

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L17030723 **Worknum:** WG606367
Instrument ID: ICP-MS2 **Method:** 6020A
Post Spike ID: WG606367-01 **File ID:** NI.031517.151954 **Dil:** 1 **Units:** ug/L
Sample ID: L17030724-01 **File ID:** NI.031517.151648 **Dil:** 1 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
SILVER	48.4		0	U	50	96.8	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: 5201137
Report generated: 03/16/2017 09:52

Microbac Laboratories Inc.
Initial Calibration Summary

Login:	**L17030723**	Workgroup (AAB#):	**WG606367**
Analytical Method:	**6020A**	Instrument ID:	**ICP-MS2**
ICAL Worknum:	**WG606470**	Initial Calibration Date:	**15-MAR-2017 14:33**

	WG606470-01		WG606470-02		WG606470-03		WG606470-04			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
SILVER	0	117	.4	487	50	353000	100	669000	.999784	

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: 5201145
Report generated: 16-MAR-2017 09:52

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L17030723 Run Date: 03/15/2017 Sample ID: WG606470-06
Instrument ID: ICP-MS2 Run Time: 14:39 Method: 6020A
File ID: NI.031517.143936 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG606367 Cal ID: ICP-MS2 - 15-MAR-17
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
SILVER	.2	.8	.2	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: 5201147
Report generated 03/16/2017 09:52

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L17030723	Run Date:	03/15/2017	Sample ID:	WG606470-11
Instrument ID:	ICP-MS2	Run Time:	14:55	Method:	6020A
File ID:	NI.031517.145506	Analyst:	JYH	Units:	ug/L
Workgroup (AAB#):	WG606367	Cal ID:	ICP-MS - 15-MAR-17		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Silver	0.200	0.800	0.200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 5201150
Report generated 03/16/2017 09:52

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L17030723	Run Date:	03/15/2017	Sample ID:	WG606470-13
Instrument ID:	ICP-MS2	Run Time:	15:32	Method:	6020A
File ID:	NI.031517.153217	Analyst:	JYH	Units:	ug/L
Workgroup (AAB#):	WG606367	Cal ID:	ICP-MS - 15-MAR-17		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Silver	0.200	0.800	0.200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 5201150
Report generated 03/16/2017 09:52

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L17030723	Run Date:	03/15/2017	Sample ID:	WG606470-15
Instrument ID:	ICP-MS2	Run Time:	15:51	Method:	6020A
File ID:	NI.031517.155121	Analyst:	JYH	Units:	ug/L
Workgroup (AAB#):	WG606367	Cal ID:	ICP-MS - 15-MAR-17		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Silver	0.200	0.800	0.200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 5201150
Report generated 03/16/2017 09:52

Microbac Laboratories Inc.

INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L17030723 Run Date: 03/15/2017 Sample ID: WG606470-05
Instrument ID: ICP-MS2 Run Time: 14:36 Method: 6020A
File ID: NI.031517.143629 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG606367 Cal ID: ICP-MS - 15-MAR-17
QC Key: DOD4

Analyte		Expected	Found	%REC	LIMITS	Q
Silver		50	49.9	99.8	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 5201146
Report generated 03/16/2017 09:52

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17030723 Run Date: 03/15/2017 Sample ID: WG606470-10
Instrument ID: ICP-MS2 Run Time: 14:52 Method: 6020A
File ID: NI.031517.145201 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG606367 Cal ID: ICP-MS - 15-MAR-17
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Silver		0.0500	0.0506	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 5201149
Report generated 03/16/2017 09:52

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17030723 Run Date: 03/15/2017 Sample ID: WG606470-12

Instrument ID: ICP-MS2 Run Time: 15:29 Method: 6020A

File ID: NI.031517.152912 Analyst: JYH QC Key: DOD4

Workgroup (AAB#): WG606367 Cal ID: ICP-MS - 15-MAR-17

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Silver		0.0500	0.0511	mg/L	102	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 5201149

Report generated 03/16/2017 09:52

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17030723 Run Date: 03/15/2017 Sample ID: WG606470-14

Instrument ID: ICP-MS2 Run Time: 15:48 Method: 6020A

File ID: NI.031517.154815 Analyst: JYH QC Key: DOD4

Workgroup (AAB#): WG606367 Cal ID: ICP-MS - 15-MAR-17

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Silver		0.0500	0.0506	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 5201149

Report generated 03/16/2017 09:52

Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number:	L17030723	**Run Date:**	03/15/2017	**Sample ID:**	WG606470-07
Instrument ID:	ICP-MS2	**Run Time:**	14:42	**Method:**	6020A
File ID:	NI.031517.144243	**Analyst:**	JYH	**QC Key:**	DOD4
Workgroup (AAB#):	WG606367	**Cal ID:**	ICP-MS - 15-MAR-17		
Matrix:	WATER				

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Silver		0.400	0.377	ug/L	94.4	70 - 130		

*** Exceeds LIMITS Criteria**

LLCCV - Modified 1/7/2010
PDF File ID: 5201166
Report generated 03/16/2017 09:53

Login Number: L17030723 Run Date: 03/15/2017 Sample ID: WG606470-16
Instrument ID: ICP-MS2 Run Time: 15:54 Method: 6020A
File ID: NI.031517.155428 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG606367 Cal ID: ICP-MS - 15-MAR-17
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Silver		0.400	0.375	ug/L	93.8	70 - 130		

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
PDF File ID: 5201166
Report generated 03/16/2017 09:53

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L17030723 **Workgroup (AAB#):** WG606367
Instrument ID: ICP-MS2 **Method:** 6020A
Sol. A : WG606470-08 **File ID:** NI.031517.144549 **Units:** ug/L
Sol. AB : WG606470-09 **File ID:** NI.031517.144854 **Matrix:** Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Silver	NS	0.000400	NS	100	90.0	90.0	

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: 5201148
Report generated 03/16/2017 09:52

Microbac Laboratories Inc.

INTERNAL STANDARD REPORT

Login: L17030723 **Analytical Method:** 6020
Analytical Workgroup: WG606367 **Matrix:** 1
Instrument: ICP-MS2 **Analyst:** JYH
ICAL Date: 15-MAR-2017 14:24

			BISMUTH	GERMANIUM	INDIUM
Sample	Type	Run Date	% Rec	% Rec	% Rec
L17030705-01	SAMP	15-MAR-2017 15:04	106.997	103.477	102.65
L17030723-01	SAMP	15-MAR-2017 15:07	92.56	92.006	89.964
L17030724-01	SAMP	15-MAR-2017 15:16	87.458	88.241	85.081
WG606254-02	BLANK	15-MAR-2017 14:58	95.746	91.287	91.06
WG606254-03	LCS	15-MAR-2017 15:01	101.331	97.298	96.806
WG606254-04	MS	15-MAR-2017 15:10	91.484	89.24	88.295
WG606254-05	MSD	15-MAR-2017 15:13	89.922	89.955	87.335
WG606367-01	PSPK	15-MAR-2017 15:19	88.091	87.937	85.856
WG606367-02	SERIAL	15-MAR-2017 15:23	91.099	89.587	87.016
WG606367-03	PSPK	15-MAR-2017 15:38	104.542	102.274	101.712
WG606367-04	SERIAL	15-MAR-2017 15:42	95.752	91.482	90.073
WG606470-05	ICV	15-MAR-2017 14:36	103.761	100.27	100.51
WG606470-06	ICB	15-MAR-2017 14:39	99.277	95.333	96.734
WG606470-07	LLICV	15-MAR-2017 14:42	97.644	95.389	95.445
WG606470-08	ICS	15-MAR-2017 14:45	103.847	101.473	101.555
WG606470-09	ICS	15-MAR-2017 14:48	106.743	102.544	101.408
WG606470-10	CCV	15-MAR-2017 14:52	107.751	101.191	102.382
WG606470-11	CCB	15-MAR-2017 14:55	99.479	95.839	95.865
WG606470-12	CCV	15-MAR-2017 15:29	101.153	97.241	96.908
WG606470-13	CCB	15-MAR-2017 15:32	95.247	91.026	91.285
WG606470-14	CCV	15-MAR-2017 15:48	100.254	96.878	96.706
WG606470-15	CCB	15-MAR-2017 15:51	94.552	90.261	90.154
WG606470-16	LLCCV	15-MAR-2017 15:54	91.975	87.859	87.447

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: 5201144
Report generated: 03/16/2017 09:52

Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L17030723 **Date:** 01/24/2017
Insturment ID: ICP-MS2 **Method:** 6020A

Analyte	Integration Time (Sec.)	Concentration (ug/L)
Antimony	1.00	100.0
Arsenic	1.00	100.0
Barium	1.00	100.0
Cadmium	1.00	100.0
Chromium	1.00	100.0
Cobalt	1.00	100.0
Copper	1.00	100.0
Lead	1.00	100.0
Manganese	1.00	100.0
Nickel	1.00	100.0
Selenium	1.00	100.0
Silver	1.00	100.0
Thallium	1.00	100.0
Uranium	1.00	100.0
Vanadium	1.00	100.0
Zinc	1.00	100.0

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

LINEAR_RANGE - Modified 03/06/2008
PDF File ID: 5201143
Report generated: 03/16/2017 09:52

2.1.2.3 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, March 15, 2017 14:00:21

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	1320	2026	0.702	
Mg	23.985	23.975	4506	2021	0.706	
Co	58.933	58.925	11688	2023	0.705	
In	114.904	114.925	22857	2029	0.712	
U	238.050	238.075	47451	2046	0.716	

Relative Std. Dev.

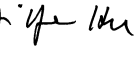
Mass	Meas. Intens. RSD
5.525	11.800
5.575	3.411
5.625	4.112
5.675	2.699
5.725	2.241
5.775	3.394
5.825	2.884
5.875	2.164
5.925	2.035
5.975	1.839
6.025	1.113
6.075	1.725
6.125	3.063
6.175	2.797
6.225	4.557
6.275	3.209
6.325	11.106
6.375	40.745
6.425	67.748
6.475	40.825
6.525	27.082
6.575	15.302
6.625	3.998
6.675	3.960
6.725	3.670
6.775	3.262
6.825	2.094

Report Date/Time: Wednesday, March 15, 2017 14:03:32
Page 1

Approved: March 16, 2017

6.875	2.176
6.925	1.663
6.975	1.810
7.025	3.198
7.075	2.441
7.125	2.607
7.175	2.662
7.225	2.431
7.275	1.914
7.325	2.050
7.375	8.437
7.425	34.468
7.475	39.123
7.525	79.057
7.575	35.355
7.625	99.381
7.675	60.009
7.725	47.507
7.775	25.000
7.825	58.330
7.875	46.771
7.925	45.799
7.975	58.330
8.025	58.330
8.075	143.886
8.125	71.261
8.175	60.111
8.225	77.427
8.275	57.735
8.325	63.191
8.375	40.825
8.425	71.261
8.475	43.853
22.525	0.000
22.575	74.608
22.625	45.799
22.675	38.401
22.725	15.408
22.775	42.492
22.825	50.281
22.875	24.636
22.925	34.401
22.975	45.015
23.025	42.111
23.075	40.000
23.125	47.075
23.175	24.993

Approved: March 16, 2017



23.225	54.735
23.275	36.422
23.325	45.928
23.375	24.549
23.425	11.050
23.475	18.271
23.525	8.752
23.575	4.354
23.625	2.050
23.675	2.593
23.725	1.517
23.775	1.466
23.825	1.248
23.875	1.929
23.925	1.314
23.975	1.696
24.025	2.584
24.075	1.341
24.125	1.308
24.175	1.988
24.225	1.812
24.275	7.636
24.325	25.353
24.375	42.906
24.425	17.801
24.475	11.051
24.525	4.130
24.575	4.242
24.625	1.931
24.675	2.549
24.725	2.010
24.775	2.700
24.825	2.339
24.875	2.467
24.925	1.639
24.975	1.953
25.025	1.863
25.075	1.865
25.125	1.646
25.175	1.771
25.225	3.506
25.275	21.638
25.325	26.352
25.375	51.446
25.425	35.854
25.475	5.477
57.525	9.488

Report Date/Time: Wednesday, March 15, 2017 14:03:32
Page 3

Approved: March 16, 2017

57.575	4.328
57.625	1.153
57.675	3.782
57.725	3.378
57.775	3.251
57.825	1.478
57.875	3.722
57.925	2.243
57.975	2.381
58.025	1.601
58.075	2.732
58.125	3.057
58.175	1.170
58.225	1.207
58.275	12.130
58.325	18.652
58.375	21.626
58.425	34.572
58.475	5.866
58.525	4.577
58.575	3.799
58.625	0.878
58.675	2.172
58.725	2.023
58.775	3.157
58.825	3.023
58.875	1.949
58.925	2.298
58.975	1.753
59.025	2.995
59.075	3.305
59.125	3.278
59.175	3.095
59.225	3.271
59.275	17.331
59.325	39.219
59.375	33.164
59.425	38.452
59.475	16.318
59.525	6.158
59.575	7.603
59.625	6.491
59.675	6.230
59.725	4.692
59.775	3.338
59.825	3.788
59.875	1.728

Report Date/Time: Wednesday, March 15, 2017 14:03:32
Page 4

Approved: March 16, 2017

59.925	1.862
59.975	2.953
60.025	6.607
60.075	4.349
60.125	5.962
60.175	3.586
60.225	5.399
60.275	18.468
60.325	33.333
60.375	52.973
60.425	62.630
60.475	67.823
113.525	5.586
113.575	7.356
113.625	3.588
113.675	2.718
113.725	2.766
113.775	2.729
113.825	3.021
113.875	2.276
113.925	3.641
113.975	3.947
114.025	3.054
114.075	3.402
114.125	2.309
114.175	4.046
114.225	2.382
114.275	8.095
114.325	16.308
114.375	31.126
114.425	26.865
114.475	8.722
114.525	10.363
114.575	2.651
114.625	2.721
114.675	1.403
114.725	2.324
114.775	2.024
114.825	1.709
114.875	2.019
114.925	2.229
114.975	2.290
115.025	2.680
115.075	2.575
115.125	3.026
115.175	1.824
115.225	1.577

Report Date/Time: Wednesday, March 15, 2017 14:03:32
Page 5

Approved: March 16, 2017

115.275	4.674
115.325	5.845
115.375	40.966
115.425	45.644
115.475	25.693
115.525	14.145
115.575	14.380
115.625	6.204
115.675	2.569
115.725	6.614
115.775	7.147
115.825	7.322
115.875	3.889
115.925	4.077
115.975	2.508
116.025	3.021
116.075	5.846
116.125	7.702
116.175	5.834
116.225	2.502
116.275	15.300
116.325	36.060
116.375	77.280
116.425	37.378
116.475	28.085
236.525	
236.575	27.216
236.625	23.077
236.675	26.334
236.725	17.973
236.775	9.182
236.825	13.869
236.875	21.982
236.925	19.264
236.975	14.263
237.025	44.070
237.075	36.094
237.125	10.879
237.175	13.280
237.225	20.067
237.275	22.016
237.325	35.126
237.375	17.489
237.425	16.997
237.475	38.586
237.525	27.591
237.575	22.608

Approved: March 16, 2017

237.625	10.714
237.675	5.451
237.725	2.665
237.775	2.980
237.825	2.543
237.875	1.801
237.925	3.241
237.975	2.012
238.025	1.745
238.075	2.730
238.125	1.378
238.175	2.263
238.225	2.119
238.275	2.746
238.325	2.340
238.375	3.399
238.425	3.510
238.475	3.656
238.525	6.220
238.575	12.284
238.625	17.321
238.675	9.268
238.725	42.181
238.775	13.258
238.825	8.319
238.875	17.040
238.925	10.648
238.975	23.903
239.025	8.712
239.075	17.149
239.125	17.861
239.175	13.245
239.225	20.917
239.275	31.147
239.325	15.267
239.375	11.918
239.425	17.942
239.475	21.613

Approved: March 16, 2017

SmartTune Wizard - Summary

Optimization Summary

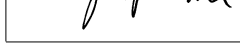
SmartTune file: C:\NexIONData\Wizard\SmartTune\ESI SmartTune Fullmicrobac.swz

Start Time: 3/15/2017 2:11:18 PM
End Time: 3/15/2017 2:13:40 PM

Daily Performance Check - [Passed] Optimum value(s): N/A
Obtained Intensity (Be 9.0122): 9685.63
Obtained Intensity (Mg 23.985): 92051.72
Obtained Intensity (In 114.904): 69902.23
Obtained Intensity (U 238.05): 94127.58
Obtained Intensity (Bkgd 220): 0.53
Obtained Formula (CeO 155.9 / Ce 139.905): 0.015 (=2785.99 / 190044.47)
Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.007 (=1334.39 / 190044.47)

Report Date/Time: Wednesday, March 15, 2017 14:13:40
Page 1

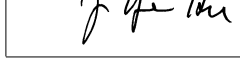
Approved: March 16, 2017



SmartTune Wizard - Details

```
Optimization Details

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

Optimization Status

Start Time: 3/15/2017 2:11:18 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): 9685.63
                Obtained Intensity (Mg 23.985): 92051.72
                Obtained Intensity (In 114.904): 69902.23
                Obtained Intensity (U 238.05): 94127.58
                Obtained Intensity (Bkgd 220): 0.53
                Obtained Formula (CeO 155.9 / Ce 139.905): 0.015 (=2785.99 / 190044.47)
                Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.007 (=1334.39 / 190044.47)
[Passed]  Optimum value(s): N/A

End Time: 3/15/2017 2:13:40 PM
```


Approved: March 16, 2017



Method 6020 - Summary Report

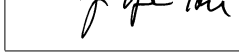
Sample ID: Blank
Sample Date/Time: Wednesday, March 15, 2017 14:21:01
Number of Replicates: 3
Autosampler Position: 1
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	253194.3	26.5				ug/L		Standard
	Be	9	25.0	20.0				ug/L		Standard
	Al	27	868.4	15.2				ug/L		Standard
	Sc	45	47223.9	27.9				ug/L		Standard
	Ti	47	63.3	15.5				ug/L		Standard
	V	51	2189.7	11.2				ug/L		Standard
	Cr	52	8510.8	13.4				ug/L		Standard
	Cr	53	461.7	14.7				ug/L		Standard
	Mn	55	2023.5	15.9				ug/L		Standard
	Co	59	1672.1	24.4				ug/L		Standard
	Ni	60	189.3	21.7				ug/L		Standard
	Cu	65	657.3	22.8				ug/L		Standard
	Zn	66	401.0	23.8				ug/L		Standard
>	Ge	72	826992.0	26.1				ug/L		Standard
	As	75	-72.4	18.4				ug/L		Standard
	Se	82	21.3	24.7				ug/L		Standard
	Se-1	77	111.3	11.2				ug/L		Standard
>	Ga	71	31.7	79.5				mg/L		Standard
	Rb	85	48.3	21.5				ug/L		Standard
	Y	89	561065.6	28.3				ug/L		Standard
>	Rh	103	6.7	43.3				ug/L		Standard
	Mo	98	160.6	34.7				ug/L		Standard
	Ag	107	137.3	16.9				ug/L		Standard
	Cd	111	2.8	131.4				mg/L		Standard
	Cd	114	51.3	49.1				ug/L		Standard
>	In	115	706703.6	26.7				ug/L		Standard
	Sn	118	264.0	8.7				ug/L		Standard
	Sb	123	424.4	10.3				ug/L		Standard
	Ba	135	36.0	14.4				ug/L		Standard
	Ce	140	40.0	50.0				ug/L		Standard
>	Tb	159	1061303.3	24.3				ug/L		Standard
	Ho	165	10.0	100.0				ug/L		Standard
	Tl	203	12.7	24.1				ug/L		Standard
	Tl	205	41.7	45.4				ug/L		Standard
	Pb	206	485.0	18.7				ug/L		Standard
	Pb	207	409.0	30.9				ug/L		Standard
	Pb	208	928.0	25.3				ug/L		Standard
	U	238	7.3	15.7				ug/L		Standard
>	Bi	209	604402.2	25.2				ug/L		Standard

Sample ID: Blank
Report Date/Time: Wednesday, March 15, 2017 14:23:12
Page 1

Approved: March 16, 2017



	Na	23	5.0	173.2	mg/L	Standard
	Mg	24	25.0	52.9	mg/L	Standard
	K	39	26.7	10.8	mg/L	Standard
	Ca	43	58.3	35.7	mg/L	Standard
	Fe	54	37.8	14.6	mg/L	Standard
	Fe	57	205.0	8.8	mg/L	Standard
>	**Sc-1**	45	47223.9	27.9	mg/L	Standard
	Cl	35	1.3	173.2	ug/L	Standard
	Kr	83	5.0	52.9	ug/L	Standard
	Br	81	3213.7	18.1	ug/L	Standard
	P	31	70.0	18.9	ug/L	Standard
	S	34	15.0	33.3	ug/L	Standard
	Sr	88	161.7	17.0	ug/L	Standard
	C	12	16.7	69.3	mg/L	Standard
	N	14	3.3	173.2	mg/L	Standard
	Hg	202	3.3	173.2	mg/L	Standard
	Dy	164	12.5	121.5	mg/L	Standard
	Ho-1	165	10.0	100.0	mg/L	Standard
	Er	166	16.7	34.6	mg/L	Standard
	I	127	7850.4	11.1	mg/L	Standard

QC Calculated Values

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

Sample ID: Blank
Report Date/Time: Wednesday, March 15, 2017 14:23:12
Page 2

Approved: March 16, 2017

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, March 15, 2017 14:23:12
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: Standard 1
Sample Date/Time: Wednesday, March 15, 2017 14:24:07
Number of Replicates: 3
Autosampler Position: 1
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	260127.6	26.3				ug/L	253194	Standard
	Be	9	23.3	24.7				ug/L	25	Standard
	Al	27	933.4	13.7				ug/L	868	Standard
	Sc	45	48667.2	28.4				ug/L	47224	Standard
	Ti	47	58.0	9.6				ug/L	63	Standard
	V	51	2064.3	14.4				ug/L	2190	Standard
	Cr	52	8257.3	14.3				ug/L	8511	Standard
	Cr	53	478.3	6.1				ug/L	462	Standard
	Mn	55	2035.5	16.5				ug/L	2023	Standard
	Co	59	981.4	20.6				ug/L	1672	Standard
	Ni	60	191.3	17.2				ug/L	189	Standard
	Cu	65	678.3	27.0				ug/L	657	Standard
	Zn	66	463.0	19.1				ug/L	401	Standard
>	Ge	72	836138.6	27.4				ug/L	826992	Standard
	As	75	-113.2	25.5				ug/L	-72	Standard
	Se	82	14.4	10.4				ug/L	21	Standard
	Se-1	77	113.7	10.3				ug/L	111	Standard
>	Ga	71	35.0	37.8				mg/L	32	Standard
	Rb	85	30.0	60.1				ug/L	48	Standard
	Y	89	573178.0	27.6				ug/L	561066	Standard
>	Rh	103	11.7	24.7				ug/L	7	Standard
	Mo	98	79.8	3.5				ug/L	161	Standard
	Ag	107	117.3	29.7				ug/L	137	Standard
	Cd	111	4.2	75.9				mg/L	3	Standard
	Cd	114	49.9	42.7				ug/L	51	Standard
>	In	115	715773.3	29.0				ug/L	706704	Standard
	Sn	118	252.0	34.9				ug/L	264	Standard
	Sb	123	164.9	5.6				ug/L	424	Standard
	Ba	135	43.7	29.9				ug/L	36	Standard
	Ce	140	66.7	33.8				ug/L	40	Standard
>	Tb	159	1094117.6	24.7				ug/L	1061303	Standard
	Ho	165	16.7	105.4				ug/L	10	Standard
	Tl	203	18.0	24.2				ug/L	13	Standard
	Tl	205	51.7	81.2				ug/L	42	Standard
	Pb	206	509.3	24.2				ug/L	485	Standard
	Pb	207	420.7	23.0				ug/L	409	Standard
	Pb	208	964.7	28.5				ug/L	928	Standard
	U	238	5.3	47.2				ug/L	7	Standard
>	Bi	209	622098.6	25.6				ug/L	604402	Standard

Sample ID: Standard 1
Report Date/Time: Wednesday, March 15, 2017 14:26:18
Page 1

Approved: March 16, 2017

Na	23	6.7	43.3	mg/L	5	Standard
Mg	24	30.0	33.3	mg/L	25	Standard
K	39	31.7	48.2	mg/L	27	Standard
Ca	43	60.0	8.3	mg/L	58	Standard
Fe	54	22.9	61.2	mg/L	38	Standard
Fe	57	245.0	7.1	mg/L	205	Standard
Sc-1	45	48667.2	28.4	mg/L	47224	Standard
Cl	35	2.7	114.6	ug/L	1	Standard
Kr	83	6.7	31.2	ug/L	5	Standard
Br	81	3280.4	21.5	ug/L	3214	Standard
P	31	83.3	12.5	ug/L	70	Standard
S	34	11.7	65.5	ug/L	15	Standard
Sr	88	163.3	15.4	ug/L	162	Standard
C	12	30.0	33.3	mg/L	17	Standard
N	14	0.0		mg/L	3	Standard
Hg	202	0.0		mg/L	3	Standard
Dy	164	12.5	45.0	mg/L	13	Standard
Ho-1	165	16.7	105.4	mg/L	10	Standard
Er	166	16.7	34.6	mg/L	17	Standard
I	127	7250.1	9.8	mg/L	7850	Standard

QC Calculated Values

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

Sample ID: Standard 1
Report Date/Time: Wednesday, March 15, 2017 14:26:18
Page 2

Approved: March 16, 2017

⌊	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, March 15, 2017 14:26:18
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: Standard 2
Sample Date/Time: Wednesday, March 15, 2017 14:27:12
Number of Replicates: 3
Autosampler Position: 2
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	250501.0	26.4				ug/L	253194	Standard
	Be	9	121.7	41.2				ug/L	25	Standard
	Al	27	7235.2	29.1				ug/L	868	Standard
	Sc	45	48553.3	27.7				ug/L	47224	Standard
	Ti	47	95.0	13.8				ug/L	63	Standard
	V	51	2408.0	12.1				ug/L	2190	Standard
	Cr	52	8464.1	11.8				ug/L	8511	Standard
	Cr	53	516.7	18.0				ug/L	462	Standard
	Mn	55	2555.2	17.3				ug/L	2023	Standard
	Co	59	1235.4	17.6				ug/L	1672	Standard
	Ni	60	306.7	22.8				ug/L	189	Standard
	Cu	65	755.0	21.9				ug/L	657	Standard
	Zn	66	448.0	30.3				ug/L	401	Standard
>	Ge	72	825373.8	27.0				ug/L	826992	Standard
	As	75	20.9	182.7				ug/L	-72	Standard
	Se	82	30.8	17.6				ug/L	21	Standard
	Se-1	77	114.0	3.2				ug/L	111	Standard
>	Ga	71	51.7	71.3				mg/L	32	Standard
	Rb	85	25.0	34.6				ug/L	48	Standard
	Y	89	565577.2	28.6				ug/L	561066	Standard
>	Rh	103	16.7	17.3				ug/L	7	Standard
	Mo	98	489.4	19.6				ug/L	161	Standard
	Ag	107	486.7	20.7				ug/L	137	Standard
	Cd	111	107.4	20.4				mg/L	3	Standard
	Cd	114	260.5	8.6				ug/L	51	Standard
>	In	115	706728.6	26.6				ug/L	706704	Standard
	Sn	118	292.3	34.6				ug/L	264	Standard
	Sb	123	385.5	20.9				ug/L	424	Standard
	Ba	135	143.3	19.8				ug/L	36	Standard
	Ce	140	25.0	20.0				ug/L	40	Standard
>	Tb	159	1089617.2	25.5				ug/L	1061303	Standard
	Ho	165	18.3	31.5				ug/L	10	Standard
	Tl	203	423.7	22.3				ug/L	13	Standard
	Tl	205	1070.0	24.8				ug/L	42	Standard
	Pb	206	824.7	21.5				ug/L	485	Standard
	Pb	207	711.0	27.7				ug/L	409	Standard
	Pb	208	1641.7	24.4				ug/L	928	Standard
	U	238	257.7	23.0				ug/L	7	Standard
>	Bi	209	609160.7	26.2				ug/L	604402	Standard

Sample ID: Standard 2
Report Date/Time: Wednesday, March 15, 2017 14:29:23
Page 1

Approved: March 16, 2017

Na	23	3.3	86.6	mg/L	5	Standard
Mg	24	35.0	37.8	mg/L	25	Standard
K	39	28.3	20.4	mg/L	27	Standard
Ca	43	63.3	29.9	mg/L	58	Standard
Fe	54	28.0	53.9	mg/L	38	Standard
Fe	57	256.7	10.0	mg/L	205	Standard
Sc-1	45	48553.3	27.7	mg/L	47224	Standard
Cl	35	0.7	173.2	ug/L	1	Standard
Kr	83	3.3	45.8	ug/L	5	Standard
Br	81	3230.3	12.4	ug/L	3214	Standard
P	31	83.3	15.1	ug/L	70	Standard
S	34	15.0	88.2	ug/L	15	Standard
Sr	88	141.7	23.5	ug/L	162	Standard
C	12	33.3	75.5	mg/L	17	Standard
N	14	0.0		mg/L	3	Standard
Hg	202	0.0		mg/L	3	Standard
Dy	164	9.8	99.2	mg/L	13	Standard
Ho-1	165	18.3	31.5	mg/L	10	Standard
Er	166	3.3	173.2	mg/L	17	Standard
I	127	7390.1	10.5	mg/L	7850	Standard

QC Calculated Values

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

Sample ID: Standard 2
Report Date/Time: Wednesday, March 15, 2017 14:29:23
Page 2

Approved: March 16, 2017

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

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: Standard 2
Report Date/Time: Wednesday, March 15, 2017 14:29:23
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: Standard 3
Sample Date/Time: Wednesday, March 15, 2017 14:30:17
Number of Replicates: 3
Autosampler Position: 3
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	262275.0	22.7				ug/L	253194	Standard
	Be	9	114366.0	19.7	50.0000	1.461	2.9	ug/L	25	Standard
	Al	27	7503028.7	20.7	50.0000	1.128	2.3	ug/L	868	Standard
	Sc	45	50381.6	23.0				ug/L	47224	Standard
	Ti	47	28524.1	19.1	100.0000	3.201	3.2	ug/L	63	Standard
	V	51	406556.5	20.0	50.0000	1.282	2.6	ug/L	2190	Standard
	Cr	52	383708.9	20.5	50.0000	1.009	2.0	ug/L	8511	Standard
	Cr	53	47014.6	19.1	50.0000	1.635	3.3	ug/L	462	Standard
	Mn	55	635577.4	20.2	50.0000	1.283	2.6	ug/L	2023	Standard
	Co	59	496890.0	21.2	50.0000	0.770	1.5	ug/L	1672	Standard
	Ni	60	106069.2	21.0	50.0000	1.124	2.2	ug/L	189	Standard
	Cu	65	109725.9	19.5	50.0000	1.363	2.7	ug/L	657	Standard
	Zn	66	65749.0	19.6	50.0000	1.673	3.3	ug/L	401	Standard
>	Ge	72	842593.2	22.4				ug/L	826992	Standard
	As	75	65690.7	19.8	50.0000	1.270	2.5	ug/L	-72	Standard
	Se	82	6079.4	21.0	50.0000	0.672	1.3	ug/L	21	Standard
	Se-1	77	4364.6	18.7	50.0000	1.927	3.9	ug/L	111	Standard
>	Ga	71	56.7	53.9				mg/L	32	Standard
	Rb	85	956.7	23.8				ug/L	48	Standard
	Y	89	585022.9	23.1				ug/L	561066	Standard
>	Rh	103	36.7	15.7				ug/L	7	Standard
	Mo	98	414131.0	21.5	100.0000	1.572	1.6	ug/L	161	Standard
	Ag	107	352962.9	21.2	50.0000	0.891	1.8	ug/L	137	Standard
	Cd	111	99903.1	22.3	50.0000	0.420	0.8	mg/L	3	Standard
	Cd	114	258568.9	21.4	50.0000	0.797	1.6	ug/L	51	Standard
>	In	115	732308.5	23.1				ug/L	706704	Standard
	Sn	118	57272.5	22.9	50.0000	0.339	0.7	ug/L	264	Standard
	Sb	123	262389.4	21.1	50.0000	0.933	1.9	ug/L	424	Standard
	Ba	135	104879.9	20.3	50.0000	1.395	2.8	ug/L	36	Standard
	Ce	140	56.7	51.7				ug/L	40	Standard
>	Tb	159	1140392.3	20.3				ug/L	1061303	Standard
	Ho	165	38.3	45.8				ug/L	10	Standard
	Tl	203	412785.8	19.5	50.0000	0.702	1.4	ug/L	13	Standard
	Tl	205	997292.2	18.4	50.0000	1.199	2.4	ug/L	42	Standard
	Pb	206	329402.2	19.8	50.0000	0.793	1.6	ug/L	485	Standard
	Pb	207	293325.7	19.7	50.0000	0.612	1.2	ug/L	409	Standard
	Pb	208	661432.6	19.1	50.0000	0.961	1.9	ug/L	928	Standard
	U	238	261356.4	18.7	50.0000	1.165	2.3	ug/L	7	Standard
>	Bi	209	635486.8	20.8				ug/L	604402	Standard

Sample ID: Standard 3
Report Date/Time: Wednesday, March 15, 2017 14:32:28
Page 1

Approved: March 16, 2017

	Na	23	8.3	34.6	**5.0000**	3.325	66.5	mg/L	5	Standard
	Mg	24	491.7	24.9	**5.0000**	0.121	2.4	mg/L	25	Standard
	K	39	1131.7	16.9	**5.0000**	0.297	5.9	mg/L	27	Standard
	Ca	43	86.7	33.8	**5.0000**	7.422	148.4	mg/L	58	Standard
	Fe	54	816.0	22.4	**5.0000**	0.193	3.9	mg/L	38	Standard
	Fe	57	498.3	20.9	**5.0000**	0.294	5.9	mg/L	205	Standard
>	**Sc-1**	45	50381.6	23.0				mg/L	47224	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	3.7	68.6				ug/L	5	Standard
	Br	81	3210.4	25.4				ug/L	3214	Standard
	P	31	80.0	39.0				ug/L	70	Standard
	S	34	20.0	25.0				ug/L	15	Standard
	Sr	88	145.0	15.8				ug/L	162	Standard
	C	12	46.7	86.6				mg/L	17	Standard
	N	14	3.3	173.2				mg/L	3	Standard
	Hg	202	6.7	173.2				mg/L	3	Standard
	Dy	164	15.4	74.2				mg/L	13	Standard
	Ho-1	165	38.3	45.8				mg/L	10	Standard
	Er	166	26.7	21.7				mg/L	17	Standard
	I	127	4437.3	18.9				mg/L	7850	Standard

QC Calculated Values

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

Sample ID: Standard 3
Report Date/Time: Wednesday, March 15, 2017 14:32:28
Page 2

Approved: March 16, 2017

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
Report Date/Time: Wednesday, March 15, 2017 14:32:28
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: Standard 4
Sample Date/Time: Wednesday, March 15, 2017 14:33:22
Number of Replicates: 3
Autosampler Position: 4
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	260275.2	18.9				ug/L	253194	Standard
	Be	9	217322.9	18.2	**97.6534**	0.919	0.9	ug/L	25	Standard
	Al	27	14722653.6	20.1	**99.2140**	1.264	1.3	ug/L	868	Standard
	Sc	45	50078.8	22.6				ug/L	47224	Standard
	Ti	47	55259.4	18.1	**197.2566**	5.286	2.7	ug/L	63	Standard
	V	51	782170.2	18.6	**98.3845**	2.766	2.8	ug/L	2190	Standard
	Cr	52	730551.9	18.9	**98.2833**	2.339	2.4	ug/L	8511	Standard
	Cr	53	89512.6	20.4	**97.7900**	3.176	3.2	ug/L	462	Standard
	Mn	55	1228445.0	19.6	**98.5093**	2.055	2.1	ug/L	2023	Standard
	Co	59	959453.0	20.3	**98.4450**	0.579	0.6	ug/L	1672	Standard
	Ni	60	205135.9	20.5	**98.5097**	1.943	2.0	ug/L	189	Standard
	Cu	65	211377.1	19.8	**98.3539**	1.196	1.2	ug/L	657	Standard
	Zn	66	126892.1	19.3	**98.4828**	2.086	2.1	ug/L	401	Standard
>	Ge	72	838709.4	20.6				ug/L	826992	Standard
	As	75	127353.2	19.0	**98.5705**	2.036	2.1	ug/L	-72	Standard
	Se	82	11685.3	19.6	**98.3071**	1.777	1.8	ug/L	21	Standard
	Se-1	77	8320.3	20.0	**98.2442**	1.798	1.8	ug/L	111	Standard
>	Ga	71	140.0	16.4				mg/L	32	Standard
	Rb	85	675.0	15.3				ug/L	48	Standard
	Y	89	568133.9	21.4				ug/L	561066	Standard
>	Rh	103	53.3	19.5				ug/L	7	Standard
	Mo	98	802960.5	19.3	**198.1764**	3.841	1.9	ug/L	161	Standard
	Ag	107	669003.2	19.4	**97.9256**	2.185	2.2	ug/L	137	Standard
	Cd	111	192732.9	20.2	**98.8332**	1.529	1.5	mg/L	3	Standard
	Cd	114	504648.4	19.7	**99.3846**	1.461	1.5	ug/L	51	Standard
>	In	115	723139.3	21.1				ug/L	706704	Standard
	Sn	118	109046.1	21.0	**98.2676**	1.141	1.2	ug/L	264	Standard
	Sb	123	507166.4	19.6	**98.8981**	1.432	1.4	ug/L	424	Standard
	Ba	135	200944.6	18.5	**98.4689**	2.467	2.5	ug/L	36	Standard
	Ce	140	575.0	19.7				ug/L	40	Standard
>	Tb	159	1121117.5	17.7				ug/L	1061303	Standard
	Ho	165	51.7	34.0				ug/L	10	Standard
	Tl	203	795822.2	18.7	**98.5243**	0.359	0.4	ug/L	13	Standard
	Tl	205	2025850.4	27.5	**100.5565**	8.603	8.6	ug/L	42	Standard
	Pb	206	636284.0	18.5	**98.6883**	1.066	1.1	ug/L	485	Standard
	Pb	207	567597.5	18.7	**98.7586**	0.496	0.5	ug/L	409	Standard
	Pb	208	1280527.1	18.0	**98.7861**	0.965	1.0	ug/L	928	Standard
	U	238	515311.7	17.7	**99.6486**	1.512	1.5	ug/L	7	Standard
>	Bi	209	629953.6	18.8				ug/L	604402	Standard

Sample ID: Standard 4
Report Date/Time: Wednesday, March 15, 2017 14:35:33
Page 1

Approved: March 16, 2017

⌈	**Na**	23	15.0	33.3	**10.4023**	1.926	18.5	mg/L	5	Standard
|	**Mg**	24	803.4	25.4	**9.1953**	1.200	13.1	mg/L	25	Standard
|	**K**	39	2055.1	10.5	**9.6544**	1.263	13.1	mg/L	27	Standard
|	**Ca**	43	101.7	17.3	**8.9499**	4.090	45.7	mg/L	58	Standard
|	**Fe**	54	1580.9	17.7	**9.9976**	1.078	10.8	mg/L	38	Standard
|	**Fe**	57	660.0	23.0	**9.2990**	1.308	14.1	mg/L	205	Standard
⌊>	**Sc-1**	45	50078.8	22.6				mg/L	47224	Standard
	Cl	35	1.3	173.2				ug/L	1	Standard
	Kr	83	3.7	83.3				ug/L	5	Standard
	Br	81	2770.3	32.2				ug/L	3214	Standard
	P	31	71.7	20.1				ug/L	70	Standard
	S	34	15.0	57.7				ug/L	15	Standard
	Sr	88	175.0	20.0				ug/L	162	Standard
	C	12	30.0	33.3				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	10.0	100.0				mg/L	3	Standard
	Dy	164	42.2	58.6				mg/L	13	Standard
	Ho-1	165	51.7	34.0				mg/L	10	Standard
	Er	166	23.3	49.5				mg/L	17	Standard
	I	127	6331.3	10.1				mg/L	7850	Standard

QC Calculated Values

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

Sample ID: Standard 4
Report Date/Time: Wednesday, March 15, 2017 14:35:33
Page 2

Approved: March 16, 2017

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.	Mg	24	Correlation coefficient < 0.998
Corr. Coef.	Ca	43	Correlation coefficient < 0.998
Corr. Coef.	Fe	57	Correlation coefficient < 0.998

Sample ID: Standard 4
Report Date/Time: Wednesday, March 15, 2017 14:35:33
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: QC Std 1
Sample Date/Time: Wednesday, March 15, 2017 14:36:29
Number of Replicates: 3
Autosampler Position: 201
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	259779.7	17.3				ug/L	253194	Standard
	Be	9	108522.2	19.7	**48.6719**	1.368	2.8	ug/L	25	Standard
	Al	27	7260274.6	19.8	**48.9575**	1.357	2.8	ug/L	868	Standard
	Sc	45	48754.2	22.1				ug/L	47224	Standard
	Ti	47	27298.5	18.7	**98.2934**	1.887	1.9	ug/L	63	Standard
	V	51	385741.4	18.3	**48.9341**	0.949	1.9	ug/L	2190	Standard
	Cr	52	364737.0	18.4	**49.0737**	0.893	1.8	ug/L	8511	Standard
	Cr	53	44622.7	22.0	**48.9143**	0.885	1.8	ug/L	462	Standard
	Mn	55	610689.7	20.2	**49.3989**	0.222	0.4	ug/L	2023	Standard
	Co	59	478770.8	20.9	**49.5888**	0.334	0.7	ug/L	1672	Standard
	Ni	60	102126.1	20.4	**49.5488**	0.122	0.2	ug/L	189	Standard
	Cu	65	105831.5	19.4	**49.6554**	0.392	0.8	ug/L	657	Standard
	Zn	66	63858.8	18.8	**49.9904**	0.679	1.4	ug/L	401	Standard
>	Ge	72	829225.3	20.2				ug/L	826992	Standard
	As	75	63641.3	18.5	**49.8539**	0.817	1.6	ug/L	-72	Standard
	Se	82	5864.1	20.4	**49.7184**	0.335	0.7	ug/L	21	Standard
	Se-1	77	4199.6	21.0	**49.3858**	0.403	0.8	ug/L	111	Standard
>	Ga	71	53.3	37.9				mg/L	32	Standard
	Rb	85	875.0	23.1				ug/L	48	Standard
	Y	89	569955.4	22.4				ug/L	561066	Standard
>	Rh	103	28.3	27.0				ug/L	7	Standard
	Mo	98	397959.3	20.0	**99.8172**	1.091	1.1	ug/L	161	Standard
	Ag	107	335242.9	19.8	**49.8905**	0.589	1.2	ug/L	137	Standard
	Cd	111	96809.8	21.2	**50.4326**	0.456	0.9	mg/L	3	Standard
	Cd	114	246965.1	21.5	**49.3623**	0.421	0.9	ug/L	51	Standard
>	In	115	710308.4	20.6				ug/L	706704	Standard
	Sn	118	53833.6	19.9	**49.3206**	0.659	1.3	ug/L	264	Standard
	Sb	123	252466.1	19.3	**50.0870**	0.651	1.3	ug/L	424	Standard
	Ba	135	100419.9	19.0	**50.0183**	0.780	1.6	ug/L	36	Standard
	Ce	140	53.3	37.9				ug/L	40	Standard
>	Tb	159	1102691.3	18.6				ug/L	1061303	Standard
	Ho	165	30.0	44.1				ug/L	10	Standard
	Tl	203	399723.2	18.7	**49.7676**	0.995	2.0	ug/L	13	Standard
	Tl	205	956876.8	18.2	**48.2864**	1.263	2.6	ug/L	42	Standard
	Pb	206	321331.3	19.3	**50.0384**	0.478	1.0	ug/L	485	Standard
	Pb	207	286123.4	19.2	**49.9986**	0.634	1.3	ug/L	409	Standard
	Pb	208	648314.4	19.0	**50.1984**	0.622	1.2	ug/L	928	Standard
	U	238	259874.2	19.0	**50.4664**	0.622	1.2	ug/L	7	Standard
>	Bi	209	627135.1	19.8				ug/L	604402	Standard

Sample ID: QC Std 1
Report Date/Time: Wednesday, March 15, 2017 14:38:40
Page 1

Approved: March 16, 2017

	Na	23	5.0	173.2	**2.8268**	9.797	346.6	mg/L	5	Standard
	Mg	24	438.3	26.5	**4.9561**	0.738	14.9	mg/L	25	Standard
	K	39	1036.7	16.4	**4.8879**	0.321	6.6	mg/L	27	Standard
	Ca	43	76.7	21.0	**4.1105**	7.795	189.6	mg/L	58	Standard
	Fe	54	806.0	30.8	**5.0415**	0.433	8.6	mg/L	38	Standard
	Fe	57	518.3	14.0	**6.4107**	1.904	29.7	mg/L	205	Standard
>	**Sc-1**	45	48754.2	22.1				mg/L	47224	Standard
	Cl	35	4.0	132.3				ug/L	1	Standard
	Kr	83	5.0	52.9				ug/L	5	Standard
	Br	81	3193.7	29.8				ug/L	3214	Standard
	P	31	93.3	34.0				ug/L	70	Standard
	S	34	13.3	108.3				ug/L	15	Standard
	Sr	88	135.0	3.7				ug/L	162	Standard
	C	12	40.0	25.0				mg/L	17	Standard
	N	14	3.3	173.2				mg/L	3	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	22.5	28.7				mg/L	13	Standard
	Ho-1	165	30.0	44.1				mg/L	10	Standard
	Er	166	16.7	91.7				mg/L	17	Standard
	I	127	4777.4	13.6				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9	97.344		
	Al	27	97.915		
	Sc	45			
	Ti	47	98.293		
	V	51	97.868		
	Cr	52	98.147		
	Cr	53			
	Mn	55	98.798		
	Co	59	99.178		
	Ni	60	99.098		
	Cu	65	99.311		
	Zn	66	99.981		
>	Ge	72		100.270	
	As	75	99.708		
	Se	82	99.437		
	Se-1	77			
>	Ga	71			

Sample ID: QC Std 1
Report Date/Time: Wednesday, March 15, 2017 14:38:40
Page 2

Approved: March 16, 2017

⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	99.817	
|	Ag	107	99.781	
|	Cd	111	100.865	
|	Cd	114		
|>	In	115		100.510
|	Sn	118	98.641	
|	Sb	123	100.174	
⌊	Ba	135	100.037	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	99.535	
|	Tl	205		
|	Pb	206	100.077	
|	Pb	207	99.997	
|	Pb	208	100.397	
|	U	238	100.933	
⌊>	Bi	209		103.761
⌈	Na	23	56.537	
|	Mg	24	99.122	
|	K	39	97.758	
|	Ca	43	82.210	
|	Fe	54	100.831	
|	Fe	57	128.214	
⌊>	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	Ca	43	
QC Std 1	Fe	57	

Sample ID: QC Std 1
Report Date/Time: Wednesday, March 15, 2017 14:38:40
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: QC Std 2
Sample Date/Time: Wednesday, March 15, 2017 14:39:36
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	246238.0	26.3				ug/L	253194	Standard
	Be	9	76.7	32.8	**0.0320**	0.013	39.7	ug/L	25	Standard
	Al	27	3292.2	79.2	**0.0216**	0.013	58.9	ug/L	868	Standard
	Sc	45	44958.6	28.6				ug/L	47224	Standard
	Ti	47	60.0	30.4	**-0.0236**	0.033	140.5	ug/L	63	Standard
	V	51	1624.5	21.8	**-0.0455**	0.023	49.9	ug/L	2190	Standard
	Cr	52	6509.1	15.5	**-0.1883**	0.116	61.9	ug/L	8511	Standard
	Cr	53	433.3	26.5	**-0.0359**	0.076	211.8	ug/L	462	Standard
	Mn	55	2100.8	19.0	**0.0206**	0.020	95.2	ug/L	2023	Standard
	Co	59	1000.0	26.4	**0.0288**	0.010	33.0	ug/L	1672	Standard
	Ni	60	197.3	25.6	**0.0011**	0.016	1463.5	ug/L	189	Standard
	Cu	65	693.0	28.6	**0.0321**	0.010	31.3	ug/L	657	Standard
	Zn	66	460.3	32.5	**0.0753**	0.021	27.7	ug/L	401	Standard
>	Ge	72	788399.9	27.5				ug/L	826992	Standard
	As	75	-33.9	59.9	**0.0043**	0.022	502.2	ug/L	-72	Standard
	Se	82	27.0	15.4	**0.0298**	0.037	125.6	ug/L	21	Standard
	Se-1	77	103.7	17.3	**-0.0407**	0.246	604.8	ug/L	111	Standard
>	Ga	71	25.0	0.0				mg/L	32	Standard
	Rb	85	31.7	39.7				ug/L	48	Standard
	Y	89	545408.9	28.0				ug/L	561066	Standard
>	Rh	103	6.7	86.6				ug/L	7	Standard
	Mo	98	463.4	42.2	**0.0934**	0.017	17.9	ug/L	161	Standard
	Ag	107	215.3	38.4	**0.0130**	0.023	173.9	ug/L	137	Standard
	Cd	111	25.7	87.4	**0.0092**	0.018	197.3	mg/L	3	Standard
	Cd	114	77.9	62.8	**0.0146**	0.016	111.0	ug/L	51	Standard
>	In	115	683625.7	28.7				ug/L	706704	Standard
	Sn	118	266.3	22.4	**0.0422**	0.030	72.2	ug/L	264	Standard
	Sb	123	1546.3	7.1	**0.3076**	0.095	30.8	ug/L	424	Standard
	Ba	135	74.0	21.6	**0.0185**	0.018	99.9	ug/L	36	Standard
	Ce	140	26.7	54.1				ug/L	40	Standard
>	Tb	159	1049726.1	26.1				ug/L	1061303	Standard
	Ho	165	5.0	0.0				ug/L	10	Standard
	Tl	203	108.7	74.3	**0.0116**	0.016	134.4	ug/L	13	Standard
	Tl	205	271.7	108.3	**0.0116**	0.022	186.2	ug/L	42	Standard
	Pb	206	635.0	16.5	**0.0225**	0.016	69.3	ug/L	485	Standard
	Pb	207	578.7	21.9	**0.0301**	0.020	65.2	ug/L	409	Standard
	Pb	208	1381.0	34.0	**0.0298**	0.012	41.6	ug/L	928	Standard
	U	238	118.3	58.2	**0.0223**	0.013	56.2	ug/L	7	Standard
>	Bi	209	600031.4	27.3				ug/L	604402	Standard

Sample ID: QC Std 2
Report Date/Time: Wednesday, March 15, 2017 14:41:47
Page 1

Approved: March 16, 2017

	Na	23	3.3	86.6	**1.1628**	3.542	304.6	mg/L	5	Standard
	Mg	24	38.3	15.1	**0.0809**	0.236	291.7	mg/L	25	Standard
	K	39	18.3	15.7	**-0.0330**	0.035	105.5	mg/L	27	Standard
	Ca	43	46.7	27.0	**-2.3024**	5.367	233.1	mg/L	58	Standard
	Fe	54	43.0	59.8	**0.1373**	0.188	136.9	mg/L	38	Standard
	Fe	57	225.0	10.2	**-0.1540**	2.150	1396.1	mg/L	205	Standard
>	**Sc-1**	45	44958.6	28.6				mg/L	47224	Standard
	Cl	35	2.0	100.0				ug/L	1	Standard
	Kr	83	4.3	26.6				ug/L	5	Standard
	Br	81	2903.6	17.1				ug/L	3214	Standard
	P	31	55.0	9.1				ug/L	70	Standard
	S	34	11.7	65.5				ug/L	15	Standard
	Sr	88	145.0	11.9				ug/L	162	Standard
	C	12	56.7	10.2				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	3.3	173.2				mg/L	3	Standard
	Dy	164	13.0	46.5				mg/L	13	Standard
	Ho-1	165	5.0	0.0				mg/L	10	Standard
	Er	166	6.7	86.6				mg/L	17	Standard
	I	127	6741.5	7.9				mg/L	7850	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		95.333	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			

Sample ID: QC Std 2
Report Date/Time: Wednesday, March 15, 2017 14:41:47
Page 2

Approved: March 16, 2017

⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	96.734
|	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	99.277
⌈	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	Ca	43	

Sample ID: QC Std 2
Report Date/Time: Wednesday, March 15, 2017 14:41:47
Page 3

Approved: March 16, 2017

QC Std 2	Fe	54
QC Std 2	Fe	57

Sample ID: QC Std 2
Report Date/Time: Wednesday, March 15, 2017 14:41:47
Page 4

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: QC Std 3
Sample Date/Time: Wednesday, March 15, 2017 14:42:43
Number of Replicates: 3
Autosampler Position: 202
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	246881.1	29.3				ug/L	253194	Standard
	Be	9	436.7	25.8	**0.2028**	0.020	9.9	ug/L	25	Standard
	Al	27	818.4	37.6	**0.0052**	0.000	9.2	ug/L	868	Standard
	Sc	45	45027.6	30.5				ug/L	47224	Standard
	Ti	47	58.3	17.5	**-0.0129**	0.101	788.4	ug/L	63	Standard
	V	51	4447.5	21.8	**0.3368**	0.041	12.1	ug/L	2190	Standard
	Cr	52	13085.8	22.5	**0.7624**	0.117	15.3	ug/L	8511	Standard
	Cr	53	1270.1	25.0	**0.9461**	0.055	5.8	ug/L	462	Standard
	Mn	55	6986.0	25.2	**0.4380**	0.022	5.1	ug/L	2023	Standard
	Co	59	3898.5	26.5	**0.3464**	0.010	2.9	ug/L	1672	Standard
	Ni	60	3132.3	27.3	**1.5045**	0.024	1.6	ug/L	189	Standard
	Cu	65	2124.2	25.8	**0.7475**	0.037	5.0	ug/L	657	Standard
	Zn	66	7544.6	26.0	**5.9649**	0.189	3.2	ug/L	401	Standard
>	Ge	72	788858.6	28.9				ug/L	826992	Standard
	As	75	383.3	20.3	**0.3556**	0.026	7.4	ug/L	-72	Standard
	Se	82	62.7	17.2	**0.3614**	0.121	33.5	ug/L	21	Standard
	Se-1	77	117.3	8.7	**0.1549**	0.296	191.3	ug/L	111	Standard
>	Ga	71	26.7	96.2				mg/L	32	Standard
	Rb	85	25.0	72.1				ug/L	48	Standard
	Y	89	537870.5	30.6				ug/L	561066	Standard
>	Rh	103	11.7	65.5				ug/L	7	Standard
	Mo	98	147.5	26.3	**0.0145**	0.002	15.0	ug/L	161	Standard
	Ag	107	2540.6	27.5	**0.3774**	0.015	3.9	ug/L	137	Standard
	Cd	111	425.8	28.1	**0.2278**	0.011	5.0	mg/L	3	Standard
	Cd	114	1093.2	36.3	**0.2242**	0.029	13.1	ug/L	51	Standard
>	In	115	674512.6	31.3				ug/L	706704	Standard
	Sn	118	194.0	23.2	**-0.0255**	0.015	58.2	ug/L	264	Standard
	Sb	123	2166.1	22.8	**0.4319**	0.036	8.3	ug/L	424	Standard
	Ba	135	1356.7	26.4	**0.6945**	0.032	4.7	ug/L	36	Standard
	Ce	140	31.7	71.2				ug/L	40	Standard
>	Tb	159	1029757.7	29.1				ug/L	1061303	Standard
	Ho	165	15.0	57.7				ug/L	10	Standard
	Tl	203	589.7	25.6	**0.0738**	0.002	3.1	ug/L	13	Standard
	Tl	205	1375.1	29.1	**0.0679**	0.001	1.9	ug/L	42	Standard
	Pb	206	1650.4	29.6	**0.1896**	0.002	1.2	ug/L	485	Standard
	Pb	207	1362.4	23.2	**0.1778**	0.014	7.8	ug/L	409	Standard
	Pb	208	3187.5	27.5	**0.1817**	0.003	1.8	ug/L	928	Standard
	U	238	1827.4	27.1	**0.3762**	0.007	1.9	ug/L	7	Standard
>	Bi	209	590165.2	28.7				ug/L	604402	Standard

Sample ID: QC Std 3
Report Date/Time: Wednesday, March 15, 2017 14:44:54
Page 1

Approved: March 16, 2017

	Na	23	1.7	173.2	**-1.5836**	2.158	136.3	mg/L	5	Standard
	Mg	24	28.3	10.2	**-0.0727**	0.130	178.3	mg/L	25	Standard
	K	39	23.3	75.3	**0.0136**	0.132	971.2	mg/L	27	Standard
	Ca	43	41.7	25.0	**-4.4313**	1.431	32.3	mg/L	58	Standard
	Fe	54	27.4	27.5	**0.0206**	0.020	98.3	mg/L	38	Standard
	Fe	57	258.3	7.3	**0.8371**	2.659	317.6	mg/L	205	Standard
>	**Sc-1**	45	45027.6	30.5				mg/L	47224	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	4.3	35.3				ug/L	5	Standard
	Br	81	2977.0	29.2				ug/L	3214	Standard
	P	31	48.3	11.9				ug/L	70	Standard
	S	34	15.0	88.2				ug/L	15	Standard
	Sr	88	145.0	21.0				ug/L	162	Standard
	C	12	40.0	25.0				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	12.7	122.0				mg/L	13	Standard
	Ho-1	165	15.0	57.7				mg/L	10	Standard
	Er	166	13.3	43.3				mg/L	17	Standard
	I	127	5409.3	13.7				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9	101.414		
	Al	27	0.519		
	Sc	45			
	Ti	47			
	V	51	84.206		
	Cr	52	95.294		
	Cr	53			
	Mn	55	87.599		
	Co	59	86.595		
	Ni	60	94.028		
	Cu	65	93.437		
	Zn	66	95.439		
>	Ge	72		95.389	
	As	75	88.897		
	Se	82	90.353		
	Se-1	77			
>	Ga	71			

Sample ID: QC Std 3
Report Date/Time: Wednesday, March 15, 2017 14:44:54
Page 2

Approved: March 16, 2017

Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107	94.355		
Cd	111	94.910		
Cd	114			
In	115			95.445
Sn	118			
Sb	123	107.983		
Ba	135	92.604		
Ce	140			
Tb	159			
Ho	165			
Tl	203	92.221		
Tl	205			
Pb	206			
Pb	207			
Pb	208	90.860		
U	238	94.046		
Bi	209			97.644
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	

Sample ID: QC Std 3
Report Date/Time: Wednesday, March 15, 2017 14:44:54
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Wednesday, March 15, 2017 14:45:49
Number of Replicates: 3
Autosampler Position: 203
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	258219.9	19.9				ug/L	253194	Standard
	Be	9	81.7	102.0	**0.0285**	0.029	101.6	ug/L	25	Standard
	Al	27	6804332.3	20.2	**46.2684**	1.096	2.4	ug/L	868	Standard
	Sc	45	49257.6	22.4				ug/L	47224	Standard
	Ti	47	25828.9	19.7	**91.8297**	0.981	1.1	ug/L	63	Standard
	V	51	1817.9	30.4	**-0.0397**	0.026	64.3	ug/L	2190	Standard
	Cr	52	9073.8	18.5	**0.0860**	0.041	48.0	ug/L	8511	Standard
	Cr	53	753.4	8.7	**0.2927**	0.098	33.4	ug/L	462	Standard
	Mn	55	6496.8	22.2	**0.3582**	0.012	3.4	ug/L	2023	Standard
	Co	59	1180.4	33.5	**0.0383**	0.016	41.8	ug/L	1672	Standard
	Ni	60	685.4	35.3	**0.2219**	0.046	20.7	ug/L	189	Standard
	Cu	65	964.0	24.5	**0.1358**	0.017	12.5	ug/L	657	Standard
	Zn	66	1379.1	22.3	**0.7670**	0.029	3.8	ug/L	401	Standard
>	Ge	72	839172.1	20.6				ug/L	826992	Standard
	As	75	-62.3	85.9	**-0.0189**	0.051	267.6	ug/L	-72	Standard
	Se	82	15.8	19.8	**-0.0850**	0.005	5.9	ug/L	21	Standard
	Se-1	77	106.3	11.4	**-0.1073**	0.117	108.9	ug/L	111	Standard
>	Ga	71	30.0	16.7				mg/L	32	Standard
	Rb	85	900.0	22.2				ug/L	48	Standard
	Y	89	572725.7	21.2				ug/L	561066	Standard
>	Rh	103	11.7	65.5				ug/L	7	Standard
	Mo	98	373493.4	20.1	**92.9016**	2.255	2.4	ug/L	161	Standard
	Ag	107	163.7	39.0	**0.0004**	0.006	1656.9	ug/L	137	Standard
	Cd	111	-161.1	10.9	**-0.0921**	0.012	12.5	mg/L	3	Standard
	Cd	114	675.0	28.2	**0.1288**	0.011	8.4	ug/L	51	Standard
>	In	115	717692.1	22.1				ug/L	706704	Standard
	Sn	118	312.3	18.9	**0.0694**	0.022	31.7	ug/L	264	Standard
	Sb	123	519.6	10.0	**0.0771**	0.022	28.5	ug/L	424	Standard
	Ba	135	66.3	9.7	**0.0110**	0.008	71.4	ug/L	36	Standard
	Ce	140	1056.7	24.4				ug/L	40	Standard
>	Tb	159	1110119.0	17.9				ug/L	1061303	Standard
	Ho	165	11.7	24.7				ug/L	10	Standard
	Tl	203	52.7	59.9	**0.0019**	0.004	195.6	ug/L	13	Standard
	Tl	205	116.7	75.0	**0.0001**	0.004	5523.0	ug/L	42	Standard
	Pb	206	643.3	19.9	**0.0167**	0.001	7.5	ug/L	485	Standard
	Pb	207	535.3	22.1	**0.0155**	0.007	45.6	ug/L	409	Standard
	Pb	208	1222.7	22.3	**0.0133**	0.009	71.3	ug/L	928	Standard
	U	238	23.0	57.5	**0.0028**	0.003	106.5	ug/L	7	Standard
>	Bi	209	627655.9	18.6				ug/L	604402	Standard

Sample ID: QC Std 4
Report Date/Time: Wednesday, March 15, 2017 14:47:59
Page 1

Approved: March 16, 2017

⌈	**Na**	23	13.3	78.1	**8.6118**	6.712	77.9	mg/L	5	Standard
|	**Mg**	24	905.0	11.3	**10.8045**	1.233	11.4	mg/L	25	Standard
|	**K**	39	901.7	17.9	**4.2015**	0.625	14.9	mg/L	27	Standard
|	**Ca**	43	98.3	2.9	**8.9328**	5.234	58.6	mg/L	58	Standard
|	**Fe**	54	1814.6	19.9	**11.6330**	0.303	2.6	mg/L	38	Standard
|	**Fe**	57	740.0	19.8	**11.5553**	0.609	5.3	mg/L	205	Standard
⌊>	**Sc-1**	45	49257.6	22.4				mg/L	47224	Standard
	Cl	35	1.3	86.6				ug/L	1	Standard
	Kr	83	5.3	78.1				ug/L	5	Standard
	Br	81	2953.6	26.4				ug/L	3214	Standard
	P	31	63.3	18.2				ug/L	70	Standard
	S	34	8.3	34.6				ug/L	15	Standard
	Sr	88	153.3	12.3				ug/L	162	Standard
	C	12	43.3	113.8				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	9.8	2.8				mg/L	13	Standard
	Ho-1	165	11.7	24.7				mg/L	10	Standard
	Er	166	3.3	173.2				mg/L	17	Standard
	I	127	3677.1	11.8				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9			
⌊	Al	27	0.925		
⌈	Sc	45			
|	Ti	47	91.830		
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		101.473	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: QC Std 4
Report Date/Time: Wednesday, March 15, 2017 14:47:59
Page 2

Approved: March 16, 2017

⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	92.902	
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		101.555
|	Sn	118		
|	Sb	123		
⌊	Ba	135		
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203		
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208		
|	U	238		
⌊>	Bi	209		103.847
⌈	Na	23	68.894	
|	Mg	24	216.090	
|	K	39	84.030	
|	Ca	43	59.552	
|	Fe	54	93.064	
|	Fe	57	92.442	
⌊>	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	Mn	55	
QC Std 4	Na	23	

Sample ID: QC Std 4
Report Date/Time: Wednesday, March 15, 2017 14:47:59
Page 3

Approved: March 16, 2017

QC Std 4	Mg	24
QC Std 4	Ca	43

Sample ID: QC Std 4
Report Date/Time: Wednesday, March 15, 2017 14:47:59
Page 4

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Wednesday, March 15, 2017 14:48:54
Number of Replicates: 3
Autosampler Position: 204
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	266117.1	21.3				ug/L	253194	Standard
	Be	9	224828.9	18.7	**99.0713**	2.546	2.6	ug/L	25	Standard
	Al	27	6745391.6	21.5	**44.5104**	0.148	0.3	ug/L	868	Standard
	Sc	45	48331.2	22.4				ug/L	47224	Standard
	Ti	47	28100.8	21.5	**98.7822**	0.177	0.2	ug/L	63	Standard
	V	51	755854.0	21.0	**93.8590**	0.709	0.8	ug/L	2190	Standard
	Cr	52	713776.6	21.1	**94.8017**	0.534	0.6	ug/L	8511	Standard
	Cr	53	88664.7	21.2	**95.8414**	0.696	0.7	ug/L	462	Standard
	Mn	55	1202189.6	20.4	**95.3896**	1.451	1.5	ug/L	2023	Standard
	Co	59	938986.7	21.3	**95.3021**	0.501	0.5	ug/L	1672	Standard
	Ni	60	199731.7	20.5	**95.0127**	1.187	1.2	ug/L	189	Standard
	Cu	65	209985.9	19.6	**96.8006**	2.186	2.3	ug/L	657	Standard
	Zn	66	127249.2	19.0	**97.8738**	2.509	2.6	ug/L	401	Standard
>	Ge	72	848031.5	21.7				ug/L	826992	Standard
	As	75	127785.4	19.6	**97.9198**	2.024	2.1	ug/L	-72	Standard
	Se	82	11709.9	20.8	**97.4374**	0.863	0.9	ug/L	21	Standard
	Se-1	77	8692.9	20.2	**101.6978**	1.442	1.4	ug/L	111	Standard
>	Ga	71	170.0	41.7				mg/L	32	Standard
	Rb	85	1185.0	11.0				ug/L	48	Standard
	Y	89	574172.1	21.8				ug/L	561066	Standard
>	Rh	103	35.0	42.9				ug/L	7	Standard
	Mo	98	386490.8	19.9	**96.5049**	3.179	3.3	ug/L	161	Standard
	Ag	107	607439.5	20.0	**89.9857**	2.999	3.3	ug/L	137	Standard
	Cd	111	191335.6	21.3	**99.1875**	1.933	1.9	mg/L	3	Standard
	Cd	114	479536.7	21.7	**95.3452**	1.687	1.8	ug/L	51	Standard
>	In	115	716652.1	23.3				ug/L	706704	Standard
	Sn	118	245.3	17.0	**0.0094**	0.014	151.2	ug/L	264	Standard
	Sb	123	501253.6	20.3	**98.8819**	2.918	3.0	ug/L	424	Standard
	Ba	135	196981.8	19.0	**97.6948**	4.075	4.2	ug/L	36	Standard
	Ce	140	201.7	12.2				ug/L	40	Standard
>	Tb	159	1130643.8	19.9				ug/L	1061303	Standard
	Ho	165	48.3	47.8				ug/L	10	Standard
	Tl	203	811482.9	18.4	**98.3841**	2.176	2.2	ug/L	13	Standard
	Tl	205	2076124.6	28.3	**100.7103**	7.970	7.9	ug/L	42	Standard
	Pb	206	647914.3	18.3	**98.3964**	2.145	2.2	ug/L	485	Standard
	Pb	207	579927.1	18.8	**98.7621**	1.770	1.8	ug/L	409	Standard
	Pb	208	1310057.5	18.3	**98.8994**	2.262	2.3	ug/L	928	Standard
	U	238	537571.6	17.2	**101.8473**	3.460	3.4	ug/L	7	Standard
>	Bi	209	645155.1	20.6				ug/L	604402	Standard

Sample ID: QC Std 5
Report Date/Time: Wednesday, March 15, 2017 14:51:05
Page 1

Approved: March 16, 2017

⌈	**Na**	23	26.7	60.3	**20.6649**	8.965	43.4	mg/L	5	Standard
|	**Mg**	24	923.4	10.1	**11.2806**	1.440	12.8	mg/L	25	Standard
|	**K**	39	910.0	26.9	**4.2527**	0.265	6.2	mg/L	27	Standard
|	**Ca**	43	83.3	28.4	**5.4133**	6.424	118.7	mg/L	58	Standard
|	**Fe**	54	1945.7	20.7	**12.7159**	0.223	1.8	mg/L	38	Standard
|	**Fe**	57	770.0	10.2	**12.9281**	2.383	18.4	mg/L	205	Standard
⌊>	**Sc-1**	45	48331.2	22.4				mg/L	47224	Standard
	Cl	35	2.0	100.0				ug/L	1	Standard
	Kr	83	6.0	57.7				ug/L	5	Standard
	Br	81	3130.3	21.4				ug/L	3214	Standard
	P	31	70.0	37.8				ug/L	70	Standard
	S	34	25.0	52.9				ug/L	15	Standard
	Sr	88	136.7	23.8				ug/L	162	Standard
	C	12	76.7	37.7				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	33.3	62.5				mg/L	3	Standard
	Dy	164	12.7	96.4				mg/L	13	Standard
	Ho-1	165	48.3	47.8				mg/L	10	Standard
	Er	166	13.3	114.6				mg/L	17	Standard
	I	127	3868.8	11.2				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	99.071		
⌊	Al	27	0.890		
⌈	Sc	45			
|	Ti	47	98.782		
|	V	51	93.859		
|	Cr	52	94.802		
|	Cr	53			
|	Mn	55	95.390		
|	Co	59	95.302		
|	Ni	60	95.013		
|	Cu	65	96.801		
|	Zn	66	97.874		
|>	Ge	72		102.544	
|	As	75	97.920		
|	Se	82	97.437		
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: QC Std 5
Report Date/Time: Wednesday, March 15, 2017 14:51:05
Page 2

Approved: March 16, 2017

⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	96.505	
|	Ag	107	89.986	
|	Cd	111	99.187	
|	Cd	114		
|>	In	115		101.408
|	Sn	118		
|	Sb	123	98.882	
⌊	Ba	135	97.695	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	98.384	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	98.899	
|	U	238	101.847	
⌊>	Bi	209		106.743
⌈	Na	23	165.319	
|	Mg	24	225.611	
|	K	39	85.054	
|	Ca	43	36.089	
|	Fe	54	101.727	
|	Fe	57	103.425	
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		
	I	127		

QC Out of Limits

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

Sample ID: QC Std 5
Report Date/Time: Wednesday, March 15, 2017 14:51:05
Page 3

Approved: March 16, 2017

QC Std 5	Ca	43

Sample ID: QC Std 5
Report Date/Time: Wednesday, March 15, 2017 14:51:05
Page 4

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Wednesday, March 15, 2017 14:52:01
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	269655.7	19.2				ug/L	253194	Standard
	Be	9	113347.9	17.8	**49.2049**	0.857	1.7	ug/L	25	Standard
	Al	27	7299449.8	17.8	**47.6418**	0.750	1.6	ug/L	868	Standard
	Sc	45	48909.3	20.4				ug/L	47224	Standard
	Ti	47	27576.9	17.9	**98.3950**	1.639	1.7	ug/L	63	Standard
	V	51	387406.9	17.6	**48.6865**	1.034	2.1	ug/L	2190	Standard
	Cr	52	365664.9	18.8	**48.6557**	0.565	1.2	ug/L	8511	Standard
	Cr	53	45687.1	19.2	**49.7760**	0.584	1.2	ug/L	462	Standard
	Mn	55	614445.4	19.1	**49.2668**	0.295	0.6	ug/L	2023	Standard
	Co	59	478986.0	19.3	**49.2083**	0.338	0.7	ug/L	1672	Standard
	Ni	60	102826.4	19.0	**49.4630**	0.804	1.6	ug/L	189	Standard
	Cu	65	106749.7	18.3	**49.6468**	0.717	1.4	ug/L	657	Standard
	Zn	66	64179.6	18.0	**49.7776**	0.692	1.4	ug/L	401	Standard
>	**Ge**	72	836837.9	19.4				ug/L	826992	Standard
	As	75	64475.0	18.0	**50.0214**	0.737	1.5	ug/L	-72	Standard
	Se	82	6068.6	18.9	**51.0353**	0.961	1.9	ug/L	21	Standard
	Se-1	77	4340.6	18.1	**50.7504**	0.719	1.4	ug/L	111	Standard
>	**Ga**	71	50.0	17.3				mg/L	32	Standard
	Rb	85	940.0	16.6				ug/L	48	Standard
	Y	89	586914.7	21.2				ug/L	561066	Standard
>	**Rh**	103	16.7	17.3				ug/L	7	Standard
	Mo	98	407648.9	20.0	**100.3229**	0.584	0.6	ug/L	161	Standard
	Ag	107	346012.1	19.1	**50.5627**	0.513	1.0	ug/L	137	Standard
	Cd	111	98040.0	19.0	**50.2591**	0.603	1.2	mg/L	3	Standard
	Cd	114	251155.8	19.4	**49.3853**	0.458	0.9	ug/L	51	Standard
>	**In**	115	723536.6	20.0				ug/L	706704	Standard
	Sn	118	55216.9	19.2	**49.6760**	0.487	1.0	ug/L	264	Standard
	Sb	123	254962.5	18.8	**49.6598**	0.695	1.4	ug/L	424	Standard
	Ba	135	101263.2	18.8	**49.4899**	0.592	1.2	ug/L	36	Standard
	Ce	140	75.0	58.1				ug/L	40	Standard
>	**Tb**	159	1120509.7	19.5				ug/L	1061303	Standard
	Ho	165	26.7	109.9				ug/L	10	Standard
	Tl	203	411309.2	18.4	**49.3157**	0.515	1.0	ug/L	13	Standard
	Tl	205	979084.6	19.1	**47.5131**	0.281	0.6	ug/L	42	Standard
	Pb	206	330151.2	18.4	**49.5388**	0.620	1.3	ug/L	485	Standard
	Pb	207	294856.8	18.4	**49.6494**	0.530	1.1	ug/L	409	Standard
	Pb	208	670529.2	18.2	**50.0283**	0.593	1.2	ug/L	928	Standard
	U	238	272533.1	18.4	**50.9865**	0.578	1.1	ug/L	7	Standard
>	**Bi**	209	651249.8	19.4				ug/L	604402	Standard

Sample ID: QC Std 6
Report Date/Time: Wednesday, March 15, 2017 14:54:11
Page 1

Approved: March 16, 2017

	Na	23	11.7	89.2	**7.2131**	9.468	131.3	mg/L	5	Standard
	Mg	24	375.0	26.8	**4.1149**	0.411	10.0	mg/L	25	Standard
	K	39	976.7	12.8	**4.5914**	0.390	8.5	mg/L	27	Standard
	Ca	43	71.7	8.1	**2.5059**	4.795	191.4	mg/L	58	Standard
	Fe	54	791.0	20.0	**4.9921**	0.081	1.6	mg/L	38	Standard
	Fe	57	446.7	13.0	**4.5099**	0.853	18.9	mg/L	205	Standard
>	**Sc-1**	45	48909.3	20.4				mg/L	47224	Standard
	Cl	35	1.3	86.6				ug/L	1	Standard
	Kr	83	3.3	62.4				ug/L	5	Standard
	Br	81	3113.7	18.5				ug/L	3214	Standard
	P	31	68.3	16.9				ug/L	70	Standard
	S	34	8.3	91.7				ug/L	15	Standard
	Sr	88	150.0	27.3				ug/L	162	Standard
	C	12	46.7	12.4				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	3.3	173.2				mg/L	3	Standard
	Dy	164	16.5	34.2				mg/L	13	Standard
	Ho-1	165	26.7	109.9				mg/L	10	Standard
	Er	166	3.3	173.2				mg/L	17	Standard
	I	127	4018.9	13.2				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9	98.410		
	Al	27	95.284		
	Sc	45			
	Ti	47	98.395		
	V	51	97.373		
	Cr	52	97.311		
	Cr	53			
	Mn	55	98.534		
	Co	59	98.417		
	Ni	60	98.926		
	Cu	65	99.294		
	Zn	66	99.555		
>	Ge	72		101.191	
	As	75	100.043		
	Se	82	102.071		
	Se-1	77			
>	Ga	71			

Sample ID: QC Std 6
Report Date/Time: Wednesday, March 15, 2017 14:54:11
Page 2

Approved: March 16, 2017

⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	100.323	
|	Ag	107	101.125	
|	Cd	111	100.518	
|	Cd	114		
|>	In	115		102.382
|	Sn	118	99.352	
|	Sb	123	99.320	
⌊	Ba	135	98.980	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	98.631	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	100.057	
|	U	238	101.973	
⌊>	Bi	209		107.751
⌈	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

Sample ID: QC Std 6
Report Date/Time: Wednesday, March 15, 2017 14:54:11
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Wednesday, March 15, 2017 14:55:06
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	249876.5	28.2				ug/L	253194	Standard
	Be	9	48.3	6.0	**0.0184**	0.006	33.8	ug/L	25	Standard
	Al	27	1100.0	25.6	**0.0072**	0.000	5.2	ug/L	868	Standard
	Sc	45	45727.9	29.6				ug/L	47224	Standard
	Ti	47	42.7	7.2	**-0.0852**	0.032	37.0	ug/L	63	Standard
	V	51	1633.8	12.4	**-0.0425**	0.032	74.2	ug/L	2190	Standard
	Cr	52	6725.2	12.4	**-0.1569**	0.143	91.1	ug/L	8511	Standard
	Cr	53	458.3	24.3	**-0.0070**	0.106	1522.7	ug/L	462	Standard
	Mn	55	1972.8	17.6	**0.0087**	0.016	188.8	ug/L	2023	Standard
	Co	59	875.0	14.6	**0.0163**	0.012	73.2	ug/L	1672	Standard
	Ni	60	192.7	21.8	**-0.0021**	0.006	278.3	ug/L	189	Standard
	Cu	65	649.0	22.6	**0.0118**	0.019	163.0	ug/L	657	Standard
	Zn	66	469.7	23.4	**0.0877**	0.020	23.0	ug/L	401	Standard
>	Ge	72	792577.0	27.8				ug/L	826992	Standard
	As	75	-54.5	29.2	**-0.0119**	0.024	201.8	ug/L	-72	Standard
	Se	82	16.0	52.3	**-0.0641**	0.092	143.2	ug/L	21	Standard
	Se-1	77	109.7	9.8	**0.0399**	0.259	649.1	ug/L	111	Standard
>	Ga	71	31.7	65.7				mg/L	32	Standard
	Rb	85	21.7	48.0				ug/L	48	Standard
	Y	89	545629.4	29.2				ug/L	561066	Standard
>	Rh	103	11.7	24.7				ug/L	7	Standard
	Mo	98	432.6	45.6	**0.0857**	0.018	20.5	ug/L	161	Standard
	Ag	107	138.7	45.9	**-0.0025**	0.003	140.5	ug/L	137	Standard
	Cd	111	8.1	96.6	**-0.0035**	0.003	78.4	mg/L	3	Standard
	Cd	114	51.5	22.1	**0.0074**	0.004	58.1	ug/L	51	Standard
>	In	115	677483.4	29.0				ug/L	706704	Standard
	Sn	118	256.0	26.7	**0.0314**	0.010	30.3	ug/L	264	Standard
	Sb	123	1515.1	9.9	**0.2996**	0.070	23.3	ug/L	424	Standard
	Ba	135	53.3	25.6	**0.0055**	0.003	61.7	ug/L	36	Standard
	Ce	140	18.3	56.8				ug/L	40	Standard
>	Tb	159	1038503.8	26.7				ug/L	1061303	Standard
	Ho	165	15.0	33.3				ug/L	10	Standard
	Tl	203	72.7	26.2	**0.0049**	0.001	18.8	ug/L	13	Standard
	Tl	205	145.0	59.8	**0.0017**	0.002	140.4	ug/L	42	Standard
	Pb	206	613.3	27.1	**0.0166**	0.002	9.8	ug/L	485	Standard
	Pb	207	509.7	31.2	**0.0150**	0.008	50.1	ug/L	409	Standard
	Pb	208	1141.7	28.6	**0.0110**	0.002	20.8	ug/L	928	Standard
	U	238	28.3	36.7	**0.0039**	0.001	28.6	ug/L	7	Standard
>	Bi	209	601253.7	28.4				ug/L	604402	Standard

Sample ID: QC Std 7
Report Date/Time: Wednesday, March 15, 2017 14:57:17
Page 1

Approved: March 16, 2017

⌈	**Na**	23	0.0		**-2.8296**	0.000	0.0	mg/L	5	Standard
|	**Mg**	24	21.7	58.1	**-0.1582**	0.204	128.9	mg/L	25	Standard
|	**K**	39	25.0	72.1	**-0.0162**	0.053	327.2	mg/L	27	Standard
|	**Ca**	43	75.0	33.3	**3.7890**	2.006	52.9	mg/L	58	Standard
|	**Fe**	54	37.7	14.8	**0.1090**	0.115	105.8	mg/L	38	Standard
|	**Fe**	57	240.0	8.3	**0.0424**	1.626	3830.7	mg/L	205	Standard
⌊>	**Sc-1**	45	45727.9	29.6				mg/L	47224	Standard
	Cl	35	2.0	173.2				ug/L	1	Standard
	Kr	83	4.3	35.3				ug/L	5	Standard
	Br	81	3033.6	22.5				ug/L	3214	Standard
	P	31	56.7	18.4				ug/L	70	Standard
	S	34	21.7	48.0				ug/L	15	Standard
	Sr	88	146.7	2.0				ug/L	162	Standard
	C	12	30.0	0.0				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	16.2	95.4				mg/L	13	Standard
	Ho-1	165	15.0	33.3				mg/L	10	Standard
	Er	166	10.0	100.0				mg/L	17	Standard
	I	127	6739.8	11.5				mg/L	7850	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		95.839	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: QC Std 7
Report Date/Time: Wednesday, March 15, 2017 14:57:17
Page 2

Approved: March 16, 2017

⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	95.865
|	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	99.479
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

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

Sample ID: QC Std 7
Report Date/Time: Wednesday, March 15, 2017 14:57:17
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: PBW 63 WG606254-02
Sample Date/Time: Wednesday, March 15, 2017 14:58:13
Number of Replicates: 3
Autosampler Position: 205
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	236451.8	30.9				ug/L	253194	Standard
	Be	9	43.3	83.5	**0.0143**	0.011	74.1	ug/L	25	Standard
	Al	27	2893.6	31.1	**0.0209**	0.000	1.2	ug/L	868	Standard
	Sc	45	43292.0	29.6				ug/L	47224	Standard
	Ti	47	43.3	11.8	**-0.0739**	0.037	49.8	ug/L	63	Standard
	V	51	1695.9	8.2	**-0.0190**	0.051	266.8	ug/L	2190	Standard
	Cr	52	7112.7	13.7	**-0.0446**	0.162	362.5	ug/L	8511	Standard
	Cr	53	488.3	8.3	**0.0723**	0.122	169.0	ug/L	462	Standard
	Mn	55	2574.9	22.9	**0.0705**	0.015	20.8	ug/L	2023	Standard
	Co	59	451.3	6.8	**-0.0271**	0.012	45.0	ug/L	1672	Standard
	Ni	60	217.3	28.8	**0.0151**	0.006	36.8	ug/L	189	Standard
	Cu	65	799.0	30.0	**0.1022**	0.005	5.2	ug/L	657	Standard
	Zn	66	1238.7	26.2	**0.7742**	0.041	5.3	ug/L	401	Standard
>	Ge	72	754939.3	29.6				ug/L	826992	Standard
	As	75	-101.4	16.6	**-0.0569**	0.036	63.3	ug/L	-72	Standard
	Se	82	9.3	31.2	**-0.1318**	0.003	2.3	ug/L	21	Standard
	Se-1	77	101.3	16.3	**0.0007**	0.319	47512.6	ug/L	111	Standard
>	Ga	71	30.0	50.0				mg/L	32	Standard
	Rb	85	40.0					ug/L	48	Standard
	Y	89	511801.5	31.5				ug/L	561066	Standard
>	Rh	103	6.7	43.3				ug/L	7	Standard
	Mo	98	153.1	38.4	**0.0169**	0.003	18.0	ug/L	161	Standard
	Ag	107	137.7	52.9	**-0.0018**	0.005	253.6	ug/L	137	Standard
	Cd	111	11.1	98.3	**-0.0018**	0.004	217.9	mg/L	3	Standard
	Cd	114	66.5	67.8	**0.0096**	0.005	54.8	ug/L	51	Standard
>	In	115	643522.7	31.1				ug/L	706704	Standard
	Sn	118	254.3	20.7	**0.0477**	0.033	68.3	ug/L	264	Standard
	Sb	123	338.9	4.7	**0.0506**	0.020	39.4	ug/L	424	Standard
	Ba	135	65.0	32.0	**0.0132**	0.004	32.4	ug/L	36	Standard
	Ce	140	35.0	14.3				ug/L	40	Standard
>	Tb	159	997759.1	30.4				ug/L	1061303	Standard
	Ho	165	11.7	65.5				ug/L	10	Standard
	Tl	203	50.0	67.7	**0.0018**	0.002	139.3	ug/L	13	Standard
	Tl	205	125.0	31.2	**0.0012**	0.001	41.3	ug/L	42	Standard
	Pb	206	494.3	29.0	**0.0005**	0.004	854.5	ug/L	485	Standard
	Pb	207	405.3	40.0	**-0.0025**	0.007	298.5	ug/L	409	Standard
	Pb	208	953.3	35.5	**-0.0021**	0.006	284.8	ug/L	928	Standard
	U	238	15.3	62.7	**0.0015**	0.002	128.7	ug/L	7	Standard
>	Bi	209	578691.7	30.2				ug/L	604402	Standard

Sample ID: PBW 63 WG606254-02
Report Date/Time: Wednesday, March 15, 2017 15:00:24
Page 1

Approved: March 16, 2017

⌈	**Na**	23	0.0		**-2.8296**	0.000	0.0	mg/L	5	Standard
|	**Mg**	24	21.7	53.3	**-0.1324**	0.263	198.5	mg/L	25	Standard
|	**K**	39	23.3	32.7	**-0.0050**	0.043	857.1	mg/L	27	Standard
|	**Ca**	43	65.0	40.7	**3.3740**	10.568	313.2	mg/L	58	Standard
|	**Fe**	54	31.3	33.8	**0.0593**	0.075	126.9	mg/L	38	Standard
|	**Fe**	57	220.0	18.0	**-0.3179**	0.980	308.1	mg/L	205	Standard
⌊>	**Sc-1**	45	43292.0	29.6				mg/L	47224	Standard
	Cl	35	2.0	0.0				ug/L	1	Standard
	Kr	83	2.3	107.9				ug/L	5	Standard
	Br	81	3110.3	22.4				ug/L	3214	Standard
	P	31	51.7	27.9				ug/L	70	Standard
	S	34	15.0	66.7				ug/L	15	Standard
	Sr	88	128.3	22.2				ug/L	162	Standard
	C	12	26.7	114.6				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	3.3	173.2				mg/L	3	Standard
	Dy	164	12.5	117.7				mg/L	13	Standard
	Ho-1	165	11.7	65.5				mg/L	10	Standard
	Er	166	16.7	69.3				mg/L	17	Standard
	I	127	6378.0	6.2				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		93.387	
|	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		91.287	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: PBW 63 WG606254-02
Report Date/Time: Wednesday, March 15, 2017 15:00:24
Page 2

Approved: March 16, 2017

⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	91.060
|	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	95.746
⌈	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: PBW 63 WG606254-02
Report Date/Time: Wednesday, March 15, 2017 15:00:24
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: LCSW 63 WG606254-03
Sample Date/Time: Wednesday, March 15, 2017 15:01:19
Number of Replicates: 3
Autosampler Position: 206
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	249790.9	25.0				ug/L	253194	Standard
	Be	9	107311.4	25.3	**50.1621**	0.473	0.9	ug/L	25	Standard
	Al	27	5130.9	18.0	**0.0359**	0.003	7.3	ug/L	868	Standard
	Sc	45	45484.3	24.7				ug/L	47224	Standard
	Ti	47	46.0	18.8	**-0.0781**	0.029	37.2	ug/L	63	Standard
	V	51	371157.3	26.3	**48.3439**	0.900	1.9	ug/L	2190	Standard
	Cr	52	356378.1	26.7	**49.2084**	0.987	2.0	ug/L	8511	Standard
	Cr	53	42988.7	26.4	**48.6138**	0.679	1.4	ug/L	462	Standard
	Mn	55	586140.3	27.6	**48.7044**	0.954	2.0	ug/L	2023	Standard
	Co	59	459385.2	27.4	**48.9370**	0.853	1.7	ug/L	1672	Standard
	Ni	60	99539.5	28.3	**49.5671**	1.265	2.6	ug/L	189	Standard
	Cu	65	103631.7	26.8	**49.9626**	0.652	1.3	ug/L	657	Standard
	Zn	66	61745.3	25.5	**49.7348**	0.174	0.4	ug/L	401	Standard
>	Ge	72	804650.2	25.7				ug/L	826992	Standard
	As	75	60800.5	25.3	**49.0041**	0.549	1.1	ug/L	-72	Standard
	Se	82	5632.8	28.0	**49.0429**	1.116	2.3	ug/L	21	Standard
	Se-1	77	4122.9	28.5	**49.8028**	1.361	2.7	ug/L	111	Standard
>	Ga	71	33.3	31.2				mg/L	32	Standard
	Rb	85	53.3	28.6				ug/L	48	Standard
	Y	89	553140.3	27.5				ug/L	561066	Standard
>	Rh	103	36.7	75.1				ug/L	7	Standard
	Mo	98	172.7	11.9	**0.0214**	0.008	37.9	ug/L	161	Standard
	Ag	107	323332.7	27.8	**49.7792**	0.825	1.7	ug/L	137	Standard
	Cd	111	93305.1	28.0	**50.3614**	0.954	1.9	mg/L	3	Standard
	Cd	114	233187.7	27.7	**48.3281**	0.721	1.5	ug/L	51	Standard
>	In	115	684131.8	26.3				ug/L	706704	Standard
	Sn	118	298.3	25.6	**0.0687**	0.010	14.9	ug/L	264	Standard
	Sb	123	235005.0	26.2	**48.3242**	0.290	0.6	ug/L	424	Standard
	Ba	135	94884.4	26.3	**48.9516**	0.591	1.2	ug/L	36	Standard
	Ce	140	78.3	79.8				ug/L	40	Standard
>	Tb	159	1051418.9	24.0				ug/L	1061303	Standard
	Ho	165	36.7	39.4				ug/L	10	Standard
	Tl	203	396003.6	25.5	**50.3390**	0.676	1.3	ug/L	13	Standard
	Tl	205	950130.2	26.1	**48.8810**	0.807	1.7	ug/L	42	Standard
	Pb	206	315567.8	25.9	**50.1856**	0.671	1.3	ug/L	485	Standard
	Pb	207	272360.0	26.2	**48.5722**	0.968	2.0	ug/L	409	Standard
	Pb	208	627702.4	26.0	**49.6120**	0.773	1.6	ug/L	928	Standard
	U	238	245508.1	24.9	**48.7421**	0.605	1.2	ug/L	7	Standard
>	Bi	209	612448.1	24.6				ug/L	604402	Standard

Sample ID: LCSW 63 WG606254-03
Report Date/Time: Wednesday, March 15, 2017 15:03:29
Page 1

Approved: March 16, 2017

⌈	**Na**	23	0.0		**-2.8296**	0.000	0.0	mg/L	5	Standard
|	**Mg**	24	23.3	49.5	**-0.1316**	0.211	160.4	mg/L	25	Standard
|	**K**	39	11.7	107.9	**-0.0667**	0.084	125.6	mg/L	27	Standard
|	**Ca**	43	73.3	25.8	**4.5708**	7.355	160.9	mg/L	58	Standard
|	**Fe**	54	37.4	17.2	**0.0906**	0.019	20.9	mg/L	38	Standard
|	**Fe**	57	246.7	6.2	**0.1620**	1.450	894.7	mg/L	205	Standard
⌊>	**Sc-1**	45	45484.3	24.7				mg/L	47224	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	1.3	43.3				ug/L	5	Standard
	Br	81	3233.7	20.3				ug/L	3214	Standard
	P	31	55.0	32.8				ug/L	70	Standard
	S	34	11.7	65.5				ug/L	15	Standard
	Sr	88	113.3	26.6				ug/L	162	Standard
	C	12	46.7	68.9				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	3.3	173.2				mg/L	3	Standard
	Dy	164	5.7	101.5				mg/L	13	Standard
	Ho-1	165	36.7	39.4				mg/L	10	Standard
	Er	166	20.0	50.0				mg/L	17	Standard
	I	127	9526.3	8.3				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		98.656	
|	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		97.298	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: LCSW 63 WG606254-03
Report Date/Time: Wednesday, March 15, 2017 15:03:29
Page 2

Approved: March 16, 2017

Rb	85	
Y	89	
Rh	103	
Mo	98	
Ag	107	
Cd	111	
Cd	114	
In	115	96.806
Sn	118	
Sb	123	
Ba	135	
Ce	140	
Tb	159	
Ho	165	
Tl	203	
Tl	205	
Pb	206	
Pb	207	
Pb	208	
U	238	
Bi	209	101.331
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

Sample ID: LCSW 63 WG606254-03
Report Date/Time: Wednesday, March 15, 2017 15:03:29
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: L1703070501
Sample Date/Time: Wednesday, March 15, 2017 15:04:27
Number of Replicates: 3
Autosampler Position: 207
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	265791.5	24.0				ug/L	253194	Standard
	Be	9	110.0	41.7	**0.0425**	0.013	30.7	ug/L	25	Standard
	Al	27	4156714.5	23.8	**27.4860**	0.333	1.2	ug/L	868	Standard
	Sc	45	50254.8	24.4				ug/L	47224	Standard
	Ti	47	780.0	17.7	**2.5045**	0.200	8.0	ug/L	63	Standard
	V	51	6066.9	16.1	**0.4929**	0.065	13.3	ug/L	2190	Standard
	Cr	52	22640.6	17.3	**1.9024**	0.237	12.5	ug/L	8511	Standard
	Cr	53	2296.8	12.9	**1.9734**	0.289	14.6	ug/L	462	Standard
	Mn	55	351289.1	23.7	**27.5265**	0.505	1.8	ug/L	2023	Standard
	Co	59	3709.8	28.5	**0.2902**	0.014	4.7	ug/L	1672	Standard
	Ni	60	3679.1	24.2	**1.6347**	0.014	0.9	ug/L	189	Standard
	Cu	65	5425.3	22.3	**2.1801**	0.082	3.8	ug/L	657	Standard
	Zn	66	21083.1	21.9	**15.8355**	0.486	3.1	ug/L	401	Standard
>	Ge	72	855749.6	25.0				ug/L	826992	Standard
	As	75	5594.2	22.9	**4.2847**	0.089	2.1	ug/L	-72	Standard
	Se	82	29.8	22.2	**0.0330**	0.060	181.6	ug/L	21	Standard
	Se-1	77	126.0	12.8	**0.1277**	0.334	261.8	ug/L	111	Standard
>	Ga	71	325.0	20.1				mg/L	32	Standard
	Rb	85	7021.7	29.6				ug/L	48	Standard
	Y	89	586189.6	24.7				ug/L	561066	Standard
>	Rh	103	20.0	66.1				ug/L	7	Standard
	Mo	98	968.4	20.4	**0.2149**	0.011	5.3	ug/L	161	Standard
	Ag	107	174.7	29.7	**0.0018**	0.001	72.3	ug/L	137	Standard
	Cd	111	65.8	42.9	**0.0252**	0.006	23.6	mg/L	3	Standard
	Cd	114	213.4	30.6	**0.0375**	0.002	5.3	ug/L	51	Standard
>	In	115	725427.8	25.5				ug/L	706704	Standard
	Sn	118	370.0	28.9	**0.1152**	0.012	10.6	ug/L	264	Standard
	Sb	123	2028.7	13.9	**0.3741**	0.051	13.8	ug/L	424	Standard
	Ba	135	20212.6	23.3	**9.8556**	0.237	2.4	ug/L	36	Standard
	Ce	140	17261.9	24.5				ug/L	40	Standard
>	Tb	159	1115861.5	22.6				ug/L	1061303	Standard
	Ho	165	445.0	31.0				ug/L	10	Standard
	Tl	203	502.3	47.3	**0.0538**	0.015	28.0	ug/L	13	Standard
	Tl	205	1280.1	48.9	**0.0545**	0.017	31.6	ug/L	42	Standard
	Pb	206	2368.9	25.4	**0.2738**	0.007	2.4	ug/L	485	Standard
	Pb	207	1919.1	23.3	**0.2478**	0.002	0.7	ug/L	409	Standard
	Pb	208	4489.6	23.3	**0.2562**	0.003	1.0	ug/L	928	Standard
	U	238	817.4	20.0	**0.1530**	0.010	6.3	ug/L	7	Standard
>	Bi	209	646693.6	23.5				ug/L	604402	Standard

Sample ID: L1703070501
Report Date/Time: Wednesday, March 15, 2017 15:06:38
Page 1

Approved: March 16, 2017

⌈	**Na**	23	21.7	66.6	**15.6459**	11.803	75.4	mg/L	5	Standard
|	**Mg**	24	436.7	17.6	**4.8339**	0.435	9.0	mg/L	25	Standard
|	**K**	39	173.3	12.0	**0.6905**	0.111	16.1	mg/L	27	Standard
|	**Ca**	43	96.7	41.8	**6.6773**	4.178	62.6	mg/L	58	Standard
|	**Fe**	54	69.4	25.1	**0.2689**	0.085	31.6	mg/L	38	Standard
|	**Fe**	57	271.7	20.3	**0.0767**	1.599	2084.7	mg/L	205	Standard
⌊>	**Sc-1**	45	50254.8	24.4				mg/L	47224	Standard
	Cl	35	3.3	91.7				ug/L	1	Standard
	Kr	83	3.0	88.2				ug/L	5	Standard
	Br	81	5571.1	21.1				ug/L	3214	Standard
	P	31	71.7	24.5				ug/L	70	Standard
	S	34	8.3	69.3				ug/L	15	Standard
	Sr	88	133.3	2.2				ug/L	162	Standard
	C	12	93.3	44.6				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	6.7	86.6				mg/L	3	Standard
	Dy	164	628.2	20.9				mg/L	13	Standard
	Ho-1	165	445.0	31.0				mg/L	10	Standard
	Er	166	316.7	31.2				mg/L	17	Standard
	I	127	19357.5	14.2				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		104.975	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		103.477	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1703070501
Report Date/Time: Wednesday, March 15, 2017 15:06:38
Page 2

Approved: March 16, 2017

⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	102.650
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	106.997
⌈	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: L1703070501
Report Date/Time: Wednesday, March 15, 2017 15:06:38
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: L1703072301 WG606254-01
Sample Date/Time: Wednesday, March 15, 2017 15:07:32
Number of Replicates: 3
Autosampler Position: 208
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	262388.9	17.7				ug/L	253194	Standard
	Be	9	63.3	51.4	**0.0227**	0.014	63.1	ug/L	25	Standard
	Al	27	7998184.3	19.3	**53.4626**	0.978	1.8	ug/L	868	Standard
	Sc	45	45528.3	19.3				ug/L	47224	Standard
	Ti	47	981.7	23.1	**3.5809**	0.194	5.4	ug/L	63	Standard
	V	51	4951.6	3.0	**0.4378**	0.140	32.1	ug/L	2190	Standard
	Cr	52	31559.1	11.3	**3.6146**	0.331	9.2	ug/L	8511	Standard
	Cr	53	14053.2	6.7	**16.7069**	1.993	11.9	ug/L	462	Standard
	Mn	55	548607.6	19.6	**48.2856**	0.721	1.5	ug/L	2023	Standard
	Co	59	18525.6	18.9	**2.0138**	0.014	0.7	ug/L	1672	Standard
	Ni	60	18580.7	19.1	**9.7351**	0.093	1.0	ug/L	189	Standard
	Cu	65	6259.3	16.7	**2.9117**	0.070	2.4	ug/L	657	Standard
	Zn	66	41614.8	16.6	**35.4206**	0.572	1.6	ug/L	401	Standard
>	Ge	72	760885.5	18.3				ug/L	826992	Standard
	As	75	-11336.0	37.6	**-9.3947**	1.795	19.1	ug/L	-72	Standard
	Se	82	-4350.1	36.7	**-39.7235**	7.227	18.2	ug/L	21	Standard
	Se-1	77	3428.1	5.5	**44.5088**	5.616	12.6	ug/L	111	Standard
>	Ga	71	168.3	4.5				mg/L	32	Standard
	Rb	85	64078.4	18.9				ug/L	48	Standard
	Y	89	547169.9	20.7				ug/L	561066	Standard
>	Rh	103	1298.4	20.4				ug/L	7	Standard
	Mo	98	14462.4	18.3	**4.0318**	0.043	1.1	ug/L	161	Standard
	Ag	107	174.0	18.1	**0.0055**	0.002	28.1	ug/L	137	Standard
	Cd	111	139.7	22.8	**0.0736**	0.004	5.2	mg/L	3	Standard
	Cd	114	480.6	25.6	**0.1026**	0.006	6.1	ug/L	51	Standard
>	In	115	635779.8	19.5				ug/L	706704	Standard
	Sn	118	349.0	18.5	**0.1426**	0.006	3.9	ug/L	264	Standard
	Sb	123	3424.3	14.5	**0.7357**	0.045	6.1	ug/L	424	Standard
	Ba	135	118937.3	17.4	**66.2216**	1.317	2.0	ug/L	36	Standard
	Ce	140	1628.4	16.7				ug/L	40	Standard
>	Tb	159	1038697.7	17.3				ug/L	1061303	Standard
	Ho	165	63.3	25.4				ug/L	10	Standard
	Tl	203	2920.3	28.1	**0.3976**	0.045	11.3	ug/L	13	Standard
	Tl	205	6845.0	27.3	**0.3766**	0.040	10.5	ug/L	42	Standard
	Pb	206	1407.7	16.1	**0.1628**	0.009	5.3	ug/L	485	Standard
	Pb	207	1173.0	20.4	**0.1512**	0.012	8.0	ug/L	409	Standard
	Pb	208	2874.4	17.8	**0.1680**	0.005	2.9	ug/L	928	Standard
	U	238	3250.0	15.1	**0.7061**	0.014	2.0	ug/L	7	Standard
>	Bi	209	559431.9	16.4				ug/L	604402	Standard

Sample ID: L1703072301 WG606254-01
Report Date/Time: Wednesday, March 15, 2017 15:09:43
Page 1

Approved: March 16, 2017

⌈	**Na**	23	20.0	25.0	**16.9215**	3.662	21.6	mg/L	5	Standard
|	**Mg**	24	95940.2	14.2	**1280.4393**	61.171	4.8	mg/L	25	Standard
|	**K**	39	306.7	19.3	**1.4442**	0.056	3.9	mg/L	27	Standard
|	**Ca**	43	58.3	9.9	**0.0650**	3.401	5229.4	mg/L	58	Standard
|	**Fe**	54	62.2	4.6	**0.2690**	0.065	24.1	mg/L	38	Standard
|	**Fe**	57	376.7	6.3	**3.5564**	1.561	43.9	mg/L	205	Standard
⌊>	**Sc-1**	45	45528.3	19.3				mg/L	47224	Standard
	Cl	35	4.7	24.7				ug/L	1	Standard
	Kr	83	2.3	24.7				ug/L	5	Standard
	Br	81	153671.5	13.6				ug/L	3214	Standard
	P	31	115.0	60.2				ug/L	70	Standard
	S	34	11.7	89.2				ug/L	15	Standard
	Sr	88	298.3	21.0				ug/L	162	Standard
	C	12	776.7	15.4				mg/L	17	Standard
	N	14	3.3	173.2				mg/L	3	Standard
	Hg	202	30.0	57.7				mg/L	3	Standard
	Dy	164	88.4	2.3				mg/L	13	Standard
	Ho-1	165	63.3	25.4				mg/L	10	Standard
	Er	166	33.3	124.9				mg/L	17	Standard
	I	127	932702.2	2.4				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		103.631	
|	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		92.006	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1703072301 WG606254-01
Report Date/Time: Wednesday, March 15, 2017 15:09:43
Page 2

Approved: March 16, 2017

⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	89.964
|	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	92.560
⌈	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
As 75 Lower	As	75	
Se 82 Lower	Se	82	

Sample ID: L1703072301 WG606254-01
Report Date/Time: Wednesday, March 15, 2017 15:09:43
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: L1703072301S WG606254-04
Sample Date/Time: Wednesday, March 15, 2017 15:10:37
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: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	266281.5	20.2				ug/L	253194	Standard
	Be	9	105003.0	15.0	**46.3831**	2.309	5.0	ug/L	25	Standard
	Al	27	8032643.7	18.6	**53.1074**	0.941	1.8	ug/L	868	Standard
	Sc	45	44976.6	19.2				ug/L	47224	Standard
	Ti	47	1074.4	18.3	**4.1000**	0.074	1.8	ug/L	63	Standard
	V	51	357176.2	16.2	**50.9349**	1.102	2.2	ug/L	2190	Standard
	Cr	52	352325.8	17.1	**53.3242**	0.798	1.5	ug/L	8511	Standard
	Cr	53	56635.2	13.3	**70.5901**	3.513	5.0	ug/L	462	Standard
	Mn	55	1080537.9	16.9	**98.5435**	1.488	1.5	ug/L	2023	Standard
	Co	59	429628.6	17.7	**50.0886**	0.372	0.7	ug/L	1672	Standard
	Ni	60	104965.9	17.3	**57.3249**	0.635	1.1	ug/L	189	Standard
	Cu	65	94223.5	16.2	**49.7514**	1.109	2.2	ug/L	657	Standard
	Zn	66	97643.0	15.6	**86.2428**	2.417	2.8	ug/L	401	Standard
>	Ge	72	738004.9	18.5				ug/L	826992	Standard
	As	75	48331.6	14.0	**42.6769**	1.855	4.3	ug/L	-72	Standard
	Se	82	842.3	26.6	**8.2701**	3.465	41.9	ug/L	21	Standard
	Se-1	77	7440.8	11.9	**100.5957**	6.428	6.4	ug/L	111	Standard
>	Ga	71	145.0	15.8				mg/L	32	Standard
	Rb	85	65526.7	19.7				ug/L	48	Standard
	Y	89	539464.9	20.1				ug/L	561066	Standard
>	Rh	103	1730.1	16.2				ug/L	7	Standard
	Mo	98	14966.7	18.2	**4.2513**	0.036	0.9	ug/L	161	Standard
	Ag	107	273337.5	17.1	**46.3690**	0.944	2.0	ug/L	137	Standard
	Cd	111	82267.8	17.1	**48.9490**	1.015	2.1	mg/L	3	Standard
	Cd	114	207621.3	19.1	**47.2954**	0.088	0.2	ug/L	51	Standard
>	In	115	623987.3	19.1				ug/L	706704	Standard
	Sn	118	332.7	20.7	**0.1312**	0.006	4.7	ug/L	264	Standard
	Sb	123	223763.2	16.8	**50.5911**	1.109	2.2	ug/L	424	Standard
	Ba	135	206969.6	16.3	**117.5321**	3.147	2.7	ug/L	36	Standard
	Ce	140	1615.1	8.6				ug/L	40	Standard
>	Tb	159	1024431.5	18.2				ug/L	1061303	Standard
	Ho	165	68.3	29.6				ug/L	10	Standard
	Tl	203	362684.0	15.0	**51.2653**	1.067	2.1	ug/L	13	Standard
	Tl	205	869636.5	16.5	**49.7116**	0.274	0.6	ug/L	42	Standard
	Pb	206	286788.2	15.7	**50.7041**	0.690	1.4	ug/L	485	Standard
	Pb	207	244822.4	16.4	**48.5251**	0.320	0.7	ug/L	409	Standard
	Pb	208	576037.5	15.7	**50.6222**	0.692	1.4	ug/L	928	Standard
	U	238	254230.9	14.9	**56.0793**	1.175	2.1	ug/L	7	Standard
>	Bi	209	552932.9	17.1				ug/L	604402	Standard

Sample ID: L1703072301S WG606254-04
Report Date/Time: Wednesday, March 15, 2017 15:12:48
Page 1

Approved: March 16, 2017

⌈	**Na**	23	13.3	21.7	**10.7104**	3.690	34.4	mg/L	5	Standard
|	**Mg**	24	99259.3	12.8	**1343.1953**	82.222	6.1	mg/L	25	Standard
|	**K**	39	305.0	19.9	**1.4621**	0.250	17.1	mg/L	27	Standard
|	**Ca**	43	46.7	6.2	**-2.9300**	2.474	84.4	mg/L	58	Standard
|	**Fe**	54	61.5	49.3	**0.2696**	0.245	90.9	mg/L	38	Standard
|	**Fe**	57	341.7	13.2	**2.7096**	1.685	62.2	mg/L	205	Standard
⌊>	**Sc-1**	45	44976.6	19.2				mg/L	47224	Standard
	Cl	35	2.0	100.0				ug/L	1	Standard
	Kr	83	3.3	62.4				ug/L	5	Standard
	Br	81	154521.5	14.5				ug/L	3214	Standard
	P	31	76.7	38.2				ug/L	70	Standard
	S	34	11.7	65.5				ug/L	15	Standard
	Sr	88	306.7	5.0				ug/L	162	Standard
	C	12	786.7	10.8				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	10.0	173.2				mg/L	3	Standard
	Dy	164	68.2	29.0				mg/L	13	Standard
	Ho-1	165	68.3	29.6				mg/L	10	Standard
	Er	166	36.7	56.8				mg/L	17	Standard
	I	127	841374.5	3.2				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		105.169	
|	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		89.240	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1703072301S WG606254-04
Report Date/Time: Wednesday, March 15, 2017 15:12:48
Page 2

Approved: March 16, 2017

⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	88.295
|	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	91.484
⌈	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
Se-1 77 Upper, S, EEE	Se-1	77	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1703072301S WG606254-04
Report Date/Time: Wednesday, March 15, 2017 15:12:48
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: L1703072301SD WG606254-05
Sample Date/Time: Wednesday, March 15, 2017 15:13:43
Number of Replicates: 3
Autosampler Position: 210
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	268210.5	20.4				ug/L	253194	Standard
	Be	9	107532.5	16.9	**47.0530**	1.555	3.3	ug/L	25	Standard
	Al	27	7581150.2	19.2	**49.7281**	0.585	1.2	ug/L	868	Standard
	Sc	45	44298.2	20.6				ug/L	47224	Standard
	Ti	47	1058.0	18.8	**4.0062**	0.153	3.8	ug/L	63	Standard
	V	51	361073.3	17.3	**51.1112**	1.252	2.4	ug/L	2190	Standard
	Cr	52	355802.2	17.2	**53.5116**	1.374	2.6	ug/L	8511	Standard
	Cr	53	57788.3	15.1	**71.4469**	3.232	4.5	ug/L	462	Standard
	Mn	55	1059598.3	18.6	**95.8290**	1.130	1.2	ug/L	2023	Standard
	Co	59	433809.7	18.5	**50.2142**	0.639	1.3	ug/L	1672	Standard
	Ni	60	104835.1	19.0	**56.7778**	0.470	0.8	ug/L	189	Standard
	Cu	65	95018.5	17.2	**49.8050**	1.252	2.5	ug/L	657	Standard
	Zn	66	90852.9	17.1	**79.5782**	2.122	2.7	ug/L	401	Standard
>	Ge	72	743916.8	19.8				ug/L	826992	Standard
	As	75	49966.6	16.3	**43.7287**	1.468	3.4	ug/L	-72	Standard
	Se	82	1330.8	4.4	**12.6640**	1.865	14.7	ug/L	21	Standard
	Se-1	77	7593.9	12.3	**102.0383**	7.343	7.2	ug/L	111	Standard
>	Ga	71	158.3	36.3				mg/L	32	Standard
	Rb	85	60115.6	20.2				ug/L	48	Standard
	Y	89	536564.6	21.6				ug/L	561066	Standard
>	Rh	103	1850.1	14.1				ug/L	7	Standard
	Mo	98	13542.7	18.7	**3.8961**	0.101	2.6	ug/L	161	Standard
	Ag	107	272278.4	18.9	**46.7306**	1.084	2.3	ug/L	137	Standard
	Cd	111	81611.2	19.3	**49.1015**	0.958	2.0	mg/L	3	Standard
	Cd	114	204297.4	18.5	**47.2214**	1.329	2.8	ug/L	51	Standard
>	In	115	617198.0	21.3				ug/L	706704	Standard
	Sn	118	309.3	23.0	**0.1103**	0.018	16.7	ug/L	264	Standard
	Sb	123	224047.3	18.2	**51.2776**	1.511	2.9	ug/L	424	Standard
	Ba	135	199514.5	17.6	**114.7255**	4.018	3.5	ug/L	36	Standard
	Ce	140	1516.7	17.1				ug/L	40	Standard
>	Tb	159	1026324.5	18.2				ug/L	1061303	Standard
	Ho	165	68.3	18.4				ug/L	10	Standard
	Tl	203	365760.7	16.8	**52.5935**	1.070	2.0	ug/L	13	Standard
	Tl	205	872831.3	17.4	**50.8057**	0.723	1.4	ug/L	42	Standard
	Pb	206	286302.2	18.0	**51.4584**	0.324	0.6	ug/L	485	Standard
	Pb	207	244807.6	18.1	**49.3619**	0.441	0.9	ug/L	409	Standard
	Pb	208	579609.2	16.9	**51.8510**	0.890	1.7	ug/L	928	Standard
	U	238	256314.0	16.0	**57.5610**	1.498	2.6	ug/L	7	Standard
>	Bi	209	543490.8	18.7				ug/L	604402	Standard

Sample ID: L1703072301SD WG606254-05
Report Date/Time: Wednesday, March 15, 2017 15:15:53
Page 1

Approved: March 16, 2017

⌈	**Na**	23	23.3	32.7	**20.9208**	7.620	36.4	mg/L	5	Standard
|	**Mg**	24	95224.4	15.1	**1307.7968**	71.752	5.5	mg/L	25	Standard
|	**K**	39	300.0	4.4	**1.4981**	0.338	22.6	mg/L	27	Standard
|	**Ca**	43	68.3	15.2	**2.9639**	2.098	70.8	mg/L	58	Standard
|	**Fe**	54	78.6	18.7	**0.3934**	0.052	13.2	mg/L	38	Standard
|	**Fe**	57	405.0	3.7	**4.6901**	2.045	43.6	mg/L	205	Standard
⌊>	**Sc-1**	45	44298.2	20.6				mg/L	47224	Standard
	Cl	35	2.0	100.0				ug/L	1	Standard
	Kr	83	4.7	44.6				ug/L	5	Standard
	Br	81	142162.3	13.9				ug/L	3214	Standard
	P	31	68.3	18.4				ug/L	70	Standard
	S	34	16.7	45.8				ug/L	15	Standard
	Sr	88	296.7	11.5				ug/L	162	Standard
	C	12	776.7	4.9				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	13.3	86.6				mg/L	3	Standard
	Dy	164	87.3	19.7				mg/L	13	Standard
	Ho-1	165	68.3	18.4				mg/L	10	Standard
	Er	166	56.7	27.0				mg/L	17	Standard
	I	127	729605.6	4.5				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		105.931	
|	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		89.955	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1703072301SD WG606254-05
Report Date/Time: Wednesday, March 15, 2017 15:15:53
Page 2

Approved: March 16, 2017

⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	87.335
|	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	89.922
⌈	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
Se-1 77 Upper, S, EEE	Se-1	77	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1703072301SD WG606254-05
Report Date/Time: Wednesday, March 15, 2017 15:15:53
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: L1703072401
Sample Date/Time: Wednesday, March 15, 2017 15:16:48
Number of Replicates: 3
Autosampler Position: 211
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	265573.6	23.2				ug/L	253194	Standard
	Be	9	103.3	46.5	**0.0386**	0.011	27.9	ug/L	25	Standard
	Al	27	4199957.2	20.5	**27.9035**	0.993	3.6	ug/L	868	Standard
	Sc	45	42912.6	21.7				ug/L	47224	Standard
	Ti	47	1201.4	21.7	**4.6596**	0.124	2.7	ug/L	63	Standard
	V	51	3453.7	3.2	**0.2491**	0.115	46.3	ug/L	2190	Standard
	Cr	52	31415.3	13.7	**3.7984**	0.323	8.5	ug/L	8511	Standard
	Cr	53	20639.1	9.1	**25.9366**	3.326	12.8	ug/L	462	Standard
	Mn	55	72088.3	19.9	**6.4917**	0.047	0.7	ug/L	2023	Standard
	Co	59	17368.6	20.6	**1.9681**	0.009	0.5	ug/L	1672	Standard
	Ni	60	16147.8	19.4	**8.8339**	0.145	1.6	ug/L	189	Standard
	Cu	65	6016.9	16.2	**2.9319**	0.144	4.9	ug/L	657	Standard
	Zn	66	23729.6	17.7	**20.9749**	0.588	2.8	ug/L	401	Standard
>	Ge	72	729742.7	20.6				ug/L	826992	Standard
	As	75	-10773.7	31.2	**-9.3908**	1.008	10.7	ug/L	-72	Standard
	Se	82	-4315.9	32.2	**-41.3420**	5.083	12.3	ug/L	21	Standard
	Se-1	77	4234.9	5.4	**58.0298**	8.589	14.8	ug/L	111	Standard
>	Ga	71	188.3	10.7				mg/L	32	Standard
	Rb	85	61839.6	20.9				ug/L	48	Standard
	Y	89	520660.8	21.3				ug/L	561066	Standard
>	Rh	103	2086.8	16.4				ug/L	7	Standard
	Mo	98	12108.9	19.6	**3.5688**	0.061	1.7	ug/L	161	Standard
	Ag	107	186.0	29.1	**0.0089**	0.003	28.4	ug/L	137	Standard
	Cd	111	159.3	21.4	**0.0908**	0.008	8.7	mg/L	3	Standard
	Cd	114	483.7	31.8	**0.1091**	0.014	12.9	ug/L	51	Standard
>	In	115	601267.2	21.1				ug/L	706704	Standard
	Sn	118	297.3	11.0	**0.1113**	0.035	31.2	ug/L	264	Standard
	Sb	123	2987.8	19.3	**0.6737**	0.020	3.0	ug/L	424	Standard
	Ba	135	77092.1	17.9	**45.4565**	1.367	3.0	ug/L	36	Standard
	Ce	140	430.0	22.6				ug/L	40	Standard
>	Tb	159	999684.5	19.0				ug/L	1061303	Standard
	Ho	165	20.0	25.0				ug/L	10	Standard
	Tl	203	1473.4	26.5	**0.2106**	0.018	8.7	ug/L	13	Standard
	Tl	205	3545.4	23.5	**0.2050**	0.011	5.5	ug/L	42	Standard
	Pb	206	1053.4	22.9	**0.1104**	0.010	9.2	ug/L	485	Standard
	Pb	207	852.4	20.4	**0.0986**	0.004	4.5	ug/L	409	Standard
	Pb	208	2077.1	19.8	**0.1092**	0.005	4.7	ug/L	928	Standard
	U	238	8407.0	17.5	**1.9347**	0.022	1.1	ug/L	7	Standard
>	Bi	209	528596.9	17.9				ug/L	604402	Standard

Sample ID: L1703072401
Report Date/Time: Wednesday, March 15, 2017 15:18:59
Page 1

Approved: March 16, 2017

⌈	**Na**	23	8.3	69.3	**6.1979**	6.462	104.3	mg/L	5	Standard
|	**Mg**	24	108039.6	17.1	**1531.4174**	88.403	5.8	mg/L	25	Standard
|	**K**	39	286.7	16.2	**1.4441**	0.137	9.5	mg/L	27	Standard
|	**Ca**	43	23.3	53.9	**-9.4083**	2.394	25.4	mg/L	58	Standard
|	**Fe**	54	52.0	12.0	**0.2251**	0.098	43.7	mg/L	38	Standard
|	**Fe**	57	348.3	11.6	**3.3211**	1.020	30.7	mg/L	205	Standard
⌊>	**Sc-1**	45	42912.6	21.7				mg/L	47224	Standard
	Cl	35	4.0	86.6				ug/L	1	Standard
	Kr	83	3.0	100.0				ug/L	5	Standard
	Br	81	144603.5	14.9				ug/L	3214	Standard
	P	31	76.7	3.8				ug/L	70	Standard
	S	34	21.7	35.3				ug/L	15	Standard
	Sr	88	261.7	5.8				ug/L	162	Standard
	C	12	820.0	27.5				mg/L	17	Standard
	N	14	3.3	173.2				mg/L	3	Standard
	Hg	202	13.3	114.6				mg/L	3	Standard
	Dy	164	14.6	74.4				mg/L	13	Standard
	Ho-1	165	20.0	25.0				mg/L	10	Standard
	Er	166	43.3	35.3				mg/L	17	Standard
	I	127	1030234.1	3.1				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		104.889	
|	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		88.241	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1703072401
Report Date/Time: Wednesday, March 15, 2017 15:18:59
Page 2

Approved: March 16, 2017

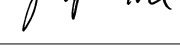
⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	85.081
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	87.458
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	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
As 75 Lower	As	75	
Se 82 Lower	Se	82	

Sample ID: L1703072401
Report Date/Time: Wednesday, March 15, 2017 15:18:59
Page 3

Approved: March 16, 2017



Method 6020 - Summary Report

Sample ID: L1703072401PS WG606367-01
Sample Date/Time: Wednesday, March 15, 2017 15:19:54
Number of Replicates: 3
Autosampler Position: 212
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	264826.1	21.9				ug/L	253194	Standard
	Be	9	106700.4	19.4	**47.2318**	1.764	3.7	ug/L	25	Standard
	Al	27	4184665.9	19.6	**27.8424**	0.627	2.3	ug/L	868	Standard
	Sc	45	44071.0	21.5				ug/L	47224	Standard
	Ti	47	1330.7	18.6	**5.2228**	0.115	2.2	ug/L	63	Standard
	V	51	365108.5	18.0	**52.8167**	0.991	1.9	ug/L	2190	Standard
	Cr	52	361284.1	18.6	**55.5197**	0.746	1.3	ug/L	8511	Standard
	Cr	53	62251.7	17.0	**78.5919**	2.184	2.8	ug/L	462	Standard
	Mn	55	620752.1	18.2	**57.3896**	0.931	1.6	ug/L	2023	Standard
	Co	59	441095.7	18.5	**52.2204**	0.720	1.4	ug/L	1672	Standard
	Ni	60	103907.2	18.2	**57.6242**	0.859	1.5	ug/L	189	Standard
	Cu	65	96466.7	17.1	**51.7361**	1.305	2.5	ug/L	657	Standard
	Zn	66	79161.1	16.8	**70.9128**	2.023	2.9	ug/L	401	Standard
>	Ge	72	727229.6	19.7				ug/L	826992	Standard
	As	75	49522.8	16.8	**44.3048**	1.247	2.8	ug/L	-72	Standard
	Se	82	918.0	9.1	**8.9037**	1.850	20.8	ug/L	21	Standard
	Se-1	77	8121.5	11.6	**111.8455**	8.703	7.8	ug/L	111	Standard
>	Ga	71	201.7	35.9				mg/L	32	Standard
	Rb	85	60525.2	19.1				ug/L	48	Standard
	Y	89	522046.2	20.7				ug/L	561066	Standard
>	Rh	103	2141.8	9.8				ug/L	7	Standard
	Mo	98	12058.1	20.2	**3.5157**	0.010	0.3	ug/L	161	Standard
	Ag	107	277038.9	17.6	**48.3974**	1.339	2.8	ug/L	137	Standard
	Cd	111	81157.8	19.0	**49.6346**	0.697	1.4	mg/L	3	Standard
	Cd	114	201922.3	18.7	**47.4206**	0.976	2.1	ug/L	51	Standard
>	In	115	606749.0	20.5				ug/L	706704	Standard
	Sn	118	311.3	18.3	**0.1202**	0.020	16.2	ug/L	264	Standard
	Sb	123	229650.2	17.1	**53.4903**	1.766	3.3	ug/L	424	Standard
	Ba	135	165532.8	17.3	**96.7395**	2.964	3.1	ug/L	36	Standard
	Ce	140	498.3	19.7				ug/L	40	Standard
>	Tb	159	1011982.6	18.6				ug/L	1061303	Standard
	Ho	165	41.7	13.9				ug/L	10	Standard
	Tl	203	356465.1	16.9	**52.2750**	0.579	1.1	ug/L	13	Standard
	Tl	205	851150.8	18.1	**50.4917**	0.464	0.9	ug/L	42	Standard
	Pb	206	282292.2	17.9	**51.7613**	0.256	0.5	ug/L	485	Standard
	Pb	207	249097.5	17.6	**51.2634**	0.397	0.8	ug/L	409	Standard
	Pb	208	582593.3	16.7	**53.1723**	0.739	1.4	ug/L	928	Standard
	U	238	266553.9	16.1	**61.0448**	1.413	2.3	ug/L	7	Standard
>	Bi	209	532426.4	18.0				ug/L	604402	Standard

Sample ID: L1703072401PS WG606367-01
Report Date/Time: Wednesday, March 15, 2017 15:22:05
Page 1

Approved: March 16, 2017

⌈	**Na**	23	10.0	50.0	**7.3838**	5.294	71.7	mg/L	5	Standard
|	**Mg**	24	108580.7	15.7	**1499.7947**	83.131	5.5	mg/L	25	Standard
|	**K**	39	308.3	22.7	**1.5196**	0.311	20.5	mg/L	27	Standard
|	**Ca**	43	38.3	32.8	**-5.3832**	1.730	32.1	mg/L	58	Standard
|	**Fe**	54	57.3	20.1	**0.2445**	0.073	29.8	mg/L	38	Standard
|	**Fe**	57	375.0	5.8	**3.9540**	2.168	54.8	mg/L	205	Standard
⌊>	**Sc-1**	45	44071.0	21.5				mg/L	47224	Standard
	Cl	35	2.7	43.3				ug/L	1	Standard
	Kr	83	3.7	41.7				ug/L	5	Standard
	Br	81	144829.9	15.6				ug/L	3214	Standard
	P	31	55.0	9.1				ug/L	70	Standard
	S	34	18.3	63.0				ug/L	15	Standard
	Sr	88	258.3	6.8				ug/L	162	Standard
	C	12	723.4	5.2				mg/L	17	Standard
	N	14	13.3	43.3				mg/L	3	Standard
	Hg	202	13.3	86.6				mg/L	3	Standard
	Dy	164	21.9	52.8				mg/L	13	Standard
	Ho-1	165	41.7	13.9				mg/L	10	Standard
	Er	166	30.0	33.3				mg/L	17	Standard
	I	127	1555440.8	4.7				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		104.594	
|	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		87.937	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1703072401PS WG606367-01
Report Date/Time: Wednesday, March 15, 2017 15:22:05
Page 2

Approved: March 16, 2017

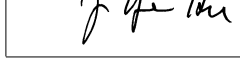
⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	85.856
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	88.091
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	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
Se-1 77 Upper, S, EEE	Se-1	77	

Sample ID: L1703072401PS WG606367-01
Report Date/Time: Wednesday, March 15, 2017 15:22:05
Page 3

Approved: March 16, 2017



Method 6020 - Summary Report

Sample ID: L1703072401SDL WG606367-02
Sample Date/Time: Wednesday, March 15, 2017 15:23:00
Number of Replicates: 3
Autosampler Position: 213
Sample Description: 5
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	257356.1	20.9				ug/L	253194	Standard
	Be	9	96.7	79.0	**0.0386**	0.037	94.8	ug/L	25	Standard
	Al	27	754792.2	20.7	**5.1531**	0.011	0.2	ug/L	868	Standard
	Sc	45	44749.6	21.3				ug/L	47224	Standard
	Ti	47	300.0	21.4	**0.9560**	0.053	5.6	ug/L	63	Standard
	V	51	1344.5	27.5	**-0.0697**	0.064	92.0	ug/L	2190	Standard
	Cr	52	12572.9	12.4	**0.8024**	0.141	17.6	ug/L	8511	Standard
	Cr	53	11939.7	10.3	**14.4867**	1.392	9.6	ug/L	462	Standard
	Mn	55	17774.3	18.8	**1.4554**	0.071	4.9	ug/L	2023	Standard
	Co	59	4064.9	17.9	**0.3930**	0.030	7.7	ug/L	1672	Standard
	Ni	60	3344.4	20.9	**1.7168**	0.036	2.1	ug/L	189	Standard
	Cu	65	1844.8	14.8	**0.6693**	0.062	9.2	ug/L	657	Standard
	Zn	66	6747.2	18.8	**5.6445**	0.179	3.2	ug/L	401	Standard
>	Ge	72	740876.6	20.1				ug/L	826992	Standard
	As	75	-393.9	20.3	**-0.3170**	0.104	32.8	ug/L	-72	Standard
	Se	82	-128.9	25.9	**-1.4384**	0.100	7.0	ug/L	21	Standard
	Se-1	77	1599.4	5.9	**20.6801**	3.104	15.0	ug/L	111	Standard
>	Ga	71	96.7	35.2				mg/L	32	Standard
	Rb	85	12385.2	23.0				ug/L	48	Standard
	Y	89	513024.9	21.6				ug/L	561066	Standard
>	Rh	103	458.3	10.3				ug/L	7	Standard
	Mo	98	2464.5	20.6	**0.6886**	0.006	0.9	ug/L	161	Standard
	Ag	107	168.0	21.7	**0.0056**	0.005	94.5	ug/L	137	Standard
	Cd	111	44.8	27.9	**0.0195**	0.006	29.7	mg/L	3	Standard
	Cd	114	154.4	13.8	**0.0322**	0.005	17.0	ug/L	51	Standard
>	In	115	614946.5	20.3				ug/L	706704	Standard
	Sn	118	210.3	16.5	**0.0082**	0.008	100.7	ug/L	264	Standard
	Sb	123	793.5	28.9	**0.1551**	0.050	32.3	ug/L	424	Standard
	Ba	135	16450.1	18.2	**9.4512**	0.260	2.8	ug/L	36	Standard
	Ce	140	145.0	57.6				ug/L	40	Standard
>	Tb	159	1027630.5	19.1				ug/L	1061303	Standard
	Ho	165	15.0	120.2				ug/L	10	Standard
	Tl	203	1524.4	39.6	**0.2148**	0.094	43.8	ug/L	13	Standard
	Tl	205	3818.9	40.6	**0.2177**	0.099	45.5	ug/L	42	Standard
	Pb	206	1450.7	36.7	**0.1783**	0.104	58.3	ug/L	485	Standard
	Pb	207	1204.1	36.5	**0.1658**	0.096	58.1	ug/L	409	Standard
	Pb	208	2716.1	30.8	**0.1620**	0.082	50.4	ug/L	928	Standard
	U	238	1865.8	23.4	**0.4123**	0.082	19.8	ug/L	7	Standard
>	Bi	209	550606.5	19.7				ug/L	604402	Standard

Sample ID: L1703072401SDL WG606367-02
Report Date/Time: Wednesday, March 15, 2017 15:25:10
Page 1

Approved: March 16, 2017

⌈	**Na**	23	3.3	86.6	**0.5558**	3.105	558.7	mg/L	5	Standard
|	**Mg**	24	21979.5	15.2	**298.7166**	17.470	5.8	mg/L	25	Standard
|	**K**	39	115.0	11.5	**0.4761**	0.059	12.5	mg/L	27	Standard
|	**Ca**	43	53.3	19.5	**-0.6399**	5.728	895.1	mg/L	58	Standard
|	**Fe**	54	29.2	17.4	**0.0367**	0.040	108.2	mg/L	38	Standard
|	**Fe**	57	290.0	10.8	**1.5513**	2.408	155.2	mg/L	205	Standard
⌊>	**Sc-1**	45	44749.6	21.3				mg/L	47224	Standard
	Cl	35	2.0	100.0				ug/L	1	Standard
	Kr	83	2.0	0.0				ug/L	5	Standard
	Br	81	29773.2	18.2				ug/L	3214	Standard
	P	31	50.0	10.0				ug/L	70	Standard
	S	34	20.0	90.1				ug/L	15	Standard
	Sr	88	166.7	17.6				ug/L	162	Standard
	C	12	220.0	35.5				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	3.3	173.2				mg/L	3	Standard
	Dy	164	9.4	104.3				mg/L	13	Standard
	Ho-1	165	15.0	120.2				mg/L	10	Standard
	Er	166	13.3	43.3				mg/L	17	Standard
	I	127	306519.2	6.4				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		101.644	
|	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		89.587	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1703072401SDL WG606367-02
Report Date/Time: Wednesday, March 15, 2017 15:25:10
Page 2

Approved: March 16, 2017

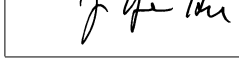
⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	87.016
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	91.099
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	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
Se 82 Lower	Se	82	

Sample ID: L1703072401SDL WG606367-02
Report Date/Time: Wednesday, March 15, 2017 15:25:10
Page 3

Approved: March 16, 2017



Method 6020 - Summary Report

Sample ID: L1703072401SDL WG606367-02
Sample Date/Time: Wednesday, March 15, 2017 15:26:04
Number of Replicates: 3
Autosampler Position: 214
Sample Description: 25
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	250990.8	22.9				ug/L	253194	Standard
	Be	9	86.7	68.8	**0.0397**	0.038	95.6	ug/L	25	Standard
	Al	27	178760.9	20.0	**1.2558**	0.034	2.7	ug/L	868	Standard
	Sc	45	43780.1	21.4				ug/L	47224	Standard
	Ti	47	152.0	9.7	**0.3626**	0.080	22.1	ug/L	63	Standard
	V	51	1537.5	18.3	**-0.0492**	0.013	26.7	ug/L	2190	Standard
	Cr	52	8436.0	11.5	**0.1471**	0.144	98.1	ug/L	8511	Standard
	Cr	53	5831.1	7.7	**6.7380**	1.028	15.3	ug/L	462	Standard
	Mn	55	6189.6	11.2	**0.4026**	0.091	22.6	ug/L	2023	Standard
	Co	59	1378.1	15.5	**0.0828**	0.052	62.6	ug/L	1672	Standard
	Ni	60	985.7	11.2	**0.4364**	0.074	17.0	ug/L	189	Standard
	Cu	65	1216.0	12.5	**0.3296**	0.067	20.3	ug/L	657	Standard
	Zn	66	2648.9	17.9	**2.0057**	0.103	5.1	ug/L	401	Standard
>	Ge	72	753386.7	22.6				ug/L	826992	Standard
	As	75	-88.3	22.4	**-0.0422**	0.022	53.3	ug/L	-72	Standard
	Se	82	-7.3	69.4	**-0.2927**	0.064	22.0	ug/L	21	Standard
	Se-1	77	663.0	9.0	**7.6167**	1.192	15.6	ug/L	111	Standard
>	Ga	71	43.3	37.1				mg/L	32	Standard
	Rb	85	3038.7	26.6				ug/L	48	Standard
	Y	89	515416.7	23.9				ug/L	561066	Standard
>	Rh	103	348.3	9.8				ug/L	7	Standard
	Mo	98	589.1	22.0	**0.1400**	0.005	3.4	ug/L	161	Standard
	Ag	107	149.7	13.1	**0.0021**	0.007	320.1	ug/L	137	Standard
	Cd	111	23.2	45.9	**0.0072**	0.010	132.7	mg/L	3	Standard
	Cd	114	76.4	48.1	**0.0149**	0.012	81.6	ug/L	51	Standard
>	In	115	638348.9	23.5				ug/L	706704	Standard
	Sn	118	195.0	32.4	**-0.0194**	0.027	138.8	ug/L	264	Standard
	Sb	123	206.3	9.2	**0.0199**	0.013	67.4	ug/L	424	Standard
	Ba	135	3900.5	20.6	**2.1459**	0.080	3.7	ug/L	36	Standard
	Ce	140	50.0	26.5				ug/L	40	Standard
>	Tb	159	1020925.5	21.7				ug/L	1061303	Standard
	Ho	165	13.3	78.1				ug/L	10	Standard
	Tl	203	1279.7	14.0	**0.1715**	0.014	8.0	ug/L	13	Standard
	Tl	205	3083.7	16.9	**0.1658**	0.016	9.4	ug/L	42	Standard
	Pb	206	1069.0	14.1	**0.1011**	0.016	15.5	ug/L	485	Standard
	Pb	207	935.4	17.8	**0.1023**	0.007	7.3	ug/L	409	Standard
	Pb	208	2215.4	15.5	**0.1083**	0.012	11.0	ug/L	928	Standard
	U	238	367.0	24.3	**0.0760**	0.004	4.7	ug/L	7	Standard
>	Bi	209	573044.9	22.0				ug/L	604402	Standard

Sample ID: L1703072401SDL WG606367-02
Report Date/Time: Wednesday, March 15, 2017 15:28:15
Page 1

Approved: March 16, 2017

⌈	**Na**	23	1.7	173.2	**-0.7553**	3.593	475.6	mg/L	5	Standard
|	**Mg**	24	5024.2	17.0	**69.2667**	3.185	4.6	mg/L	25	Standard
|	**K**	39	51.7	29.6	**0.1446**	0.080	55.2	mg/L	27	Standard
|	**Ca**	43	60.0	22.0	**1.6879**	6.752	400.0	mg/L	58	Standard
|	**Fe**	54	16.1	19.4	**-0.0540**	0.035	64.5	mg/L	38	Standard
|	**Fe**	57	291.7	21.4	**1.5111**	1.484	98.2	mg/L	205	Standard
⌊>	**Sc-1**	45	43780.1	21.4				mg/L	47224	Standard
	Cl	35	2.0	0.0				ug/L	1	Standard
	Kr	83	3.3	45.8				ug/L	5	Standard
	Br	81	9456.3	17.7				ug/L	3214	Standard
	P	31	61.7	12.4				ug/L	70	Standard
	S	34	11.7	24.7				ug/L	15	Standard
	Sr	88	158.3	32.4				ug/L	162	Standard
	C	12	50.0	52.9				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	12.7	50.0				mg/L	13	Standard
	Ho-1	165	13.3	78.1				mg/L	10	Standard
	Er	166	13.3	114.6				mg/L	17	Standard
	I	127	85133.4	10.0				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		99.130	
|	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		91.100	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1703072401SDL WG606367-02
Report Date/Time: Wednesday, March 15, 2017 15:28:15
Page 2

Approved: March 16, 2017

⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	90.328
|	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	94.812
⌈	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: L1703072401SDL WG606367-02
Report Date/Time: Wednesday, March 15, 2017 15:28:15
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Wednesday, March 15, 2017 15:29:12
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	264336.4	27.0				ug/L	253194	Standard
	Be	9	112235.1	25.3	**49.7383**	0.893	1.8	ug/L	25	Standard
	Al	27	7347306.6	25.0	**48.9861**	1.006	2.1	ug/L	868	Standard
	Sc	45	48657.0	27.9				ug/L	47224	Standard
	Ti	47	27803.5	24.5	**103.4952**	2.744	2.7	ug/L	63	Standard
	V	51	386558.6	24.8	**50.6508**	1.190	2.3	ug/L	2190	Standard
	Cr	52	363873.9	25.2	**50.5568**	1.062	2.1	ug/L	8511	Standard
	Cr	53	45631.2	23.9	**52.0378**	1.969	3.8	ug/L	462	Standard
	Mn	55	607429.6	25.3	**50.8214**	1.089	2.1	ug/L	2023	Standard
	Co	59	470461.7	25.3	**50.4368**	1.032	2.0	ug/L	1672	Standard
	Ni	60	99935.3	25.2	**50.1614**	1.069	2.1	ug/L	189	Standard
	Cu	65	104992.6	24.2	**50.9963**	1.444	2.8	ug/L	657	Standard
	Zn	66	62772.0	23.9	**50.8588**	1.528	3.0	ug/L	401	Standard
>	Ge	72	804171.3	27.1				ug/L	826992	Standard
	As	75	62524.3	23.8	**50.6708**	1.652	3.3	ug/L	-72	Standard
	Se	82	5786.6	26.2	**50.6771**	0.790	1.6	ug/L	21	Standard
	Se-1	77	4280.6	23.6	**52.3476**	1.890	3.6	ug/L	111	Standard
>	Ga	71	66.7	37.0				mg/L	32	Standard
	Rb	85	973.4	21.2				ug/L	48	Standard
	Y	89	553349.6	28.4				ug/L	561066	Standard
>	Rh	103	268.3	7.8				ug/L	7	Standard
	Mo	98	389615.6	26.5	**101.3394**	0.591	0.6	ug/L	161	Standard
	Ag	107	330906.0	25.9	**51.1030**	0.537	1.1	ug/L	137	Standard
	Cd	111	93620.5	26.6	**50.6520**	0.161	0.3	mg/L	3	Standard
	Cd	114	244612.8	25.7	**50.8903**	1.276	2.5	ug/L	51	Standard
>	In	115	684855.0	26.8				ug/L	706704	Standard
	Sn	118	53030.3	23.3	**50.6420**	1.822	3.6	ug/L	264	Standard
	Sb	123	242715.2	23.9	**50.1028**	1.404	2.8	ug/L	424	Standard
	Ba	135	98317.8	23.7	**50.9436**	1.548	3.0	ug/L	36	Standard
	Ce	140	56.7	18.4				ug/L	40	Standard
>	Tb	159	1087088.9	24.4				ug/L	1061303	Standard
	Ho	165	35.0	37.8				ug/L	10	Standard
	Tl	203	394598.0	23.6	**50.4883**	0.933	1.8	ug/L	13	Standard
	Tl	205	941747.2	23.3	**48.8412**	1.144	2.3	ug/L	42	Standard
	Pb	206	315814.3	23.5	**50.5803**	0.970	1.9	ug/L	485	Standard
	Pb	207	281095.7	23.9	**50.4863**	0.775	1.5	ug/L	409	Standard
	Pb	208	644242.0	23.5	**51.2929**	0.984	1.9	ug/L	928	Standard
	U	238	260782.2	24.7	**51.9670**	0.572	1.1	ug/L	7	Standard
>	Bi	209	611373.4	25.5				ug/L	604402	Standard

Sample ID: QC Std 6
Report Date/Time: Wednesday, March 15, 2017 15:31:23
Page 1

Approved: March 16, 2017

⌈	**Na**	23	6.7	43.3	**3.1717**	0.950	29.9	mg/L	5	Standard
|	**Mg**	24	475.0	14.2	**5.5621**	0.773	13.9	mg/L	25	Standard
|	**K**	39	1095.0	16.3	**5.2427**	0.602	11.5	mg/L	27	Standard
|	**Ca**	43	68.3	36.8	**1.1309**	4.087	361.4	mg/L	58	Standard
|	**Fe**	54	827.7	20.2	**5.3371**	0.507	9.5	mg/L	38	Standard
|	**Fe**	57	443.3	18.3	**4.5545**	0.978	21.5	mg/L	205	Standard
⌊>	**Sc-1**	45	48657.0	27.9				mg/L	47224	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	3.0	115.5				ug/L	5	Standard
	Br	81	3537.1	23.6				ug/L	3214	Standard
	P	31	81.7	12.7				ug/L	70	Standard
	S	34	16.7	34.6				ug/L	15	Standard
	Sr	88	155.0	18.0				ug/L	162	Standard
	C	12	63.3	87.0				mg/L	17	Standard
	N	14	6.7	86.6				mg/L	3	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	29.4	90.7				mg/L	13	Standard
	Ho-1	165	35.0	37.8				mg/L	10	Standard
	Er	166	13.3	43.3				mg/L	17	Standard
	I	127	12039.9	15.3				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	99.477		
⌊	Al	27	97.972		
⌈	Sc	45			
|	Ti	47	103.495		
|	V	51	101.302		
|	Cr	52	101.114		
|	Cr	53			
|	Mn	55	101.643		
|	Co	59	100.874		
|	Ni	60	100.323		
|	Cu	65	101.993		
|	Zn	66	101.718		
|>	Ge	72		97.241	
|	As	75	101.342		
|	Se	82	101.354		
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: QC Std 6
Report Date/Time: Wednesday, March 15, 2017 15:31:23
Page 2

Approved: March 16, 2017

⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	101.339	
|	Ag	107	102.206	
|	Cd	111	101.304	
|	Cd	114		
|>	In	115		96.908
|	Sn	118	101.284	
|	Sb	123	100.206	
⌊	Ba	135	101.887	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	100.977	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	102.586	
|	U	238	103.934	
⌊>	Bi	209		101.153
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		
	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 6
Report Date/Time: Wednesday, March 15, 2017 15:31:23
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Wednesday, March 15, 2017 15:32:17
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	247161.6	33.1				ug/L	253194	Standard
	Be	9	66.7	41.3	**0.0264**	0.009	35.8	ug/L	25	Standard
	Al	27	1263.4	45.7	**0.0082**	0.001	15.3	ug/L	868	Standard
	Sc	45	46065.1	33.5				ug/L	47224	Standard
	Ti	47	93.0	10.6	**0.1415**	0.117	82.5	ug/L	63	Standard
	V	51	1488.3	10.5	**-0.0481**	0.042	88.4	ug/L	2190	Standard
	Cr	52	6670.5	14.6	**-0.1040**	0.167	160.5	ug/L	8511	Standard
	Cr	53	1386.7	12.9	**1.2193**	0.331	27.2	ug/L	462	Standard
	Mn	55	2666.2	22.5	**0.0813**	0.022	27.4	ug/L	2023	Standard
	Co	59	1039.4	14.3	**0.0423**	0.020	47.9	ug/L	1672	Standard
	Ni	60	223.0	19.8	**0.0214**	0.014	66.3	ug/L	189	Standard
	Cu	65	979.4	20.6	**0.2097**	0.057	27.3	ug/L	657	Standard
	Zn	66	537.7	22.5	**0.1732**	0.045	26.2	ug/L	401	Standard
>	Ge	72	752776.4	32.7				ug/L	826992	Standard
	As	75	-77.3	33.1	**-0.0389**	0.042	107.8	ug/L	-72	Standard
	Se	82	14.1	2.7	**-0.0783**	0.037	47.0	ug/L	21	Standard
	Se-1	77	185.7	5.3	**1.2162**	0.626	51.5	ug/L	111	Standard
>	Ga	71	40.0	37.5				mg/L	32	Standard
	Rb	85	111.7	24.7				ug/L	48	Standard
	Y	89	513436.3	33.5				ug/L	561066	Standard
>	Rh	103	196.7	7.8				ug/L	7	Standard
	Mo	98	312.1	60.8	**0.0569**	0.023	40.0	ug/L	161	Standard
	Ag	107	158.7	30.3	**0.0026**	0.001	37.8	ug/L	137	Standard
	Cd	111	8.9	84.5	**-0.0028**	0.003	92.2	mg/L	3	Standard
	Cd	114	40.0	52.6	**0.0045**	0.003	58.9	ug/L	51	Standard
>	In	115	645113.2	33.0				ug/L	706704	Standard
	Sn	118	248.7	27.4	**0.0388**	0.025	64.4	ug/L	264	Standard
	Sb	123	1153.4	16.9	**0.2334**	0.050	21.3	ug/L	424	Standard
	Ba	135	48.3	39.9	**0.0035**	0.002	69.0	ug/L	36	Standard
	Ce	140	6.7	114.6				ug/L	40	Standard
>	Tb	159	1013361.9	31.7				ug/L	1061303	Standard
	Ho	165	8.3	91.7				ug/L	10	Standard
	Tl	203	340.7	34.8	**0.0414**	0.006	14.9	ug/L	13	Standard
	Tl	205	813.4	29.8	**0.0392**	0.001	2.3	ug/L	42	Standard
	Pb	206	579.0	38.7	**0.0137**	0.006	45.3	ug/L	485	Standard
	Pb	207	497.3	31.6	**0.0170**	0.001	5.6	ug/L	409	Standard
	Pb	208	1182.0	31.4	**0.0185**	0.001	6.5	ug/L	928	Standard
	U	238	36.7	40.9	**0.0060**	0.002	36.3	ug/L	7	Standard
>	Bi	209	575678.0	31.8				ug/L	604402	Standard

Sample ID: QC Std 7
Report Date/Time: Wednesday, March 15, 2017 15:34:28
Page 1

Approved: March 16, 2017

	Na	23	0.0		**-2.8296**	0.000	0.0	mg/L	5	Standard
	Mg	24	63.3	59.3	**0.3195**	0.326	102.0	mg/L	25	Standard
	K	39	26.7	10.8	**0.0119**	0.048	401.1	mg/L	27	Standard
	Ca	43	51.7	29.6	**-0.6318**	7.353	1163.8	mg/L	58	Standard
	Fe	54	34.5	15.3	**0.0859**	0.100	116.3	mg/L	38	Standard
	Fe	57	275.0	15.5	**1.2970**	3.204	247.0	mg/L	205	Standard
>	**Sc-1**	45	46065.1	33.5				mg/L	47224	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	4.3	53.3				ug/L	5	Standard
	Br	81	3330.4	26.9				ug/L	3214	Standard
	P	31	68.3	29.6				ug/L	70	Standard
	S	34	15.0	33.3				ug/L	15	Standard
	Sr	88	155.0	8.5				ug/L	162	Standard
	C	12	40.0	43.3				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	3.3	173.2				mg/L	3	Standard
	Dy	164	6.5	93.0				mg/L	13	Standard
	Ho-1	165	8.3	91.7				mg/L	10	Standard
	Er	166	3.3	173.2				mg/L	17	Standard
	I	127	12124.9	10.1				mg/L	7850	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		91.026	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			

Sample ID: QC Std 7
Report Date/Time: Wednesday, March 15, 2017 15:34:28
Page 2

Approved: March 16, 2017

	Rb	85	
	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	91.285
	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	95.247
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 7	Sb	123	
QC Std 7	Tl	203	

Sample ID: QC Std 7
Report Date/Time: Wednesday, March 15, 2017 15:34:28
Page 3

Approved: March 16, 2017

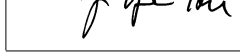
Method 6020 - Summary Report

Sample ID: L1703070501PS WG606367-03
Sample Date/Time: Wednesday, March 15, 2017 15:38:56
Number of Replicates: 3
Autosampler Position: 215
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	274639.2	26.6				ug/L	253194	Standard
	Be	9	119187.2	24.5	**50.8777**	1.060	2.1	ug/L	25	Standard
	Al	27	4164747.8	25.6	**26.6781**	0.348	1.3	ug/L	868	Standard
	Sc	45	50627.4	28.6				ug/L	47224	Standard
	Ti	47	827.0	20.8	**2.6963**	0.158	5.8	ug/L	63	Standard
	V	51	412227.0	24.5	**51.3107**	0.869	1.7	ug/L	2190	Standard
	Cr	52	401435.5	25.0	**53.0209**	0.662	1.2	ug/L	8511	Standard
	Cr	53	49868.1	22.8	**54.0900**	1.804	3.3	ug/L	462	Standard
	Mn	55	983580.9	24.9	**78.2668**	0.988	1.3	ug/L	2023	Standard
	Co	59	500198.3	25.5	**50.9050**	0.454	0.9	ug/L	1672	Standard
	Ni	60	109214.7	24.7	**52.0919**	0.763	1.5	ug/L	189	Standard
	Cu	65	115586.7	24.1	**53.3232**	1.136	2.1	ug/L	657	Standard
	Zn	66	87224.4	23.0	**67.2841**	2.109	3.1	ug/L	401	Standard
>	Ge	72	845793.8	26.2				ug/L	826992	Standard
	As	75	71547.4	23.6	**55.0562**	1.370	2.5	ug/L	-72	Standard
	Se	82	6041.7	26.1	**50.2371**	0.681	1.4	ug/L	21	Standard
	Se-1	77	4453.3	23.9	**51.6714**	1.317	2.5	ug/L	111	Standard
>	Ga	71	290.0	17.5				mg/L	32	Standard
	Rb	85	6621.5	25.6				ug/L	48	Standard
	Y	89	572367.2	26.7				ug/L	561066	Standard
>	Rh	103	170.0	30.7				ug/L	7	Standard
	Mo	98	953.9	22.9	**0.2130**	0.009	4.4	ug/L	161	Standard
	Ag	107	344979.1	25.0	**50.8014**	0.857	1.7	ug/L	137	Standard
	Cd	111	97876.8	25.5	**50.5056**	0.545	1.1	mg/L	3	Standard
	Cd	114	246194.0	26.6	**48.6709**	0.084	0.2	ug/L	51	Standard
>	In	115	718804.6	26.5				ug/L	706704	Standard
	Sn	118	467.7	26.1	**0.2091**	0.009	4.4	ug/L	264	Standard
	Sb	123	255376.5	23.4	**50.2358**	1.475	2.9	ug/L	424	Standard
	Ba	135	122386.2	24.1	**60.3580**	1.380	2.3	ug/L	36	Standard
	Ce	140	17123.4	25.4				ug/L	40	Standard
>	Tb	159	1121190.3	23.6				ug/L	1061303	Standard
	Ho	165	370.0	10.2				ug/L	10	Standard
	Tl	203	407879.2	23.9	**50.4099**	0.568	1.1	ug/L	13	Standard
	Tl	205	970520.3	22.9	**48.6632**	0.898	1.8	ug/L	42	Standard
	Pb	206	326729.0	24.1	**50.5258**	0.388	0.8	ug/L	485	Standard
	Pb	207	292774.0	23.8	**50.8286**	0.521	1.0	ug/L	409	Standard
	Pb	208	669067.6	23.3	**51.4961**	0.794	1.5	ug/L	928	Standard
	U	238	268247.7	23.0	**51.7999**	1.038	2.0	ug/L	7	Standard
>	Bi	209	631854.4	24.9				ug/L	604402	Standard

Approved: March 16, 2017



⌈	**Na**	23	28.3	27.0	**22.8262**	6.707	29.4	mg/L	5	Standard
|	**Mg**	24	528.3	17.1	**5.9630**	0.735	12.3	mg/L	25	Standard
|	**K**	39	180.0	30.0	**0.6978**	0.118	16.9	mg/L	27	Standard
|	**Ca**	43	85.0	40.8	**6.8357**	12.844	187.9	mg/L	58	Standard
|	**Fe**	54	67.6	19.2	**0.2740**	0.162	59.1	mg/L	38	Standard
|	**Fe**	57	286.7	11.6	**0.5386**	1.925	357.4	mg/L	205	Standard
⌊>	**Sc-1**	45	50627.4	28.6				mg/L	47224	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	3.0	88.2				ug/L	5	Standard
	Br	81	5481.0	22.7				ug/L	3214	Standard
	P	31	83.3	27.7				ug/L	70	Standard
	S	34	23.3	44.6				ug/L	15	Standard
	Sr	88	141.7	37.4				ug/L	162	Standard
	C	12	120.0	14.4				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	6.7	173.2				mg/L	3	Standard
	Dy	164	611.8	15.9				mg/L	13	Standard
	Ho-1	165	370.0	10.2				mg/L	10	Standard
	Er	166	310.0	19.6				mg/L	17	Standard
	I	127	25693.6	9.2				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		108.470	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
| >	Ge	72		102.274	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1703070501PS WG606367-03
Report Date/Time: Wednesday, March 15, 2017 15:41:08
Page 2

Approved: March 16, 2017

⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	101.712
|	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	104.542
⌈	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: L1703070501PS WG606367-03
Report Date/Time: Wednesday, March 15, 2017 15:41:08
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: L1703070501SDL WG605367-04
Sample Date/Time: Wednesday, March 15, 2017 15:42:03
Number of Replicates: 3
Autosampler Position: 216
Sample Description: 5
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	245583.4	29.7				ug/L	253194	Standard
	Be	9	63.3	57.1	**0.0234**	0.008	32.6	ug/L	25	Standard
	Al	27	648774.5	29.5	**4.6438**	0.076	1.6	ug/L	868	Standard
	Sc	45	44524.3	30.2				ug/L	47224	Standard
	Ti	47	206.0	22.8	**0.5705**	0.046	8.1	ug/L	63	Standard
	V	51	2737.9	18.9	**0.1226**	0.035	28.6	ug/L	2190	Standard
	Cr	52	10094.4	17.0	**0.4020**	0.166	41.3	ug/L	8511	Standard
	Cr	53	1345.1	7.3	**1.1540**	0.332	28.8	ug/L	462	Standard
	Mn	55	64039.3	28.5	**5.5363**	0.023	0.4	ug/L	2023	Standard
	Co	59	949.0	16.1	**0.0295**	0.013	45.0	ug/L	1672	Standard
	Ni	60	838.0	31.1	**0.3437**	0.010	2.8	ug/L	189	Standard
	Cu	65	1599.8	24.6	**0.5220**	0.036	6.8	ug/L	657	Standard
	Zn	66	4896.5	27.0	**3.9309**	0.081	2.1	ug/L	401	Standard
>	Ge	72	756550.3	28.7				ug/L	826992	Standard
	As	75	990.5	27.1	**0.8868**	0.023	2.5	ug/L	-72	Standard
	Se	82	24.5	13.8	**0.0199**	0.056	280.4	ug/L	21	Standard
	Se-1	77	146.7	13.0	**0.6714**	0.719	107.1	ug/L	111	Standard
>	Ga	71	91.7	28.0				mg/L	32	Standard
	Rb	85	1385.1	32.6				ug/L	48	Standard
	Y	89	504650.2	28.6				ug/L	561066	Standard
>	Rh	103	133.3	5.7				ug/L	7	Standard
	Mo	98	191.4	28.3	**0.0288**	0.003	11.6	ug/L	161	Standard
	Ag	107	141.0	37.2	**-0.0004**	0.002	429.7	ug/L	137	Standard
	Cd	111	23.7	55.4	**0.0057**	0.003	58.9	mg/L	3	Standard
	Cd	114	82.2	25.5	**0.0145**	0.001	10.3	ug/L	51	Standard
>	In	115	636548.6	29.2				ug/L	706704	Standard
	Sn	118	230.3	35.3	**0.0179**	0.018	102.0	ug/L	264	Standard
	Sb	123	819.6	11.3	**0.1599**	0.034	21.3	ug/L	424	Standard
	Ba	135	3581.8	25.8	**1.9767**	0.063	3.2	ug/L	36	Standard
	Ce	140	3082.0	30.4				ug/L	40	Standard
>	Tb	159	1015182.1	28.5				ug/L	1061303	Standard
	Ho	165	73.3	63.4				ug/L	10	Standard
	Tl	203	169.3	20.7	**0.0187**	0.004	23.3	ug/L	13	Standard
	Tl	205	378.3	25.1	**0.0152**	0.002	11.8	ug/L	42	Standard
	Pb	206	829.7	38.1	**0.0545**	0.014	24.8	ug/L	485	Standard
	Pb	207	652.0	28.1	**0.0457**	0.000	0.8	ug/L	409	Standard
	Pb	208	1538.4	29.6	**0.0475**	0.003	5.4	ug/L	928	Standard
	U	238	168.0	31.5	**0.0334**	0.002	5.5	ug/L	7	Standard
>	Bi	209	578730.0	28.0				ug/L	604402	Standard

Sample ID: L1703070501SDL WG605367-04
Report Date/Time: Wednesday, March 15, 2017 15:44:13
Page 1

Approved: March 16, 2017

⌈	**Na**	23	1.7	173.2	**-0.6603**	3.757	569.0	mg/L	5	Standard
|	**Mg**	24	120.0	12.5	**1.2327**	0.445	36.1	mg/L	25	Standard
|	**K**	39	81.7	9.4	**0.3238**	0.142	43.8	mg/L	27	Standard
|	**Ca**	43	55.0	9.1	**0.0138**	4.902	35393.2	mg/L	58	Standard
|	**Fe**	54	27.7	52.9	**0.0388**	0.133	343.1	mg/L	38	Standard
|	**Fe**	57	286.7	5.6	**1.6257**	2.327	143.2	mg/L	205	Standard
⌊>	**Sc-1**	45	44524.3	30.2				mg/L	47224	Standard
	Cl	35	2.0	100.0				ug/L	1	Standard
	Kr	83	3.7	15.7				ug/L	5	Standard
	Br	81	3077.0	21.1				ug/L	3214	Standard
	P	31	63.3	24.1				ug/L	70	Standard
	S	34	20.0	0.0				ug/L	15	Standard
	Sr	88	163.3	10.8				ug/L	162	Standard
	C	12	30.0	57.7				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	108.4	8.2				mg/L	13	Standard
	Ho-1	165	73.3	63.4				mg/L	10	Standard
	Er	166	103.3	53.3				mg/L	17	Standard
	I	127	9096.1	12.0				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		96.994	
|	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		91.482	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1703070501SDL WG605367-04
Report Date/Time: Wednesday, March 15, 2017 15:44:13
Page 2

Approved: March 16, 2017

⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	90.073
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	95.752
⌈	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: L1703070501SDL WG605367-04
Report Date/Time: Wednesday, March 15, 2017 15:44:13
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: L1703070501SDL WG605367-04
Sample Date/Time: Wednesday, March 15, 2017 15:45:08
Number of Replicates: 3
Autosampler Position: 217
Sample Description: 25
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	228819.2	32.1				ug/L	253194	Standard
	Be	9	55.0	68.6	**0.0219**	0.014	62.8	ug/L	25	Standard
	Al	27	120102.0	33.2	**0.9195**	0.010	1.0	ug/L	868	Standard
	Sc	45	41532.6	32.7				ug/L	47224	Standard
	Ti	47	82.7	12.8	**0.1132**	0.083	73.1	ug/L	63	Standard
	V	51	2083.5	14.3	**0.0559**	0.049	88.1	ug/L	2190	Standard
	Cr	52	7598.9	13.2	**0.1206**	0.211	175.1	ug/L	8511	Standard
	Cr	53	963.4	5.3	**0.7783**	0.328	42.1	ug/L	462	Standard
	Mn	55	12928.9	31.2	**1.0708**	0.019	1.8	ug/L	2023	Standard
	Co	59	509.0	9.2	**-0.0162**	0.013	79.4	ug/L	1672	Standard
	Ni	60	344.0	27.8	**0.0967**	0.012	12.1	ug/L	189	Standard
	Cu	65	822.7	25.6	**0.1495**	0.024	16.1	ug/L	657	Standard
	Zn	66	2008.5	31.6	**1.5521**	0.016	1.0	ug/L	401	Standard
>	Ge	72	705526.6	31.1				ug/L	826992	Standard
	As	75	125.4	29.8	**0.1521**	0.015	10.1	ug/L	-72	Standard
	Se	82	11.5	25.5	**-0.1004**	0.029	28.5	ug/L	21	Standard
	Se-1	77	128.3	16.7	**0.4854**	0.283	58.2	ug/L	111	Standard
>	Ga	71	38.3	19.9				mg/L	32	Standard
	Rb	85	258.3	19.6				ug/L	48	Standard
	Y	89	467054.0	33.6				ug/L	561066	Standard
>	Rh	103	86.7	38.4				ug/L	7	Standard
	Mo	98	70.4	17.4	**-0.0029**	0.004	149.9	ug/L	161	Standard
	Ag	107	119.0	25.5	**-0.0020**	0.002	113.3	ug/L	137	Standard
	Cd	111	7.2	29.0	**-0.0024**	0.002	102.1	mg/L	3	Standard
	Cd	114	38.8	49.7	**0.0052**	0.003	61.5	ug/L	51	Standard
>	In	115	593905.0	32.3				ug/L	706704	Standard
	Sn	118	169.0	22.0	**-0.0260**	0.025	97.0	ug/L	264	Standard
	Sb	123	184.1	7.8	**0.0188**	0.013	71.0	ug/L	424	Standard
	Ba	135	684.3	27.6	**0.3882**	0.018	4.6	ug/L	36	Standard
	Ce	140	626.7	21.6				ug/L	40	Standard
>	Tb	159	939963.4	30.5				ug/L	1061303	Standard
	Ho	165	38.3	32.8				ug/L	10	Standard
	Tl	203	100.3	17.2	**0.0105**	0.004	41.8	ug/L	13	Standard
	Tl	205	273.3	10.1	**0.0109**	0.003	29.6	ug/L	42	Standard
	Pb	206	475.0	26.5	**0.0028**	0.007	262.7	ug/L	485	Standard
	Pb	207	392.7	25.5	**0.0020**	0.004	215.0	ug/L	409	Standard
	Pb	208	933.7	29.3	**0.0022**	0.002	114.2	ug/L	928	Standard
	U	238	33.0	16.0	**0.0061**	0.003	46.6	ug/L	7	Standard
>	Bi	209	545603.2	31.4				ug/L	604402	Standard

Sample ID: L1703070501SDL WG605367-04
Report Date/Time: Wednesday, March 15, 2017 15:47:19
Page 1

Approved: March 16, 2017

⌈	**Na**	23	1.7	173.2	**-0.4312**	4.154	963.3	mg/L	5	Standard
|	**Mg**	24	40.0	57.3	**0.1109**	0.364	327.8	mg/L	25	Standard
|	**K**	39	31.7	55.5	**0.0517**	0.117	226.4	mg/L	27	Standard
|	**Ca**	43	53.3	14.3	**0.7737**	5.889	761.2	mg/L	58	Standard
|	**Fe**	54	22.5	71.9	**-0.0071**	0.128	1797.1	mg/L	38	Standard
|	**Fe**	57	270.0	6.7	**1.6667**	2.051	123.1	mg/L	205	Standard
⌊>	**Sc-1**	45	41532.6	32.7				mg/L	47224	Standard
	Cl	35	2.0	100.0				ug/L	1	Standard
	Kr	83	2.0	0.0				ug/L	5	Standard
	Br	81	2523.6	26.3				ug/L	3214	Standard
	P	31	70.0	39.8				ug/L	70	Standard
	S	34	13.3	57.3				ug/L	15	Standard
	Sr	88	136.7	5.6				ug/L	162	Standard
	C	12	36.7	83.3				mg/L	17	Standard
	N	14	3.3	173.2				mg/L	3	Standard
	Hg	202	3.3	173.2				mg/L	3	Standard
	Dy	164	19.4	102.1				mg/L	13	Standard
	Ho-1	165	38.3	32.8				mg/L	10	Standard
	Er	166	13.3	114.6				mg/L	17	Standard
	I	127	5771.1	10.6				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		90.373	
|	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		85.312	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1703070501SDL WG605367-04
Report Date/Time: Wednesday, March 15, 2017 15:47:19
Page 2

Approved: March 16, 2017

⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	84.039
|	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	90.272
⌈	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

Sample ID: L1703070501SDL WG605367-04
Report Date/Time: Wednesday, March 15, 2017 15:47:19
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Wednesday, March 15, 2017 15:48:15
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	260458.2	28.0				ug/L	253194	Standard
	Be	9	111498.2	24.4	**50.3134**	2.130	4.2	ug/L	25	Standard
	Al	27	7249966.0	27.2	**48.9513**	0.904	1.8	ug/L	868	Standard
	Sc	45	48229.2	28.7				ug/L	47224	Standard
	Ti	47	27650.2	23.8	**103.0972**	1.341	1.3	ug/L	63	Standard
	V	51	387804.5	24.0	**50.9043**	0.586	1.2	ug/L	2190	Standard
	Cr	52	363441.4	24.7	**50.5547**	0.518	1.0	ug/L	8511	Standard
	Cr	53	45487.8	25.5	**51.7213**	1.321	2.6	ug/L	462	Standard
	Mn	55	606996.4	25.6	**50.7835**	0.373	0.7	ug/L	2023	Standard
	Co	59	469952.3	25.6	**50.3956**	0.185	0.4	ug/L	1672	Standard
	Ni	60	100035.8	25.0	**50.2552**	0.119	0.2	ug/L	189	Standard
	Cu	65	103894.7	24.5	**50.4608**	0.362	0.7	ug/L	657	Standard
	Zn	66	62683.1	23.5	**50.8395**	0.828	1.6	ug/L	401	Standard
>	Ge	72	801173.6	25.2				ug/L	826992	Standard
	As	75	62277.1	24.1	**50.4614**	0.563	1.1	ug/L	-72	Standard
	Se	82	5684.2	26.7	**49.7684**	0.831	1.7	ug/L	21	Standard
	Se-1	77	4290.0	24.8	**52.3805**	0.203	0.4	ug/L	111	Standard
>	Ga	71	63.3	18.2				mg/L	32	Standard
	Rb	85	918.4	33.9				ug/L	48	Standard
	Y	89	544098.2	27.5				ug/L	561066	Standard
>	Rh	103	90.0	19.2				ug/L	7	Standard
	Mo	98	384425.5	25.5	**100.2611**	1.831	1.8	ug/L	161	Standard
	Ag	107	326658.3	25.2	**50.5615**	0.547	1.1	ug/L	137	Standard
	Cd	111	92841.5	25.3	**50.3910**	0.708	1.4	mg/L	3	Standard
	Cd	114	240013.6	24.8	**50.0351**	0.790	1.6	ug/L	51	Standard
>	In	115	683425.6	26.3				ug/L	706704	Standard
	Sn	118	52816.3	24.6	**50.3915**	1.054	2.1	ug/L	264	Standard
	Sb	123	242479.5	24.0	**50.0991**	1.170	2.3	ug/L	424	Standard
	Ba	135	98258.6	23.9	**50.9550**	1.183	2.3	ug/L	36	Standard
	Ce	140	66.7	43.3				ug/L	40	Standard
>	Tb	159	1064811.4	23.1				ug/L	1061303	Standard
	Ho	165	16.7	45.8				ug/L	10	Standard
	Tl	203	391601.6	23.3	**50.5291**	0.849	1.7	ug/L	13	Standard
	Tl	205	935553.4	23.4	**48.8929**	0.845	1.7	ug/L	42	Standard
	Pb	206	313730.8	23.0	**50.6974**	0.989	2.0	ug/L	485	Standard
	Pb	207	279756.0	23.8	**50.6602**	0.633	1.2	ug/L	409	Standard
	Pb	208	634438.4	23.2	**50.9484**	0.901	1.8	ug/L	928	Standard
	U	238	255295.1	23.0	**51.4220**	1.033	2.0	ug/L	7	Standard
>	Bi	209	605940.2	25.1				ug/L	604402	Standard

Sample ID: QC Std 6
Report Date/Time: Wednesday, March 15, 2017 15:50:26
Page 1

Approved: March 16, 2017

⌈	**Na**	23	13.3	21.7	**9.8510**	2.611	26.5	mg/L	5	Standard
|	**Mg**	24	501.7	16.6	**5.9443**	0.730	12.3	mg/L	25	Standard
|	**K**	39	1141.7	12.9	**5.5679**	0.845	15.2	mg/L	27	Standard
|	**Ca**	43	70.0	12.4	**2.8613**	6.621	231.4	mg/L	58	Standard
|	**Fe**	54	789.5	31.0	**5.0361**	0.184	3.7	mg/L	38	Standard
|	**Fe**	57	460.0	17.4	**5.1245**	1.380	26.9	mg/L	205	Standard
⌊>	**Sc-1**	45	48229.2	28.7				mg/L	47224	Standard
	Cl	35	3.3	34.6				ug/L	1	Standard
	Kr	83	5.3	47.2				ug/L	5	Standard
	Br	81	2953.6	26.0				ug/L	3214	Standard
	P	31	100.0	45.0				ug/L	70	Standard
	S	34	21.7	66.6				ug/L	15	Standard
	Sr	88	155.0	21.2				ug/L	162	Standard
	C	12	53.3	43.3				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	22.7	64.1				mg/L	13	Standard
	Ho-1	165	16.7	45.8				mg/L	10	Standard
	Er	166	13.3	114.6				mg/L	17	Standard
	I	127	6072.9	10.5				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	100.627		
⌊	Al	27	97.903		
⌈	Sc	45			
|	Ti	47	103.097		
|	V	51	101.809		
|	Cr	52	101.109		
|	Cr	53			
|	Mn	55	101.567		
|	Co	59	100.791		
|	Ni	60	100.510		
|	Cu	65	100.922		
|	Zn	66	101.679		
|>	Ge	72		96.878	
|	As	75	100.923		
|	Se	82	99.537		
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: QC Std 6
Report Date/Time: Wednesday, March 15, 2017 15:50:26
Page 2

Approved: March 16, 2017

⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	100.261	
|	Ag	107	101.123	
|	Cd	111	100.782	
|	Cd	114		
|>	In	115		96.706
|	Sn	118	100.783	
|	Sb	123	100.198	
⌊	Ba	135	101.910	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	101.058	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	101.897	
|	U	238	102.844	
⌊>	Bi	209		100.254
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		
	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 6
Report Date/Time: Wednesday, March 15, 2017 15:50:26
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Wednesday, March 15, 2017 15:51:21
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	244631.3	31.9				ug/L	253194	Standard
	Be	9	75.0	30.6	**0.0338**	0.018	52.0	ug/L	25	Standard
	Al	27	1236.7	36.1	**0.0083**	0.002	18.1	ug/L	868	Standard
	Sc	45	43079.0	33.2				ug/L	47224	Standard
	Ti	47	65.0	9.6	**0.0280**	0.101	360.8	ug/L	63	Standard
	V	51	1621.4	14.9	**-0.0291**	0.036	124.2	ug/L	2190	Standard
	Cr	52	6812.2	15.2	**-0.0761**	0.161	211.6	ug/L	8511	Standard
	Cr	53	711.7	16.3	**0.3589**	0.141	39.4	ug/L	462	Standard
	Mn	55	2357.2	21.0	**0.0552**	0.022	39.4	ug/L	2023	Standard
	Co	59	1221.4	16.1	**0.0642**	0.021	32.1	ug/L	1672	Standard
	Ni	60	215.7	11.0	**0.0204**	0.025	121.6	ug/L	189	Standard
	Cu	65	745.0	27.5	**0.0831**	0.031	37.3	ug/L	657	Standard
	Zn	66	477.0	29.6	**0.1169**	0.017	14.2	ug/L	401	Standard
>	Ge	72	746448.8	31.6				ug/L	826992	Standard
	As	75	-40.5	143.2	**-0.0027**	0.063	2321.3	ug/L	-72	Standard
	Se	82	21.4	62.1	**-0.0243**	0.109	449.0	ug/L	21	Standard
	Se-1	77	124.0	12.2	**0.3499**	0.416	119.0	ug/L	111	Standard
>	Ga	71	38.3	52.7				mg/L	32	Standard
	Rb	85	61.7	32.8				ug/L	48	Standard
	Y	89	510703.4	34.2				ug/L	561066	Standard
>	Rh	103	68.3	25.7				ug/L	7	Standard
	Mo	98	337.3	59.3	**0.0649**	0.024	36.3	ug/L	161	Standard
	Ag	107	167.7	27.3	**0.0047**	0.002	41.2	ug/L	137	Standard
	Cd	111	15.2	64.1	**0.0011**	0.003	299.0	mg/L	3	Standard
	Cd	114	49.8	63.9	**0.0064**	0.003	51.5	ug/L	51	Standard
>	In	115	637122.9	32.8				ug/L	706704	Standard
	Sn	118	255.0	32.2	**0.0459**	0.012	27.0	ug/L	264	Standard
	Sb	123	1256.3	17.9	**0.2602**	0.055	21.2	ug/L	424	Standard
	Ba	135	53.0	46.9	**0.0059**	0.005	80.0	ug/L	36	Standard
	Ce	140	21.7	66.6				ug/L	40	Standard
>	Tb	159	991656.3	31.0				ug/L	1061303	Standard
	Ho	165	5.0	100.0				ug/L	10	Standard
	Tl	203	98.7	20.7	**0.0093**	0.003	30.1	ug/L	13	Standard
	Tl	205	278.3	44.4	**0.0094**	0.002	26.1	ug/L	42	Standard
	Pb	206	581.3	30.4	**0.0166**	0.005	27.4	ug/L	485	Standard
	Pb	207	483.7	33.2	**0.0150**	0.004	25.5	ug/L	409	Standard
	Pb	208	1138.0	32.9	**0.0155**	0.004	23.2	ug/L	928	Standard
	U	238	27.7	23.2	**0.0047**	0.003	67.8	ug/L	7	Standard
>	Bi	209	571473.9	32.3				ug/L	604402	Standard

Sample ID: QC Std 7
Report Date/Time: Wednesday, March 15, 2017 15:53:32
Page 1

Approved: March 16, 2017

	Na	23	0.0		**-2.8296**	0.000	0.0	mg/L	5	Standard
	Mg	24	53.3	14.3	**0.3308**	0.314	94.9	mg/L	25	Standard
	K	39	31.7	39.7	**0.0651**	0.130	200.1	mg/L	27	Standard
	Ca	43	40.0	57.3	**-4.0910**	7.190	175.8	mg/L	58	Standard
	Fe	54	32.8	22.6	**0.0794**	0.080	100.5	mg/L	38	Standard
	Fe	57	261.7	16.3	**1.1389**	2.141	188.0	mg/L	205	Standard
>	**Sc-1**	45	43079.0	33.2				mg/L	47224	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	5.0	52.9				ug/L	5	Standard
	Br	81	2893.6	16.6				ug/L	3214	Standard
	P	31	81.7	18.7				ug/L	70	Standard
	S	34	28.3	27.0				ug/L	15	Standard
	Sr	88	158.3	17.4				ug/L	162	Standard
	C	12	40.0	90.1				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	2.2	229.6				mg/L	13	Standard
	Ho-1	165	5.0	100.0				mg/L	10	Standard
	Er	166	23.3	65.5				mg/L	17	Standard
	I	127	7870.4	9.5				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		90.261	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			

Sample ID: QC Std 7
Report Date/Time: Wednesday, March 15, 2017 15:53:32
Page 2

Approved: March 16, 2017

⌊	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	94.552
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

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

Sample ID: QC Std 7
Report Date/Time: Wednesday, March 15, 2017 15:53:32
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: QC Std 8
Sample Date/Time: Wednesday, March 15, 2017 15:54:28
Number of Replicates: 3
Autosampler Position: 202
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	242207.3	33.0				ug/L	253194	Standard
	Be	9	453.3	34.9	**0.2125**	0.005	2.3	ug/L	25	Standard
	Al	27	786.7	18.6	**0.0053**	0.001	16.7	ug/L	868	Standard
	Sc	45	44006.6	32.2				ug/L	47224	Standard
	Ti	47	49.3	15.3	**-0.0346**	0.073	209.5	ug/L	63	Standard
	V	51	4340.8	19.7	**0.3794**	0.073	19.3	ug/L	2190	Standard
	Cr	52	13123.8	20.8	**0.9522**	0.216	22.7	ug/L	8511	Standard
	Cr	53	1498.4	28.1	**1.3641**	0.079	5.8	ug/L	462	Standard
	Mn	55	6918.7	28.3	**0.4830**	0.020	4.1	ug/L	2023	Standard
	Co	59	3919.5	28.2	**0.3866**	0.016	4.3	ug/L	1672	Standard
	Ni	60	2933.0	30.8	**1.5283**	0.019	1.3	ug/L	189	Standard
	Cu	65	2142.5	29.4	**0.8465**	0.022	2.6	ug/L	657	Standard
	Zn	66	7166.1	30.4	**6.1425**	0.081	1.3	ug/L	401	Standard
>	Ge	72	726588.4	31.5				ug/L	826992	Standard
	As	75	339.0	28.8	**0.3400**	0.013	3.8	ug/L	-72	Standard
	Se	82	56.6	7.8	**0.3598**	0.135	37.6	ug/L	21	Standard
	Se-1	77	156.3	8.3	**0.8645**	0.481	55.6	ug/L	111	Standard
>	Ga	71	38.3	15.1				mg/L	32	Standard
	Rb	85	75.0	17.6				ug/L	48	Standard
	Y	89	493238.7	33.0				ug/L	561066	Standard
>	Rh	103	70.0	32.7				ug/L	7	Standard
	Mo	98	91.5	31.3	**0.0017**	0.002	121.6	ug/L	161	Standard
	Ag	107	2310.5	29.3	**0.3751**	0.016	4.3	ug/L	137	Standard
	Cd	111	367.2	34.9	**0.2122**	0.003	1.3	mg/L	3	Standard
	Cd	114	945.7	32.5	**0.2140**	0.005	2.4	ug/L	51	Standard
>	In	115	617990.4	33.7				ug/L	706704	Standard
	Sn	118	161.3	23.0	**-0.0420**	0.017	40.3	ug/L	264	Standard
	Sb	123	1931.5	23.1	**0.4222**	0.043	10.3	ug/L	424	Standard
	Ba	135	1230.1	31.6	**0.6831**	0.036	5.2	ug/L	36	Standard
	Ce	140	30.0	44.1				ug/L	40	Standard
>	Tb	159	969512.1	31.0				ug/L	1061303	Standard
	Ho	165	10.0	100.0				ug/L	10	Standard
	Tl	203	607.3	32.4	**0.0805**	0.004	5.2	ug/L	13	Standard
	Tl	205	1461.7	35.3	**0.0769**	0.003	3.8	ug/L	42	Standard
	Pb	206	1519.4	32.5	**0.1834**	0.003	1.8	ug/L	485	Standard
	Pb	207	1246.4	32.9	**0.1677**	0.007	4.1	ug/L	409	Standard
	Pb	208	3046.8	32.1	**0.1848**	0.003	1.6	ug/L	928	Standard
	U	238	1743.4	32.1	**0.3794**	0.008	2.1	ug/L	7	Standard
>	Bi	209	555899.5	31.7				ug/L	604402	Standard

Sample ID: QC Std 8
Report Date/Time: Wednesday, March 15, 2017 15:56:39
Page 1

Approved: March 16, 2017

⌈	**Na**	23	1.7	173.2	**-0.5426**	3.961	730.0	mg/L	5	Standard
|	**Mg**	24	43.3	35.3	**0.1777**	0.317	178.6	mg/L	25	Standard
|	**K**	39	30.0	28.9	**0.0288**	0.039	136.6	mg/L	27	Standard
|	**Ca**	43	66.7	24.1	**4.4110**	10.143	229.9	mg/L	58	Standard
|	**Fe**	54	32.8	35.3	**0.0649**	0.072	111.2	mg/L	38	Standard
|	**Fe**	57	348.3	16.0	**3.8264**	4.150	108.4	mg/L	205	Standard
⌊>	**Sc-1**	45	44006.6	32.2				mg/L	47224	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	3.7	31.5				ug/L	5	Standard
	Br	81	2780.3	27.5				ug/L	3214	Standard
	P	31	60.0	8.3				ug/L	70	Standard
	S	34	15.0	33.3				ug/L	15	Standard
	Sr	88	158.3	12.8				ug/L	162	Standard
	C	12	46.7	61.9				mg/L	17	Standard
	N	14	6.7	86.6				mg/L	3	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	5.4	102.4				mg/L	13	Standard
	Ho-1	165	10.0	100.0				mg/L	10	Standard
	Er	166	26.7	43.3				mg/L	17	Standard
	I	127	6563.1	5.6				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	106.234		
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51	94.850		
|	Cr	52	119.022		
|	Cr	53			
|	Mn	55	96.605		
|	Co	59	96.660		
|	Ni	60	95.516		
|	Cu	65	105.807		
|	Zn	66	98.279		
|>	Ge	72		87.859	
|	As	75	85.005		
|	Se	82	89.938		
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: QC Std 8
Report Date/Time: Wednesday, March 15, 2017 15:56:39
Page 2

Approved: March 16, 2017

Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107	93.787		
Cd	111	88.417		
Cd	114			
In	115		87.447	
Sn	118			
Sb	123	105.543		
Ba	135	91.084		
Ce	140			
Tb	159			
Ho	165			
Tl	203	100.587		
Tl	205			
Pb	206			
Pb	207			
Pb	208	92.396		
U	238	94.852		
Bi	209		91.975	
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
Report Date/Time: Wednesday, March 15, 2017 15:56:39
Page 3

Approved: March 16, 2017

2.2 General Chemistry Data

2.2.1 Hexavalent Chromium Data

2.2.1.1 Summary Data

Microbac

Lab Report #: L17030723
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030723-01	**PrePrep Method:**	N/A	**Instrument:**	UV-2600
Client ID:	LH18/24-SP140-7423-GRAB	**Prep Method:**	7196A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	7196A	**Cal Date:**	03/10/2017 13:59
Workgroup #:	WG606176	**Analyst:**	DLP	**Run Date:**	03/14/2017 14:50
Collect Date:	03/13/2017 15:00	**Dilution:**	1	**File ID:**	00.1703141450-06
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chromium, Hexavalent	18540-29-9	0.0100	U	0.0200	0.0100	0.00500

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

Microbac

Lab Report #: L17030723
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

2.2.1.2 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.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 7196A AAB#: WG606176

Login Number: L17030723

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
LH18/24-SP140-7423-GRAB	01	03/13/17					03/14/2017	1	1		03/14/17	1	1	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5202859
Report generated 03/17/2017 09:16

METHOD BLANK SUMMARY

Login Number:	L17030723	**Work Group:**	WG606176
Blank File ID:	00.1703141450-03	**Blank Sample ID:**	WG606176-01
Prep Date:	03/14/17 14:50	**Instrument ID:**	UV-2600
Analyzed Date:	03/14/17 14:50	**Method:**	7196A
Analyst:	DLP		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG606176-02	00.1703141450-04	03/14/17 14:50	
LCS2	WG606176-03	00.1703141450-05	03/14/17 14:50	
LH18/24-SP140-7423-GRAB	L17030723-01	00.1703141450-06	03/14/17 14:50	
DUP	WG606176-06	00.1703141450-08	03/14/17 14:50	

Report Name: BLANK_SUMMARY
PDF File ID: 5202860
Report generated 03/17/2017 09:16

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L17030723 Prep Date: 03/14/17 14:50 Sample ID: WG606176-01
Instrument ID: UV-2600 Run Date: 03/14/17 14:50 Prep Method: 7196A
File ID: 00.1703141450-03 Analyst: DLP Method: 7196A
Workgroup (AAB#): WG606176 Matrix: Water Units: mg/L
Contract #: Cal ID: UV-260-10-MAR-17

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Chromium, Hexavalent	0.00500	0.0200	0.00500	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: 5202861
17-MAR-2017 09:16

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17030723 Analyst: DLP Prep Method: 7196A
Instrument ID: UV-2600 Matrix: Water Method: 7196A
Workgroup (AAB#): WG606176 Units: mg/L
QC Key: DOD4 Lot #: STD80875

Sample ID: WG606176-02 LCS File ID: 00.1703141450-04 Run Date: 03/14/2017 14:50
Sample ID: WG606176-03 LCS2 File ID: 00.1703141450-05 Run Date: 03/14/2017 14:50

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Chromium, Hexavalent	0.100	0.100	100	0.100	0.101	101	0.988	90 - 110	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 5202862
Report generated: 03/17/2017 09:16

2.2.1.3 Raw Data

WG 1105850 00845341

Curves

Parameter: Cole-Low

Spectrophotometer: UV-2600

Calibration (Curve) standard stock: IR 80872, 80873

Concentration: 50mg/L, 5mg/L

Recipe for preparation of curve standards found in:
SOP: K2180 Revision: 22 Page: 12

Second Source Stock: 30875 (concentration: 2mg/L)

Daily Preparation: 10(2)/100

concentration = 2.01

Calibration Standards (mg/L)	Volume (mL)	Cell Size (cm)	Wavelength (nm)	Absorbance
0.2	100	5cm	540	0.808
0.1	100	5cm	540	0.408
0.05	100	5cm	540	0.206
0.02	100	5cm	540	0.084
0.01	100	5cm	540	0.052
0.00	100	5cm	540	0.003
2nd source 0.1	100	5cm	540	0.418

Analyst: Jamie Greene Date/Time: 3/01/17 1355

DCN#124473

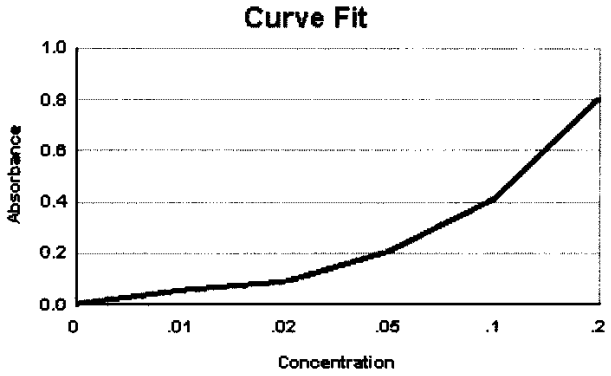
Microbac Laboratories Inc.
INITIAL CALIBRATION

Workgroup:WG605850
Analytical Method:3500CR
Instrument ID:UV-2600

Analyst:ADG
Initial Calibration Date:03/10/2017

Analyte: CHROMIUM, HEXAVALENT
Number of Points: 6
Slope: 4.01048
Y-Intercept: 0.00616935
Coef. Of Correlation (R^2): 0.999893
Coef. Of Correlation (R): 0.999947

Concentration X	Absorbance Y	X^2	X * Y	Y-Fitted (mX^2+B)
0.00	0.00300	0.00	0.00	0.00616935
0.0100	0.0520	0.000100	0.000520	0.0462742
0.0200	0.0840	0.000400	0.00168	0.0863790
0.0500	0.206	0.00250	0.0103	0.206694
0.100	0.408	0.0100	0.0408	0.407218
0.200	0.808	0.0400	0.162	0.808266



WG_ICAL_CAL_WET - Modified 03/06/2008
Report generated 03/10/2017 15:28

[redacted]

Microbac Laboratories Inc.
ALTERNATE SOURCE REPORT

Workgroup #: WG605850
File ID: 00.1703101359-07
CCV ID: WG605850-07
Units: mg/L
Analyte: CHROMIUM, HEXAVALENT

Instrument ID: UV-2600
Run Date: 03/10/2017
Run Time: 13:59
Analyst: ADG
Cal ID: UV-260 - 10-MAR-17 13:59:06

Analyte	Expected	Found	RF	%D	Q
Chromium, Hexavalent	.1	0.103	4.18	3.0	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_SSCV - Modified 03/06/2008
Report generated 03/10/2017 15:29

[redacted]

WORKGROUP: WG606176

CHROMIUM (6)

(cr6)

Standard Methods 3500 Cr-D (18th, 19th), 3500Cr-B(20th) SPEC: WV 2600

SOP K2186 Rev. # 22 SW846 7196A Curve ID: 594062 12-08-16

CCV: 5TD80873 LCS: 5TD80875 Spike: 5TD80874 RGT 39429

Matrix: Liquid (mg/L) Soil (mg/Kg) Daily dilution: 0.1(5)/100 = Daily dilution: 10(2)/200 = Daily dilution 0.2(50)/100 = RGT Lot# 18947

Daily dilution: 0.05 Daily dilution: 0.10 Daily dilution: 0.10

Sample	Volume (mL)	pH adj. to 2 ± 0.5	Dilution	Cell size (cm)	Absorbance @ 540 nm
CCV: mg/L(1 cm)	100				
CCV 0.05 mg/L(5 cm)	100	✓		5cm	0.209
Blank/CCB:	100	✓		5cm	0.002
LCS: 0.1 ppm	100	✓		5cm	0.409
LCSDUP: 0.10 ppm	100	✓		5cm	0.413
03-723-01	100	✓		5cm	0.009
03-724-01	100	✓		5cm	0.009
	100				
	100				
	100				
	100				
	100				
	100				
	100				
CCV: (1 cm)	100				
CCV: (5 cm)	100				
CCB:	100				
	100				
	100				
	100				
	100				
	100				
	100				
	100				
	100				
	100				
	100				
DUP: 03-723-01	100	✓		5cm	0.009
MS: (03-723-01	100	✓		5cm	0.394
MSD: ( )	100				
CCV: (1 cm)	100				
CCV: 0.05 (5 cm)	100	✓		5cm	0.206
CCB: 0.00	100	✓		5cm	0.002

Analyst: Quatley Payne Date / Time: 03-14-17 / 1450

SW846 7196 (Dup and/or MS every 10 samples) **SM3500 Cr (Dup and MS/MSD every 20 samples)**

DCN#124521

Microbac Laboratories Inc.
SAMPLE REPORT

Workgroup: WG606176
Analyte: CHROMIUM, HEXAVALENT

Analyst: DLP
Date: 03/14/2017

Sample ID	I Vol	F Vol	Response	Slope	Y Intercept	Anal. Conc.	Rep. Conc.	Dil	Units
WG606176-01	100	100	0.00200	4.010	0.006169	-0.0010396	-0.0010396	1	mg/L
WG606176-02	100	100	0.409	4.010	0.006169	0.10044	0.10044	1	mg/L
WG606176-03	100	100	0.413	4.010	0.006169	0.10144	0.10144	1	mg/L
L17030723-01	100	100	0.00900	4.010	0.006169	0.00070581	ND	1	mg/L
WG606176-04	100	100	0.00900	4.010	0.006169	0.00070581	0.00070581	1	mg/L
WG606176-05	100	100	0.00900	4.010	0.006169	0.00070581	0.00070581	1	mg/L
L17030724-01	100	100	0.00900	4.010	0.006169	0.00070581	ND	1	mg/L
WG606176-06	100	100	0.00900	4.010	0.006169	0.00070581	0.00070581	1	mg/L
WG606176-07	100	100	0.394	4.010	0.006169	0.096704	0.096704	1	mg/L

UV_SAMPLE_REPORT - Modified 03/06/2008

Report generated 03/16/2017 16:59

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG606573
File ID: 00.1703141450-01
CCV ID: WG606573-01
Units: mg/L
Analyte: CHROMIUM, HEXAVALENT

Instrument ID: UV-2600
Run Date: 03/14/2017
Run Time: 14:50
Analyst: DLP
Cal ID: UV-260 - 10-MAR-17

Analyte	Expected	Found	RF	%D	Q
Chromium, Hexavalent	.05	0.0506	4.18	1.2	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 03/16/2017 16:57

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG606573
File ID: 00.1703141450-10
CCV ID: WG606573-03
Units: mg/L
Analyte: CHROMIUM, HEXAVALENT

Instrument ID: UV-2600
Run Date: 03/14/2017
Run Time: 14:50
Analyst: DLP
Cal ID: UV-260 - 10-MAR-17

Analyte	Expected	Found	RF	%D	Q
Chromium, Hexavalent	.05	0.0498	4.12	0.4	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 03/16/2017 16:57

[redacted]

3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
March 20, 2017

001 – BIO-CHEM TESTING WVDEP 220	002 – REIC Consultants, Inc. WVDEP 060
003 – Sturm Environmental	004 – MICROBAC PITTSBURGH
005 – ES LABORATORIES	006 – ALCOSAN LABORATORIES
007 – ALS LABORATORIES	008 – BENCHMARK LABORATORIES
010 – MICROBAC CHICAGOLAND	AC – AMBER R. CARMICHAEL
ADC – ANTHONY D. CANTER	ADG – APRIL D. GREENE
ALS – ADRIANE L. STEED	AWE – ANDREW W. ESSIG
AZH – AFTER HOURS	BJO – BRIAN J. OGDEN
BLG – BRENDA L. GREENWALT	BNB – Brandi N. Bentley
BRG – BRENDA R. GREGORY	CAS – Craig A. Smith
CEB – CHAD E. BARNES	CLC – CHRYS L. CRAWFORD
CLS – CARA L. STRICKLER	CPD – CHAD P. DAVIS
CSH – CHRIS S. HILL	CV – Carl Volkman
DAK – DEAN A. KETELSEN	DCM – DAVID C. MERCKLE
DEV – DAVID E. VANDENBERG	DIH – DEANNA I. HESSON
DLB – DAVID L. BUMGARNER	DLP – DOROTHY L. PAYNE
DSM – DAVID S. MOSSOR	DTG – DOMINIC T. GEHRET
ECL – ERIC C. LAWSON	EPT – ETHAN P. TIDD
ERP – ERIN R. PORTER	FJB – FRANCES J. BOLDEN
HRF – HEATHER R. FAIRCHILD	JDH – JUSTIN D. HESSON
JDS – JARED D. SMITH	JKP – JACQUELINE K. PARSONS
JLD – JESSICA L. DELONG	JST – JOSHUA S. TAYLOR
JTP – JOSHUA T. PEMBERTON	JWR – JOHN W. RICHARDS
JWS – JACK W. SHEAVES	JYH – JI Y. HU
KAK – KATHY A. KIRBY	KDD – Katelyn D. Daley
KEB – KATIE E. BARNES	KHR – KIM H. RHODES
KKB – KERRI K. BUCK	KRA – KATHY R. ALBERTSON
KRP – KATHY R. PARSONS	LJH – Lacey J. Hendershot
LLS – LARRY L. STEPHENS	LSB – LESLIE S. BUCINA
LSJ – LAURA S. JONES	MAP – MARLA A. PORTER
MBK – MORGAN B. KNOWLTON	MES – MARY E. SCHILLING
MMB – MAREN M. BEERY	MRT – MICHELLE R. TAYLOR
PDM – PIERCE D. MORRIS	PIT – MICROBAC WARRENDALE
REK – BOB E. KYER	RLB – BOB BUCHANAN
RNP – RICK N. PETTY	SAV – SARAH A. VANDENBERG
SCB – SARAH C. BOGOLIN	SDC – SHALYN D. CONLEY
TB – TODD BOYLE	TMB – TIFFANY M. BAILEY
TMM – TAMMY M. MORRIS	VC – VICKI COLLIER
WTD – WADE T. DELONG	XXX – UNAVAILABLE OR SUBCONTRACT

Microbac Laboratories Inc.
List of Valid Qualifiers
March 20, 2017

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
March 20, 2017

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

L17030723 / Revision: 0 / 497 total pages

Page 492

CHAIN OF CUSTODY

Name Of Lab Shipping To: MICROBAC (740) 373-4071 ATTN: STEPHANIE MOSSBURG

Project: AECOM LONGHORN ARMY AMMN. PLANT (LHAAP) GROUNDWATER TREATMENT PLANT (GWTP) KARNACK, TEXAS	Project No. 60256135.GWTPT HRUMAR16
Job: **GROUNDWATER TREATMENT PLANT MONTHLY INFLUENT SAMPLES**	
Prepared By: Scott Beesinger	P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: SILVER & SELENIUM	Analyses: HEXAVALENT CHROMIUM	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP140-7423-Grab	Water	03/13/17 / 15:00		1	X		HNO3	
LH18/24-SP140-7423-Grab	Water	03/13/17 / 15:00		1		X	NONE	

Additional Remarks: **STANDARD TURN AROUND TIME**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	03/13/17	15:30									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

Microbac OVD
Received: 03/14/2017 09:34
By: CARA STRICKLER
221000098211

Cara Strickler

(Word) S:\1-ces\Forms\Chain of Custody - BiWeekly

Generated: 03/20/2017 10:03

00845352

MICROBAC

COOLER TEMP >6° C LOG

Cooler ID 8211

SAMPLE ID	Bottle 1 °C	Bottle 2 °C	Bottle 3 °C	Bottle 4 °C	Bottle 5 °C	Bottle 6 °C

CMD 3/14/17

pH Exceptions

pH Lot # HC693124

SAMPLE ID	Bottle 1	Bottle 2	Bottle 3	Bottle 4	Bottle 5	Bottle 6

CMD 3/14/17

PRESERVATIVE EXCEPTIONS
_✓_ NONE
___ AS NOTED
CMD 3/14/17

Document Control # 1957
Last 10-07-2016

Issued to: Document Master File

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L17030723
Account: 2551
Project: 2551.096
Samples: 1
Due Date: 24-MAR-2017

Samplenum	Container ID	Products
L17030723-01	880066	AG-MS SE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-MAR-2017 09:54	CLS		
2	ANALYZ	W1	DIG	14-MAR-2017 12:57	ERP	BRG	
3	STORE	DIG	A1	15-MAR-2017 13:32	BRG	ERP	

Samplenum	Container ID	Products
L17030723-01	880067	CR-6

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-MAR-2017 09:54	CLS		
2	ANALYZ	W1	WET	14-MAR-2017 12:09	DLP	CLS	
3	STORE	WET	A1	15-MAR-2017 08:10	CLS	DLP	

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: L17030724

Linda Raabe
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 April 14 2017

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 #: L17030724
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.

There were no discrepancies.

Discrepancy	Resolution

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #	Temp Required?
0019900	I	3.0		1Z4016632210154830	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
9	Were samples received within EPA hold times?	Yes
10	Were correct preservatives used? (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	Yes
12	Were VOA samples free of headspace (less than 6mm)?	Yes

Microbac

Lab Report #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
LH18/24-SP650-6423-GRAB	L17030724-01	03/13/2017 15:00	03/14/2017 09:34
TRIP BLANK	L17030724-02	03/13/2017 00:01	03/14/2017 09:34

Microbac Laboratories ● Ohio Valley Division
158 Starlite Drive, Marietta, OH 45750 ● T: (740)373-4071 F: (740)373-4835
www.microbac.com

Microbac REPORT L17030724
PREPARED FOR AECOM Technical Services, Inc.
WORK ID:

1.0 Summary Data 5
1.1 Narratives 6
1.2 Certificate of Analysis 35
2.0 Full Sample Data Package 47
2.1 Volatiles Data 48
2.1.1 Volatiles GCMS Data (8260) 49
2.1.1.1 Summary Data 50
2.1.1.2 QC Summary Data 54
2.1.1.3 Sample Data 80
2.1.1.4 Standards Data 95
2.1.1.5 Raw QC Data 177
2.2 Semivolatiles Data 190
2.2.1 Semivolatiles GC/MS Data (Dioxane) 191
2.2.1.1 Summary Data 192
2.2.1.2 QC Summary Data 198
2.2.1.3 Sample Data 235
2.2.1.4 Standards Data 248
2.2.1.5 Raw QC Data 273
2.3 Metals Data 300
2.3.1 Metals I C P Data 301
2.3.1.1 Summary Data 302
2.3.1.2 QC Summary Data 306
2.3.1.3 Raw Data 344
2.3.2 Metals ICP-MS Data 603
2.3.2.1 Summary Data 604
2.3.2.2 QC Summary Data 607
2.3.2.3 Raw Data 634
2.4 General Chemistry Data 737
2.4.1 Hexavalent Chromium Data 738
2.4.1.1 Summary Data 739
2.4.1.2 QC Summary Data 742
2.4.1.3 Raw Data 748
3.0 Attachments 756

1.0 Summary Data

1.1 Narratives

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030724
Project Name:		**Method:**	8260
Prep Batch Number(s):	607285	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2017-03-28 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
Sarah Vandenberg	Sarah Vandenberg		2017-03-28 16:21:12

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030724
Project Name:		**Method:**	8260
Prep Batch Number(s):	607285	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2017-03-28 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				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030724
Project Name:		**Method:**	8260
Prep Batch Number(s):	607285	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2017-03-28 00:00:00		

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				
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				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030724
Project Name:		**Method:**	8260
Prep Batch Number(s):	607285	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2017-03-28 00:00:00		

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					
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				

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030724
Project Name:		**Method:**	8260
Prep Batch Number(s):	607285	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2017-03-28 00:00:00		

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 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:**	L17030724
Project Name:		**Method:**	827-DIOXANE
Prep Batch Number(s):	WG606465, WG607133	**Reviewer Name:**	Eric Lawson
LRC Date:	2017-03-27 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
Eric Lawson		Chemist III	2017-03-27 09:58:49

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030724
Project Name:		**Method:**	827-DIOXANE
Prep Batch Number(s):	WG606465, WG607133	**Reviewer Name:**	Eric Lawson
LRC Date:	2017-03-27 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			3
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			1
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				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030724
Project Name:		**Method:**	827-DIOXANE
Prep Batch Number(s):	WG606465, WG607133	**Reviewer Name:**	Eric Lawson
LRC Date:	2017-03-27 00:00:00		

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			2
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				
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				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030724
Project Name:		**Method:**	827-DIOXANE
Prep Batch Number(s):	WG606465, WG607133	**Reviewer Name:**	Eric Lawson
LRC Date:	2017-03-27 00:00:00		

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					
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				

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030724
Project Name:		**Method:**	827-DIOXANE
Prep Batch Number(s):	WG606465, WG607133	**Reviewer Name:**	Eric Lawson
LRC Date:	2017-03-27 00:00:00		

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 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. The original extraction of sample 01 yielded high surrogate recoveries.
2. The LCS and LCS2 associated with WG606465 yielded recoveries that were above the acceptance limit.
3. Sample 01 was re-extracted out of hold.

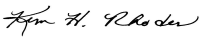
Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030724
Project Name:		**Method:**	6010
Prep Batch Number(s):	WG606289	**Reviewer Name:**	Kim Rhodes
LRC Date:	2017-03-20 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
Kim Rhodes		Analyst III	2017-03-20 13:21:10

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030724
Project Name:		**Method:**	6010
Prep Batch Number(s):	WG606289	**Reviewer Name:**	Kim Rhodes
LRC Date:	2017-03-20 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				
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:**	L17030724
Project Name:		**Method:**	6010
Prep Batch Number(s):	WG606289	**Reviewer Name:**	Kim Rhodes
LRC Date:	2017-03-20 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:**	L17030724
Project Name:		**Method:**	6010
Prep Batch Number(s):	WG606289	**Reviewer Name:**	Kim Rhodes
LRC Date:	2017-03-20 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:**	L17030724
Project Name:		**Method:**	6010
Prep Batch Number(s):	WG606289	**Reviewer Name:**	Kim Rhodes
LRC Date:	2017-03-20 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).

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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:**	L17030724
Project Name:		**Method:**	6010
Prep Batch Number(s):	WG606289	**Reviewer Name:**	Kim Rhodes
LRC Date:	2017-03-20 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

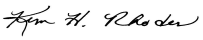
Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030724
Project Name:		**Method:**	6020
Prep Batch Number(s):	WG606254	**Reviewer Name:**	Kim Rhodes
LRC Date:	2017-03-20 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
Kim Rhodes		Analyst III	2017-03-20 13:23:28

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030724
Project Name:		**Method:**	6020
Prep Batch Number(s):	WG606254	**Reviewer Name:**	Kim Rhodes
LRC Date:	2017-03-20 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				
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				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030724
Project Name:		**Method:**	6020
Prep Batch Number(s):	WG606254	**Reviewer Name:**	Kim Rhodes
LRC Date:	2017-03-20 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:**	L17030724
Project Name:		**Method:**	6020
Prep Batch Number(s):	WG606254	**Reviewer Name:**	Kim Rhodes
LRC Date:	2017-03-20 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:**	L17030724
Project Name:		**Method:**	6020
Prep Batch Number(s):	WG606254	**Reviewer Name:**	Kim Rhodes
LRC Date:	2017-03-20 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;

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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:**	L17030724
Project Name:		**Method:**	6020
Prep Batch Number(s):	WG606254	**Reviewer Name:**	Kim Rhodes
LRC Date:	2017-03-20 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

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030724
Project Name:		**Method:**	CR-6
Prep Batch Number(s):	WG606176	**Reviewer Name:**	Deanna Hesson
LRC Date:	2017-03-17 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	2017-03-17 19:03:22

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030724
Project Name:		**Method:**	CR-6
Prep Batch Number(s):	WG606176	**Reviewer Name:**	Deanna Hesson
LRC Date:	2017-03-17 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					
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:**	L17030724
Project Name:		**Method:**	CR-6
Prep Batch Number(s):	WG606176	**Reviewer Name:**	Deanna Hesson
LRC Date:	2017-03-17 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:**	L17030724
Project Name:		**Method:**	CR-6
Prep Batch Number(s):	WG606176	**Reviewer Name:**	Deanna Hesson
LRC Date:	2017-03-17 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)			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:**	L17030724
Project Name:		**Method:**	CR-6
Prep Batch Number(s):	WG606176	**Reviewer Name:**	Deanna Hesson
LRC Date:	2017-03-17 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)	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:**	L17030724
Project Name:		**Method:**	CR-6
Prep Batch Number(s):	WG606176	**Reviewer Name:**	Deanna Hesson
LRC Date:	2017-03-17 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 #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030724-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	LH18/24-SP650-6423-GRAB	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	03/21/2017 20:43
Workgroup #:	WG607285	**Analyst:**	ADC	**Run Date:**	03/22/2017 21:55
Collect Date:	03/13/2017 15:00	**Dilution:**	1	**File ID:**	8M418438
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
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
1,1-Dichloroethane	75-34-3	0.250	U	0.500	0.250	0.125
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
Acetone	67-64-1	36.2		10.0	5.00	2.50
Benzene	71-43-2	0.250	U	0.500	0.250	0.125
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chloroform	67-66-3	0.250	U	0.500	0.250	0.125
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
m,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
Styrene	100-42-5	0.250	U	0.500	0.250	0.125
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	3.19		1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	96.2	70	120	
4-Bromofluorobenzene	99.3	75	120	
Dibromofluoromethane	96.1	85	115	
Toluene-d8	101	85	120	

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

Microbac

Lab Report #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030724-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS15
Client ID:	LH18/24-SP650-6423-GRAB	**Prep Method:**	3520C	**Prep Date:**	03/22/2017 10:30
Matrix:	Water	**Analytical Method:**	8270D	**Cal Date:**	03/21/2017 13:29
Workgroup #:	WG607413	**Analyst:**	SCB/LJH	**Run Date:**	03/23/2017 13:34
Collect Date:	03/13/2017 15:00	**Dilution:**	1	**File ID:**	15M20912
Sample Tag:	RE	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,4-Dioxane	123-91-1	13.1	J	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,4-Dioxane-d8	51.9	20	129	

J	Estimated value ; the analyte concentration was greater than the highest standard

Microbac

Lab Report #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030724-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS15
Client ID:	LH18/24-SP650-6423-GRAB	**Prep Method:**	3520C	**Prep Date:**	03/16/2017 14:56
Matrix:	Water	**Analytical Method:**	8270D	**Cal Date:**	03/21/2017 13:29
Workgroup #:	WG606673	**Analyst:**	SCB	**Run Date:**	03/21/2017 15:22
Collect Date:	03/13/2017 15:00	**Dilution:**	1	**File ID:**	15M20899
Sample Tag:	02	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,4-Dioxane	123-91-1	24.6	J	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,4-Dioxane-d8	163	20	129	*

J	The reported result is an estimated value.

Microbac

Lab Report #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030724-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS15
Client ID:	LH18/24-SP650-6423-GRAB	**Prep Method:**	3520C	**Prep Date:**	03/22/2017 10:30
Matrix:	Water	**Analytical Method:**	8270D	**Cal Date:**	03/21/2017 13:29
Workgroup #:	WG607413	**Analyst:**	SCB/LJH	**Run Date:**	03/24/2017 11:01
Collect Date:	03/13/2017 15:00	**Dilution:**	2	**File ID:**	15M20921
Sample Tag:	REDL02	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,4-Dioxane	123-91-1	11.8	H1	4.00	2.00	1.00

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,4-Dioxane-d8	50.4	20	129	

H1	Sample analysis performed past holding time.

Microbac

Lab Report #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030724-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS15
Client ID:	LH18/24-SP650-6423-GRAB	**Prep Method:**	3520C	**Prep Date:**	03/16/2017 14:56
Matrix:	Water	**Analytical Method:**	8270D	**Cal Date:**	03/21/2017 13:29
Workgroup #:	WG606673	**Analyst:**	SCB/LJH	**Run Date:**	03/24/2017 11:23
Collect Date:	03/13/2017 15:00	**Dilution:**	5	**File ID:**	15M20922
Sample Tag:	DL02	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,4-Dioxane	123-91-1	21.9	J	10.0	5.00	2.50

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,4-Dioxane-d8	152	20	129	*

J	The reported result is an estimated value.

Microbac

Lab Report #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030724-01	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO4
Client ID:	LH18/24-SP650-6423-GRAB	**Prep Method:**	3015A	**Prep Date:**	03/15/2017 09:47
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	03/16/2017 10:08
Workgroup #:	WG606355	**Analyst:**	KKB	**Run Date:**	03/16/2017 13:38
Collect Date:	03/13/2017 15:00	**Dilution:**	1	**File ID:**	T4.031617.133814
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Selenium, Total	7782-49-2	0.0800	U	0.0800	0.0800	0.0400

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

Microbac

Lab Report #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030724-01	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	LH18/24-SP650-6423-GRAB	**Prep Method:**	3015	**Prep Date:**	03/15/2017 08:03
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	03/15/2017 14:33
Workgroup #:	WG606367	**Analyst:**	JYH	**Run Date:**	03/15/2017 15:16
Collect Date:	03/13/2017 15:00	**Dilution:**	1	**File ID:**	NI.031517.151648
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Barium, Total	7440-39-3	0.114		0.00600	0.00300	0.00150
Lead, Total	7439-92-1	0.00100	U	0.00200	0.00100	0.000500
Silver, Total	7440-22-4	0.00100	U	0.00200	0.00100	0.000500

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

Microbac

Lab Report #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030724-01	**PrePrep Method:**	N/A	**Instrument:**	UV-2600
Client ID:	LH18/24-SP650-6423-GRAB	**Prep Method:**	7196A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	7196A	**Cal Date:**	03/10/2017 13:59
Workgroup #:	WG606176	**Analyst:**	DLP	**Run Date:**	03/14/2017 14:50
Collect Date:	03/13/2017 15:00	**Dilution:**	1	**File ID:**	00.1703141450-07
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chromium, Hexavalent	18540-29-9	0.0100	U	0.0200	0.0100	0.00500

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

Microbac

Lab Report #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030724-02	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	TRIP BLANK	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	03/21/2017 20:43
Workgroup #:	WG607285	**Analyst:**	ADC	**Run Date:**	03/22/2017 18:56
Collect Date:	03/13/2017 00:01	**Dilution:**	1	**File ID:**	8M418432
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
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
1,1-Dichloroethane	75-34-3	0.250	U	0.500	0.250	0.125
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	0.500	0.250	0.125
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chloroform	67-66-3	0.250	U	0.500	0.250	0.125
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
m,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
Styrene	100-42-5	0.250	U	0.500	0.250	0.125
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	95.7	70	120	
4-Bromofluorobenzene	98.0	75	120	
Dibromofluoromethane	95.8	85	115	
Toluene-d8	101	85	120	

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

Microbac

Lab Report #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Microbac

Lab Report #: L17030724
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 #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030724-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	LH18/24-SP650-6423-GRAB	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	03/21/2017 20:43
Workgroup #:	WG607285	**Analyst:**	ADC	**Run Date:**	03/22/2017 21:55
Collect Date:	03/13/2017 15:00	**Dilution:**	1	**File ID:**	8M418438
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
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
1,1-Dichloroethane	75-34-3	0.250	U	0.500	0.250	0.125
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
Acetone	67-64-1	36.2		10.0	5.00	2.50
Benzene	71-43-2	0.250	U	0.500	0.250	0.125
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chloroform	67-66-3	0.250	U	0.500	0.250	0.125
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
m,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
Styrene	100-42-5	0.250	U	0.500	0.250	0.125
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	3.19		1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	96.2	70	120	
4-Bromofluorobenzene	99.3	75	120	
Dibromofluoromethane	96.1	85	115	
Toluene-d8	101	85	120	

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

Microbac

Lab Report #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030724-02	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	TRIP BLANK	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	03/21/2017 20:43
Workgroup #:	WG607285	**Analyst:**	ADC	**Run Date:**	03/22/2017 18:56
Collect Date:	03/13/2017 00:01	**Dilution:**	1	**File ID:**	8M418432
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
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
1,1-Dichloroethane	75-34-3	0.250	U	0.500	0.250	0.125
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	0.500	0.250	0.125
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chloroform	67-66-3	0.250	U	0.500	0.250	0.125
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
m,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
Styrene	100-42-5	0.250	U	0.500	0.250	0.125
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	95.7	70	120	
4-Bromofluorobenzene	98.0	75	120	
Dibromofluoromethane	95.8	85	115	
Toluene-d8	101	85	120	

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

Microbac

Lab Report #: L17030724
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)]

	Example
where:	
Ax = Area of the characteristic ion for the compound being measured:	3399156
Cis = Concentration of the specific internal standard (ug/mL)	25
Ais = Area of the characteristic ion of the specific internal standard	846471
Cx = Concentration of the compound in the standard being measured (ug/mL)	100
RF = Calculated Response Factor	**1.0039**

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

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

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

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

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

	Example
where:	
Ax = Area of the characteristic ion for the compound being measured	**3122498**
Cis = Concentration of the specific internal standard (ug/L)	**25**
D = Dilution factor for sample as a multiplier (10x = 10)	**1**
Ais = Area of the characteristic ion of the specific internal standard	**611048**
RF = Average RF from the ICAL	**1.004**
Ws = Weight of sample purged (g)	**5**
Wn = Nominal purge weight (g) (5.0 g)	**5**
Cx = Concentration of the compound in the sample being measured (ug/L)	**127.2428**
Dry weight correction:	
Percent solids (PCT_S)	**50**
Cd = (Cx) (100)/PCT_S	**254.4856**

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

4.0 Concentration from Linear Regression

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

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

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

m = slope from curve = 0.213

b = intercept from curve = - 0.00642

Step 2: Calculate y from Quantitation Report

y = 86550/593147 = 0.1459

Step 3: Solve for x

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

Step 4: Solve for analyte concentration Cx

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

Example Spreadsheet Calculation:

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

5.0 Concentration from Quadratic Regression

Step 1 - Retrieve Curve Data from Plot, y = Ax^2 + Bx + C
Where:
Ax^2 + Bx + (C - y) = 0
A, B, C = constants from the ICAL quadratic regression
y = Response ratio = Area of analyte/Area of internal standard (IS)
x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

y = Ax/Ais

Step 3: Solve for x using the quadratic formula
Ax^2 + Bx + C - y = 0

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

Step 4: Solve for analyte concentration Cx

Cx = (Cis)(Amount ratio)

Example Spreadsheet Calculation:

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

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 120816
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: 53988

Internal Standard: STD78987 Surrogate Standard: STD78987
CCV: STD79185; STD79330 LCS: STD79186; STD78319 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG594051; WG594142

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M416518	WG594051-01 50ng BFB STD A9/FOO	NA	1	1	STD78995	12/08/16 08:55
8M416519	WG594051-02 5ug/L STD A9/FOO	NA	1	1	STD79185	12/08/16 09:19
8M416520	WG594051-03 20ug/L STD A9/FOO	NA	1	1	STD79185	12/08/16 09:48
8M416521	WG594051-04 50ug/L STD A9/FOO	NA	1	1	STD79185	12/08/16 10:17
8M416522	WG594051-05 100ug/L STD A9/FOO	NA	1	1	STD79185	12/08/16 10:47
8M416523	WG594051-06 200ug/L STD A9/FOO	NA	1	1	STD79185	12/08/16 11:16
8M416524	WG594051-07 300ug/L STD A9/FOO	NA	1	1	STD79185	12/08/16 11:46
8M416525	WG594051-08 400ug/L STD A9/FOO	NA	1	1	STD79185	12/08/16 12:16
8M416526	WG594051-09 500ug/L STD A9/FOO	NA	1	1	STD79185	12/08/16 12:45
8M416527	RINSE	NA	1	1		12/08/16 13:14
8M416528	RINSE	NA	1	1		12/08/16 13:43
8M416529	WG594051-10 100ug/L STD A9/FOO	NA	1	1	STD79186	12/08/16 14:12
8M416530	WG594141-01 50ng BFB STD 8260	NA	1	1	STD78995	12/08/16 14:40
8M416531	WG594141-01 50ng BFB STD 8260	NA	1	1	STD78995	12/08/16 14:54
8M416532	WG594141-01 50ng BFB STD 8260	NA	1	1	STD78995	12/08/16 15:17
8M416533	WG594141-02 50ug/L CCV STD 8260	NA	1	1	STD79330	12/08/16 15:44
8M416534	WG594141-02 50ug/L CCV STD 8260	NA	1	1	STD79330	12/08/16 16:15
8M416535	WG000000-01 100ug/L A9 CCV STD 8260	NA	1	1	STD78971	12/08/16 16:45
8M416536	WG594142-01 VBLK1208 BLANK STD 826	NA	1	1		12/08/16 17:16
8M416537	WG594142-02 20ug/L LCS STD 8260	NA	1	1	STD79319	12/08/16 17:45
8M416538	L16120424-04 A MS 826-SPE	<2	1	1	STD79319	12/08/16 18:14
8M416539	L16120424-05 A MSD 826-SPE	<2	1	1	STD79319	12/08/16 18:43
8M416540	L16120315-05 B TB 826-SPE	<2	1	1		12/08/16 19:12
8M416541	L16120315-03 B EB 826-SPE	<2	1	1		12/08/16 19:41
8M416542	L16120424-01 A TB 826-SPE	<2	1	1		12/08/16 20:10
8M416543	L16120424-03 A RS 826-SPE	<2	1	1		12/08/16 20:39
8M416544	L16120424-06 A 826-SPE	<2	1	1		12/08/16 21:09
8M416545	L16120424-02 A 826-SPE	<2	1	1		12/08/16 21:40
8M416546	L16120315-01 B 826-SPE	<2	1	1		12/08/16 22:08
8M416547	L16120315-02 B 826-SPE	<2	1	1		12/08/16 22:37
8M416548	L16120315-04 B 826-SPE	<2	1	1		12/08/16 23:06
8M416549	L16120424-07 A 826-SPE	<2	1	1		12/08/16 23:35
8M416550	WG594142-06 20ug/L LCS2 STD 8260	NA	1	1	STD79319	12/09/16 00:04
8M416551	CCV	NA	1	1		12/09/16 00:33

Approved: December 09, 2016

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 120816
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: 53988

Internal Standard: STD78987 Surrogate Standard: STD78987
CCV: STD79185; STD79330 LCS: STD79186; STD78319 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG594051; WG594142

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M416552	RINSE	NA	1	1		12/09/16 01:01

Comments

Seq.	Rerun	Dil.	Reason	Analytes
13	X			
File ID: 8M416530				
	Tune failed, DNR.			
15	X			
File ID: 8M416531				
	Tune failed, DNR.			
16				
File ID: 8M416532				
	Purged BFB.			
17	X			
File ID: 8M416533				
	DNR. Bromomethane was low.			
19				
File ID: 8M416535				
	Not needed, DNR.			
27	X	10	Over Calibration Range	PCE
File ID: 8M416543				

Approved: December 09, 2016

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 032117
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: 54101

Internal Standard: STD80702 Surrogate Standard: STD80702
CCV: STD81040 LCS: STD81038 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG607066

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M418406	WG607066-01 50ng BFB STD 8260	NA	1	1	STD80989	03/21/17 15:10
8M418407	RINSE	NA	1	1		03/21/17 15:39
8M418408	WG607066-02 0.3ug/L STD 8260	NA	1	1	STD810	03/21/17 16:09
8M418409	WG607066-03 0.4ug/L STD 8260	NA	1	1	STD81040	03/21/17 16:39
8M418410	WG607066-04 1ug/L STD 8260	NA	1	1	STD81040	03/21/17 17:09
8M418411	WG607066-05 2ug/L STD 8260	NA	1	1	STD81040	03/21/17 17:40
8M418412	WG607066-06 5ug/L STD 8260	NA	1	1	STD81040	03/21/17 18:10
8M418413	WG607066-07 20ug/L STD 8260	NA	1	1	STD81040	03/21/17 18:41
8M418414	WG607066-08 50ug/L STD 8260	NA	1	1	STD81040	03/21/17 19:11
8M418415	WG607066-09 100ug/L STD 8260	NA	1	1	STD81040	03/21/17 19:42
8M418416	WG607066-10 200ug/L STD 8260	NA	1	1	STD81040	03/21/17 20:12
8M418417	WG607066-11 300ug/L STD 8260	NA	1	1	STD81040	03/21/17 20:43
8M418418	RINSE	NA	1	1		03/21/17 21:13
8M418419	RINSE	NA	1	1		03/21/17 21:44
8M418420	WG607066-12 50ug/L ALT SRC STD 8260	NA	1	1	STD81038	03/21/17 22:14
8M418421	RINSE	NA	1	1		03/21/17 22:45
8M418422	RINSE	NA	1	1		03/21/17 23:15
8M418423	RINSE	NA	1	1		03/21/17 23:45

Approved: March 24, 2017

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 032217
Analyst1: ADC 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:

Internal Standard: STD80702 Surrogate Standard: STD80702
CCV: STD81040 LCS: STD81038 MS/MSD: STD81038

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG607285

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M418424	WG607284-01 50ng BFB STD 8260	NA	1	1	STD80989	03/22/17 14:58
8M418425	WG607284-01 50ng BFB STD 8260	NA	1	1	STD80989	03/22/17 15:12
8M418426	WG607284-02 50ug/L STD 8260	NA	1	1	STD81040	03/22/17 15:35
8M418427	WGXXXXXX-01 100ug/L A9STD 8260	NA	1	1	STDXXXXX	03/22/17 16:05
8M418428	WG607285-01 BLANK 8260	NA	1	1		03/22/17 16:38
8M418429	WG607285-02 20ug/L LCS STD 8260	NA	1	1	STD81038	03/22/17 17:25
8M418430	L17030997-04 A 100X MS 826-SPE	NA	1	100	STD81038	03/22/17 17:56
8M418431	L17030997-05 A 100X MSD 826-SPE	NA	1	100	STD81038	03/22/17 18:26
8M418432	L17030724-02 A 826-SPE	<2	1	1		03/22/17 18:56
8M418433	L17030620-06 C 10X 826-SPE	<2	1	10		03/22/17 19:26
8M418434	L17030620-05 C 25X 826-SPE	<2	1	25		03/22/17 19:55
8M418435	L17030620-08 C 826-SPE	<2	1	1		03/22/17 20:26
8M418436	L17030871-07 A 8260	<2	1	1		03/22/17 20:55
8M418437	L17030995-13 A 826-SPE	<2	1	1		03/22/17 21:25
8M418438	L17030724-01 A 826-SPE	<2	1	1		03/22/17 21:55
8M418439	L17030995-07 B 826-SPE	<2	1	1		03/22/17 22:25
8M418440	L17030995-08 B 826-SPE	<2	1	1		03/22/17 22:54
8M418441	L17030995-11 A 826-SPE	<2	1	1		03/22/17 23:24
8M418442	L17030995-12 A 826-SPE	<2	1	1		03/22/17 23:53
8M418443	L17030995-14 A 826-SPE	<2	1	1		03/23/17 00:23
8M418444	L17030997-03 A 100X 826-SPE	NA	1	100		03/23/17 00:53
8M418445	L17030997-01 A 826-SPE	<2	1	1		03/23/17 01:24
8M418446	RINSE	NA	1	1		03/23/17 01:55
8M418447	WG607285-06 624-BLK	NA	1	1		03/23/17 02:25
8M418448	L17031182-04 A 624-BLK	5	2	1		03/23/17 02:56
8M418449	L17031182-01 A 624-BLK	5	2	1		03/23/17 03:26
8M418450	L17031182-02 A 624-BLK	6	2	1		03/23/17 03:55
8M418451	L17031182-03 A 624-BLK	6	2	1		03/23/17 04:24
8M418452	RINSE	NA	2	1		03/23/17 04:53
8M418453	RINSE	NA	2	1		03/23/17 05:22
8M418454	RINSE	NA	2	1		03/23/17 05:51

Comments

Approved: March 28, 2017

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 032217
Analyst1: ADC 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:

Internal Standard: STD80702 Surrogate Standard: STD80702
CCV: STD81040 LCS: STD81038 MS/MSD: STD81038

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG607285

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
1	X			
File ID: 8M418424				
	Tune failed, DNR.			
4				
File ID: 8M418427				
	Not needed, DNR.			
37	X	1000	Over Calibration Range	1,4-DIOXANE
File ID: 8M418444				
22	X	50	Over Calibration Range	1,4-DIOXANE
File ID: 8M418445				

Approved: March 28, 2017



Page: 2

Microbac Laboratories Inc.

Data Checklist

Date: 08-DEC-2016
Analyst: TMB
Analyst: NA
Method: 8260B/624
Instrument: HPMS8
Curve Workgroup: NA
Runlog ID: 79117
Analytical Workgroups: WG594051; WG594142

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	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:
08-DEC-2016
Tiffany Bailey

Secondary Reviewer:
09-DEC-2016
Wade D

CHECKLIST1 - Modified 03/05/2008
Generated: DEC-09-2016 15:20:50

Microbac Laboratories Inc.

Data Checklist

Date: 21-MAR-2017
Analyst: TMB
Analyst: NA
Method: 8260B/624
Instrument: HPMS8
Curve Workgroup: NA
Runlog ID: 81123
Analytical Workgroups: WG607066

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	ADC
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:
23-MAR-2017
Tiffany Bailey

Secondary Reviewer:
24-MAR-2017

CHECKLIST1 - Modified 03/05/2008
Generated: MAR-24-2017 16:23:54

Microbac Laboratories Inc.

Data Checklist

Date: 22-MAR-2017
Analyst: ADC
Analyst: NA
Method: 8260B
Instrument: HPMS8
Curve Workgroup: NA
Runlog ID: 81134
Analytical Workgroups: WG607285

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
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	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:
23-MAR-2017
Tiffany Bailey

Secondary Reviewer:
28-MAR-2017

CHECKLIST1 - Modified 03/05/2008
Generated: MAR-28-2017 11:59:10

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B **AAB#:** WG607285

Login Number: L17030724

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
LH18/24-SP650-6423-GRAB	01	03/13/17					03/22/2017	9.3	14		03/22/17	9.3	14	
TRIP BLANK	02	03/13/17					03/22/2017	9.8	14		03/22/17	9.8	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5214155
Report generated 03/28/2017 12:13

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L17030724
Instrument Id: HPMS8
Workgroup (AAB#): WG607285

Method: 8260
CAL ID: HPMS8-21-MAR-17
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L17030724-01	1.00	01	96.2	96.1	99.3	101
L17030724-02	1.00	01	95.7	95.8	98.0	101
WG607285-01	1.00	01	86.7	87.1	87.7	91.1
WG607285-02	1.00	01	96.3	97.6	95.5	100
WG607285-06	1.00	01	92.9	94.9	99.2	103

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: 5214161
Report generated: 03/28/2017 12:13

METHOD BLANK SUMMARY

Login Number:	L17030724	**Work Group:**	WG607285
Blank File ID:	8M418428	**Blank Sample ID:**	WG607285-01
Prep Date:	03/22/17 16:38	**Instrument ID:**	HPMS8
Analyzed Date:	03/22/17 16:38	**Method:**	8260B
Analyst:	ADC		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG607285-02	8M418429	03/22/17 17:25	01
TRIP BLANK	L17030724-02	8M418432	03/22/17 18:56	01
LH18/24-SP650-6423-GRAB	L17030724-01	8M418438	03/22/17 21:55	01

Report Name: BLANK_SUMMARY
PDF File ID: 5216864
Report generated 03/28/2017 12:13

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L17030724 Prep Date: 03/22/17 16:38 Sample ID: WG607285-01
Instrument ID: HPMS8 Run Date: 03/22/17 16:38 Prep Method: 5030B/5030C/503
File ID: 8M418428 Analyst: ADC Method: 8260B
Workgroup (AAB#): WG607285 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS8-21-MAR-17

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	0.500	0.125	1	U
1,1-Dichloroethene	0.500	2.00	0.500	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	0.500	0.125	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chloroform	0.125	0.500	0.125	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
Methylene chloride	0.250	1.00	0.250	1	U
m,p-Xylene	0.500	2.00	0.500	1	U
o-Xylene	0.250	1.00	0.250	1	U
Styrene	0.125	0.500	0.125	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	86.7	70 - 120	PASS
4-Bromofluorobenzene	87.7	75 - 120	PASS
Dibromofluoromethane	87.1	85 - 115	PASS
Toluene-d8	91.1	85 - 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: 5214156
28-MAR-2017 12:13

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17030724 Run Date: 03/22/2017 Sample ID: WG607285-02
Instrument ID: HPMS8 Run Time: 17:25 Prep Method: 5030B/5030C/503
File ID: 8M418429 Analyst: ADC Method: 8260B
Workgroup (AAB#): WG607285 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD81038 Cal ID: HPMS8-21-MAR-17

Analytes	Expected	Found	% Rec	LCS Limits	Q
1,1,1-Trichloroethane	20.0	20.3	102	65 - 130	
1,1,2-Trichloroethane	20.0	19.3	96.6	75 - 125	
1,1-Dichloroethane	20.0	19.3	96.3	70 - 135	
1,1-Dichloroethene	20.0	19.4	97.1	70 - 130	
1,2-Dichloroethane	20.0	19.1	95.6	70 - 130	
Acetone	20.0	18.2	90.9	40 - 140	
Benzene	20.0	19.7	98.7	80 - 120	
Carbon tetrachloride	20.0	21.2	106	65 - 140	
Chloroform	20.0	18.5	92.7	65 - 135	
Ethylbenzene	20.0	19.4	97.2	75 - 125	
Methylene chloride	20.0	19.2	95.8	55 - 140	
m,p-Xylene	40.0	39.3	98.3	75 - 130	
o-Xylene	20.0	18.8	93.8	80 - 120	
Styrene	20.0	19.9	99.5	65 - 135	
Tetrachloroethene	20.0	19.6	98.2	45 - 150	
Trichloroethene	20.0	19.1	95.7	70 - 125	
Toluene	20.0	19.7	98.3	75 - 120	
Vinyl chloride	20.0	17.4	87.1	50 - 145	

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	96.3	70 - 120	PASS
4-Bromofluorobenzene	95.5	75 - 120	PASS
Dibromofluoromethane	97.6	85 - 115	PASS
Toluene-d8	100	85 - 120	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 5214157
Report generated: 03/28/2017 12:13

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L17030724
Instrument: HPMS8
Analyst: TMB
Workgroup: WG594051

Tune ID: WG594051-01
Run Date: 12/08/2016
Run Time: 08:55
File ID: 8M416518
Cal ID: HPMS8-08-DEC-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	15.9	3959	PASS
75.0	95.0	30.0	60.0	50.2	12523	PASS
95.0	95.0	100	100	100	24967	PASS
96.0	95.0	5.00	9.00	6.61	1651	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	74.9	18700	PASS
175	174	5.00	9.00	7.25	1355	PASS
176	174	95.0	101	96.0	17959	PASS
177	176	5.00	9.00	6.08	1092	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG594051-02	STD	01	12/08/2016 09:19	
WG594051-03	STD	01	12/08/2016 09:48	
WG594051-04	STD	01	12/08/2016 10:17	
WG594051-05	STD-CCV	01	12/08/2016 10:47	
WG594051-06	STD	01	12/08/2016 11:16	
WG594051-07	STD	01	12/08/2016 11:46	
WG594051-08	STD	01	12/08/2016 12:16	
WG594051-09	STD	01	12/08/2016 12:45	
WG594051-10	SSCV	01	12/08/2016 14:12	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5214159
Report generated 03/28/2017 12:13

BFB

Login Number: L17030724
Instrument: HPMS8
Analyst: TMB
Workgroup: WG607066

Tune ID: WG607066-01
Run Date: 03/21/2017
Run Time: 15:10
File ID: 8M418406
Cal ID: HPMS8 -

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	17.8	6993	PASS
75.0	95.0	30.0	60.0	52.2	20477	PASS
95.0	95.0	100	100	100	39240	PASS
96.0	95.0	5.00	9.00	6.89	2704	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	80.6	31623	PASS
175	174	5.00	9.00	6.77	2141	PASS
176	174	95.0	101	98.6	31189	PASS
177	176	5.00	9.00	6.60	2060	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG607066-02	STD	01	03/21/2017 16:09	
WG607066-03	STD	01	03/21/2017 16:39	
WG607066-04	STD	01	03/21/2017 17:09	
WG607066-05	STD	01	03/21/2017 17:40	
WG607066-06	STD	01	03/21/2017 18:10	
WG607066-07	STD	01	03/21/2017 18:41	
WG607066-08	STD-CCV	01	03/21/2017 19:11	
WG607066-09	STD	01	03/21/2017 19:42	
WG607066-10	STD	01	03/21/2017 20:12	
WG607066-11	STD	01	03/21/2017 20:43	
WG607066-12	SSCV	01	03/21/2017 22:14	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5214159
Report generated 03/28/2017 12:13

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L17030724
Instrument: HPMS8
Analyst: ADC
Workgroup: WG607284

Tune ID: WG607284-01
Run Date: 03/22/2017
Run Time: 15:12
File ID: 8M418425
Cal ID: HPMS8-21-MAR-17

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	16.6	5683	PASS
75.0	95.0	30.0	60.0	49.0	16732	PASS
95.0	95.0	100	100	100	34138	PASS
96.0	95.0	5.00	9.00	6.80	2322	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	87.3	29808	PASS
175	174	5.00	9.00	7.05	2102	PASS
176	174	95.0	101	97.5	29074	PASS
177	176	5.00	9.00	6.65	1932	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG607284-02	CCV	01	03/22/2017 15:35	
WG607285-01	BLANK	01	03/22/2017 16:38	
WG607285-02	LCS	01	03/22/2017 17:25	
L17030724-02	TRIP BLANK	01	03/22/2017 18:56	
L17030724-01	LH18/24-SP650-6423-GRAB	01	03/22/2017 21:55	
WG607285-06	BLANK2	01	03/23/2017 02:25	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5214159
Report generated 03/28/2017 12:13

Calibration Table Report
Method: A9FOOWTR.M
Title: A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Calibration: Thu Dec 08 13:41:47 2016
Curve: WG594051
Calibration Files

	Compound		5 8M416519.D	20 8M416520.D	50 8M416521.D	100 8M416522.D	200 8M416523.D	300 8M416524.D	400 8M416525.D	500 8M416526.D	Avg	%RSD
I	Fluorobenzene	ISTD										
T	Acetonitrile			0.007	0.007	0.008	0.007	0.007	0.007	0.007	0.007	2.734
T	3-Chloro-1-propene	0.285	0.281	0.282	0.286	0.290	0.298	0.298	0.306		0.291	3.019
T	2-Chloro-1,3-butadiene	0.282	0.298	0.305	0.315	0.325	0.335	0.338	0.343		0.318	6.789
T	Ethyl Acetate			0.065	0.063	0.064	0.066	0.064	0.067	0.066	0.065	2.080
T	Methacrylonitrile	0.032	0.041	0.043	0.043	0.044	0.044	0.046	0.045		0.042	10.556
T	Isobutyl Alcohol				0.002	0.002	0.002	0.002	0.002	0.002	0.002	6.131
T	1-Butanol										0.000	0.000
T	Methyl methacrylate	0.055	0.067	0.068	0.069	0.071	0.070	0.074	0.074		0.068	8.866
T	2-Nitropropane			0.020	0.020	0.021	0.023	0.023	0.024	0.024	0.022	7.043
I	Chlorobenzene-d5	ISTD										
I	1,4-Dichlorobenzene-d4	ISTD										
T	Cyclohexanone				0.007	0.008	0.008	0.008	0.008	0.008	0.008	7.809

Thu Dec 08 15:05:15 2016

Calibration Table Report
Method: 8260WTR.M
Title: Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Calibration: Thu Mar 23 09:07:42 2017
Curve: WG607066
Calibration Files

	Compound	0.3 8M418408.D	0.4 8M418409.D	1 8M418410.D	2 8M418411.D	5 8M418412.D	20 8M418413.D	50 8M418414.D	100 8M418415.D	200 8M418416.D	300 8M418417.D	Avg	%RSD	Linear	Quad
I	Fluorobenzene	ISTD													
T	Dichlorodifluoromethane			0.365	0.339	0.354	0.406	0.433	0.432	0.413		0.392	9.845		
P	Chloromethane			0.561	0.481	0.480	0.467	0.465	0.449	0.420		0.475	9.181		
C	Vinyl Chloride		0.522	0.492	0.462	0.450	0.440	0.425	0.399	0.360		0.444	11.541		
T	1,3-Butadiene				0.256	0.253	0.235	0.174	0.111	0.091	0.088	0.173	44.128		0.994
T	Bromomethane			0.220	0.210	0.215	0.212	0.225	0.237	0.254		0.225	6.976		
T	Chloroethane		0.164	0.177	0.169	0.176	0.181	0.186	0.192	0.194		0.180	5.764		
T	Trichlorofluoromethane		0.491	0.482	0.451	0.464	0.469	0.491	0.497	0.497		0.480	3.565		
T	Diethyl ether			0.156	0.146	0.151	0.153	0.159	0.155		0.167	0.155	4.339		
T	Isoprene					0.354	0.350	0.368	0.382	0.374	0.398	0.371	4.814		
T	Acrolein				0.021	0.019	0.020	0.020	0.020		0.020	0.020	3.525		
T	1,1,2-Trichloro-1,2,2-Trifluoroethane			0.254	0.238	0.260	0.252	0.269	0.272	0.264		0.258	4.444		
T	Acetone					0.028	0.031	0.031	0.028	0.032	0.029	0.030	5.215		
C	1,1-Dichloroethene		0.377	0.363	0.325	0.352	0.349	0.366	0.375	0.375		0.360	4.930		
T	Tert-Butyl Alcohol				0.009	0.009	0.010	0.010	0.009		0.010	0.010	5.290		
T	Dimethyl Sulfide					0.242	0.246	0.255	0.258	0.268	0.268	0.256	4.156		
T	Iodomethane			0.227	0.204	0.235	0.261	0.298	0.318	0.317	0.290	0.269	16.181	0.997	
T	Methyl acetate					0.083	0.082	0.084	0.084	0.090	0.089	0.085	4.049		
T	Methylene Chloride			0.290	0.251	0.262	0.267	0.276	0.281	0.294		0.274	5.692		
T	Carbon Disulfide			0.876	0.782	0.819	0.813	0.836	0.848	0.830	0.764	0.821	4.336		
T	Acrylonitrile			0.040	0.040	0.040	0.042	0.046	0.045		0.041	0.042	5.937		
T	Methyl Tert Butyl Ether			0.519	0.484	0.503	0.533	0.556	0.536	0.567		0.528	5.471		
T	trans-1,2-Dichloroethene		0.369	0.352	0.326	0.338	0.338	0.348	0.360	0.365		0.349	4.283		
T	n-Hexane					0.312	0.279	0.293	0.297	0.289	0.307	0.296	4.010		
T	Diisopropyl ether			0.683	0.641	0.674	0.668	0.683	0.670		0.654	0.668	2.316		
T	Vinyl Acetate					0.283	0.262	0.254	0.246	0.280	0.252	0.263	5.853		
P	1,1-Dichloroethane		0.457	0.446	0.429	0.451	0.446	0.464	0.476	0.477		0.456	3.523		
T	Ethyl-Tert-Butyl ether			0.634	0.600	0.636	0.649	0.667	0.645		0.643	0.639	3.163		
T	2-Butanone					0.047	0.048	0.048	0.047	0.050	0.048	0.048	2.346		
T	Propionitrile			0.012	0.015	0.014	0.015	0.015	0.014		0.015	0.014	7.137		
T	2,2-Dichloropropane		0.445	0.414	0.394	0.409	0.385	0.398	0.406	0.403		0.407	4.403		
T	cis-1,2-Dichloroethene		0.294	0.289	0.270	0.290	0.293	0.302	0.314	0.321		0.297	5.370		
C	Chloroform	0.670	0.608	0.515	0.477	0.491	0.484	0.500	0.506	0.504		0.528	12.418		
T	1-Bromopropane			0.050	0.050	0.056	0.056	0.057	0.060	0.061	0.064	0.057	8.723		
T	Bromochloromethane		0.151	0.160	0.150	0.153	0.157	0.166	0.166	0.171		0.159	4.835		
T	Tetrahydrofuran			0.036	0.029	0.029	0.030	0.032	0.029		0.030	0.031	8.295		
S	Dibromofluoromethane				0.277	0.275	0.278	0.277	0.289	0.294	0.295	0.284	3.074		
T	1,1,1-Trichloroethane		0.405	0.426	0.387	0.429	0.422	0.450	0.469	0.488		0.435	7.610		
T	Cyclohexane			0.377	0.348	0.367	0.359	0.378	0.387	0.392	0.396	0.376	4.441		
T	1,1-Dichloropropene			0.377	0.349	0.366	0.363	0.376	0.389	0.392		0.373	4.028		
T	Tert-Amyl-Methyl ether			0.580	0.564	0.592	0.603	0.628	0.607		0.602	0.596	3.411		
T	Carbon Tetrachloride		0.375	0.364	0.334	0.379	0.381	0.41	0.437	0.431		0.3888	9.01028		
S	1,2-Dichloroethane-d4				0.251	0.234	0.245	0.242	0.246	0.252	0.249	0.2457	2.56178		
T	Heptane											0	0		
T	1,2-Dichloroethane		0.299	0.294	0.276	0.286	0.294	0.305	0.308	0.324		0.2982	4.87776		
T	Benzene		1.144	1.082	1.017	1.09	1.066	1.09	1.099	1.022		1.0761	3.85617		
T	Trichloroethene		0.282	0.267	0.261	0.279	0.282	0.297	0.31	0.324		0.2877	7.45091		
T	Methylcyclohexane					0.428	0.409	0.425	0.438	0.433	0.462	0.4323	4.01264		
C	1,2-Dichloropropane		0.227	0.243	0.232	0.245	0.248	0.253	0.261	0.27		0.2474	5.70702		
T	Bromodichloromethane		0.332	0.33	0.314	0.328	0.348	0.371	0.38	0.395		0.3498	8.26577		
T	1,4-Dioxane					0.001	0.001	0.001	0.001		0.001	0.0012	10.0042		
T	Dibromomethane		0.093	0.132	0.126	0.131	0.137	0.144	0.143	0.155		0.1326	13.823		
T	2-Chloroethyl Vinyl Ether				0.101	0.107	0.108	0.112	0.114	0.123	0.122	0.1125	7.11154		
T	4-Methyl-2-Pentanone					0.042	0.046	0.049	0.047	0.053	0.052	0.0481	8.06815		
T	cis-1,3-Dichloropropene		0.393	0.387	0.371	0.388	0.405	0.425	0.432	0.448		0.406	6.45571		

T	Dimethyl Disulfide					0.159	0.196	0.22	0.231	0.257	0.257	0.2197	17.2311	0.998
I	Chlorobenzene-d5	ISTD												
S	Toluene-d8				1.195	1.269	1.261	1.225	1.302	1.283	1.269	1.2576	2.85929	
C	Toluene		1.544	1.543	1.406	1.506	1.485	1.517	1.549	1.346		1.4869	4.94343	
T	Ethyl Methacrylate			0.249	0.239	0.265	0.298	0.304	0.302	0.323	0.32	0.2875	11.2531	
T	Paraldehyde											0	0	
T	trans-1,3-Dichloropropene			0.416	0.378	0.415	0.44	0.463	0.469	0.489		0.4386	8.75675	
T	1,1,2-Trichloroethane		0.223	0.226	0.208	0.232	0.237	0.243	0.244	0.261		0.2342	6.81927	
T	2-Hexanone					0.045	0.055	0.058	0.056	0.062	0.06	0.0562	10.7796	
T	1,3-Dichloropropane		0.421	0.417	0.393	0.405	0.421	0.427	0.427	0.443		0.4194	3.60274	
T	Tetrachloroethene		0.305	0.327	0.287	0.315	0.303	0.321	0.347	0.372		0.3222	8.35255	
T	Dibromochloromethane		0.203	0.251	0.243	0.271	0.296	0.323	0.336	0.366		0.2861	18.8764	1.000
T	1,2-Dibromoethane		0.228	0.236	0.217	0.232	0.244	0.251	0.249	0.267		0.2403	6.53165	
T	1-Chlorohexane		0.543	0.505	0.46	0.498	0.479	0.489	0.52	0.528	0.54	0.5067	5.53864	
P	Chlorobenzene		1.019	1.011	0.957	0.997	0.997	1.074	1.173	1.145		1.0465	7.3529	
T	1,1,1,2-Tetrachloroethane		0.31	0.305	0.304	0.326	0.363	0.413	0.48	0.542		0.3805	23.6944	1.001
C	Ethylbenzene		0.541	0.546	0.515	0.556	0.559	0.628	0.722			0.5808	12.244	
T	m-,p-Xylene		0.677	0.666	0.631	0.672	0.683	0.74	0.8	0.704		0.6966	7.49879	
T	o-Xylene			0.635	0.63	0.648	0.659	0.698	0.763	0.802		0.6907	9.76299	
T	Styrene		1.018	1.033	0.999	1.083	1.118	1.195	1.273	1.201		1.1151	8.93255	
P	Bromoform			0.129	0.136	0.14	0.173	0.197	0.207	0.236		0.1739	23.4918	1.000
T	Isopropylbenzene		1.697	1.683	1.58	1.688	1.672	1.757	1.776	1.517		1.6711	5.13622	
I	1,4-Dichlorobenzene-d4	ISTD												
P	1,1,2,2-Tetrachloroethane		0.449	0.51	0.451	0.492	0.495	0.505	0.483	0.514		0.4873	5.14107	
S	p-Bromofluorobenzene				0.947	0.928	0.921	0.899	0.942	0.956	1.03	0.946	4.39688	
T	1,2,3-Trichloropropane			0.131	0.131	0.135	0.138	0.146	0.14	0.149		0.1387	5.09526	
T	trans-1,4-Dichloro-2-Butene			0.098	0.097	0.117	0.116	0.125	0.125	0.119	0.117	0.1143	9.45734	
T	n-Propylbenzene		4.01	3.885	3.661	3.908	3.753	3.8	3.622	2.819		3.6822	10.0999	
T	Bromobenzene	0.851	0.768	0.757	0.755	0.783	0.79	0.837	0.875	0.919		0.815	7.14151	
T	1,3,5-Trimethylbenzene		2.725	2.624	2.532	2.686	2.662	2.801	2.829	2.417		2.6595	5.12759	
T	2-Chlorotoluene		2.64	2.51	2.341	2.519	2.505	2.539	2.593	2.155		2.4751	6.29617	
T	4-Chlorotoluene		2.183	2.216	2.162	2.151	2.107	2.241	2.221	2.018		2.1623	3.34861	
T	a-Methylstyrene					1.37	1.407	1.493	1.584	1.552	1.514	1.4867	5.5986	
T	tert-Butylbenzene			0.531	0.54	0.556	0.549	0.595	0.646	0.694		0.5873	10.4863	
T	1,2,4-Trimethylbenzene		2.785	2.797	2.613	2.808	2.805	2.92	2.929	2.463		2.7649	5.63985	
T	sec-Butylbenzene			3.451	3.251	3.466	3.33	3.466	3.399	2.744		3.3012	7.81848	
T	p-Isopropyltoluene			2.668	2.562	2.751	2.717	2.871	2.905	2.455		2.7041	5.93081	
T	1,3-Dichlorobenzene		1.611	1.613	1.52	1.6	1.577	1.671	1.734	1.67		1.6245	4.04016	
T	1,4-Dichlorobenzene	1.768	1.634	1.651	1.54	1.572	1.56	1.651	1.703	1.647		1.6362	4.40361	
T	n-Butylbenzene			2.731	2.594	2.706	2.618	2.734	2.719	2.264		2.6236	6.41729	
T	1,2-Dichlorobenzene	1.417	1.362	1.414	1.333	1.376	1.38	1.468	1.496	1.494		1.4155	4.16177	
T	1,2-Dibromo-3-Chloropropane				0.068	0.066	0.077	0.082	0.079	0.085		0.0765	9.84774	
T	1,2,4-Trichlorobenzene		1.096	1.056	0.929	0.997	1.007	1.067	1.129	1.19		1.0587	7.74032	
T	Hexachlorobutadiene		0.539	0.533	0.478	0.493	0.469	0.503	0.544	0.582		0.5176	7.43716	
T	Naphthalene		1.385	1.388	1.295	1.341	1.404	1.5	1.427	1.446		1.3983	4.5068	
T	1,2,3-Trichlorobenzene	0.853	0.929	0.879	0.798	0.801	0.839	0.89	0.91	0.981		0.8755	6.84769	

Thu Mar 23 12:32:39 2017

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L17030724 Run Date: 03/21/2017 Sample ID: WG607066-12
Instrument ID: HPMS8 Run Time: 22:14 Method: 8260B
File ID: 8M418420 Analyst: TMB QC Key: DOD4
ICal Workgroup: WG607066 Cal ID: HPMS8 - 21-MAR-17

Analyte		Expected	Found	Units	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	48.5	ug/L	0.349	3.10	20	
Chloroform	CCC	50.0	46.3	ug/L	0.489	7.40	20	
Ethylbenzene	CCC	50.0	51.7	ug/L	0.601	3.50	20	
Toluene	CCC	50.0	48.4	ug/L	1.44	3.10	20	
Vinyl Chloride	CCC	50.0	42.7	ug/L	0.379	14.7	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	47.5	ug/L	0.462	5.10	20	
Chloromethane	SPCC	50.0	46.2	ug/L	0.439	7.60	20	
Bromoform	SPCC	50.0	48.4	ug/L	0.185	3.10	20	
Chlorobenzene	SPCC	50.0	48.7	ug/L	1.02	2.60	20	
1,1-Dichloroethane	SPCC	50.0	48.4	ug/L	0.441	3.20	20	
1,1,1-Trichloroethane		50.0	51.7	ug/L	0.449	3.30	20	
1,1,2-Trichloroethane		50.0	48.4	ug/L	0.227	3.30	20	
1,2-Dichloroethane		50.0	48.5	ug/L	0.290	2.90	20	
Acetone		50.0	47.4	ug/L	0.0284	5.20	20	
Benzene		50.0	48.8	ug/L	1.05	2.30	20	
Carbon Tetrachloride		50.0	52.7	ug/L	0.409	5.30	20	
Methylene Chloride		50.0	48.9	ug/L	0.269	2.20	20	
m-,p-Xylene		100	103	ug/L	0.716	2.80	20	
o-Xylene		50.0	48.9	ug/L	0.675	2.30	20	
Styrene		50.0	52.3	ug/L	1.17	4.70	20	
Tetrachloroethene		50.0	49.0	ug/L	0.316	2.00	20	
Trichloroethene		50.0	49.8	ug/L	0.286	0.500	20	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5214158
Report generated 03/28/2017 12:13

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17030724 Run Date: 03/22/2017 Sample ID: WG607284-02
Instrument ID: HPMS8 Run Time: 15:35 Method: 8260B
File ID: 8M418426 Analyst: ADC QC Key: DOD4
Workgroup (AAB#): WG607285 Cal ID: HPMS8 - 21-MAR-17
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,2-Dichloropropane	CCC	50.0	49.0	ug/L	0.243	1.97	20	
1,1-Dichloroethene	CCC	50.0	50.5	ug/L	0.364	0.970	20	
Chloroform	CCC	50.0	45.8	ug/L	0.484	8.45	20	
Ethylbenzene	CCC	50.0	54.7	ug/L	0.636	9.43	20	
Toluene	CCC	50.0	51.7	ug/L	1.54	3.33	20	
Vinyl Chloride	CCC	50.0	44.2	ug/L	0.403	11.5	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	46.5	ug/L	0.454	6.91	20	
Bromoform	SPCC	50.0	43.5	ug/L	0.189	13.0	20	
Chlorobenzene	SPCC	50.0	51.6	ug/L	1.08	3.16	20	
Chloromethane	SPCC	50.0	46.4	ug/L	0.441	7.12	20	
1,1-Dichloroethane	SPCC	50.0	49.7	ug/L	0.453	0.544	20	
Xylenes		150	159	ug/L	0.730	6.31	20	
1,1,1-Trichloroethane		50.0	51.4	ug/L	0.447	2.79	20	
1,1,2-Trichloroethane		50.0	48.0	ug/L	0.225	3.96	20	
1,2-Dichloroethane		50.0	47.0	ug/L	0.280	6.06	20	
Acetone		50.0	42.0	ug/L	0.0251	15.9	20	
Benzene		50.0	49.5	ug/L	1.06	1.04	20	
Carbon Tetrachloride		50.0	53.9	ug/L	0.419	7.73	20	
Methylene Chloride		50.0	47.9	ug/L	0.263	4.25	20	
m-,p-Xylene		100	108	ug/L	0.755	8.32	20	
o-Xylene		50.0	51.1	ug/L	0.706	2.27	20	
Styrene		50.0	53.9	ug/L	1.20	7.72	20	
Tetrachloroethene		50.0	52.0	ug/L	0.335	4.04	20	
Trichloroethene		50.0	50.3	ug/L	0.290	0.675	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 5214160
Report generated 03/28/2017 12:13

Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L17030724
Instrument ID: HPMS8
Workgroup (AAB#): WG607285

ICAL CCV Number: WG607066-08
CAL ID: HPMS8-21-MAR-17
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG607066-08	NA	NA	345493	635449	821515
Upper Limit	NA	NA	690986	1270898	1643030
Lower Limit	NA	NA	172747	317725	410758
L17030724-01	1.00	01	297993	567363	743547
L17030724-02	1.00	01	325778	610906	807925
WG607285-01	1.00	01	320672	606877	808239
WG607285-02	1.00	01	351670	640677	831556

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: 5216865
Report generated 03/28/2017 12:13

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L17030724
Instrument ID: HPMS8
Workgroup (AAB#): WG607285

ICAL CCV Number: WG607066-08
CAL ID: HPMS8 - 21-MAR-17
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG607066-08	NA	NA	17.83	14.81	10.94
Upper Limit	NA	NA	18.33	15.31	11.44
Lower Limit	NA	NA	17.33	14.31	10.44
L17030724-01	1.00	01	17.83	14.81	10.94
L17030724-02	1.00	01	17.82	14.8	10.94
WG607285-01	1.00	01	17.83	14.81	10.94
WG607285-02	1.00	01	17.82	14.8	10.94

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: 5216866
Report generated: 03/28/2017 12:13

2.1.1.3 Sample Data

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032217\8M418438.D Vial: 14
Acq On : 22 Mar 2017 21:55 Operator: ADC
Sample : L17030724-01 A 826-SPE Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 13:35:28 2017 Quant Results File: 8260WTR.RES

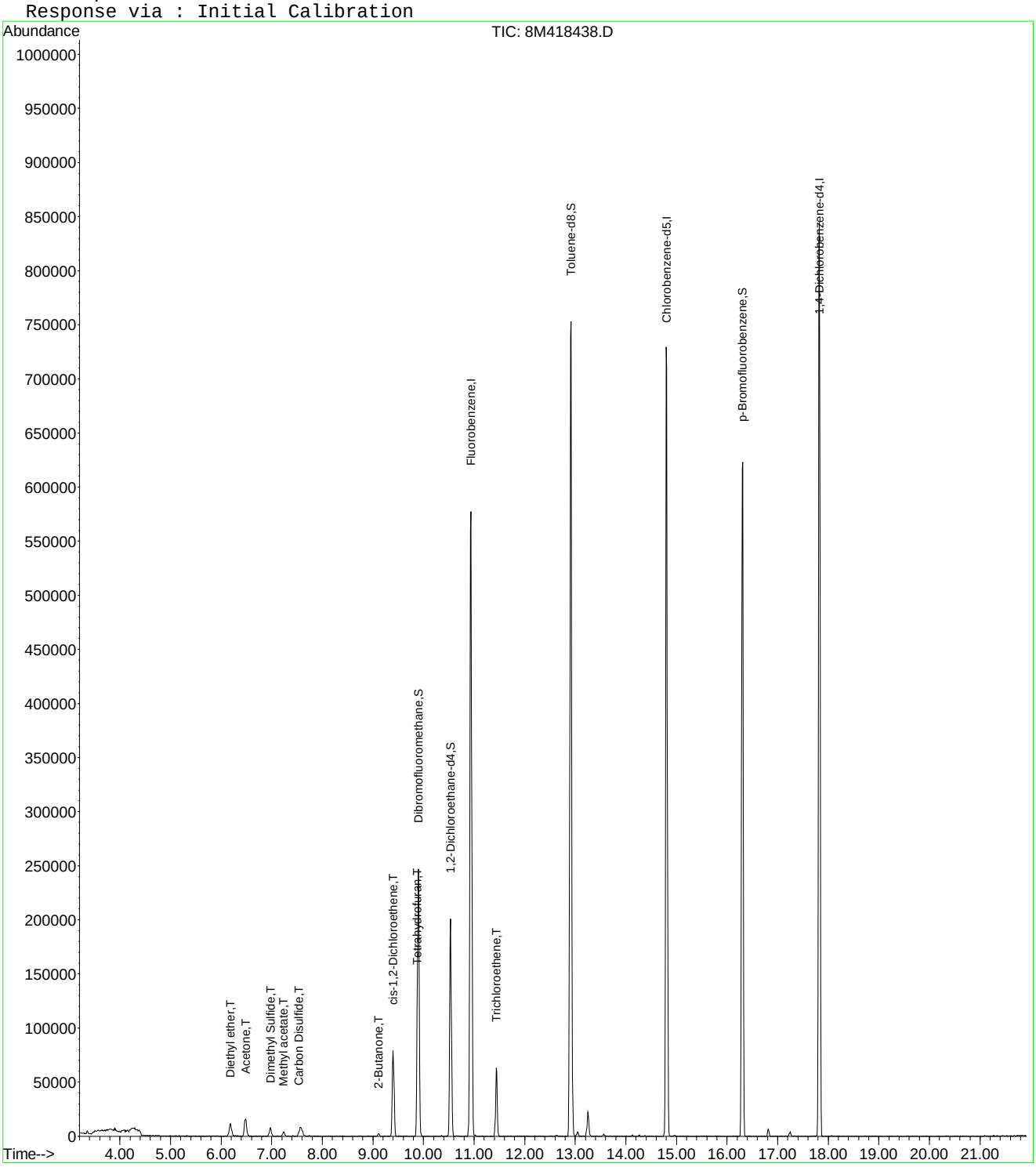
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

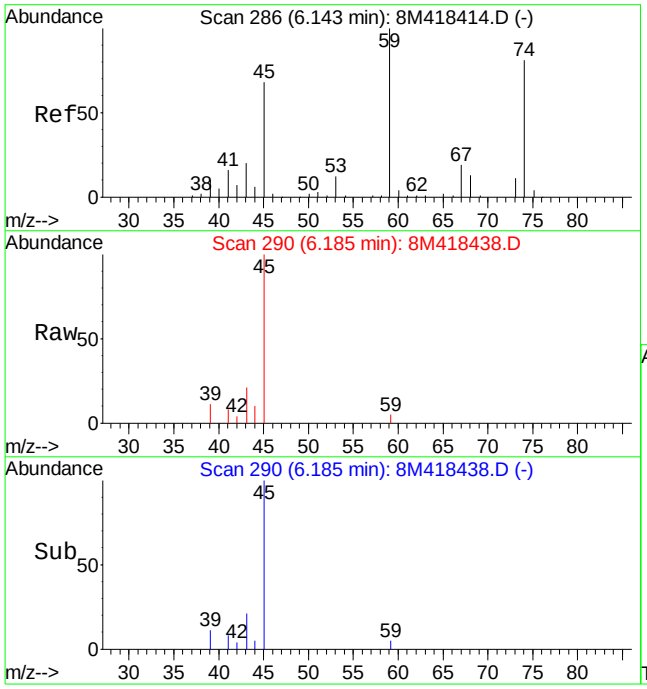
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.94	96	743547	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.81	117	567363	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.83	152	297993	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.90	111	202523	24.0160 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 96.08%		
43) 1,2-Dichloroethane-d4	10.54	65	175835	24.0610 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 96.24%		
58) Toluene-d8	12.92	98	718164	25.1636 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.64%		
80) p-Bromofluorobenzene	16.30	95	279959	24.8269 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.32%		
Target Compounds					Qvalue
9) Diethyl ether	6.18	59	830	0.1797 ug/L #	1
13) Acetone	6.48	43	32195	36.2068 ug/L	99
16) Dimethyl Sulfide	6.98	62	6880	0.9029 ug/L	94
18) Methyl acetate	7.23	43	7216	2.8379 ug/L #	92
20) Carbon Disulfide	7.54	76	5685	0.2328 ug/L #	74
29) 2-Butanone	9.11	43	3831	2.6740 ug/L	98
32) cis-1,2-Dichloroethene	9.40	96	49058	5.5609 ug/L	87
36) Tetrahydrofuran	9.88	42	448	0.4914 ug/L #	24
47) Trichloroethene	11.44	130	27323	3.1929 ug/L	99

(#) = qualifier out of range (m) = manual integration
8M418438.D 8260WTR.M Thu Mar 23 13:35:31 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032217\8M418438.D Vial: 14
Acq On : 22 Mar 2017 21:55 Operator: ADC
Sample : L17030724-01 A 826-SPE Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 13:35 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration

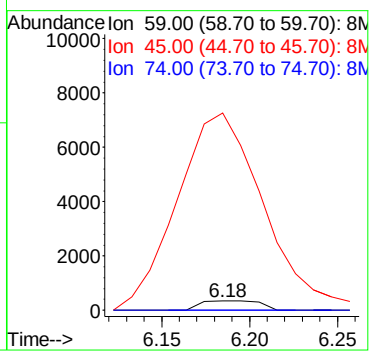


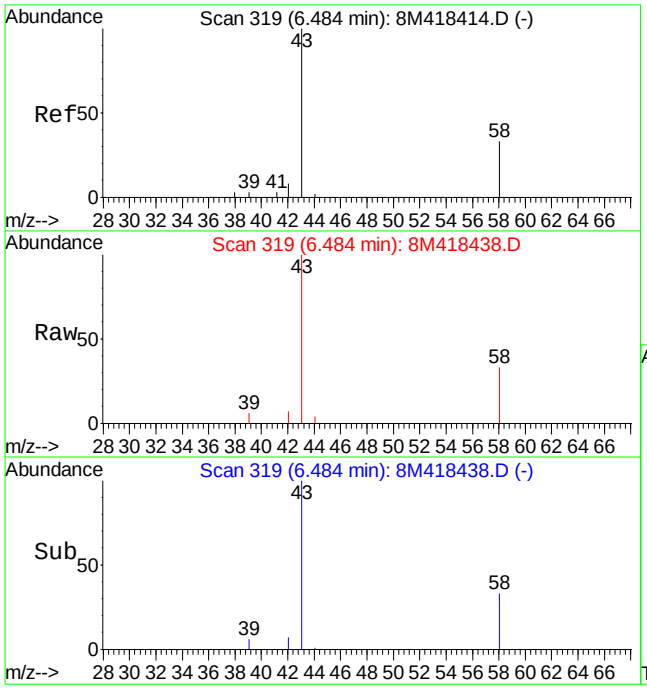


#9
Diethyl ether
Concen: 0.18 ug/L
RT: 6.18 min Scan# 290
Delta R.T. 0.04 min
Lab File: 8M418438.D
Acq: 22 Mar 2017 21:55

Tgt Ion: 59 Resp: 830

Ion	Ratio	Lower	Upper
59	100		
45	2998.6	40.4	94.4#
74	0.0	49.4	115.4#

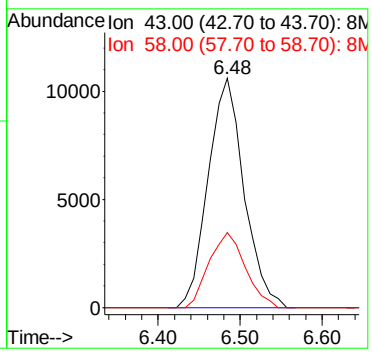


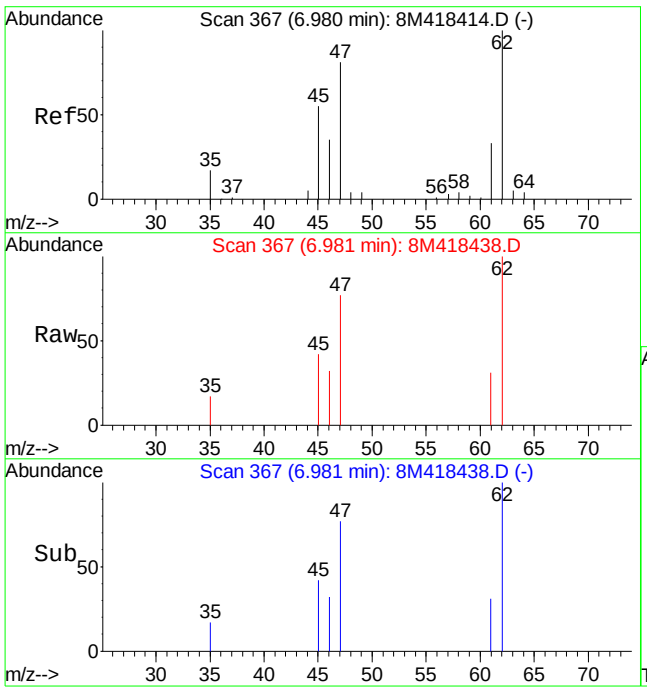


#13
Acetone
Concen: 36.21 ug/L
RT: 6.48 min Scan# 319
Delta R.T. 0.00 min
Lab File: 8M418438.D
Acq: 22 Mar 2017 21:55

Tgt Ion: 43 Resp: 32195

Ion	Ratio	Lower	Upper
43	100		
58	32.9	19.4	45.4

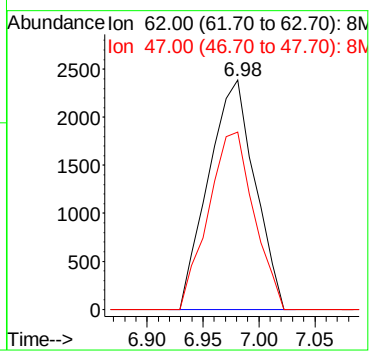


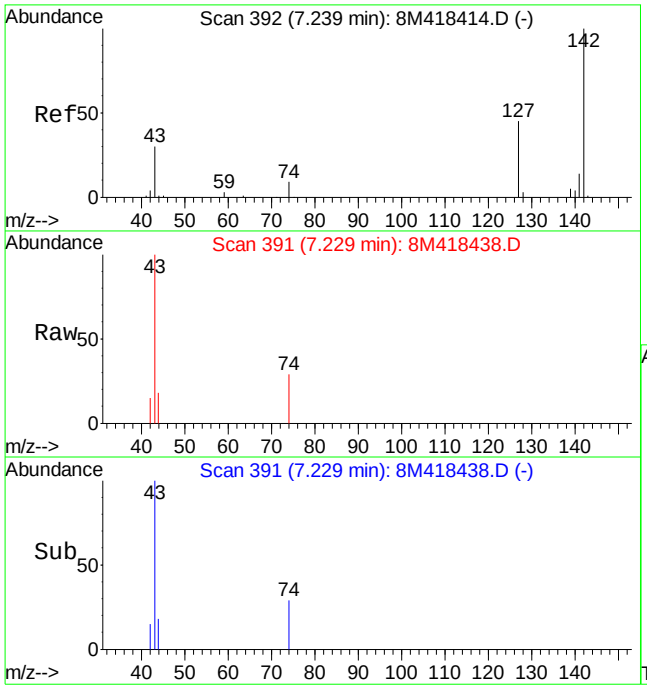


#16
Dimethyl Sulfide
Concen: 0.90 ug/L
RT: 6.98 min Scan# 367
Delta R.T. 0.00 min
Lab File: 8M418438.D
Acq: 22 Mar 2017 21:55

Tgt Ion: 62 Resp: 6880

Ion	Ratio	Lower	Upper
62	100		
47	76.0	49.0	114.4

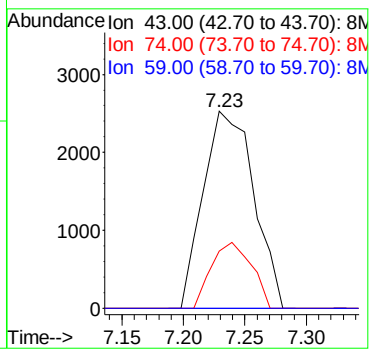


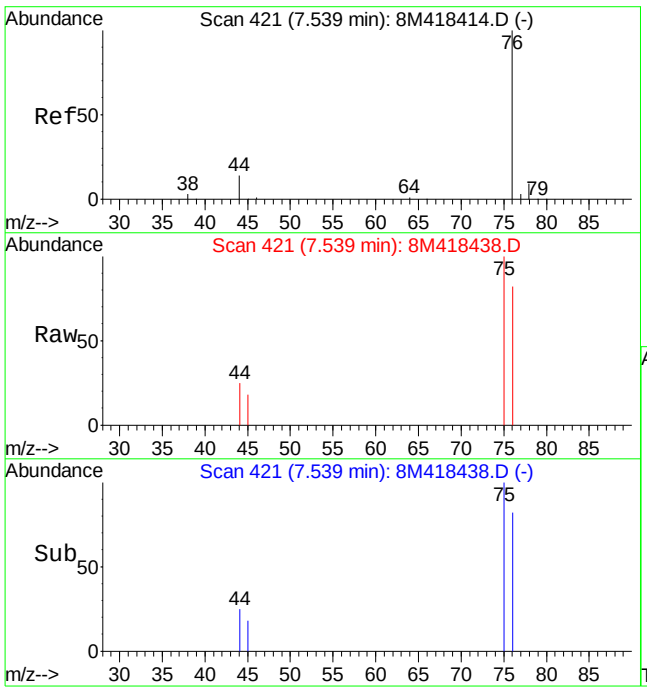


#18
Methyl acetate
Concen: 2.84 ug/L
RT: 7.23 min Scan# 391
Delta R.T. -0.01 min
Lab File: 8M418438.D
Acq: 22 Mar 2017 21:55

Tgt Ion: 43 Resp: 7216

Ion	Ratio	Lower	Upper
43	100		
74	26.8	17.0	39.6
59	0.0	5.4	12.6#

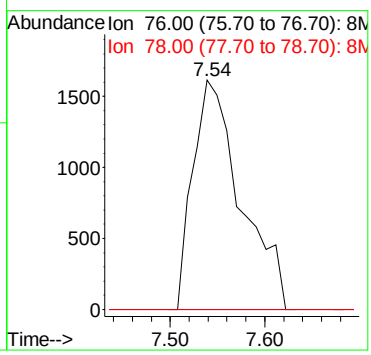


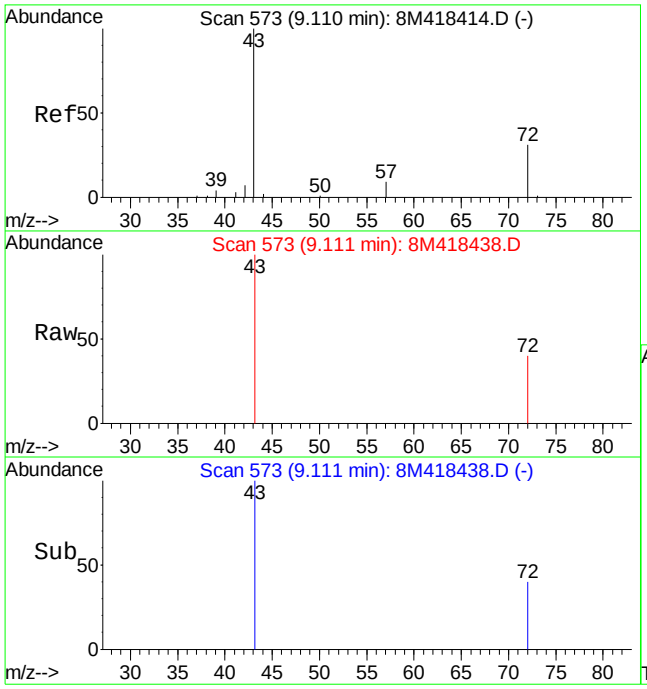


#20
Carbon Disulfide
Concen: 0.23 ug/L
RT: 7.54 min Scan# 421
Delta R.T. 0.00 min
Lab File: 8M418438.D
Acq: 22 Mar 2017 21:55

Tgt Ion: 76 Resp: 5685

Ion	Ratio	Lower	Upper
76	100		
78	0.0	5.6	13.0#

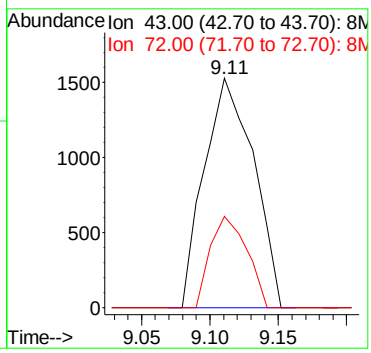


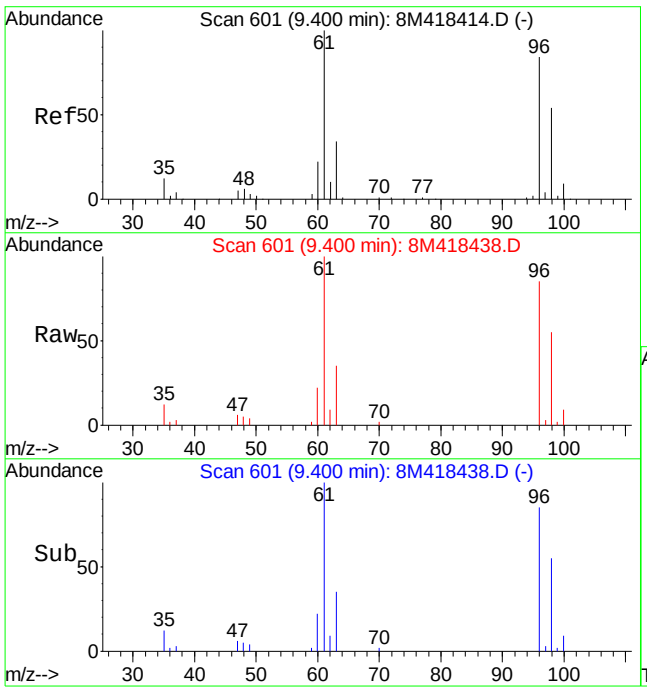


#29
2-Butanone
Concen: 2.67 ug/L
RT: 9.11 min Scan# 573
Delta R.T. 0.00 min
Lab File: 8M418438.D
Acq: 22 Mar 2017 21:55

Tgt Ion: 43 Resp: 3831

Ion	Ratio	Lower	Upper
43	100		
72	29.5	18.4	42.8

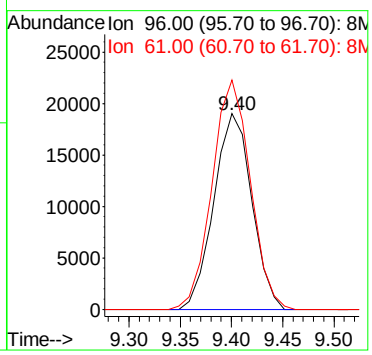


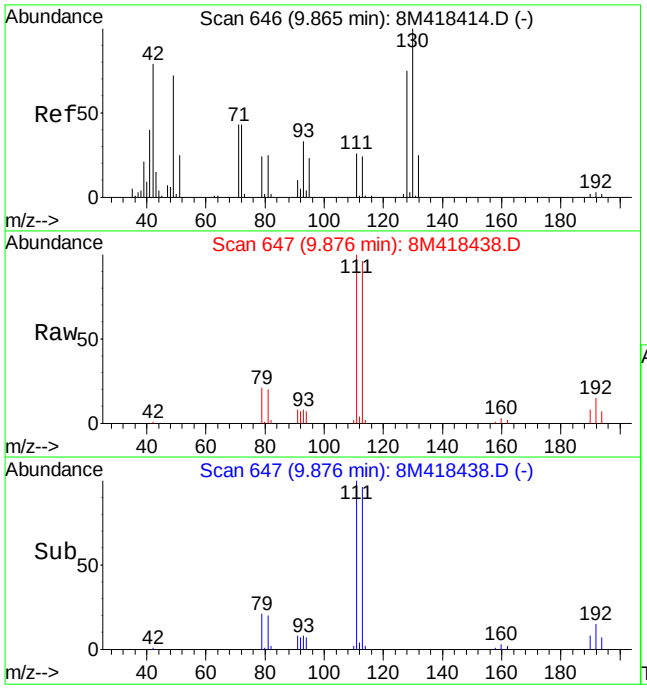


#32
cis-1,2-Dichloroethene
Concen: 5.56 ug/L
RT: 9.40 min Scan# 601
Delta R.T. 0.00 min
Lab File: 8M418438.D
Acq: 22 Mar 2017 21:55

Tgt Ion: 96 Resp: 49058

Ion	Ratio	Lower	Upper
96	100		
61	117.9	80.3	187.3

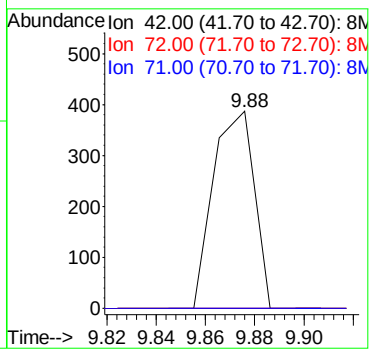


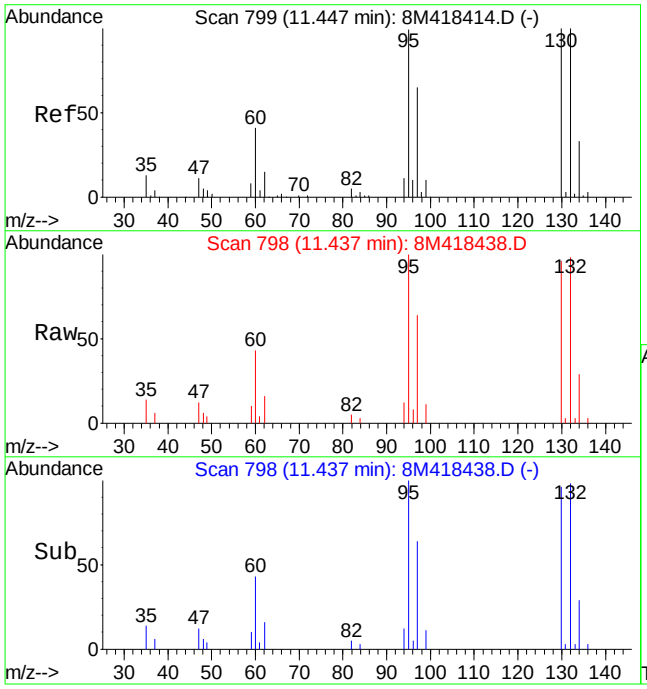


#36
Tetrahydrofuran
Concen: 0.49 ug/L
RT: 9.88 min Scan# 647
Delta R.T. 0.01 min
Lab File: 8M418438.D
Acq: 22 Mar 2017 21:55

Tgt Ion: 42 Resp: 448

Ion	Ratio	Lower	Upper
42	100		
72	0.0	32.9	76.9#
71	0.0	32.1	74.9#

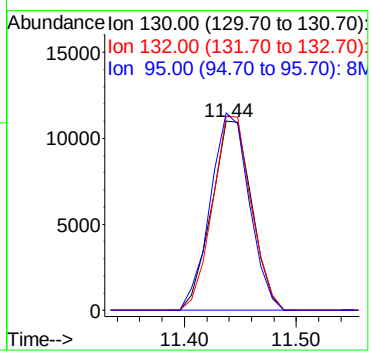




#47
Trichloroethene
Concen: 3.19 ug/L
RT: 11.44 min Scan# 798
Delta R.T. -0.01 min
Lab File: 8M418438.D
Acq: 22 Mar 2017 21:55

Tgt Ion:130 Resp: 27323

Ion	Ratio	Lower	Upper
130	100		
132	98.9	59.4	138.6
95	101.5	60.1	140.3



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032217\8M418432.D Vial: 8
Acq On : 22 Mar 2017 18:56 Operator: ADC
Sample : L17030724-02 A 826-SPE Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 13:34:48 2017 Quant Results File: 8260WTR.RES

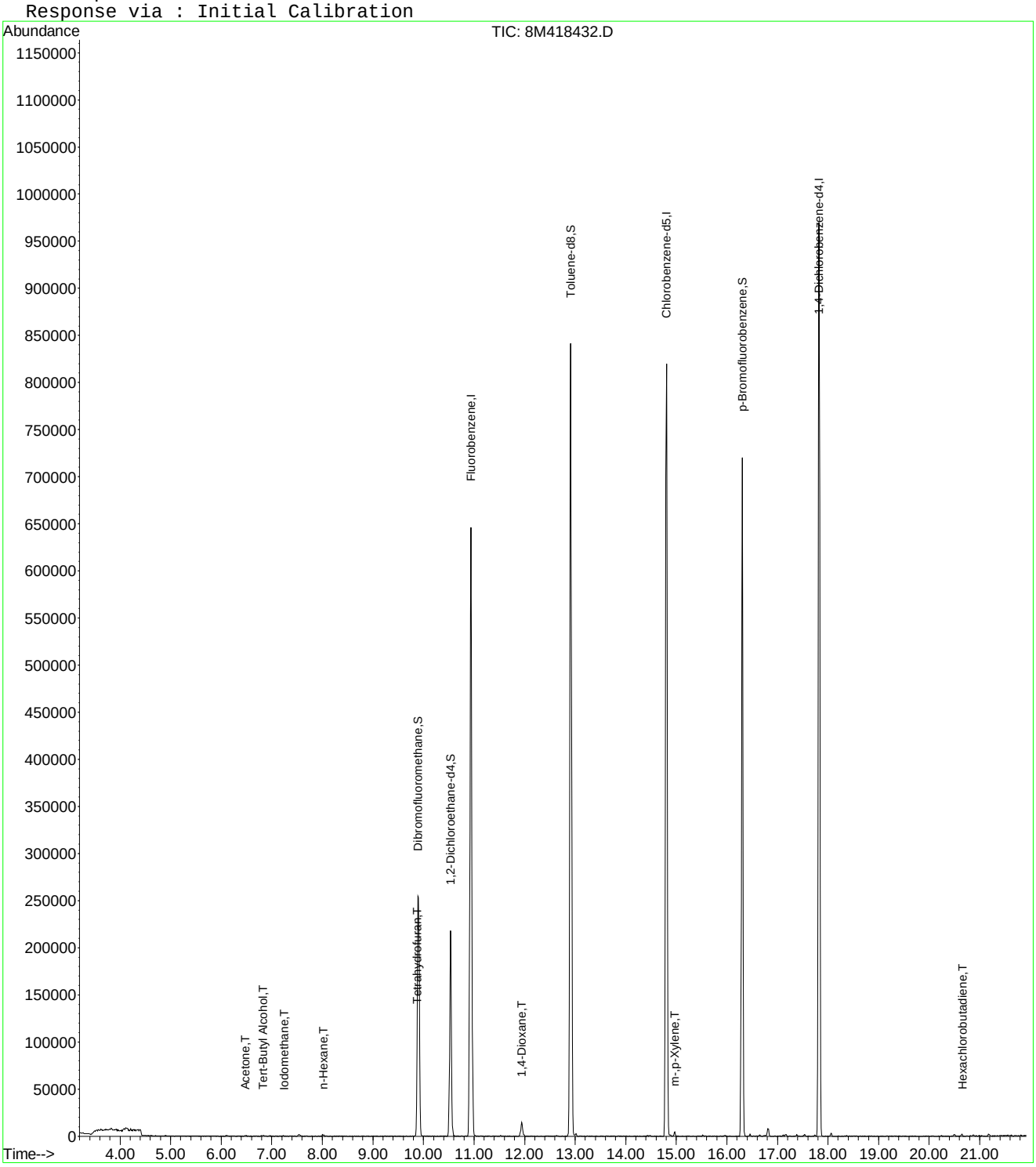
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

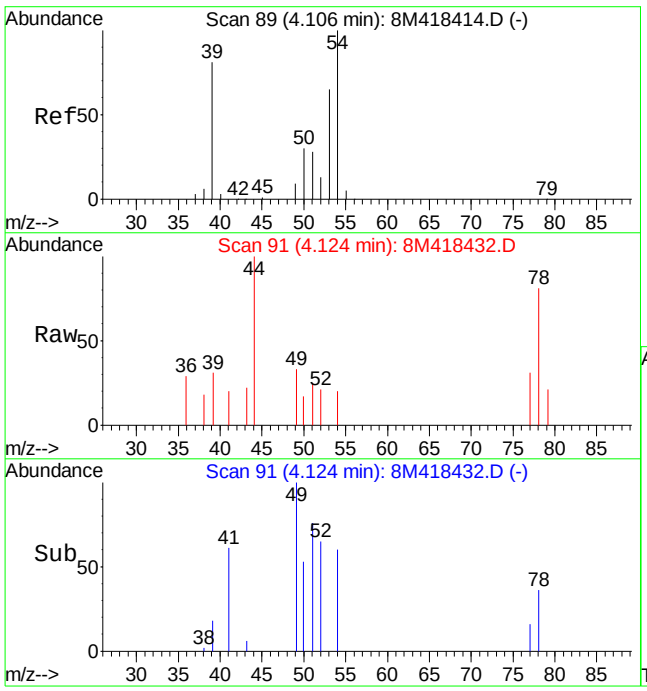
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.94	96	807925	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.80	117	610906	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.82	152	325778	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.89	111	219459	23.9506 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 95.80%		
43) 1,2-Dichloroethane-d4	10.53	65	190034	23.9319 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 95.72%		
58) Toluene-d8	12.91	98	776781	25.2775 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.12%		
80) p-Bromofluorobenzene	16.30	95	302006	24.4979 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 98.00%		
Target Compounds					Qvalue
5) 1,3-Butadiene	4.12	54	223	Below Cal	# 1
13) Acetone	6.48	43	380	0.3933 ug/L	# 42
15) Tert-Butyl Alcohol	6.82	59	1487	4.8355 ug/L	# 59
17) Iodomethane	7.25	142	816	0.5877 ug/L	# 31
24) n-Hexane	8.02	57	1254	0.1311 ug/L	# 66
36) Tetrahydrofuran	9.87	42	1566	1.5807 ug/L	# 70
51) 1,4-Dioxane	11.94	88	17347	451.4886 ug/L	88
73) m-,p-Xylene	14.97	106	2045	0.1201 ug/L	87
99) Hexachlorobutadiene	20.66	225	1064	0.1577 ug/L	# 59

(#) = qualifier out of range (m) = manual integration
8M418432.D 8260WTR.M Thu Mar 23 13:34:51 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032217\8M418432.D Vial: 8
Acq On : 22 Mar 2017 18:56 Operator: ADC
Sample : L17030724-02 A 826-SPE Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 13:34 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration

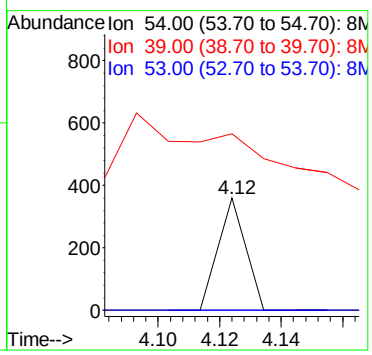


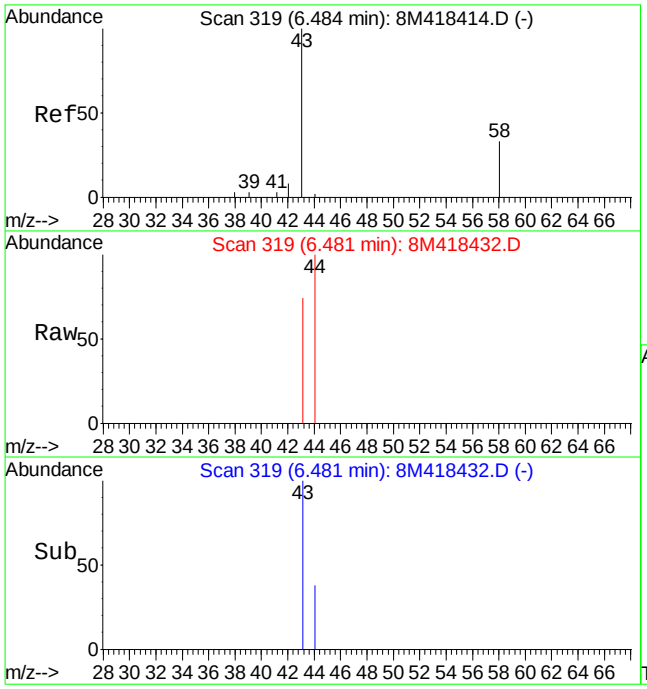


#5
1,3-Butadiene
Concen: Below Cal
RT: 4.12 min Scan# 91
Delta R.T. 0.02 min
Lab File: 8M418432.D
Acq: 22 Mar 2017 18:56

Tgt Ion: 54 Resp: 223

Ion	Ratio	Lower	Upper
54	100		
39	427.8	48.5	113.3#
53	0.0	39.3	91.7#

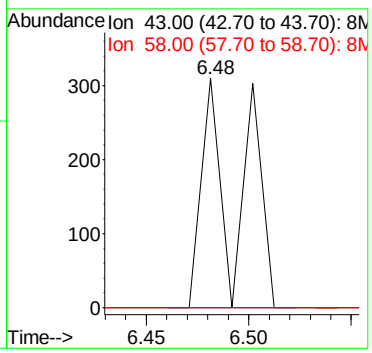


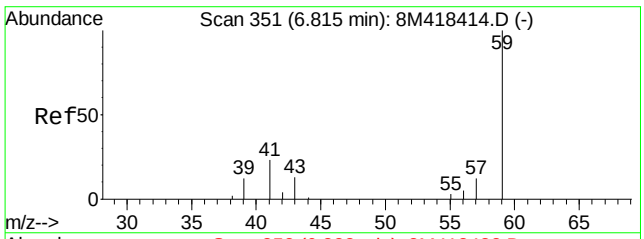


#13
Acetone
Concen: 0.39 ug/L
RT: 6.48 min Scan# 319
Delta R.T. -0.00 min
Lab File: 8M418432.D
Acq: 22 Mar 2017 18:56

Tgt Ion: 43 Resp: 380

Ion	Ratio	Lower	Upper
43	100		
58	0.0	19.4	45.4#

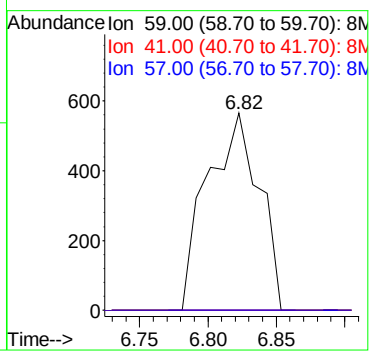


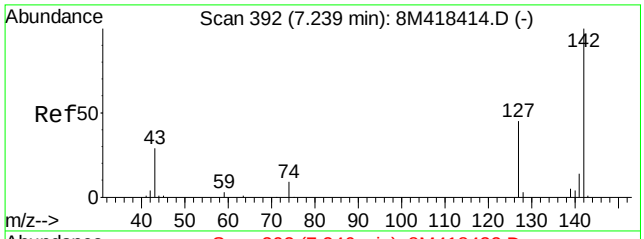


#15
Tert-Butyl Alcohol
Concen: 4.84 ug/L
RT: 6.82 min Scan# 352
Delta R.T. 0.01 min
Lab File: 8M418432.D
Acq: 22 Mar 2017 18:56

Tgt Ion: 59 Resp: 1487

Ion	Ratio	Lower	Upper
59	100		
41	0.0	14.0	32.6#
57	0.0	5.8	13.4#

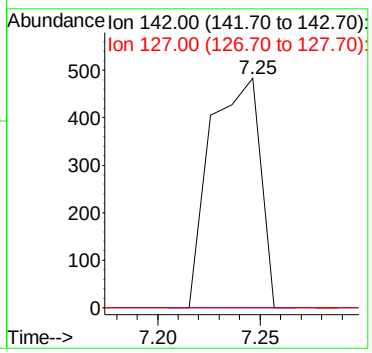


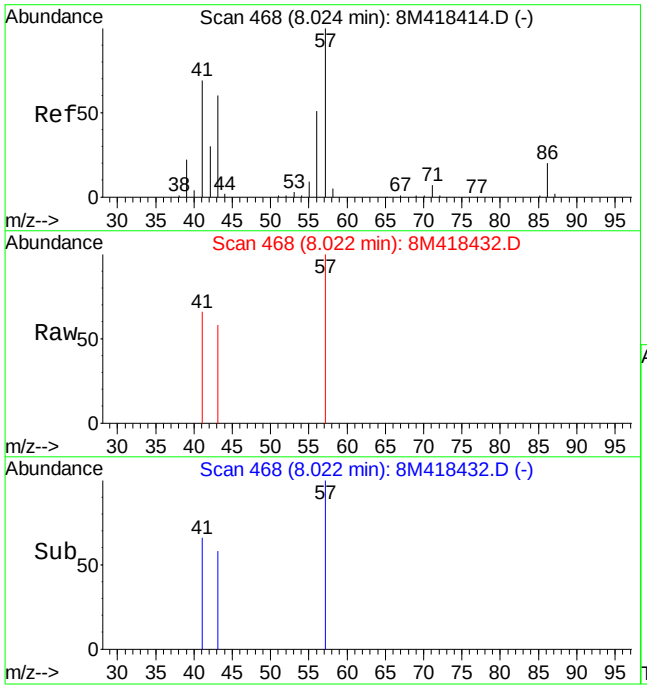


#17
Iodomethane
Concen: 0.59 ug/L
RT: 7.25 min Scan# 393
Delta R.T. 0.01 min
Lab File: 8M418432.D
Acq: 22 Mar 2017 18:56

Tgt Ion:142 Resp: 816

Ion	Ratio	Lower	Upper
142	100		
127	0.0	27.0	63.0#

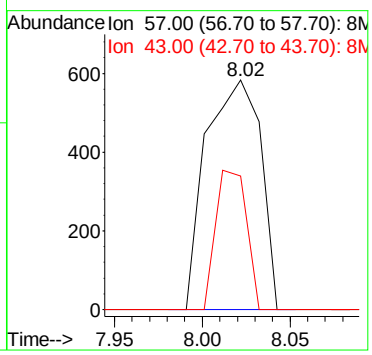


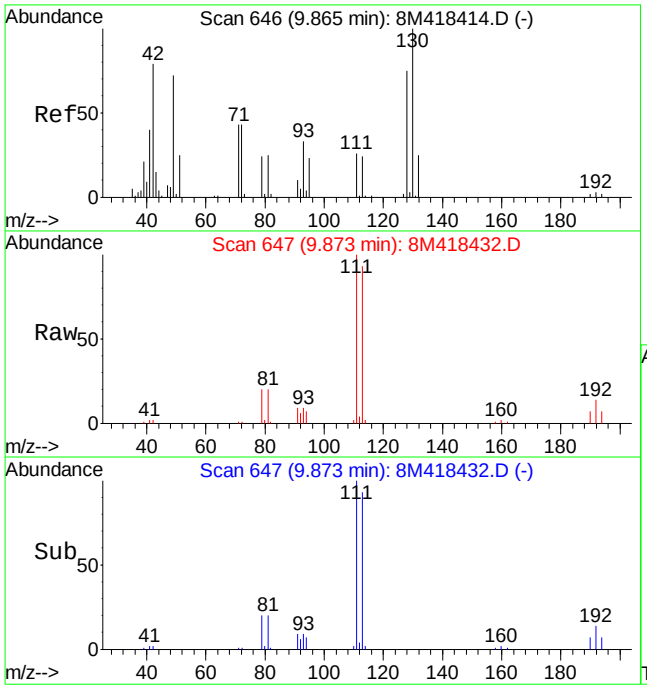


#24
n-Hexane
Concen: 0.13 ug/L
RT: 8.02 min Scan# 468
Delta R.T. -0.00 min
Lab File: 8M418432.D
Acq: 22 Mar 2017 18:56

Tgt Ion: 57 Resp: 1254

Ion	Ratio	Lower	Upper
57	100		
43	34.3	35.9	83.7#

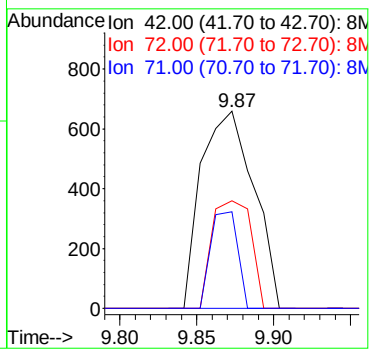


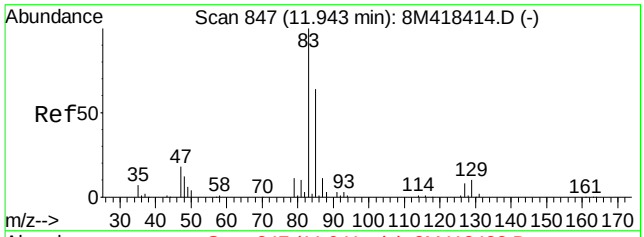


#36
Tetrahydrofuran
Concen: 1.58 ug/L
RT: 9.87 min Scan# 647
Delta R.T. 0.01 min
Lab File: 8M418432.D
Acq: 22 Mar 2017 18:56

Tgt Ion: 42 Resp: 1566

Ion	Ratio	Lower	Upper
42	100		
72	40.6	32.9	76.9
71	25.3	32.1	74.9#

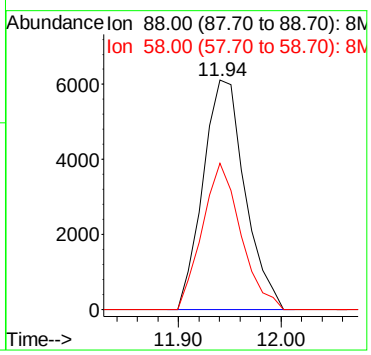


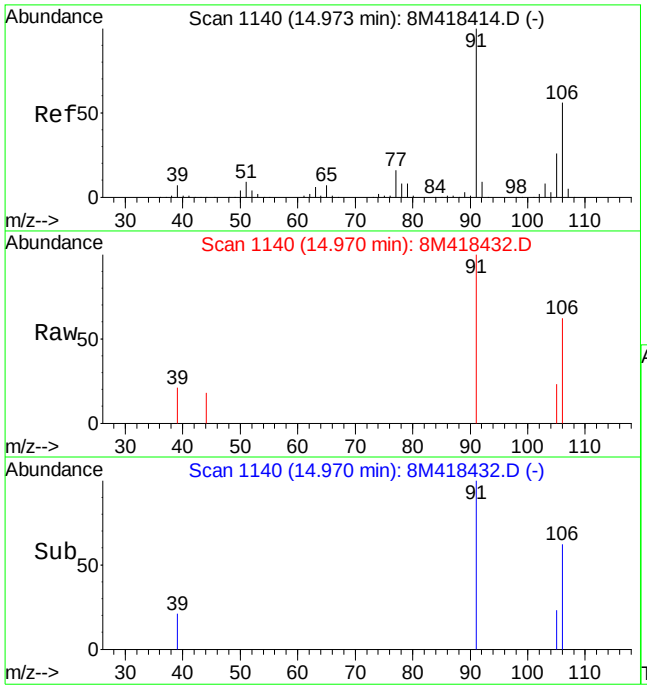


#51
1,4-Dioxane
Concen: 451.49 ug/L
RT: 11.94 min Scan# 847
Delta R.T. -0.00 min
Lab File: 8M418432.D
Acq: 22 Mar 2017 18:56

Tgt Ion: 88 Resp: 17347

Ion	Ratio	Lower	Upper
88	100		
58	58.5	30.0	70.0

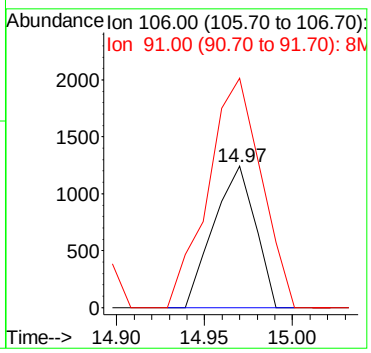


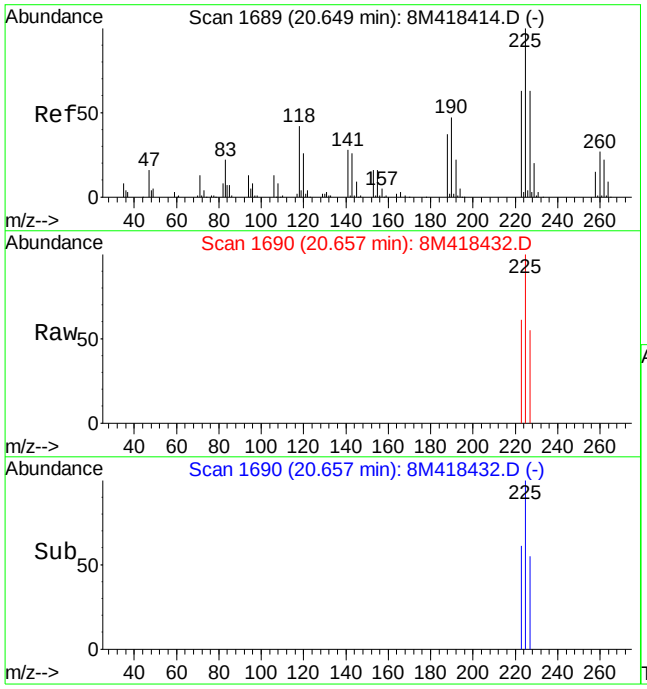


#73
m-,p-Xylene
Concen: 0.12 ug/L
RT: 14.97 min Scan# 1140
Delta R.T. -0.00 min
Lab File: 8M418432.D
Acq: 22 Mar 2017 18:56

Tgt Ion:106 Resp: 2045

Ion	Ratio	Lower	Upper
106	100		
91	207.8	113.4	264.6

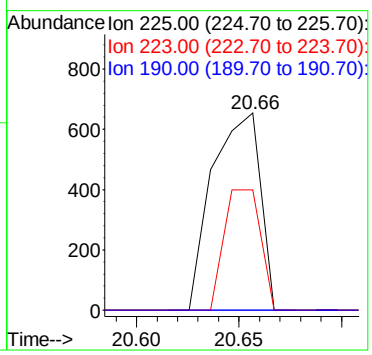




#99
Hexachlorobutadiene
Concen: 0.16 ug/L
RT: 20.66 min Scan# 1690
Delta R.T. 0.01 min
Lab File: 8M418432.D
Acq: 22 Mar 2017 18:56

Tgt Ion:225 Resp: 1064

Ion	Ratio	Lower	Upper
225	100		
223	46.6	37.3	87.1
190	0.0	27.4	64.0#



2.1.1.4 Standards Data

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416519.D Vial: 2
Acq On : 8 Dec 2016 9:19 Operator: TMB
Sample : WG594051-02 5ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 08 14:33:51 2016 Quant Results File: A9FOOWTR.RES

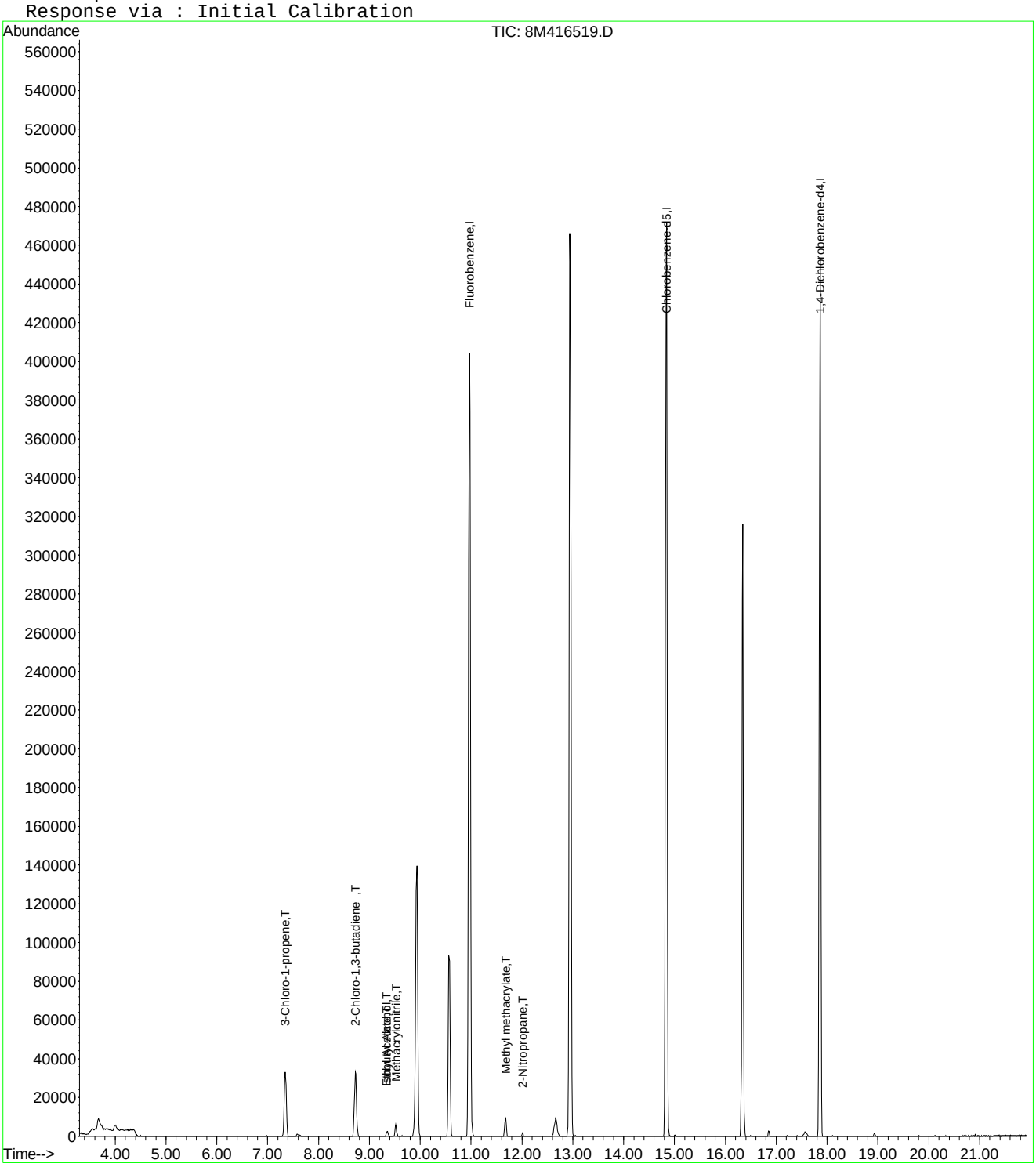
Quant Method : K:\ORGANICS\V...\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.97	96	524008	25.00	ug/L		0.00
11) Chlorobenzene-d5	14.84	117	364349	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	17.86	152	144698	25.00	ug/L		0.00
Target Compounds							Qvalue
3) 3-Chloro-1-propene	7.35	41	29881	4.9041	ug/L		96
4) 2-Chloro-1,3-butadiene	8.72	53	29557	4.4384	ug/L		94
5) Ethyl Acetate	9.34	43	5291	3.8864	ug/L	#	59
6) Methacrylonitrile	9.53	67	3339	3.7723	ug/L		88
7) Isobutyl Alcohol	9.34	43	5291	117.7955	ug/L	#	10
9) Methyl methacrylate	11.68	41	5754	4.0085	ug/L		90
10) 2-Nitropropane	12.01	43	1384	2.9662	ug/L		98

(#) = qualifier out of range (m) = manual integration
8M416519.D A9FOOWTR.M Thu Dec 08 14:33:52 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416519.D Vial: 2
Acq On : 8 Dec 2016 9:19 Operator: TMB
Sample : WG594051-02 5ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 8 14:33 2016 Quant Results File: A9FOOWTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416519.D Vial: 2
Acq On : 8 Dec 2016 9:19 Operator: TMB
Sample : WG594051-02 5ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 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	-1.0000	0.0000	0.0	0	-6.97#
3	T	3-Chloro-1-propene	5.0000	4.9041	1.9	100	0.00
4	T	2-Chloro-1,3-butadiene	5.0000	4.4384	11.2	100	0.00
5	T	Ethyl Acetate	-1.0000	3.8864	0.0	0	0.00
6	T	Methacrylonitrile	5.0000	3.7723	24.6	100	0.00
7	T	Isobutyl Alcohol	-1.0000	117.7955	0.0	0	-0.18
8	T	1-Butanol	-1.0000	0.0000	0.0	0	-10.45#
9	T	Methyl methacrylate	5.0000	4.0085	19.8	100	0.00
10	T	2-Nitropropane	-1.0000	2.9662	0.0	0	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	0.0000	0.0	0	-16.11#

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M416519.D A9FOOWTR.M Thu Dec 08 14:40:29 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416520.D Vial: 3
Acq On : 8 Dec 2016 9:48 Operator: TMB
Sample : WG594051-03 20ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 08 14:33:53 2016 Quant Results File: A9FOOWTR.RES

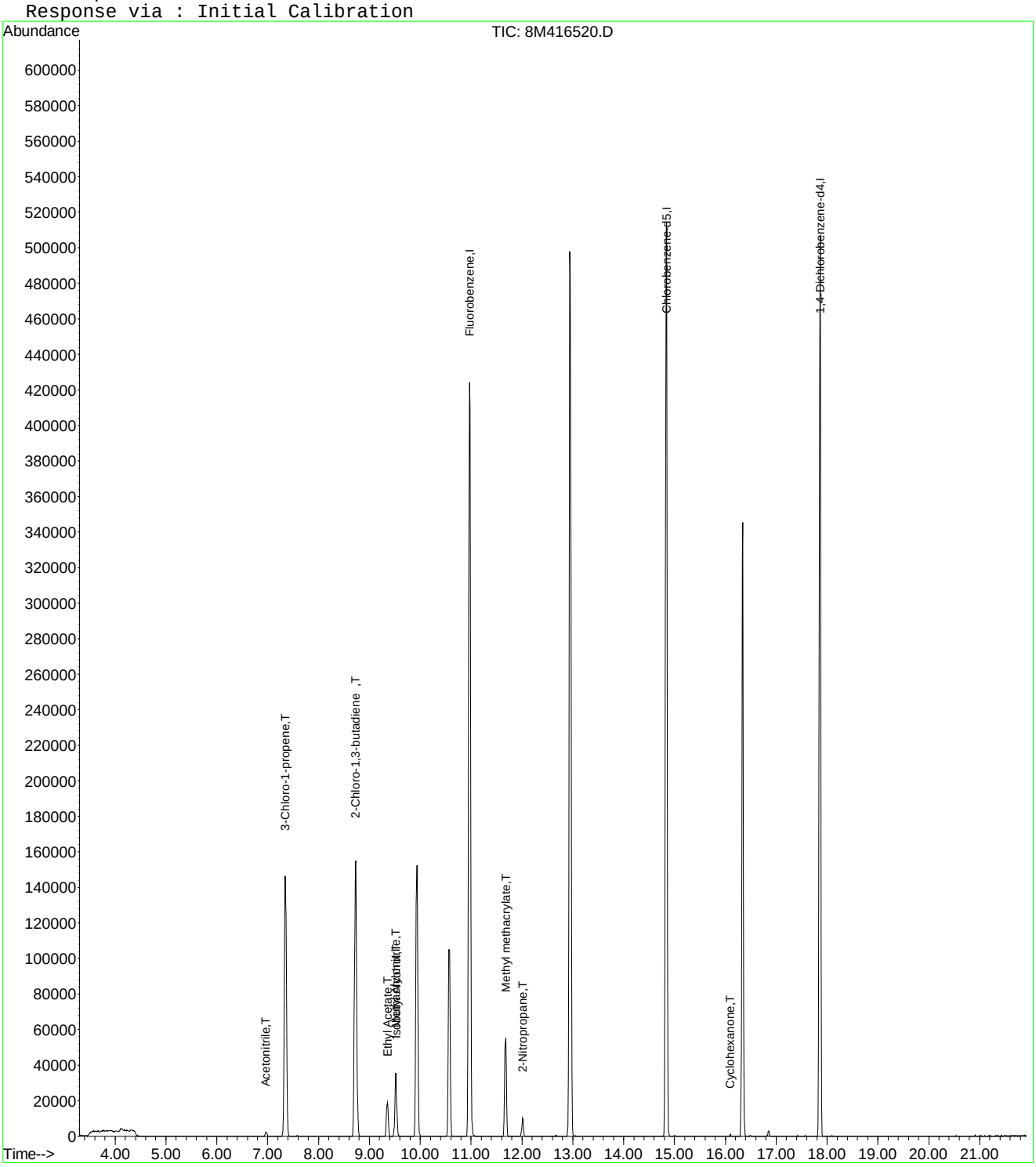
Quant Method : K:\ORGANICS\V...\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.97	96	562112	25.00	ug/L		0.00
11) Chlorobenzene-d5	14.84	117	401339	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	17.86	152	163574	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.96	41	3251	20.0530	ug/L		86
3) 3-Chloro-1-propene	7.35	41	126513	19.3558	ug/L		94
4) 2-Chloro-1,3-butadiene	8.72	53	133862	18.7385	ug/L		93
5) Ethyl Acetate	9.35	43	29216	20.0054	ug/L		96
6) Methacrylonitrile	9.52	67	18458	19.4399	ug/L		89
7) Isobutyl Alcohol	9.53	43	1383	28.7031	ug/L	#	86
9) Methyl methacrylate	11.68	41	30029	19.5014	ug/L		97
10) 2-Nitropropane	12.01	43	9171	18.3231	ug/L		92
13) Cyclohexanone	16.09	55	573	11.3348	ug/L	#	22

(#) = qualifier out of range (m) = manual integration
8M416520.D A9FOOWTR.M Thu Dec 08 14:33:55 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416520.D Vial: 3
Acq On : 8 Dec 2016 9:48 Operator: TMB
Sample : WG594051-03 20ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 8 14:33 2016 Quant Results File: A9FOOWTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416520.D Vial: 3
Acq On : 8 Dec 2016 9:48 Operator: TMB
Sample : WG594051-03 20ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 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	20.0530	-0.3	100	0.00
3	T	3-Chloro-1-propene	20.0000	19.3558	3.2	100	0.00
4	T	2-Chloro-1,3-butadiene	20.0000	18.7385	6.3	100	0.00
5	T	Ethyl Acetate	20.0000	20.0054	-0.0	100	0.00
6	T	Methacrylonitrile	20.0000	19.4399	2.8	100	0.00
7	T	Isobutyl Alcohol	-1.0000	28.7031	0.0	0	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	-10.45#
9	T	Methyl methacrylate	20.0000	19.5014	2.5	100	0.00
10	T	2-Nitropropane	20.0000	18.3231	8.4	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	11.3348	0.0	0	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M416520.D A9FOOWTR.M Thu Dec 08 14:40:47 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416521.D Vial: 4
Acq On : 8 Dec 2016 10:17 Operator: TMB
Sample : WG594051-04 50ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 08 14:33:56 2016 Quant Results File: A9FOOWTR.RES

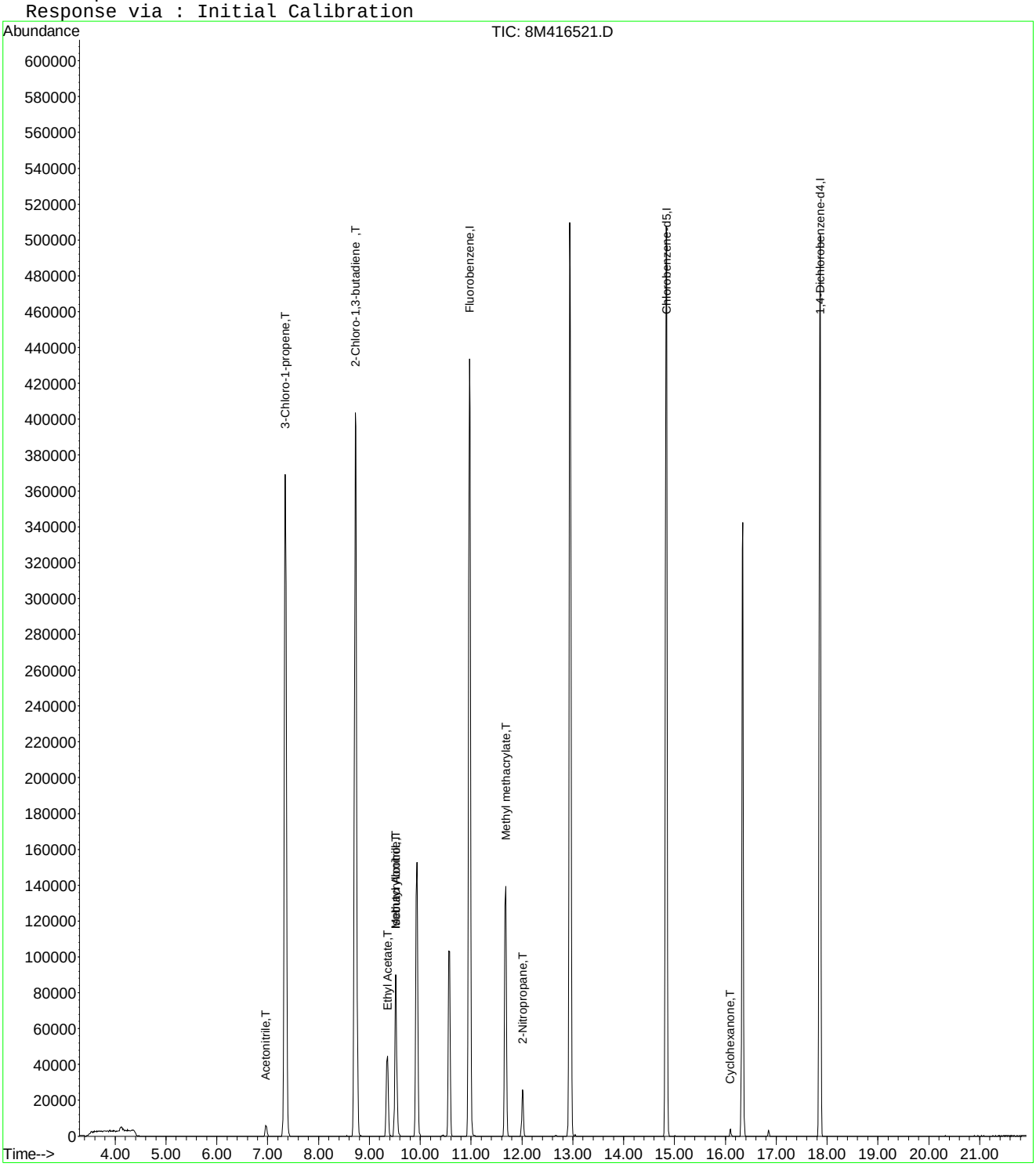
Quant Method : K:\ORGANICS\V...\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.97	96	564001	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.84	117	394560	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.86	152	164538	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.96	41	7864	48.3447	ug/L	100
3) 3-Chloro-1-propene	7.35	41	318087	48.5026	ug/L	96
4) 2-Chloro-1,3-butadiene	8.72	53	344272	48.0312	ug/L	93
5) Ethyl Acetate	9.35	43	70890	48.3788	ug/L	100
6) Methacrylonitrile	9.52	67	48404	50.8082	ug/L	93
7) Isobutyl Alcohol	9.52	43	4449	92.0262	ug/L #	94
9) Methyl methacrylate	11.68	41	76637	49.6027	ug/L	97
10) 2-Nitropropane	12.01	43	23103	46.0039	ug/L	95
13) Cyclohexanone	16.09	55	2163	42.5368	ug/L	98

(#) = qualifier out of range (m) = manual integration
8M416521.D A9FOOWTR.M Thu Dec 08 14:33:58 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416521.D Vial: 4
Acq On : 8 Dec 2016 10:17 Operator: TMB
Sample : WG594051-04 50ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 8 14:33 2016 Quant Results File: A9FOOWTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416521.D Vial: 4
Acq On : 8 Dec 2016 10:17 Operator: TMB
Sample : WG594051-04 50ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 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	48.3447	3.3	100	0.00
3	T	3-Chloro-1-propene	50.0000	48.5026	3.0	100	0.00
4	T	2-Chloro-1,3-butadiene	50.0000	48.0312	3.9	100	0.00
5	T	Ethyl Acetate	50.0000	48.3788	3.2	100	0.00
6	T	Methacrylonitrile	50.0000	50.8082	-1.6	100	0.00
7	T	Isobutyl Alcohol	100.0000	92.0262	8.0	100	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	-0.01
9	T	Methyl methacrylate	50.0000	49.6027	0.8	100	0.00
10	T	2-Nitropropane	50.0000	46.0039	8.0	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	50.0000	42.5368	14.9	100	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M416521.D A9FOOWTR.M Thu Dec 08 14:41:01 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416522.D Vial: 5
Acq On : 8 Dec 2016 10:47 Operator: TMB
Sample : WG594051-05 100ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 08 14:33:59 2016 Quant Results File: A9FOOWTR.RES

Quant Method : K:\ORGANICS\V...\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

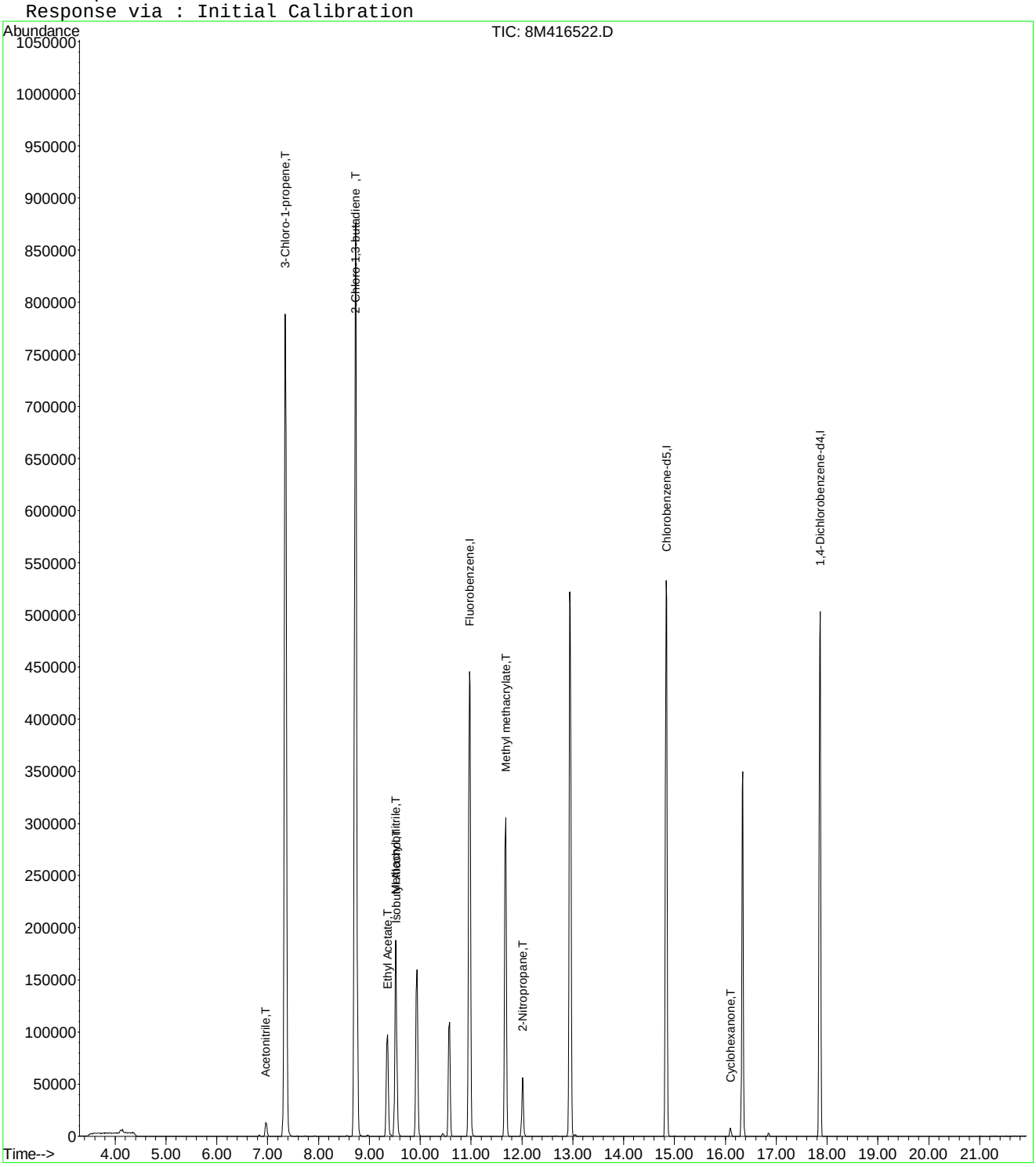
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.97	96	591526	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.84	117	415270	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.86	152	167978	25.00	ug/L	0.00

Target Compounds						Qvalue
2) Acetonitrile	6.97	41	17844	104.5933	ug/L	96
3) 3-Chloro-1-propene	7.35	41	676105	98.2967	ug/L	97
4) 2-Chloro-1,3-butadiene	8.72	53	745903	99.2224	ug/L	94
5) Ethyl Acetate	9.35	43	151658	98.6828	ug/L	100
6) Methacrylonitrile	9.52	67	101361	101.4448	ug/L	99
7) Isobutyl Alcohol	9.53	43	10092	199.0363	ug/L	96
9) Methyl methacrylate	11.68	41	163688	101.0159	ug/L	97
10) 2-Nitropropane	12.01	43	50322	95.5410	ug/L	95
13) Cyclohexanone	16.11	55	5170	99.5894	ug/L	97

(#) = qualifier out of range (m) = manual integration
8M416522.D A9FOOWTR.M Thu Dec 08 14:34:01 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416522.D Vial: 5
Acq On : 8 Dec 2016 10:47 Operator: TMB
Sample : WG594051-05 100ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 8 14:33 2016 Quant Results File: A9FOOWTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416522.D Vial: 5
Acq On : 8 Dec 2016 10:47 Operator: TMB
Sample : WG594051-05 100ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 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	100.0000	104.5933	-4.6	100	0.00
3	T	3-Chloro-1-propene	100.0000	98.2967	1.7	100	0.00
4	T	2-Chloro-1,3-butadiene	100.0000	99.2224	0.8	100	0.00
5	T	Ethyl Acetate	100.0000	98.6828	1.3	100	0.00
6	T	Methacrylonitrile	100.0000	101.4448	-1.4	100	0.00
7	T	Isobutyl Alcohol	200.0000	199.0363	0.5	100	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	0.00
9	T	Methyl methacrylate	100.0000	101.0159	-1.0	100	0.00
10	T	2-Nitropropane	100.0000	95.5410	4.5	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	100.0000	99.5894	0.4	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M416522.D A9FOOWTR.M Thu Dec 08 14:41:12 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416523.D Vial: 6
Acq On : 8 Dec 2016 11:16 Operator: TMB
Sample : WG594051-06 200ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 08 14:34:02 2016 Quant Results File: A9FOOWTR.RES

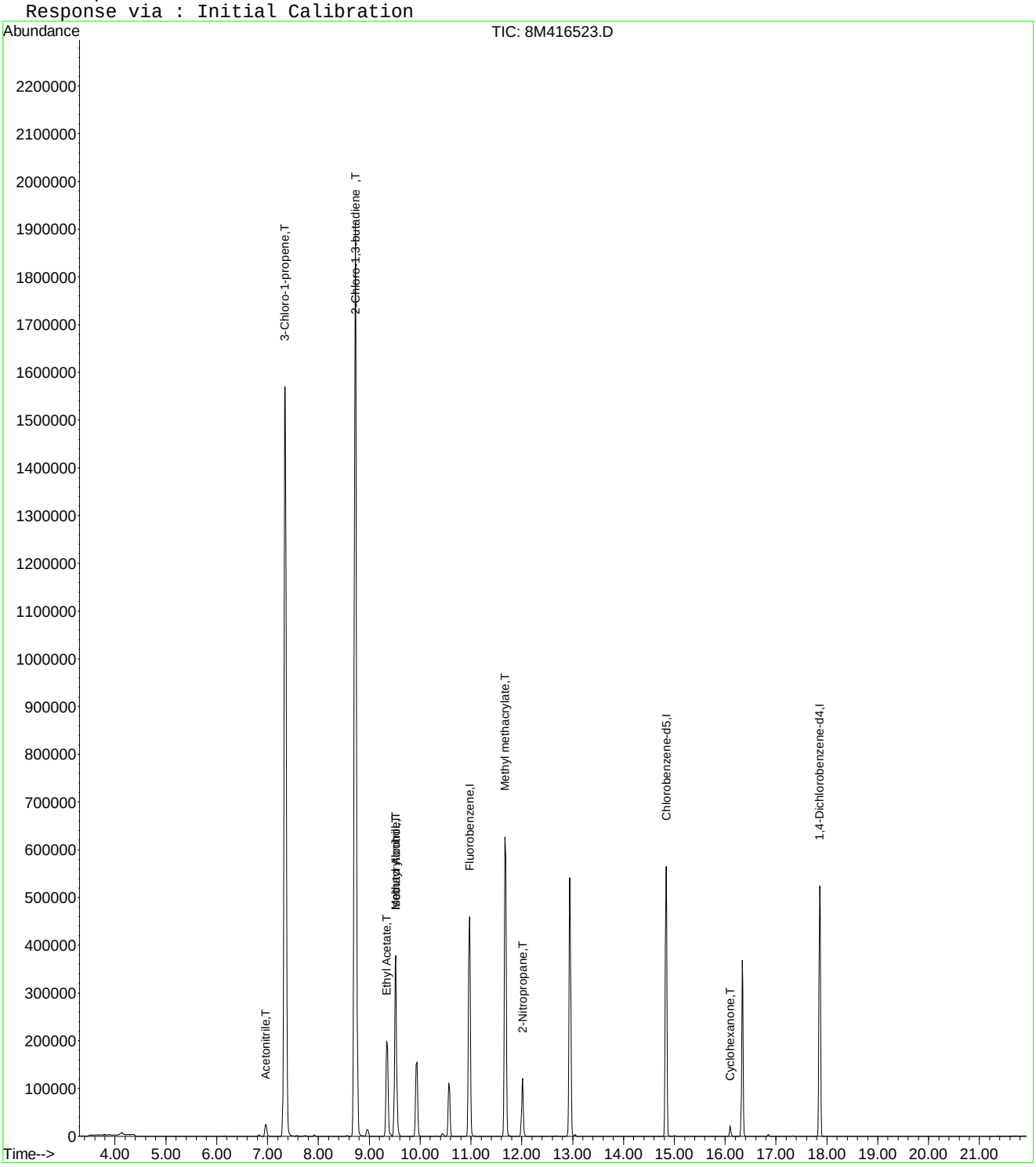
Quant Method : K:\ORGANICS\V...\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.97	96	594977	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.84	117	420464	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.85	152	172604	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.97	41	34536	201.2600	ug/L	98
3) 3-Chloro-1-propene	7.34	41	1382110	199.7750	ug/L	97
4) 2-Chloro-1,3-butadiene	8.73	53	1548323	204.7683	ug/L	96
5) Ethyl Acetate	9.35	43	311769	201.6892	ug/L	100
6) Methacrylonitrile	9.52	67	209671	208.6271	ug/L	99
7) Isobutyl Alcohol	9.52	43	19754	387.3323	ug/L	94
9) Methyl methacrylate	11.67	41	335849	206.0586	ug/L	99
10) 2-Nitropropane	12.01	43	108018	203.8928	ug/L	98
13) Cyclohexanone	16.10	55	10760	201.7141	ug/L	97

(#) = qualifier out of range (m) = manual integration
8M416523.D A9FOOWTR.M Thu Dec 08 14:34:03 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416523.D Vial: 6
Acq On : 8 Dec 2016 11:16 Operator: TMB
Sample : WG594051-06 200ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 8 14:34 2016 Quant Results File: A9FOOWTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416524.D Vial: 7
Acq On : 8 Dec 2016 11:46 Operator: TMB
Sample : WG594051-07 300ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 08 14:34:05 2016 Quant Results File: A9FOOWTR.RES

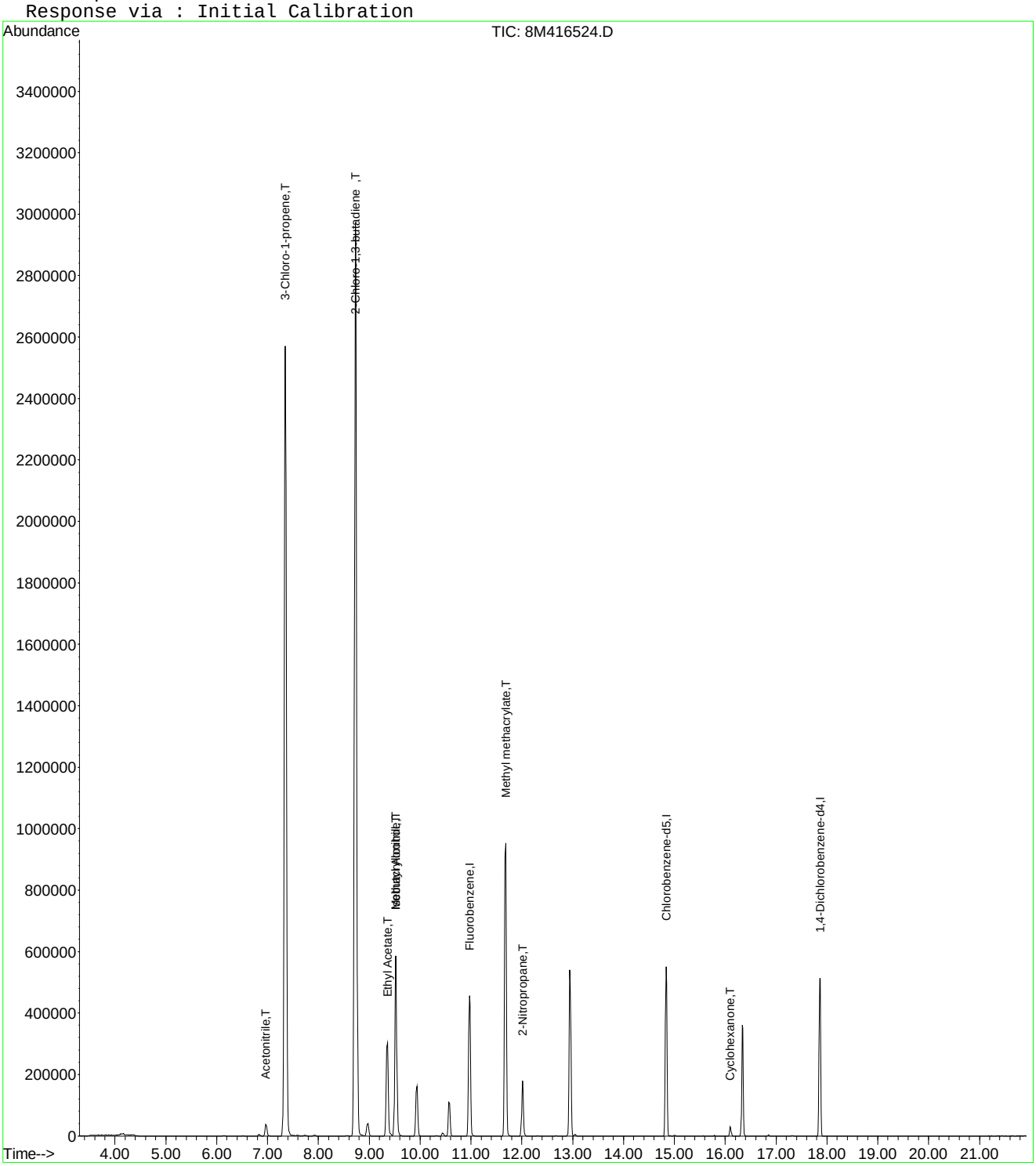
Quant Method : K:\ORGANICS\V...\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.97	96	603930	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.84	117	427693	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.86	152	174680	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.97	41	50936	292.4312	ug/L	98
3) 3-Chloro-1-propene	7.35	41	2157997	307.3002	ug/L	98
4) 2-Chloro-1,3-butadiene	8.72	53	2431028	316.7413	ug/L	97
5) Ethyl Acetate	9.36	43	465757	296.8402	ug/L	100
6) Methacrylonitrile	9.52	67	317606	311.3398	ug/L	99
7) Isobutyl Alcohol	9.52	43	31446	607.4460	ug/L	97
9) Methyl methacrylate	11.68	41	510372	308.4942	ug/L	99
10) 2-Nitropropane	12.01	43	166198	309.0616	ug/L	100
13) Cyclohexanone	16.10	55	16564	306.8294	ug/L	99

(#) = qualifier out of range (m) = manual integration
8M416524.D A9FOOWTR.M Thu Dec 08 14:34:06 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416524.D Vial: 7
Acq On : 8 Dec 2016 11:46 Operator: TMB
Sample : WG594051-07 300ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 8 14:34 2016 Quant Results File: A9FOOWTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416525.D Vial: 8
Acq On : 8 Dec 2016 12:16 Operator: TMB
Sample : WG594051-08 400ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 08 14:34:08 2016 Quant Results File: A9FOOWTR.RES

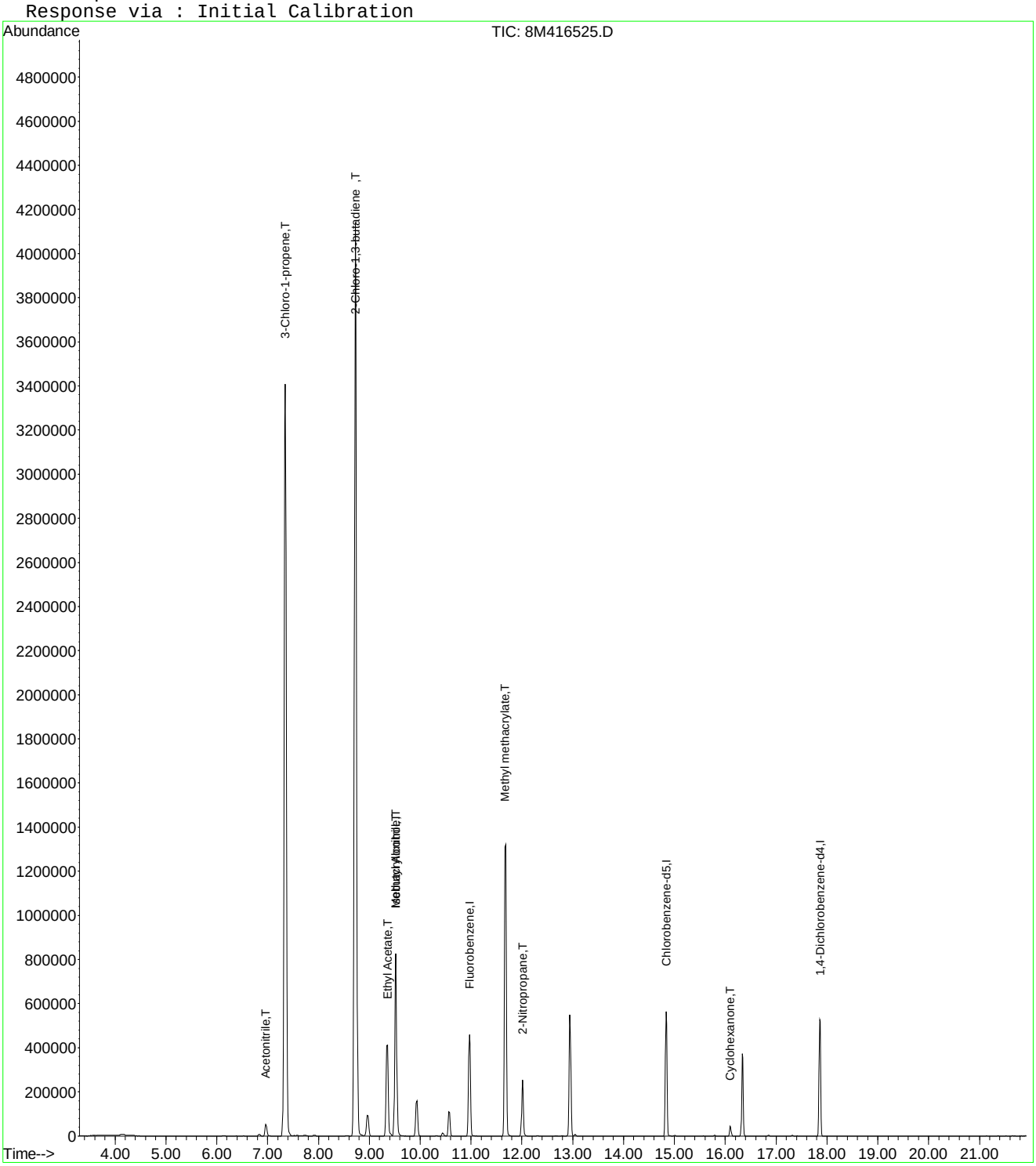
Quant Method : K:\ORGANICS\V...\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.97	96	605694	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.83	117	430760	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.86	152	180284	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.97	41	71198	407.5680	ug/L	99
3) 3-Chloro-1-propene	7.35	41	2884846	409.6076	ug/L	99
4) 2-Chloro-1,3-butadiene	8.72	53	3270965	424.9364	ug/L	98
5) Ethyl Acetate	9.35	43	647926	411.7391	ug/L	100
6) Methacrylonitrile	9.52	67	444486	434.4476	ug/L	100
7) Isobutyl Alcohol	9.52	43	45941	884.8630	ug/L	99
9) Methyl methacrylate	11.67	41	717453	432.4013	ug/L	100
10) 2-Nitropropane	12.01	43	236171	437.9042	ug/L	98
13) Cyclohexanone	16.10	55	23842	427.9179	ug/L	97

(#) = qualifier out of range (m) = manual integration
8M416525.D A9FOOWTR.M Thu Dec 08 14:34:09 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416525.D Vial: 8
Acq On : 8 Dec 2016 12:16 Operator: TMB
Sample : WG594051-08 400ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 8 14:34 2016 Quant Results File: A9FOOWTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416526.D Vial: 9
Acq On : 8 Dec 2016 12:45 Operator: TMB
Sample : WG594051-09 500ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 08 14:34:10 2016 Quant Results File: A9FOOWTR.RES

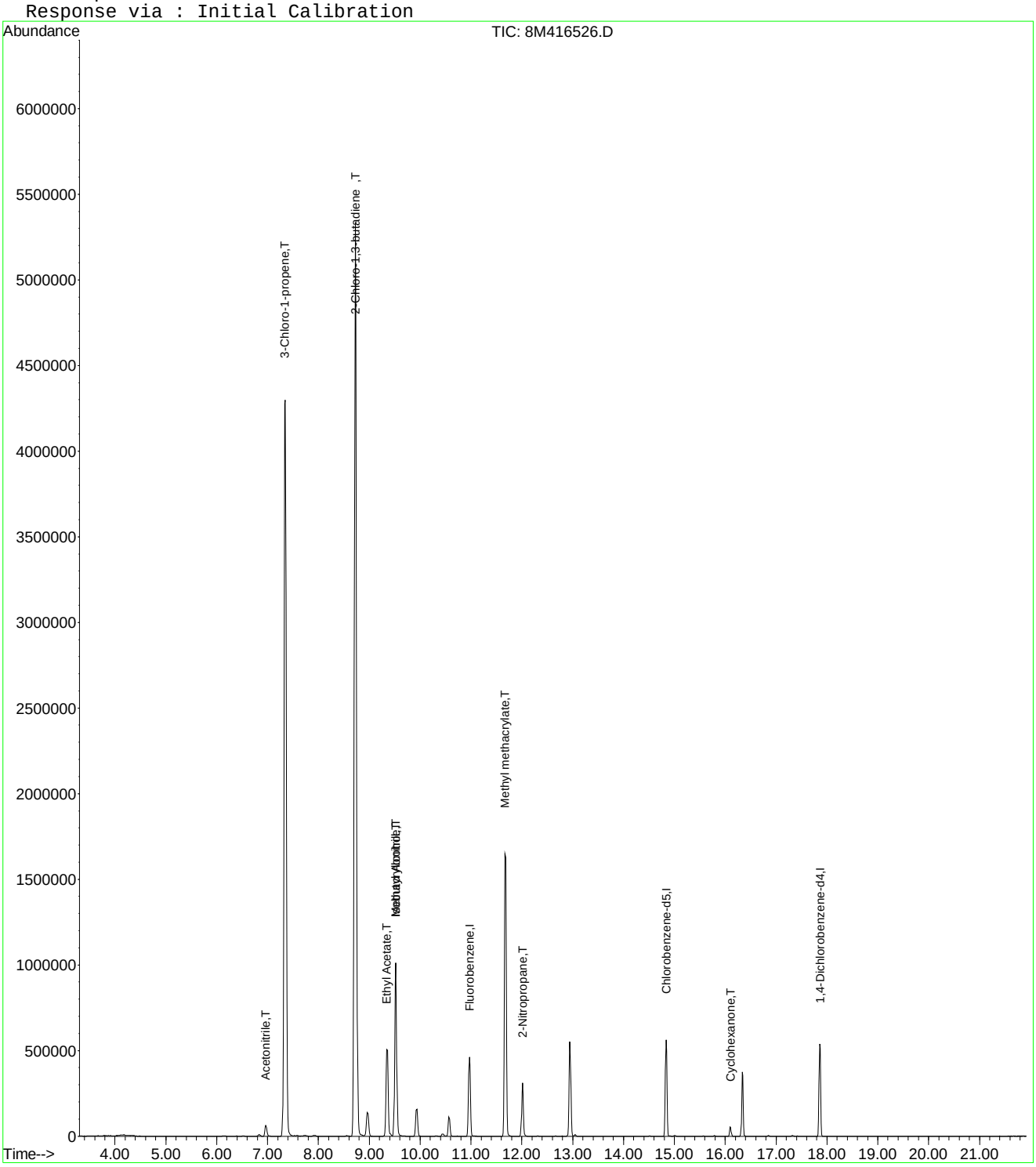
Quant Method : K:\ORGANICS\V...\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.97	96	602709	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.84	117	431889	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.86	152	183338	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.97	41	85570	492.2655	ug/L	100
3) 3-Chloro-1-propene	7.34	41	3683366	525.5763	ug/L	100
4) 2-Chloro-1,3-butadiene	8.72	53	4138456	540.2962	ug/L	100
5) Ethyl Acetate	9.35	43	797081	509.0316	ug/L	100
6) Methacrylonitrile	9.52	67	547652	537.9348	ug/L	100
7) Isobutyl Alcohol	9.52	43	51546	997.7372	ug/L	100
9) Methyl methacrylate	11.67	41	892736	540.7072	ug/L	100
10) 2-Nitropropane	12.01	43	285485	531.9631	ug/L	100
13) Cyclohexanone	16.11	55	29810	526.1195	ug/L	100

(#) = qualifier out of range (m) = manual integration
8M416526.D A9FOOWTR.M Thu Dec 08 14:34:12 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416526.D Vial: 9
Acq On : 8 Dec 2016 12:45 Operator: TMB
Sample : WG594051-09 500ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 8 14:34 2016 Quant Results File: A9FOOWTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416529.D Vial: 12
Acq On : 8 Dec 2016 14:12 Operator: TMB
Sample : WG594051-09 100ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79186 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 08 15:03:45 2016 Quant Results File: A9FOOWTR.RES

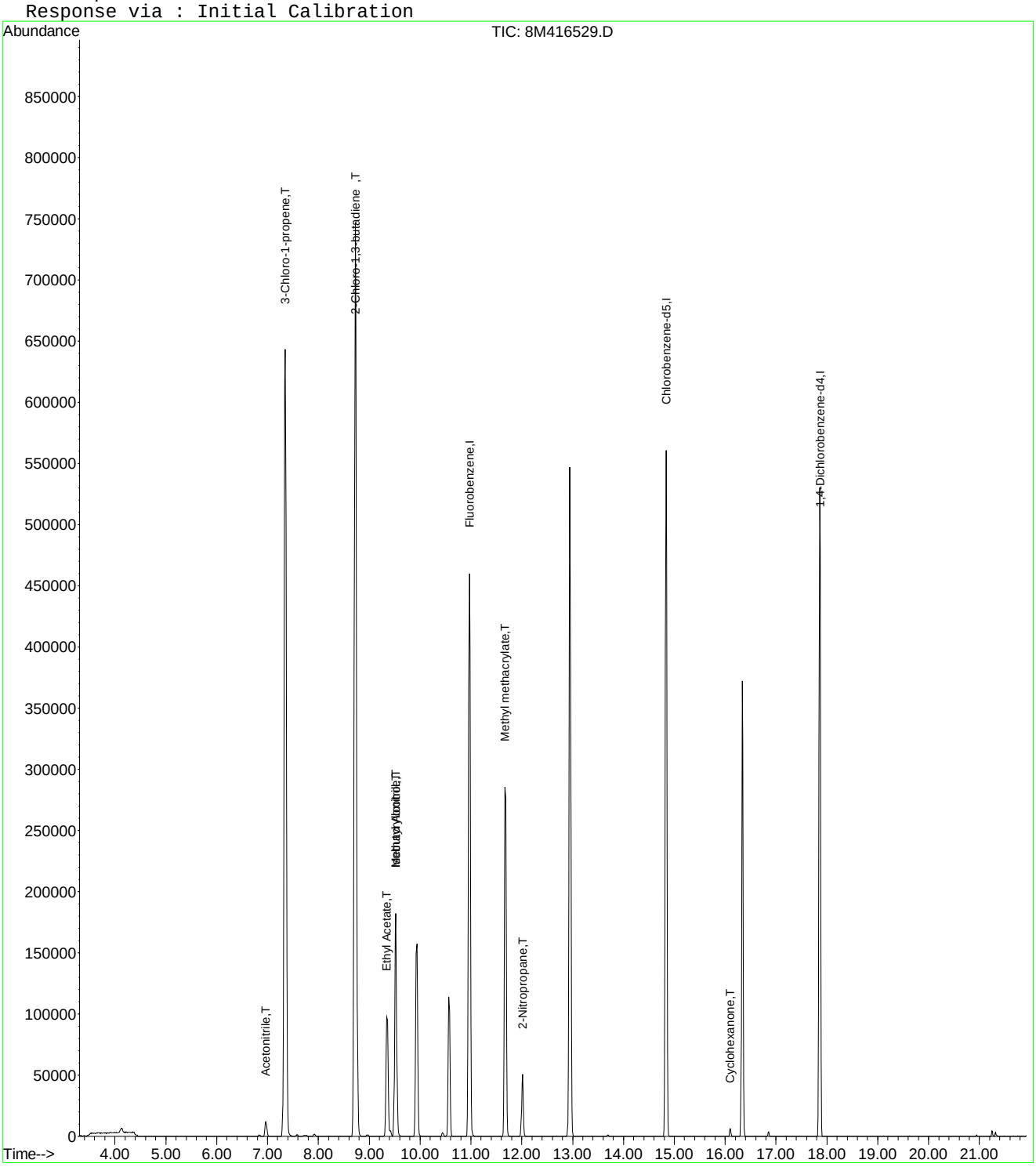
Quant Method : K:\ORGANICS\V...\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.97	96	587664	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.84	117	419667	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.87	152	172171	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.97	41	16063	94.7727	ug/L	97
3) 3-Chloro-1-propene	7.35	41	567885	83.1055	ug/L	96
4) 2-Chloro-1,3-butadiene	8.73	53	618003	82.7490	ug/L	94
5) Ethyl Acetate	9.35	43	154055	100.9013	ug/L	99
6) Methacrylonitrile	9.52	67	99886	100.6255	ug/L	98
7) Isobutyl Alcohol	9.52	43	9727	193.0984	ug/L	95
9) Methyl methacrylate	11.67	41	157038	97.5489	ug/L	98
10) 2-Nitropropane	12.01	43	46163	88.2208	ug/L	98
13) Cyclohexanone	16.10	55	3773	70.9091	ug/L	99

(#) = qualifier out of range (m) = manual integration
8M416529.D A9FOOWTR.M Thu Dec 08 15:03:47 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416529.D Vial: 12
Acq On : 8 Dec 2016 14:12 Operator: TMB
Sample : WG594051-09 100ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79186 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 8 15:03 2016 Quant Results File: A9FOOWTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416529.D Vial: 12
Acq On : 8 Dec 2016 14:12 Operator: TMB
Sample : WG594051-09 100ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79186 Multiplr: 1.00
MS Integration Params: rteint.p

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 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	99	0.00
2	T	Acetonitrile	100.0000	94.7727	5.2	90	0.00
3	T	3-Chloro-1-propene	100.0000	83.1055	16.9	84	0.01
4	T	2-Chloro-1,3-butadiene	100.0000	82.7490	17.3	83	0.00
5	T	Ethyl Acetate	100.0000	100.9013	-0.9	102	0.00
6	T	Methacrylonitrile	100.0000	100.6255	-0.6	99	0.00
7	T	Isobutyl Alcohol	200.0000	193.0984	3.5	96	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	0.00
9	T	Methyl methacrylate	100.0000	97.5489	2.5	96	0.00
10	T	2-Nitropropane	100.0000	88.2208	11.8	92	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	102	0.00
13	T	Cyclohexanone	100.0000	70.9091	29.1	73	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M416529.D A9FOOWTR.M Thu Dec 08 15:03:52 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418408.D Vial: 3
Acq On : 21 Mar 2017 16:09 Operator: TMB
Sample : WG607066-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:05 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.94	96	839335	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.81	117	637381	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.83	152	339393	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	12.92	98	210	0.0065	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.04%#		
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	3.35	85	3754	0.2855	ug/L	89
3) Chloromethane	3.83	50	6806	0.4271	ug/L #	26
4) Vinyl Chloride	4.06	62	5557	0.3730	ug/L	99
5) 1,3-Butadiene	4.13	54	2886	Below Cal	#	48
6) Bromomethane	4.97	94	2181	0.2890	ug/L	94
7) Chloroethane	5.14	64	1796	0.2972	ug/L #	45
8) Trichlorofluoromethane	5.63	101	5090	0.3157	ug/L #	87
10) Isoprene	6.19	67	4072	0.3269	ug/L	89
12) 1,1,2-Trichloro-1,2,2-Trif	6.40	101	2781	0.3207	ug/L	85
13) Acetone	6.48	43	491	0.4892	ug/L #	42
14) 1,1-Dichloroethene	6.72	61	3959	0.3272	ug/L	89
16) Dimethyl Sulfide	6.97	62	2517	0.2926	ug/L	91
17) Iodomethane	7.23	142	2421	0.7424	ug/L	74
18) Methyl acetate	7.23	43	850	0.2961	ug/L #	53
19) Methylene Chloride	7.50	84	2705	0.2936	ug/L	77
20) Carbon Disulfide	7.54	76	12389	0.4495	ug/L	96
22) Methyl Tert Butyl Ether	7.71	73	5150	0.2904	ug/L #	58
23) trans-1,2-Dichloroethene	7.94	61	3684	0.3140	ug/L	100
24) n-Hexane	8.01	57	4586	0.4614	ug/L	89
26) Vinyl Acetate	8.52	43	3265	0.3702	ug/L #	69
27) 1,1-Dichloroethane	8.56	63	4491	0.2935	ug/L #	82
31) 2,2-Dichloropropane	9.35	77	4238	0.3105	ug/L	90
32) cis-1,2-Dichloroethene	9.40	96	3073	0.3086	ug/L	83
33) Chloroform	9.61	83	6746	0.3804	ug/L	99
35) Bromochloromethane	9.84	130	1638	0.3062	ug/L	92
36) Tetrahydrofuran	9.86	42	645	0.6267	ug/L #	24
38) 1,1,1-Trichloroethane	10.14	97	4212	0.2887	ug/L	86
39) Cyclohexane	10.18	56	4399	0.3489	ug/L	89
40) 1,1-Dichloropropene	10.34	75	4137	0.3302	ug/L #	73
42) Carbon Tetrachloride	10.49	117	3640	0.2789	ug/L #	94
45) 1,2-Dichloroethane	10.65	62	2524	0.2521	ug/L #	70
46) Benzene	10.69	78	11345	0.3140	ug/L	93
47) Trichloroethene	11.45	130	3222	0.3335	ug/L	86
48) Methylcyclohexane	11.53	83	5548	0.3822	ug/L	94
49) 1,2-Dichloropropane	11.65	63	2682	0.3229	ug/L	84
50) Bromodichloromethane	11.95	83	3450	0.2938	ug/L #	80
52) Dibromomethane	12.04	93	1279	0.2873	ug/L	95
53) 2-Chloroethyl Vinyl Ether	12.24	63	836	0.2213	ug/L #	45
55) cis-1,3-Dichloropropene	12.58	75	4094	0.3004	ug/L	92
56) Dimethyl Disulfide	12.85	79	1292	2.9561	ug/L	93

(#) = qualifier out of range (m) = manual integration
8M418408.D 8260WTR.M Thu Mar 23 10:19:08 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418408.D Vial: 3
Acq On : 21 Mar 2017 16:09 Operator: TMB
Sample : WG607066-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:05 2017 Quant Results File: 8260WTR.RES

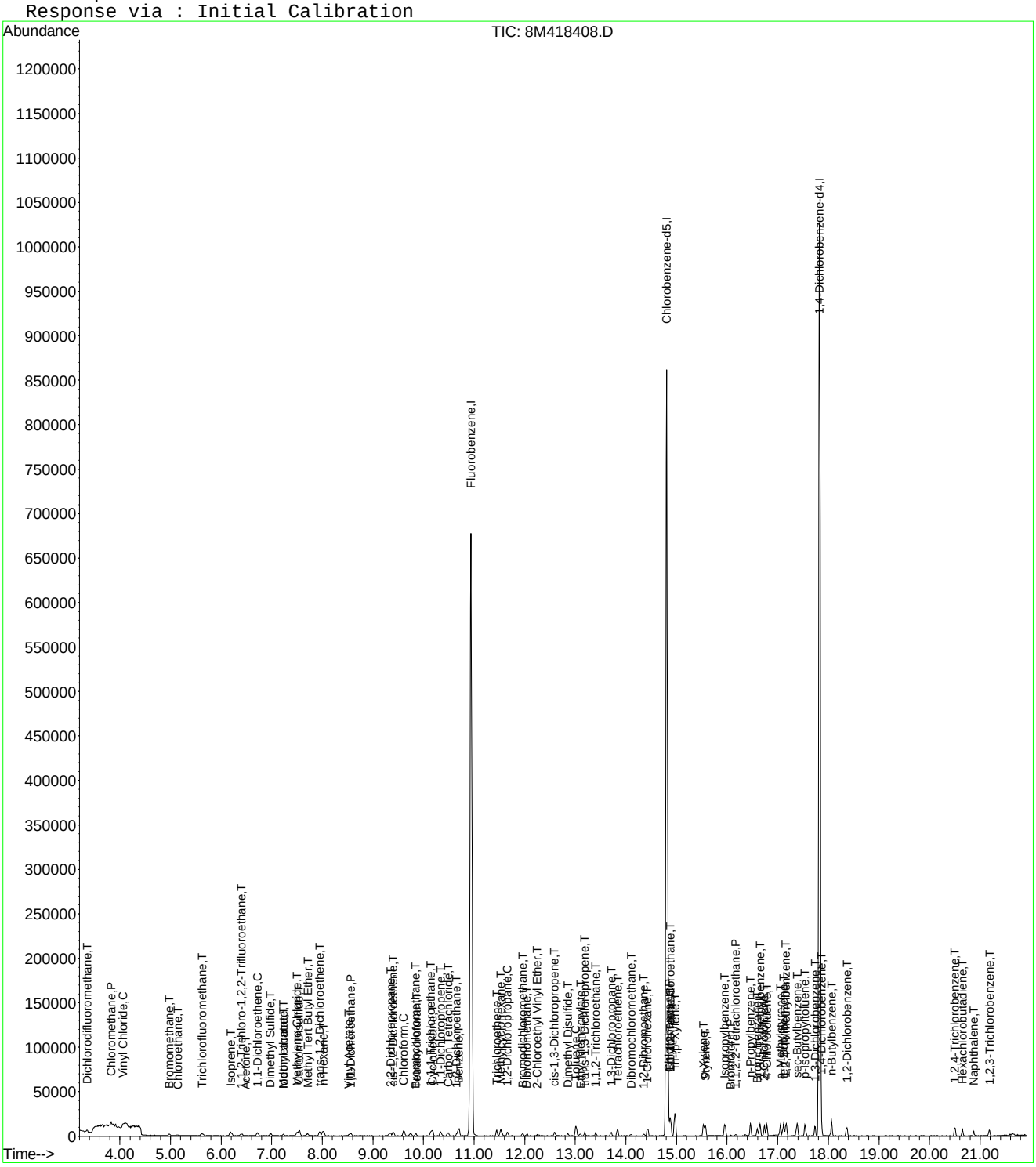
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
59)	Toluene	13.01	91	12509	0.3300 ug/L		95
60)	Ethyl Methacrylate	13.10	69	1898	0.2589 ug/L		95
62)	trans-1,3-Dichloropropene	13.18	75	3150	0.2817 ug/L		86
63)	1,1,2-Trichloroethane	13.40	97	1490	0.2495 ug/L		95
65)	1,3-Dichloropropane	13.71	76	3289	0.3076 ug/L		94
66)	Tetrachloroethene	13.84	164	2607	0.3174 ug/L		94
67)	Dibromochloromethane	14.10	129	1621	0.4036 ug/L		99
68)	1,2-Dibromoethane	14.35	107	1533	0.2502 ug/L		95
69)	1-Chlorohexane	14.42	91	4321	0.3345 ug/L		95
70)	Chlorobenzene	14.85	112	7738	0.2900 ug/L		88
71)	1,1,1,2-Tetrachloroethane	14.88	131	1976	0.3884 ug/L		89
72)	Ethylbenzene	14.88	106	4159	0.2809 ug/L		76
73)	m-,p-Xylene	14.97	106	10522	0.5925 ug/L		83
74)	o-Xylene	15.53	106	4933	0.2801 ug/L		87
75)	Styrene	15.57	104	8095	0.2847 ug/L		91
76)	Bromoform	16.07	173	707	0.5972 ug/L	#	48
77)	Isopropylbenzene	15.95	105	13374	0.3139 ug/L		99
79)	1,1,2,2-Tetrachloroethane	16.16	83	1865	0.2819 ug/L	#	94
83)	n-Propylbenzene	16.46	91	17462	0.3493 ug/L		93
84)	Bromobenzene	16.60	156	3464	0.3131 ug/L		92
85)	1,3,5-Trimethylbenzene	16.65	105	12093	0.3349 ug/L		94
86)	2-Chlorotoluene	16.73	91	11551	0.3438 ug/L		98
87)	4-Chlorotoluene	16.78	91	9912	0.3377 ug/L		94
88)	a-Methylstyrene	17.05	118	5215	0.2584 ug/L		93
89)	tert-Butylbenzene	17.11	134	2174	0.2726 ug/L		80
90)	1,2,4-Trimethylbenzene	17.16	105	12145	0.3236 ug/L		90
91)	sec-Butylbenzene	17.38	105	15378	0.3431 ug/L		93
92)	p-Isopropyltoluene	17.54	119	12332	0.3359 ug/L		99
93)	1,3-Dichlorobenzene	17.74	146	7017	0.3182 ug/L		97
94)	1,4-Dichlorobenzene	17.87	146	7200	0.3241 ug/L	#	54
95)	n-Butylbenzene	18.06	91	13446	0.3775 ug/L		95
96)	1,2-Dichlorobenzene	18.36	146	5770	0.3003 ug/L		92
98)	1,2,4-Trichlorobenzene	20.50	180	4813	0.3349 ug/L		91
99)	Hexachlorobutadiene	20.65	225	2723	0.3875 ug/L		98
100)	Naphthalene	20.88	128	5734	0.3021 ug/L		89
101)	1,2,3-Trichlorobenzene	21.19	180	3474	0.2923 ug/L		96

(#) = qualifier out of range (m) = manual integration
8M418408.D 8260WTR.M Thu Mar 23 10:19:08 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418408.D Vial: 3
Acq On : 21 Mar 2017 16:09 Operator: TMB
Sample : WG607066-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418408.D Vial: 3
Acq On : 21 Mar 2017 16:09 Operator: TMB
Sample : WG607066-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD810 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	-1.0000	0.2855	0.0	0	0.01
3	P	Chloromethane	-1.0000	0.4271	0.0	0	0.00
4	C	Vinyl Chloride	-1.0000	0.3730	0.0	0	0.01
5	T	1,3-Butadiene	-1.0000	-1.0000	0.0	0	0.02
6	T	Bromomethane	-1.0000	0.2890	0.0	0	0.00
7	T	Chloroethane	-1.0000	0.2972	0.0	0	0.01
8	T	Trichlorofluoromethane	-1.0000	0.3157	0.0	0	0.01
9	T	Diethyl ether	-1.0000	0.0000	0.0	0	-6.14#
10	T	Isoprene	-1.0000	0.3269	0.0	100	0.01
11	T	Acrolein	-1.0000	0.0000	0.0	0	-6.39#
12	T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.3207	0.0	0	0.00
13	T	Acetone	-1.0000	0.4892	0.0	100	0.00
14	C	1,1-Dichloroethene	-1.0000	0.3272	0.0	0	0.01
15	T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.81#
16	T	Dimethyl Sulfide	-1.0000	0.2926	0.0	100	-0.01
17	T	Iodomethane	-1.0000	0.7424	0.0	100	0.00
18	T	Methyl acetate	-1.0000	0.2961	0.0	100	-0.01
19	T	Methylene Chloride	-1.0000	0.2936	0.0	0	0.00
20	T	Carbon Disulfide	-1.0000	0.4495	0.0	100	0.00
21	T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.67#
22	T	Methyl Tert Butyl Ether	-1.0000	0.2904	0.0	0	0.01
23	T	trans-1,2-Dichloroethene	-1.0000	0.3140	0.0	0	0.00
24	T	n-Hexane	-1.0000	0.4614	0.0	100	-0.01
25	T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-8.36#
26	T	Vinyl Acetate	-1.0000	0.3702	0.0	100	-0.01
27	P	1,1-Dichloroethane	-1.0000	0.2935	0.0	0	0.00
28	T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.93#
29	T	2-Butanone	-1.0000	0.0000	0.0	0	-9.11#
30	T	Propionitrile	-1.0000	0.0000	0.0	0	-9.22#
31	T	2,2-Dichloropropane	-1.0000	0.3105	0.0	0	0.01
32	T	cis-1,2-Dichloroethene	-1.0000	0.3086	0.0	0	0.00
33	C	Chloroform	0.3000	0.3804	-26.8#	100	0.00
34		1-Bromopropane	-1.0000	0.0000	0.0	0	-9.75#
35	T	Bromochloromethane	-1.0000	0.3062	0.0	0	0.00
36	T	Tetrahydrofuran	-1.0000	0.6267	0.0	100	0.00
37	S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-9.90#
38	T	1,1,1-Trichloroethane	-1.0000	0.2887	0.0	0	0.00
39	T	Cyclohexane	-1.0000	0.3489	0.0	100	0.00
40	T	1,1-Dichloropropene	-1.0000	0.3302	0.0	0	0.00
41	T	Tert-Amyl-Methyl ether	-1.0000	0.0000	0.0	0	-10.43#
42	T	Carbon Tetrachloride	-1.0000	0.2789	0.0	0	0.00
43	S	1,2-Dichloroethane-d4	-1.0000	0.0000	0.0	0	-10.54#
44		Heptane	-1.0000	0.0000	0.0	0	-2.61#
45	T	1,2-Dichloroethane	-1.0000	0.2521	0.0	0	-0.01
46	T	Benzene	-1.0000	0.3140	0.0	0	0.00
47	T	Trichloroethene	-1.0000	0.3335	0.0	0	0.00
48	T	Methylcyclohexane	-1.0000	0.3822	0.0	100	0.00
49	C	1,2-Dichloropropane	-1.0000	0.3229	0.0	0	0.00
50	T	Bromodichloromethane	-1.0000	0.2938	0.0	0	0.00
51	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.94#
52	T	Dibromomethane	-1.0000	0.2873	0.0	0	0.00
53	T	2-Chloroethyl Vinyl Ether	-1.0000	0.2213	0.0	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	0.0000	0.0	0	-12.27#

(#) = Out of Range
8M418408.D 8260WTR.M Thu Mar 23 10:21:13 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418408.D Vial: 3
Acq On : 21 Mar 2017 16:09 Operator: TMB
Sample : WG607066-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD810 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	-1.0000	0.3004	0.0	0	0.00
56	T	Dimethyl Disulfide	-1.0000	2.9561	0.0	0	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	-1.0000	0.0065	0.0	100	0.00
59	C	Toluene	-1.0000	0.3300	0.0	0	0.00
60	T	Ethyl Methacrylate	-1.0000	0.2589	0.0	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.40#
62	T	trans-1,3-Dichloropropene	-1.0000	0.2817	0.0	0	0.00
63	T	1,1,2-Trichloroethane	-1.0000	0.2495	0.0	0	0.00
64	T	2-Hexanone	-1.0000	0.0000	0.0	0	-13.34#
65	T	1,3-Dichloropropane	-1.0000	0.3076	0.0	0	0.00
66	T	Tetrachloroethene	-1.0000	0.3174	0.0	0	0.00
67	T	Dibromochloromethane	-1.0000	0.4036	0.0	0	0.01
68	T	1,2-Dibromoethane	-1.0000	0.2502	0.0	0	0.00
69	T	1-Chlorohexane	-1.0000	0.3345	0.0	100	-0.01
70	P	Chlorobenzene	-1.0000	0.2900	0.0	0	0.00
71	T	1,1,1,2-Tetrachloroethane	-1.0000	0.3884	0.0	0	0.00
72	C	Ethylbenzene	-1.0000	0.2809	0.0	0	0.00
73	T	m-,p-Xylene	-1.0000	0.5925	0.0	0	0.00
74	T	o-Xylene	-1.0000	0.2801	0.0	0	0.00
75	T	Styrene	-1.0000	0.2847	0.0	0	0.00
76	P	Bromoform	-1.0000	0.5972	0.0	0	0.00
77	T	Isopropylbenzene	-1.0000	0.3139	0.0	0	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	0.2819	0.0	0	-0.01
80	S	p-Bromofluorobenzene	-1.0000	0.0000	0.0	0	-16.31#
81	T	1,2,3-Trichloropropane	-1.0000	0.0000	0.0	0	-16.37#
82	T	trans-1,4-Dichloro-2-Butene	-1.0000	0.0000	0.0	0	-16.41#
83	T	n-Propylbenzene	-1.0000	0.3493	0.0	0	0.00
84	T	Bromobenzene	0.3000	0.3131	-4.4	100	0.00
85	T	1,3,5-Trimethylbenzene	-1.0000	0.3349	0.0	0	0.00
86	T	2-Chlorotoluene	-1.0000	0.3438	0.0	0	0.00
87	T	4-Chlorotoluene	-1.0000	0.3377	0.0	0	0.00
88	T	a-Methylstyrene	-1.0000	0.2584	0.0	100	0.00
89	T	tert-Butylbenzene	-1.0000	0.2726	0.0	0	0.00
90	T	1,2,4-Trimethylbenzene	-1.0000	0.3236	0.0	0	0.00
91	T	sec-Butylbenzene	-1.0000	0.3431	0.0	0	0.00
92	T	p-Isopropyltoluene	-1.0000	0.3359	0.0	0	0.00
93	T	1,3-Dichlorobenzene	-1.0000	0.3182	0.0	0	0.00
94	T	1,4-Dichlorobenzene	0.3000	0.3241	-8.0	100	0.00
95	T	n-Butylbenzene	-1.0000	0.3775	0.0	0	0.00
96	T	1,2-Dichlorobenzene	0.3000	0.3003	-0.1	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-19.36#
98	T	1,2,4-Trichlorobenzene	-1.0000	0.3349	0.0	0	0.00
99	T	Hexachlorobutadiene	-1.0000	0.3875	0.0	0	0.00
100	T	Naphthalene	-1.0000	0.3021	0.0	0	0.00
101	T	1,2,3-Trichlorobenzene	0.3000	0.2923	2.6	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 1
8M418408.D 8260WTR.M Thu Mar 23 10:21:14 2017 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418409.D Vial: 4
Acq On : 21 Mar 2017 16:39 Operator: TMB
Sample : WG607066-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:09 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.94	96	820770	25.00	ug/L		0.00
57) Chlorobenzene-d5	14.81	117	630289	25.00	ug/L		0.00
78) 1,4-Dichlorobenzene-d4	17.83	152	333801	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	12.92	98	206	0.0065	ug/L		0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.04%#			
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	3.34	85	5012	0.3898	ug/L		88
3) Chloromethane	3.83	50	7999	0.5134	ug/L	#	51
4) Vinyl Chloride	4.07	62	6861	0.4709	ug/L		94
5) 1,3-Butadiene	4.12	54	4284	Below Cal			86
6) Bromomethane	4.98	94	2762	0.3743	ug/L		95
7) Chloroethane	5.13	64	2158	0.3652	ug/L	#	45
8) Trichlorofluoromethane	5.62	101	6443	0.4087	ug/L	#	87
10) Isoprene	6.19	67	4531	0.3720	ug/L		95
12) 1,1,2-Trichloro-1,2,2-Trif	6.40	101	3337	0.3935	ug/L		92
13) Acetone	6.50	43	400	0.4075	ug/L	#	42
14) 1,1-Dichloroethene	6.71	61	4956	0.4188	ug/L		92
16) Dimethyl Sulfide	6.98	62	3060	0.3638	ug/L		96
17) Iodomethane	7.24	142	2705	0.7764	ug/L		87
18) Methyl acetate	7.25	43	669	0.2383	ug/L	#	53
19) Methylene Chloride	7.49	84	4174	0.4632	ug/L		89
20) Carbon Disulfide	7.54	76	13082	0.4854	ug/L		93
22) Methyl Tert Butyl Ether	7.71	73	7110	0.4099	ug/L	#	72
23) trans-1,2-Dichloroethene	7.94	61	4851	0.4228	ug/L		98
24) n-Hexane	8.03	57	4861	0.5002	ug/L		94
26) Vinyl Acetate	8.53	43	4150	0.4812	ug/L	#	69
27) 1,1-Dichloroethane	8.56	63	6002	0.4011	ug/L	#	83
29) 2-Butanone	9.11	43	634	0.4009	ug/L	#	44
31) 2,2-Dichloropropane	9.33	77	5842	0.4376	ug/L		96
32) cis-1,2-Dichloroethene	9.41	96	3859	0.3963	ug/L		87
33) Chloroform	9.62	83	7984	0.4603	ug/L		95
35) Bromochloromethane	9.85	130	1987	0.3798	ug/L		88
38) 1,1,1-Trichloroethane	10.15	97	5320	0.3729	ug/L		90
39) Cyclohexane	10.19	56	5291	0.4292	ug/L		92
40) 1,1-Dichloropropene	10.34	75	4961	0.4049	ug/L		86
42) Carbon Tetrachloride	10.48	117	4928	0.3861	ug/L		93
45) 1,2-Dichloroethane	10.65	62	3926	0.4010	ug/L	#	87
46) Benzene	10.69	78	15023	0.4252	ug/L		97
47) Trichloroethene	11.45	130	3700	0.3917	ug/L		97
48) Methylcyclohexane	11.53	83	5981	0.4214	ug/L		96
49) 1,2-Dichloropropane	11.65	63	2986	0.3676	ug/L		99
50) Bromodichloromethane	11.95	83	4361	0.3798	ug/L	#	91
52) Dibromomethane	12.04	93	1225	0.2814	ug/L		81
53) 2-Chloroethyl Vinyl Ether	12.24	63	1105	0.2992	ug/L		81
55) cis-1,3-Dichloropropene	12.59	75	5159	0.3871	ug/L		94
56) Dimethyl Disulfide	12.85	79	1713	3.0100	ug/L		99

(#) = qualifier out of range (m) = manual integration
8M418409.D 8260WTR.M Thu Mar 23 10:19:12 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418409.D Vial: 4
Acq On : 21 Mar 2017 16:39 Operator: TMB
Sample : WG607066-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:09 2017 Quant Results File: 8260WTR.RES

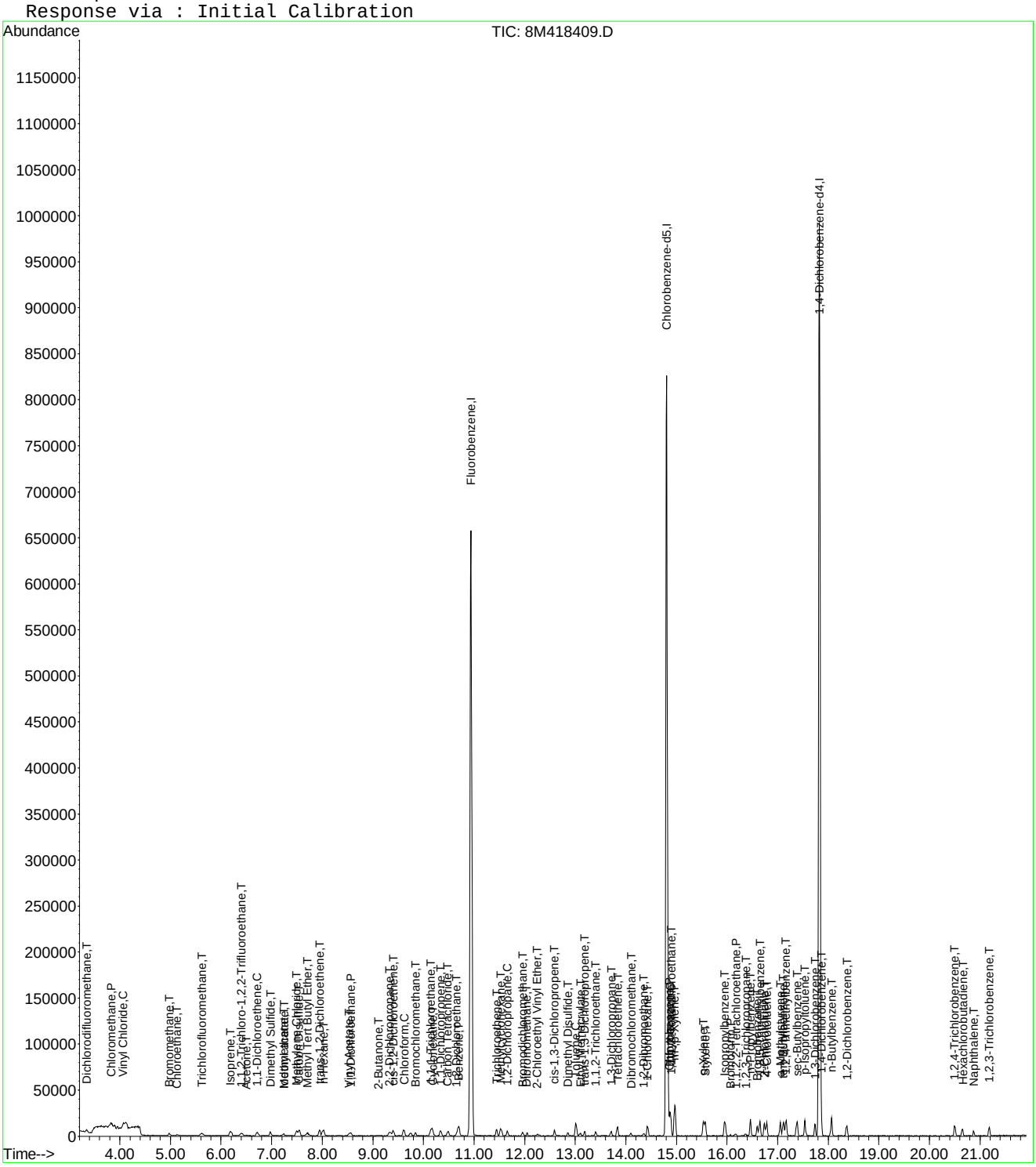
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
59)	Toluene	13.01	91	15569	0.4153	ug/L		94
60)	Ethyl Methacrylate	13.10	69	2480	0.3421	ug/L		88
62)	trans-1,3-Dichloropropene	13.19	75	4268	0.3860	ug/L		85
63)	1,1,2-Trichloroethane	13.40	97	2245	0.3802	ug/L		92
65)	1,3-Dichloropropane	13.71	76	4246	0.4016	ug/L		91
66)	Tetrachloroethene	13.84	164	3076	0.3787	ug/L		96
67)	Dibromochloromethane	14.11	129	2045	0.4616	ug/L		84
68)	1,2-Dibromoethane	14.35	107	2295	0.3788	ug/L		98
69)	1-Chlorohexane	14.43	91	5474	0.4285	ug/L		98
70)	Chlorobenzene	14.86	112	10272	0.3893	ug/L		95
71)	1,1,1,2-Tetrachloroethane	14.89	131	3131	0.5117	ug/L		100
72)	Ethylbenzene	14.88	106	5452	0.3723	ug/L		94
73)	m-,p-Xylene	14.96	106	13646	0.7770	ug/L		85
74)	o-Xylene	15.53	106	6537	0.3754	ug/L		97
75)	Styrene	15.56	104	10271	0.3653	ug/L		92
76)	Bromoform	16.07	173	1215	0.7117	ug/L	#	41
77)	Isopropylbenzene	15.96	105	17113	0.4062	ug/L		97
79)	1,1,2,2-Tetrachloroethane	16.17	83	2398	0.3686	ug/L	#	93
81)	1,2,3-Trichloropropane	16.37	110	554	0.2991	ug/L	#	84
83)	n-Propylbenzene	16.46	91	21418	0.4356	ug/L		95
84)	Bromobenzene	16.60	156	4101	0.3769	ug/L		89
85)	1,3,5-Trimethylbenzene	16.65	105	14553	0.4098	ug/L		97
86)	2-Chlorotoluene	16.74	91	14102	0.4267	ug/L		96
87)	4-Chlorotoluene	16.78	91	11659	0.4038	ug/L		96
88)	a-Methylstyrene	17.05	118	6251	0.3149	ug/L		98
89)	tert-Butylbenzene	17.10	134	2749	0.3505	ug/L		85
90)	1,2,4-Trimethylbenzene	17.17	105	14872	0.4028	ug/L		96
91)	sec-Butylbenzene	17.38	105	18440	0.4184	ug/L		95
92)	p-Isopropyltoluene	17.54	119	14467	0.4007	ug/L		99
93)	1,3-Dichlorobenzene	17.74	146	8606	0.3968	ug/L		95
94)	1,4-Dichlorobenzene	17.87	146	8728	0.3995	ug/L		79
95)	n-Butylbenzene	18.07	91	16096	0.4595	ug/L		95
96)	1,2-Dichlorobenzene	18.37	146	7275	0.3849	ug/L		99
98)	1,2,4-Trichlorobenzene	20.50	180	5853	0.4140	ug/L		97
99)	Hexachlorobutadiene	20.66	225	2881	0.4168	ug/L		91
100)	Naphthalene	20.88	128	7399	0.3963	ug/L		87
101)	1,2,3-Trichlorobenzene	21.18	180	4960	0.4243	ug/L		93

(#) = qualifier out of range (m) = manual integration
8M418409.D 8260WTR.M Thu Mar 23 10:19:12 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418409.D Vial: 4
Acq On : 21 Mar 2017 16:39 Operator: TMB
Sample : WG607066-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418409.D Vial: 4
Acq On : 21 Mar 2017 16:39 Operator: TMB
Sample : WG607066-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	-1.0000	0.3898	0.0	0	0.00
3	P	Chloromethane	-1.0000	0.5134	0.0	0	0.00
4	C	Vinyl Chloride	0.4000	0.4709	-17.7	100	0.01
5	T	1,3-Butadiene	-1.0000	-1.0000	0.0	0	0.01
6	T	Bromomethane	-1.0000	0.3743	0.0	0	0.00
7	T	Chloroethane	0.4000	0.3652	8.7	100	0.00
8	T	Trichlorofluoromethane	0.4000	0.4087	-2.2	100	0.00
9	T	Diethyl ether	-1.0000	0.0000	0.0	0	-6.14#
10	T	Isoprene	-1.0000	0.3720	0.0	100	0.00
11	T	Acrolein	-1.0000	0.0000	0.0	0	-6.39#
12	T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.3935	0.0	0	0.00
13	T	Acetone	-1.0000	0.4075	0.0	100	0.01
14	C	1,1-Dichloroethene	0.4000	0.4188	-4.7	100	0.00
15	T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.81#
16	T	Dimethyl Sulfide	-1.0000	0.3638	0.0	100	0.00
17	T	Iodomethane	-1.0000	0.7764	0.0	100	0.00
18	T	Methyl acetate	-1.0000	0.2383	0.0	100	0.01
19	T	Methylene Chloride	-1.0000	0.4632	0.0	0	0.00
20	T	Carbon Disulfide	-1.0000	0.4854	0.0	100	0.00
21	T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.67#
22	T	Methyl Tert Butyl Ether	-1.0000	0.4099	0.0	0	0.00
23	T	trans-1,2-Dichloroethene	0.4000	0.4228	-5.7	100	0.00
24	T	n-Hexane	-1.0000	0.5002	0.0	100	0.00
25	T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-8.36#
26	T	Vinyl Acetate	-1.0000	0.4812	0.0	100	0.00
27	P	1,1-Dichloroethane	0.4000	0.4011	-0.3	100	0.00
28	T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.93#
29	T	2-Butanone	-1.0000	0.4009	0.0	100	0.00
30	T	Propionitrile	-1.0000	0.0000	0.0	0	-9.22#
31	T	2,2-Dichloropropane	0.4000	0.4376	-9.4	100	0.00
32	T	cis-1,2-Dichloroethene	0.4000	0.3963	0.9	100	0.01
33	C	Chloroform	0.4000	0.4603	-15.1	100	0.01
34		1-Bromopropane	-1.0000	0.0000	0.0	0	-9.75#
35	T	Bromochloromethane	0.4000	0.3798	5.0	100	0.00
36	T	Tetrahydrofuran	-1.0000	0.0000	0.0	0	-9.86#
37	S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-9.90#
38	T	1,1,1-Trichloroethane	0.4000	0.3729	6.8	100	0.00
39	T	Cyclohexane	-1.0000	0.4292	0.0	100	0.01
40	T	1,1-Dichloropropene	-1.0000	0.4049	0.0	0	0.00
41	T	Tert-Amyl-Methyl ether	-1.0000	0.0000	0.0	0	-10.43#
42	T	Carbon Tetrachloride	0.4000	0.3861	3.5	100	0.00
43	S	1,2-Dichloroethane-d4	-1.0000	0.0000	0.0	0	-10.54#
44		Heptane	-1.0000	0.0000	0.0	0	-2.61#
45	T	1,2-Dichloroethane	0.4000	0.4009	-0.2	100	0.00
46	T	Benzene	0.4000	0.4253	-6.3	100	0.00
47	T	Trichloroethene	0.4000	0.3917	2.1	100	0.00
48	T	Methylcyclohexane	-1.0000	0.4214	0.0	100	0.00
49	C	1,2-Dichloropropane	0.4000	0.3676	8.1	100	0.00
50	T	Bromodichloromethane	0.4000	0.3798	5.1	100	0.00
51	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.94#
52	T	Dibromomethane	0.4000	0.2814	29.6#	100	0.00
53	T	2-Chloroethyl Vinyl Ether	-1.0000	0.2992	0.0	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	0.0000	0.0	0	-12.27#

(#) = Out of Range
8M418409.D 8260WTR.M Thu Mar 23 10:21:26 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418409.D Vial: 4
Acq On : 21 Mar 2017 16:39 Operator: TMB
Sample : WG607066-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	0.4000	0.3871	3.2	100	0.00
56	T	Dimethyl Disulfide	-1.0000	3.0100	0.0	0	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	-1.0000	0.0065	0.0	100	0.00
59	C	Toluene	0.4000	0.4153	-3.8	100	0.00
60	T	Ethyl Methacrylate	-1.0000	0.3421	0.0	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.40#
62	T	trans-1,3-Dichloropropene	-1.0000	0.3860	0.0	0	0.00
63	T	1,1,2-Trichloroethane	0.4000	0.3802	5.0	100	0.00
64	T	2-Hexanone	-1.0000	0.0000	0.0	0	-13.34#
65	T	1,3-Dichloropropane	0.4000	0.4016	-0.4	100	0.00
66	T	Tetrachloroethene	0.4000	0.3787	5.3	100	0.00
67	T	Dibromochloromethane	0.4000	0.4616	-15.4	100	0.01
68	T	1,2-Dibromoethane	0.4000	0.3788	5.3	100	0.00
69	T	1-Chlorohexane	0.4000	0.4285	-7.1	100	0.00
70	P	Chlorobenzene	0.4000	0.3893	2.7	100	0.00
71	T	1,1,1,2-Tetrachloroethane	0.4000	0.5117	-27.9#	100	0.01
72	C	Ethylbenzene	0.4000	0.3723	6.9	100	0.00
73	T	m-,p-Xylene	0.8000	0.7770	2.9	100	0.00
74	T	o-Xylene	-1.0000	0.3754	0.0	0	0.00
75	T	Styrene	0.4000	0.3654	8.7	100	0.00
76	P	Bromoform	-1.0000	0.7117	0.0	0	0.00
77	T	Isopropylbenzene	0.4000	0.4062	-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	0.3686	7.9	100	0.00
80	S	p-Bromofluorobenzene	-1.0000	0.0000	0.0	0	-16.31#
81	T	1,2,3-Trichloropropane	-1.0000	0.2991	0.0	0	0.00
82	T	trans-1,4-Dichloro-2-Butene	-1.0000	0.0000	0.0	0	-16.41#
83	T	n-Propylbenzene	0.4000	0.4356	-8.9	100	0.00
84	T	Bromobenzene	0.4000	0.3769	5.8	100	0.00
85	T	1,3,5-Trimethylbenzene	0.4000	0.4098	-2.5	100	0.00
86	T	2-Chlorotoluene	0.4000	0.4267	-6.7	100	0.00
87	T	4-Chlorotoluene	0.4000	0.4038	-1.0	100	0.00
88	T	a-Methylstyrene	-1.0000	0.3149	0.0	100	0.00
89	T	tert-Butylbenzene	-1.0000	0.3505	0.0	0	0.00
90	T	1,2,4-Trimethylbenzene	0.4000	0.4028	-0.7	100	0.00
91	T	sec-Butylbenzene	-1.0000	0.4184	0.0	0	0.00
92	T	p-Isopropyltoluene	-1.0000	0.4007	0.0	0	0.00
93	T	1,3-Dichlorobenzene	0.4000	0.3968	0.8	100	0.00
94	T	1,4-Dichlorobenzene	0.4000	0.3995	0.1	100	0.00
95	T	n-Butylbenzene	-1.0000	0.4595	0.0	0	0.00
96	T	1,2-Dichlorobenzene	0.4000	0.3849	3.8	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-19.36#
98	T	1,2,4-Trichlorobenzene	0.4000	0.4140	-3.5	100	0.00
99	T	Hexachlorobutadiene	0.4000	0.4169	-4.2	100	0.01
100	T	Naphthalene	0.4000	0.3963	0.9	100	0.00
101	T	1,2,3-Trichlorobenzene	0.4000	0.4243	-6.1	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M418409.D 8260WTR.M Thu Mar 23 10:21:26 2017 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418410.D Vial: 5
Acq On : 21 Mar 2017 17:09 Operator: TMB
Sample : WG607066-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:13 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.94	96	807132	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.81	117	611741	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.82	152	324322	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.89	111	4045	0.4419	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	1.76%#		
43) 1,2-Dichloroethane-d4	10.54	65	3910	0.4929	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	1.96%#		
58) Toluene-d8	12.91	98	15493	0.5035	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	2.00%#		
80) p-Bromofluorobenzene	16.30	95	6131	0.4996	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	2.00%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.34	85	11775	0.9313	ug/L	95
3) Chloromethane	3.83	50	18119	1.1825	ug/L	89
4) Vinyl Chloride	4.06	62	15890	1.1091	ug/L	99
5) 1,3-Butadiene	4.11	54	9126	Below Cal		81
6) Bromomethane	4.97	94	7100	0.9784	ug/L	96
7) Chloroethane	5.14	64	5724	0.9850	ug/L	96
8) Trichlorofluoromethane	5.62	101	15570	1.0043	ug/L	96
9) Diethyl ether	6.15	59	25161	5.0179	ug/L	99
10) Isoprene	6.18	67	11515	0.9613	ug/L	99
11) Acrolein	6.39	56	1211	1.8888	ug/L	90
12) 1,1,2-Trichloro-1,2,2-Trif	6.40	101	8196	0.9828	ug/L	97
13) Acetone	6.48	43	961	0.9956	ug/L #	42
14) 1,1-Dichloroethene	6.71	61	11722	1.0073	ug/L	92
15) Tert-Butyl Alcohol	6.81	59	2565	8.3492	ug/L #	59
16) Dimethyl Sulfide	6.97	62	7853	0.9494	ug/L	99
17) Iodomethane	7.23	142	7328	1.2539	ug/L	93
18) Methyl acetate	7.24	43	2638	0.9557	ug/L #	66
19) Methylene Chloride	7.50	84	9378	1.0584	ug/L	95
20) Carbon Disulfide	7.54	76	28271	1.0667	ug/L	98
21) Acrylonitrile	7.67	53	3247	2.4051	ug/L	94
22) Methyl Tert Butyl Ether	7.70	73	16755	0.9824	ug/L	95
23) trans-1,2-Dichloroethene	7.94	61	11380	1.0086	ug/L	99
24) n-Hexane	8.02	57	10394	1.0875	ug/L	98
25) Diisopropyl ether	8.35	45	110210	5.1139	ug/L	98
26) Vinyl Acetate	8.53	43	10059	1.1860	ug/L #	87
27) 1,1-Dichloroethane	8.56	63	14397	0.9784	ug/L	94
28) Ethyl-Tert-Butyl ether	8.93	59	102308	4.9580	ug/L	99
29) 2-Butanone	9.12	43	1387	0.8919	ug/L #	44
30) Propionitrile	9.22	54	1959	4.2552	ug/L #	56
31) 2,2-Dichloropropane	9.34	77	13363	1.0179	ug/L	95
32) cis-1,2-Dichloroethene	9.41	96	9337	0.9750	ug/L	98
33) Chloroform	9.62	83	16620	0.9745	ug/L	98
34) 1-Bromopropane	9.75	122	1620	0.8855	ug/L	100
35) Bromochloromethane	9.84	130	5172	1.0054	ug/L	96
36) Tetrahydrofuran	9.87	42	5802	5.8622	ug/L	90
38) 1,1,1-Trichloroethane	10.14	97	13761	0.9810	ug/L	97
39) Cyclohexane	10.18	56	12156	1.0027	ug/L	99
40) 1,1-Dichloropropene	10.34	75	12179	1.0109	ug/L	94
41) Tert-Amyl-Methyl ether	10.44	73	93699	4.8658	ug/L	97
42) Carbon Tetrachloride	10.48	117	11739	0.9353	ug/L	95

(#) = qualifier out of range (m) = manual integration
8M418410.D 8260WTR.M Thu Mar 23 10:19:16 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418410.D Vial: 5
Acq On : 21 Mar 2017 17:09 Operator: TMB
Sample : WG607066-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:13 2017 Quant Results File: 8260WTR.RES

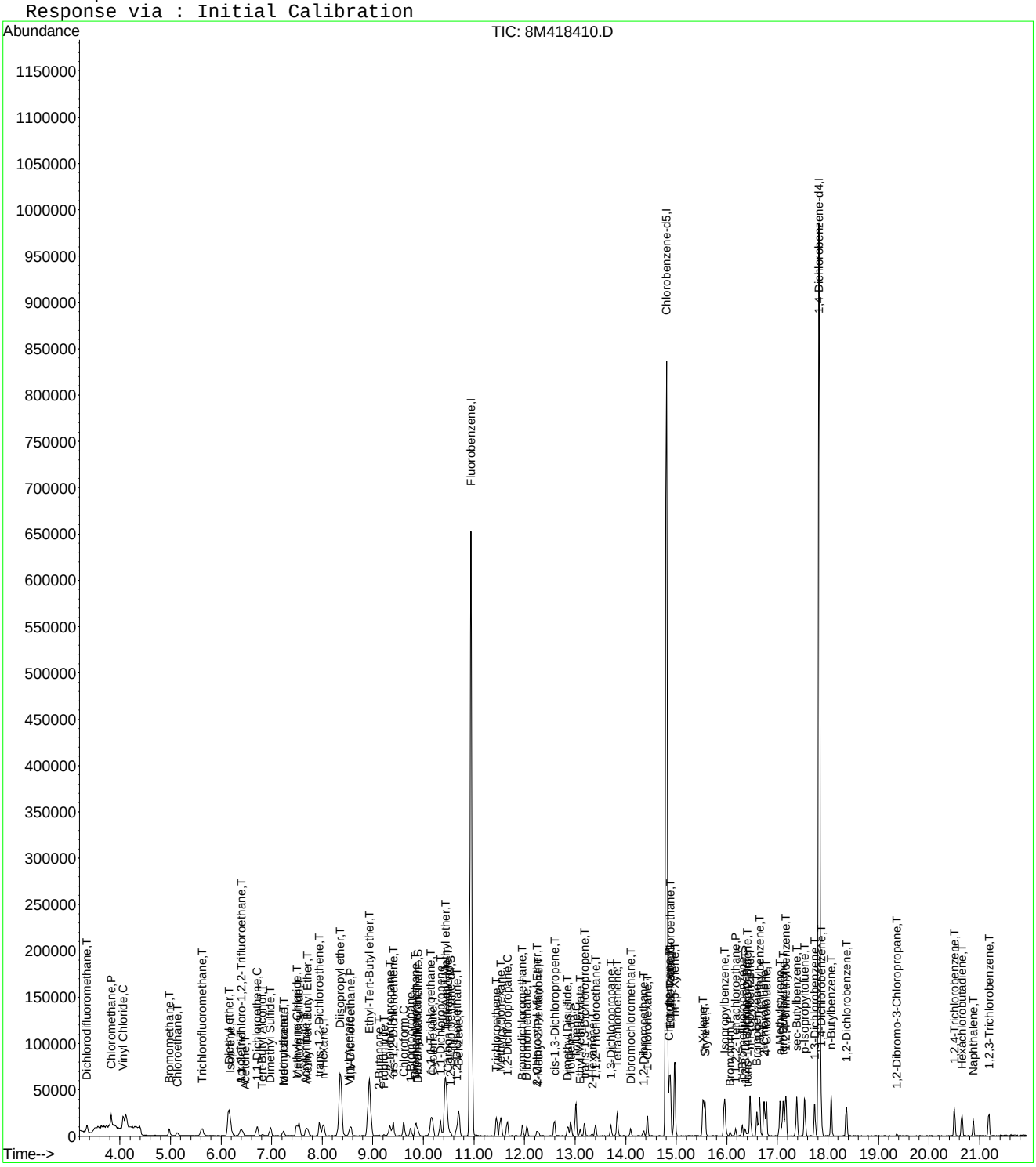
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.66	62	9506	0.9872	ug/L		95
46)	Benzene	10.70	78	34927	1.0054	ug/L		99
47)	Trichloroethene	11.45	130	8619	0.9278	ug/L		95
48)	Methylcyclohexane	11.53	83	14165	1.0148	ug/L		97
49)	1,2-Dichloropropane	11.66	63	7854	0.9833	ug/L		99
50)	Bromodichloromethane	11.95	83	10647	0.9428	ug/L		94
52)	Dibromomethane	12.05	93	4249	0.9926	ug/L		97
53)	2-Chloroethyl Vinyl Ether	12.25	63	3225	0.8879	ug/L		90
54)	4-Methyl-2-Pentanone	12.27	58	910	0.5854	ug/L	#	33
55)	cis-1,3-Dichloropropene	12.59	75	12482	0.9523	ug/L		96
56)	Dimethyl Disulfide	12.85	79	4366	3.3371	ug/L		98
59)	Toluene	13.02	91	37749	1.0375	ug/L		98
60)	Ethyl Methacrylate	13.10	69	6089	0.8655	ug/L		94
62)	trans-1,3-Dichloropropene	13.19	75	10170	0.9476	ug/L		98
63)	1,1,2-Trichloroethane	13.40	97	5520	0.9631	ug/L		99
64)	2-Hexanone	13.34	58	781	0.5684	ug/L	#	1
65)	1,3-Dichloropropane	13.71	76	10201	0.9940	ug/L		96
66)	Tetrachloroethene	13.83	164	7996	1.0142	ug/L		98
67)	Dibromochloromethane	14.10	129	6149	1.0240	ug/L		100
68)	1,2-Dibromoethane	14.35	107	5764	0.9802	ug/L		97
69)	1-Chlorohexane	14.43	91	12348	0.9958	ug/L		99
70)	Chlorobenzene	14.86	112	24749	0.9665	ug/L		93
71)	1,1,1,2-Tetrachloroethane	14.88	131	7452	0.9876	ug/L		100
72)	Ethylbenzene	14.88	106	13352	0.9395	ug/L		92
73)	m-,p-Xylene	14.97	106	32582	1.9116	ug/L		90
74)	o-Xylene	15.53	106	15550	0.9200	ug/L		94
75)	Styrene	15.57	104	25281	0.9265	ug/L		98
76)	Bromoform	16.07	173	3165	1.1654	ug/L		87
77)	Isopropylbenzene	15.95	105	41185	1.0072	ug/L		95
79)	1,1,2,2-Tetrachloroethane	16.17	83	6618	1.0470	ug/L	#	87
81)	1,2,3-Trichloropropane	16.37	110	1699	0.9441	ug/L		97
82)	trans-1,4-Dichloro-2-Buten	16.41	53	1275	0.8599	ug/L		78
83)	n-Propylbenzene	16.46	91	50394	1.0550	ug/L		96
84)	Bromobenzene	16.59	156	9822	0.9290	ug/L		89
85)	1,3,5-Trimethylbenzene	16.65	105	34036	0.9865	ug/L		98
86)	2-Chlorotoluene	16.74	91	32556	1.0139	ug/L		97
87)	4-Chlorotoluene	16.78	91	28745	1.0247	ug/L		97
88)	a-Methylstyrene	17.05	118	16432	0.8520	ug/L		100
89)	tert-Butylbenzene	17.11	134	6891	0.9044	ug/L		91
90)	1,2,4-Trimethylbenzene	17.16	105	36289	1.0117	ug/L		96
91)	sec-Butylbenzene	17.38	105	44768	1.0454	ug/L		96
92)	p-Isopropyltoluene	17.54	119	34608	0.9866	ug/L		98
93)	1,3-Dichlorobenzene	17.74	146	20930	0.9932	ug/L		96
94)	1,4-Dichlorobenzene	17.87	146	21416	1.0089	ug/L	#	73
95)	n-Butylbenzene	18.06	91	35423	1.0408	ug/L		95
96)	1,2-Dichlorobenzene	18.36	146	18350	0.9993	ug/L		99
97)	1,2-Dibromo-3-Chloropropan	19.37	75	633	0.6381	ug/L		78
98)	1,2,4-Trichlorobenzene	20.50	180	13698	0.9973	ug/L		95
99)	Hexachlorobutadiene	20.65	225	6917	1.0301	ug/L		96
100)	Naphthalene	20.87	128	18000	0.9923	ug/L		97
101)	1,2,3-Trichlorobenzene	21.19	180	11397	1.0034	ug/L		95

(#) = qualifier out of range (m) = manual integration
8M418410.D 8260WTR.M Thu Mar 23 10:19:16 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418410.D Vial: 5
Acq On : 21 Mar 2017 17:09 Operator: TMB
Sample : WG607066-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418410.D Vial: 5
Acq On : 21 Mar 2017 17:09 Operator: TMB
Sample : WG607066-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	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	1.1825	-18.3	100	0.00
4	C	Vinyl Chloride	1.0000	1.1091	-10.9	100	0.00
5	T	1,3-Butadiene	-1.0000	-1.0000	0.0	0	0.00
6	T	Bromomethane	1.0000	0.9784	2.2	100	0.00
7	T	Chloroethane	1.0000	0.9850	1.5	100	0.00
8	T	Trichlorofluoromethane	1.0000	1.0043	-0.4	100	0.00
9	T	Diethyl ether	5.0000	5.0179	-0.4	100	0.00
10	T	Isoprene	-1.0000	0.9613	0.0	100	0.00
11	T	Acrolein	-1.0000	1.8888	0.0	100	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	1.0000	0.9828	1.7	100	0.00
13	T	Acetone	-1.0000	0.9956	0.0	100	0.00
14	C	1,1-Dichloroethene	1.0000	1.0073	-0.7	100	0.00
15	T	Tert-Butyl Alcohol	-1.0000	8.3492	0.0	100	0.00
16	T	Dimethyl Sulfide	-1.0000	0.9494	0.0	100	-0.01
17	T	Iodomethane	1.0000	1.2539	-25.4#	100	-0.01
18	T	Methyl acetate	-1.0000	0.9557	0.0	100	0.00
19	T	Methylene Chloride	1.0000	1.0583	-5.8	100	0.00
20	T	Carbon Disulfide	1.0000	1.0667	-6.7	100	0.00
21	T	Acrylonitrile	2.5000	2.4051	3.8	100	0.00
22	T	Methyl Tert Butyl Ether	1.0000	0.9823	1.8	100	0.00
23	T	trans-1,2-Dichloroethene	1.0000	1.0086	-0.9	100	0.00
24	T	n-Hexane	-1.0000	1.0875	0.0	100	0.00
25	T	Diisopropyl ether	5.0000	5.1139	-2.3	100	0.00
26	T	Vinyl Acetate	-1.0000	1.1860	0.0	100	0.00
27	P	1,1-Dichloroethane	1.0000	0.9784	2.2	100	0.00
28	T	Ethyl-Tert-Butyl ether	5.0000	4.9580	0.8	100	0.00
29	T	2-Butanone	-1.0000	0.8919	0.0	100	0.00
30	T	Propionitrile	5.0000	4.2552	14.9	100	0.00
31	T	2,2-Dichloropropane	1.0000	1.0179	-1.8	100	0.00
32	T	cis-1,2-Dichloroethene	1.0000	0.9750	2.5	100	0.00
33	C	Chloroform	1.0000	0.9745	2.6	100	0.00
34		1-Bromopropane	1.0000	0.8855	11.5	100	0.00
35	T	Bromochloromethane	1.0000	1.0054	-0.5	100	0.00
36	T	Tetrahydrofuran	5.0000	5.8622	-17.2	100	0.00
37	S	Dibromofluoromethane	-1.0000	0.4419	0.0	100	0.00
38	T	1,1,1-Trichloroethane	1.0000	0.9809	1.9	100	0.00
39	T	Cyclohexane	1.0000	1.0027	-0.3	100	0.00
40	T	1,1-Dichloropropene	1.0000	1.0109	-1.1	100	0.00
41	T	Tert-Amyl-Methyl ether	5.0000	4.8658	2.7	100	0.00
42	T	Carbon Tetrachloride	1.0000	0.9353	6.5	100	0.00
43	S	1,2-Dichloroethane-d4	-1.0000	0.4929	0.0	100	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.61#
45	T	1,2-Dichloroethane	1.0000	0.9872	1.3	100	0.00
46	T	Benzene	1.0000	1.0054	-0.5	100	0.00
47	T	Trichloroethene	1.0000	0.9278	7.2	100	0.00
48	T	Methylcyclohexane	-1.0000	1.0148	0.0	100	0.00
49	C	1,2-Dichloropropane	1.0000	0.9833	1.7	100	0.00
50	T	Bromodichloromethane	1.0000	0.9428	5.7	100	-0.01
51	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.94#
52	T	Dibromomethane	1.0000	0.9926	0.7	100	0.00
53	T	2-Chloroethyl Vinyl Ether	-1.0000	0.8879	0.0	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	0.5854	0.0	100	0.00

(#) = Out of Range
8M418410.D 8260WTR.M Thu Mar 23 10:21:37 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418410.D Vial: 5
Acq On : 21 Mar 2017 17:09 Operator: TMB
Sample : WG607066-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	1.0000	0.9523	4.8	100	0.00
56	T	Dimethyl Disulfide	-1.0000	3.3371	0.0	0	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	-1.0000	0.5035	0.0	100	0.00
59	C	Toluene	1.0000	1.0375	-3.7	100	0.00
60	T	Ethyl Methacrylate	1.0000	0.8655	13.5	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.40#
62	T	trans-1,3-Dichloropropene	1.0000	0.9476	5.2	100	0.00
63	T	1,1,2-Trichloroethane	1.0000	0.9631	3.7	100	0.00
64	T	2-Hexanone	-1.0000	0.5684	0.0	100	0.00
65	T	1,3-Dichloropropane	1.0000	0.9940	0.6	100	0.00
66	T	Tetrachloroethene	1.0000	1.0142	-1.4	100	0.00
67	T	Dibromochloromethane	1.0000	1.0240	-2.4	100	0.00
68	T	1,2-Dibromoethane	1.0000	0.9802	2.0	100	0.00
69	T	1-Chlorohexane	1.0000	0.9958	0.4	100	0.00
70	P	Chlorobenzene	1.0000	0.9665	3.4	100	0.00
71	T	1,1,1,2-Tetrachloroethane	1.0000	0.9876	1.2	100	0.00
72	C	Ethylbenzene	1.0000	0.9395	6.0	100	0.00
73	T	m-,p-Xylene	2.0000	1.9116	4.4	100	0.00
74	T	o-Xylene	1.0000	0.9200	8.0	100	0.00
75	T	Styrene	1.0000	0.9265	7.3	100	0.00
76	P	Bromoform	1.0000	1.1654	-16.5	100	0.00
77	T	Isopropylbenzene	1.0000	1.0072	-0.7	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	1.0470	-4.7	100	0.00
80	S	p-Bromofluorobenzene	-1.0000	0.4996	0.0	100	0.00
81	T	1,2,3-Trichloropropane	1.0000	0.9441	5.6	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	1.0000	0.8599	14.0	100	0.00
83	T	n-Propylbenzene	1.0000	1.0550	-5.5	100	0.00
84	T	Bromobenzene	1.0000	0.9290	7.1	100	0.00
85	T	1,3,5-Trimethylbenzene	1.0000	0.9865	1.3	100	0.00
86	T	2-Chlorotoluene	1.0000	1.0139	-1.4	100	0.00
87	T	4-Chlorotoluene	1.0000	1.0247	-2.5	100	0.00
88	T	a-Methylstyrene	-1.0000	0.8520	0.0	100	0.00
89	T	tert-Butylbenzene	1.0000	0.9044	9.6	100	0.00
90	T	1,2,4-Trimethylbenzene	1.0000	1.0117	-1.2	100	0.00
91	T	sec-Butylbenzene	1.0000	1.0454	-4.5	100	0.00
92	T	p-Isopropyltoluene	1.0000	0.9866	1.3	100	0.00
93	T	1,3-Dichlorobenzene	1.0000	0.9931	0.7	100	0.00
94	T	1,4-Dichlorobenzene	1.0000	1.0090	-0.9	100	0.00
95	T	n-Butylbenzene	1.0000	1.0408	-4.1	100	0.00
96	T	1,2-Dichlorobenzene	1.0000	0.9993	0.1	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.6381	0.0	0	0.00
98	T	1,2,4-Trichlorobenzene	1.0000	0.9973	0.3	100	0.00
99	T	Hexachlorobutadiene	1.0000	1.0301	-3.0	100	0.00
100	T	Naphthalene	1.0000	0.9923	0.8	100	0.00
101	T	1,2,3-Trichlorobenzene	1.0000	1.0034	-0.3	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M418410.D 8260WTR.M Thu Mar 23 10:21:37 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418411.D Vial: 6
Acq On : 21 Mar 2017 17:40 Operator: TMB
Sample : WG607066-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:17 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.94	96	806453	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.81	117	613590	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.82	152	323797	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.90	111	8948	0.9783	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	3.92%#		
43) 1,2-Dichloroethane-d4	10.54	65	8112	1.0234	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	4.08%#		
58) Toluene-d8	12.91	98	29338	0.9505	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	3.80%#		
80) p-Bromofluorobenzene	16.31	95	12269	1.0013	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	4.00%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.34	85	21878	1.7318	ug/L	99
3) Chloromethane	3.83	50	31055	2.0285	ug/L	96
4) Vinyl Chloride	4.06	62	29775	2.0800	ug/L	97
5) 1,3-Butadiene	4.11	54	16496	0.7791	ug/L	96
6) Bromomethane	4.97	94	13569	1.8713	ug/L	99
7) Chloroethane	5.14	64	10934	1.8832	ug/L	94
8) Trichlorofluoromethane	5.62	101	29078	1.8771	ug/L	98
9) Diethyl ether	6.15	59	117459	23.4449	ug/L	99
10) Isoprene	6.19	67	22062	1.8433	ug/L	96
11) Acrolein	6.39	56	8387	13.0924	ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	6.40	101	15360	1.8434	ug/L	97
13) Acetone	6.50	43	2257	2.3403	ug/L #	42
14) 1,1-Dichloroethene	6.71	61	20970	1.8036	ug/L	98
15) Tert-Butyl Alcohol	6.80	59	14767	48.1076	ug/L	95
16) Dimethyl Sulfide	6.98	62	14593	1.7657	ug/L	98
17) Iodomethane	7.24	142	13138	1.8493	ug/L	98
18) Methyl acetate	7.23	43	5277	1.9134	ug/L #	82
19) Methylene Chloride	7.50	84	16184	1.8280	ug/L	96
20) Carbon Disulfide	7.55	76	50438	1.9046	ug/L	100
21) Acrylonitrile	7.67	53	15987	11.8516	ug/L	97
22) Methyl Tert Butyl Ether	7.70	73	31235	1.8329	ug/L	99
23) trans-1,2-Dichloroethene	7.94	61	21040	1.8663	ug/L	98
24) n-Hexane	8.01	57	19614	2.0540	ug/L	97
25) Diisopropyl ether	8.35	45	516674	23.9944	ug/L	99
26) Vinyl Acetate	8.53	43	18265	2.1553	ug/L	95
27) 1,1-Dichloroethane	8.56	63	27702	1.8841	ug/L	97
28) Ethyl-Tert-Butyl ether	8.93	59	484054	23.4779	ug/L	100
29) 2-Butanone	9.12	43	3328	2.1418	ug/L #	67
30) Propionitrile	9.22	54	11779	25.6068	ug/L	98
31) 2,2-Dichloropropane	9.34	77	25398	1.9364	ug/L	97
32) cis-1,2-Dichloroethene	9.41	96	17398	1.8183	ug/L	96
33) Chloroform	9.62	83	30803	1.8076	ug/L	98
34) 1-Bromopropane	9.75	122	3199	1.7500	ug/L	88
35) Bromochloromethane	9.84	130	9699	1.8870	ug/L	99
36) Tetrahydrofuran	9.86	42	23391	23.6536	ug/L	96
38) 1,1,1-Trichloroethane	10.14	97	24958	1.7806	ug/L	99
39) Cyclohexane	10.17	56	22456	1.8539	ug/L	98
40) 1,1-Dichloropropene	10.34	75	22537	1.8722	ug/L	96
41) Tert-Amyl-Methyl ether	10.43	73	454781	23.6366	ug/L	99
42) Carbon Tetrachloride	10.48	117	21530	1.7168	ug/L	99

(#) = qualifier out of range (m) = manual integration
8M418411.D 8260WTR.M Thu Mar 23 10:19:20 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418411.D Vial: 6
Acq On : 21 Mar 2017 17:40 Operator: TMB
Sample : WG607066-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:17 2017 Quant Results File: 8260WTR.RES

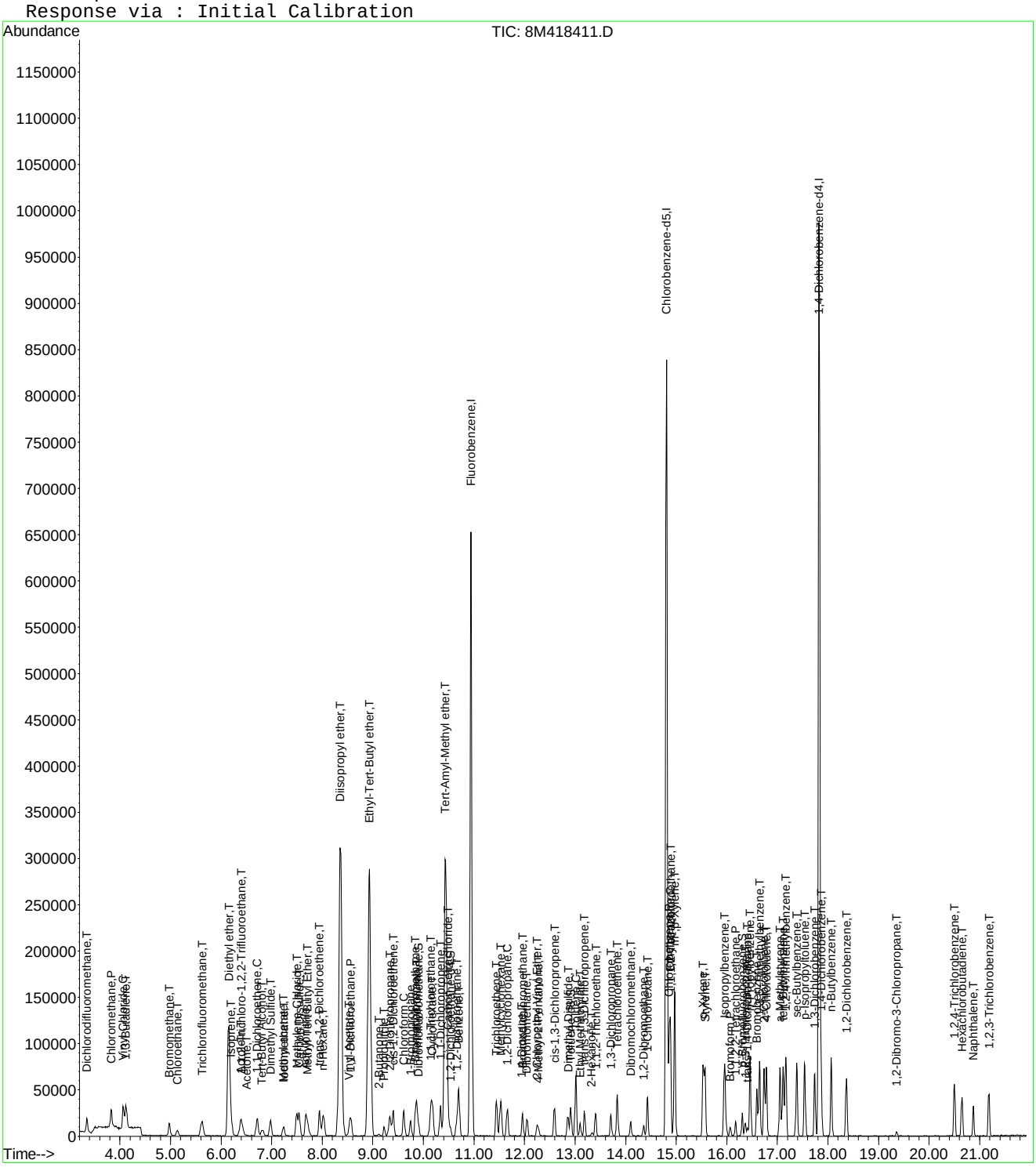
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.66	62	17821	1.8523	ug/L		99
46)	Benzene	10.70	78	65616	1.8903	ug/L		100
47)	Trichloroethene	11.45	130	16820	1.8122	ug/L		99
48)	Methylcyclohexane	11.53	83	25932	1.8594	ug/L		99
49)	1,2-Dichloropropane	11.65	63	14941	1.8721	ug/L		99
50)	Bromodichloromethane	11.96	83	20252	1.7949	ug/L		99
51)	1,4-Dioxane	11.94	88	1517	39.5549	ug/L		100
52)	Dibromomethane	12.05	93	8117	1.8978	ug/L		97
53)	2-Chloroethyl Vinyl Ether	12.25	63	6517	1.7957	ug/L		97
54)	4-Methyl-2-Pentanone	12.27	58	2133	1.3733	ug/L		93
55)	cis-1,3-Dichloropropene	12.59	75	23959	1.8295	ug/L		97
56)	Dimethyl Disulfide	12.86	79	9095	3.9150	ug/L		99
59)	Toluene	13.02	91	69007	1.8909	ug/L		97
60)	Ethyl Methacrylate	13.10	69	11717	1.6604	ug/L		99
62)	trans-1,3-Dichloropropene	13.18	75	18538	1.7221	ug/L		96
63)	1,1,2-Trichloroethane	13.41	97	10232	1.7799	ug/L		96
64)	2-Hexanone	13.33	58	2014	1.4614	ug/L	#	20
65)	1,3-Dichloropropane	13.71	76	19307	1.8757	ug/L		99
66)	Tetrachloroethene	13.83	164	14088	1.7816	ug/L		99
67)	Dibromochloromethane	14.10	129	11941	1.8003	ug/L		98
68)	1,2-Dibromoethane	14.35	107	10646	1.8049	ug/L		96
69)	1-Chlorohexane	14.43	91	22602	1.8173	ug/L		97
70)	Chlorobenzene	14.86	112	46971	1.8287	ug/L		87
71)	1,1,1,2-Tetrachloroethane	14.89	131	14902	1.7838	ug/L		94
72)	Ethylbenzene	14.88	106	25266	1.7725	ug/L		89
73)	m-,p-Xylene	14.97	106	61972	3.6249	ug/L		91
74)	o-Xylene	15.53	106	30925	1.8242	ug/L		99
75)	Styrene	15.57	104	49014	1.7909	ug/L		99
76)	Bromoform	16.07	173	6654	1.9563	ug/L		91
77)	Isopropylbenzene	15.95	105	77538	1.8905	ug/L		99
79)	1,1,2,2-Tetrachloroethane	16.17	83	11686	1.8517	ug/L		96
81)	1,2,3-Trichloropropane	16.37	110	3387	1.8852	ug/L		90
82)	trans-1,4-Dichloro-2-Buten	16.41	53	2517	1.7004	ug/L		86
83)	n-Propylbenzene	16.46	91	94833	1.9885	ug/L		97
84)	Bromobenzene	16.59	156	19552	1.8524	ug/L		91
85)	1,3,5-Trimethylbenzene	16.65	105	65580	1.9039	ug/L		100
86)	2-Chlorotoluene	16.74	91	60631	1.8914	ug/L		98
87)	4-Chlorotoluene	16.78	91	55993	1.9993	ug/L		96
88)	a-Methylstyrene	17.05	118	31365	1.6288	ug/L		98
89)	tert-Butylbenzene	17.11	134	13978	1.8375	ug/L		99
90)	1,2,4-Trimethylbenzene	17.16	105	67699	1.8905	ug/L		99
91)	sec-Butylbenzene	17.38	105	84222	1.9698	ug/L		98
92)	p-Isopropyltoluene	17.55	119	66367	1.8950	ug/L		98
93)	1,3-Dichlorobenzene	17.74	146	39368	1.8711	ug/L		98
94)	1,4-Dichlorobenzene	17.87	146	39901	1.8829	ug/L		82
95)	n-Butylbenzene	18.06	91	67203	1.9777	ug/L		98
96)	1,2-Dichlorobenzene	18.36	146	34521	1.8830	ug/L		100
97)	1,2-Dibromo-3-Chloropropan	19.36	75	1770	1.7871	ug/L		90
98)	1,2,4-Trichlorobenzene	20.50	180	24058	1.7544	ug/L		97
99)	Hexachlorobutadiene	20.65	225	12372	1.8454	ug/L		98
100)	Naphthalene	20.88	128	33545	1.8522	ug/L		99
101)	1,2,3-Trichlorobenzene	21.19	180	20663	1.8222	ug/L		99

(#) = qualifier out of range (m) = manual integration
8M418411.D 8260WTR.M Thu Mar 23 10:19:20 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418411.D Vial: 6
Acq On : 21 Mar 2017 17:40 Operator: TMB
Sample : WG607066-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418411.D Vial: 6
Acq On : 21 Mar 2017 17:40 Operator: TMB
Sample : WG607066-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	2.0000	1.7318	13.4	100	0.00
3	P	Chloromethane	2.0000	2.0285	-1.4	100	0.00
4	C	Vinyl Chloride	2.0000	2.0800	-4.0	100	0.00
5	T	1,3-Butadiene	2.0000	0.7791	61.0#	100	0.00
6	T	Bromomethane	2.0000	1.8714	6.4	100	0.00
7	T	Chloroethane	2.0000	1.8832	5.8	100	0.00
8	T	Trichlorofluoromethane	2.0000	1.8771	6.1	100	0.00
9	T	Diethyl ether	25.0000	23.4449	6.2	100	0.00
10	T	Isoprene	-1.0000	1.8433	0.0	100	0.00
11	T	Acrolein	12.5000	13.0924	-4.7	100	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	2.0000	1.8434	7.8	100	0.00
13	T	Acetone	-1.0000	2.3403	0.0	100	0.02
14	C	1,1-Dichloroethene	2.0000	1.8036	9.8	100	0.00
15	T	Tert-Butyl Alcohol	50.0000	48.1076	3.8	100	-0.01
16	T	Dimethyl Sulfide	-1.0000	1.7657	0.0	100	0.00
17	T	Iodomethane	2.0000	1.8493	7.5	100	0.00
18	T	Methyl acetate	-1.0000	1.9134	0.0	100	-0.01
19	T	Methylene Chloride	2.0000	1.8280	8.6	100	0.00
20	T	Carbon Disulfide	2.0000	1.9046	4.8	100	0.00
21	T	Acrylonitrile	12.5000	11.8516	5.2	100	0.00
22	T	Methyl Tert Butyl Ether	2.0000	1.8329	8.4	100	0.00
23	T	trans-1,2-Dichloroethene	2.0000	1.8663	6.7	100	0.00
24	T	n-Hexane	-1.0000	2.0540	0.0	100	-0.01
25	T	Diisopropyl ether	25.0000	23.9944	4.0	100	0.00
26	T	Vinyl Acetate	-1.0000	2.1553	0.0	100	0.00
27	P	1,1-Dichloroethane	2.0000	1.8841	5.8	100	0.00
28	T	Ethyl-Tert-Butyl ether	25.0000	23.4779	6.1	100	0.00
29	T	2-Butanone	-1.0000	2.1418	0.0	100	0.00
30	T	Propionitrile	25.0000	25.6068	-2.4	100	0.00
31	T	2,2-Dichloropropane	2.0000	1.9364	3.2	100	0.00
32	T	cis-1,2-Dichloroethene	2.0000	1.8183	9.1	100	0.00
33	C	Chloroform	2.0000	1.8076	9.6	100	0.00
34		1-Bromopropane	2.0000	1.7500	12.5	100	0.00
35	T	Bromochloromethane	2.0000	1.8870	5.6	100	0.00
36	T	Tetrahydrofuran	25.0000	23.6536	5.4	100	0.00
37	S	Dibromofluoromethane	1.0000	0.9783	2.2	100	0.00
38	T	1,1,1-Trichloroethane	2.0000	1.7806	11.0	100	0.00
39	T	Cyclohexane	2.0000	1.8539	7.3	100	0.00
40	T	1,1-Dichloropropene	2.0000	1.8723	6.4	100	0.00
41	T	Tert-Amyl-Methyl ether	25.0000	23.6366	5.5	100	0.00
42	T	Carbon Tetrachloride	2.0000	1.7168	14.2	100	0.00
43	S	1,2-Dichloroethane-d4	1.0000	1.0235	-2.3	100	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.61#
45	T	1,2-Dichloroethane	2.0000	1.8523	7.4	100	0.00
46	T	Benzene	2.0000	1.8903	5.5	100	0.00
47	T	Trichloroethene	2.0000	1.8122	9.4	100	0.00
48	T	Methylcyclohexane	-1.0000	1.8594	0.0	100	0.00
49	C	1,2-Dichloropropane	2.0000	1.8721	6.4	100	0.00
50	T	Bromodichloromethane	2.0000	1.7949	10.3	100	0.00
51	T	1,4-Dioxane	-1.0000	39.5549	0.0	100	0.00
52	T	Dibromomethane	2.0000	1.8978	5.1	100	0.00
53	T	2-Chloroethyl Vinyl Ether	2.0000	1.7957	10.2	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	1.3733	0.0	100	0.00

(#) = Out of Range
8M418411.D 8260WTR.M Thu Mar 23 10:21:56 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418411.D Vial: 6
Acq On : 21 Mar 2017 17:40 Operator: TMB
Sample : WG607066-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	2.0000	1.8295	8.5	100	0.00
56	T	Dimethyl Disulfide	-1.0000	3.9150	0.0	0	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	1.0000	0.9505	4.9	100	0.00
59	C	Toluene	2.0000	1.8909	5.5	100	0.00
60	T	Ethyl Methacrylate	2.0000	1.6604	17.0	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.40#
62	T	trans-1,3-Dichloropropene	2.0000	1.7221	13.9	100	0.00
63	T	1,1,2-Trichloroethane	2.0000	1.7799	11.0	100	0.00
64	T	2-Hexanone	-1.0000	1.4614	0.0	100	-0.01
65	T	1,3-Dichloropropane	2.0000	1.8757	6.2	100	0.00
66	T	Tetrachloroethene	2.0000	1.7816	10.9	100	0.00
67	T	Dibromochloromethane	2.0000	1.8003	10.0	100	0.00
68	T	1,2-Dibromoethane	2.0000	1.8049	9.8	100	0.00
69	T	1-Chlorohexane	2.0000	1.8173	9.1	100	0.00
70	P	Chlorobenzene	2.0000	1.8287	8.6	100	0.00
71	T	1,1,1,2-Tetrachloroethane	2.0000	1.7838	10.8	100	0.00
72	C	Ethylbenzene	2.0000	1.7725	11.4	100	0.00
73	T	m-,p-Xylene	4.0000	3.6249	9.4	100	0.00
74	T	o-Xylene	2.0000	1.8242	8.8	100	0.00
75	T	Styrene	2.0000	1.7909	10.5	100	0.00
76	P	Bromoform	2.0000	1.9563	2.2	100	0.00
77	T	Isopropylbenzene	2.0000	1.8905	5.5	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	2.0000	1.8517	7.4	100	0.00
80	S	p-Bromofluorobenzene	1.0000	1.0013	-0.1	100	0.00
81	T	1,2,3-Trichloropropane	2.0000	1.8852	5.7	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	2.0000	1.7004	15.0	100	0.00
83	T	n-Propylbenzene	2.0000	1.9885	0.6	100	0.00
84	T	Bromobenzene	2.0000	1.8524	7.4	100	0.00
85	T	1,3,5-Trimethylbenzene	2.0000	1.9039	4.8	100	0.00
86	T	2-Chlorotoluene	2.0000	1.8914	5.4	100	0.00
87	T	4-Chlorotoluene	2.0000	1.9993	0.0	100	0.00
88	T	a-Methylstyrene	-1.0000	1.6288	0.0	100	0.00
89	T	tert-Butylbenzene	2.0000	1.8375	8.1	100	0.00
90	T	1,2,4-Trimethylbenzene	2.0000	1.8905	5.5	100	0.00
91	T	sec-Butylbenzene	2.0000	1.9698	1.5	100	0.00
92	T	p-Isopropyltoluene	2.0000	1.8950	5.3	100	0.00
93	T	1,3-Dichlorobenzene	2.0000	1.8711	6.4	100	0.00
94	T	1,4-Dichlorobenzene	2.0000	1.8829	5.9	100	0.00
95	T	n-Butylbenzene	2.0000	1.9777	1.1	100	0.00
96	T	1,2-Dichlorobenzene	2.0000	1.8830	5.9	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	2.0000	1.7871	10.6	100	0.00
98	T	1,2,4-Trichlorobenzene	2.0000	1.7545	12.3	100	0.00
99	T	Hexachlorobutadiene	2.0000	1.8454	7.7	100	0.00
100	T	Naphthalene	2.0000	1.8522	7.4	100	0.00
101	T	1,2,3-Trichlorobenzene	2.0000	1.8222	8.9	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M418411.D 8260WTR.M Thu Mar 23 10:21:57 2017 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418412.D Vial: 7
Acq On : 21 Mar 2017 18:10 Operator: TMB
Sample : WG607066-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:21 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.94	96	815035	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.81	117	615657	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.83	152	327108	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.90	111	22395	2.4228	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	9.68%#		
43) 1,2-Dichloroethane-d4	10.54	65	19064	2.3799	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	9.52%#		
58) Toluene-d8	12.92	98	78100	2.5219	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	10.08%#		
80) p-Bromofluorobenzene	16.31	95	30346	2.4516	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	9.80%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.34	85	57648	4.5151	ug/L	100
3) Chloromethane	3.83	50	78191	5.0536	ug/L	97
4) Vinyl Chloride	4.06	62	73384	5.0724	ug/L	99
5) 1,3-Butadiene	4.12	54	41269	5.8119	ug/L	96
6) Bromomethane	4.97	94	35005	4.7768	ug/L	98
7) Chloroethane	5.13	64	28649	4.8823	ug/L	98
8) Trichlorofluoromethane	5.62	101	75703	4.8355	ug/L	99
9) Diethyl ether	6.14	59	246013	48.5872	ug/L	99
10) Isoprene	6.18	67	57716	4.7714	ug/L	99
11) Acrolein	6.38	56	15359	23.7235	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.40	101	42364	5.0307	ug/L	99
13) Acetone	6.48	43	4624	4.7441	ug/L	84
14) 1,1-Dichloroethene	6.71	61	57417	4.8863	ug/L	100
15) Tert-Butyl Alcohol	6.82	59	29560	95.2859	ug/L	97
16) Dimethyl Sulfide	6.98	62	39521	4.7315	ug/L	100
17) Iodomethane	7.24	142	38342	4.3883	ug/L	99
18) Methyl acetate	7.24	43	13546	4.8600	ug/L #	89
19) Methylene Chloride	7.50	84	42736	4.7762	ug/L	99
20) Carbon Disulfide	7.54	76	133568	4.9906	ug/L	100
21) Acrylonitrile	7.67	53	32246	23.6530	ug/L	99
22) Methyl Tert Butyl Ether	7.70	73	81973	4.7595	ug/L	100
23) trans-1,2-Dichloroethene	7.94	61	55034	4.8304	ug/L	98
24) n-Hexane	8.01	57	50816	5.2654	ug/L	99
25) Diisopropyl ether	8.36	45	1098144	50.4609	ug/L	98
26) Vinyl Acetate	8.53	43	46164	5.3902	ug/L	99
27) 1,1-Dichloroethane	8.56	63	73534	4.9487	ug/L	99
28) Ethyl-Tert-Butyl ether	8.92	59	1037371	49.7855	ug/L	100
29) 2-Butanone	9.12	43	7736	4.9261	ug/L	87
30) Propionitrile	9.22	54	22643	48.7062	ug/L	99
31) 2,2-Dichloropropane	9.34	77	66646	5.0276	ug/L	98
32) cis-1,2-Dichloroethene	9.41	96	47223	4.8834	ug/L	98
33) Chloroform	9.61	83	79976	4.6438	ug/L	98
34) 1-Bromopropane	9.74	122	9164	4.9603	ug/L	99
35) Bromochloromethane	9.84	130	24923	4.7979	ug/L	97
36) Tetrahydrofuran	9.87	42	46575	46.6019	ug/L	99
38) 1,1,1-Trichloroethane	10.14	97	69902	4.9346	ug/L	99
39) Cyclohexane	10.18	56	59815	4.8861	ug/L	99
40) 1,1-Dichloropropene	10.34	75	59701	4.9074	ug/L	97
41) Tert-Amyl-Methyl ether	10.43	73	964872	49.6198	ug/L	100
42) Carbon Tetrachloride	10.49	117	61702	4.8682	ug/L	99

(#) = qualifier out of range (m) = manual integration
8M418412.D 8260WTR.M Thu Mar 23 10:19:24 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418412.D Vial: 7
Acq On : 21 Mar 2017 18:10 Operator: TMB
Sample : WG607066-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:21 2017 Quant Results File: 8260WTR.RES

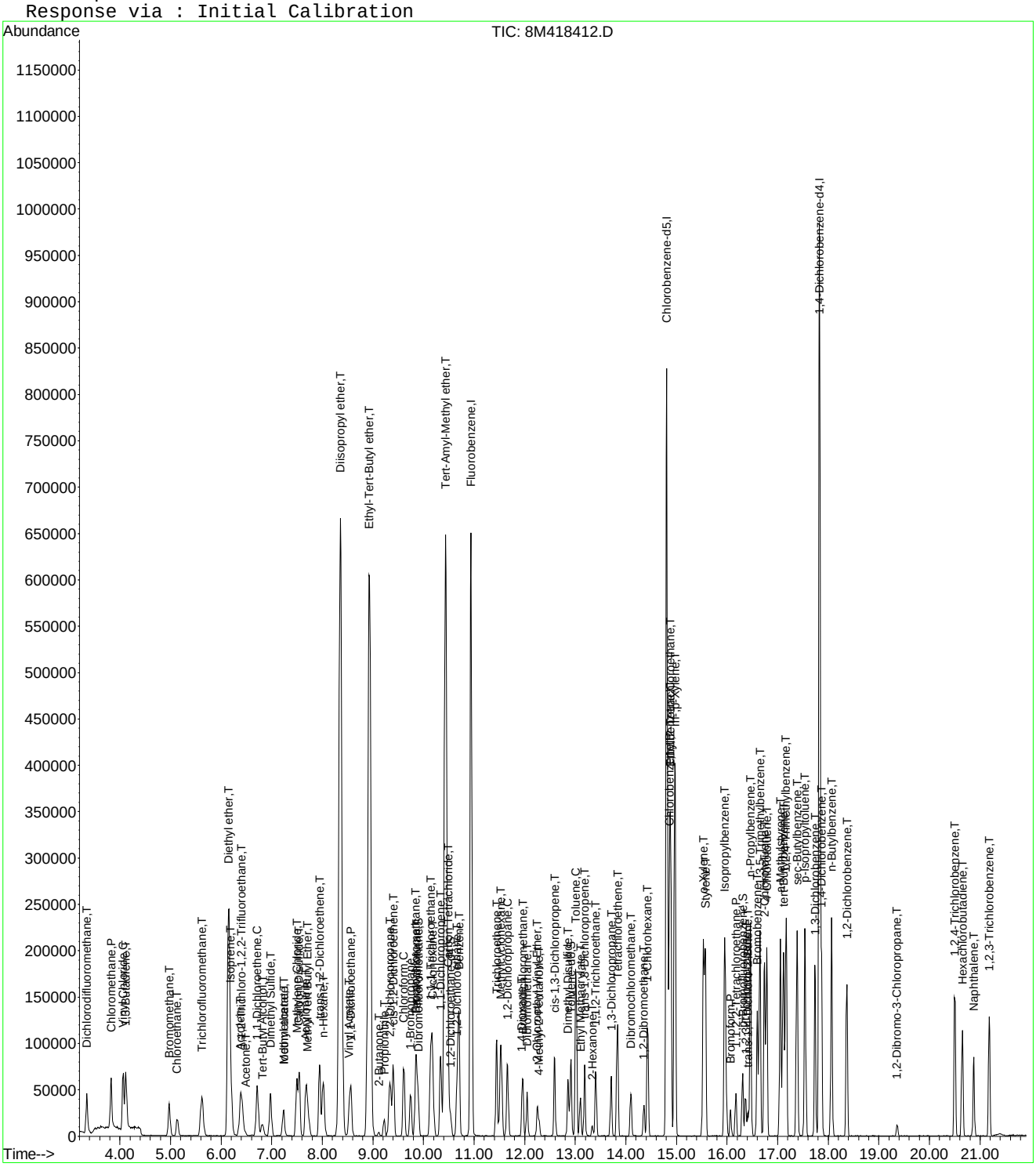
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.66	62	46572	4.7897	ug/L		98
46)	Benzene	10.70	78	177629	5.0634	ug/L		98
47)	Trichloroethene	11.45	130	45447	4.8449	ug/L		98
48)	Methylcyclohexane	11.53	83	69686	4.9440	ug/L		100
49)	1,2-Dichloropropane	11.66	63	39996	4.9586	ug/L		98
50)	Bromodichloromethane	11.96	83	53542	4.6955	ug/L		98
51)	1,4-Dioxane	11.94	88	3437	88.6741	ug/L		97
52)	Dibromomethane	12.05	93	21357	4.9409	ug/L		99
53)	2-Chloroethyl Vinyl Ether	12.24	63	17523	4.7776	ug/L		98
54)	4-Methyl-2-Pentanone	12.28	58	6871	4.3772	ug/L		97
55)	cis-1,3-Dichloropropene	12.60	75	63284	4.7814	ug/L		100
56)	Dimethyl Disulfide	12.85	79	25856	5.9282	ug/L		98
59)	Toluene	13.01	91	185488	5.0655	ug/L		99
60)	Ethyl Methacrylate	13.10	69	32628	4.6082	ug/L		99
62)	trans-1,3-Dichloropropene	13.18	75	51141	4.7349	ug/L		99
63)	1,1,2-Trichloroethane	13.40	97	28565	4.9523	ug/L		99
64)	2-Hexanone	13.34	58	5536	4.0035	ug/L	#	28
65)	1,3-Dichloropropane	13.71	76	49887	4.8302	ug/L		100
66)	Tetrachloroethene	13.84	164	38803	4.8906	ug/L		100
67)	Dibromochloromethane	14.09	129	33422	4.6625	ug/L		98
68)	1,2-Dibromoethane	14.35	107	28526	4.8200	ug/L		99
69)	1-Chlorohexane	14.43	91	61333	4.9148	ug/L		100
70)	Chlorobenzene	14.86	112	122717	4.7617	ug/L		96
71)	1,1,1,2-Tetrachloroethane	14.88	131	40183	4.4589	ug/L		99
72)	Ethylbenzene	14.88	106	68410	4.7831	ug/L		91
73)	m-,p-Xylene	14.97	106	165390	9.6416	ug/L		91
74)	o-Xylene	15.53	106	79805	4.6916	ug/L		95
75)	Styrene	15.57	104	133331	4.8554	ug/L		99
76)	Bromoform	16.07	173	17246	4.3386	ug/L		95
77)	Isopropylbenzene	15.96	105	207808	5.0495	ug/L		98
79)	1,1,2,2-Tetrachloroethane	16.17	83	32166	5.0454	ug/L		97
81)	1,2,3-Trichloropropane	16.37	110	8855	4.8787	ug/L		97
82)	trans-1,4-Dichloro-2-Buten	16.41	53	7680	5.1357	ug/L		94
83)	n-Propylbenzene	16.46	91	255678	5.3068	ug/L		97
84)	Bromobenzene	16.60	156	51241	4.8055	ug/L		97
85)	1,3,5-Trimethylbenzene	16.65	105	175753	5.0506	ug/L		99
86)	2-Chlorotoluene	16.74	91	164765	5.0877	ug/L		98
87)	4-Chlorotoluene	16.78	91	140714	4.9736	ug/L		97
88)	a-Methylstyrene	17.05	118	89621	4.6071	ug/L		99
89)	tert-Butylbenzene	17.11	134	36401	4.7366	ug/L		94
90)	1,2,4-Trimethylbenzene	17.17	105	183680	5.0772	ug/L		98
91)	sec-Butylbenzene	17.38	105	226755	5.2498	ug/L		97
92)	p-Isopropyltoluene	17.54	119	179958	5.0863	ug/L		98
93)	1,3-Dichlorobenzene	17.74	146	104685	4.9251	ug/L		97
94)	1,4-Dichlorobenzene	17.87	146	102822	4.8029	ug/L		93
95)	n-Butylbenzene	18.06	91	177005	5.1563	ug/L		98
96)	1,2-Dichlorobenzene	18.36	146	90038	4.8615	ug/L		99
97)	1,2-Dibromo-3-Chloropropan	19.36	75	4350	4.3476	ug/L		93
98)	1,2,4-Trichlorobenzene	20.50	180	65218	4.7079	ug/L		100
99)	Hexachlorobutadiene	20.65	225	32260	4.7632	ug/L		97
100)	Naphthalene	20.88	128	87714	4.7941	ug/L		98
101)	1,2,3-Trichlorobenzene	21.18	180	52406	4.5747	ug/L		99

(#) = qualifier out of range (m) = manual integration
8M418412.D 8260WTR.M Thu Mar 23 10:19:24 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418412.D Vial: 7
Acq On : 21 Mar 2017 18:10 Operator: TMB
Sample : WG607066-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418412.D Vial: 7
Acq On : 21 Mar 2017 18:10 Operator: TMB
Sample : WG607066-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	5.0000	4.5152	9.7	100	0.00
3	P	Chloromethane	5.0000	5.0536	-1.1	100	0.00
4	C	Vinyl Chloride	5.0000	5.0724	-1.4	100	0.01
5	T	1,3-Butadiene	5.0000	5.8119	-16.2	100	0.01
6	T	Bromomethane	5.0000	4.7768	4.5	100	0.00
7	T	Chloroethane	5.0000	4.8823	2.4	100	0.00
8	T	Trichlorofluoromethane	5.0000	4.8355	3.3	100	0.00
9	T	Diethyl ether	50.0000	48.5872	2.8	100	0.00
10	T	Isoprene	5.0000	4.7714	4.6	100	0.00
11	T	Acrolein	25.0000	23.7235	5.1	100	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	5.0000	5.0307	-0.6	100	0.00
13	T	Acetone	5.0000	4.7441	5.1	100	0.00
14	C	1,1-Dichloroethene	5.0000	4.8863	2.3	100	0.00
15	T	Tert-Butyl Alcohol	100.0000	95.2859	4.7	100	0.00
16	T	Dimethyl Sulfide	5.0000	4.7315	5.4	100	0.00
17	T	Iodomethane	5.0000	4.3883	12.2	100	0.00
18	T	Methyl acetate	5.0000	4.8600	2.8	100	0.00
19	T	Methylene Chloride	5.0000	4.7762	4.5	100	0.00
20	T	Carbon Disulfide	5.0000	4.9906	0.2	100	0.00
21	T	Acrylonitrile	25.0000	23.6530	5.4	100	0.00
22	T	Methyl Tert Butyl Ether	5.0000	4.7595	4.8	100	0.00
23	T	trans-1,2-Dichloroethene	5.0000	4.8304	3.4	100	0.00
24	T	n-Hexane	5.0000	5.2654	-5.3	100	0.00
25	T	Diisopropyl ether	50.0000	50.4609	-0.9	100	0.00
26	T	Vinyl Acetate	5.0000	5.3902	-7.8	100	0.00
27	P	1,1-Dichloroethane	5.0000	4.9487	1.0	100	0.00
28	T	Ethyl-Tert-Butyl ether	50.0000	49.7855	0.4	100	0.00
29	T	2-Butanone	5.0000	4.9261	1.5	100	0.01
30	T	Propionitrile	50.0000	48.7062	2.6	100	0.00
31	T	2,2-Dichloropropane	5.0000	5.0277	-0.6	100	0.00
32	T	cis-1,2-Dichloroethene	5.0000	4.8834	2.3	100	0.01
33	C	Chloroform	5.0000	4.6437	7.1	100	0.00
34		1-Bromopropane	5.0000	4.9603	0.8	100	0.00
35	T	Bromochloromethane	5.0000	4.7979	4.0	100	0.00
36	T	Tetrahydrofuran	50.0000	46.6019	6.8	100	0.00
37	S	Dibromofluoromethane	2.5000	2.4228	3.1	100	0.00
38	T	1,1,1-Trichloroethane	5.0000	4.9346	1.3	100	0.00
39	T	Cyclohexane	5.0000	4.8861	2.3	100	0.00
40	T	1,1-Dichloropropene	5.0000	4.9074	1.9	100	0.00
41	T	Tert-Amyl-Methyl ether	50.0000	49.6198	0.8	100	0.00
42	T	Carbon Tetrachloride	5.0000	4.8682	2.6	100	0.00
43	S	1,2-Dichloroethane-d4	2.5000	2.3799	4.8	100	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.61#
45	T	1,2-Dichloroethane	5.0000	4.7897	4.2	100	0.00
46	T	Benzene	5.0000	5.0634	-1.3	100	0.00
47	T	Trichloroethene	5.0000	4.8449	3.1	100	0.00
48	T	Methylcyclohexane	5.0000	4.9440	1.1	100	0.00
49	C	1,2-Dichloropropane	5.0000	4.9586	0.8	100	0.01
50	T	Bromodichloromethane	5.0000	4.6955	6.1	100	0.00
51	T	1,4-Dioxane	100.0000	88.6741	11.3	100	0.00
52	T	Dibromomethane	5.0000	4.9409	1.2	100	0.00
53	T	2-Chloroethyl Vinyl Ether	5.0000	4.7776	4.4	100	0.00
54	T	4-Methyl-2-Pentanone	5.0000	4.3772	12.5	100	0.01

(#) = Out of Range
8M418412.D 8260WTR.M Thu Mar 23 10:22:11 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418412.D Vial: 7
Acq On : 21 Mar 2017 18:10 Operator: TMB
Sample : WG607066-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	5.0000	4.7814	4.4	100	0.00
56	T	Dimethyl Disulfide	5.0000	5.9282	-18.6	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	2.5000	2.5219	-0.9	100	0.00
59	C	Toluene	5.0000	5.0655	-1.3	100	0.00
60	T	Ethyl Methacrylate	5.0000	4.6082	7.8	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.40#
62	T	trans-1,3-Dichloropropene	5.0000	4.7349	5.3	100	0.00
63	T	1,1,2-Trichloroethane	5.0000	4.9523	1.0	100	0.00
64	T	2-Hexanone	5.0000	4.0035	19.9	100	0.00
65	T	1,3-Dichloropropane	5.0000	4.8302	3.4	100	0.00
66	T	Tetrachloroethene	5.0000	4.8906	2.2	100	0.00
67	T	Dibromochloromethane	5.0000	4.6625	6.8	100	0.00
68	T	1,2-Dibromoethane	5.0000	4.8200	3.6	100	0.00
69	T	1-Chlorohexane	5.0000	4.9148	1.7	100	0.00
70	P	Chlorobenzene	5.0000	4.7617	4.8	100	0.00
71	T	1,1,1,2-Tetrachloroethane	5.0000	4.4589	10.8	100	0.00
72	C	Ethylbenzene	5.0000	4.7831	4.3	100	0.00
73	T	m-,p-Xylene	10.0000	9.6416	3.6	100	0.00
74	T	o-Xylene	5.0000	4.6916	6.2	100	0.00
75	T	Styrene	5.0000	4.8554	2.9	100	0.00
76	P	Bromoform	5.0000	4.3386	13.2	100	0.00
77	T	Isopropylbenzene	5.0000	5.0496	-1.0	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	5.0454	-0.9	100	0.00
80	S	p-Bromofluorobenzene	2.5000	2.4516	1.9	100	0.00
81	T	1,2,3-Trichloropropane	5.0000	4.8787	2.4	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	5.0000	5.1357	-2.7	100	0.00
83	T	n-Propylbenzene	5.0000	5.3068	-6.1	100	0.00
84	T	Bromobenzene	5.0000	4.8055	3.9	100	0.00
85	T	1,3,5-Trimethylbenzene	5.0000	5.0506	-1.0	100	0.00
86	T	2-Chlorotoluene	5.0000	5.0877	-1.8	100	0.00
87	T	4-Chlorotoluene	5.0000	4.9736	0.5	100	0.00
88	T	a-Methylstyrene	5.0000	4.6071	7.9	100	0.00
89	T	tert-Butylbenzene	5.0000	4.7366	5.3	100	0.00
90	T	1,2,4-Trimethylbenzene	5.0000	5.0772	-1.5	100	0.00
91	T	sec-Butylbenzene	5.0000	5.2498	-5.0	100	0.00
92	T	p-Isopropyltoluene	5.0000	5.0863	-1.7	100	0.00
93	T	1,3-Dichlorobenzene	5.0000	4.9251	1.5	100	0.00
94	T	1,4-Dichlorobenzene	5.0000	4.8029	3.9	100	0.00
95	T	n-Butylbenzene	5.0000	5.1563	-3.1	100	0.00
96	T	1,2-Dichlorobenzene	5.0000	4.8614	2.8	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	5.0000	4.3476	13.0	100	0.00
98	T	1,2,4-Trichlorobenzene	5.0000	4.7079	5.8	100	0.00
99	T	Hexachlorobutadiene	5.0000	4.7632	4.7	100	0.00
100	T	Naphthalene	5.0000	4.7941	4.1	100	0.00
101	T	1,2,3-Trichlorobenzene	5.0000	4.5747	8.5	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M418412.D 8260WTR.M Thu Mar 23 10:22:11 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418413.D Vial: 8
Acq On : 21 Mar 2017 18:41 Operator: TMB
Sample : WG607066-07 20ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:25 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.94	96	821672	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.81	117	625798	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.83	152	337574	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.90	111	91435	9.8118	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 39.24%#			
43) 1,2-Dichloroethane-d4	10.54	65	80586	9.9788	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 39.92%#			
58) Toluene-d8	12.92	98	315631	10.0266	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 40.12%#			
80) p-Bromofluorobenzene	16.31	95	124358	9.7351	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 38.96%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.34	85	267112	20.7520	ug/L	100
3) Chloromethane	3.83	50	306801	19.6689	ug/L	100
4) Vinyl Chloride	4.05	62	289525	19.8509	ug/L	99
5) 1,3-Butadiene	4.12	54	154484	29.8378	ug/L	99
6) Bromomethane	4.98	94	139620	18.8988	ug/L	100
7) Chloroethane	5.13	64	119263	20.1604	ug/L	98
8) Trichlorofluoromethane	5.63	101	307979	19.5132	ug/L	99
9) Diethyl ether	6.14	59	402822	78.9142	ug/L	100
10) Isoprene	6.18	67	230105	18.8691	ug/L	100
11) Acrolein	6.38	56	26074	39.9486	ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	6.40	101	165526	19.4975	ug/L	100
13) Acetone	6.48	43	20120	20.4758	ug/L	95
14) 1,1-Dichloroethene	6.71	61	229545	19.3768	ug/L	100
15) Tert-Butyl Alcohol	6.82	59	51093	163.3666	ug/L	99
16) Dimethyl Sulfide	6.98	62	161581	19.1886	ug/L	100
17) Iodomethane	7.23	142	171474	17.7339	ug/L	99
18) Methyl acetate	7.24	43	53968	19.2063	ug/L	97
19) Methylene Chloride	7.50	84	175217	19.4242	ug/L	99
20) Carbon Disulfide	7.54	76	534567	19.8121	ug/L	100
21) Acrylonitrile	7.67	53	54994	40.0133	ug/L	98
22) Methyl Tert Butyl Ether	7.70	73	350631	20.1938	ug/L	100
23) trans-1,2-Dichloroethene	7.94	61	222172	19.3426	ug/L	100
24) n-Hexane	8.02	57	183626	18.8729	ug/L	100
25) Diisopropyl ether	8.36	45	1757668	80.1144	ug/L	100
26) Vinyl Acetate	8.53	43	171984	19.9188	ug/L	99
27) 1,1-Dichloroethane	8.56	63	293490	19.5918	ug/L	99
28) Ethyl-Tert-Butyl ether	8.92	59	1705294	81.1794	ug/L	100
29) 2-Butanone	9.11	43	31385	19.8239	ug/L	97
30) Propionitrile	9.22	54	38828	82.8463	ug/L	99
31) 2,2-Dichloropropane	9.34	77	253094	18.9387	ug/L	99
32) cis-1,2-Dichloroethene	9.40	96	192736	19.7700	ug/L	99
33) Chloroform	9.61	83	317903	18.3097	ug/L	99
34) 1-Bromopropane	9.75	122	36849	19.7847	ug/L	96
35) Bromochloromethane	9.85	130	103131	19.6934	ug/L	99
36) Tetrahydrofuran	9.87	42	78080	77.4941	ug/L	99
38) 1,1,1-Trichloroethane	10.14	97	277573	19.4366	ug/L	100
39) Cyclohexane	10.18	56	236003	19.1226	ug/L	99
40) 1,1-Dichloropropene	10.34	75	238442	19.4415	ug/L	99
41) Tert-Amyl-Methyl ether	10.43	73	1584333	80.8183	ug/L	100
42) Carbon Tetrachloride	10.49	117	250269	19.5864	ug/L	99

(#) = qualifier out of range (m) = manual integration
8M418413.D 8260WTR.M Thu Mar 23 10:19:28 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418413.D Vial: 8
Acq On : 21 Mar 2017 18:41 Operator: TMB
Sample : WG607066-07 20ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:25 2017 Quant Results File: 8260WTR.RES

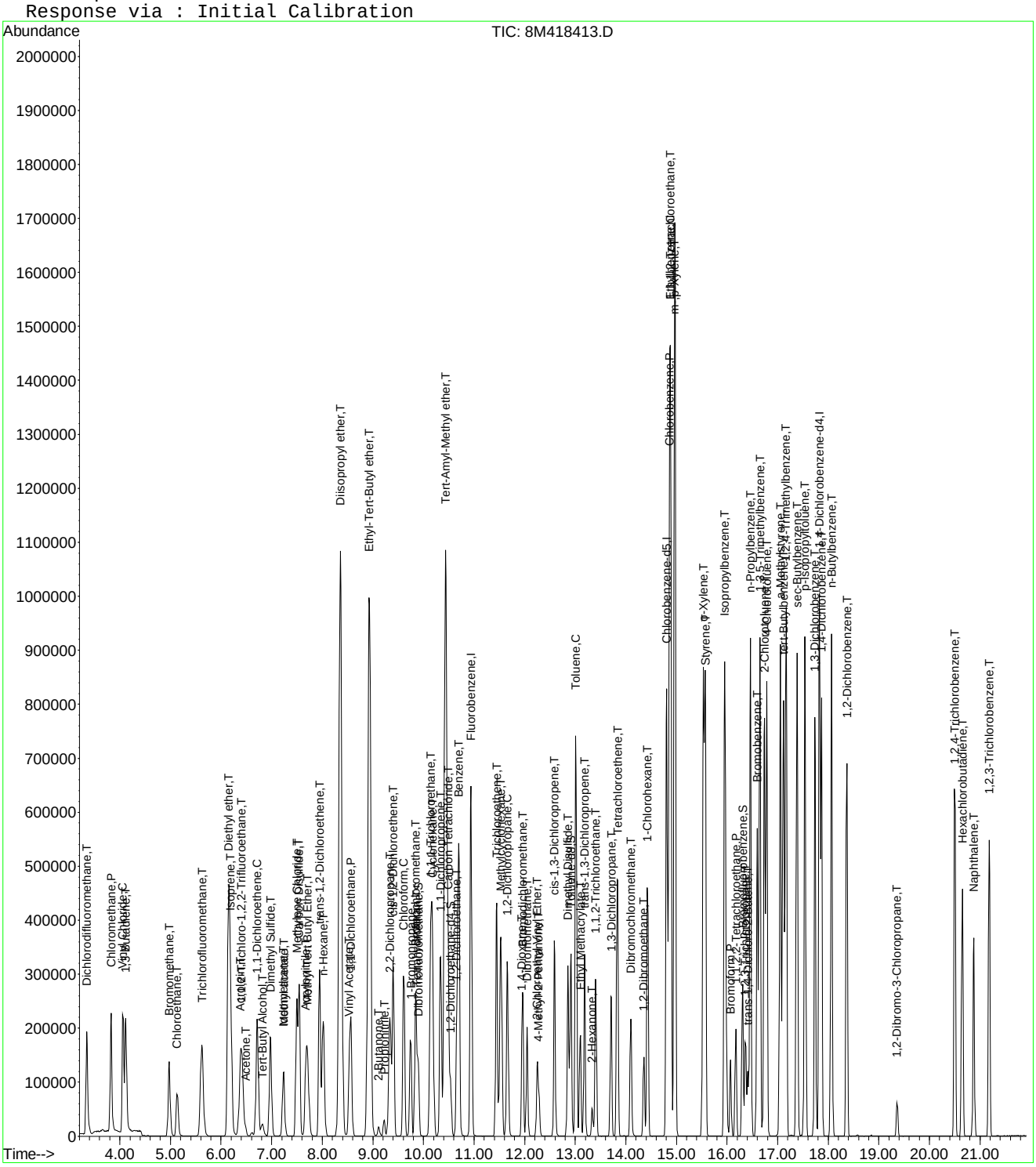
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.65	62	193166	19.7059	ug/L	99
46)	Benzene	10.69	78	700569	19.8088	ug/L	99
47)	Trichloroethene	11.45	130	185531	19.6190	ug/L	99
48)	Methylcyclohexane	11.53	83	268976	18.9287	ug/L	99
49)	1,2-Dichloropropane	11.65	63	162712	20.0097	ug/L	100
50)	Bromodichloromethane	11.95	83	228854	19.9076	ug/L	99
51)	1,4-Dioxane	11.94	88	6022	154.1117	ug/L	94
52)	Dibromomethane	12.05	93	90005	20.6543	ug/L	99
53)	2-Chloroethyl Vinyl Ether	12.24	63	71072	19.2210	ug/L	98
54)	4-Methyl-2-Pentanone	12.27	58	30339	19.1714	ug/L	98
55)	cis-1,3-Dichloropropene	12.59	75	265979	19.9337	ug/L	99
56)	Dimethyl Disulfide	12.85	79	128604	18.2156	ug/L	97
59)	Toluene	13.01	91	743388	19.9724	ug/L	98
60)	Ethyl Methacrylate	13.10	69	149186	20.7286	ug/L	98
62)	trans-1,3-Dichloropropene	13.18	75	220503	20.0843	ug/L	100
63)	1,1,2-Trichloroethane	13.40	97	118566	20.2227	ug/L	100
64)	2-Hexanone	13.33	58	27656	19.6759	ug/L	99
65)	1,3-Dichloropropane	13.71	76	210564	20.0570	ug/L	99
66)	Tetrachloroethene	13.84	164	151933	18.8389	ug/L	99
67)	Dibromochloromethane	14.09	129	148062	19.3718	ug/L	100
68)	1,2-Dibromoethane	14.35	107	122091	20.2951	ug/L	98
69)	1-Chlorohexane	14.43	91	239557	18.8853	ug/L	99
70)	Chlorobenzene	14.86	112	498962	19.0471	ug/L	100
71)	1,1,1,2-Tetrachloroethane	14.88	131	181926	18.6479	ug/L	100
72)	Ethylbenzene	14.88	106	280076	19.2650	ug/L	94
73)	m-,p-Xylene	14.96	106	683565	39.2036	ug/L	93
74)	o-Xylene	15.53	106	329733	19.0703	ug/L	99
75)	Styrene	15.57	104	559745	20.0535	ug/L	99
76)	Bromoform	16.07	173	86579	19.2358	ug/L	100
77)	Isopropylbenzene	15.96	105	836820	20.0045	ug/L	99
79)	1,1,2,2-Tetrachloroethane	16.17	83	133568	20.3011	ug/L	99
81)	1,2,3-Trichloropropane	16.36	110	37383	19.9577	ug/L	98
82)	trans-1,4-Dichloro-2-Buten	16.41	53	31257	20.2539	ug/L	95
83)	n-Propylbenzene	16.46	91	1013480	20.3834	ug/L	98
84)	Bromobenzene	16.60	156	213250	19.3788	ug/L	98
85)	1,3,5-Trimethylbenzene	16.65	105	719028	20.0222	ug/L	99
86)	2-Chlorotoluene	16.74	91	676467	20.2408	ug/L	96
87)	4-Chlorotoluene	16.78	91	569123	19.4922	ug/L	98
88)	a-Methylstyrene	17.05	118	379902	18.9239	ug/L	100
89)	tert-Butylbenzene	17.11	134	148294	18.6981	ug/L	96
90)	1,2,4-Trimethylbenzene	17.17	105	757423	20.2873	ug/L	98
91)	sec-Butylbenzene	17.38	105	899287	20.1745	ug/L	98
92)	p-Isopropyltoluene	17.54	119	733704	20.0943	ug/L	99
93)	1,3-Dichlorobenzene	17.73	146	425958	19.4188	ug/L	100
94)	1,4-Dichlorobenzene	17.87	146	421228	19.0658	ug/L	100
95)	n-Butylbenzene	18.06	91	706936	19.9553	ug/L	99
96)	1,2-Dichlorobenzene	18.36	146	372725	19.5007	ug/L	99
97)	1,2-Dibromo-3-Chloropropan	19.36	75	20816	20.1597	ug/L	99
98)	1,2,4-Trichlorobenzene	20.51	180	271888	19.0185	ug/L	99
99)	Hexachlorobutadiene	20.65	225	126611	18.1144	ug/L	100
100)	Naphthalene	20.88	128	379245	20.0854	ug/L	100
101)	1,2,3-Trichlorobenzene	21.18	180	226688	19.1747	ug/L	100

(#) = qualifier out of range (m) = manual integration
8M418413.D 8260WTR.M Thu Mar 23 10:19:28 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418413.D Vial: 8
Acq On : 21 Mar 2017 18:41 Operator: TMB
Sample : WG607066-07 20ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418414.D Vial: 9
Acq On : 21 Mar 2017 19:11 Operator: TMB
Sample : WG607066-08 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:30 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.94	96	821515	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.81	117	635449	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.83	152	345493	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.90	111	227256	24.3913	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 97.56%			
43) 1,2-Dichloroethane-d4	10.54	65	199083	24.6568	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 98.64%			
58) Toluene-d8	12.92	98	778520	24.3556	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.44%			
80) p-Bromofluorobenzene	16.31	95	310492	23.7490	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 95.00%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.34	85	711345	55.2750	ug/L	100
3) Chloromethane	3.83	50	763262	48.9417	ug/L	100
4) Vinyl Chloride	4.05	62	698218	47.8815	ug/L	100
5) 1,3-Butadiene	4.11	54	285922	60.6615	ug/L	100
6) Bromomethane	4.97	94	369809	50.0666	ug/L	100
7) Chloroethane	5.13	64	305358	51.6280	ug/L	100
8) Trichlorofluoromethane	5.62	101	807170	51.1512	ug/L	100
9) Diethyl ether	6.14	59	522978	102.4728	ug/L	100
10) Isoprene	6.18	67	604725	49.5983	ug/L	100
11) Acrolein	6.39	56	33661	51.5827	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.40	101	441268	51.9873	ug/L	100
13) Acetone	6.48	43	50200	51.0974	ug/L	100
14) 1,1-Dichloroethene	6.71	61	601562	50.7899	ug/L	100
15) Tert-Butyl Alcohol	6.81	59	66306	212.0497	ug/L	100
16) Dimethyl Sulfide	6.98	62	419461	49.8226	ug/L	100
17) Iodomethane	7.24	142	489213	49.6697	ug/L	100
18) Methyl acetate	7.24	43	138467	49.2874	ug/L	100
19) Methylene Chloride	7.50	84	452948	50.2224	ug/L	100
20) Carbon Disulfide	7.54	76	1373384	50.9099	ug/L	100
21) Acrylonitrile	7.67	53	75054	54.6193	ug/L	100
22) Methyl Tert Butyl Ether	7.70	73	913126	52.5996	ug/L	100
23) trans-1,2-Dichloroethene	7.94	61	570982	49.7200	ug/L	100
24) n-Hexane	8.02	57	481335	49.4807	ug/L	100
25) Diisopropyl ether	8.36	45	2245729	102.3798	ug/L	100
26) Vinyl Acetate	8.53	43	417757	48.3930	ug/L	100
27) 1,1-Dichloroethane	8.56	63	762261	50.8941	ug/L	100
28) Ethyl-Tert-Butyl ether	8.93	59	2190954	104.3189	ug/L	100
29) 2-Butanone	9.11	43	79673	50.3339	ug/L	100
30) Propionitrile	9.22	54	48849	104.2478	ug/L	100
31) 2,2-Dichloropropane	9.34	77	653825	48.9342	ug/L	100
32) cis-1,2-Dichloroethene	9.40	96	496971	50.9868	ug/L	100
33) Chloroform	9.61	83	821445	47.3204	ug/L	100
34) 1-Bromopropane	9.75	122	93829	50.3875	ug/L	100
35) Bromochloromethane	9.84	130	273070	52.1540	ug/L	100
36) Tetrahydrofuran	9.86	42	103949	103.1887	ug/L	100
38) 1,1,1-Trichloroethane	10.14	97	739127	51.7661	ug/L	100
39) Cyclohexane	10.18	56	620901	50.3193	ug/L	100
40) 1,1-Dichloropropene	10.34	75	617108	50.3259	ug/L	100
41) Tert-Amyl-Methyl ether	10.43	73	2062326	105.2213	ug/L	100
42) Carbon Tetrachloride	10.49	117	674327	52.7838	ug/L	100

(#) = qualifier out of range (m) = manual integration
8M418414.D 8260WTR.M Thu Mar 23 10:19:32 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418414.D Vial: 9
Acq On : 21 Mar 2017 19:11 Operator: TMB
Sample : WG607066-08 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:30 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

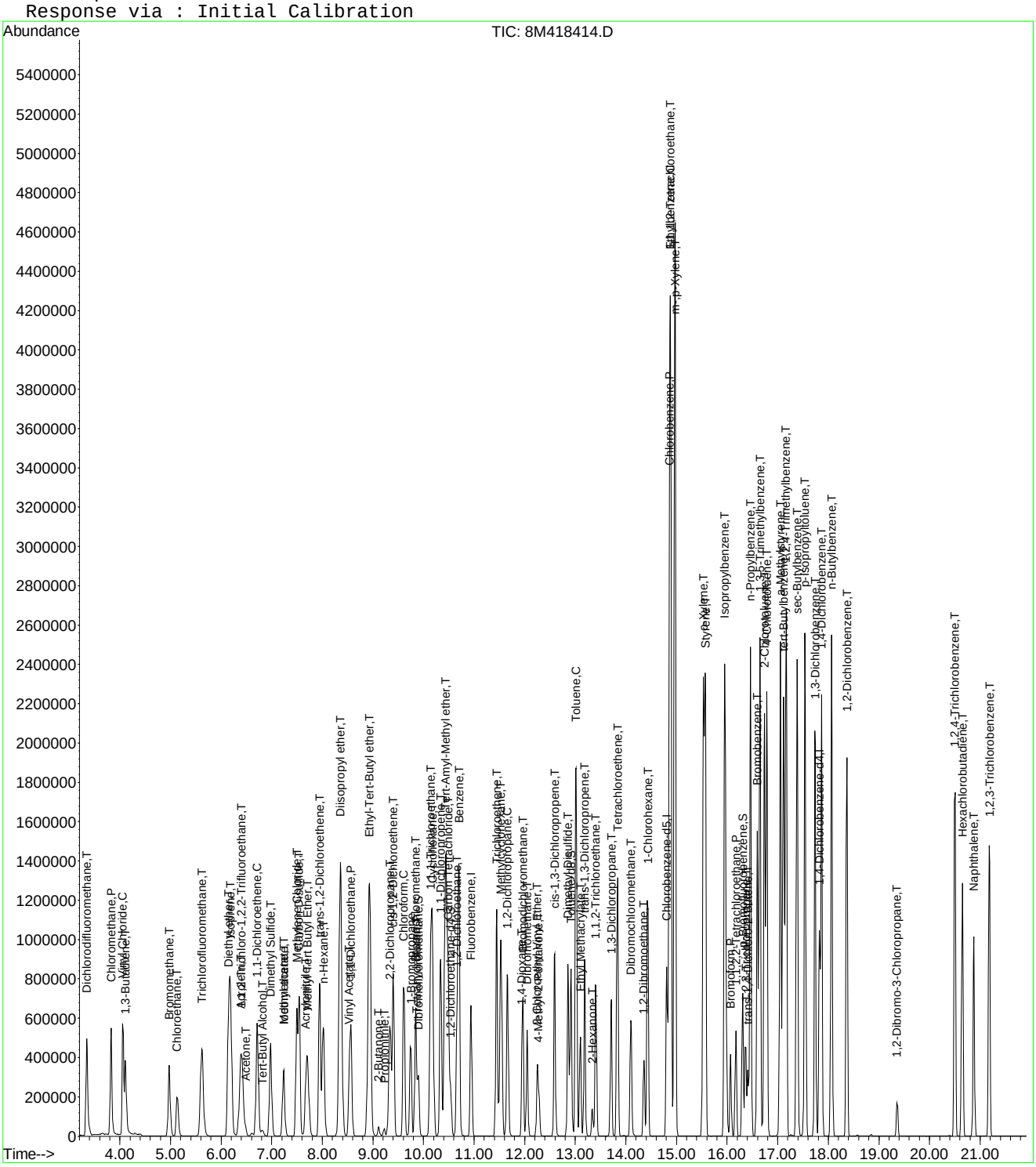
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.66	62	501055	51.1250	ug/L	100
46)	Benzene	10.70	78	1790432	50.6347	ug/L	100
47)	Trichloroethene	11.45	130	488370	51.6527	ug/L	100
48)	Methylcyclohexane	11.53	83	698948	49.1967	ug/L	100
49)	1,2-Dichloropropane	11.65	63	416176	51.1896	ug/L	100
50)	Bromodichloromethane	11.96	83	609341	53.0157	ug/L	100
51)	1,4-Dioxane	11.94	88	9021	230.9046	ug/L	100
52)	Dibromomethane	12.05	93	236195	54.2122	ug/L	100
53)	2-Chloroethyl Vinyl Ether	12.24	63	183414	49.6127	ug/L	100
54)	4-Methyl-2-Pentanone	12.27	58	80365	50.7929	ug/L	100
55)	cis-1,3-Dichloropropene	12.59	75	698063	52.3260	ug/L	100
56)	Dimethyl Disulfide	12.85	79	361297	46.1084	ug/L	100
59)	Toluene	13.02	91	1927822	51.0075	ug/L	100
60)	Ethyl Methacrylate	13.10	69	386095	52.8311	ug/L	100
62)	trans-1,3-Dichloropropene	13.18	75	588220	52.7638	ug/L	100
63)	1,1,2-Trichloroethane	13.40	97	309196	51.9358	ug/L	100
64)	2-Hexanone	13.34	58	73718	51.6504	ug/L	100
65)	1,3-Dichloropropane	13.71	76	543270	50.9625	ug/L	100
66)	Tetrachloroethene	13.84	164	407543	49.7657	ug/L	100
67)	Dibromochloromethane	14.09	129	410127	50.8448	ug/L	100
68)	1,2-Dibromoethane	14.35	107	319221	52.2580	ug/L	100
69)	1-Chlorohexane	14.43	91	621898	48.2822	ug/L	100
70)	Chlorobenzene	14.86	112	1364943	51.3131	ug/L	100
71)	1,1,1,2-Tetrachloroethane	14.88	131	525452	49.4524	ug/L	100
72)	Ethylbenzene	14.88	106	797976	54.0551	ug/L	100
73)	m-,p-Xylene	14.97	106	1881723	106.2810	ug/L	100
74)	o-Xylene	15.53	106	886598	50.4983	ug/L	100
75)	Styrene	15.57	104	1519235	53.6017	ug/L	100
76)	Bromoform	16.07	173	249977	51.3122	ug/L	100
77)	Isopropylbenzene	15.95	105	2232698	52.5628	ug/L	100
79)	1,1,2,2-Tetrachloroethane	16.17	83	348801	51.7995	ug/L	100
81)	1,2,3-Trichloropropane	16.37	110	101098	52.7363	ug/L	100
82)	trans-1,4-Dichloro-2-Buten	16.41	53	86606	54.8326	ug/L	100
83)	n-Propylbenzene	16.46	91	2625785	51.6001	ug/L	100
84)	Bromobenzene	16.60	156	578228	51.3414	ug/L	100
85)	1,3,5-Trimethylbenzene	16.65	105	1935141	52.6512	ug/L	100
86)	2-Chlorotoluene	16.74	91	1754686	51.2992	ug/L	95
87)	4-Chlorotoluene	16.78	91	1548177	51.8089	ug/L	100
88)	a-Methylstyrene	17.05	118	1031651	50.2113	ug/L	100
89)	tert-Butylbenzene	17.11	134	411067	50.6427	ug/L	100
90)	1,2,4-Trimethylbenzene	17.16	105	2017757	52.8063	ug/L	100
91)	sec-Butylbenzene	17.38	105	2394949	52.4965	ug/L	100
92)	p-Isopropyltoluene	17.54	119	1983917	53.0891	ug/L	100
93)	1,3-Dichlorobenzene	17.74	146	1154353	51.4190	ug/L	100
94)	1,4-Dichlorobenzene	17.87	146	1141058	50.4632	ug/L	100
95)	n-Butylbenzene	18.06	91	1889430	52.1122	ug/L	100
96)	1,2-Dichlorobenzene	18.36	146	1014031	51.8374	ug/L	100
97)	1,2-Dibromo-3-Chloropropan	19.36	75	56970	53.9093	ug/L	100
98)	1,2,4-Trichlorobenzene	20.50	180	737197	50.3847	ug/L	100
99)	Hexachlorobutadiene	20.65	225	347382	48.5613	ug/L	100
100)	Naphthalene	20.88	128	1036443	53.6334	ug/L	100
101)	1,2,3-Trichlorobenzene	21.19	180	615291	50.8522	ug/L	100

(#) = qualifier out of range (m) = manual integration
8M418414.D 8260WTR.M Thu Mar 23 10:19:32 2017 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418414.D Vial: 9
Acq On : 21 Mar 2017 19:11 Operator: TMB
Sample : WG607066-08 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration



8M418414.D 8260WTR.M Thu Mar 23 10:19:33 2017 Page 3

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418415.D Vial: 10
Acq On : 21 Mar 2017 19:42 Operator: TMB
Sample : WG607066-09 100ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:34 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.94	96	832390	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.81	117	638020	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.83	152	354988	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.90	111	481200	50.9722	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 203.88%#			
43) 1,2-Dichloroethane-d4	10.54	65	409278	50.0275	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 200.12%#			
58) Toluene-d8	12.92	98	1661154	51.7589	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 207.04%#			
80) p-Bromofluorobenzene	16.31	95	668613	49.7732	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 199.08%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.34	85	1438401	110.3106	ug/L	99
3) Chloromethane	3.82	50	1493609	94.5216	ug/L	100
4) Vinyl Chloride	4.06	62	1327339	89.8354	ug/L	100
5) 1,3-Butadiene	4.10	54	368240	80.7190	ug/L	99
6) Bromomethane	4.98	94	790524	105.6268	ug/L	100
7) Chloroethane	5.13	64	638148	106.4844	ug/L	100
8) Trichlorofluoromethane	5.62	101	1655417	103.5349	ug/L	100
9) Diethyl ether	6.14	59	1033643	199.8868	ug/L	100
10) Isoprene	6.19	67	1271534	102.9262	ug/L	100
11) Acrolein	6.38	56	65234	98.6597	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.40	101	904035	105.1160	ug/L	99
13) Acetone	6.49	43	94542	94.9748	ug/L	95
14) 1,1-Dichloroethene	6.71	61	1249890	104.1496	ug/L	100
15) Tert-Butyl Alcohol	6.82	59	119878	378.3668	ug/L	98
16) Dimethyl Sulfide	6.98	62	859884	100.8007	ug/L	100
17) Iodomethane	7.23	142	1058142	105.4571	ug/L	100
18) Methyl acetate	7.23	43	279053	98.0313	ug/L	100
19) Methylene Chloride	7.50	84	936574	102.4897	ug/L	99
20) Carbon Disulfide	7.54	76	2823847	103.3095	ug/L	99
21) Acrylonitrile	7.67	53	149222	107.1750	ug/L	96
22) Methyl Tert Butyl Ether	7.71	73	1784580	101.4557	ug/L	99
23) trans-1,2-Dichloroethene	7.94	61	1199201	103.0598	ug/L	100
24) n-Hexane	8.02	57	988698	100.3091	ug/L	100
25) Diisopropyl ether	8.36	45	4460377	200.6860	ug/L	99
26) Vinyl Acetate	8.53	43	818543	93.5812	ug/L	100
27) 1,1-Dichloroethane	8.56	63	1584158	104.3880	ug/L	99
28) Ethyl-Tert-Butyl ether	8.93	59	4294780	201.8178	ug/L	98
29) 2-Butanone	9.11	43	156066	97.3075	ug/L	98
30) Propionitrile	9.23	54	95879	201.9404	ug/L	98
31) 2,2-Dichloropropane	9.34	77	1350638	99.7652	ug/L	99
32) cis-1,2-Dichloroethene	9.40	96	1044402	105.7506	ug/L	99
33) Chloroform	9.61	83	1686208	95.8671	ug/L	99
34) 1-Bromopropane	9.75	122	198630	105.2735	ug/L	100
35) Bromochloromethane	9.85	130	553621	104.3553	ug/L	100
36) Tetrahydrofuran	9.87	42	195050	191.0937	ug/L	99
38) 1,1,1-Trichloroethane	10.15	97	1562658	108.0137	ug/L	100
39) Cyclohexane	10.18	56	1289341	103.1261	ug/L	99
40) 1,1-Dichloropropene	10.33	75	1293628	104.1186	ug/L	100
41) Tert-Amyl-Methyl ether	10.44	73	4043547	203.6092	ug/L	99
42) Carbon Tetrachloride	10.49	117	1455182	112.4180	ug/L	99

(#) = qualifier out of range (m) = manual integration
8M418415.D 8260WTR.M Thu Mar 23 10:19:36 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418415.D Vial: 10
Acq On : 21 Mar 2017 19:42 Operator: TMB
Sample : WG607066-09 100ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:34 2017 Quant Results File: 8260WTR.RES

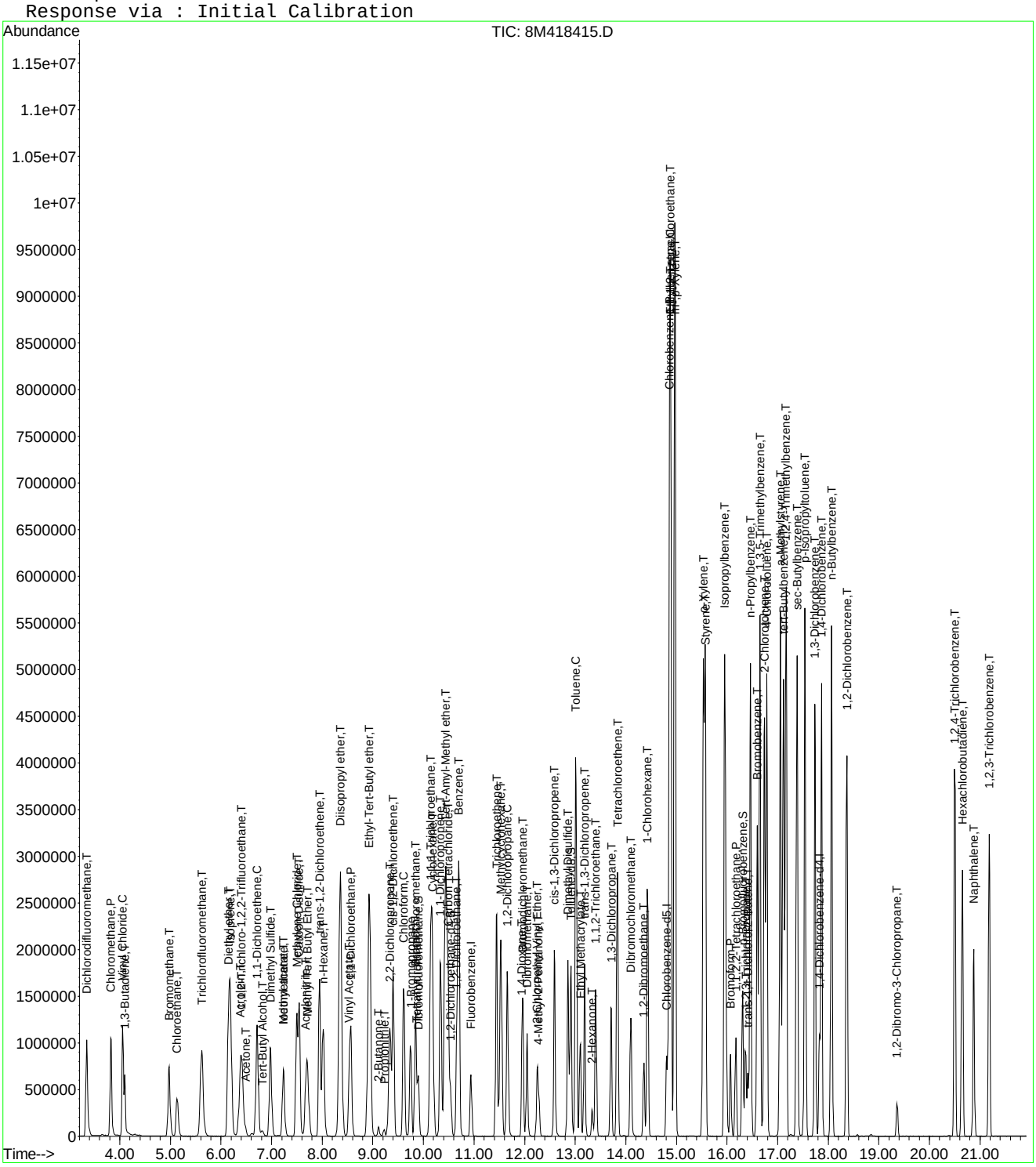
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
45)	1,2-Dichloroethane	10.65	62	1024462	103.1650 ug/L		100
46)	Benzene	10.69	78	3657733	102.0919 ug/L		99
47)	Trichloroethene	11.45	130	1032071	107.7314 ug/L		99
48)	Methylcyclohexane	11.53	83	1456841	101.2027 ug/L		100
49)	1,2-Dichloropropane	11.66	63	869234	105.5188 ug/L		99
50)	Bromodichloromethane	11.96	83	1265209	108.6413 ug/L		100
51)	1,4-Dioxane	11.94	88	16295	411.6432 ug/L		97
52)	Dibromomethane	12.05	93	477573	108.1820 ug/L		99
53)	2-Chloroethyl Vinyl Ether	12.24	63	379879	101.4131 ug/L		100
54)	4-Methyl-2-Pentanone	12.28	58	157212	98.0641 ug/L		97
55)	cis-1,3-Dichloropropene	12.59	75	1437589	106.3521 ug/L		99
56)	Dimethyl Disulfide	12.85	79	767570	93.6011 ug/L		100
59)	Toluene	13.01	91	3952448	104.1549 ug/L		97
60)	Ethyl Methacrylate	13.10	69	771683	105.1673 ug/L		99
62)	trans-1,3-Dichloropropene	13.19	75	1197950	107.0240 ug/L		98
63)	1,1,2-Trichloroethane	13.40	97	622377	104.1196 ug/L		100
64)	2-Hexanone	13.33	58	143458	100.1085 ug/L		99
65)	1,3-Dichloropropane	13.71	76	1090473	101.8817 ug/L		100
66)	Tetrachloroethene	13.84	164	886718	107.8422 ug/L		100
67)	Dibromochloromethane	14.10	129	856887	100.5484 ug/L		99
68)	1,2-Dibromoethane	14.35	107	635116	103.5526 ug/L		100
69)	1-Chlorohexane	14.43	91	1326608	102.5786 ug/L		100
70)	Chlorobenzene	14.86	112	2992950	112.0624 ug/L		99
71)	1,1,1,2-Tetrachloroethane	14.88	131	1225221	103.4096 ug/L		99
72)	Ethylbenzene	14.88	106	1841497	124.2407 ug/L		86
73)	m-,p-Xylene	14.97	106	4083197	229.6924 ug/L		83
74)	o-Xylene	15.53	106	1947638	110.4853 ug/L		94
75)	Styrene	15.57	104	3248166	114.1402 ug/L		98
76)	Bromoform	16.07	173	528122	100.1789 ug/L		99
77)	Isopropylbenzene	15.96	105	4533231	106.2925 ug/L		95
79)	1,1,2,2-Tetrachloroethane	16.17	83	685787	99.1203 ug/L		99
81)	1,2,3-Trichloropropane	16.37	110	199174	101.1173 ug/L	#	27
82)	trans-1,4-Dichloro-2-Buten	16.41	53	176944	109.0316 ug/L	#	21
83)	n-Propylbenzene	16.46	91	5143376	98.3706 ug/L		94
84)	Bromobenzene	16.60	156	1242819	107.3995 ug/L		99
85)	1,3,5-Trimethylbenzene	16.65	105	4017731	106.3903 ug/L		96
86)	2-Chlorotoluene	16.74	91	3681380	104.7484 ug/L		92
87)	4-Chlorotoluene	16.78	91	3153568	102.7097 ug/L		97
88)	a-Methylstyrene	17.05	118	2249454	106.5543 ug/L		98
89)	tert-Butylbenzene	17.11	134	917437	110.0035 ug/L		95
90)	1,2,4-Trimethylbenzene	17.17	105	4159162	105.9371 ug/L		94
91)	sec-Butylbenzene	17.38	105	4827054	102.9774 ug/L		96
92)	p-Isopropyltoluene	17.54	119	4125265	107.4383 ug/L		96
93)	1,3-Dichlorobenzene	17.73	146	2461540	106.7129 ug/L		98
94)	1,4-Dichlorobenzene	17.87	146	2417995	104.0753 ug/L		98
95)	n-Butylbenzene	18.07	91	3860674	103.6328 ug/L		96
96)	1,2-Dichlorobenzene	18.37	146	2124165	105.6832 ug/L		99
97)	1,2-Dibromo-3-Chloropropan	19.36	75	112849	103.9299 ug/L		97
98)	1,2,4-Trichlorobenzene	20.51	180	1602855	106.6190 ug/L		100
99)	Hexachlorobutadiene	20.65	225	772520	105.1038 ug/L		99
100)	Naphthalene	20.88	128	2026731	102.0733 ug/L		99
101)	1,2,3-Trichlorobenzene	21.18	180	1292463	103.9616 ug/L		99

(#) = qualifier out of range (m) = manual integration
8M418415.D 8260WTR.M Thu Mar 23 10:19:36 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418415.D Vial: 10
Acq On : 21 Mar 2017 19:42 Operator: TMB
Sample : WG607066-09 100ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418416.D Vial: 11
Acq On : 21 Mar 2017 20:12 Operator: TMB
Sample : WG607066-10 200ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:38 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.94	96	835227	25.00	ug/L		0.00
57) Chlorobenzene-d5	14.80	117	656093	25.00	ug/L		0.00
78) 1,4-Dichlorobenzene-d4	17.82	152	375170	25.00	ug/L		0.00
System Monitoring Compounds							
37) Dibromofluoromethane	9.89	111	981585	103.6234	ug/L		0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 414.48%#				
43) 1,2-Dichloroethane-d4	10.53	65	842777	102.6658	ug/L		0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 410.68%#				
58) Toluene-d8	12.91	98	3365801	101.9841	ug/L		0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 407.92%#				
80) p-Bromofluorobenzene	16.30	95	1434304	101.0294	ug/L		0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 404.12%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.34	85	2757052	210.7194	ug/L		97
3) Chloromethane	3.82	50	2806488	177.0026	ug/L		98
4) Vinyl Chloride	4.05	62	2403355	162.1085	ug/L		98
5) 1,3-Butadiene	4.09	54	611042	157.2872	ug/L		98
6) Bromomethane	4.97	94	1694257	225.6112	ug/L		99
7) Chloroethane	5.13	64	1297095	215.7043	ug/L		100
8) Trichlorofluoromethane	5.61	101	3318936	206.8715	ug/L		99
10) Isoprene	6.18	67	2499442	201.6338	ug/L		100
12) 1,1,2-Trichloro-1,2,2-Trif	6.40	101	1766595	204.7119	ug/L		99
13) Acetone	6.48	43	216138	216.3900	ug/L		98
14) 1,1-Dichloroethene	6.71	61	2505821	208.0933	ug/L		98
15) Tert-Butyl Alcohol	6.82	59	3327	10.4652	ug/L	#	68
16) Dimethyl Sulfide	6.98	62	1788428	208.9380	ug/L		100
17) Iodomethane	7.24	142	2121411	210.2036	ug/L		100
18) Methyl acetate	7.24	43	603988	211.4603	ug/L		99
19) Methylene Chloride	7.49	84	1965657	214.3721	ug/L		97
20) Carbon Disulfide	7.55	76	5542579	202.0846	ug/L		97
21) Acrylonitrile	7.70	53	33221	23.7791	ug/L	#	32
22) Methyl Tert Butyl Ether	7.70	73	3787888	214.6149	ug/L		99
23) trans-1,2-Dichloroethene	7.94	61	2435593	208.6049	ug/L		99
24) n-Hexane	8.02	57	1927946	194.9369	ug/L		100
26) Vinyl Acetate	8.53	43	1867991	212.8355	ug/L		98
27) 1,1-Dichloroethane	8.56	63	3184705	209.1432	ug/L		98
29) 2-Butanone	9.11	43	335050	208.1948	ug/L		98
31) 2,2-Dichloropropane	9.34	77	2692388	198.1983	ug/L		98
32) cis-1,2-Dichloroethene	9.41	96	2145970	216.5515	ug/L		98
33) Chloroform	9.61	83	3366279	190.7353	ug/L		97
34) 1-Bromopropane	9.75	122	404263	213.5309	ug/L		100
35) Bromochloromethane	9.84	130	1139795	214.1170	ug/L		98
36) Tetrahydrofuran	9.86	42	1357	1.3250	ug/L	#	24
38) 1,1,1-Trichloroethane	10.14	97	3258039	224.4366	ug/L		99
39) Cyclohexane	10.17	56	2619353	208.7937	ug/L		98
40) 1,1-Dichloropropene	10.34	75	2622304	210.3412	ug/L		98
42) Carbon Tetrachloride	10.48	117	2879058	221.6619	ug/L		100
45) 1,2-Dichloroethane	10.66	62	2165891	217.3680	ug/L		99
46) Benzene	10.70	78	6827744	189.9236	ug/L		94
47) Trichloroethene	11.44	130	2165800	225.3064	ug/L		99
48) Methylcyclohexane	11.53	83	2890589	200.1191	ug/L		99
49) 1,2-Dichloropropane	11.66	63	1802764	218.0994	ug/L		97
50) Bromodichloromethane	11.96	83	2638686	225.8098	ug/L		99

(#) = qualifier out of range (m) = manual integration
8M418416.D 8260WTR.M Thu Mar 23 10:19:40 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418416.D Vial: 11
Acq On : 21 Mar 2017 20:12 Operator: TMB
Sample : WG607066-10 200ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:38 2017 Quant Results File: 8260WTR.RES

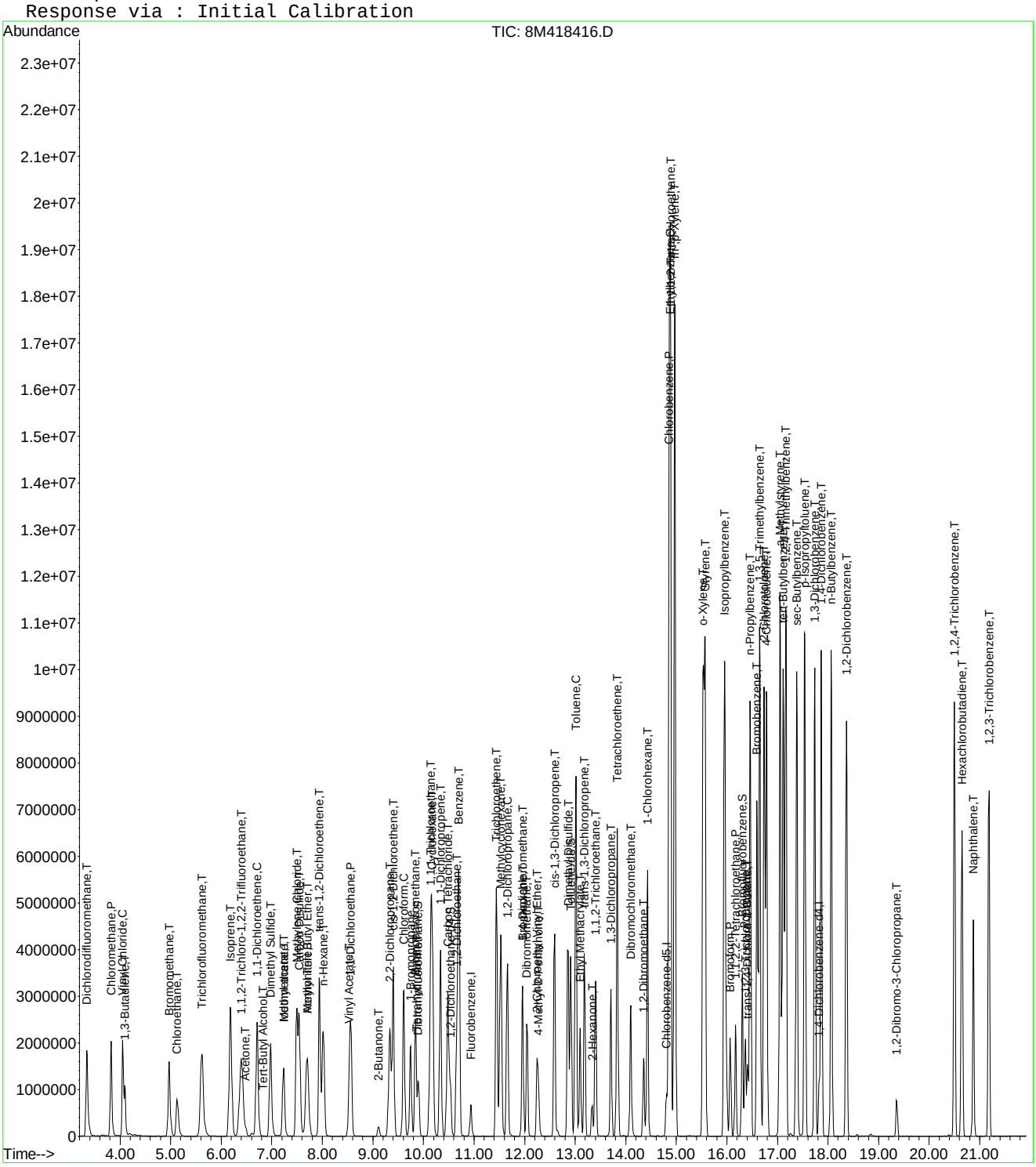
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
51)	1,4-Dioxane	11.96	88	5894	148.3881 ug/L	#	56
52)	Dibromomethane	12.04	93	1034705	233.5899 ug/L		98
53)	2-Chloroethyl Vinyl Ether	12.25	63	824539	219.3725 ug/L		99
54)	4-Methyl-2-Pentanone	12.27	58	353091	219.4995 ug/L		97
55)	cis-1,3-Dichloropropene	12.59	75	2990134	220.4572 ug/L		98
56)	Dimethyl Disulfide	12.86	79	1714692	204.9480 ug/L		97
59)	Toluene	13.02	91	7066077	181.0760 ug/L		87
60)	Ethyl Methacrylate	13.10	69	1696639	224.8538 ug/L		99
62)	trans-1,3-Dichloropropene	13.18	75	2565952	222.9256 ug/L		97
63)	1,1,2-Trichloroethane	13.40	97	1370694	222.9916 ug/L		99
64)	2-Hexanone	13.34	58	326430	221.5160 ug/L		98
65)	1,3-Dichloropropane	13.71	76	2327428	211.4592 ug/L		99
66)	Tetrachloroethene	13.83	164	1952203	230.8857 ug/L		99
67)	Dibromochloromethane	14.10	129	1918537	199.6557 ug/L		99
68)	1,2-Dibromoethane	14.35	107	1401426	222.2016 ug/L		100
69)	1-Chlorohexane	14.43	91	2769087	208.2186 ug/L		99
70)	Chlorobenzene	14.86	112	6010850	218.8594 ug/L		94
71)	1,1,1,2-Tetrachloroethane	14.89	131	2844669	198.8633 ug/L		98
72)	Ethylbenzene	14.88	106	4070062	267.0317 ug/L		54
73)	m-,p-Xylene	14.97	106	7393699	404.4612 ug/L		64
74)	o-Xylene	15.53	106	4210098	232.2508 ug/L		76
75)	Styrene	15.57	104	6305974	215.4872 ug/L		89
76)	Bromoform	16.07	173	1236171	199.7557 ug/L		99
77)	Isopropylbenzene	15.95	105	7963074	181.5702 ug/L		80
79)	1,1,2,2-Tetrachloroethane	16.17	83	1541888	210.8685 ug/L		99
81)	1,2,3-Trichloropropane	16.37	110	447062	214.7564 ug/L	#	27
82)	trans-1,4-Dichloro-2-Buten	16.41	53	356888	208.0817 ug/L	#	27
83)	n-Propylbenzene	16.46	91	8459955	153.0984 ug/L	#	75
84)	Bromobenzene	16.59	156	2759165	225.6095 ug/L		93
85)	1,3,5-Trimethylbenzene	16.65	105	7254610	181.7693 ug/L		82
86)	2-Chlorotoluene	16.74	91	6466926	174.1086 ug/L		80
87)	4-Chlorotoluene	16.78	91	6057890	186.6879 ug/L		82
88)	a-Methylstyrene	17.05	118	4659021	208.8210 ug/L		95
89)	tert-Butylbenzene	17.11	134	2083296	236.3561 ug/L	#	57
90)	1,2,4-Trimethylbenzene	17.16	105	7391093	178.1297 ug/L		77
91)	sec-Butylbenzene	17.38	105	8237032	166.2708 ug/L	#	80
92)	p-Isopropyltoluene	17.54	119	7367846	181.5655 ug/L		81
93)	1,3-Dichlorobenzene	17.74	146	5011738	205.5815 ug/L		91
94)	1,4-Dichlorobenzene	17.87	146	4942655	201.2974 ug/L		91
95)	n-Butylbenzene	18.06	91	6793595	172.5518 ug/L	#	83
96)	1,2-Dichlorobenzene	18.36	146	4482617	211.0254 ug/L		93
97)	1,2-Dibromo-3-Chloropropan	19.35	75	255085	222.2866 ug/L		95
98)	1,2,4-Trichlorobenzene	20.50	180	3571512	224.7906 ug/L		98
99)	Hexachlorobutadiene	20.65	225	1747005	224.8995 ug/L		98
100)	Naphthalene	20.87	128	4341381	206.8852 ug/L		96
101)	1,2,3-Trichlorobenzene	21.18	180	2943616	224.0379 ug/L		98

(#) = qualifier out of range (m) = manual integration
8M418416.D 8260WTR.M Thu Mar 23 10:19:40 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418416.D Vial: 11
Acq On : 21 Mar 2017 20:12 Operator: TMB
Sample : WG607066-10 200ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418417.D Vial: 12
Acq On : 21 Mar 2017 20:43 Operator: TMB
Sample : WG607066-11 300ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:42 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.94	96	854626	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.81	117	660685	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.83	152	353320	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.90	111	1512153	156.0106	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 624.04%#			
43) 1,2-Dichloroethane-d4	10.54	65	1276620	151.9858	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 607.96%#			
58) Toluene-d8	12.91	98	5029150	151.3246	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 605.28%#			
80) p-Bromofluorobenzene	16.31	95	2183654	163.3241	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 653.28%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.34	85	3041	0.2271	ug/L	83
3) Chloromethane	3.82	50	63366	3.9057	ug/L	100
4) Vinyl Chloride	4.05	62	2778	0.1831	ug/L	95
5) 1,3-Butadiene	4.09	54	906476	Below Cal		99
6) Bromomethane	4.96	94	161588	21.0290	ug/L	100
8) Trichlorofluoromethane	5.61	101	2263	0.1379	ug/L #	90
9) Diethyl ether	6.14	59	1714293	322.8862	ug/L	99
10) Isoprene	6.18	67	4082432	321.8604	ug/L	99
11) Acrolein	6.38	56	100475	148.0044	ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	6.38	101	2544	0.2881	ug/L	94
13) Acetone	6.48	43	298562	292.1251	ug/L	99
14) 1,1-Dichloroethene	6.71	61	1663	0.1350	ug/L	76
15) Tert-Butyl Alcohol	6.82	59	206454	634.6694	ug/L	97
16) Dimethyl Sulfide	6.98	62	2746064	313.5344	ug/L	100
17) Iodomethane	7.23	142	2970232	287.4443	ug/L	100
18) Methyl acetate	7.24	43	915640	313.2951	ug/L	98
19) Methylene Chloride	7.49	84	2632	0.2805	ug/L	89
20) Carbon Disulfide	7.54	76	7835015	279.1833	ug/L	93
21) Acrylonitrile	7.67	53	209981	146.8897	ug/L	95
22) Methyl Tert Butyl Ether	7.70	73	2842	0.1574	ug/L #	58
23) trans-1,2-Dichloroethene	7.94	61	3557	0.2977	ug/L	98
24) n-Hexane	8.01	57	3144914	310.7680	ug/L	100
25) Diisopropyl ether	8.35	45	6705988	293.8725	ug/L	96
26) Vinyl Acetate	8.53	43	2581492	287.4541	ug/L	99
28) Ethyl-Tert-Butyl ether	8.93	59	6597567	301.9625	ug/L	96
29) 2-Butanone	9.11	43	495417	300.8567	ug/L	99
30) Propionitrile	9.22	54	155427	318.8431	ug/L	100
32) cis-1,2-Dichloroethene	9.40	96	1359	0.1340	ug/L	96
33) Chloroform	9.61	83	3175	0.1758	ug/L	92
34) 1-Bromopropane	9.75	122	656770	339.0302	ug/L	99
35) Bromochloromethane	9.85	130	717	0.1316	ug/L #	46
36) Tetrahydrofuran	9.86	42	312299	298.0038	ug/L	98
39) Cyclohexane	10.17	56	4064272	316.6172	ug/L	99
40) 1,1-Dichloropropene	10.34	75	2189	0.1716	ug/L #	73
41) Tert-Amyl-Methyl ether	10.43	73	6168941	302.5493	ug/L	98
45) 1,2-Dichloroethane	10.65	62	1377	0.1351	ug/L #	42
46) Benzene	10.69	78	5861	0.1593	ug/L #	84
47) Trichloroethene	11.45	130	1789	0.1819	ug/L	85
48) Methylcyclohexane	11.53	83	4736401	320.4638	ug/L	98
51) 1,4-Dioxane	11.94	88	23567	579.8580	ug/L	92

(#) = qualifier out of range (m) = manual integration
8M418417.D 8260WTR.M Thu Mar 23 10:19:44 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418417.D Vial: 12
Acq On : 21 Mar 2017 20:43 Operator: TMB
Sample : WG607066-11 300ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:42 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

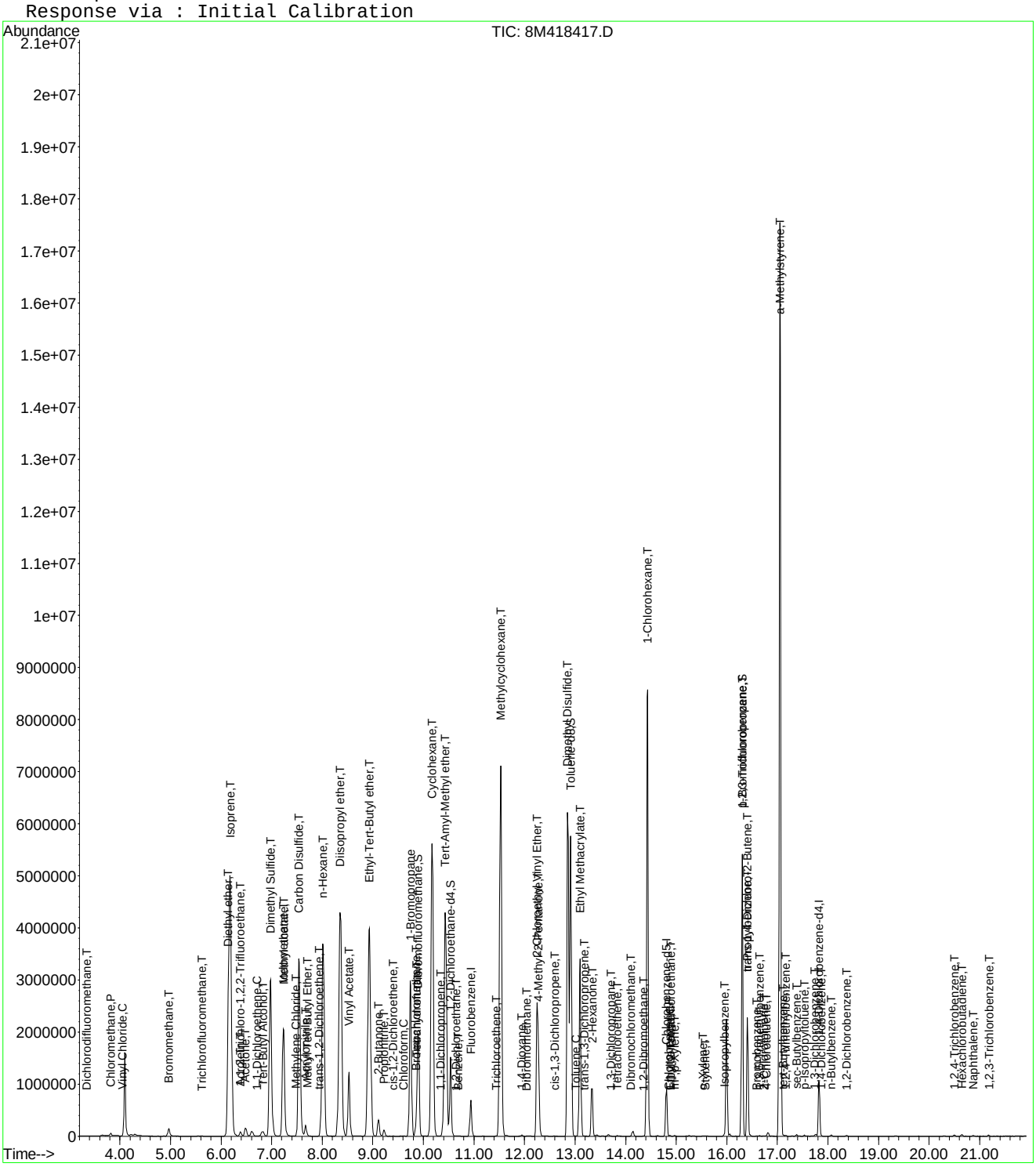
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
52)	Dibromomethane	12.05	93	756	0.1668	ug/L	#	58
53)	2-Chloroethyl Vinyl Ether	12.25	63	1248752	324.6950	ug/L		98
54)	4-Methyl-2-Pentanone	12.27	58	529345	321.5986	ug/L		95
55)	cis-1,3-Dichloropropene	12.59	75	1919	0.1383	ug/L		99
56)	Dimethyl Disulfide	12.85	79	2633329	306.1987	ug/L		95
59)	Toluene	13.02	91	8233	0.2095	ug/L		94
60)	Ethyl Methacrylate	13.10	69	2538669	334.1087	ug/L		99
62)	trans-1,3-Dichloropropene	13.18	75	2586	0.2231	ug/L		90
64)	2-Hexanone	13.34	58	478049	322.1502	ug/L		97
65)	1,3-Dichloropropane	13.71	76	1415	0.1277	ug/L	#	1
66)	Tetrachloroethene	13.83	164	2216	0.2603	ug/L		96
67)	Dibromochloromethane	14.10	129	712	0.2824	ug/L		81
68)	1,2-Dibromoethane	14.35	107	991	0.1560	ug/L		96
69)	1-Chlorohexane	14.43	91	4277378	319.3976	ug/L		98
70)	Chlorobenzene	14.86	112	4861	0.1758	ug/L		86
71)	1,1,1,2-Tetrachloroethane	14.89	131	496	0.2331	ug/L		95
72)	Ethylbenzene	14.88	106	2477	0.1614	ug/L		79
73)	m-,p-Xylene	14.97	106	6515	0.3539	ug/L		87
74)	o-Xylene	15.53	106	2539	0.1391	ug/L		89
75)	Styrene	15.57	104	4497	0.1526	ug/L		99
77)	Isopropylbenzene	15.95	105	29050	0.6578	ug/L		94
81)	1,2,3-Trichloropropane	16.31	110	1108	0.5652	ug/L	#	1
82)	trans-1,4-Dichloro-2-Buten	16.41	53	495562	306.8032	ug/L	#	1
83)	n-Propylbenzene	16.41	91	145385	2.7937	ug/L	#	62
84)	Bromobenzene	16.60	156	1961	0.1703	ug/L		82
85)	1,3,5-Trimethylbenzene	16.65	105	9752	0.2595	ug/L		100
86)	2-Chlorotoluene	16.74	91	7859	0.2247	ug/L		97
87)	4-Chlorotoluene	16.78	91	8039	0.2631	ug/L		98
88)	a-Methylstyrene	17.05	118	6420210	305.5545	ug/L		87
89)	tert-Butylbenzene	17.11	134	3601	0.4338	ug/L	#	1
90)	1,2,4-Trimethylbenzene	17.16	105	11113	0.2844	ug/L		88
91)	sec-Butylbenzene	17.38	105	34899	0.7480	ug/L		94
92)	p-Isopropyltoluene	17.54	119	17616	0.4610	ug/L		95
93)	1,3-Dichlorobenzene	17.74	146	6996	0.3047	ug/L		99
94)	1,4-Dichlorobenzene	17.87	146	7409	0.3204	ug/L	#	1
95)	n-Butylbenzene	18.06	91	21425	0.5778	ug/L		96
96)	1,2-Dichlorobenzene	18.36	146	4970	0.2484	ug/L		90
98)	1,2,4-Trichlorobenzene	20.50	180	10325	0.6900	ug/L		96
99)	Hexachlorobutadiene	20.65	225	9984	1.3648	ug/L		97
100)	Naphthalene	20.88	128	13994	0.7081	ug/L		91
101)	1,2,3-Trichlorobenzene	21.19	180	9502	0.7679	ug/L		97

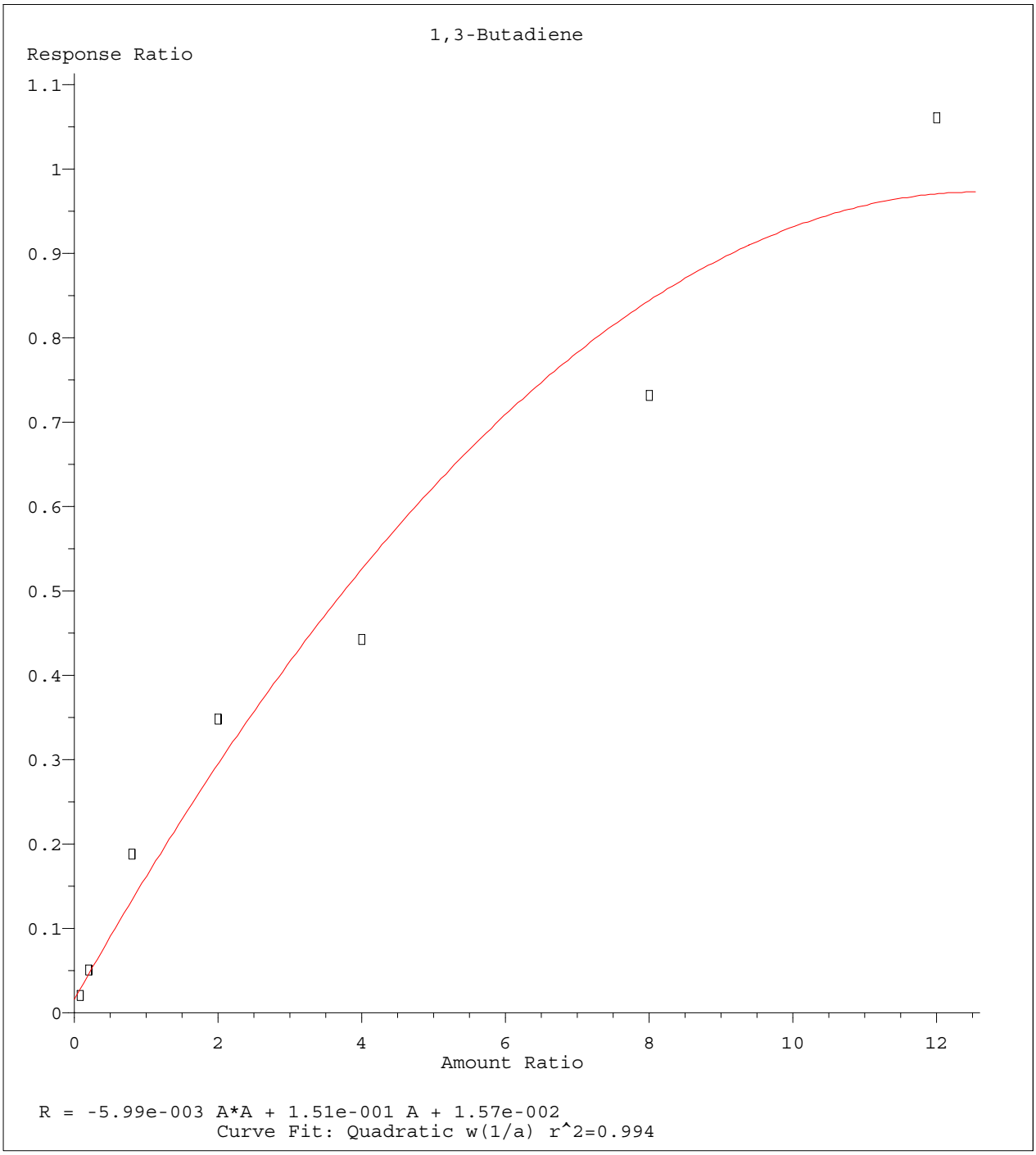
(#) = qualifier out of range (m) = manual integration
8M418417.D 8260WTR.M Thu Mar 23 10:19:44 2017 Page 2

Quantitation Report (Not Reviewed)

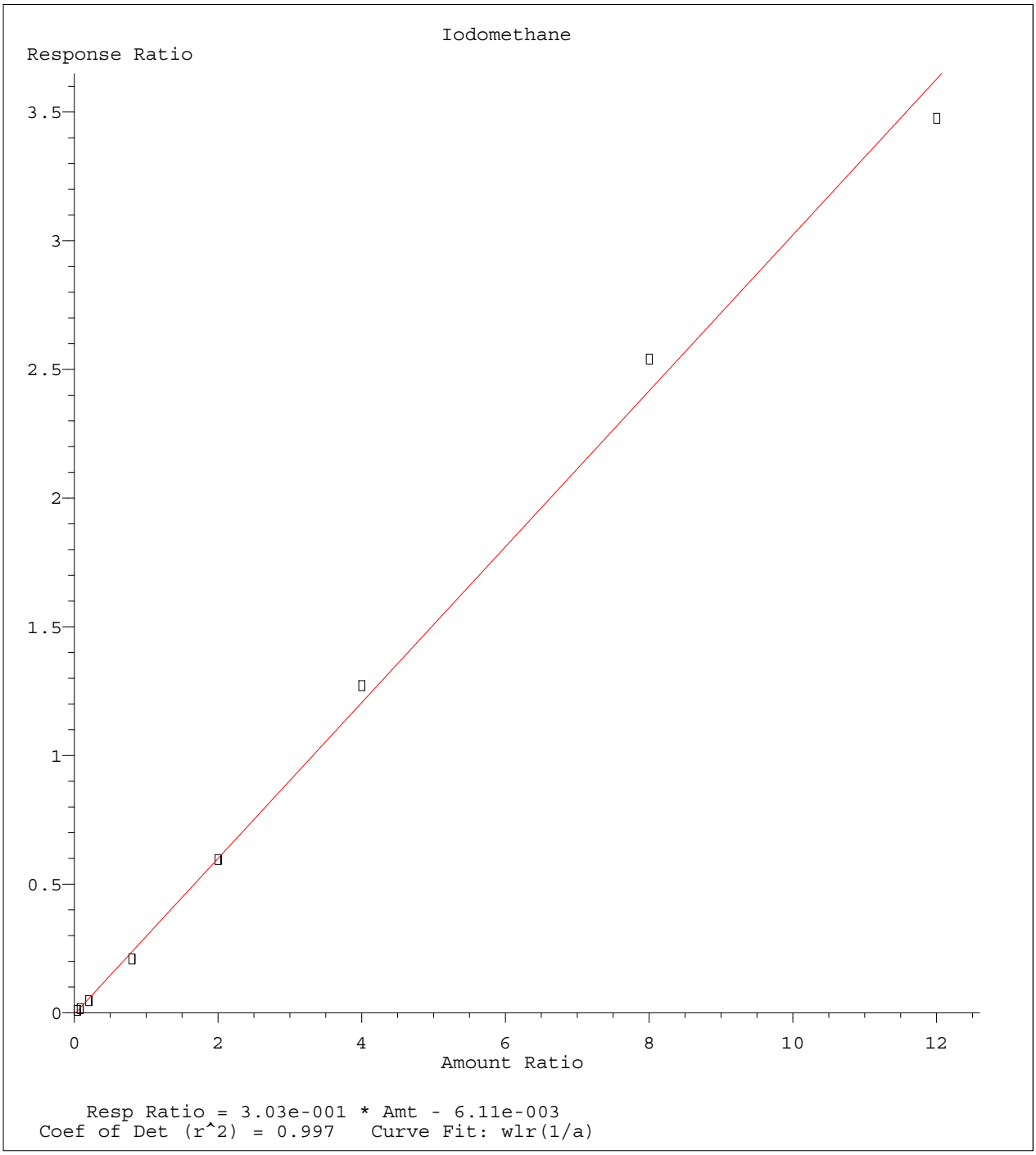
Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418417.D Vial: 12
Acq On : 21 Mar 2017 20:43 Operator: TMB
Sample : WG607066-11 300ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration

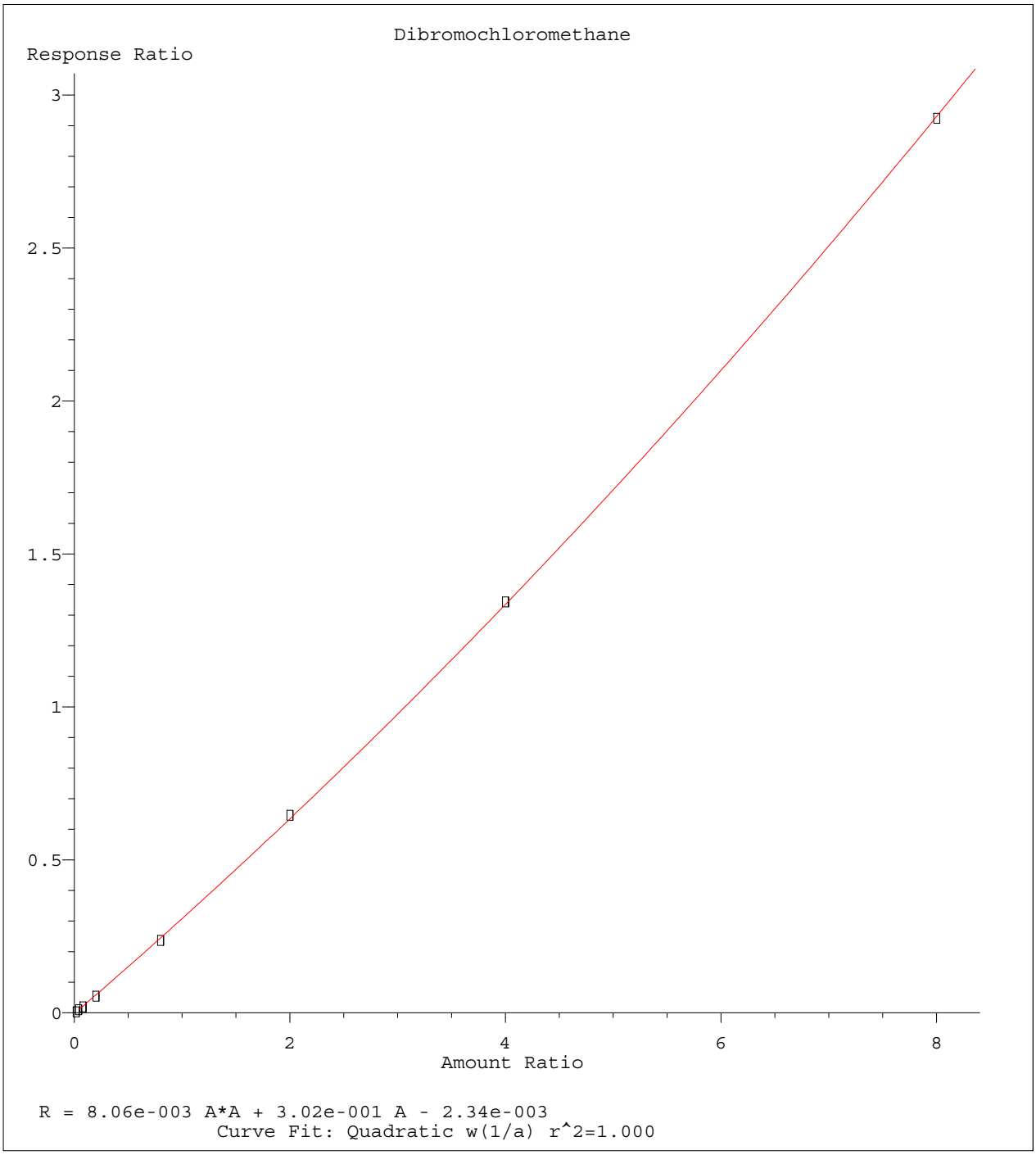




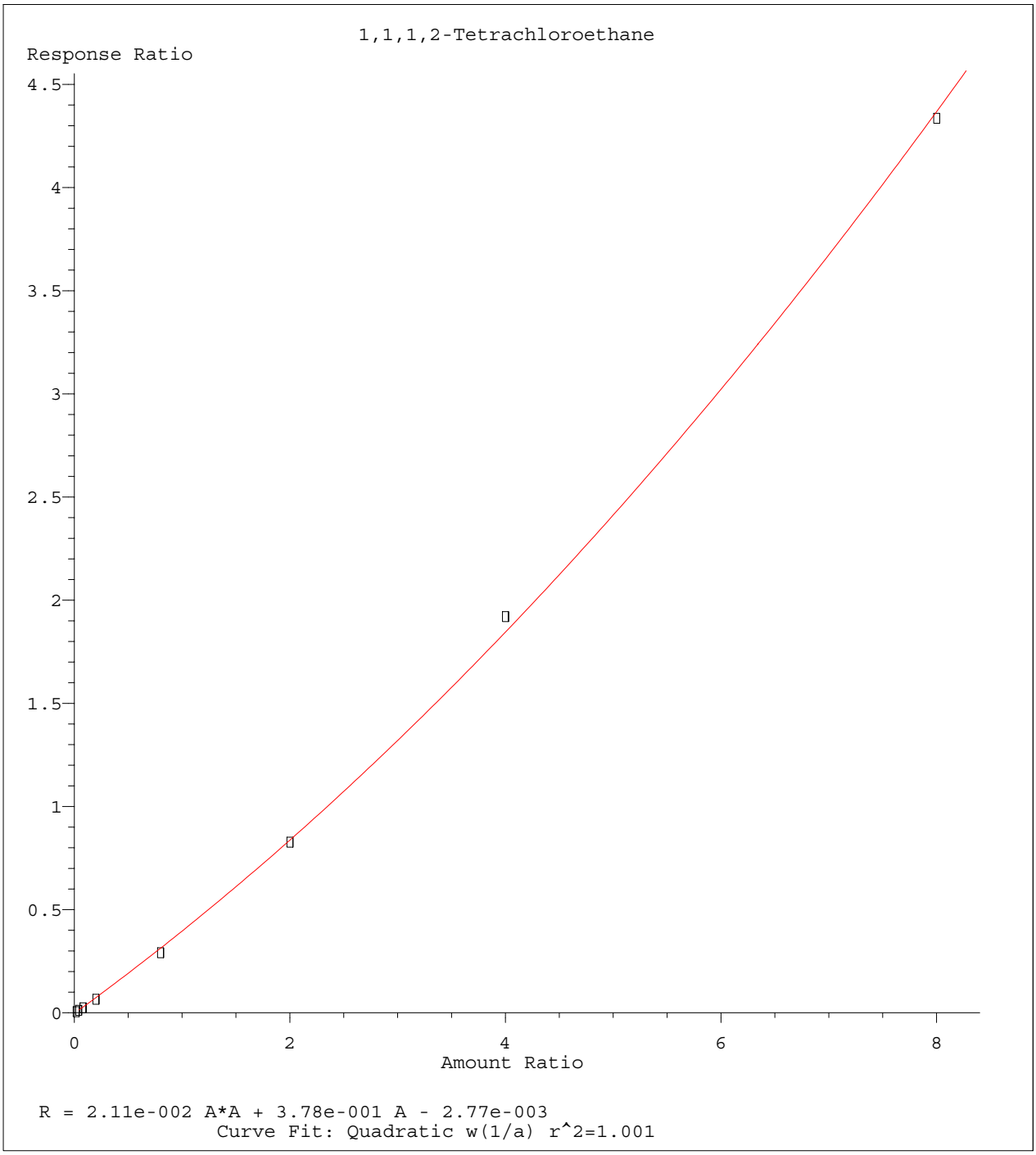
Method Name: K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M
Calibration Table Last Updated: Thu Mar 23 10:18:22 2017



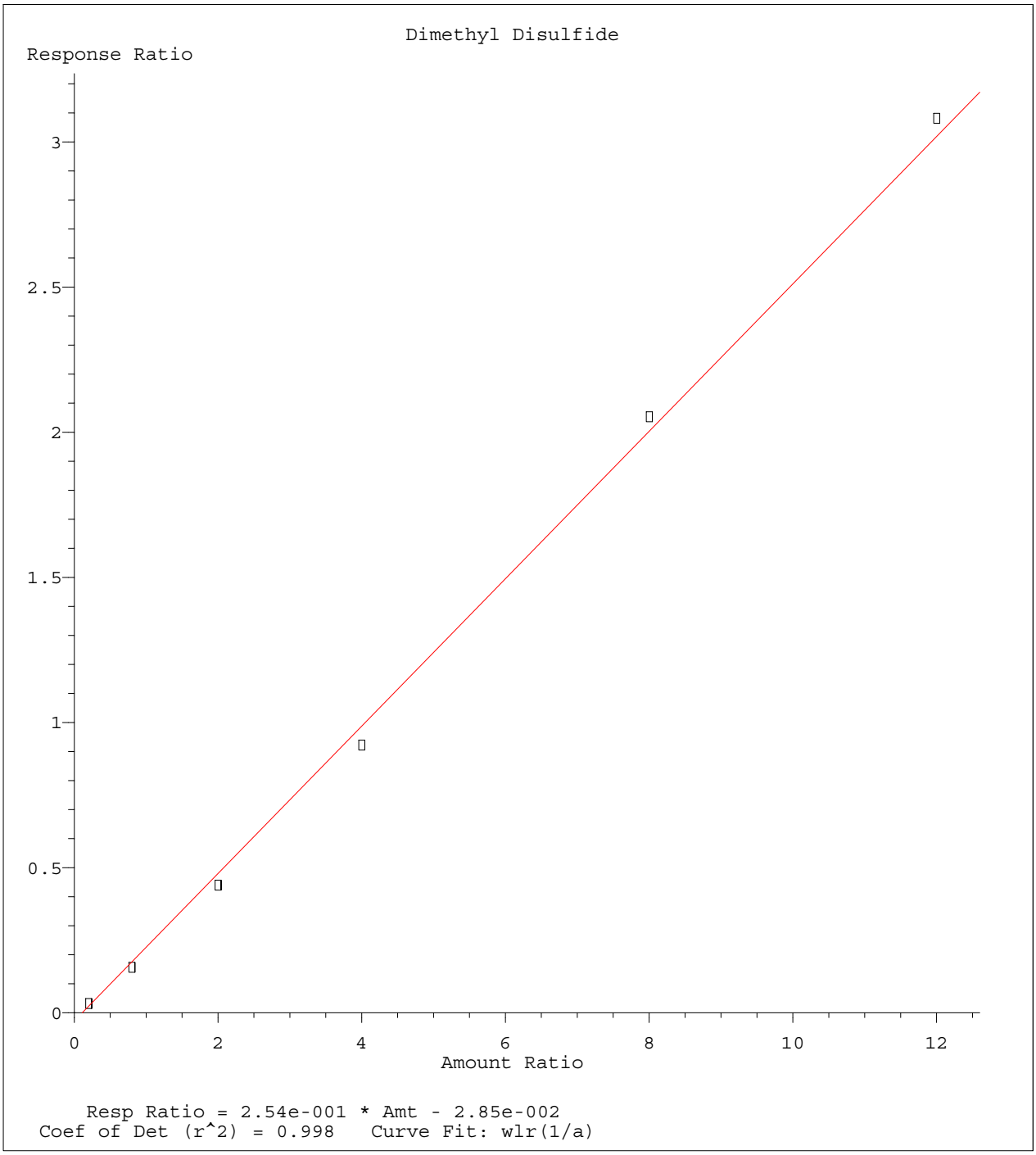
Method Name: K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M
Calibration Table Last Updated: Thu Mar 23 10:18:22 2017



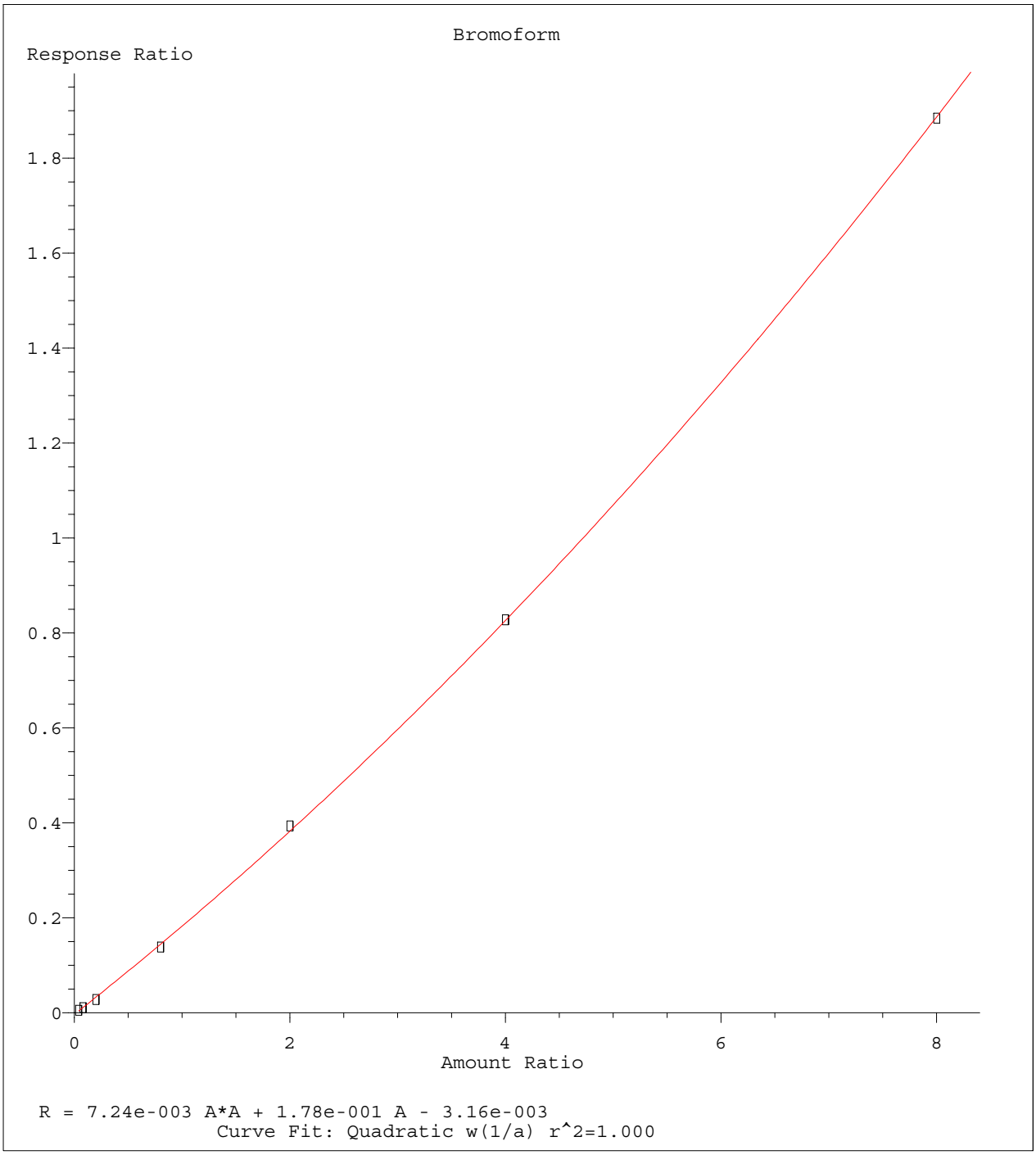
Method Name: K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M
Calibration Table Last Updated: Thu Mar 23 10:18:22 2017



Method Name: K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M
Calibration Table Last Updated: Thu Mar 23 10:18:22 2017



Method Name: K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M
Calibration Table Last Updated: Thu Mar 23 10:18:22 2017



Method Name: K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M
Calibration Table Last Updated: Thu Mar 23 10:18:22 2017

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418420.D Vial: 15
Acq On : 21 Mar 2017 22:14 Operator: TMB
Sample : WG607066-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD81038 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:53 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.94	96	801802	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.81	117	627951	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.83	152	347482	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.90	111	212466	23.3645	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 93.44%			
43) 1,2-Dichloroethane-d4	10.54	65	184451	23.4062	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 93.64%			
58) Toluene-d8	12.92	98	737309	23.3417	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 93.36%			
80) p-Bromofluorobenzene	16.31	95	296744	22.5675	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 90.28%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.34	85	653232	52.0073	ug/L	100
3) Chloromethane	3.82	50	703462	46.2162	ug/L	99
4) Vinyl Chloride	4.05	62	607302	42.6707	ug/L	99
5) 1,3-Butadiene	4.10	54	226310	47.5605	ug/L	99
6) Bromomethane	4.96	94	275374	38.1981	ug/L	99
7) Chloroethane	5.13	64	299125	51.8176	ug/L	100
8) Trichlorofluoromethane	5.62	101	754061	48.9605	ug/L	100
9) Diethyl ether	6.14	59	468990	94.1536	ug/L	99
10) Isoprene	6.18	67	627437	52.7263	ug/L	100
11) Acrolein	6.38	56	42345	66.4856	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.40	101	442568	53.4224	ug/L	99
13) Acetone	6.48	43	45473	47.4239	ug/L	99
14) 1,1-Dichloroethene	6.71	61	560269	48.4665	ug/L	100
15) Tert-Butyl Alcohol	6.83	59	58214	190.7483	ug/L	99
16) Dimethyl Sulfide	6.97	62	422983	51.4762	ug/L	99
17) Iodomethane	7.23	142	833211	86.2998	ug/L	99
18) Methyl acetate	7.24	43	147060	53.6330	ug/L	99
19) Methylene Chloride	7.50	84	430498	48.9068	ug/L	98
20) Carbon Disulfide	7.54	76	1154395	43.8443	ug/L	100
21) Acrylonitrile	7.67	53	69546	51.8552	ug/L	98
22) Methyl Tert Butyl Ether	7.70	73	832099	49.1106	ug/L	98
23) trans-1,2-Dichloroethene	7.94	61	541199	48.2852	ug/L	100
24) n-Hexane	8.01	57	470751	49.5824	ug/L	99
25) Diisopropyl ether	8.36	45	2105023	98.3246	ug/L	100
26) Vinyl Acetate	8.53	43	357461	42.4263	ug/L	100
27) 1,1-Dichloroethane	8.56	63	707513	48.4001	ug/L	99
28) Ethyl-Tert-Butyl ether	8.92	59	1928091	94.0602	ug/L	100
29) 2-Butanone	9.11	43	70687	45.7549	ug/L	98
30) Propionitrile	9.22	54	47069	102.9187	ug/L	100
31) 2,2-Dichloropropane	9.34	77	597247	45.7988	ug/L	99
32) cis-1,2-Dichloroethene	9.40	96	470265	49.4331	ug/L	98
33) Chloroform	9.61	83	784684	46.3141	ug/L	100
34) 1-Bromopropane	9.75	122	118573	65.2409	ug/L	99
35) Bromochloromethane	9.84	130	252702	49.4505	ug/L	99
36) Tetrahydrofuran	9.87	42	94102	95.7104	ug/L	98
38) 1,1,1-Trichloroethane	10.14	97	720111	51.6743	ug/L	100
39) Cyclohexane	10.18	56	539887	44.8295	ug/L	99
40) 1,1-Dichloropropene	10.34	75	585530	48.9247	ug/L	99
41) Tert-Amyl-Methyl ether	10.43	73	1896188	99.1233	ug/L	100
42) Carbon Tetrachloride	10.49	117	656573	52.6576	ug/L	98

(#) = qualifier out of range (m) = manual integration
8M418420.D 8260WTR.M Thu Mar 23 10:19:56 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418420.D Vial: 15
Acq On : 21 Mar 2017 22:14 Operator: TMB
Sample : WG607066-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD81038 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:53 2017 Quant Results File: 8260WTR.RES

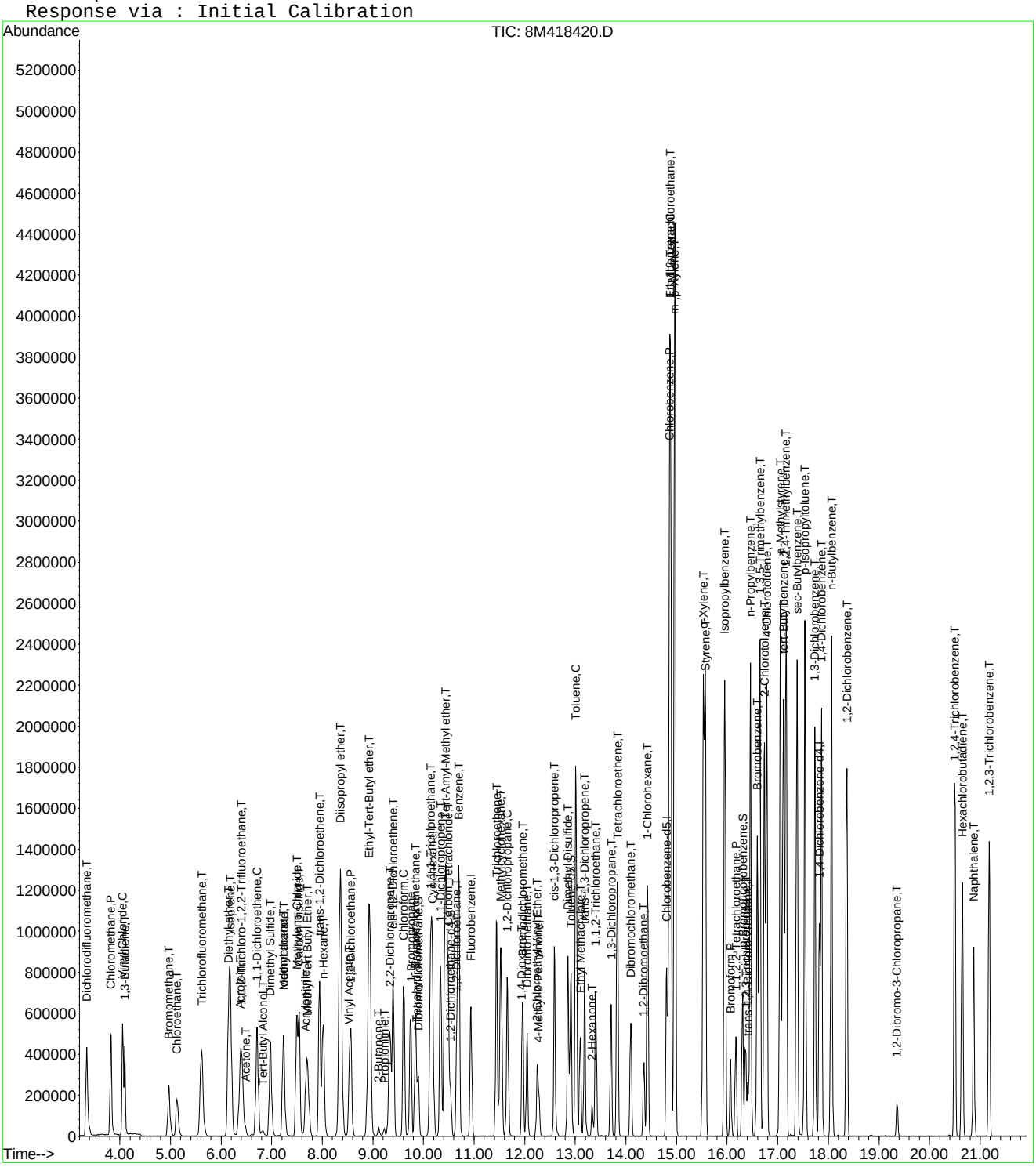
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.65	62	464175	48.5264	ug/L	100
46)	Benzene	10.69	78	1685447	48.8376	ug/L	100
47)	Trichloroethene	11.45	130	459220	49.7638	ug/L	100
48)	Methylcyclohexane	11.53	83	657678	47.4300	ug/L	99
49)	1,2-Dichloropropane	11.65	63	387925	48.8878	ug/L	100
50)	Bromodichloromethane	11.95	83	556771	49.6328	ug/L	99
51)	1,4-Dioxane	11.94	88	6615	173.4827	ug/L	89
52)	Dibromomethane	12.05	93	222923	52.4239	ug/L	99
53)	2-Chloroethyl Vinyl Ether	12.24	63	181816	50.3896	ug/L	99
54)	4-Methyl-2-Pentanone	12.27	58	75335	48.7844	ug/L	97
55)	cis-1,3-Dichloropropene	12.58	75	673080	51.6937	ug/L	99
56)	Dimethyl Disulfide	12.85	79	354985	46.3980	ug/L	98
59)	Toluene	13.01	91	1808929	48.4332	ug/L	100
60)	Ethyl Methacrylate	13.10	69	385866	53.4302	ug/L	98
62)	trans-1,3-Dichloropropene	13.18	75	531028	48.2024	ug/L	100
63)	1,1,2-Trichloroethane	13.40	97	284561	48.3685	ug/L	100
64)	2-Hexanone	13.33	58	69958	49.6012	ug/L	99
65)	1,3-Dichloropropane	13.71	76	516975	49.0749	ug/L	100
66)	Tetrachloroethene	13.84	164	396503	48.9957	ug/L	100
67)	Dibromochloromethane	14.09	129	376425	47.4020	ug/L	99
68)	1,2-Dibromoethane	14.35	107	294235	48.7428	ug/L	98
69)	1-Chlorohexane	14.42	91	625773	49.1631	ug/L	100
70)	Chlorobenzene	14.86	112	1280001	48.6944	ug/L	100
71)	1,1,1,2-Tetrachloroethane	14.88	131	483396	46.3390	ug/L	100
72)	Ethylbenzene	14.88	106	754815	51.7418	ug/L	99
73)	m-,p-Xylene	14.96	106	1798995	102.8217	ug/L	100
74)	o-Xylene	15.53	106	847920	48.8719	ug/L	100
75)	Styrene	15.57	104	1465666	52.3292	ug/L	98
76)	Bromoform	16.07	173	232001	48.4254	ug/L	99
77)	Isopropylbenzene	15.95	105	2098312	49.9889	ug/L	100
79)	1,1,2,2-Tetrachloroethane	16.17	83	321369	47.4525	ug/L	99
81)	1,2,3-Trichloropropane	16.37	110	96471	50.0346	ug/L	90
82)	trans-1,4-Dichloro-2-Buten	16.41	53	61346	38.6175	ug/L	58
83)	n-Propylbenzene	16.46	91	2448771	47.8461	ug/L	100
84)	Bromobenzene	16.60	156	551938	48.7266	ug/L	100
85)	1,3,5-Trimethylbenzene	16.65	105	1853525	50.1419	ug/L	100
86)	2-Chlorotoluene	16.74	91	1666013	48.4280	ug/L	95
87)	4-Chlorotoluene	16.78	91	1456305	48.4555	ug/L	100
88)	a-Methylstyrene	17.05	118	1084857	52.4986	ug/L	99
89)	tert-Butylbenzene	17.11	134	395877	48.4922	ug/L	98
90)	1,2,4-Trimethylbenzene	17.16	105	1927292	50.1500	ug/L	100
91)	sec-Butylbenzene	17.38	105	2279854	49.6876	ug/L	100
92)	p-Isopropyltoluene	17.54	119	1923816	51.1861	ug/L	100
93)	1,3-Dichlorobenzene	17.73	146	1091346	48.3341	ug/L	99
94)	1,4-Dichlorobenzene	17.87	146	1091510	47.9956	ug/L	100
95)	n-Butylbenzene	18.06	91	1817919	49.8529	ug/L	100
96)	1,2-Dichlorobenzene	18.36	146	960441	48.8168	ug/L	100
97)	1,2-Dibromo-3-Chloropropan	19.36	75	52166	49.0808	ug/L	97
98)	1,2,4-Trichlorobenzene	20.50	180	704275	47.8591	ug/L	100
99)	Hexachlorobutadiene	20.65	225	337004	46.8409	ug/L	99
100)	Naphthalene	20.88	128	957287	49.2538	ug/L	100
101)	1,2,3-Trichlorobenzene	21.18	180	585339	48.0998	ug/L	100

(#) = qualifier out of range (m) = manual integration
8M418420.D 8260WTR.M Thu Mar 23 10:19:56 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418420.D Vial: 15
Acq On : 21 Mar 2017 22:14 Operator: TMB
Sample : WG607066-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD81038 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418420.D Vial: 15
Acq On : 21 Mar 2017 22:14 Operator: TMB
Sample : WG607066-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD81038 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	98	0.00
2	T	Dichlorodifluoromethane	50.0000	52.0073	-4.0	92	0.00
3	P	Chloromethane	50.0000	46.2162	7.6	92	-0.01
4	C	Vinyl Chloride	50.0000	42.6707	14.7	87	0.00
5	T	1,3-Butadiene	50.0000	47.5605	4.9	79	0.00
6	T	Bromomethane	50.0000	38.1981	23.6	74	-0.01
7	T	Chloroethane	50.0000	51.8176	-3.6	98	0.00
8	T	Trichlorofluoromethane	50.0000	48.9605	2.1	93	0.00
9	T	Diethyl ether	100.0000	94.1536	5.8	90	0.00
10	T	Isoprene	50.0000	52.7263	-5.5	104	0.00
11	T	Acrolein	50.0000	66.4856	-33.0#	126	-0.01
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	53.4224	-6.8	100	0.00
13	T	Acetone	50.0000	47.4239	5.2	91	0.00
14	C	1,1-Dichloroethene	50.0000	48.4665	3.1	93	0.00
15	T	Tert-Butyl Alcohol	200.0000	190.7483	4.6	88	0.01
16	T	Dimethyl Sulfide	50.0000	51.4762	-3.0	101	-0.01
17	T	Iodomethane	50.0000	86.2998	-72.6#	170	0.00
18	T	Methyl acetate	50.0000	53.6330	-7.3	106	0.00
19	T	Methylene Chloride	50.0000	48.9068	2.2	95	0.00
20	T	Carbon Disulfide	50.0000	43.8443	12.3	84	0.00
21	T	Acrylonitrile	50.0000	51.8552	-3.7	93	0.00
22	T	Methyl Tert Butyl Ether	50.0000	49.1106	1.8	91	0.00
23	T	trans-1,2-Dichloroethene	50.0000	48.2852	3.4	95	0.00
24	T	n-Hexane	50.0000	49.5824	0.8	98	-0.01
25	T	Diisopropyl ether	100.0000	98.3246	1.7	94	0.00
26	T	Vinyl Acetate	50.0000	42.4263	15.1	86	0.00
27	P	1,1-Dichloroethane	50.0000	48.4001	3.2	93	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	94.0602	5.9	88	-0.01
29	T	2-Butanone	50.0000	45.7549	8.5	89	0.00
30	T	Propionitrile	100.0000	102.9187	-2.9	96	0.00
31	T	2,2-Dichloropropane	50.0000	45.7988	8.4	91	0.00
32	T	cis-1,2-Dichloroethene	50.0000	49.4331	1.1	95	0.00
33	C	Chloroform	50.0000	46.3141	7.4	96	0.00
34		1-Bromopropane	50.0000	65.2409	-30.5#	126	0.00
35	T	Bromochloromethane	50.0000	49.4505	1.1	93	0.00
36	T	Tetrahydrofuran	100.0000	95.7104	4.3	91	0.00
37	S	Dibromofluoromethane	25.0000	23.3645	6.5	93	0.00
38	T	1,1,1-Trichloroethane	50.0000	51.6743	-3.3	97	0.00
39	T	Cyclohexane	50.0000	44.8295	10.3	87	0.00
40	T	1,1-Dichloropropene	50.0000	48.9247	2.2	95	0.00
41	T	Tert-Amyl-Methyl ether	100.0000	99.1233	0.9	92	0.00
42	T	Carbon Tetrachloride	50.0000	52.6576	-5.3	97	0.00
43	S	1,2-Dichloroethane-d4	25.0000	23.4062	6.4	93	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.61#
45	T	1,2-Dichloroethane	50.0000	48.5264	2.9	93	-0.01
46	T	Benzene	50.0000	48.8376	2.3	94	0.00
47	T	Trichloroethene	50.0000	49.7638	0.5	94	0.00
48	T	Methylcyclohexane	50.0000	47.4300	5.1	94	0.00
49	C	1,2-Dichloropropane	50.0000	48.8878	2.2	93	0.00
50	T	Bromodichloromethane	50.0000	49.6328	0.7	91	0.00
51	T	1,4-Dioxane	200.0000	173.4827	13.3	73	0.00
52	T	Dibromomethane	50.0000	52.4239	-4.8	94	0.00
53	T	2-Chloroethyl Vinyl Ether	50.0000	50.3896	-0.8	99	0.00
54	T	4-Methyl-2-Pentanone	50.0000	48.7844	2.4	94	0.00

(#) = Out of Range
8M418420.D 8260WTR.M Thu Mar 23 10:23:04 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418420.D Vial: 15
Acq On : 21 Mar 2017 22:14 Operator: TMB
Sample : WG607066-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD81038 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	50.0000	51.6937	-3.4	96	0.00
56	T	Dimethyl Disulfide	50.0000	46.3980	7.2	98	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	99	0.00
58	S	Toluene-d8	25.0000	23.3417	6.6	95	0.00
59	C	Toluene	50.0000	48.4333	3.1	94	0.00
60	T	Ethyl Methacrylate	50.0000	53.4302	-6.9	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.40#
62	T	trans-1,3-Dichloropropene	50.0000	48.2024	3.6	90	0.00
63	T	1,1,2-Trichloroethane	50.0000	48.3685	3.3	92	0.00
64	T	2-Hexanone	50.0000	49.6012	0.8	95	-0.01
65	T	1,3-Dichloropropane	50.0000	49.0749	1.9	95	0.00
66	T	Tetrachloroethene	50.0000	48.9957	2.0	97	0.00
67	T	Dibromochloromethane	50.0000	47.4020	5.2	92	0.00
68	T	1,2-Dibromoethane	50.0000	48.7428	2.5	92	0.00
69	T	1-Chlorohexane	50.0000	49.1631	1.7	101	-0.01
70	P	Chlorobenzene	50.0000	48.6944	2.6	94	0.00
71	T	1,1,1,2-Tetrachloroethane	50.0000	46.3390	7.3	92	0.00
72	C	Ethylbenzene	50.0000	51.7418	-3.5	95	0.00
73	T	m-,p-Xylene	100.0000	102.8217	-2.8	96	0.00
74	T	o-Xylene	50.0000	48.8719	2.3	96	0.00
75	T	Styrene	50.0000	52.3292	-4.7	96	0.00
76	P	Bromoform	50.0000	48.4254	3.1	93	0.00
77	T	Isopropylbenzene	50.0000	49.9889	0.0	94	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	101	0.00
79	P	1,1,2,2-Tetrachloroethane	50.0000	47.4525	5.1	92	0.00
80	S	p-Bromofluorobenzene	25.0000	22.5675	9.7	96	0.00
81	T	1,2,3-Trichloropropane	50.0000	50.0346	-0.1	95	0.00
82	T	trans-1,4-Dichloro-2-Butene	50.0000	38.6175	22.8	71	0.00
83	T	n-Propylbenzene	50.0000	47.8461	4.3	93	0.00
84	T	Bromobenzene	50.0000	48.7266	2.5	95	0.00
85	T	1,3,5-Trimethylbenzene	50.0000	50.1419	-0.3	96	0.00
86	T	2-Chlorotoluene	50.0000	48.4280	3.1	95	0.00
87	T	4-Chlorotoluene	50.0000	48.4555	3.1	94	0.00
88	T	a-Methylstyrene	50.0000	52.4986	-5.0	105	0.00
89	T	tert-Butylbenzene	50.0000	48.4922	3.0	96	0.00
90	T	1,2,4-Trimethylbenzene	50.0000	50.1500	-0.3	96	0.00
91	T	sec-Butylbenzene	50.0000	49.6876	0.6	95	0.00
92	T	p-Isopropyltoluene	50.0000	51.1861	-2.4	97	0.00
93	T	1,3-Dichlorobenzene	50.0000	48.3341	3.3	95	0.00
94	T	1,4-Dichlorobenzene	50.0000	47.9956	4.0	96	0.00
95	T	n-Butylbenzene	50.0000	49.8529	0.3	96	0.00
96	T	1,2-Dichlorobenzene	50.0000	48.8168	2.4	95	0.00
97	T	1,2-Dibromo-3-Chloropropane	50.0000	49.0808	1.8	92	0.00
98	T	1,2,4-Trichlorobenzene	50.0000	47.8591	4.3	96	0.00
99	T	Hexachlorobutadiene	50.0000	46.8409	6.3	97	0.00
100	T	Naphthalene	50.0000	49.2538	1.5	92	0.00
101	T	1,2,3-Trichlorobenzene	50.0000	48.0998	3.8	95	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M418420.D 8260WTR.M Thu Mar 23 10:23:04 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032217\8M418426.D Vial: 2
Acq On : 22 Mar 2017 15:35 Operator: ADC
Sample : WG607284-02 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 08:28:03 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Wed Mar 22 10:02:23 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.93	96	872665	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.81	117	652780	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.83	152	358681	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.90	111	211127	21.3320 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 85.32%#		
43) 1,2-Dichloroethane-d4	10.53	65	174044	20.2922 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 81.16%		
58) Toluene-d8	12.91	98	753759	22.9549 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 91.80%		
80) p-Bromofluorobenzene	16.31	95	290072	21.3714 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 85.48%#		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.34	85	764598	55.9306 ug/L	100
3) Chloromethane	3.82	50	769342	46.4401 ug/L	99
4) Vinyl Chloride	4.06	62	703746	44.2360 ug/L	100
5) 1,3-Butadiene	4.11	54	291309	57.7721 ug/L	99
6) Bromomethane	4.96	94	348374	44.4001 ug/L	99
7) Chloroethane	5.13	64	320636	51.0336 ug/L	99
8) Trichlorofluoromethane	5.62	101	860098	51.3106 ug/L	100
9) Diethyl ether	6.14	59	476870	87.9616 ug/L	99
10) Isoprene	6.18	67	627115	48.4199 ug/L	100
11) Acrolein	6.38	56	22217	32.0502 ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	6.39	101	472192	52.3699 ug/L	99
13) Acetone	6.47	43	43866	42.0331 ug/L	98
14) 1,1-Dichloroethene	6.70	61	635182	50.4851 ug/L	100
15) Tert-Butyl Alcohol	6.82	59	66868	201.3127 ug/L	96
16) Dimethyl Sulfide	6.97	62	409981	45.8423 ug/L	100
17) Iodomethane	7.23	142	626818	59.8065 ug/L	100
18) Methyl acetate	7.23	43	125527	42.0624 ug/L	98
19) Methylene Chloride	7.49	84	458638	47.8727 ug/L	99
20) Carbon Disulfide	7.54	76	1448641	50.5521 ug/L	100
21) Acrylonitrile	7.66	53	70232	47.9487 ug/L	97
22) Methyl Tert Butyl Ether	7.69	73	853772	46.2979 ug/L	99
23) trans-1,2-Dichloroethene	7.94	61	601815	49.3333 ug/L	100
24) n-Hexane	8.02	57	544496	52.6927 ug/L	99
25) Diisopropyl ether	8.35	45	2212381	94.9478 ug/L	100
26) Vinyl Acetate	8.52	43	468273	51.0652 ug/L	100
27) 1,1-Dichloroethane	8.56	63	791172	49.7282 ug/L	100
28) Ethyl-Tert-Butyl ether	8.92	59	2093767	93.8482 ug/L	100
29) 2-Butanone	9.10	43	72924	43.3698 ug/L	100
30) Propionitrile	9.21	54	46207	92.8297 ug/L	100
31) 2,2-Dichloropropane	9.33	77	765470	53.9321 ug/L	99
32) cis-1,2-Dichloroethene	9.40	96	519361	50.1607 ug/L	99
33) Chloroform	9.61	83	844080	45.7743 ug/L	100
34) 1-Bromopropane	9.74	122	98201	49.6443 ug/L	99
35) Bromochloromethane	9.83	130	269543	48.4629 ug/L	99
36) Tetrahydrofuran	9.86	42	119860	112.0093 ug/L	99
38) 1,1,1-Trichloroethane	10.13	97	779518	51.3950 ug/L	100
39) Cyclohexane	10.18	56	647062	49.3658 ug/L	100
40) 1,1-Dichloropropene	10.33	75	659650	50.6421 ug/L	100
41) Tert-Amyl-Methyl ether	10.43	73	1936144	92.9933 ug/L	98
42) Carbon Tetrachloride	10.49	117	730957	53.8629 ug/L	99

(#) = qualifier out of range (m) = manual integration
8M418426.D 8260WTR.M Thu Mar 23 08:28:06 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032217\8M418426.D Vial: 2
Acq On : 22 Mar 2017 15:35 Operator: ADC
Sample : WG607284-02 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 08:28:03 2017 Quant Results File: 8260WTR.RES

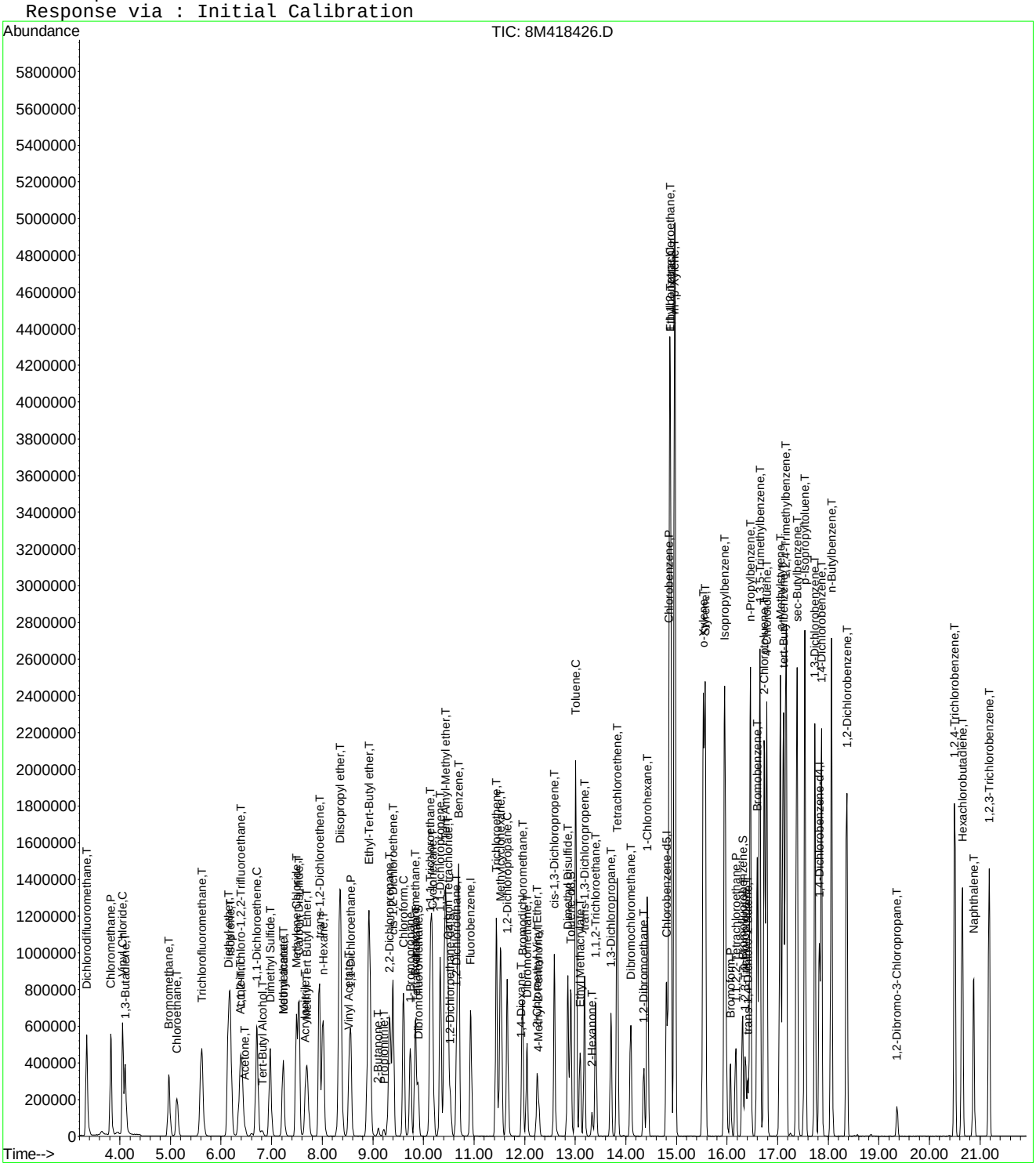
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Wed Mar 22 10:02:23 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.65	62	488993	46.9698	ug/L		100
46)	Benzene	10.69	78	1858624	49.4823	ug/L		100
47)	Trichloroethene	11.44	130	505569	50.3376	ug/L		100
48)	Methylcyclohexane	11.52	83	740203	49.0467	ug/L		100
49)	1,2-Dichloropropane	11.65	63	423308	49.0150	ug/L		99
50)	Bromodichloromethane	11.95	83	614676	50.3452	ug/L		100
51)	1,4-Dioxane	11.93	88	9622	231.8522	ug/L		91
52)	Dibromomethane	12.05	93	226035	48.8394	ug/L		98
53)	2-Chloroethyl Vinyl Ether	12.24	63	173124	44.0844	ug/L		100
54)	4-Methyl-2-Pentanone	12.27	58	70872	42.1676	ug/L		96
55)	cis-1,3-Dichloropropene	12.59	75	709394	50.0585	ug/L		99
56)	Dimethyl Disulfide	12.85	79	359530	43.3709	ug/L		99
59)	Toluene	13.01	91	2005931	51.6651	ug/L		100
60)	Ethyl Methacrylate	13.09	69	345958	46.0821	ug/L		100
62)	trans-1,3-Dichloropropene	13.18	75	583683	50.9668	ug/L		100
63)	1,1,2-Trichloroethane	13.40	97	293686	48.0208	ug/L		100
64)	2-Hexanone	13.33	58	64311	43.8631	ug/L		97
65)	1,3-Dichloropropane	13.70	76	517670	47.2718	ug/L		100
66)	Tetrachloroethene	13.83	164	437604	52.0178	ug/L		99
67)	Dibromochloromethane	14.09	129	406485	45.0156	ug/L		99
68)	1,2-Dibromoethane	14.35	107	302238	48.1642	ug/L		100
69)	1-Chlorohexane	14.43	91	658009	49.7294	ug/L		99
70)	Chlorobenzene	14.85	112	1409480	51.5806	ug/L		100
71)	1,1,1,2-Tetrachloroethane	14.88	131	534158	48.9848	ug/L		99
72)	Ethylbenzene	14.88	106	829743	54.7147	ug/L		100
73)	m-,p-Xylene	14.96	106	1970170	108.3222	ug/L		99
74)	o-Xylene	15.53	106	922292	51.1366	ug/L		98
75)	Styrene	15.56	104	1568211	53.8607	ug/L		99
76)	Bromoform	16.07	173	246115	43.5133	ug/L		100
77)	Isopropylbenzene	15.96	105	2329098	53.3765	ug/L		99
79)	1,1,2,2-Tetrachloroethane	16.17	83	325397	46.5471	ug/L		99
81)	1,2,3-Trichloropropane	16.36	110	91207	45.8275	ug/L	#	31
82)	trans-1,4-Dichloro-2-Buten	16.41	53	82151	50.0996	ug/L	#	23
83)	n-Propylbenzene	16.46	91	2757888	52.2034	ug/L		99
84)	Bromobenzene	16.60	156	581644	49.7458	ug/L		98
85)	1,3,5-Trimethylbenzene	16.65	105	2036550	53.3730	ug/L		100
86)	2-Chlorotoluene	16.73	91	1885058	53.0844	ug/L		95
87)	4-Chlorotoluene	16.78	91	1531812	49.3765	ug/L		99
88)	a-Methylstyrene	17.05	118	1051365	49.2893	ug/L		99
89)	tert-Butylbenzene	17.11	134	438243	52.0057	ug/L		98
90)	1,2,4-Trimethylbenzene	17.17	105	2116619	53.3568	ug/L		99
91)	sec-Butylbenzene	17.38	105	2526006	53.3334	ug/L		99
92)	p-Isopropyltoluene	17.54	119	2116070	54.5435	ug/L		99
93)	1,3-Dichlorobenzene	17.73	146	1195949	51.3131	ug/L		100
94)	1,4-Dichlorobenzene	17.87	146	1165319	49.6412	ug/L		100
95)	n-Butylbenzene	18.07	91	2027734	53.8704	ug/L		99
96)	1,2-Dichlorobenzene	18.36	146	1008198	49.6442	ug/L		100
97)	1,2-Dibromo-3-Chloropropan	19.36	75	52250	47.6249	ug/L		99
98)	1,2,4-Trichlorobenzene	20.49	180	738443	48.6142	ug/L		100
99)	Hexachlorobutadiene	20.65	225	381991	51.4360	ug/L		99
100)	Naphthalene	20.88	128	911034	45.4104	ug/L		100
101)	1,2,3-Trichlorobenzene	21.18	180	583634	46.4623	ug/L		99

(#) = qualifier out of range (m) = manual integration
8M418426.D 8260WTR.M Thu Mar 23 08:28:06 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032217\8M418426.D Vial: 2
Acq On : 22 Mar 2017 15:35 Operator: ADC
Sample : WG607284-02 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 8:28 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Wed Mar 22 10:02:23 2017
Response via : Initial Calibration



8M418426.D 8260WTR.M Thu Mar 23 08:28:07 2017 Page 3

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032217\8M418426.D Vial: 2
Acq On : 22 Mar 2017 15:35 Operator: ADC
Sample : WG607284-02 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Wed Mar 22 10:02:23 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.0000	1.0000	0.0	106	0.00
2	T	Dichlorodifluoromethane	0.3916	0.4381	-11.9	107	0.00
3	P	Chloromethane	0.4746	0.4408	7.1	101	0.00
4	C	Vinyl Chloride	0.4558	0.4032	11.5	101	0.00
5	T	1,3-Butadiene	0.1726	0.1669	3.3	102	0.00
6	T	Bromomethane	0.2248	0.1996	11.2	94	0.00
7	T	Chloroethane	0.1800	0.1837	-2.1	105	0.00
8	T	Trichlorofluoromethane	0.4802	0.4928	-2.6	107	0.00
9	T	Diethyl ether	0.1553	0.1366	12.0	91	0.00
10	T	Isoprene	0.3710	0.3593	3.2	104	0.00
11	T	Acrolein	0.0199	0.0127	35.9#	66	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	0.2583	0.2706	-4.7	107	0.00
13	T	Acetone	0.0299	0.0251	16.0	87	0.00
14	C	1,1-Dichloroethene	0.3604	0.3639	-1.0	106	0.00
15	T	Tert-Butyl Alcohol	0.0095	0.0096	-0.6	101	0.00
16	T	Dimethyl Sulfide	0.2562	0.2349	8.3	98	0.00
17	T	Iodomethane	0.2687	0.3591	-33.7#	128	0.00
18	T	Methyl acetate	0.0855	0.0719	15.9	91	0.00
19	T	Methylene Chloride	0.2745	0.2628	4.3	101	0.00
20	T	Carbon Disulfide	0.8209	0.8300	-1.1	105	0.00
21	T	Acrylonitrile	0.0420	0.0402	4.1	94	0.00
22	T	Methyl Tert Butyl Ether	0.5283	0.4892	7.4	93	0.00
23	T	trans-1,2-Dichloroethene	0.3495	0.3448	1.3	105	0.00
24	T	n-Hexane	0.2960	0.3120	-5.4	113	0.00
25	T	Diisopropyl ether	0.6675	0.6338	5.1	99	0.00
26	T	Vinyl Acetate	0.2627	0.2683	-2.1	112	0.00
27	P	1,1-Dichloroethane	0.4558	0.4533	0.5	104	0.00
28	T	Ethyl-Tert-Butyl ether	0.6391	0.5998	6.2	96	0.00
29	T	2-Butanone	0.0482	0.0418	13.3	92	0.00
30	T	Propionitrile	0.0143	0.0132	7.2	95	0.00
31	T	2,2-Dichloropropane	0.4066	0.4386	-7.9	117	0.00
32	T	cis-1,2-Dichloroethene	0.2966	0.2976	-0.3	105	0.00
33	C	Chloroform	0.5283	0.4836	8.5	103	0.00
34		1-Bromopropane	0.0567	0.0563	0.7	105	0.00
35	T	Bromochloromethane	0.1593	0.1544	3.1	99	0.00
36	T	Tetrahydrofuran	0.0307	0.0343	-12.0	115	0.00
37	S	Dibromofluoromethane	0.2835	0.2419	14.7	93	0.00
38	T	1,1,1-Trichloroethane	0.4345	0.4466	-2.8	105	0.00
39	T	Cyclohexane	0.3755	0.3707	1.3	104	0.00
40	T	1,1-Dichloropropene	0.3732	0.3780	-1.3	107	0.00
41	T	Tert-Amyl-Methyl ether	0.5965	0.5547	7.0	94	0.00
42	T	Carbon Tetrachloride	0.3888	0.4188	-7.7	108	0.00
43	S	1,2-Dichloroethane-d4	0.2457	0.1994	18.8	87	0.00
44		Heptane	0.0000	0.0000	0.0	0#	-2.61#
45	T	1,2-Dichloroethane	0.2983	0.2802	6.1	98	0.00
46	T	Benzene	1.0761	1.0649	1.0	104	0.00
47	T	Trichloroethene	0.2877	0.2897	-0.7	104	0.00
48	T	Methylcyclohexane	0.4324	0.4241	1.9	106	0.00
49	C	1,2-Dichloropropane	0.2474	0.2425	2.0	102	0.00
50	T	Bromodichloromethane	0.3498	0.3522	-0.7	101	0.00
51	T	1,4-Dioxane	0.0012	0.0014	-16.0	107	0.00
52	T	Dibromomethane	0.1326	0.1295	2.3	96	0.00
53	T	2-Chloroethyl Vinyl Ether	0.1125	0.0992	11.8	94	0.00
54	T	4-Methyl-2-Pentanone	0.0481	0.0406	15.7	88	0.00

(#) = Out of Range
8M418426.D 8260WTR.M Thu Mar 23 08:30:14 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032217\8M418426.D Vial: 2
Acq On : 22 Mar 2017 15:35 Operator: ADC
Sample : WG607284-02 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Wed Mar 22 10:02:23 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	0.4060	0.4064	-0.1	102	0.00
56	T	Dimethyl Disulfide	0.2197	0.2060	6.2	100	0.00
57	I	Chlorobenzene-d5	1.0000	1.0000	0.0	103	0.00
58	S	Toluene-d8	1.2576	1.1547	8.2	97	0.00
59	C	Toluene	1.4869	1.5365	-3.3	104	0.00
60	T	Ethyl Methacrylate	0.2875	0.2650	7.8	90	0.00
61		Paraldehyde	0.0000	0.0000	0.0	0#	-13.40#
62	T	trans-1,3-Dichloropropene	0.4386	0.4471	-1.9	99	0.00
63	T	1,1,2-Trichloroethane	0.2342	0.2250	4.0	95	0.00
64	T	2-Hexanone	0.0561	0.0493	12.3	87	0.00
65	T	1,3-Dichloropropane	0.4194	0.3965	5.5	95	0.00
66	T	Tetrachloroethene	0.3222	0.3352	-4.0	107	0.00
67	T	Dibromochloromethane	0.2861	0.3114	-8.8	99	0.00
68	T	1,2-Dibromoethane	0.2403	0.2315	3.7	95	0.00
69	T	1-Chlorohexane	0.5068	0.5040	0.5	106	0.00
70	P	Chlorobenzene	1.0465	1.0796	-3.2	103	0.00
71	T	1,1,1,2-Tetrachloroethane	0.3805	0.4091	-7.5	102	0.00
72	C	Ethylbenzene	0.5808	0.6355	-9.4	104	0.00
73	T	m-,p-Xylene	0.6966	0.7545	-8.3	105	0.00
74	T	o-Xylene	0.6907	0.7064	-2.3	104	0.00
75	T	Styrene	1.1151	1.2012	-7.7	103	0.00
76	P	Bromoform	0.1739	0.1885	-8.4	98	0.00
77	T	Isopropylbenzene	1.6711	1.7840	-6.8	104	0.00
78	I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	104	0.00
79	P	1,1,2,2-Tetrachloroethane	0.4873	0.4536	6.9	93	0.00
80	S	p-Bromofluorobenzene	0.9460	0.8087	14.5	93	0.00
81	T	1,2,3-Trichloropropane	0.1387	0.1271	8.3	90	0.00
82	T	trans-1,4-Dichloro-2-Butene	0.1143	0.1145	-0.2	95	0.00
83	T	n-Propylbenzene	3.6822	3.8445	-4.4	105	0.00
84	T	Bromobenzene	0.8149	0.8108	0.5	101	0.00
85	T	1,3,5-Trimethylbenzene	2.6595	2.8389	-6.7	105	0.00
86	T	2-Chlorotoluene	2.4751	2.6278	-6.2	107	0.00
87	T	4-Chlorotoluene	2.1623	2.1353	1.2	99	0.00
88	T	a-Methylstyrene	1.4867	1.4656	1.4	102	0.00
89	T	tert-Butylbenzene	0.5874	0.6109	-4.0	107	0.00
90	T	1,2,4-Trimethylbenzene	2.7649	2.9506	-6.7	105	0.00
91	T	sec-Butylbenzene	3.3012	3.5212	-6.7	105	0.00
92	T	p-Isopropyltoluene	2.7041	2.9498	-9.1	107	0.00
93	T	1,3-Dichlorobenzene	1.6245	1.6671	-2.6	104	0.00
94	T	1,4-Dichlorobenzene	1.6362	1.6244	0.7	102	0.00
95	T	n-Butylbenzene	2.6236	2.8266	-7.7	107	0.00
96	T	1,2-Dichlorobenzene	1.4155	1.4054	0.7	99	0.00
97	T	1,2-Dibromo-3-Chloropropane	0.0765	0.0728	4.7	92	0.00
98	T	1,2,4-Trichlorobenzene	1.0587	1.0294	2.8	100	0.00
99	T	Hexachlorobutadiene	0.5176	0.5325	-2.9	110	0.00
100	T	Naphthalene	1.3983	1.2700	9.2	88	0.00
101	T	1,2,3-Trichlorobenzene	0.8755	0.8136	7.1	95	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M418426.D 8260WTR.M Thu Mar 23 08:30:15 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032217\8M418426.D Vial: 2
Acq On : 22 Mar 2017 15:35 Operator: ADC
Sample : WG607284-02 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Wed Mar 22 10:02:23 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	106	0.00
2	T	Dichlorodifluoromethane	50.0000	55.9306	-11.9	107	0.00
3	P	Chloromethane	50.0000	46.4401	7.1	101	0.00
4	C	Vinyl Chloride	50.0000	44.2360	11.5	101	0.00
5	T	1,3-Butadiene	50.0000	57.7721	-15.5	102	0.00
6	T	Bromomethane	50.0000	44.4001	11.2	94	0.00
7	T	Chloroethane	50.0000	51.0336	-2.1	105	0.00
8	T	Trichlorofluoromethane	50.0000	51.3105	-2.6	107	0.00
9	T	Diethyl ether	100.0000	87.9616	12.0	91	0.00
10	T	Isoprene	50.0000	48.4200	3.2	104	0.00
11	T	Acrolein	50.0000	32.0502	35.9#	66	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	52.3699	-4.7	107	0.00
13	T	Acetone	50.0000	42.0331	15.9	87	0.00
14	C	1,1-Dichloroethene	50.0000	50.4851	-1.0	106	0.00
15	T	Tert-Butyl Alcohol	200.0000	201.3127	-0.7	101	0.00
16	T	Dimethyl Sulfide	50.0000	45.8423	8.3	98	0.00
17	T	Iodomethane	50.0000	59.8065	-19.6	128	0.00
18	T	Methyl acetate	50.0000	42.0624	15.9	91	0.00
19	T	Methylene Chloride	50.0000	47.8727	4.3	101	0.00
20	T	Carbon Disulfide	50.0000	50.5521	-1.1	105	0.00
21	T	Acrylonitrile	50.0000	47.9487	4.1	94	0.00
22	T	Methyl Tert Butyl Ether	50.0000	46.2979	7.4	93	0.00
23	T	trans-1,2-Dichloroethene	50.0000	49.3333	1.3	105	0.00
24	T	n-Hexane	50.0000	52.6927	-5.4	113	0.00
25	T	Diisopropyl ether	100.0000	94.9478	5.1	99	0.00
26	T	Vinyl Acetate	50.0000	51.0652	-2.1	112	0.00
27	P	1,1-Dichloroethane	50.0000	49.7281	0.5	104	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	93.8482	6.2	96	0.00
29	T	2-Butanone	50.0000	43.3698	13.3	92	0.00
30	T	Propionitrile	100.0000	92.8297	7.2	95	0.00
31	T	2,2-Dichloropropane	50.0000	53.9321	-7.9	117	0.00
32	T	cis-1,2-Dichloroethene	50.0000	50.1607	-0.3	105	0.00
33	C	Chloroform	50.0000	45.7743	8.5	103	0.00
34		1-Bromopropane	50.0000	49.6443	0.7	105	0.00
35	T	Bromochloromethane	50.0000	48.4629	3.1	99	0.00
36	T	Tetrahydrofuran	100.0000	112.0093	-12.0	115	0.00
37	S	Dibromofluoromethane	25.0000	21.3319	14.7	93	0.00
38	T	1,1,1-Trichloroethane	50.0000	51.3950	-2.8	105	0.00
39	T	Cyclohexane	50.0000	49.3658	1.3	104	0.00
40	T	1,1-Dichloropropene	50.0000	50.6421	-1.3	107	0.00
41	T	Tert-Amyl-Methyl ether	100.0000	92.9933	7.0	94	0.00
42	T	Carbon Tetrachloride	50.0000	53.8629	-7.7	108	0.00
43	S	1,2-Dichloroethane-d4	25.0000	20.2922	18.8	87	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.61#
45	T	1,2-Dichloroethane	50.0000	46.9698	6.1	98	0.00
46	T	Benzene	50.0000	49.4823	1.0	104	0.00
47	T	Trichloroethene	50.0000	50.3376	-0.7	104	0.00
48	T	Methylcyclohexane	50.0000	49.0467	1.9	106	0.00
49	C	1,2-Dichloropropane	50.0000	49.0150	2.0	102	0.00
50	T	Bromodichloromethane	50.0000	50.3452	-0.7	101	0.00
51	T	1,4-Dioxane	200.0000	231.8522	-15.9	107	0.00
52	T	Dibromomethane	50.0000	48.8394	2.3	96	0.00
53	T	2-Chloroethyl Vinyl Ether	50.0000	44.0844	11.8	94	0.00
54	T	4-Methyl-2-Pentanone	50.0000	42.1676	15.7	88	0.00

(#) = Out of Range
8M418426.D 8260WTR.M Thu Mar 23 08:30:17 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032217\8M418426.D Vial: 2
Acq On : 22 Mar 2017 15:35 Operator: ADC
Sample : WG607284-02 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Wed Mar 22 10:02:23 2017
Response via : Multiple Level Calibration

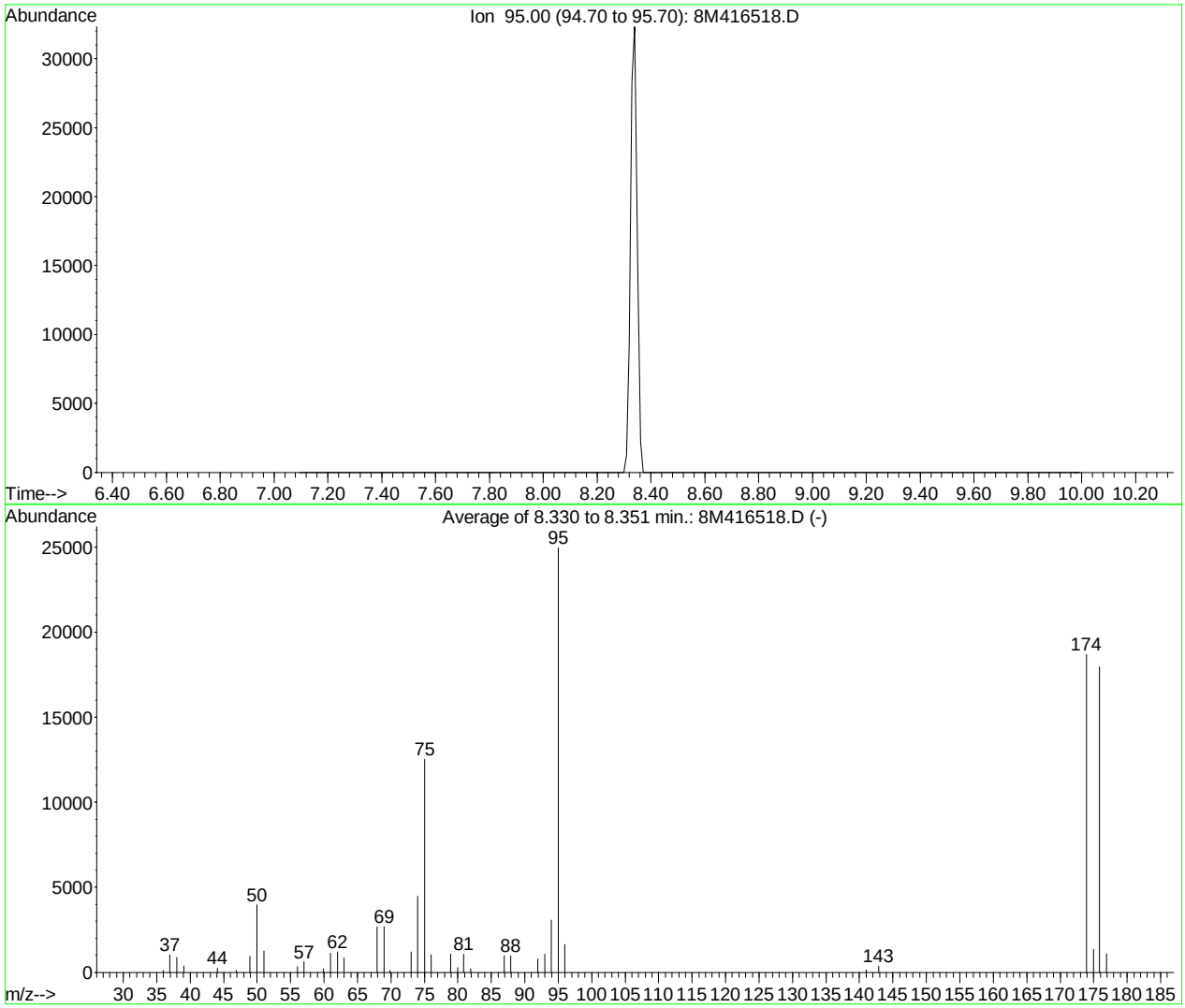
Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	50.0000	50.0585	-0.1	102	0.00
56	T	Dimethyl Disulfide	50.0000	43.3709	13.3	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	103	0.00
58	S	Toluene-d8	25.0000	22.9549	8.2	97	0.00
59	C	Toluene	50.0000	51.6651	-3.3	104	0.00
60	T	Ethyl Methacrylate	50.0000	46.0821	7.8	90	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.40#
62	T	trans-1,3-Dichloropropene	50.0000	50.9668	-1.9	99	0.00
63	T	1,1,2-Trichloroethane	50.0000	48.0208	4.0	95	0.00
64	T	2-Hexanone	50.0000	43.8631	12.3	87	0.00
65	T	1,3-Dichloropropane	50.0000	47.2718	5.5	95	0.00
66	T	Tetrachloroethene	50.0000	52.0178	-4.0	107	0.00
67	T	Dibromochloromethane	50.0000	45.0156	10.0	99	0.00
68	T	1,2-Dibromoethane	50.0000	48.1642	3.7	95	0.00
69	T	1-Chlorohexane	50.0000	49.7294	0.5	106	0.00
70	P	Chlorobenzene	50.0000	51.5806	-3.2	103	0.00
71	T	1,1,1,2-Tetrachloroethane	50.0000	48.9848	2.0	102	0.00
72	C	Ethylbenzene	50.0000	54.7147	-9.4	104	0.00
73	T	m-,p-Xylene	100.0000	108.3222	-8.3	105	0.00
74	T	o-Xylene	50.0000	51.1366	-2.3	104	0.00
75	T	Styrene	50.0000	53.8607	-7.7	103	0.00
76	P	Bromoform	50.0000	43.5133	13.0	98	0.00
77	T	Isopropylbenzene	50.0000	53.3765	-6.8	104	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	104	0.00
79	P	1,1,2,2-Tetrachloroethane	50.0000	46.5471	6.9	93	0.00
80	S	p-Bromofluorobenzene	25.0000	21.3714	14.5	93	0.00
81	T	1,2,3-Trichloropropane	50.0000	45.8275	8.3	90	0.00
82	T	trans-1,4-Dichloro-2-Butene	50.0000	50.0996	-0.2	95	0.00
83	T	n-Propylbenzene	50.0000	52.2034	-4.4	105	0.00
84	T	Bromobenzene	50.0000	49.7458	0.5	101	0.00
85	T	1,3,5-Trimethylbenzene	50.0000	53.3730	-6.7	105	0.00
86	T	2-Chlorotoluene	50.0000	53.0844	-6.2	107	0.00
87	T	4-Chlorotoluene	50.0000	49.3765	1.2	99	0.00
88	T	a-Methylstyrene	50.0000	49.2893	1.4	102	0.00
89	T	tert-Butylbenzene	50.0000	52.0057	-4.0	107	0.00
90	T	1,2,4-Trimethylbenzene	50.0000	53.3568	-6.7	105	0.00
91	T	sec-Butylbenzene	50.0000	53.3334	-6.7	105	0.00
92	T	p-Isopropyltoluene	50.0000	54.5435	-9.1	107	0.00
93	T	1,3-Dichlorobenzene	50.0000	51.3131	-2.6	104	0.00
94	T	1,4-Dichlorobenzene	50.0000	49.6412	0.7	102	0.00
95	T	n-Butylbenzene	50.0000	53.8704	-7.7	107	0.00
96	T	1,2-Dichlorobenzene	50.0000	49.6442	0.7	99	0.00
97	T	1,2-Dibromo-3-Chloropropane	50.0000	47.6249	4.8	92	0.00
98	T	1,2,4-Trichlorobenzene	50.0000	48.6142	2.8	100	0.00
99	T	Hexachlorobutadiene	50.0000	51.4360	-2.9	110	0.00
100	T	Naphthalene	50.0000	45.4104	9.2	88	0.00
101	T	1,2,3-Trichlorobenzene	50.0000	46.4623	7.1	95	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M418426.D 8260WTR.M Thu Mar 23 08:30:17 2017 Page 2

2.1.1.5 Raw QC Data

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416518.D Vial: 1
Acq On : 8 Dec 2016 8:55 Operator: TMB
Sample : WG594051-01 50ng BFB STD A9/FOO Inst : HPMS8
Misc : 1,1 STD78995 Multiplr: 1.00
MS Integration Params: rteint.p
Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8



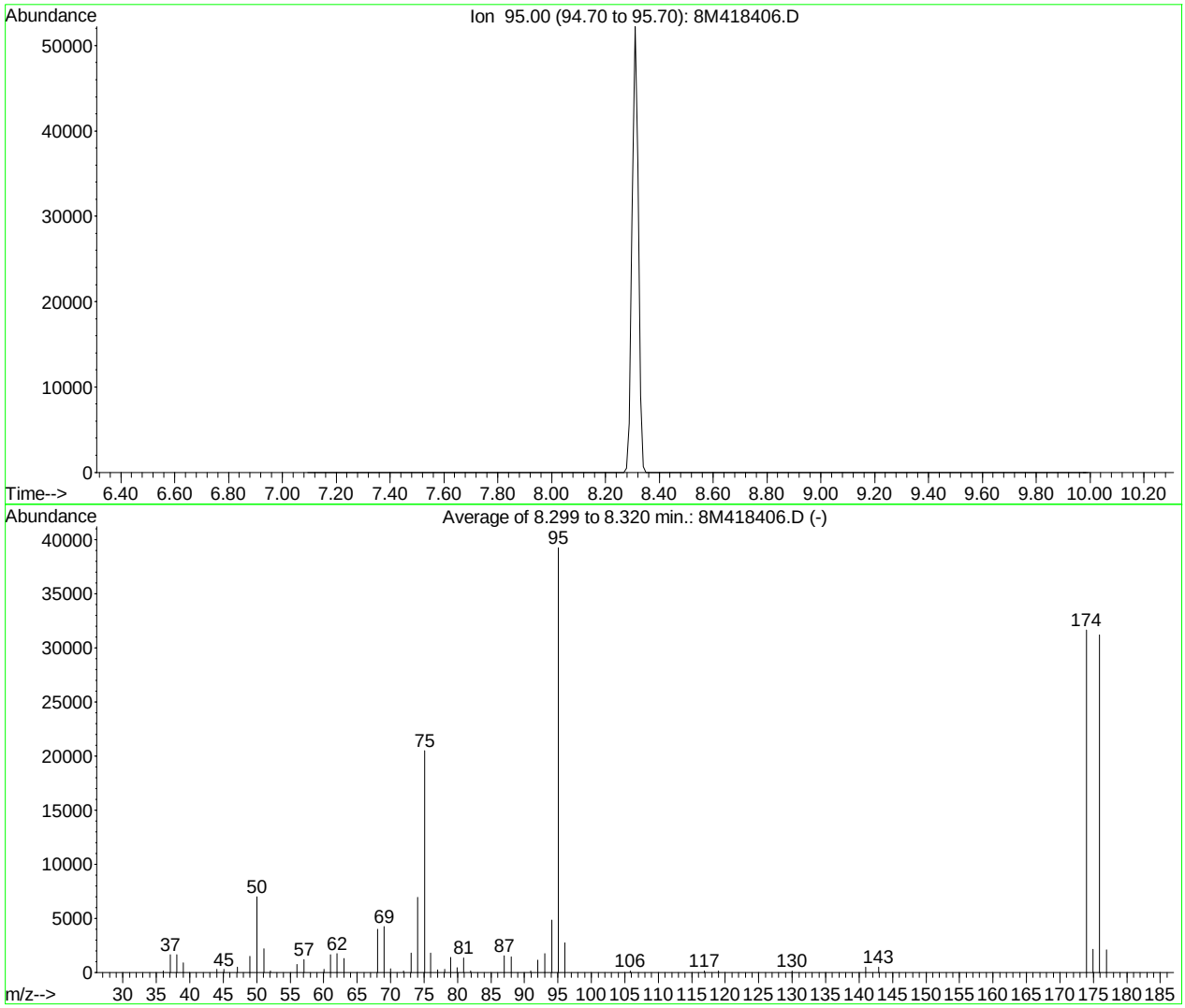
AutoFind: Scans 122, 123, 124; Background Corrected with Scan 117

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.9	3959	PASS
75	95	30	60	50.2	12523	PASS
95	95	100	100	100.0	24967	PASS
96	95	5	9	6.6	1651	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	74.9	18700	PASS
175	174	5	9	7.2	1355	PASS
176	174	95	101	96.0	17959	PASS
177	176	5	9	6.1	1092	PASS

8M416518.D A9FOOWTR.M Thu Dec 08 14:42:12 2016

BFB

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418406.D Vial: 1
Acq On : 21 Mar 2017 15:10 Operator: TMB
Sample : WG607066-01 50ng BFB STD 8260 Inst : HPMS8
Misc : 1,1 STD80989 Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8

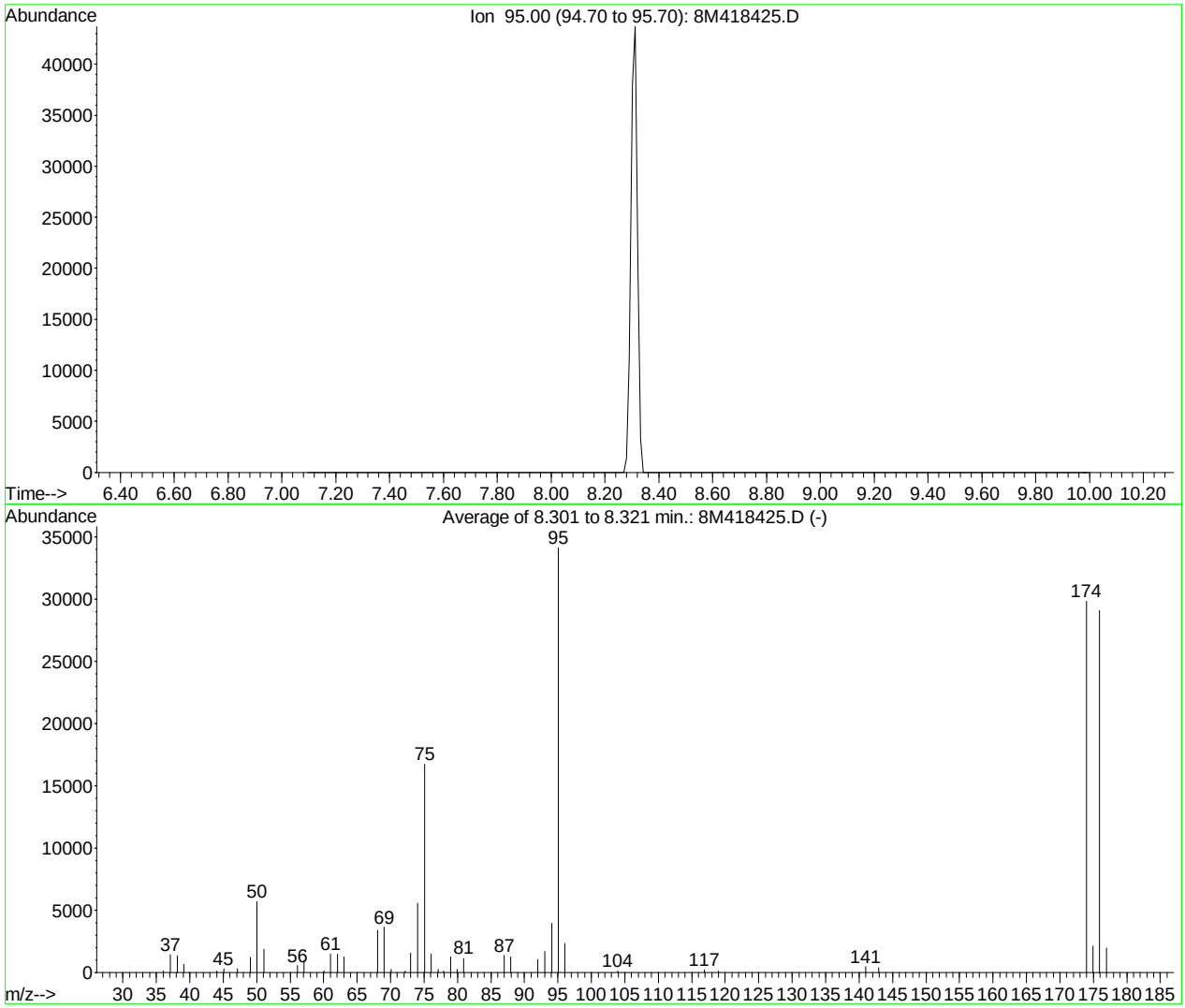


AutoFind: Scans 119, 120, 121; Background Corrected with Scan 114

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.8	6993	PASS
75	95	30	60	52.2	20477	PASS
95	95	100	100	100.0	39240	PASS
96	95	5	9	6.9	2704	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	80.6	31623	PASS
175	174	5	9	6.8	2141	PASS
176	174	95	101	98.6	31189	PASS
177	176	5	9	6.6	2060	PASS

8M418406.D 8260WTR.M Thu Mar 23 08:41:50 2017

```
Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032217\8M418425.D Vial: 2
Acq On    : 22 Mar 2017  15:12                    Operator: ADC
Sample    : WG607284-01 50ng BFB STD 8260         Inst    : HPMS8
Misc      : 1,1 STD80989                          Multiplr: 1.00
MS Integration Params: RTEINT.P
Method    : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title     : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
```



AutoFind: Scans 119, 120, 121; Background Corrected with Scan 114

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.6	5683	PASS
75	95	30	60	49.0	16732	PASS
95	95	100	100	100.0	34138	PASS
96	95	5	9	6.8	2322	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	87.3	29808	PASS
175	174	5	9	7.1	2102	PASS
176	174	95	101	97.5	29074	PASS
177	176	5	9	6.6	1932	PASS

8M418425.D 8260WTR.M Thu Mar 23 08:27:47 2017

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032217\8M418428.D Vial: 4
Acq On : 22 Mar 2017 16:38 Operator: ADC
Sample : WG607285-01 BLANK 8260 Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 13:34:44 2017 Quant Results File: 8260WTR.RES

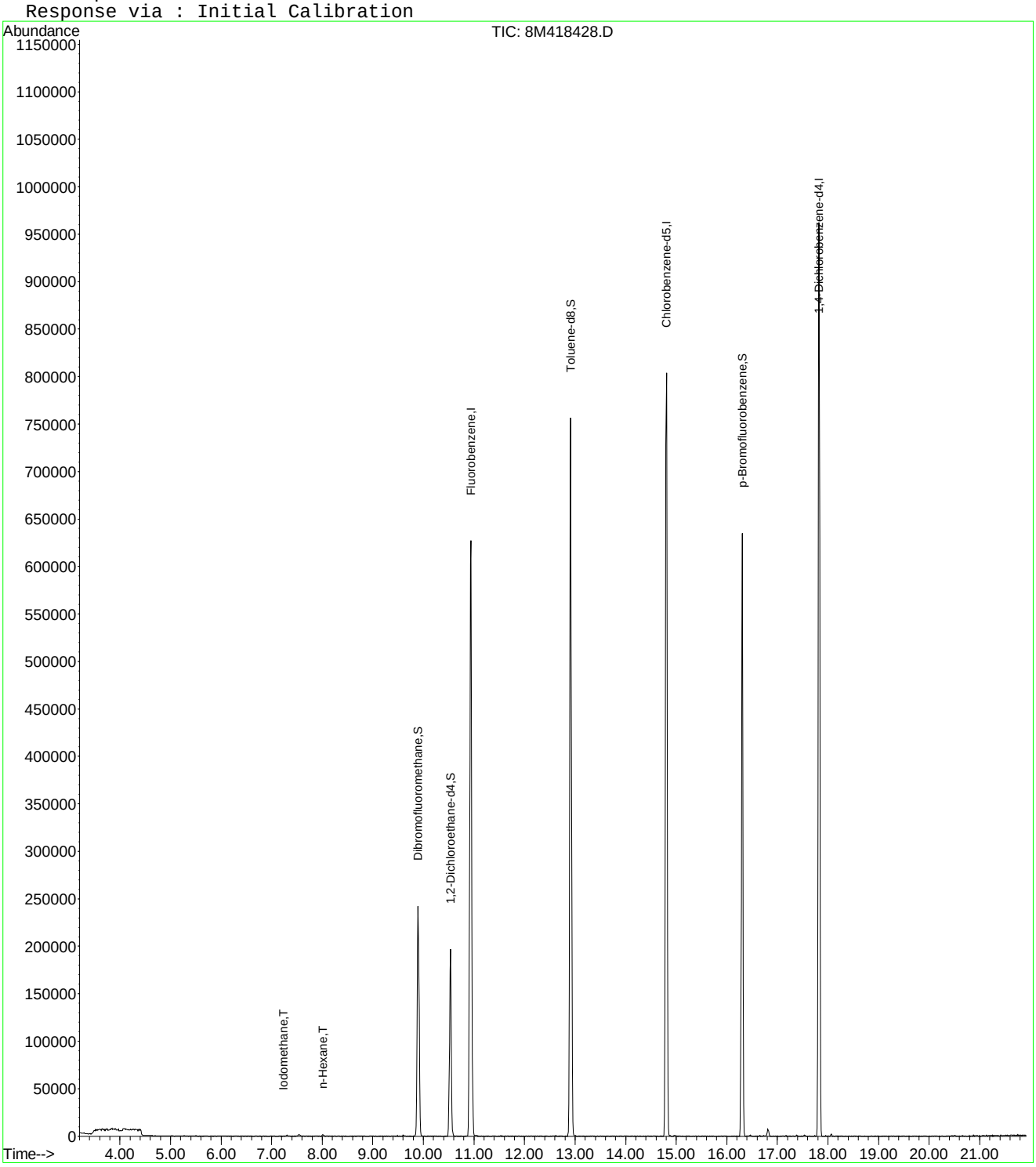
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

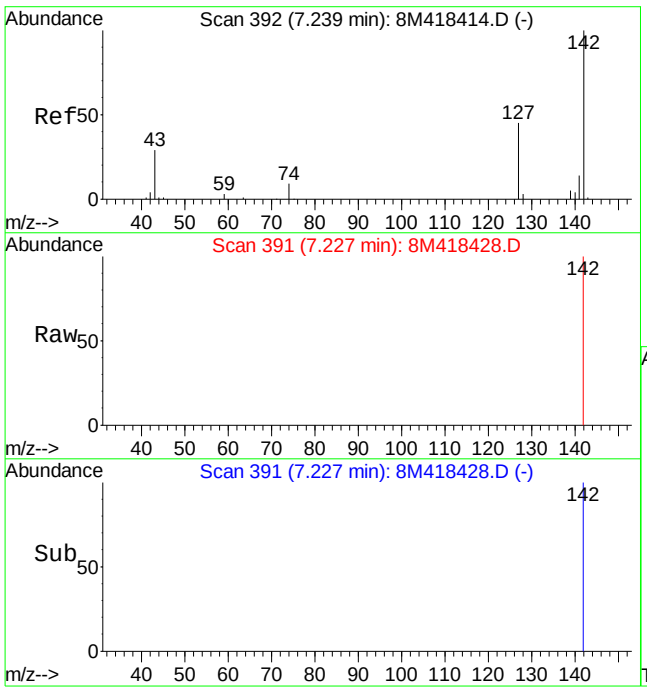
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.94	96	808239	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.81	117	606877	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.83	152	320672	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.89	111	199493	21.7632	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 87.04%			
43) 1,2-Dichloroethane-d4	10.54	65	172214	21.6793	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 86.72%			
58) Toluene-d8	12.91	98	695296	22.7760	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 91.12%			
80) p-Bromofluorobenzene	16.31	95	266164	21.9343	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 87.72%			
Target Compounds						Qvalue
17) Iodomethane	7.23	142	219	0.5267	ug/L #	31
24) n-Hexane	8.01	57	1302	0.1360	ug/L	86

(#) = qualifier out of range (m) = manual integration
8M418428.D 8260WTR.M Thu Mar 23 13:34:46 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032217\8M418428.D Vial: 4
Acq On : 22 Mar 2017 16:38 Operator: ADC
Sample : WG607285-01 BLANK 8260 Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 13:34 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration

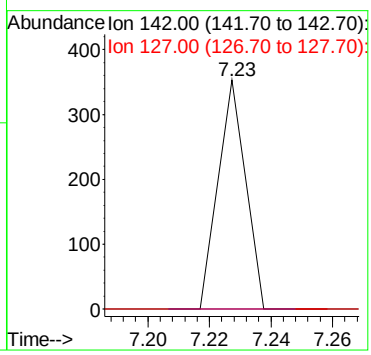


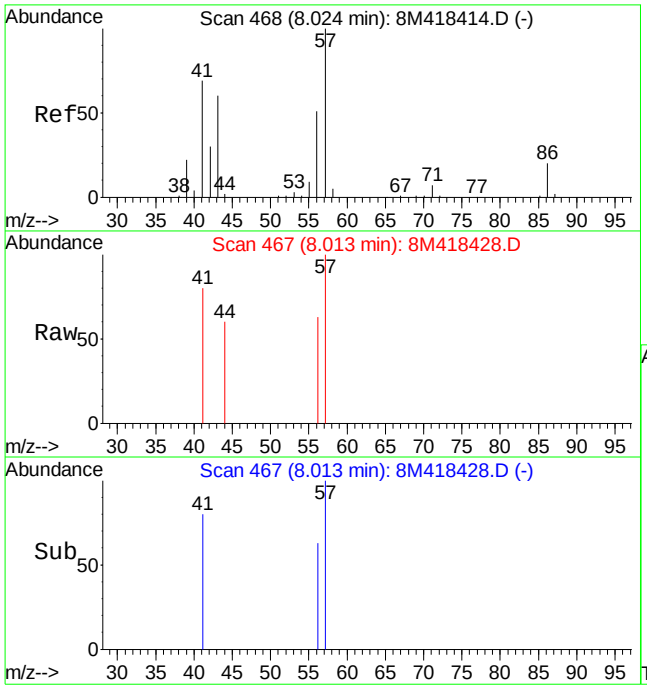


#17
Iodomethane
Concen: 0.53 ug/L
RT: 7.23 min Scan# 391
Delta R.T. -0.01 min
Lab File: 8M418428.D
Acq: 22 Mar 2017 16:38

Tgt Ion:142 Resp: 219

Ion	Ratio	Lower	Upper
142	100		
127	0.0	27.0	63.0#

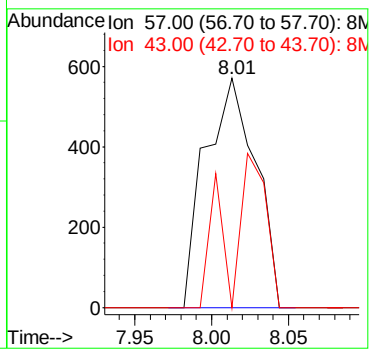




#24
n-Hexane
Concen: 0.14 ug/L
RT: 8.01 min Scan# 467
Delta R.T. -0.01 min
Lab File: 8M418428.D
Acq: 22 Mar 2017 16:38

Tgt Ion: 57 Resp: 1302

Ion	Ratio	Lower	Upper
57	100		
43	48.9	35.9	83.7



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032217\8M418447.D Vial: 23
Acq On : 23 Mar 2017 2:25 Operator: ADC
Sample : WG607285-06 624-BLK Inst : HPMS8
Misc : 2,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 13:36:20 2017 Quant Results File: 8260WTR.RES

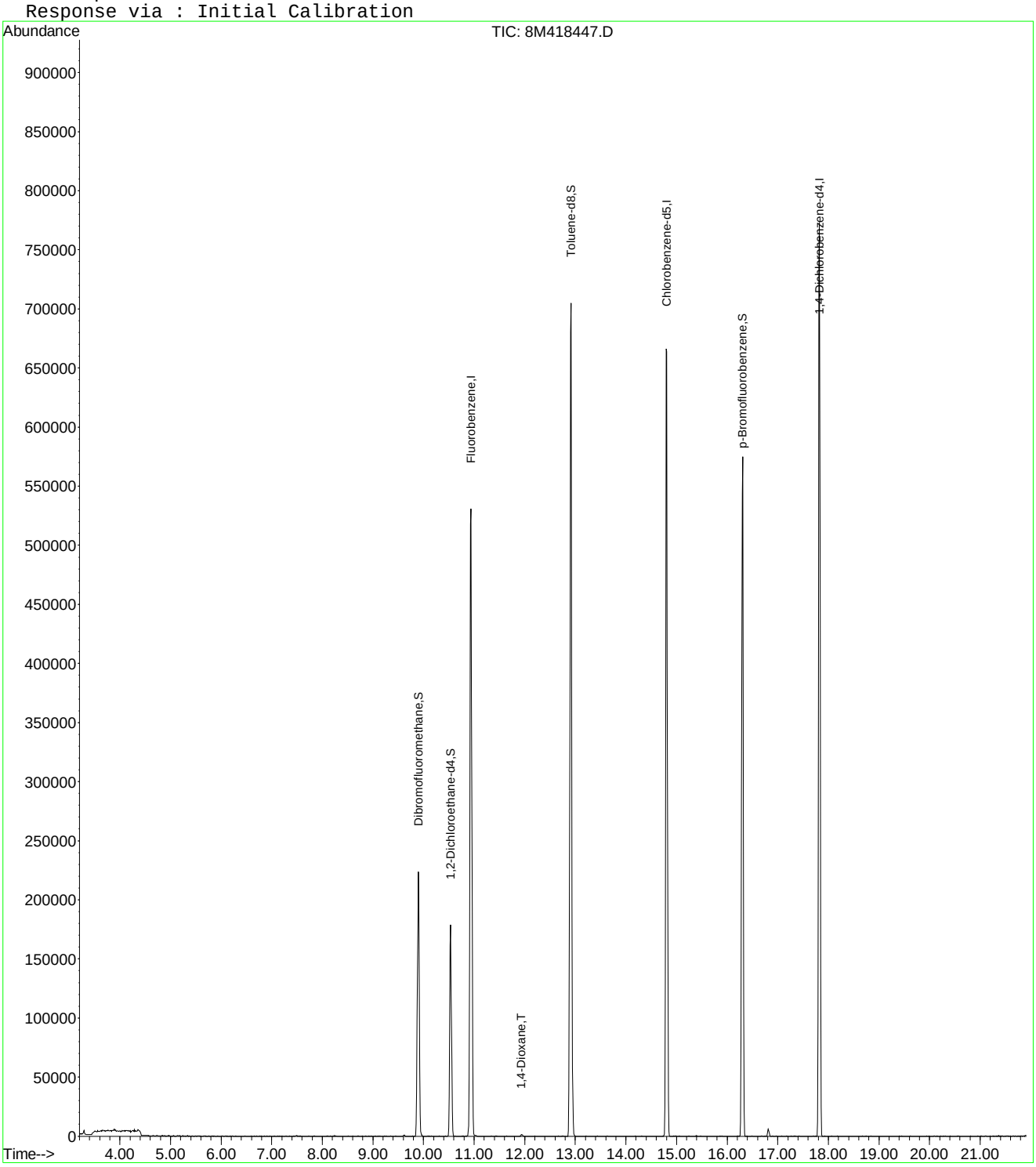
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

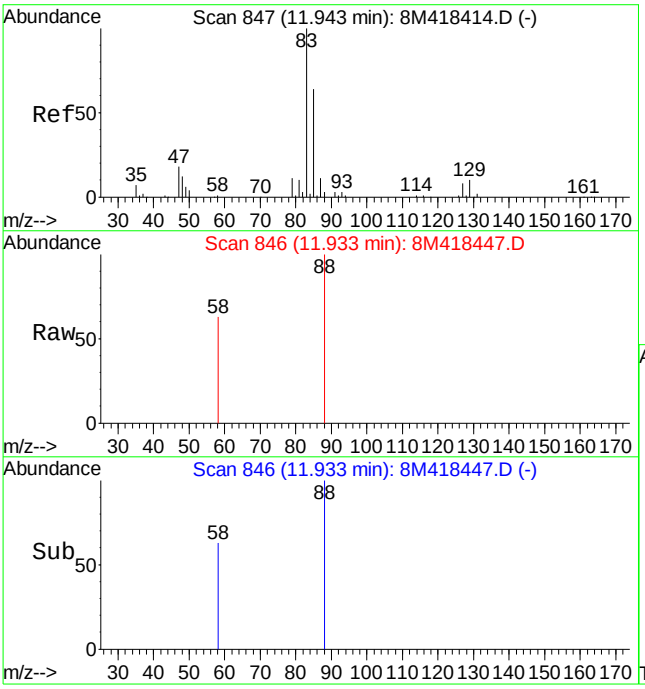
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.94	96	684573	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.81	117	514625	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.83	152	267626	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.90	111	184134	23.7164 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 94.88%		
43) 1,2-Dichloroethane-d4	10.54	65	156314	23.2325 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 92.92%		
58) Toluene-d8	12.91	98	665840	25.7210 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.88%		
80) p-Bromofluorobenzene	16.30	95	251257	24.8099 ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.24%		
Target Compounds					Qvalue
51) 1,4-Dioxane	11.93	88	1806	55.4742 ug/L	87

(#) = qualifier out of range (m) = manual integration
8M418447.D 8260WTR.M Thu Mar 23 13:36:22 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032217\8M418447.D Vial: 23
Acq On : 23 Mar 2017 2:25 Operator: ADC
Sample : WG607285-06 624-BLK Inst : HPMS8
Misc : 2,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 13:36 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration

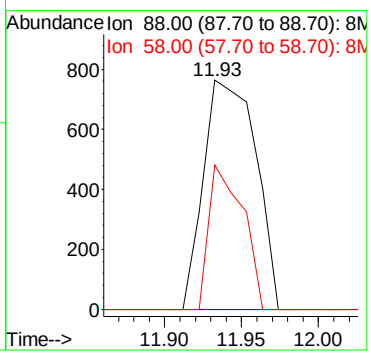




#51
1,4-Dioxane
Concen: 55.47 ug/L
RT: 11.93 min Scan# 846
Delta R.T. -0.01 min
Lab File: 8M418447.D
Acq: 23 Mar 2017 2:25

Tgt Ion: 88 Resp: 1806

Ion	Ratio	Lower	Upper
88	100		
58	41.0	30.0	70.0



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032217\8M418429.D Vial: 5
Acq On : 22 Mar 2017 17:25 Operator: ADC
Sample : WG607285-02 20ug/L LCS STD 8260 Inst : HPMS8
Misc : 1,1 STD81038 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 08:28:16 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Wed Mar 22 10:02:23 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.94	96	831556	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.80	117	640677	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.82	152	351670	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.89	111	230130	24.4015 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 97.60%		
43) 1,2-Dichloroethane-d4	10.53	65	196797	24.0793 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 96.32%		
58) Toluene-d8	12.91	98	806438	25.0231 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.08%		
80) p-Bromofluorobenzene	16.30	95	317774	23.8791 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 95.52%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.34	85	286335	21.9810 ug/L	99
3) Chloromethane	3.82	50	308289	19.5293 ug/L	100
4) Vinyl Chloride	4.05	62	264206	17.4285 ug/L	99
5) 1,3-Butadiene	4.09	54	98212	17.3703 ug/L	98
6) Bromomethane	4.96	94	142715	19.0882 ug/L	98
7) Chloroethane	5.13	64	126401	21.1130 ug/L	99
8) Trichlorofluoromethane	5.61	101	318391	19.9331 ug/L	100
9) Diethyl ether	6.14	59	472188	91.4037 ug/L	100
10) Isoprene	6.18	67	262643	21.2813 ug/L	99
11) Acrolein	6.38	56	45462	68.8256 ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.40	101	186774	21.7388 ug/L	97
13) Acetone	6.48	43	18074	18.1750 ug/L	100
14) 1,1-Dichloroethene	6.71	61	232746	19.4135 ug/L	99
15) Tert-Butyl Alcohol	6.81	59	72902	230.3288 ug/L	95
16) Dimethyl Sulfide	6.97	62	174518	20.4786 ug/L	99
17) Iodomethane	7.23	142	255900	25.9114 ug/L	100
18) Methyl acetate	7.23	43	57022	20.0519 ug/L	99
19) Methylene Chloride	7.48	84	174956	19.1647 ug/L	100
20) Carbon Disulfide	7.54	76	476701	17.4574 ug/L	100
21) Acrylonitrile	7.67	53	28401	20.3484 ug/L	100
22) Methyl Tert Butyl Ether	7.69	73	347800	19.7927 ug/L	100
23) trans-1,2-Dichloroethene	7.94	61	225560	19.4042 ug/L	99
24) n-Hexane	8.01	57	215749	21.9109 ug/L	99
25) Diisopropyl ether	8.35	45	2153587	96.9936 ug/L	100
26) Vinyl Acetate	8.53	43	189619	21.7002 ug/L	99
27) 1,1-Dichloroethane	8.56	63	292075	19.2656 ug/L	100
28) Ethyl-Tert-Butyl ether	8.92	59	1987124	93.4714 ug/L	99
29) 2-Butanone	9.11	43	30796	19.2206 ug/L	99
30) Propionitrile	9.22	54	46719	98.4983 ug/L	100
31) 2,2-Dichloropropane	9.34	77	282058	20.8552 ug/L	100
32) cis-1,2-Dichloroethene	9.40	96	193145	19.5765 ug/L	100
33) Chloroform	9.60	83	325707	18.5362 ug/L	100
34) 1-Bromopropane	9.74	122	49317	26.1641 ug/L	99
35) Bromochloromethane	9.84	130	105212	19.8519 ug/L	99
36) Tetrahydrofuran	9.86	42	94693	92.8654 ug/L	99
38) 1,1,1-Trichloroethane	10.14	97	293421	20.3021 ug/L	100
39) Cyclohexane	10.17	56	229149	18.3465 ug/L	98
40) 1,1-Dichloropropene	10.33	75	245442	19.7744 ug/L	99
41) Tert-Amyl-Methyl ether	10.43	73	1955614	98.5719 ug/L	99
42) Carbon Tetrachloride	10.48	117	274788	21.2496 ug/L	98

(#) = qualifier out of range (m) = manual integration
8M418429.D 8260WTR.M Thu Mar 23 08:28:18 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032217\8M418429.D Vial: 5
Acq On : 22 Mar 2017 17:25 Operator: ADC
Sample : WG607285-02 20ug/L LCS STD 8260 Inst : HPMS8
Misc : 1,1 STD81038 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 08:28:16 2017 Quant Results File: 8260WTR.RES

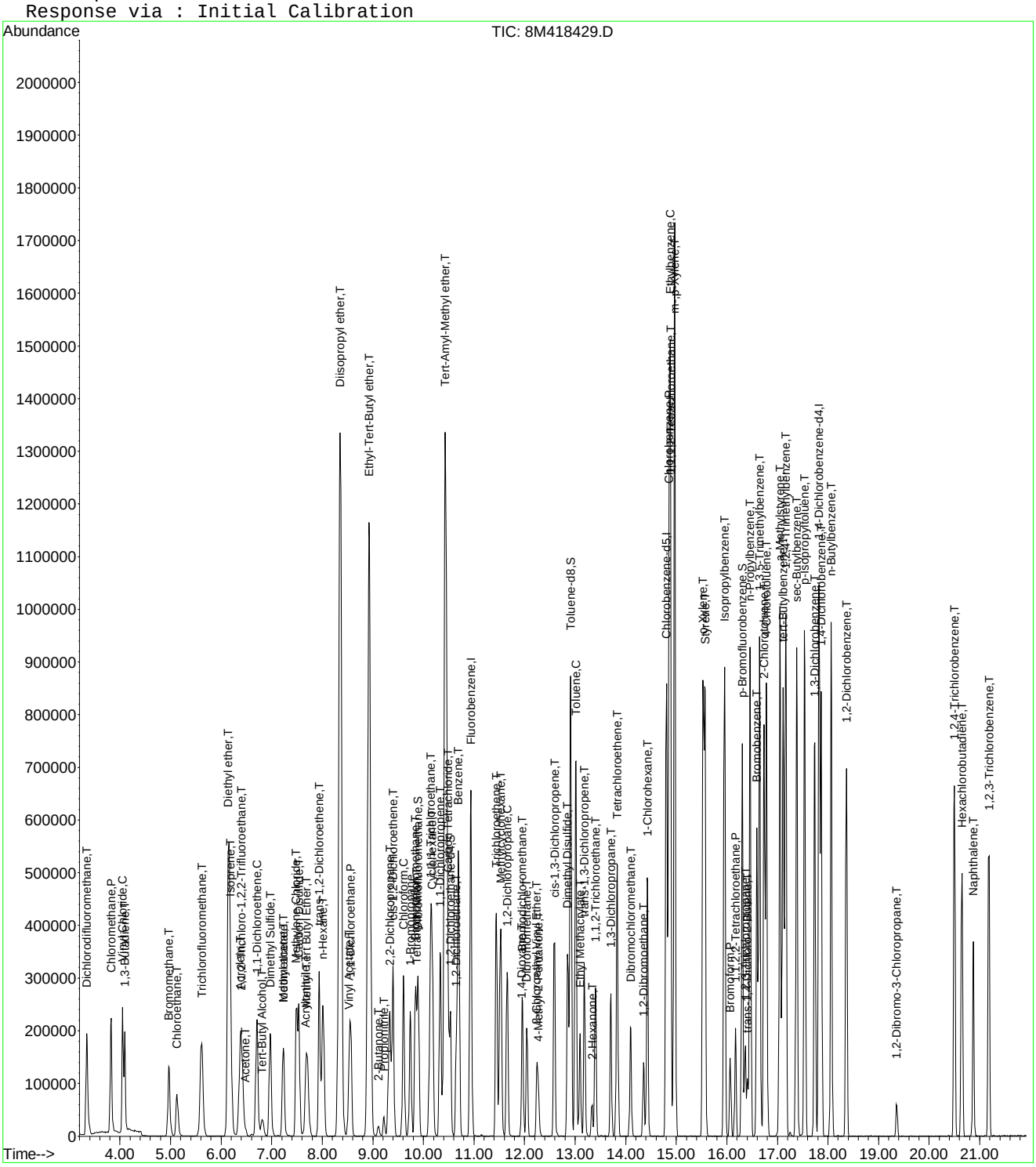
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Wed Mar 22 10:02:23 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.65	62	189714	19.1237	ug/L	100
46)	Benzene	10.69	78	706321	19.7341	ug/L	99
47)	Trichloroethene	11.44	130	183241	19.1466	ug/L	100
48)	Methylcyclohexane	11.53	83	283139	19.6886	ug/L	99
49)	1,2-Dichloropropane	11.65	63	157815	19.1768	ug/L	100
50)	Bromodichloromethane	11.95	83	223599	19.2193	ug/L	100
51)	1,4-Dioxane	11.94	88	11056	279.5760	ug/L	98
52)	Dibromomethane	12.04	93	89802	20.3628	ug/L	99
53)	2-Chloroethyl Vinyl Ether	12.24	63	72890	19.4783	ug/L	98
54)	4-Methyl-2-Pentanone	12.27	58	29252	18.2648	ug/L	95
55)	cis-1,3-Dichloropropene	12.59	75	279693	20.7123	ug/L	99
56)	Dimethyl Disulfide	12.85	79	142622	19.6923	ug/L	91
59)	Toluene	13.02	91	748982	19.6553	ug/L	99
60)	Ethyl Methacrylate	13.10	69	157352	21.3555	ug/L	97
62)	trans-1,3-Dichloropropene	13.18	75	217854	19.3822	ug/L	99
63)	1,1,2-Trichloroethane	13.40	97	116008	19.3269	ug/L	100
64)	2-Hexanone	13.34	58	27815	19.3295	ug/L	100
65)	1,3-Dichloropropane	13.71	76	210239	19.5609	ug/L	100
66)	Tetrachloroethene	13.83	164	162192	19.6439	ug/L	99
67)	Dibromochloromethane	14.10	129	151013	17.2473	ug/L	99
68)	1,2-Dibromoethane	14.35	107	119717	19.4383	ug/L	99
69)	1-Chlorohexane	14.43	91	264322	20.3537	ug/L	98
70)	Chlorobenzene	14.86	112	503262	18.7650	ug/L	100
71)	1,1,1,2-Tetrachloroethane	14.89	131	180097	18.0602	ug/L	99
72)	Ethylbenzene	14.88	106	289482	19.4496	ug/L	94
73)	m-,p-Xylene	14.97	106	702223	39.3384	ug/L	94
74)	o-Xylene	15.53	106	332105	18.7615	ug/L	97
75)	Styrene	15.57	104	568481	19.8935	ug/L	99
76)	Bromoform	16.07	173	91261	16.9589	ug/L	99
77)	Isopropylbenzene	15.95	105	845196	19.7355	ug/L	100
79)	1,1,2,2-Tetrachloroethane	16.17	83	133903	19.5363	ug/L	100
81)	1,2,3-Trichloropropane	16.37	110	38451	19.7051	ug/L	85
82)	trans-1,4-Dichloro-2-Buten	16.41	53	28829	17.9318	ug/L	94
83)	n-Propylbenzene	16.46	91	1017638	19.6467	ug/L	98
84)	Bromobenzene	16.59	156	219147	19.1165	ug/L	96
85)	1,3,5-Trimethylbenzene	16.65	105	746654	19.9581	ug/L	99
86)	2-Chlorotoluene	16.74	91	650696	18.6893	ug/L	96
87)	4-Chlorotoluene	16.78	91	608463	20.0042	ug/L	98
88)	a-Methylstyrene	17.05	118	424138	20.2805	ug/L	100
89)	tert-Butylbenzene	17.11	134	155271	18.7931	ug/L	97
90)	1,2,4-Trimethylbenzene	17.16	105	771518	19.8366	ug/L	99
91)	sec-Butylbenzene	17.38	105	935395	20.1434	ug/L	99
92)	p-Isopropyltoluene	17.53	119	781468	20.5446	ug/L	99
93)	1,3-Dichlorobenzene	17.74	146	433194	18.9571	ug/L	98
94)	1,4-Dichlorobenzene	17.87	146	435962	18.9417	ug/L	100
95)	n-Butylbenzene	18.06	91	747775	20.2621	ug/L	100
96)	1,2-Dichlorobenzene	18.36	146	383170	19.2437	ug/L	98
97)	1,2-Dibromo-3-Chloropropan	19.35	75	20676	19.2215	ug/L	95
98)	1,2,4-Trichlorobenzene	20.50	180	281179	18.8800	ug/L	99
99)	Hexachlorobutadiene	20.65	225	137941	18.9444	ug/L	99
100)	Naphthalene	20.87	128	377138	19.1732	ug/L	99
101)	1,2,3-Trichlorobenzene	21.18	180	232458	18.8746	ug/L	100

(#) = qualifier out of range (m) = manual integration
8M418429.D 8260WTR.M Thu Mar 23 08:28:19 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032217\8M418429.D Vial: 5
Acq On : 22 Mar 2017 17:25 Operator: ADC
Sample : WG607285-02 20ug/L LCS STD 8260 Inst : HPMS8
Misc : 1,1 STD81038 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 8:28 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Wed Mar 22 10:02:23 2017
Response via : Initial Calibration



2.2 Semivolatiles Data

2.2.1 Semivolatiles GC/MS Data (Dioxane)

2.2.1.1 Summary Data

Microbac

Lab Report #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030724-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS15
Client ID:	LH18/24-SP650-6423-GRAB	**Prep Method:**	3520C	**Prep Date:**	03/16/2017 14:56
Matrix:	Water	**Analytical Method:**	8270D	**Cal Date:**	03/21/2017 13:29
Workgroup #:	WG606673	**Analyst:**	SCB	**Run Date:**	03/21/2017 15:22
Collect Date:	03/13/2017 15:00	**Dilution:**	1	**File ID:**	15M20899
Sample Tag:	02	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,4-Dioxane	123-91-1	24.6	J	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,4-Dioxane-d8	163	20	129	*

J	The reported result is an estimated value.

Microbac

Lab Report #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030724-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS15
Client ID:	LH18/24-SP650-6423-GRAB	**Prep Method:**	3520C	**Prep Date:**	03/22/2017 10:30
Matrix:	Water	**Analytical Method:**	8270D	**Cal Date:**	03/21/2017 13:29
Workgroup #:	WG607413	**Analyst:**	SCB/LJH	**Run Date:**	03/23/2017 13:34
Collect Date:	03/13/2017 15:00	**Dilution:**	1	**File ID:**	15M20912
Sample Tag:	RE	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,4-Dioxane	123-91-1	13.1	J	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,4-Dioxane-d8	51.9	20	129	

J	Estimated value ; the analyte concentration was greater than the highest standard

Microbac

Lab Report #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030724-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS15
Client ID:	LH18/24-SP650-6423-GRAB	**Prep Method:**	3520C	**Prep Date:**	03/22/2017 10:30
Matrix:	Water	**Analytical Method:**	8270D	**Cal Date:**	03/21/2017 13:29
Workgroup #:	WG607413	**Analyst:**	SCB/LJH	**Run Date:**	03/24/2017 11:01
Collect Date:	03/13/2017 15:00	**Dilution:**	2	**File ID:**	15M20921
Sample Tag:	REDL02	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,4-Dioxane	123-91-1	11.8	H1	4.00	2.00	1.00

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,4-Dioxane-d8	50.4	20	129	

H1	Sample analysis performed past holding time.

Microbac

Lab Report #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030724-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS15
Client ID:	LH18/24-SP650-6423-GRAB	**Prep Method:**	3520C	**Prep Date:**	03/16/2017 14:56
Matrix:	Water	**Analytical Method:**	8270D	**Cal Date:**	03/21/2017 13:29
Workgroup #:	WG606673	**Analyst:**	SCB/LJH	**Run Date:**	03/24/2017 11:23
Collect Date:	03/13/2017 15:00	**Dilution:**	5	**File ID:**	15M20922
Sample Tag:	DL02	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,4-Dioxane	123-91-1	21.9	J	10.0	5.00	2.50

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,4-Dioxane-d8	152	20	129	*

J	The reported result is an estimated value.

Microbac

Lab Report #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

2.2.1.2 QC Summary Data

Example 8270 Calculations

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

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

where:	Example
Ax = Area of the characteristic ion for the compound being measured:	1261197
Cis = Concentration of the specific internal standard (ug/mL)	40
Ais = Area of the characteristic ion of the specific internal standard	608044
Cx = Concentration of the compound in the standard being measured (ug/mL)	50
RF = Calculated Response Factor	**1.65935**

2.0 Calculating the concentration (C) of a compound in water using the data from the prep log and quantitation report: *

Cx = [(Ax) (Cis) (Vf) (D)] / [(Ais) (RF) (Vi)]

where:	Example
Ax = Area of the characteristic ion for the compound being measured	367250
Cis = Concentration of the specific internal standard (ug/mL)	40
Vf = Final volume of sample extract from prep log (mL)	1
D = Dilution factor for sample as a multiplier (10x = 10)	1
Ais = Area of the characteristic ion of the specific internal standard	511641
RF = Average RF from the ICAL	1.65935
Vi = Initial volume of sample extracted from prep log (mL)	1021
Cx = Concentration of the compound in the sample being measured (ug/mL)	0.016947
Cx = Concentration of the compound in the sample being measured (ug/L)	**16.947**

3.0 Calculating the concentration (C) of a compound in soil using the data from the prep log and quantitation report: *

Cx = [(Ax) (Cis) (Vf) (D)] / [(Ais) (RF) (Wi)]

where:	Example
Ax = Area of the characteristic ion for the compound being measured	367250
Cis = Concentration of the specific internal standard (ug/mL)	40
Vf = Final volume of sample extract from prep log (mL)	1
D = Dilution factor for sample as a multiplier (10x = 10)	1
Ais = Area of the characteristic ion of the specific internal standard	511641
RF = Average RF from the ICAL	1.65935
Wi = Initial weight of sample extracted (g) from prep log	30
Cx = Concentration of the compound in the sample being measured (ug/g)	0.576763
Cx = Concentration of the compound in the sample being measured (ug/kg)	**576.7627**

Dry weight correction:

Percent solids (PCT_S)	50
Cd = (Cx) (100)/PCT_S	**1153.525** ug/kg

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

4.0 Concentration from Linear Regression

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

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

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

m = slope from curve plot

b = intercept from curve plot

Step 2: Calculate y from Quantitation Report

y = 16790/784838 = 0.02139

Step 3: Solve for x

x = (y - b)/m = [(0.02139 -(- 0.0435)]/ 0.0783 = 0.829

Step 4: Solve for analyte concentration Cx

Cx = Cis (x) = (25.0)(0.829) = 20.72 ug/L

Example Spreadsheet Calculation:

Slope from curve, m:	0.0783	
Intercept from curve, b:	-0.0435	
Area of analyte, Ax:	16790	
Area of Internal Standard , Ais:	784484	
Concentration of IS, Cis	25.00	ug/L
Response Ratio (y) :	0.021403	
Amount Ratio:	0.828897	
Concentration (Cx):	20.72241	ug/L

5.0 Concentration from Quadratic Regression

Step 1 - Retrieve Curve Data from Plot, y = Ax^2 + Bx + C
Where:
Ax^2 + Bx + (C - y) = 0
A, B, C = constants from the ICAL quadratic regression
y = Response ratio = Area of analyte/Area of internal standard (IS)
x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

y = Ax/Ais

Step 3: Solve for x using the quadratic formula
Ax^2 + Bx + C - y = 0

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

Step 4: Solve for analyte concentration Cx

Cx = (Cis)(Amount ratio)

Example Spreadsheet Calculation:

Value of A from plot:	**0.0259**	
Value of B from plot:	**0.0596**	
Value of C from plot:	**-0.0165**	
Area of analyte from quantitation report:	**203233**	
Area of IS from quantiation report:	**1425653**	
Response ratio, y:	**0.142554**	
C - y:	**-0.15905**	
Root 1 - Computed amount ratio , X1:	**-3.88278**	
Root 2 - Computed amount ratio , X2:	**1.581623**	use this solution
Concentration of IS, Cis:	**40.00**	
Concentration of analyte, Cx:	**63.26**	ug/L

Microbac Laboratories Inc.
Continuous Sample Extract Log

Workgroup: WG606465
Analyst: CPD
Spike Analyst: CPD
Method: 3520C
Run Date: 03/16/2017 14:56
SOP: EXB01 Revison 20
Spike Witness: BNB
Surr Solution: STD80323

TIME ON: 14:05 OFF: 08:30 ON: _____ OFF: _____
Methylene Chloride Lot #: COA19578
Sodium Sulfate , Anhydrous , Granul Lot #: COA19381
1:1 H2SO4 Lot #: RGT39543
10N NaOH Lot #: RGT39541

	SAMPLE #	Type	Reference	Prod	pH	Init Amnt	Surr Amnt	Spike Amnt	Spike Sol	Final Vol	Color
1	L17030724-01	SAMP		827-DIOXANE	<2>12	1000 mL	.05 mL			1 mL	Transparent
2	WG606465-01	BLANK		827-DIOXANE	<2>12	1000 mL	.05 mL			1 mL	Transparent
3	WG606465-02	LCS		827-DIOXANE	<2>12	1000 mL	.05 mL	.05 mL	STD79978	1 mL	Transparent
4	WG606465-03	LCS2		827-DIOXANE	<2>12	1000 mL	.05 mL	.05 mL	STD79978	1 mL	Transparent

Due to insufficient sample volume, this preparation batch failed to include the method prescribed MS and MSD.
TV4P5,6
pH 0-3 Lot#230515
pH 10-12 Lot#213515

Analyst: _____

Reviewer: _____

EXTRACT - Modified 01/23/2009
PDF ID: 5204443
Report generated: 03/17/2017 13:43

Microbac Laboratories Inc.
Sample Extract Log

Workgroup: WG607133
Analyst: CPD
Spike Analyst: CPD
Method: 3520C
Run Date: 03/22/2017 10:30
SOP: EXB01 Revision 20
Spike Witness: BNB
Surr Solution: STD80323

Methylene Chloride Lot #: COA19595
Sodium Sulfate , Anhydrous , Granul Lot #COA19381
1:1 H2SO4 Lot #: RGT39543

	SAMPLE #	Type	Reference	pH	Prod	Init Amnt	Surr Amnt	Spike Amnt	Spike Sol	Final Vol	Color
1	L17030724-01	SAMP		<2	827-DIOXANE	1000 mL	.05 mL			1 mL	Colored
2	WG607133-01	BLANK		<2	827-DIOXANE	1000 mL	.05 mL			1 mL	Transparent
3	WG607133-02	LCS		<2	827-DIOXANE	1000 mL	.05 mL	.05 mL	STD79978	1 mL	Transparent
4	WG607133-03	LCS2		<2	827-DIOXANE	1000 mL	.05 mL	.05 mL	STD79978	1 mL	Transparent

Due to insufficient sample volume, this preparation batch failed to include the method prescribed MS and MSD.
pH 0-3 Lot#230515

L17030724-01	RE-EXT OUT OF HOLD

Analyst: Chadwick Davis

Reviewer: Justin Hesson

EXTRACT - Modified 10/22/2008
PDF ID: 5212884
Report generated: 03/23/2017 10:47

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS15 Dataset: 032117
Analyst1: SCB Analyst2: NA
Method: 8270C/D SOP: MSS01 Rev: 28

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

Column 1 ID: RXI-5MS Column 2 ID: NA
Workgroups: WG606959, WG606673
Internal STD: STD81022 Surrogate STD: NA Calibration STD
CCV STD: STD80097 LCS STD: MS/MSD STD:

Comments: File 15M20885 does not exist

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	15M20882	BAKE OUT	1	1		03/21/17 08:57
2	15M20883	WG606959-01 5PPM LL DFTPP	1	1	STD80383	03/21/17 09:16
3	15M20884	WG606959-01 5PPM LL DFTPP	1	1	STD80383	03/21/17 09:33
4	15M20886	WG606959-01 5PPM LL DFTPP	1	1	STD80383	03/21/17 10:43
5	15M20887	WG606959-01 5PPM LL DFTPP	1	1	STD80383	03/21/17 11:00
6	15M20888	WG606959-01 5PPM LL DFTPP	1	1	STD80383	03/21/17 11:17
7	15M20889	WG606959-02 5PPM 1,4-DIOXSTD	1	1	STD80097	03/21/17 11:36
8	15M20890	WG606959-03 10PPM 1,4-DIOX STD	1	1	STD80097	03/21/17 11:59
9	15M20891	WG606959-04 7.5PPM 1,4-DIOX STD	1	1	STD80097	03/21/17 12:22
10	15M20892	WG606959-05 2.5PPM 1,4-DIOX STD	1	1	STD80097	03/21/17 12:44
11	15M20893	WG606959-06 1PPM 1,4-DIOX STD	1	1	STD80097	03/21/17 13:07
12	15M20894	WG606959-07 0.4PPM 1,4-DIOX STD	1	1	STD80097	03/21/17 13:29
13	15M20895	WG606959-08 5PPM 1,4-DIOX ALT SRC	1	1	STD80098	03/21/17 13:51
14	15M20896	WG606465-01 BLANK 3/16	1	1		03/21/17 14:14
15	15M20897	WG606465-02 LCS 3/16	1	1		03/21/17 14:37
16	15M20898	WG606465-03 LCS2 3/16	1	1		03/21/17 15:00
17	15M20899	L17030724-01	1	1		03/21/17 15:22
18	15M20900	L17030724-01 10X	1	10		03/21/17 15:45
19	15M20901	BAKE OUT	1	1		03/21/17 16:07
20	15M20902	BAKE OUT	1	1		03/21/17 16:30
21	15M20903	BAKE OUT	1	1		03/21/17 16:53
22	15M20904	CH2CL2 CHECK	1	1		03/21/17 17:15

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2				
	WG606959-01 5PPM LL DFTPP has an ion failure, DNR			
3				
	WG606959-01 5PPM LL DFTPP has an ion failure, changed liner, DNR			
4				
	WG606959-01 5PPM LL DFTPP benzidine tailing is >2, DNR			
5				
	WG606959-01 5PPM LL DFTPP has two ion failures, tightened nuts, DNR			

Page: 1 Approved: 22-MAR-17

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS15 Dataset: 032117

Analyst1: SCB Analyst2: NA

Method: 8270C/D SOP: MSS01 Rev: 28

Maintenance Log ID: Syringe Filter Lot#:

Eluent ID#:

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

Workgroups: WG606959, WG606673

Internal STD: STD81022 Surrogate STD: NA

CCV STD: STD80097 LCS STD:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
15				
	WG606465-02 LCS 3/16 has high %REC and high surrogate recovery			
16				
	WG606465-03 LCS2 3/16 has high %REC and high surrogate recovery			
17	X	10	Over Calibration Range	2
	L17030724-01 the surrogate recovery is high, needs re-extracted			
18				
	L17030724-01 10X the surrogate recovery is hgh			

Page: 2 Approved: 22-MAR-17

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS15 Dataset: 032317
Analyst1: SCB Analyst2: LJH
Method: 8270C/D SOP: MSS01 Rev: 28

Maintenance Log ID: Syringe Filter Lot#:
Eluent ID#:
Column 1 ID: RXI-5MS Column 2 ID: NA
Workgroups: WG607413
Internal STD: STD81022 Surrogate STD: NA Calibration STD
CCV STD: STD80097 LCS STD: MS/MSD STD:

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	15M20905	BAKE OUT	1	1		03/23/17 11:09
2	15M20906	WG607414-01 5PPM LL DFTPP	1	1	STD80383	03/23/17 11:29
3	15M20907	WG607414-01 5PPM LL DFTPP	1	1	STD80383	03/23/17 11:46
4	15M20908	WG607414-02 5PPM 1,4-DIOX STD	1	1	STD80097	03/23/17 12:04
5	15M20909	WG607133-01 BLANK	1	1		03/23/17 12:26
6	15M20910	WG607133-02 LCS	1	1		03/23/17 12:49
7	15M20911	WG607133-03 LCS2	1	1		03/23/17 13:12
8	15M20912	L17030724-01 827-DIOXANE	1	1		03/23/17 13:34
9	15M20913	L17030724-01 10X 827-DIOXANE	1	10		03/23/17 13:57
10	15M20914	BAKE OUT	1	1		03/23/17 14:20
11	15M20915	BAKE OUT	1	1		03/23/17 14:42
12	15M20916	BAKE OUT	1	1		03/23/17 15:05

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2				
	WG607414-01 5PPM LL DFTPP has three ion failures, DNR			
8	X	10	Over Calibration Range	2
	L17030724-01 827-DIOXANE			
9	X	2	Analyzed too dilute	2
	L17030724-01 10X 827-DIOXANE			

Page: 1 Approved: 24-MAR-17

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS15 Dataset: 032417
Analyst1: SCB Analyst2: NA
Method: 8270C/D SOP: MSS01 Rev: 28

Maintenance Log ID: Syringe Filter Lot#:
Eluent ID#:
Column 1 ID: RXI-5MS Column 2 ID: NA
Workgroups: WG607413, WG606673
Internal STD: STD81022 Surrogate STD: NA Calibration STD
CCV STD: STD80097 LCS STD: MS/MSD STD:

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	15M20917	BAKE OUT	1	1		03/24/17 09:40
2	15M20918	WG607591-01 5PPM LL DFTPP	1	1	STD80383	03/24/17 10:00
3	15M20919	WG607591-01 5PPM LL DFTPP	1	1	STD80383	03/24/17 10:17
4	15M20920	WG607591-02 5PPM 1,4-DIOX STD	1	1	STD80097	03/24/17 10:34
5	15M20921	L17030724-01 2X RE	1	2		03/24/17 11:01
6	15M20922	L17030724-01 5X	1	5		03/24/17 11:23
7	15M20923	BAKE OUT	1	1		03/24/17 11:46
8	15M20924	BAKE OUT	1	1		03/24/17 12:09
9	15M20925	BAKE OUT	1	1		03/24/17 12:31

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2				
	Rerun DFTPP, ion failure.			
6				
	L17030724-01 5X ran at this dilution because 10X dilution was too dilute for original sample, has one high surrogate recovery			

Page: 1 Approved: 24-MAR-17

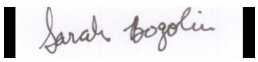
Microbac Laboratories Inc.

Data Checklist

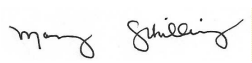
Date: 21-MAR-2017
Analyst: SCB
Analyst: NA
Method: 827-DIOX
Instrument: HPMS15
Curve Workgroup: NA
Runlog ID: 81082
Analytical Workgroups: WG606959, L17030724

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	X
Endrin/DDT breakdown (8081/MS)	X
Pentachlorophenol/benzidine tailing (MS)	X
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	X
Average RF	X
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	X
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	X
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	X
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	X
Surrogate recoveries	X
Internal standard areas (MS)	X
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	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	NA
Check for completeness	X
Primary Reviewer	SCB
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MES

Primary Reviewer:
22-MAR-2017



Secondary Reviewer:
22-MAR-2017



CHECKLIST1 - Modified 03/05/2008
Generated: MAR-22-2017 11:13:35

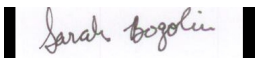
Microbac Laboratories Inc.

Data Checklist

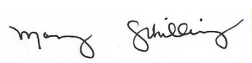
Date: 23-MAR-2017
Analyst: SCB
Analyst: LJH
Method: 827-DIOX
Instrument: HPMS15
Curve Workgroup: NA
Runlog ID: 81137
Analytical Workgroups: L17030724

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	X
Endrin/DDT breakdown (8081/MS)	X
Pentachlorophenol/benzidine tailing (MS)	X
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	X
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	X
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	X
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	X
Surrogate recoveries	X
Internal standard areas (MS)	X
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	X
Manual integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	SCB
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MES

Primary Reviewer:
24-MAR-2017



Secondary Reviewer:
24-MAR-2017



CHECKLIST1 - Modified 03/05/2008
Generated: MAR-24-2017 09:31:25

Microbac Laboratories Inc.

Data Checklist

Date: 24-MAR-2017
Analyst: SCB
Analyst: NA
Method: 827-DIOX
Instrument: HPMS15
Curve Workgroup: NA
Runlog ID: 81160
Analytical Workgroups: L17030724

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	X
Endrin/DDT breakdown (8081/MS)	X
Pentachlorophenol/benzidine tailing (MS)	X
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	X
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	NA
TCL hits	NA
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	NA
Recoveries	NA
Surrogate recoveries	NA
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	X
Surrogate recoveries	X
Internal standard areas (MS)	X
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	X
Manual integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	SCB
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MES

Primary Reviewer:
24-MAR-2017
Sarah Bogolin

Secondary Reviewer:
24-MAR-2017
Mary Schilling

CHECKLIST1 - Modified 03/05/2008
Generated: MAR-24-2017 15:29:21

Microbac

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8270D **AAB#:** WG606673

Login Number: L17030724

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
LH18/24-SP650-6423-GRAB	01	03/13/17					03/16/2017	3	7		03/21/17	5	40	
LH18/24-SP650-6423-GRAB	01	03/13/17					03/16/2017	3	7		03/24/17	7.9	40	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5208541
Report generated 03/24/2017 15:37

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8270D AAB#: WG607413

Login Number: L17030724

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
LH18/24-SP650-6423-GRAB	01	03/13/17					03/22/2017	8.8	7	*	03/23/17	1.1	40	
LH18/24-SP650-6423-GRAB	01	03/13/17					03/22/2017	8.8	7	*	03/24/17	2	40	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5208541
Report generated 03/24/2017 15:37

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L17030724
Instrument Id: HPMS15
Workgroup (AAB#): WG606673

Method: 827-DIOXANE
CAL ID: HPMS15-21-MAR-17
Matrix: Water

Sample Number	Dilution	Tag	1
L17030724-01	1.00	02	163
L17030724-01	5.00	DL02	152
WG606465-01	1.00	02	108
WG606465-02	1.00	02	152
WG606465-03	1.00	02	149

Surrogates	Surrogate Limits
1 - 1,4-Dioxane-d8	20 - 129

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 5208577
Report generated: 03/24/2017 15:38

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L17030724
Instrument Id: HPMS15
Workgroup (AAB#): WG607413

Method: 827-DIOXANE
CAL ID: HPMS15-21-MAR-17
Matrix: Water

Sample Number	Dilution	Tag	1
L17030724-01	1.00	RE	51.9
L17030724-01	2.00	REDL02	50.4
WG607133-01	1.00	01	73.2
WG607133-02	1.00	01	68.5
WG607133-03	1.00	01	63.2

Surrogates	Surrogate Limits		
1 - 1,4-Dioxane-d8	20	-	129

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 5208577
Report generated: 03/24/2017 15:38

METHOD BLANK SUMMARY

Login Number: L17030724
Work Group: WG606673
Blank File ID: 15M20896
Blank Sample ID: WG606465-01
Prep Date: 03/16/17 14:56
Instrument ID: HPMS15
Analyzed Date: 03/21/17 14:14
Method: 8270D
Analyst: SCB

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG606465-02	15M20897	03/21/17 14:37	02
LCS2	WG606465-03	15M20898	03/21/17 15:00	02
LH18/24-SP650-6423-GRAB	L17030724-01	15M20899	03/21/17 15:22	02
LH18/24-SP650-6423-GRAB	L17030724-01	15M20922	03/24/17 11:23	DL02

Report Name: BLANK_SUMMARY
PDF File ID: 5208542
Report generated 03/24/2017 15:37

METHOD BLANK SUMMARY

Login Number: L17030724
Blank File ID: 15M20909
Prep Date: 03/22/17 10:30
Analyzed Date: 03/23/17 12:26
Analyst: SCB/LJH

Work Group: WG607413
Blank Sample ID: WG607133-01
Instrument ID: HPMS15
Method: 8270D

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG607133-02	15M20910	03/23/17 12:49	01
LCS2	WG607133-03	15M20911	03/23/17 13:12	01
LH18/24-SP650-6423-GRAB	L17030724-01	15M20912	03/23/17 13:34	RE
LH18/24-SP650-6423-GRAB	L17030724-01	15M20921	03/24/17 11:01	REDL02

Report Name: BLANK_SUMMARY
PDF File ID: 5208542
Report generated 03/24/2017 15:37

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L17030724 Prep Date: 03/16/17 14:56 Sample ID: WG606465-01
Instrument ID: HPMS15 Run Date: 03/21/17 14:14 Prep Method: 3520C
File ID: 15M20896 Analyst: SCB Method: 8270D
Workgroup (AAB#): WG606673 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS15-21-MAR-17

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
1,4-Dioxane	0.500	2.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,4-Dioxane-d8	108	20 - 129	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: 5208544
24-MAR-2017 15:37

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L17030724 Prep Date: 03/22/17 10:30 Sample ID: WG607133-01
Instrument ID: HPMS15 Run Date: 03/23/17 12:26 Prep Method: 3520C
File ID: 15M20909 Analyst: SCB/LJH Method: 8270D
Workgroup (AAB#): WG607413 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS15-21-MAR-17

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
1,4-Dioxane	0.500	2.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,4-Dioxane-d8	73.2	20 - 129	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: 5208544
24-MAR-2017 15:37

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17030724 Analyst: SCB Prep Method: 3520C
Instrument ID: HPMS15 Matrix: Water Method: 8270D
Workgroup (AAB#): WG606673 Units: ug/L
QC Key: DOD4 Lot #: STD79978

Sample ID: WG606465-02 LCS File ID: 15M20897 Run Date: 03/21/2017 14:37
Sample ID: WG606465-03 LCS2 File ID: 15M20898 Run Date: 03/21/2017 15:00

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,4-Dioxane	5.00	7.11	142	5.00	7.08	142	0.558	30 - 104	30	*

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,4-Dioxane-d8	152	149	20 - 129	FAIL

* EXCEEDS %REC LIMIT

\# EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 5208546
Report generated: 03/24/2017 15:37

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17030724 Analyst: SCB/LJH Prep Method: 3520C
Instrument ID: HPMS15 Matrix: Water Method: 8270D
Workgroup (AAB#): WG607413 Units: ug/L
QC Key: DOD4 Lot #: STD79978

Sample ID: WG607133-02 LCS File ID: 15M20910 Run Date: 03/23/2017 12:49
Sample ID: WG607133-03 LCS2 File ID: 15M20911 Run Date: 03/23/2017 13:12

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,4-Dioxane	5.00	3.15	63.0	5.00	2.90	58.0	8.24	30 - 104	30	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,4-Dioxane-d8	68.5	63.2	20 - 129	PASS

* EXCEEDS %REC LIMIT

\# EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 5208546
Report generated: 03/24/2017 15:37

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L17030724
Instrument: HPMS15
Analyst: SCB
Workgroup: WG606959

Tune ID: WG606959-01
Run Date: 03/21/2017
Run Time: 11:17
File ID: 15M20888
Cal ID: HPMS15 - 21-MAR-17

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	37.4	124900	PASS
68.0	69.0	0	2.00	1.56	2066	PASS
69.0	198	0	100	39.8	132696	PASS
70.0	69.0	0	2.00	0.730	969	PASS
127	198	40.0	60.0	55.0	183360	PASS
197	198	0	1.00	0.456	1521	PASS
198	198	100	100	100	333568	PASS
199	198	5.00	9.00	6.67	22252	PASS
275	198	10.0	30.0	26.9	89573	PASS
365	198	1.00	100	3.82	12731	PASS
441	443	0.0100	100	76.8	35691	PASS
442	198	40.0	100	72.5	241941	PASS
443	442	17.0	23.0	19.2	46461	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG606959-02	STD-CCV	01	03/21/2017 11:36	
WG606959-03	STD	01	03/21/2017 11:59	
WG606959-04	STD	01	03/21/2017 12:22	
WG606959-05	STD	01	03/21/2017 12:44	
WG606959-06	STD	01	03/21/2017 13:07	
WG606959-07	STD	01	03/21/2017 13:29	
WG606959-08	SSCV	01	03/21/2017 13:51	
WG606465-01	BLANK	02	03/21/2017 14:14	
WG606465-02	LCS	02	03/21/2017 14:37	
WG606465-03	LCS2	02	03/21/2017 15:00	
L17030724-01	LH18/24-SP650-6423-GRAB	02	03/21/2017 15:22	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5208550
Report generated 03/24/2017 15:38

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L17030724
Instrument: HPMS15
Analyst: SCB/LJH
Workgroup: WG607414

Tune ID: WG607414-01
Run Date: 03/23/2017
Run Time: 11:46
File ID: 15M20907
Cal ID: HPMS15 - 21-MAR-17

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	42.1	140581	PASS
68.0	69.0	0	2.00	1.37	1903	PASS
69.0	198	0	100	41.6	139027	PASS
70.0	69.0	0	2.00	0	0	PASS
127	198	40.0	60.0	57.8	193250	PASS
197	198	0	1.00	0.520	1736	PASS
198	198	100	100	100	334093	PASS
199	198	5.00	9.00	6.64	22186	PASS
275	198	10.0	30.0	24.8	82808	PASS
365	198	1.00	100	3.51	11733	PASS
441	443	0.0100	100	82.6	31644	PASS
442	198	40.0	100	60.9	203371	PASS
443	442	17.0	23.0	18.8	38293	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG607414-02	CCV	01	03/23/2017 12:04	
WG607133-01	BLANK	01	03/23/2017 12:26	
WG607133-02	LCS	01	03/23/2017 12:49	
WG607133-03	LCS2	01	03/23/2017 13:12	
L17030724-01	LH18/24-SP650-6423-GRAB	RE	03/23/2017 13:34	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5208550
Report generated 03/24/2017 15:38

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L17030724
Instrument: HPMS15
Analyst: SCB/LJH
Workgroup: WG607591

Tune ID: WG607591-01
Run Date: 03/24/2017
Run Time: 10:17
File ID: 15M20919
Cal ID: HPMS15 - 21-MAR-17

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	37.9	130083	PASS
68.0	69.0	0	2.00	0.591	809	PASS
69.0	198	0	100	39.9	136859	PASS
70.0	69.0	0	2.00	1.93	2641	PASS
127	198	40.0	60.0	54.2	185885	PASS
197	198	0	1.00	0.765	2622	PASS
198	198	100	100	100	342848	PASS
199	198	5.00	9.00	6.69	22924	PASS
275	198	10.0	30.0	24.2	83115	PASS
365	198	1.00	100	3.73	12786	PASS
441	443	0.0100	100	79.2	35093	PASS
442	198	40.0	100	67.3	230891	PASS
443	442	17.0	23.0	19.2	44291	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG607591-02	CCV	01	03/24/2017 10:34	
L17030724-01	LH18/24-SP650-6423-GRAB	REDL02	03/24/2017 11:01	
L17030724-01	LH18/24-SP650-6423-GRAB	DL02	03/24/2017 11:23	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5208550
Report generated 03/24/2017 15:38

Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L17030724
Analytical Method: 8270D
ICAL Workgroup: WG606959

Instrument ID: HPMS15
Initial Calibration Date: 21-MAR-17 13:29
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R^2)
1,4-Dioxane		0.3028	1.79		

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

INT_CAL - Modified 03/06/2008
PDF File ID: 5208547
Report generated 03/24/2017 15:37

Login Number: L17030724
Analytical Method: 8270D
Instrument ID: HPMS15
Initial Calibration Date: 21-MAR-17 13:29
Column ID: F

Analyte	WG606959-02			WG606959-03			WG606959-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,4-Dioxane	5.00	212168.000	0.3040	10.0	413045.000	0.3069	7.50	289607.000	0.3055

INT_CAL - Modified 03/06/2008
PDF File ID: 5208547
Report generated 03/24/2017 15:37

Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L17030724
Analytical Method: 8270D
Instrument ID: HPMS15
Initial Calibration Date: 21-MAR-17 13:29
Column ID: F

Analyte	WG606959-05			WG606959-06			WG606959-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,4-Dioxane	2.50	79286.0000	0.3015	1.00	32819.0000	0.3066	0.400	15800.0000	0.2925

INT_CAL - Modified 03/06/2008
PDF File ID: 5208547
Report generated 03/24/2017 15:37

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L17030724 Run Date: 03/21/2017 Sample ID: WG606959-08
Instrument ID: HPMS15 Run Time: 13:51 Method: 8270D
File ID: 15M20895 Analyst: SCB QC Key: DOD4
ICal Workgroup: WG606959 Cal ID: HPMS15 - 21-MAR-17

Analyte		Expected	Found	Units	RF	%D	UCL	Q
1,4-Dioxane		5000	4630	ug/L	0.280	7.40	20	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5208548
Report generated 03/24/2017 15:37

Login Number: L17030724 Run Date: 03/23/2017 Sample ID: WG607414-02
Instrument ID: HPMS15 Run Time: 12:04 Method: 8270D
File ID: 15M20908 Analyst: SCB/LJH QC Key: DOD4
Workgroup (AAB#): WG607413 Cal ID: HPMS15 - 21-MAR-17
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,4-Dioxane		5000	5020	ug/L	0.304	0.472	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 5208555
Report generated 03/24/2017 15:38

Login Number: L17030724 Run Date: 03/24/2017 Sample ID: WG607591-02
Instrument ID: HPMS15 Run Time: 10:34 Method: 8270D
File ID: 15M20920 Analyst: SCB/LJH QC Key: DOD4
Workgroup (AAB#): WG606673 Cal ID: HPMS15 - 21-MAR-17
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,4-Dioxane		5000	5040	ug/L	0.305	0.742	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 5208555
Report generated 03/24/2017 15:38

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L17030724
Instrument ID: HPMS15
Workgroup (AAB#): WG606673

ICAL CCV Number: WG606959-02
CAL ID: HPMS15 - 21-MAR-17
Matrix: WATER

Sample Number	Dilution	Tag	IS-1
WG606959-02	NA	NA	139587
Upper Limit	NA	NA	279174
Lower Limit	NA	NA	69794
L17030724-01	1.00	02	98237
WG606465-01	1.00	02	114953
WG606465-02	1.00	02	120969
WG606465-03	1.00	02	101900

IS-1 - 1,4-Dichlorobenzene-d4

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 5208576
Report generated 03/24/2017 15:38

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L17030724
Instrument ID: HPMS15
Workgroup (AAB#): WG606673

ICAL CCV Number: WG606959-02
CAL ID: HPMS15 - 21-MAR-17
Matrix: WATER

Sample Number	Dilution	Tag	IS-1
WG606959-02	NA	NA	139587
Upper Limit	NA	NA	279174
Lower Limit	NA	NA	69794
L17030724-01	5.00	DL02	132115

IS-1 - 1,4-Dichlorobenzene-d4

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 5208576
Report generated 03/24/2017 15:38

Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L17030724
Instrument ID: HPMS15
Workgroup (AAB#): WG607413

ICAL CCV Number: WG606959-02
CAL ID: HPMS15-21-MAR-17
Matrix: WATER

Sample Number	Dilution	Tag	IS-1
WG606959-02	NA	NA	139587
Upper Limit	NA	NA	279174
Lower Limit	NA	NA	69794
L17030724-01	1.00	RE	128587
L17030724-01	2.00	REDL02	116281
WG607133-01	1.00	01	121321
WG607133-02	1.00	01	133393
WG607133-03	1.00	01	135023

IS-1 - 1,4-Dichlorobenzene-d4

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 5208576
Report generated 03/24/2017 15:38

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L17030724
Instrument ID: HPMS15
Workgroup (AAB#): WG606673

ICAL CCV Number: WG606959-02
CAL ID: HPMS15 - 21-MAR-17
Matrix: WATER

Sample Number	Dilution	Tag	IS-1
WG606959-02	NA	NA	7.05
Upper Limit	NA	NA	7.55
Lower Limit	NA	NA	6.55
L17030724-01	1.00	02	7.05
WG606465-01	1.00	02	7.051
WG606465-02	1.00	02	7.051
WG606465-03	1.00	02	7.051

IS-1 - 1,4-Dichlorobenzene-d4

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008
PDF File ID: 5208578
Report generated: 03/24/2017 15:38

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L17030724
Instrument ID: HPMS15
Workgroup (AAB#): WG606673

ICAL CCV Number: WG606959-02
CAL ID: HPMS15 - 21-MAR-17
Matrix: WATER

Sample Number	Dilution	Tag	IS-1
WG606959-02	NA	NA	7.05
Upper Limit	NA	NA	7.55
Lower Limit	NA	NA	6.55
L17030724-01	5.00	DL02	7.043

IS-1 - 1,4-Dichlorobenzene-d4

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008
PDF File ID: 5208578
Report generated: 03/24/2017 15:38

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L17030724
Instrument ID: HPMS15
Workgroup (AAB#): WG607413

ICAL CCV Number: WG606959-02
CAL ID: HPMS15 - 21-MAR-17
Matrix: WATER

Sample Number	Dilution	Tag	IS-1
WG606959-02	NA	NA	7.05
Upper Limit	NA	NA	7.55
Lower Limit	NA	NA	6.55
L17030724-01	1.00	RE	7.036
L17030724-01	2.00	REDL02	7.043
WG607133-01	1.00	01	7.036
WG607133-02	1.00	01	7.036
WG607133-03	1.00	01	7.036

IS-1 - 1,4-Dichlorobenzene-d4

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008
PDF File ID: 5208578
Report generated: 03/24/2017 15:38

2.2.1.3 Sample Data

Data Path : C:\msdchem\1\data\032117\
Data File : 15M20899.D
Acq On : 21 Mar 2017 3:22 pm
Operator : SCB
Sample : L17030724-01
Misc : 1,1
ALS Vial : 12 Sample Multiplier: 1

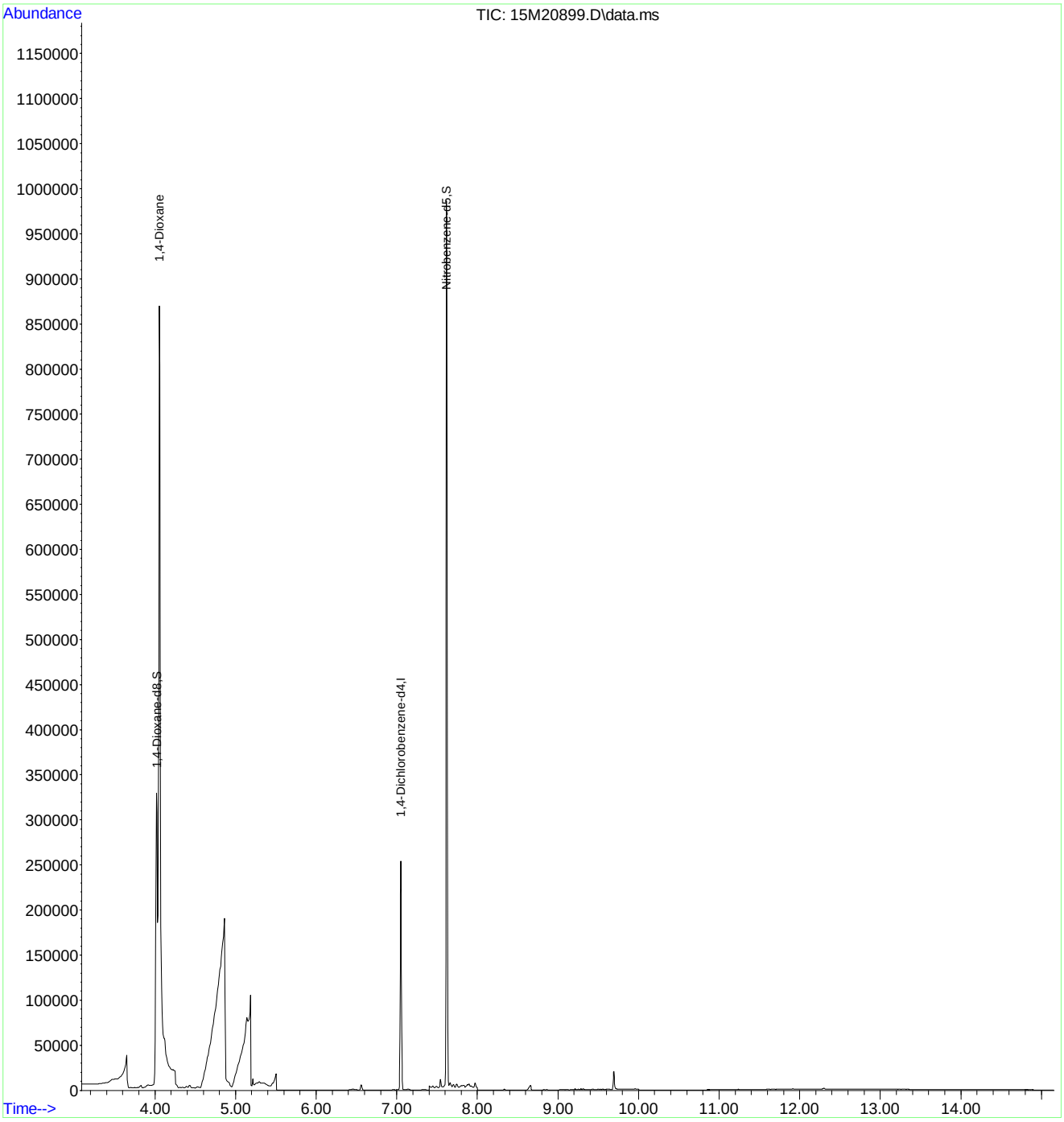
Quant Time: Mar 21 15:38:23 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

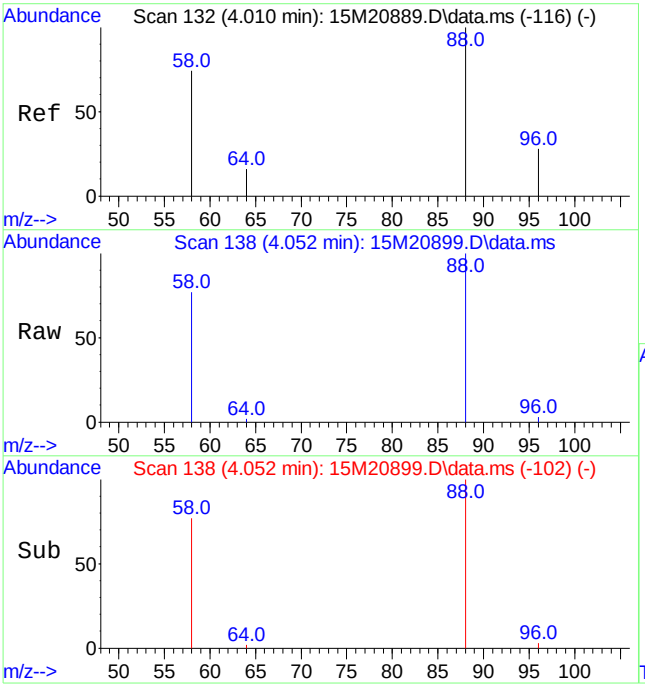
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	7.050	152	98237	1.0000	ug/mL	# 0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	4.024	96	313558	8.1679	ug/L	0.05
Spiked Amount 5.000			Recovery = 163.40%			
4) Nitrobenzene-d5	7.619	82	910855	8.6935	ug/L	0.07
Spiked Amount 5.000			Recovery = 173.80%			
5) 2-Fluorobiphenyl	9.047	172	105	0.0005	ug/L	0.00
Spiked Amount 5.000			Recovery = 0.00%			
6) p-Terphenyl-d14	12.298	244	1196	0.0053	ug/L	0.00
Spiked Amount 5.000			Recovery = 0.20%			
Target Compounds						Qvalue
2) 1,4-Dioxane	4.052	58	731979	24.6041	ug/L #	75

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

Data Path : C:\msdchem\1\data\032117\
Data File : 15M20899.D
Acq On : 21 Mar 2017 3:22 pm
Operator : SCB
Sample : L17030724-01
Misc : 1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 21 15:38:23 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

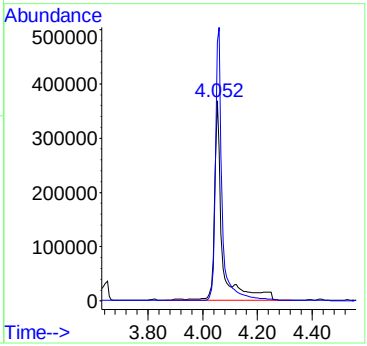




#2
1,4-Dioxane
Concen: 24.60 ug/L
RT: 4.052 min Scan# 138
Delta R.T. 0.042 min
Lab File: 15M20899.D
Acq: 21 Mar 2017 3:22 pm

Tgt Ion: 58 Resp: 731979

Ion	Ratio	Lower	Upper
58	100		
88	116.1	118.2	177.2#



Data Path : C:\msdchem\1\data\032417\
Data File : 15M20922.D
Acq On : 24 Mar 2017 11:23 am
Operator : SCB/LJH
Sample : L17030724-01 5X
Misc : 1,5 DL#2
ALS Vial : 4 Sample Multiplier: 5

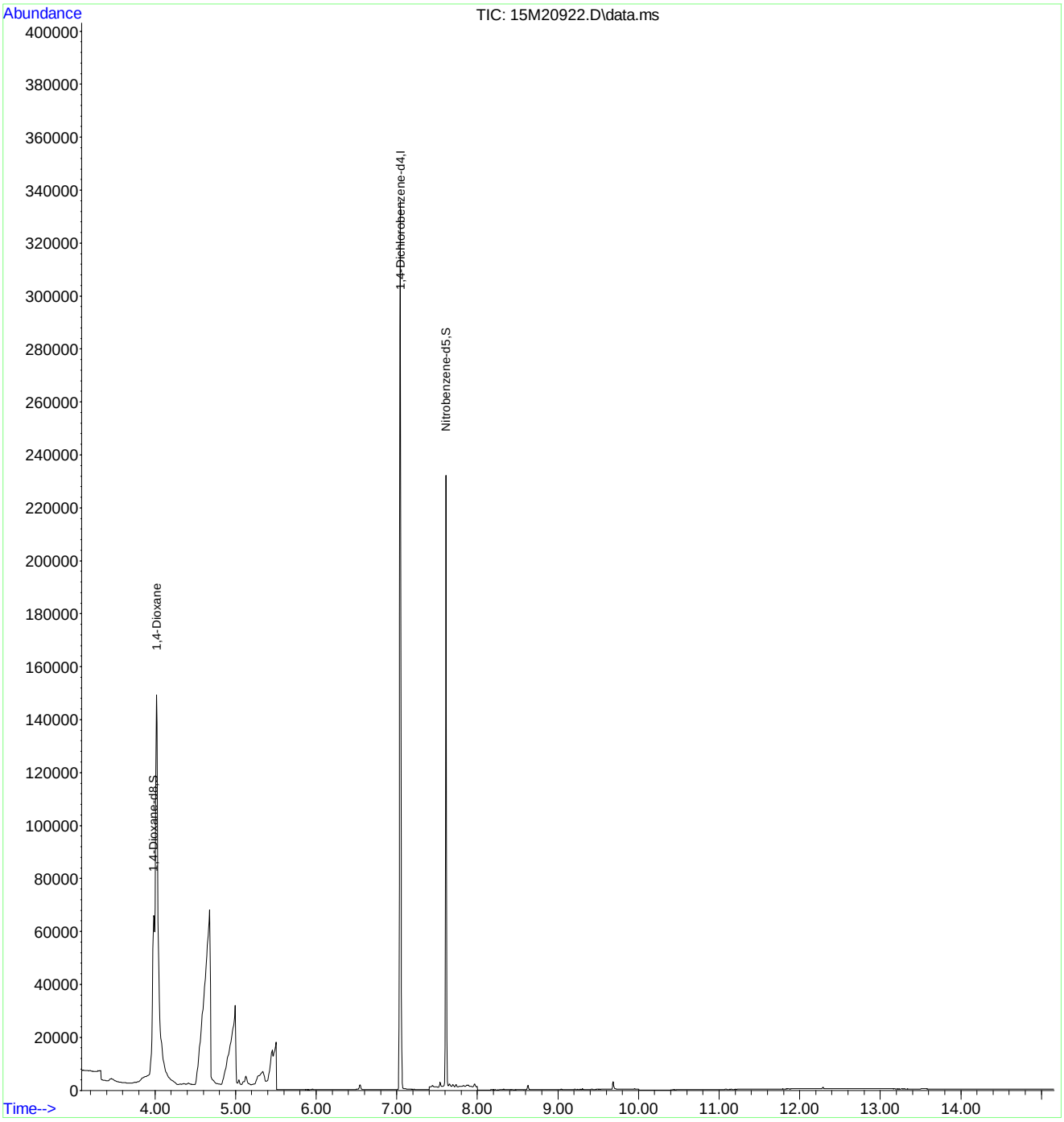
Quant Time: Mar 24 14:04:13 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

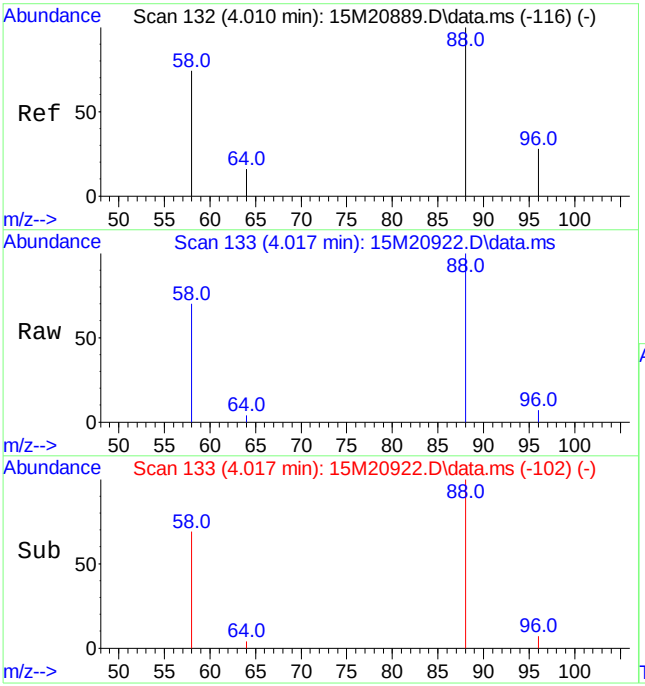
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	7.043	152	132115	1.0000	ug/mL	# 0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.982	96	78610	7.6132	ug/L	0.00
Spiked Amount 5.000			Recovery = 152.20%			
4) Nitrobenzene-d5	7.613	82	208739	7.4070	ug/L	0.07
Spiked Amount 5.000			Recovery = 148.20%			
5) 2-Fluorobiphenyl	9.040	172	128	0.0022	ug/L	0.00
Spiked Amount 5.000			Recovery = 0.00%			
6) p-Terphenyl-d14	12.287	244	489	0.0081	ug/L	-0.01
Spiked Amount 5.000			Recovery = 0.20%			
Target Compounds						Qvalue
2) 1,4-Dioxane	4.017	58	174929	4.3721	ug/L	78

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

Data Path : C:\msdchem\1\data\032417\
Data File : 15M20922.D
Acq On : 24 Mar 2017 11:23 am
Operator : SCB/LJH
Sample : L17030724-01 5X
Misc : 1,5 DL#2
ALS Vial : 4 Sample Multiplier: 5

Quant Time: Mar 24 14:04:13 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

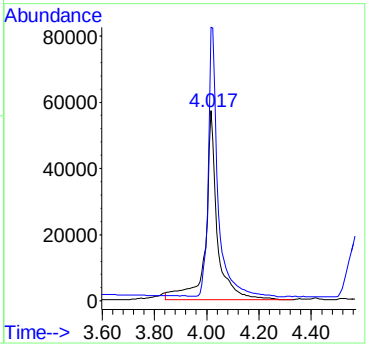




#2
1,4-Dioxane
Concen: 4.37 ug/L
RT: 4.017 min Scan# 133
Delta R.T. 0.007 min
Lab File: 15M20922.D
Acq: 24 Mar 2017 11:23 am

Tgt Ion: 58 Resp: 174929

Ion	Ratio	Lower	Upper
58	100		
88	120.0	118.2	177.2



Data Path : C:\msdchem\1\data\032317\
Data File : 15M20912.D
Acq On : 23 Mar 2017 1:34 pm
Operator : SCB/LJH
Sample : L17030724-01 827-DIOXANE
Misc : 1,1
ALS Vial : 6 Sample Multiplier: 1

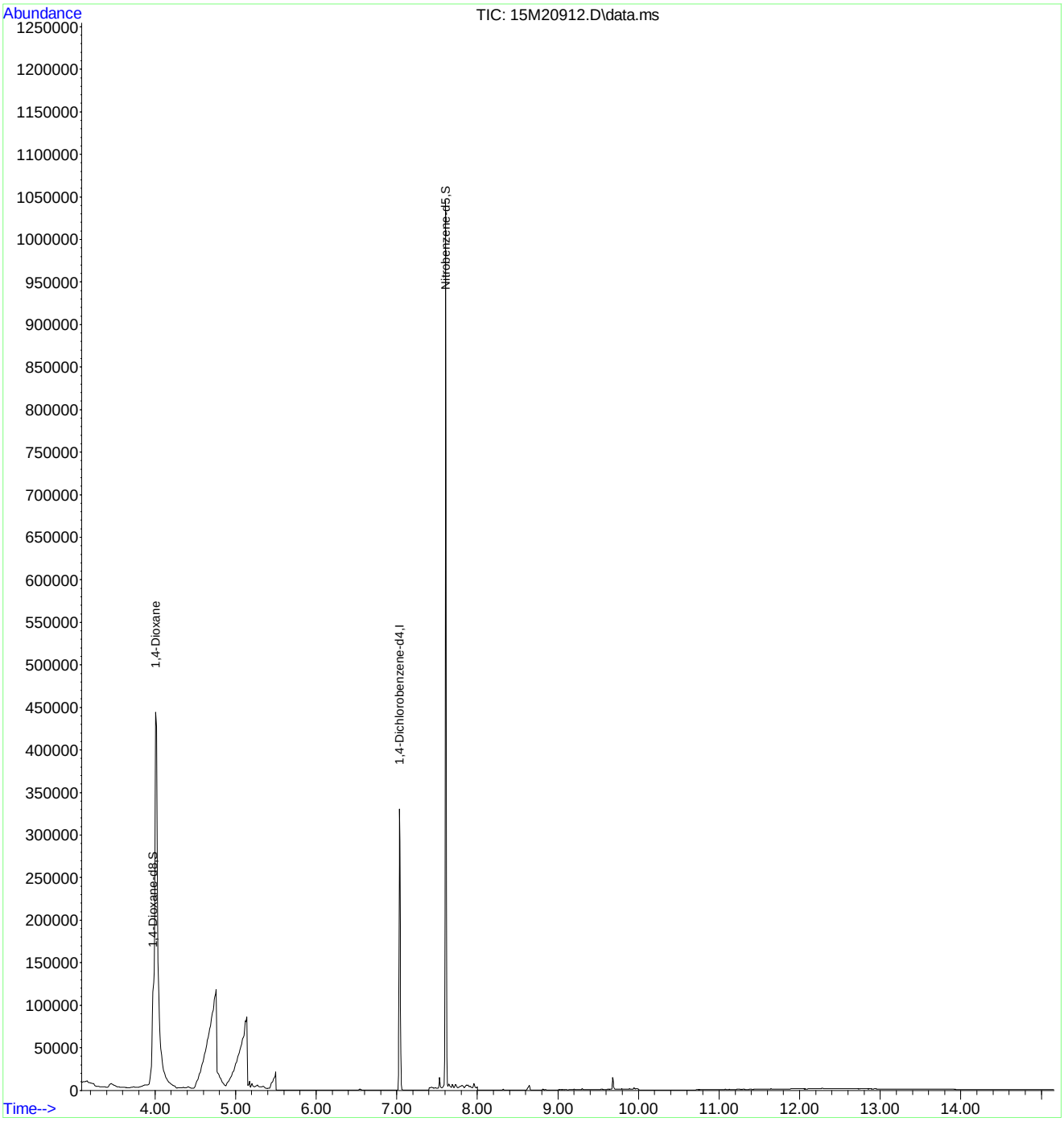
Quant Time: Mar 24 08:36:37 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

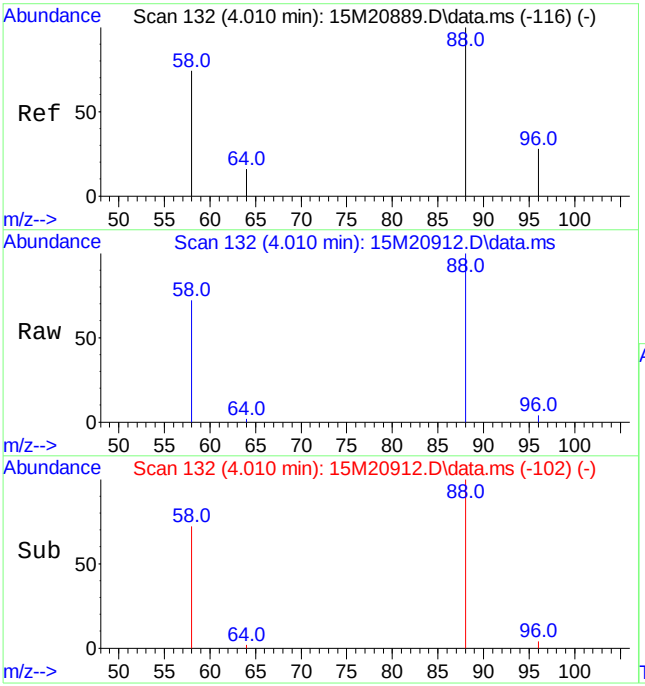
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	7.036	152	128587	1.0000	ug/mL	#-0.02
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.975	96	130423	2.5955	ug/L	0.00
Spiked Amount 5.000			Recovery = 52.00%			
4) Nitrobenzene-d5	7.608	82	908947	6.6277	ug/L	0.06
Spiked Amount 5.000			Recovery = 132.60%			
5) 2-Fluorobiphenyl	9.033	172	199	0.0007	ug/L	-0.01
Spiked Amount 5.000			Recovery = 0.00%			
6) p-Terphenyl-d14	12.280	244	1165	0.0040	ug/L	-0.02
Spiked Amount 5.000			Recovery = 0.00%			
Target Compounds						Qvalue
2) 1,4-Dioxane	4.010	58	511626	13.1383	ug/L	90

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

Data Path : C:\msdchem\1\data\032317\
Data File : 15M20912.D
Acq On : 23 Mar 2017 1:34 pm
Operator : SCB/LJH
Sample : L17030724-01 827-DIOXANE
Misc : 1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 24 08:36:37 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

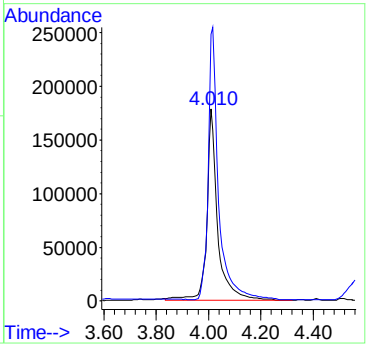




#2
1,4-Dioxane
Concen: 13.14 ug/L
RT: 4.010 min Scan# 132
Delta R.T. 0.000 min
Lab File: 15M20912.D
Acq: 23 Mar 2017 1:34 pm

Tgt Ion: 58 Resp: 511626

Ion	Ratio	Lower	Upper
58	100		
88	135.2	118.2	177.2



Data Path : C:\msdchem\1\data\032417\
Data File : 15M20921.D
Acq On : 24 Mar 2017 11:01 am
Operator : SCB/LJH
Sample : L17030724-01 2X RE
Misc : 1,2 DL#2
ALS Vial : 3 Sample Multiplier: 2

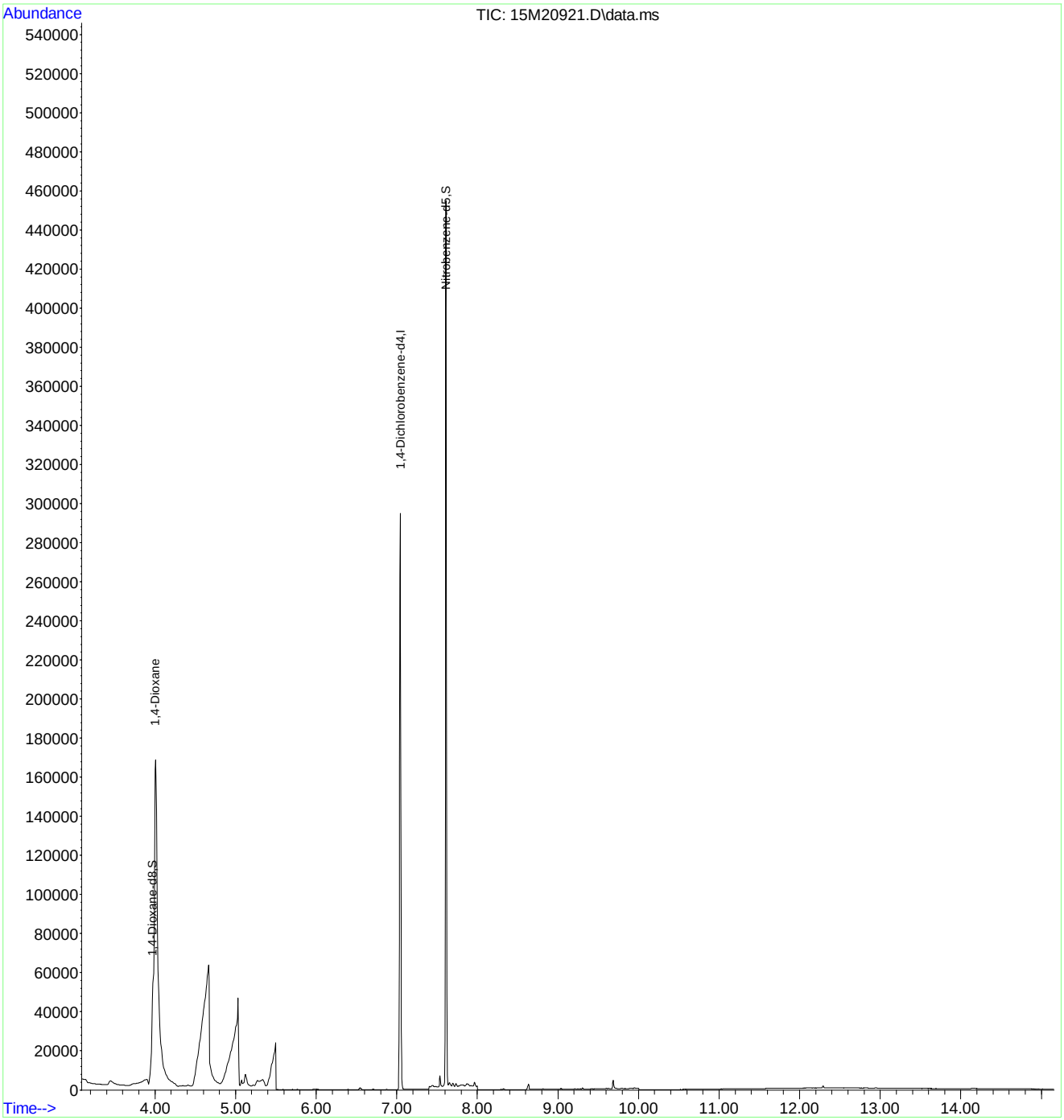
Quant Time: Mar 24 14:04:10 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

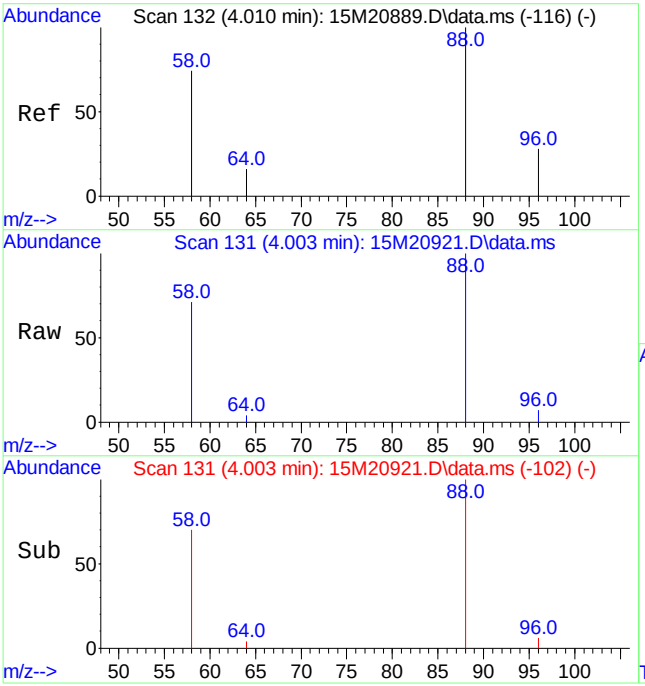
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	7.043	152	116281	1.0000	ug/mL	# 0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.968	96	57285	2.5213	ug/L	0.00
Spiked Amount 5.000			Recovery = 50.40%			
4) Nitrobenzene-d5	7.614	82	398096	6.4199	ug/L	0.07
Spiked Amount 5.000			Recovery = 128.40%			
5) 2-Fluorobiphenyl	9.040	172	262	0.0021	ug/L	0.00
Spiked Amount 5.000			Recovery = 0.00%			
6) p-Terphenyl-d14	12.291	244	1132	0.0085	ug/L	0.00
Spiked Amount 5.000			Recovery = 0.20%			
Target Compounds						Qvalue
2) 1,4-Dioxane	4.003	58	207775	5.9002	ug/L	99

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

Data Path : C:\msdchem\1\data\032417\
Data File : 15M20921.D
Acq On : 24 Mar 2017 11:01 am
Operator : SCB/LJH
Sample : L17030724-01 2X RE
Misc : 1,2 DL#2
ALS Vial : 3 Sample Multiplier: 2

Quant Time: Mar 24 14:04:10 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

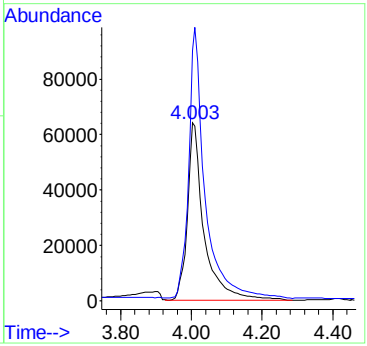




#2
1,4-Dioxane
Concen: 5.90 ug/L
RT: 4.003 min Scan# 131
Delta R.T. -0.007 min
Lab File: 15M20921.D
Acq: 24 Mar 2017 11:01 am

Tgt Ion: 58 Resp: 207775

Ion	Ratio	Lower	Upper
58	100		
88	149.5	118.2	177.2



2.2.1.4 Standards Data

Data Path : C:\msdchem\1\data\032117\
Data File : 15M20889.D
Acq On : 21 Mar 2017 11:36 am
Operator : SCB
Sample : WG606959-02 5PPM 1,4-DIOXSTD
Misc : 1,1 STD80097
ALS Vial : 2 Sample Multiplier: 1

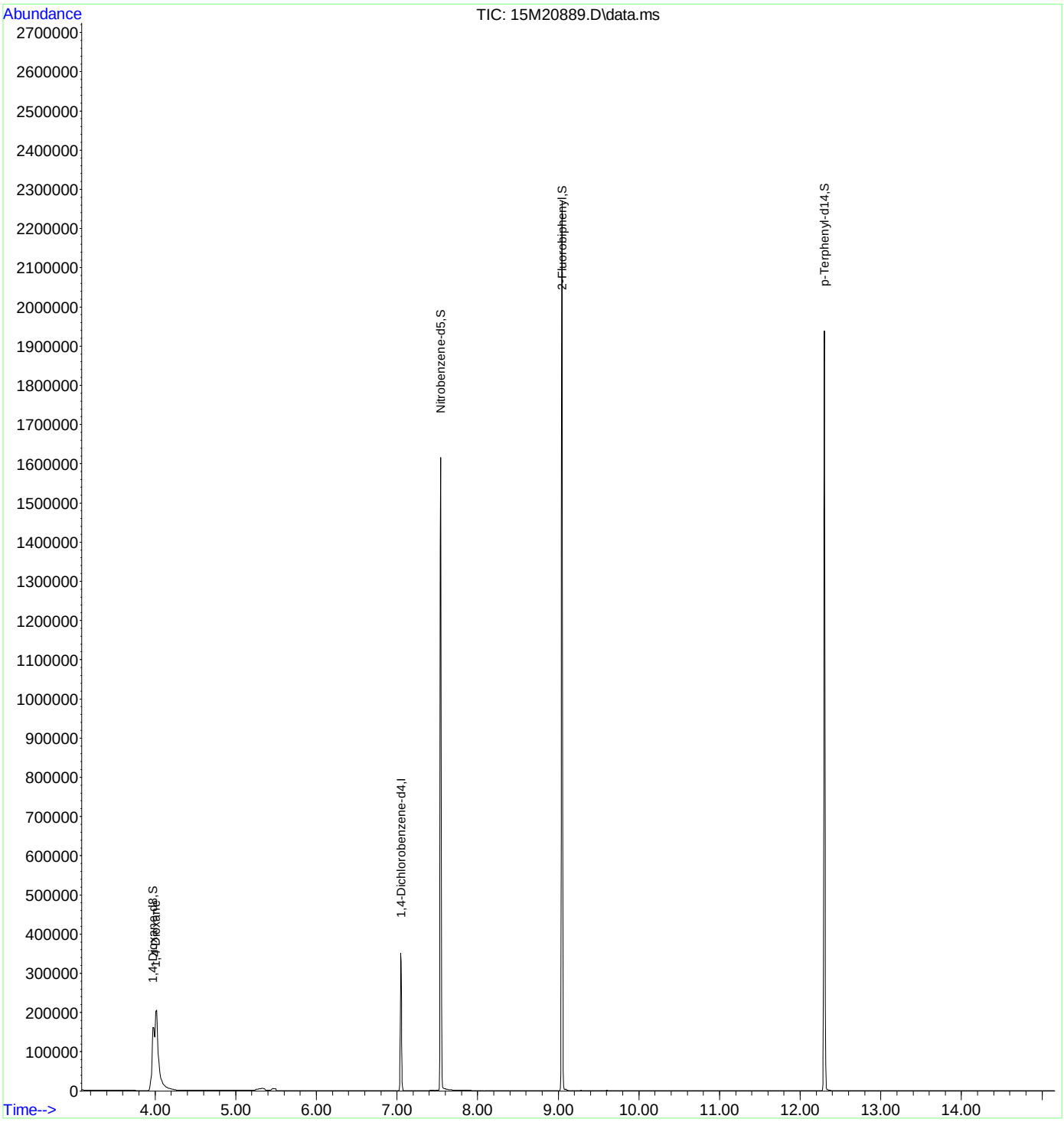
Quant Time: Mar 21 11:52:07 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032017
QLast Update : Tue Mar 21 08:23:00 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	7.051	152	139587	1.0000	ug/mL	# 0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.975	96	273434	4.9111	ug/L	0.06
Spiked Amount 5.000			Recovery = 98.20%			
4) Nitrobenzene-d5	7.544	82	772044	5.4825	ug/L	0.00
Spiked Amount 5.000			Recovery = 109.60%			
5) 2-Fluorobiphenyl	9.048	172	1542568	4.9879	ug/L	0.00
Spiked Amount 5.000			Recovery = 99.80%			
6) p-Terphenyl-d14	12.299	244	1602914	4.7952	ug/L	0.00
Spiked Amount 5.000			Recovery = 96.00%			
Target Compounds						Qvalue
2) 1,4-Dioxane	4.010	58	212168	4.9180	ug/L	100

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

Data Path : C:\msdchem\1\data\032117\
Data File : 15M20889.D
Acq On : 21 Mar 2017 11:36 am
Operator : SCB
Sample : WG606959-02 5PPM 1,4-DIOXSTD
Misc : 1,1 STD80097
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 21 11:52:07 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032017
QLast Update : Tue Mar 21 08:23:00 2017
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\032117\
Data File : 15M20890.D
Acq On : 21 Mar 2017 11:59 am
Operator : SCB
Sample : WG606959-03 10PPM 1,4-DIOX STD
Misc : 1,1 STD80097
ALS Vial : 3 Sample Multiplier: 1

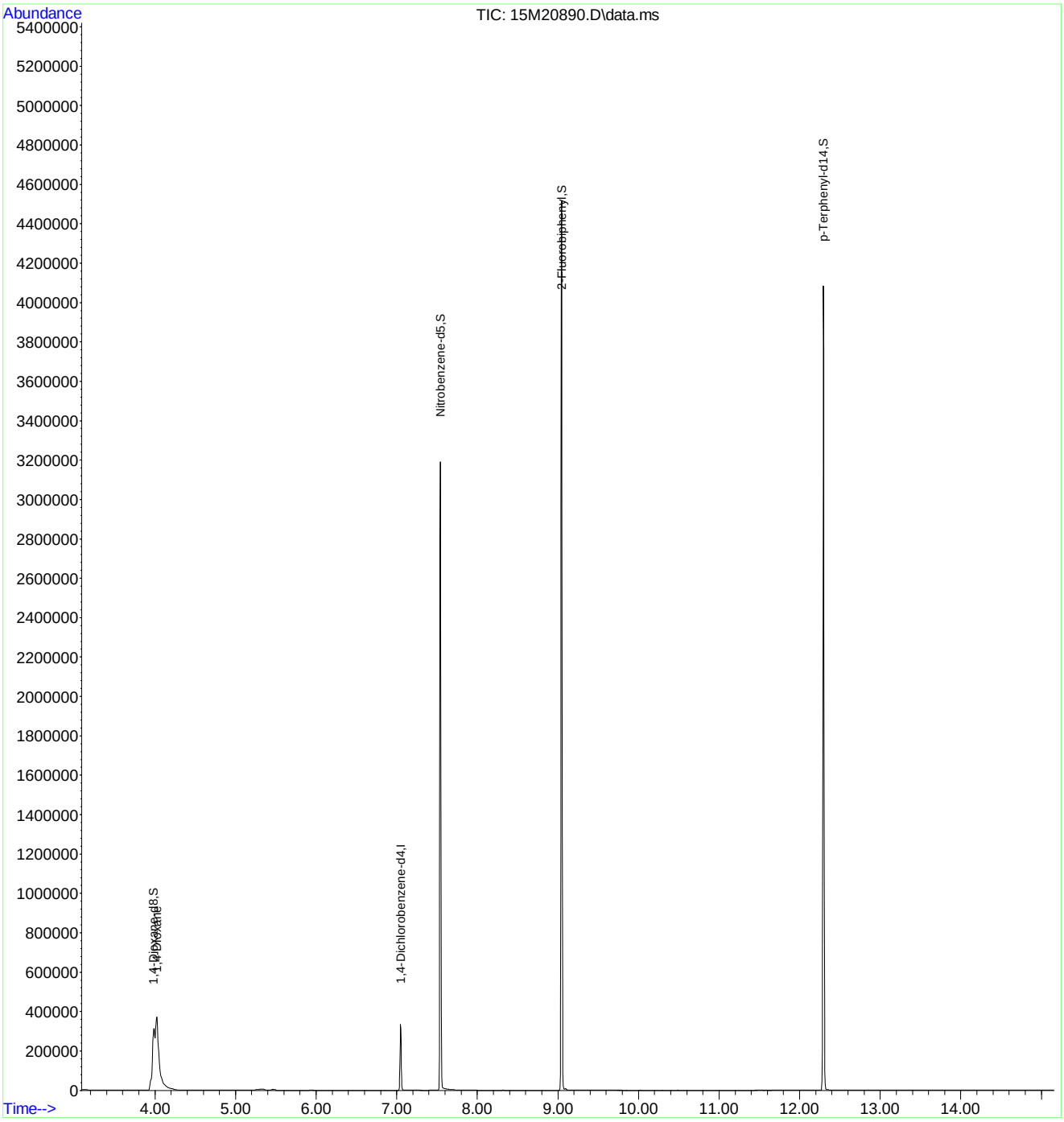
Quant Time: Mar 21 13:04:57 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 12:01:58 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	7.051	152	134604	1.0000	ug/mL	# 0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.982	96	531542	9.9382	ug/L	0.00
Spiked Amount 5.000			Recovery = 198.80%			
4) Nitrobenzene-d5	7.544	82	1518935	11.1141	ug/L	0.00
Spiked Amount 5.000			Recovery = 222.20%			
5) 2-Fluorobiphenyl	9.048	172	3039962	10.2007	ug/L	0.00
Spiked Amount 5.000			Recovery = 204.00%			
6) p-Terphenyl-d14	12.295	244	3286803	10.2842	ug/L	0.00
Spiked Amount 5.000			Recovery = 205.60%			
Target Compounds						Qvalue
2) 1,4-Dioxane	4.024	58	413045	9.9666	ug/L	100

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

Data Path : C:\msdchem\1\data\032117\
Data File : 15M20890.D
Acq On : 21 Mar 2017 11:59 am
Operator : SCB
Sample : WG606959-03 10PPM 1,4-DIOX STD
Misc : 1,1 STD80097
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 21 13:04:57 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 12:01:58 2017
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\032117\
Data File : 15M20891.D
Acq On : 21 Mar 2017 12:22 pm
Operator : SCB
Sample : WG606959-04 7.5PPM 1,4-DIOX STD
Misc : 1,1 STD80097
ALS Vial : 4 Sample Multiplier: 1

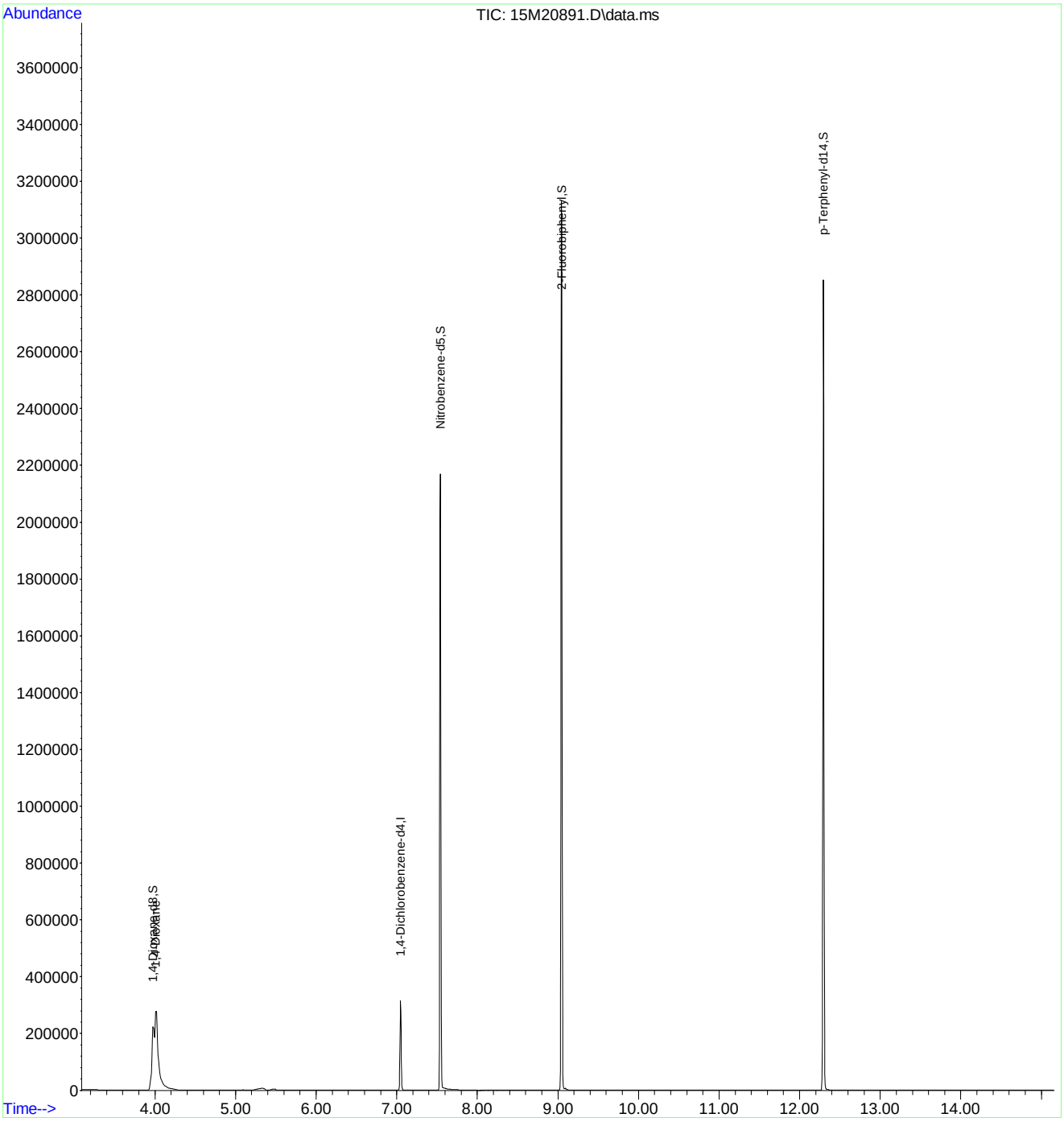
Quant Time: Mar 21 13:05:17 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:05:03 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	7.047	152	126394	1.0000	ug/mL	# 0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.975	96	370638	7.4104	ug/L	0.00
Spiked Amount 5.000			Recovery = 148.20%			
4) Nitrobenzene-d5	7.544	82	1062693	8.2685	ug/L	0.00
Spiked Amount 5.000			Recovery = 165.40%			
5) 2-Fluorobiphenyl	9.048	172	2137834	7.6518	ug/L	0.00
Spiked Amount 5.000			Recovery = 153.00%			
6) p-Terphenyl-d14	12.295	244	2249330	7.5428	ug/L	0.00
Spiked Amount 5.000			Recovery = 150.80%			
Target Compounds						Qvalue
2) 1,4-Dioxane	4.010	58	289607	7.4740	ug/L	100

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

Data Path : C:\msdchem\1\data\032117\
Data File : 15M20891.D
Acq On : 21 Mar 2017 12:22 pm
Operator : SCB
Sample : WG606959-04 7.5PPM 1,4-DIOX STD
Misc : 1,1 STD80097
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 21 13:05:17 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:05:03 2017
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\032117\
Data File : 15M20892.D
Acq On : 21 Mar 2017 12:44 pm
Operator : SCB
Sample : WG606959-05 2.5PPM 1,4-DIOX STD
Misc : 1,1 STD80097
ALS Vial : 5 Sample Multiplier: 1

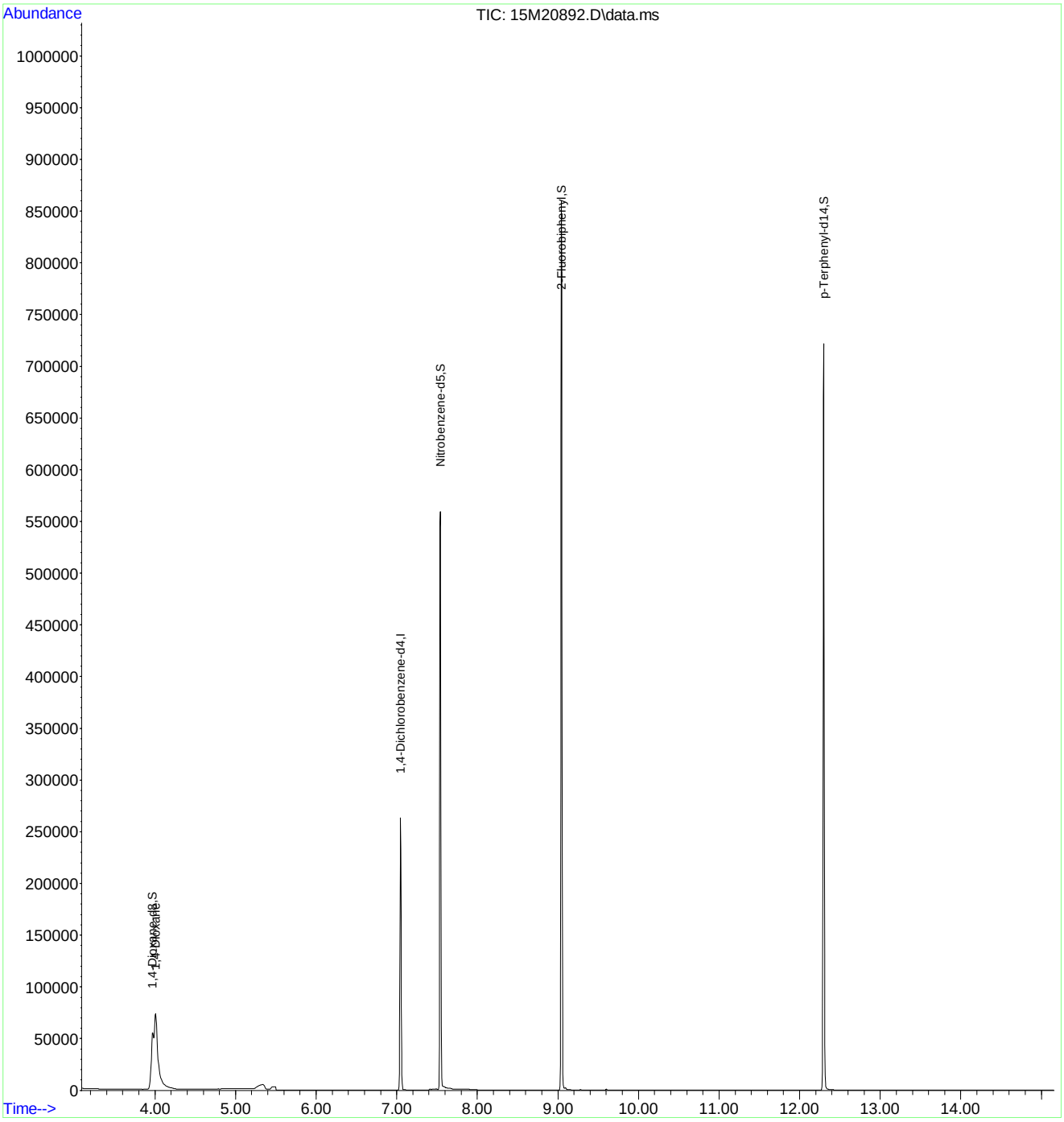
Quant Time: Mar 21 13:05:36 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:05:22 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	7.047	152	105174	1.0000	ug/mL	# 0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.968	96	101713	2.4531	ug/L	0.00
Spiked Amount 5.000			Recovery = 49.00%			
4) Nitrobenzene-d5	7.544	82	282253	2.6276	ug/L	0.00
Spiked Amount 5.000			Recovery = 52.60%			
5) 2-Fluorobiphenyl	9.044	172	580576	2.4941	ug/L	0.00
Spiked Amount 5.000			Recovery = 49.80%			
6) p-Terphenyl-d14	12.298	244	600130	2.4274	ug/L	0.00
Spiked Amount 5.000			Recovery = 48.60%			
Target Compounds						Qvalue
2) 1,4-Dioxane	4.010	58	79286	2.4683	ug/L	99

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

Data Path : C:\msdchem\1\data\032117\
Data File : 15M20892.D
Acq On : 21 Mar 2017 12:44 pm
Operator : SCB
Sample : WG606959-05 2.5PPM 1,4-DIOX STD
Misc : 1,1 STD80097
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 21 13:05:36 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:05:22 2017
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\032117\
Data File : 15M20893.D
Acq On : 21 Mar 2017 1:07 pm
Operator : SCB
Sample : WG606959-06 1PPM 1,4-DIOX STD
Misc : 1,1 STD80097
ALS Vial : 6 Sample Multiplier: 1

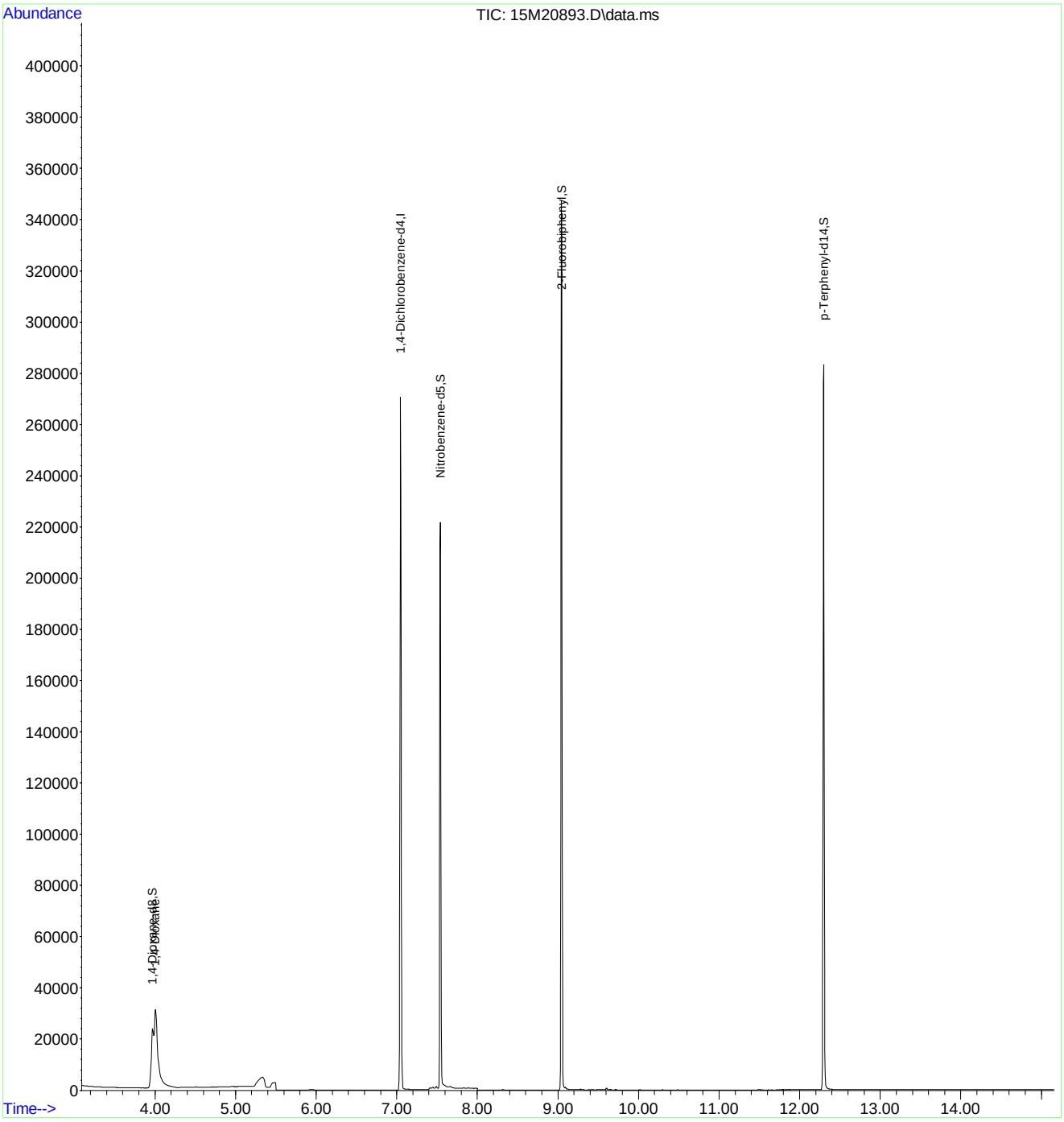
Quant Time: Mar 21 13:29:21 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:05:40 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	7.047	152	107027	1.0000	ug/mL	# 0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.968	96	41676	0.9900	ug/L	0.00
Spiked Amount 5.000			Recovery = 19.80%			
4) Nitrobenzene-d5	7.544	82	110837	1.0035	ug/L	0.00
Spiked Amount 5.000			Recovery = 20.00%			
5) 2-Fluorobiphenyl	9.048	172	235176	0.9936	ug/L	0.00
Spiked Amount 5.000			Recovery = 19.80%			
6) p-Terphenyl-d14	12.299	244	242621	0.9712	ug/L	0.00
Spiked Amount 5.000			Recovery = 19.40%			
Target Compounds						Qvalue
2) 1,4-Dioxane	4.003	58	32819	1.0075	ug/L	97

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

Data Path : C:\msdchem\1\data\032117\
Data File : 15M20893.D
Acq On : 21 Mar 2017 1:07 pm
Operator : SCB
Sample : WG606959-06 1PPM 1,4-DIOX STD
Misc : 1,1 STD80097
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 21 13:29:21 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:05:40 2017
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\032117\
Data File : 15M20894.D
Acq On : 21 Mar 2017 1:29 pm
Operator : SCB
Sample : WG606959-07 0.4PPM 1,4-DIOX STD
Misc : 1,1 STD80097
ALS Vial : 7 Sample Multiplier: 1

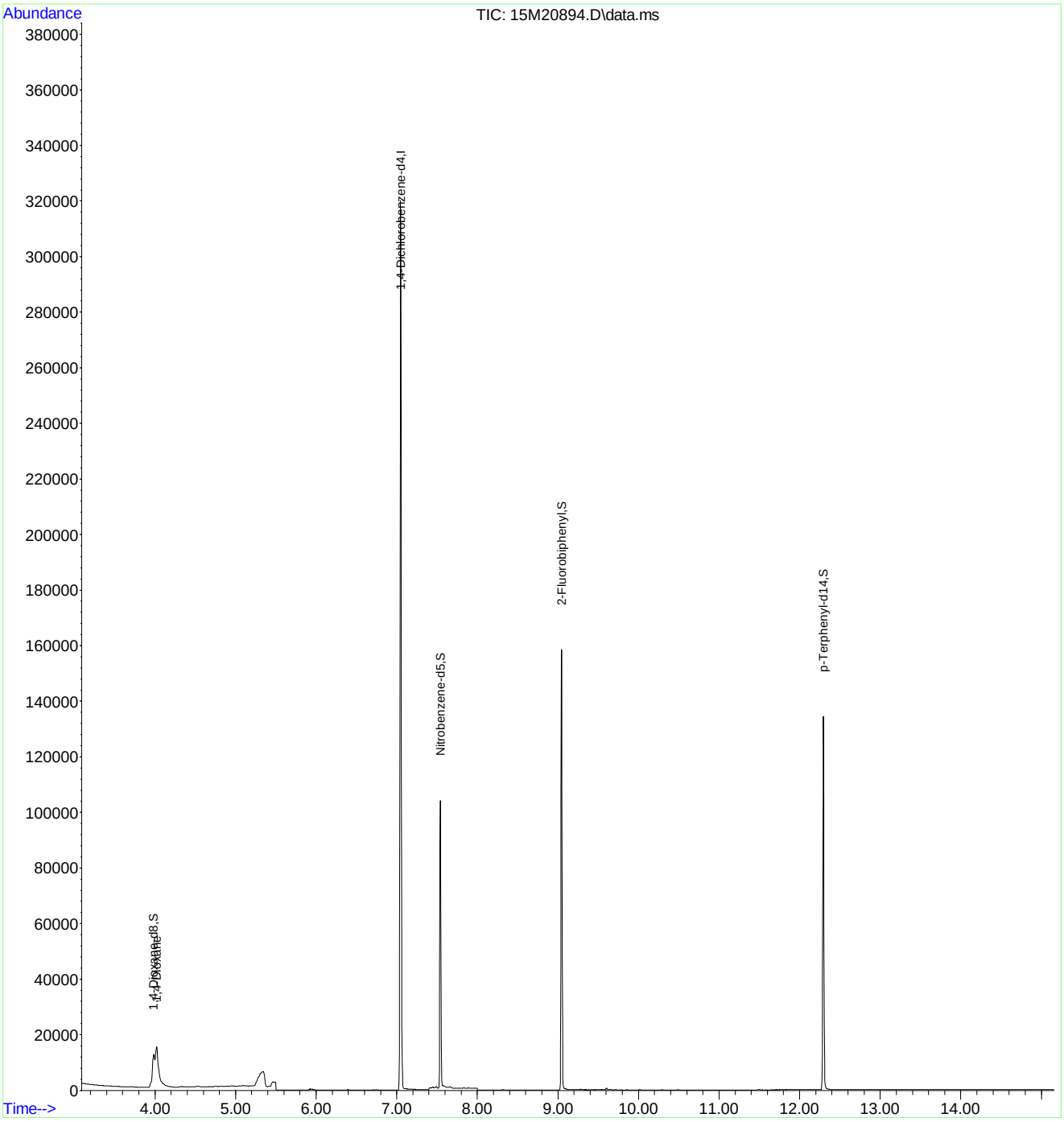
Quant Time: Mar 21 13:45:12 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:29:27 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	7.051	152	135041	1.0000	ug/mL	# 0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.982	96	19918	0.3774	ug/L	0.00
Spiked Amount 5.000			Recovery =	7.60%		
4) Nitrobenzene-d5	7.544	82	50480	0.3556	ug/L	0.00
Spiked Amount 5.000			Recovery =	7.20%		
5) 2-Fluorobiphenyl	9.048	172	109232	0.3664	ug/L	0.00
Spiked Amount 5.000			Recovery =	7.40%		
6) p-Terphenyl-d14	12.295	244	111976	0.3578	ug/L	0.00
Spiked Amount 5.000			Recovery =	7.20%		
Target Compounds						Qvalue
2) 1,4-Dioxane	4.017	58	15800	0.3852	ug/L	96

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

Data Path : C:\msdchem\1\data\032117\
Data File : 15M20894.D
Acq On : 21 Mar 2017 1:29 pm
Operator : SCB
Sample : WG606959-07 0.4PPM 1,4-DIOX STD
Misc : 1,1 STD80097
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 21 13:45:12 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:29:27 2017
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\032117\
Data File : 15M20895.D
Acq On : 21 Mar 2017 1:51 pm
Operator : SCB
Sample : WG606959-08 5PPM 1,4-DIOX ALT SRC
Misc : 1,1 STD80098
ALS Vial : 8 Sample Multiplier: 1

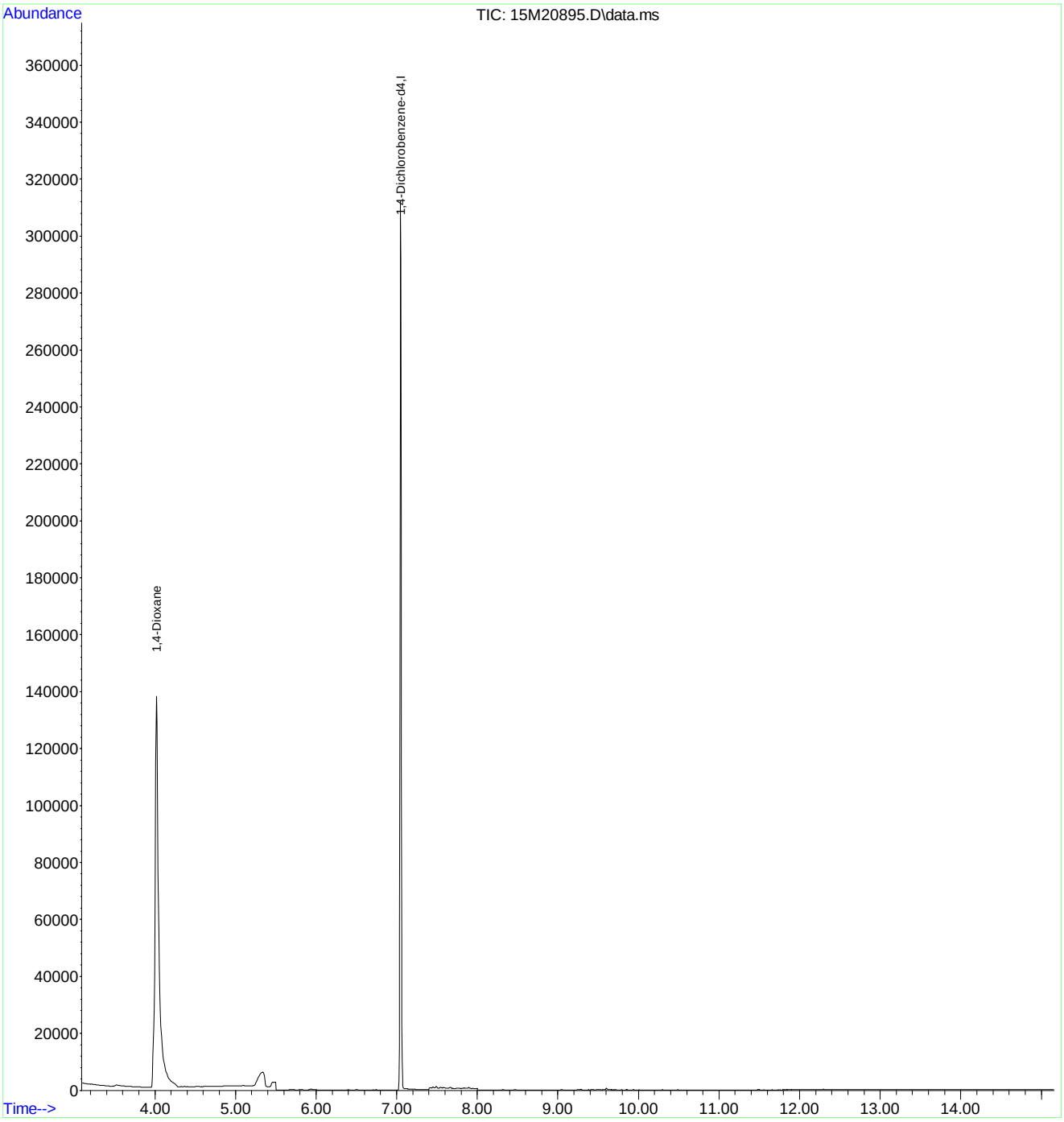
Quant Time: Mar 21 14:07:21 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	7.051	152	127276	1.0000	ug/mL	# 0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.989	96	40	0.0008	ug/L	0.01
Spiked Amount 5.000			Recovery =	0.00%		
4) Nitrobenzene-d5	7.447	82	447	0.0033	ug/L	-0.10
Spiked Amount 5.000			Recovery =	0.00%		
5) 2-Fluorobiphenyl	9.048	172	92	0.0003	ug/L	0.00
Spiked Amount 5.000			Recovery =	0.00%		
6) p-Terphenyl-d14	12.295	244	227	0.0008	ug/L	0.00
Spiked Amount 5.000			Recovery =	0.00%		
Target Compounds						Qvalue
2) 1,4-Dioxane	4.017	58	178401	4.6284	ug/L	100

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

Data Path : C:\msdchem\1\data\032117\
Data File : 15M20895.D
Acq On : 21 Mar 2017 1:51 pm
Operator : SCB
Sample : WG606959-08 5PPM 1,4-DIOX ALT SRC
Misc : 1,1 STD80098
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 21 14:07:21 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\032117\
Data File : 15M20895.D
Acq On : 21 Mar 2017 1:51 pm
Operator : SCB
Sample : WG606959-08 5PPM 1,4-DIOX ALT SRC
Misc : 1,1 STD80098
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 21 14:07:21 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	91	0.00
2	1,4-Dioxane	0.303	0.280	7.6	84	0.00
3 S	1,4-Dioxane-d8	0.391	0.000	100.0#	0#	0.01
4 S	Nitrobenzene-d5	1.067	0.001	99.9#	0#	-0.10
5 S	2-Fluorobiphenyl	2.192	0.000	100.0#	0#	0.00
6 S	p-Terphenyl-d14	2.289	0.000	100.0#	0#	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Data Path : C:\msdchem\1\data\032117\
Data File : 15M20895.D
Acq On : 21 Mar 2017 1:51 pm
Operator : SCB
Sample : WG606959-08 5PPM 1,4-DIOX ALT SRC
Misc : 1,1 STD80098
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 21 14:07:21 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	91	0.00
2		1,4-Dioxane	5.000	4.628	7.4	84	0.00
3	S	1,4-Dioxane-d8	5.000	0.001	100.0#	0	0.01
4	S	Nitrobenzene-d5	5.000	0.003	99.9#	0	-0.10
5	S	2-Fluorobiphenyl	5.000	0.000	100.0#	0	0.00
6	S	p-Terphenyl-d14	5.000	0.001	100.0#	0	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Data Path : C:\msdchem\1\data\032317\
Data File : 15M20908.D
Acq On : 23 Mar 2017 12:04 pm
Operator : SCB/LJH
Sample : WG607414-02 5PPM 1,4-DIOX STD
Misc : 1,1 STD80097
ALS Vial : 2 Sample Multiplier: 1

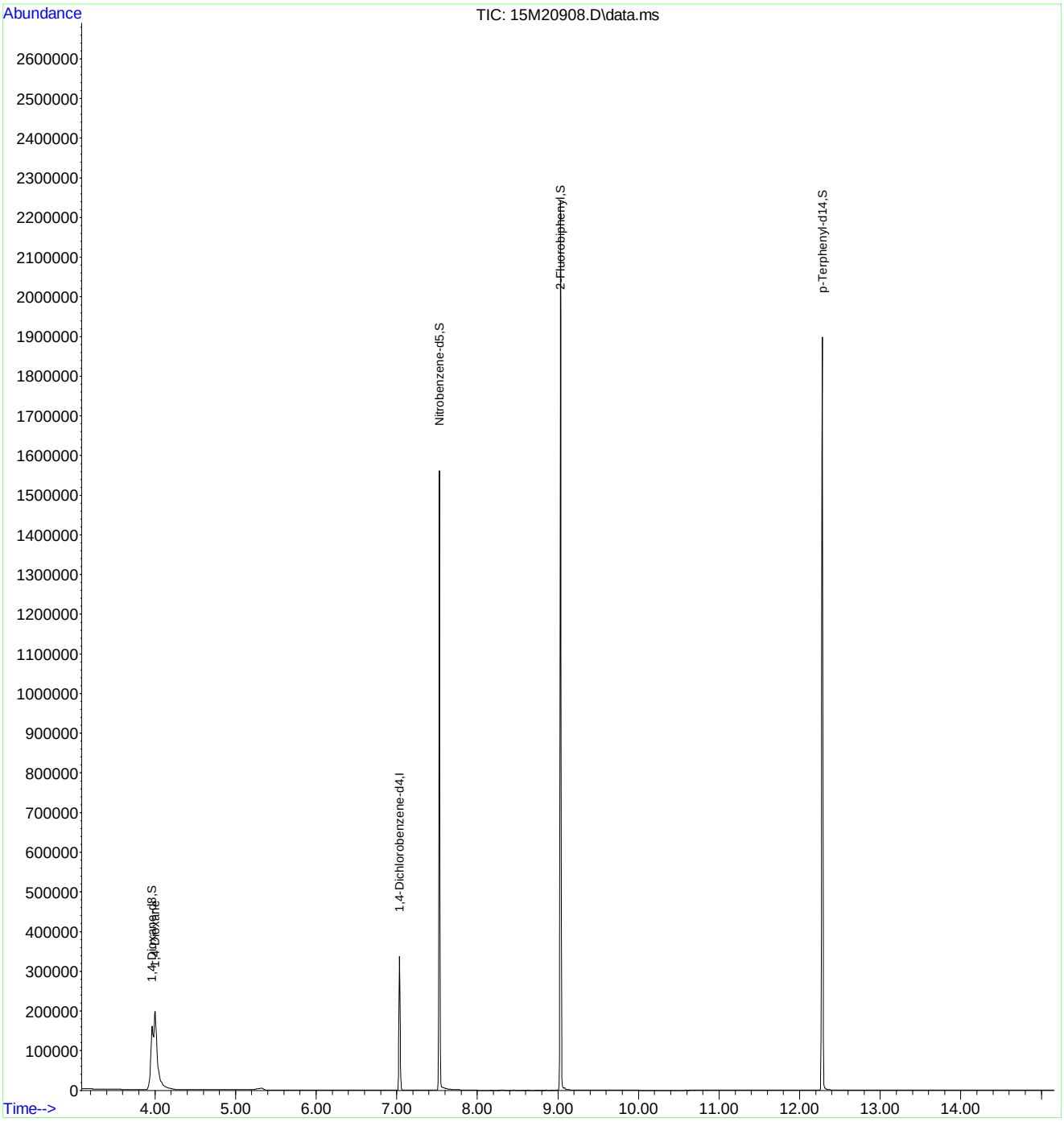
Quant Time: Mar 23 12:19:45 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	7.036	152	135725	1.0000	ug/mL	#-0.02
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.961	96	269519	5.0816	ug/L	-0.01
Spiked Amount 5.000			Recovery = 101.60%			
4) Nitrobenzene-d5	7.528	82	745898	5.1528	ug/L	-0.02
Spiked Amount 5.000			Recovery = 103.00%			
5) 2-Fluorobiphenyl	9.033	172	1489755	5.0076	ug/L	-0.02
Spiked Amount 5.000			Recovery = 100.20%			
6) p-Terphenyl-d14	12.280	244	1535387	4.9422	ug/L	-0.02
Spiked Amount 5.000			Recovery = 98.80%			
Target Compounds						Qvalue
2) 1,4-Dioxane	4.003	58	206486	5.0236	ug/L	98

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

Data Path : C:\msdchem\1\data\032317\
Data File : 15M20908.D
Acq On : 23 Mar 2017 12:04 pm
Operator : SCB/LJH
Sample : WG607414-02 5PPM 1,4-DIOX STD
Misc : 1,1 STD80097
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 23 12:19:45 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\032317\
Data File : 15M20908.D
Acq On : 23 Mar 2017 12:04 pm
Operator : SCB/LJH
Sample : WG607414-02 5PPM 1,4-DIOX STD
Misc : 1,1 STD80097
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 23 12:19:45 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	97	-0.02
2		1,4-Dioxane	0.303	0.304	-0.3	97	0.00
3	S	1,4-Dioxane-d8	0.391	0.397	-1.5	99	-0.01
4	S	Nitrobenzene-d5	1.067	1.099	-3.0	97	-0.02
5	S	2-Fluorobiphenyl	2.192	2.195	-0.1	97	-0.02
6	S	p-Terphenyl-d14	2.289	2.262	1.2	96	-0.02

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Data Path : C:\msdchem\1\data\032317\
Data File : 15M20908.D
Acq On : 23 Mar 2017 12:04 pm
Operator : SCB/LJH
Sample : WG607414-02 5PPM 1,4-DIOX STD
Misc : 1,1 STD80097
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 23 12:19:45 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	97	-0.02
2		1,4-Dioxane	5.000	5.024	-0.5	97	0.00
3	S	1,4-Dioxane-d8	5.000	5.082	-1.6	99	-0.01
4	S	Nitrobenzene-d5	5.000	5.153	-3.1	97	-0.02
5	S	2-Fluorobiphenyl	5.000	5.008	-0.2	97	-0.02
6	S	p-Terphenyl-d14	5.000	4.942	1.2	96	-0.02

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Data Path : C:\msdchem\1\data\032417\
Data File : 15M20920.D
Acq On : 24 Mar 2017 10:34 am
Operator : SCB/LJH
Sample : WG607591-02 5PPM 1,4-DIOX STD
Misc : 1,1 STD80097
ALS Vial : 2 Sample Multiplier: 1

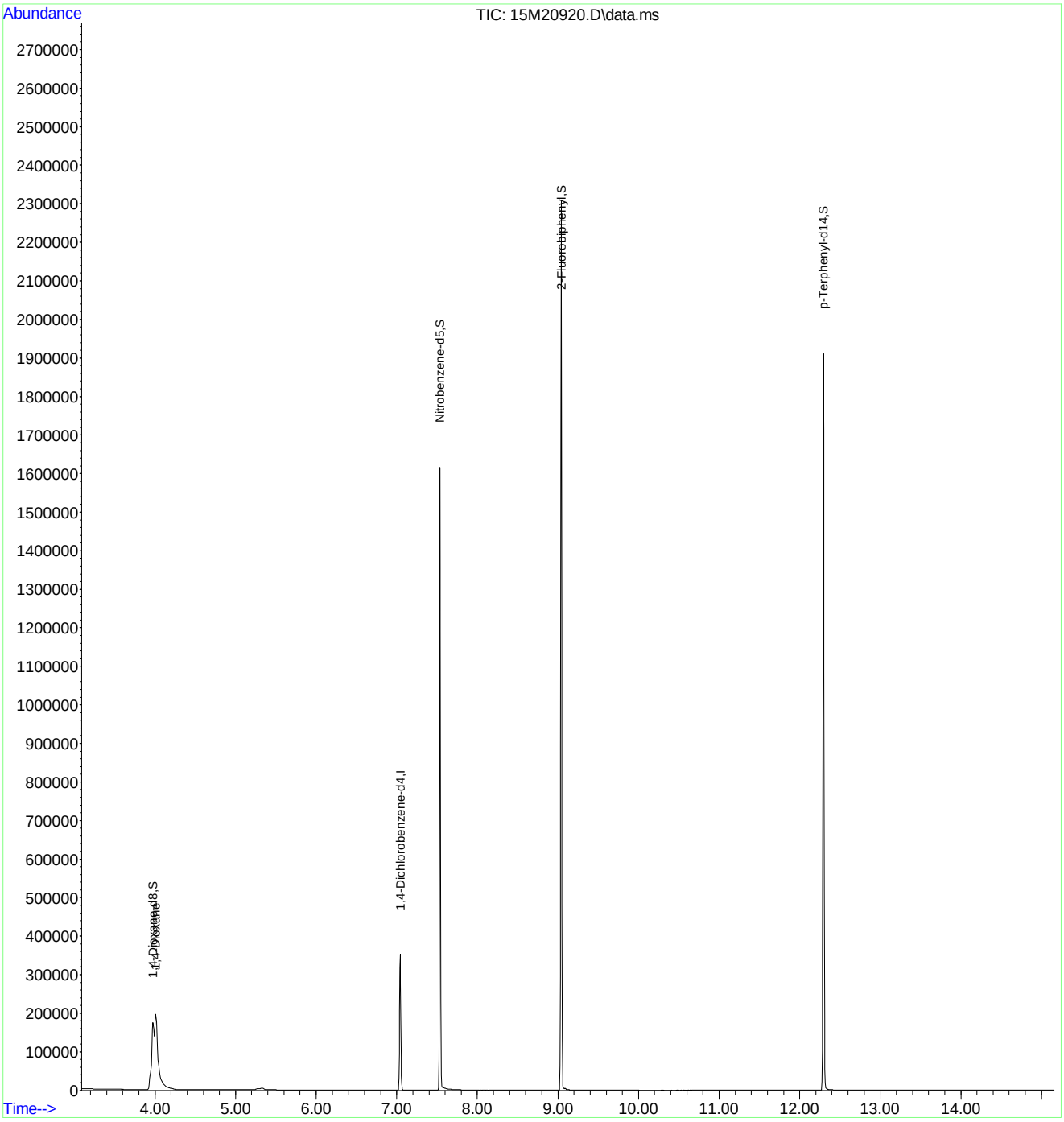
Quant Time: Mar 24 10:56:16 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	7.043	152	141237	1.0000 ug/mL	# 0.00
System Monitoring Compounds					
3) 1,4-Dioxane-d8	3.975	96	278951	5.0542 ug/L	0.00
Spiked Amount 5.000			Recovery	= 101.00%	
4) Nitrobenzene-d5	7.538	82	774713	5.1430 ug/L	0.00
Spiked Amount 5.000			Recovery	= 102.80%	
5) 2-Fluorobiphenyl	9.040	172	1524787	4.9254 ug/L	0.00
Spiked Amount 5.000			Recovery	= 98.60%	
6) p-Terphenyl-d14	12.294	244	1555607	4.8119 ug/L	0.00
Spiked Amount 5.000			Recovery	= 96.20%	
Target Compounds					Qvalue
2) 1,4-Dioxane	4.010	58	215449	5.0371 ug/L	98

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

Data Path : C:\msdchem\1\data\032417\
Data File : 15M20920.D
Acq On : 24 Mar 2017 10:34 am
Operator : SCB/LJH
Sample : WG607591-02 5PPM 1,4-DIOX STD
Misc : 1,1 STD80097
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 24 10:56:16 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\032417\
Data File : 15M20920.D
Acq On : 24 Mar 2017 10:34 am
Operator : SCB/LJH
Sample : WG607591-02 5PPM 1,4-DIOX STD
Misc : 1,1 STD80097
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 24 10:56:16 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	101	0.00
2		1,4-Dioxane	0.303	0.305	-0.7	102	0.00
3	S	1,4-Dioxane-d8	0.391	0.395	-1.0	102	0.00
4	S	Nitrobenzene-d5	1.067	1.097	-2.8	100	0.00
5	S	2-Fluorobiphenyl	2.192	2.159	1.5	99	0.00
6	S	p-Terphenyl-d14	2.289	2.203	3.8	97	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Data Path : C:\msdchem\1\data\032417\
Data File : 15M20920.D
Acq On : 24 Mar 2017 10:34 am
Operator : SCB/LJH
Sample : WG607591-02 5PPM 1,4-DIOX STD
Misc : 1,1 STD80097
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 24 10:56:16 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	101	0.00
2		1,4-Dioxane	5.000	5.037	-0.7	102	0.00
3	S	1,4-Dioxane-d8	5.000	5.054	-1.1	102	0.00
4	S	Nitrobenzene-d5	5.000	5.143	-2.9	100	0.00
5	S	2-Fluorobiphenyl	5.000	4.925	1.5	99	0.00
6	S	p-Terphenyl-d14	5.000	4.812	3.8	97	0.00

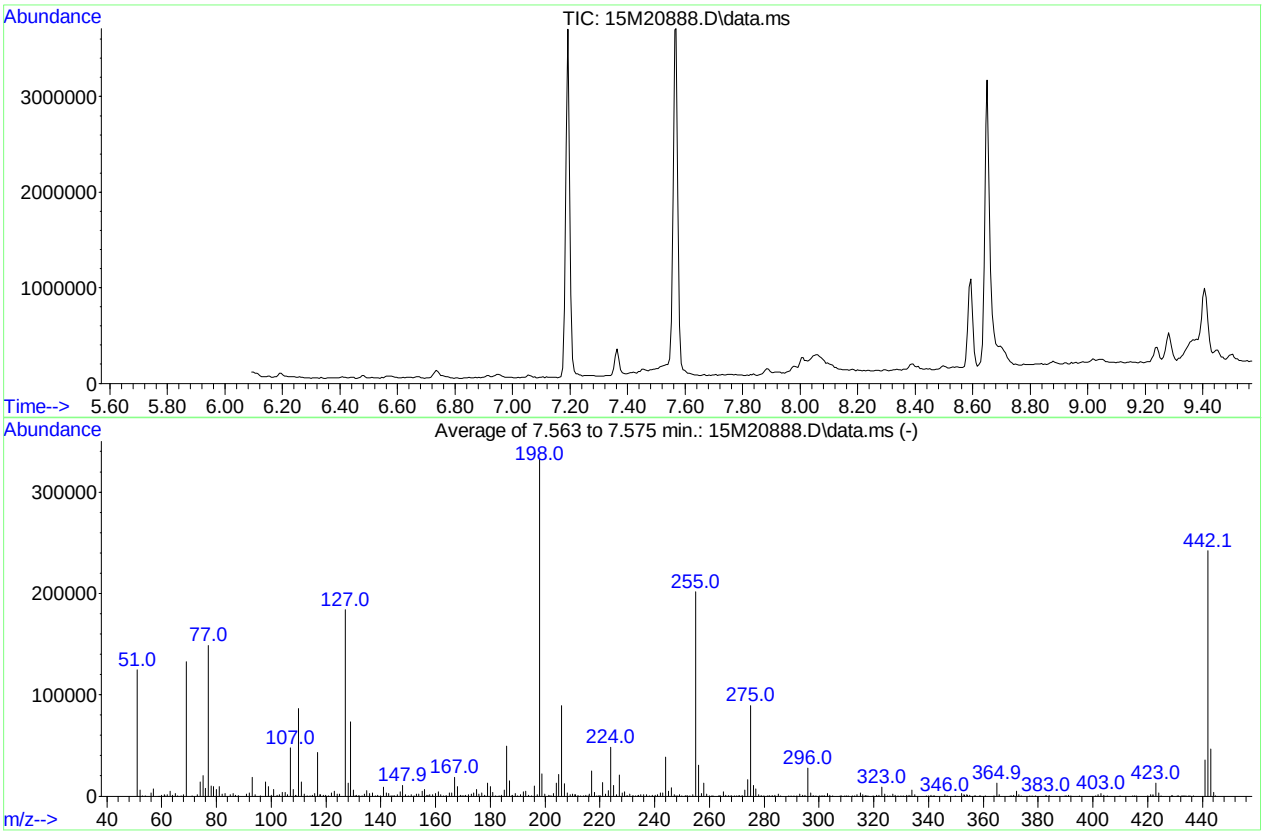
(#) = Out of Range SPCC's out = 0 CCC's out = 0

2.2.1.5 Raw QC Data

Data Path : C:\msdchem\1\data\032117\
Data File : 15M20888.D
Acq On : 21 Mar 2017 11:17 am
Operator : SCB
Sample : WG606959-01 5PPM LL DFTPP
Misc : 1,1 STD80383
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\DFTPPQ.M
Title : DFTPP
Last Update : Tue Sep 13 14:03:54 2016

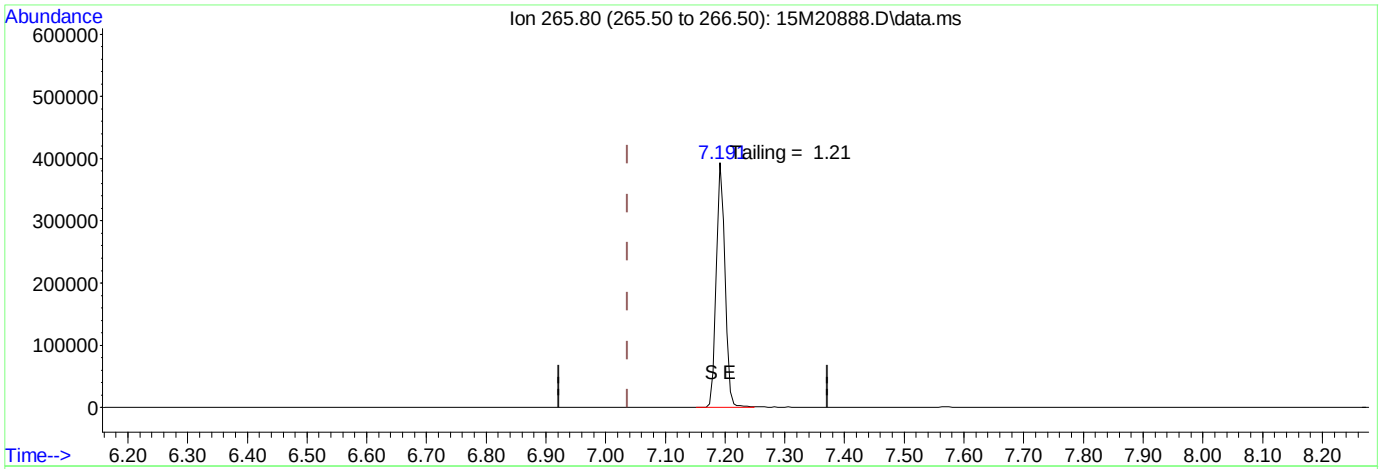


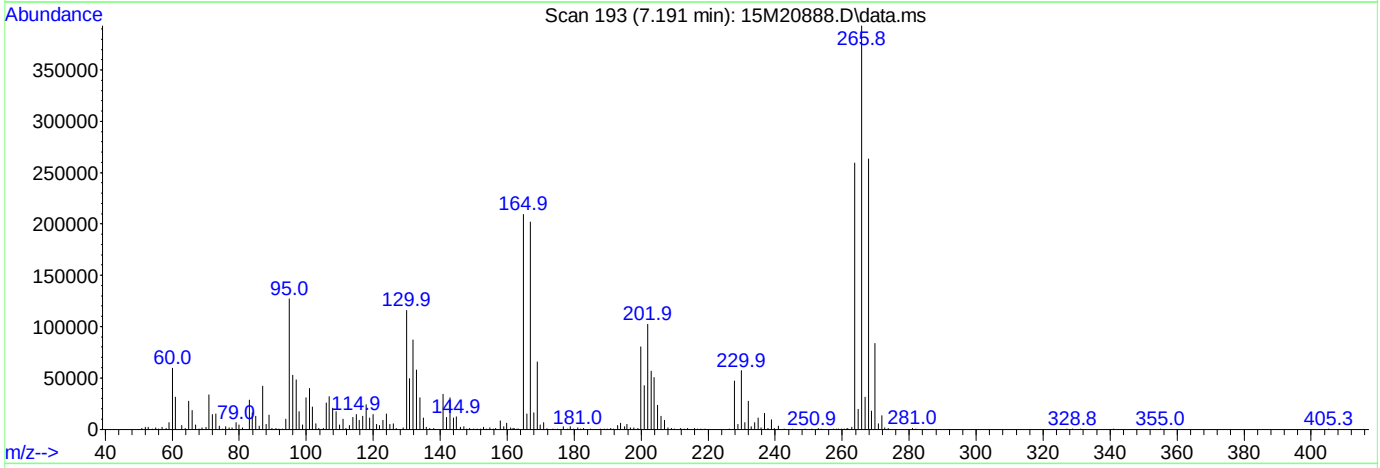
AutoFind: Scans 258, 259, 260; Background Corrected with Scan 252

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	37.4	124854	PASS
68	69	0.00	2	1.3	1708	PASS
69	198	0.00	100	39.8	132801	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	55.2	184234	PASS
197	198	0.00	1	0.4	1460	PASS
198	198	100	100	100.0	333568	PASS
199	198	5	9	6.7	22252	PASS
275	198	10	30	26.9	89573	PASS
365	198	1	100	3.8	12731	PASS
441	443	0.01	100	76.8	35691	PASS
442	198	40	100	72.5	241941	PASS
443	442	17	23	19.2	46461	PASS

Data Path : C:\msdchem\1\data\032117\
Data File : 15M20888.D
Acq On : 21 Mar 2017 11:17 am
Operator : SCB
Sample : WG606959-01 5PPM LL DFTPP
Misc : 1,1 STD80383
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 11:34:37 2017
Quant Method : C:\msdchem\1\methods\DFTPPQ.M
Quant Title : DFTPP
QLast Update : Tue Sep 13 14:03:54 2016
Response via : Initial Calibration





TIC: 15M20888.D\data.ms

(1) Pentachlorophenol

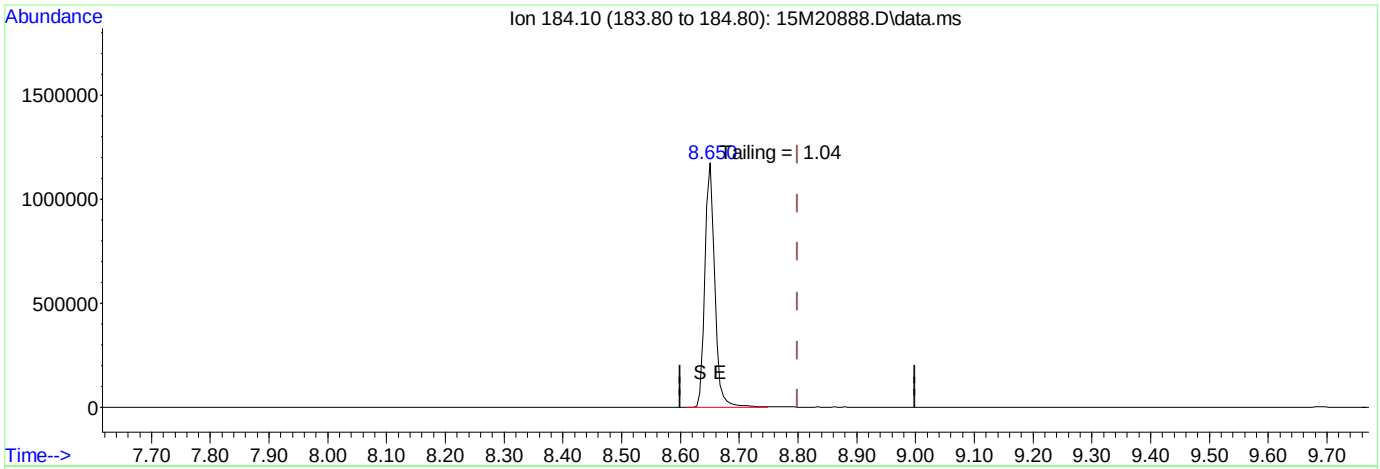
7.191min (+ 0.154) 0.00 ug/ml

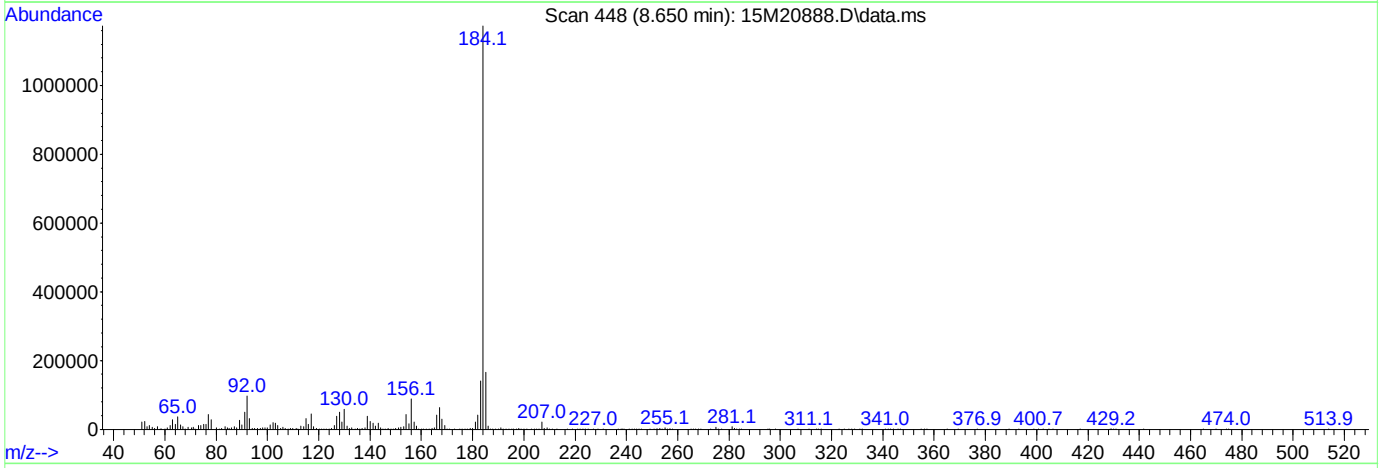
response 397953

Ion	Exp%	Act%
265.80	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : C:\msdchem\1\data\032117\
Data File : 15M20888.D
Acq On : 21 Mar 2017 11:17 am
Operator : SCB
Sample : WG606959-01 5PPM LL DFTPP
Misc : 1,1 STD80383
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 11:34:37 2017
Quant Method : C:\msdchem\1\methods\DFTPPQ.M
Quant Title : DFTPP
QLast Update : Tue Sep 13 14:03:54 2016
Response via : Initial Calibration





TIC: 15M20888.D\data.ms

(2) Benzidine

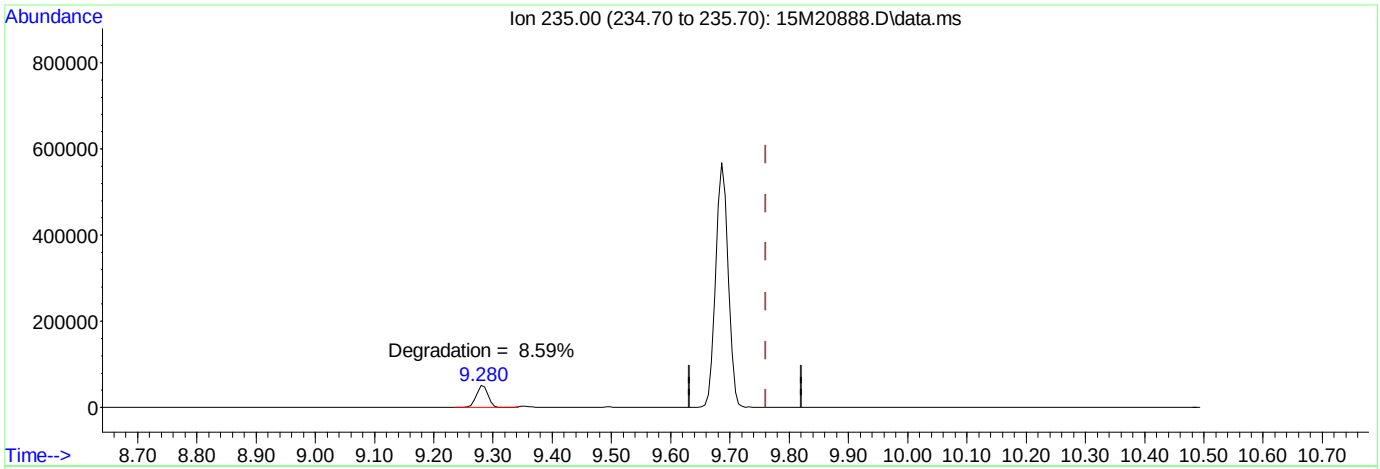
8.650min (-0.149) 0.00 ug/ml

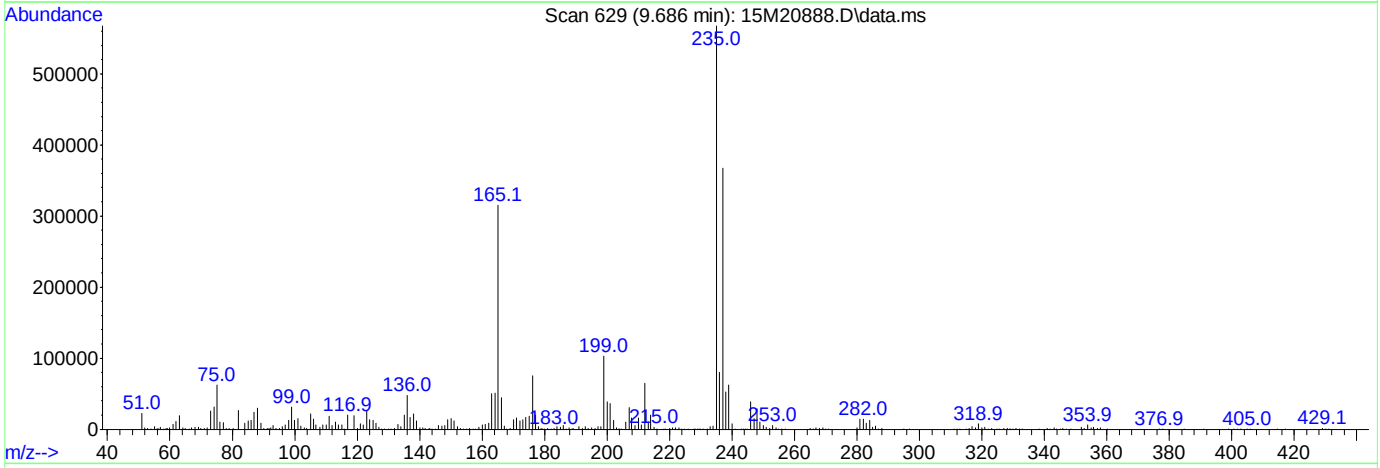
response 1362919

Ion	Exp%	Act%
184.10	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : C:\msdchem\1\data\032117\
Data File : 15M20888.D
Acq On : 21 Mar 2017 11:17 am
Operator : SCB
Sample : WG606959-01 5PPM LL DFTPP
Misc : 1,1 STD80383
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 11:34:37 2017
Quant Method : C:\msdchem\1\methods\DFTPPQ.M
Quant Title : DFTPP
QLast Update : Tue Sep 13 14:03:54 2016
Response via : Initial Calibration





TIC: 15M20888.D\data.ms

(3) DDT

9.686min (-0.074) 0.00 ug/ml

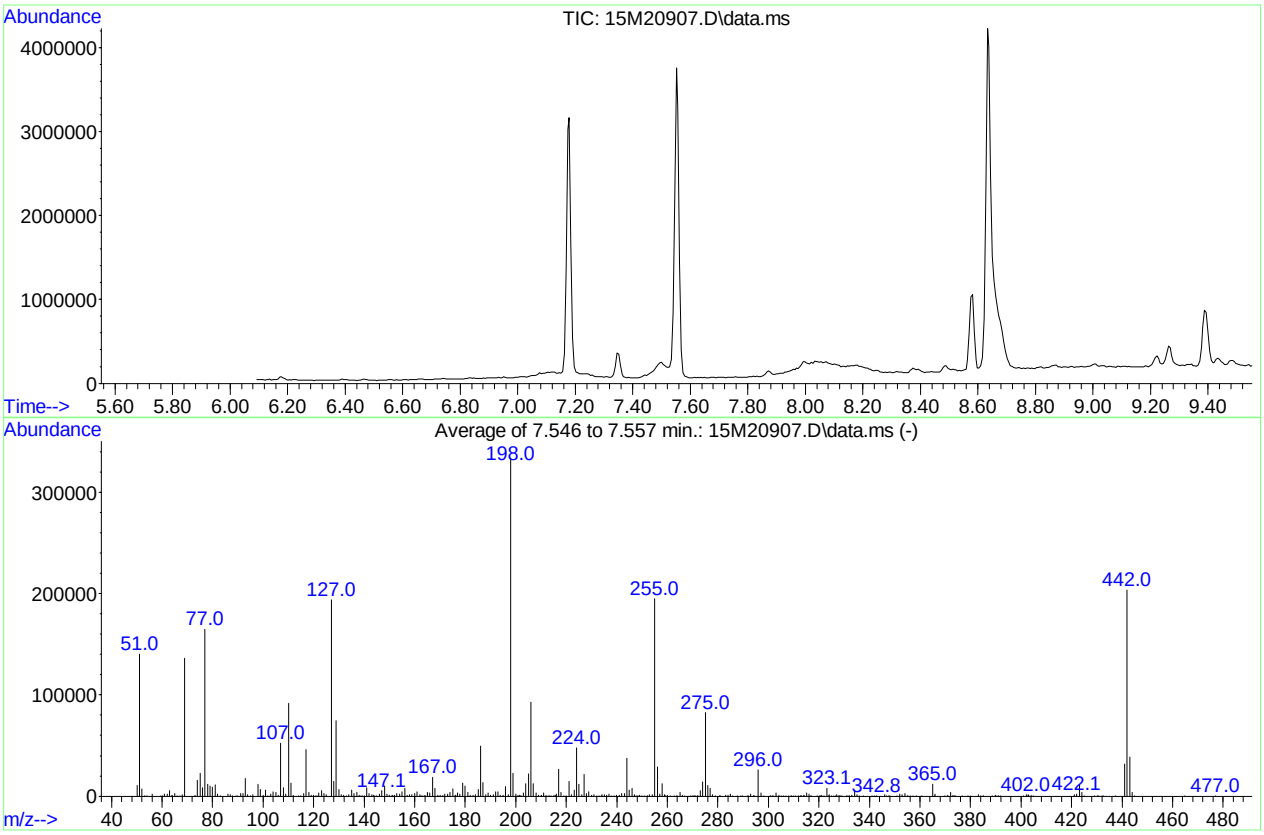
response 823625

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

Data Path : C:\msdchem\1\data\032317\
Data File : 15M20907.D
Acq On : 23 Mar 2017 11:46 am
Operator : SCB/LJH
Sample : WG607414-01 5PPM LL DFTPP
Misc : 1,1 STD80383
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\DFTPPQ.M
Title : DFTPP
Last Update : Tue Sep 13 14:03:54 2016

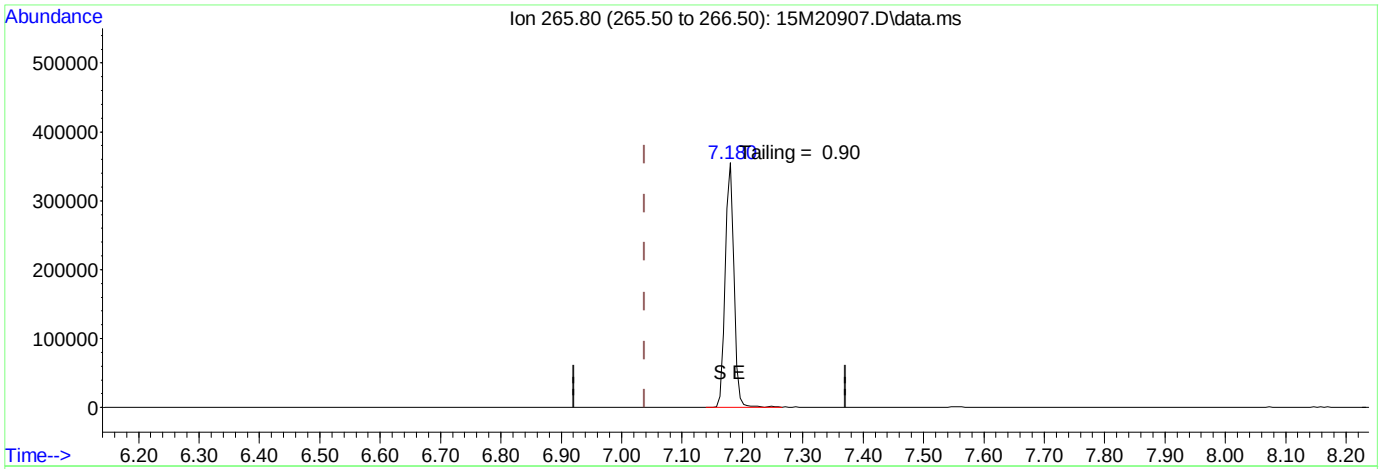


AutoFind: Scans 255, 256, 257; Background Corrected with Scan 249

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	42.1	140455	PASS
68	69	0.00	2	1.0	1388	PASS
69	198	0.00	100	40.8	136439	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	58.0	193767	PASS
197	198	0.00	1	0.4	1456	PASS
198	198	100	100	100.0	334011	PASS
199	198	5	9	6.7	22346	PASS
275	198	10	30	24.8	82808	PASS
365	198	1	100	3.5	11733	PASS
441	443	0.01	100	82.6	31644	PASS
442	198	40	100	60.9	203371	PASS
443	442	17	23	18.8	38293	PASS

Data Path : C:\msdchem\1\data\032317\
Data File : 15M20907.D
Acq On : 23 Mar 2017 11:46 am
Operator : SCB/LJH
Sample : WG607414-01 5PPM LL DFTPP
Misc : 1,1 STD80383
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 23 11:57:27 2017
Quant Method : C:\msdchem\1\methods\DFTPPQ.M
Quant Title : DFTPP
QLast Update : Tue Sep 13 14:03:54 2016
Response via : Initial Calibration



TIC: 15M20907.D\data.ms

(1) Pentachlorophenol

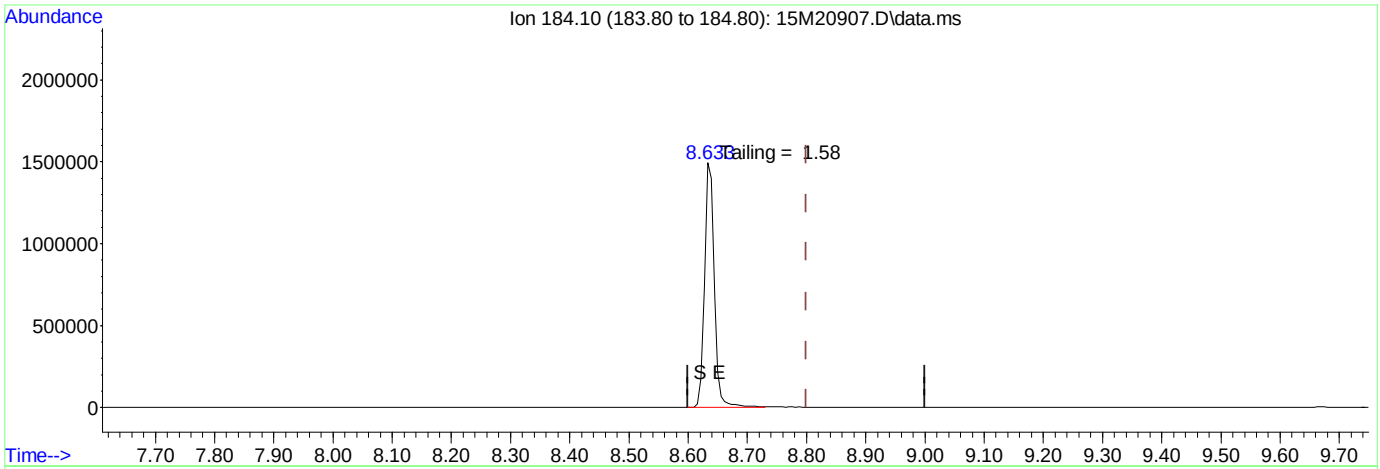
7.180min (+ 0.143) 0.00 ug/ml

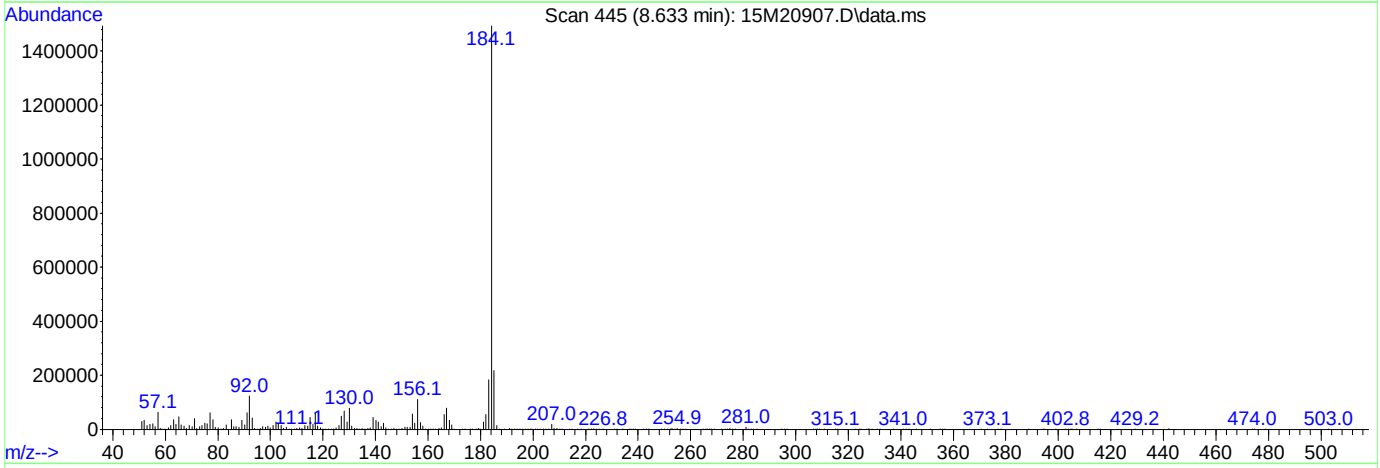
response 364341

Ion	Exp%	Act%
265.80	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : C:\msdchem\1\data\032317\
Data File : 15M20907.D
Acq On : 23 Mar 2017 11:46 am
Operator : SCB/LJH
Sample : WG607414-01 5PPM LL DFTPP
Misc : 1,1 STD80383
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 23 11:57:27 2017
Quant Method : C:\msdchem\1\methods\DFTPPQ.M
Quant Title : DFTPP
QLast Update : Tue Sep 13 14:03:54 2016
Response via : Initial Calibration





TIC: 15M20907.D\data.ms

(2) Benzidine

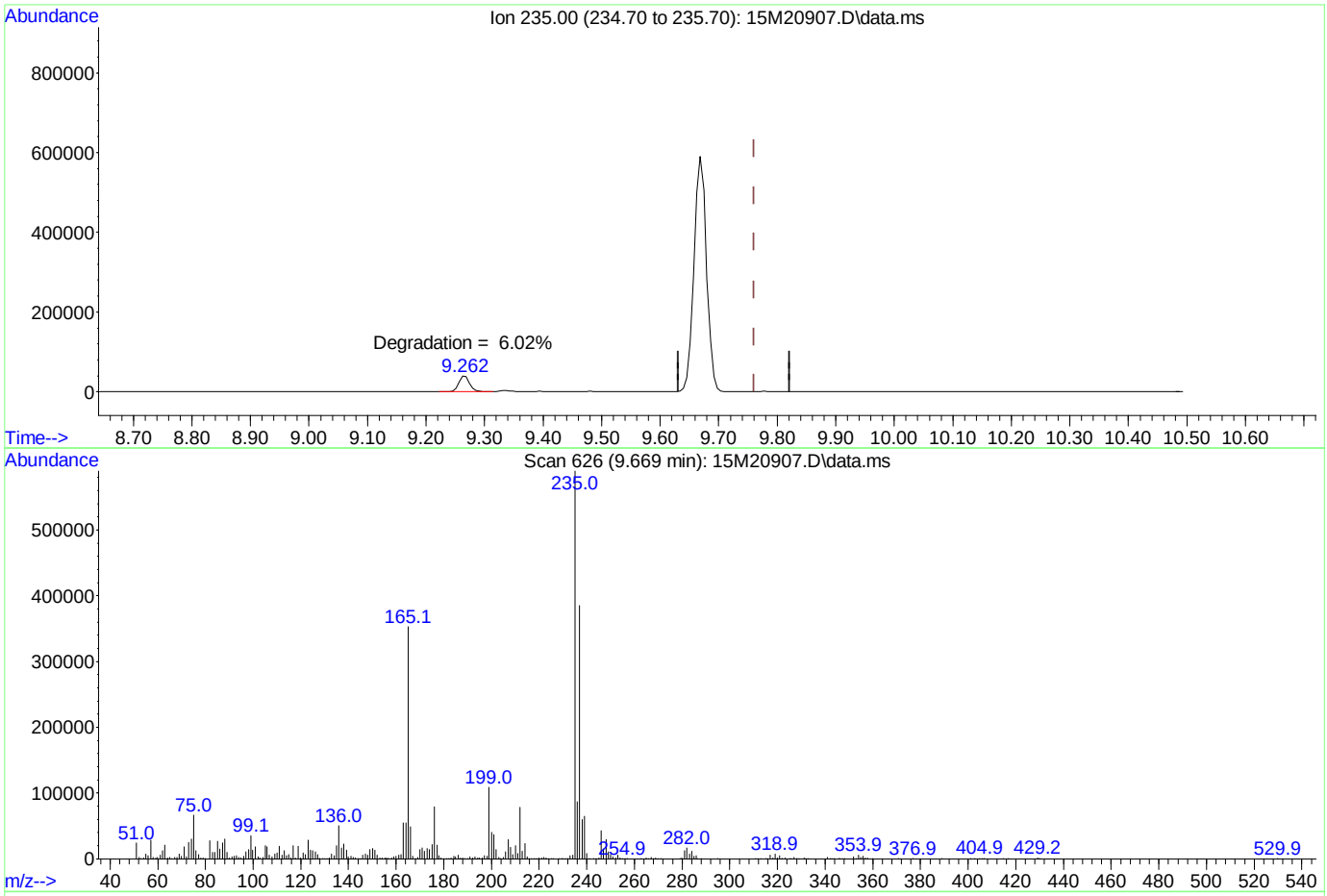
8.633min (-0.166) 0.00 ug/ml

response 1690003

Ion	Exp%	Act%
184.10	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : C:\msdchem\1\data\032317\
Data File : 15M20907.D
Acq On : 23 Mar 2017 11:46 am
Operator : SCB/LJH
Sample : WG607414-01 5PPM LL DFTPP
Misc : 1,1 STD80383
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 23 11:57:27 2017
Quant Method : C:\msdchem\1\methods\DFTPPQ.M
Quant Title : DFTPP
QLast Update : Tue Sep 13 14:03:54 2016
Response via : Initial Calibration



TIC: 15M20907.D\data.ms

(3) DDT

9.669min (-0.091) 0.00 ug/ml

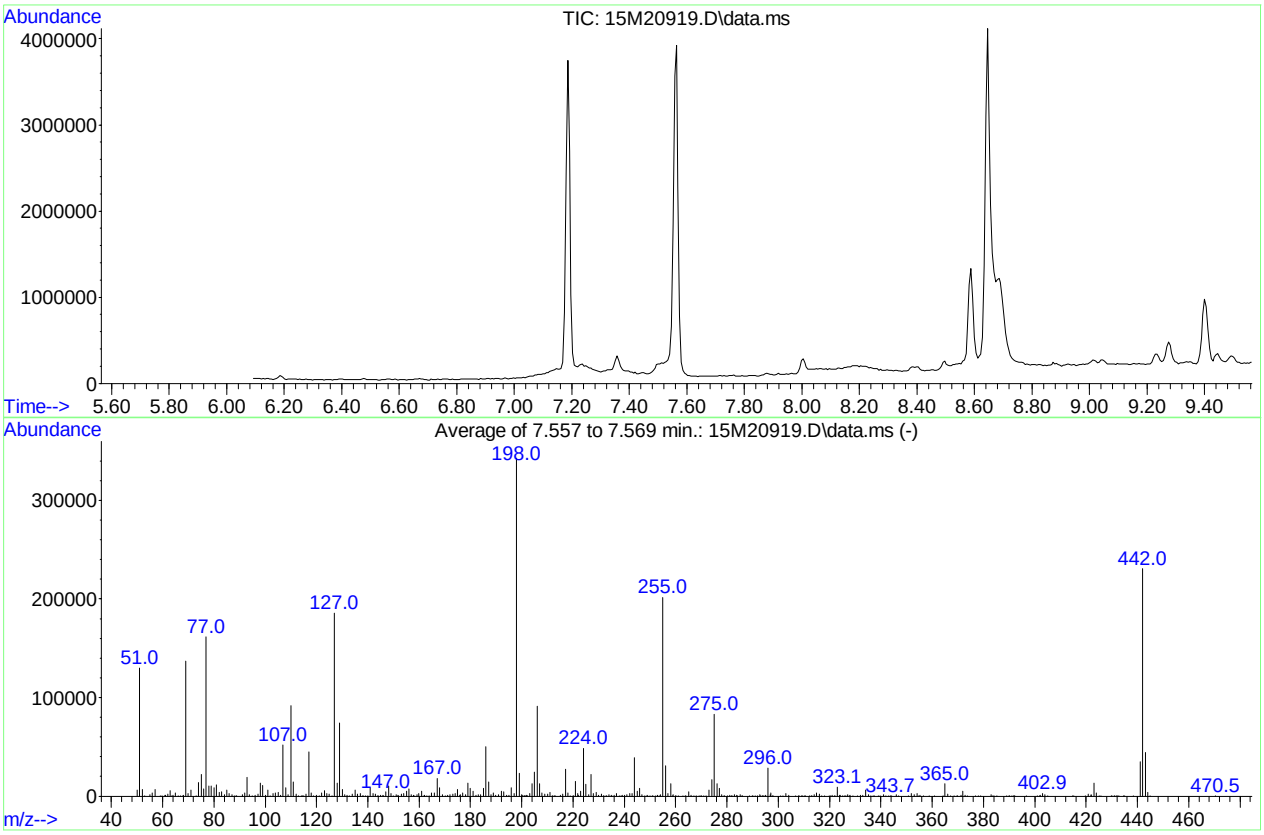
response 855946

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

Data Path : C:\msdchem\1\data\032417\
Data File : 15M20919.D
Acq On : 24 Mar 2017 10:17 am
Operator : SCB/LJH
Sample : WG607591-01 5PPM LL DFTPP
Misc : 1,1 STD80383
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\DFTPPQ.M
Title : DFTPP
Last Update : Tue Sep 13 14:03:54 2016

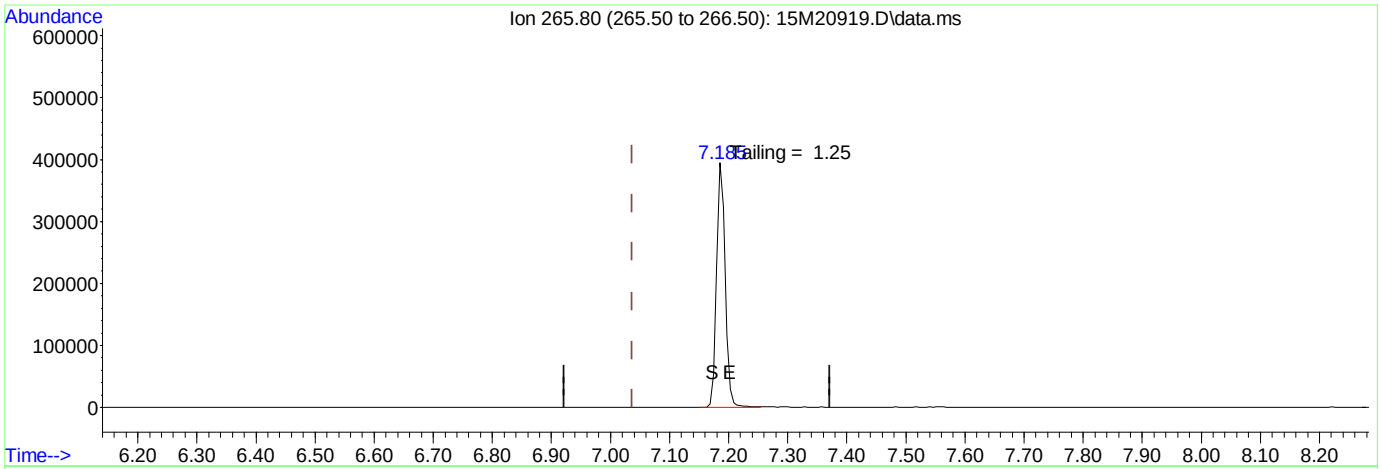


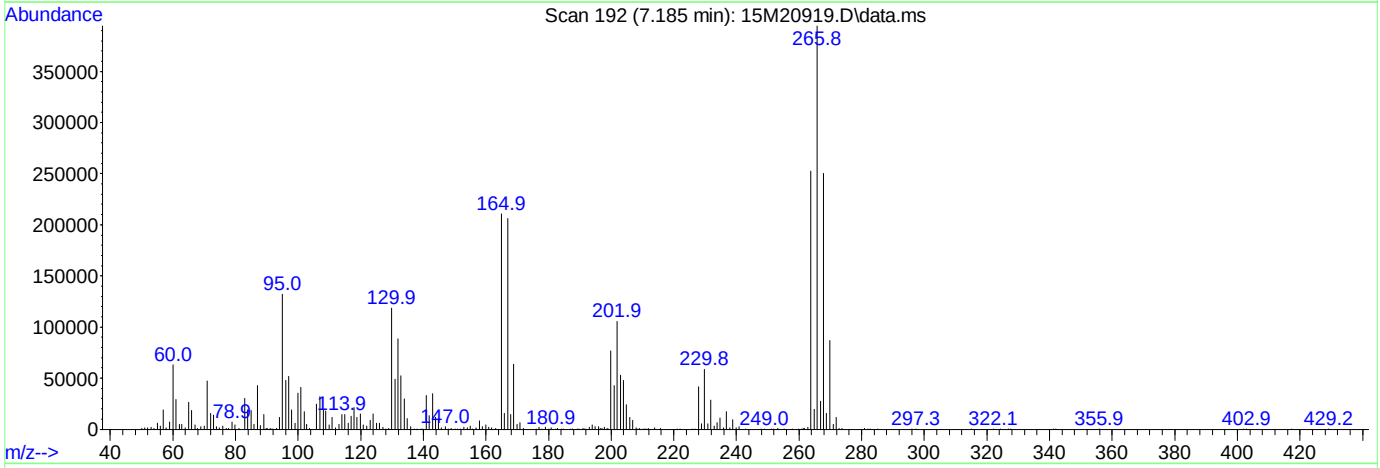
AutoFind: Scans 257, 258, 259; Background Corrected with Scan 248

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	37.9	130083	PASS
68	69	0.00	2	0.6	809	PASS
69	198	0.00	100	39.9	136859	PASS
70	69	0.00	2	1.9	2641	PASS
127	198	40	60	54.2	185885	PASS
197	198	0.00	1	0.8	2622	PASS
198	198	100	100	100.0	342848	PASS
199	198	5	9	6.7	22924	PASS
275	198	10	30	24.2	83115	PASS
365	198	1	100	3.7	12786	PASS
441	443	0.01	100	79.2	35093	PASS
442	198	40	100	67.3	230891	PASS
443	442	17	23	19.2	44291	PASS

Data Path : C:\msdchem\1\data\032417\
Data File : 15M20919.D
Acq On : 24 Mar 2017 10:17 am
Operator : SCB/LJH
Sample : WG607591-01 5PPM LL DFTPP
Misc : 1,1 STD80383
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 24 10:30:21 2017
Quant Method : C:\msdchem\1\methods\DFTPPQ.M
Quant Title : DFTPP
QLast Update : Tue Sep 13 14:03:54 2016
Response via : Initial Calibration





TIC: 15M20919.D\data.ms

(1) Pentachlorophenol

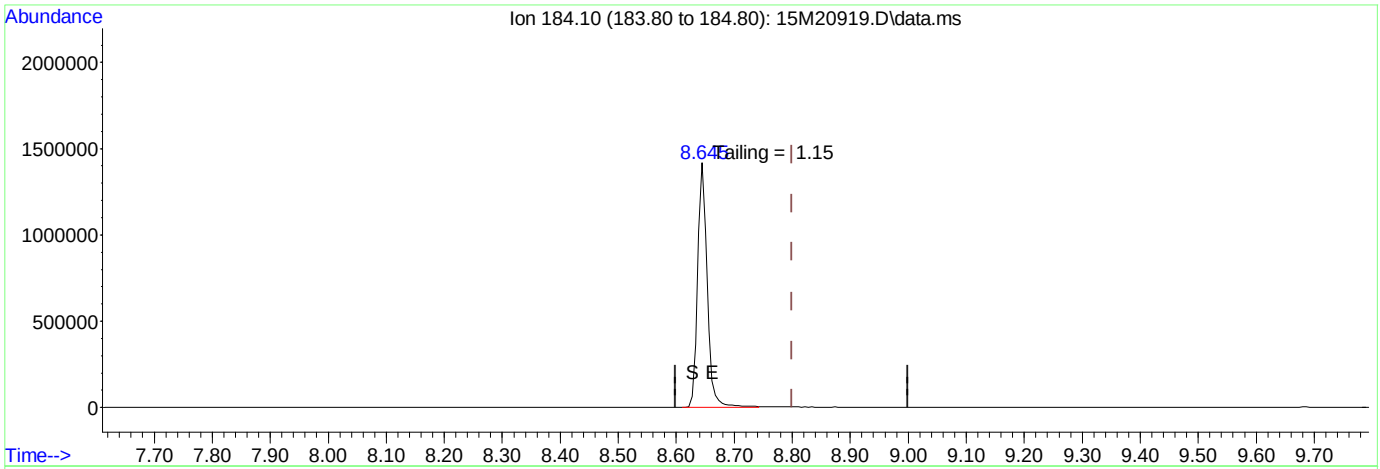
7.185min (+ 0.148) 0.00 ug/ml

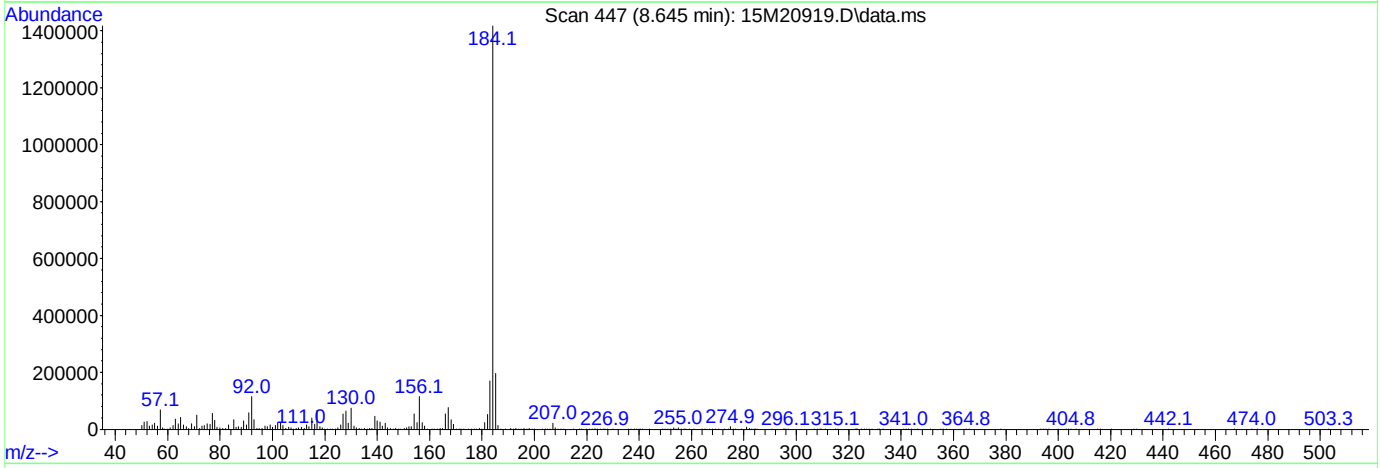
response 402529

Ion	Exp%	Act%
265.80	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : C:\msdchem\1\data\032417\
Data File : 15M20919.D
Acq On : 24 Mar 2017 10:17 am
Operator : SCB/LJH
Sample : WG607591-01 5PPM LL DFTPP
Misc : 1,1 STD80383
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 24 10:30:21 2017
Quant Method : C:\msdchem\1\methods\DFTPPQ.M
Quant Title : DFTPP
QLast Update : Tue Sep 13 14:03:54 2016
Response via : Initial Calibration





TIC: 15M20919.D\data.ms

(2) Benzidine

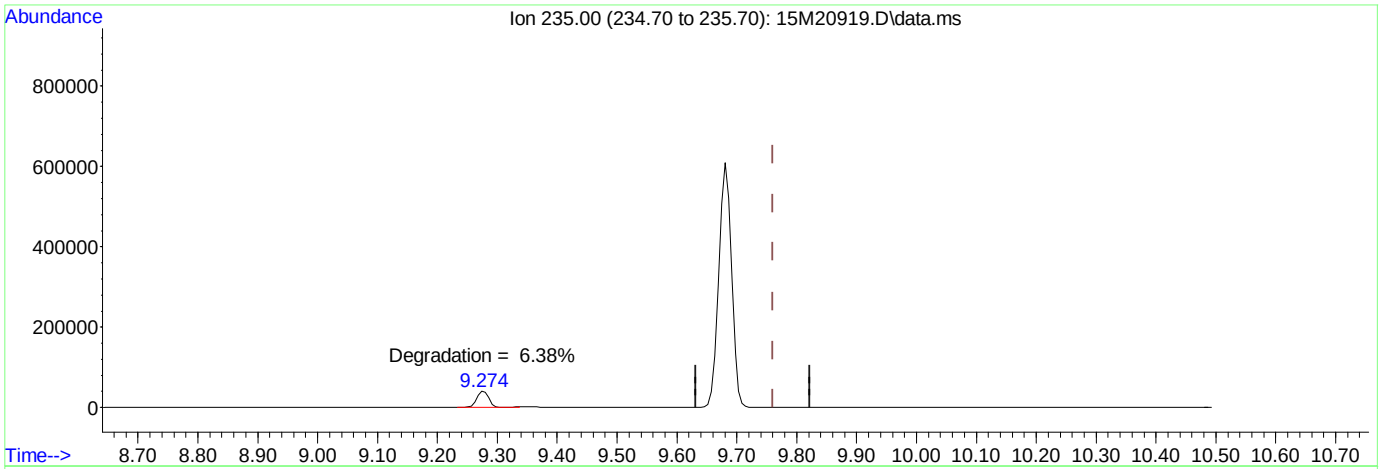
8.645min (-0.154) 0.00 ug/ml

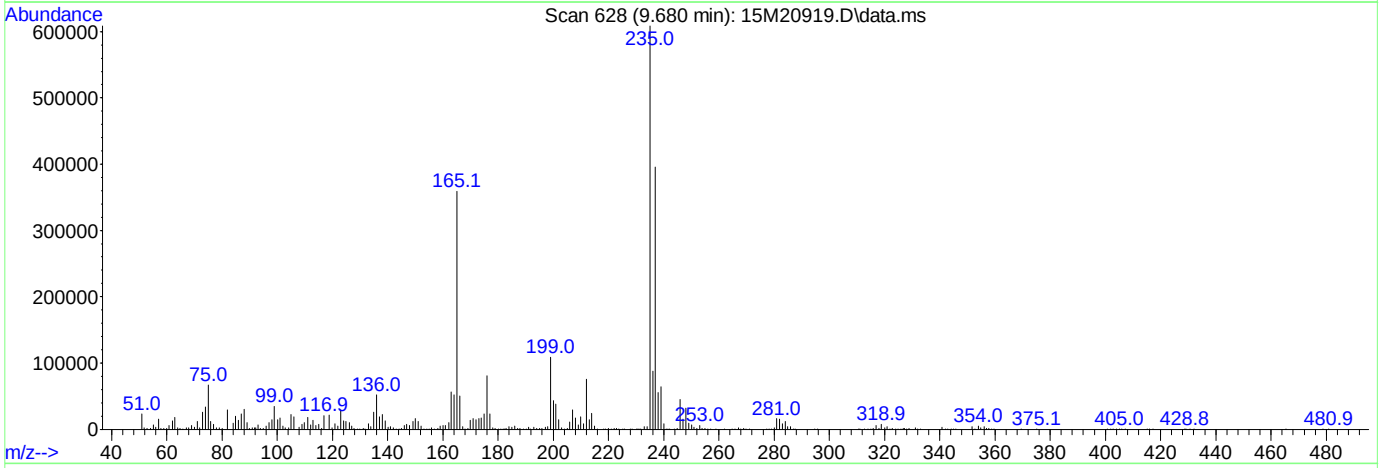
response 1635386

Ion	Exp%	Act%
184.10	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : C:\msdchem\1\data\032417\
Data File : 15M20919.D
Acq On : 24 Mar 2017 10:17 am
Operator : SCB/LJH
Sample : WG607591-01 5PPM LL DFTPP
Misc : 1,1 STD80383
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 24 10:30:21 2017
Quant Method : C:\msdchem\1\methods\DFTPPQ.M
Quant Title : DFTPP
QLast Update : Tue Sep 13 14:03:54 2016
Response via : Initial Calibration





TIC: 15M20919.D\data.ms

(3) DDT

9.680min (-0.080) 0.00 ug/ml

response 899204

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

Data Path : C:\msdchem\1\data\032117\
Data File : 15M20896.D
Acq On : 21 Mar 2017 2:14 pm
Operator : SCB
Sample : WG606465-01 BLANK 3/16
Misc : 1,1
ALS Vial : 9 Sample Multiplier: 1

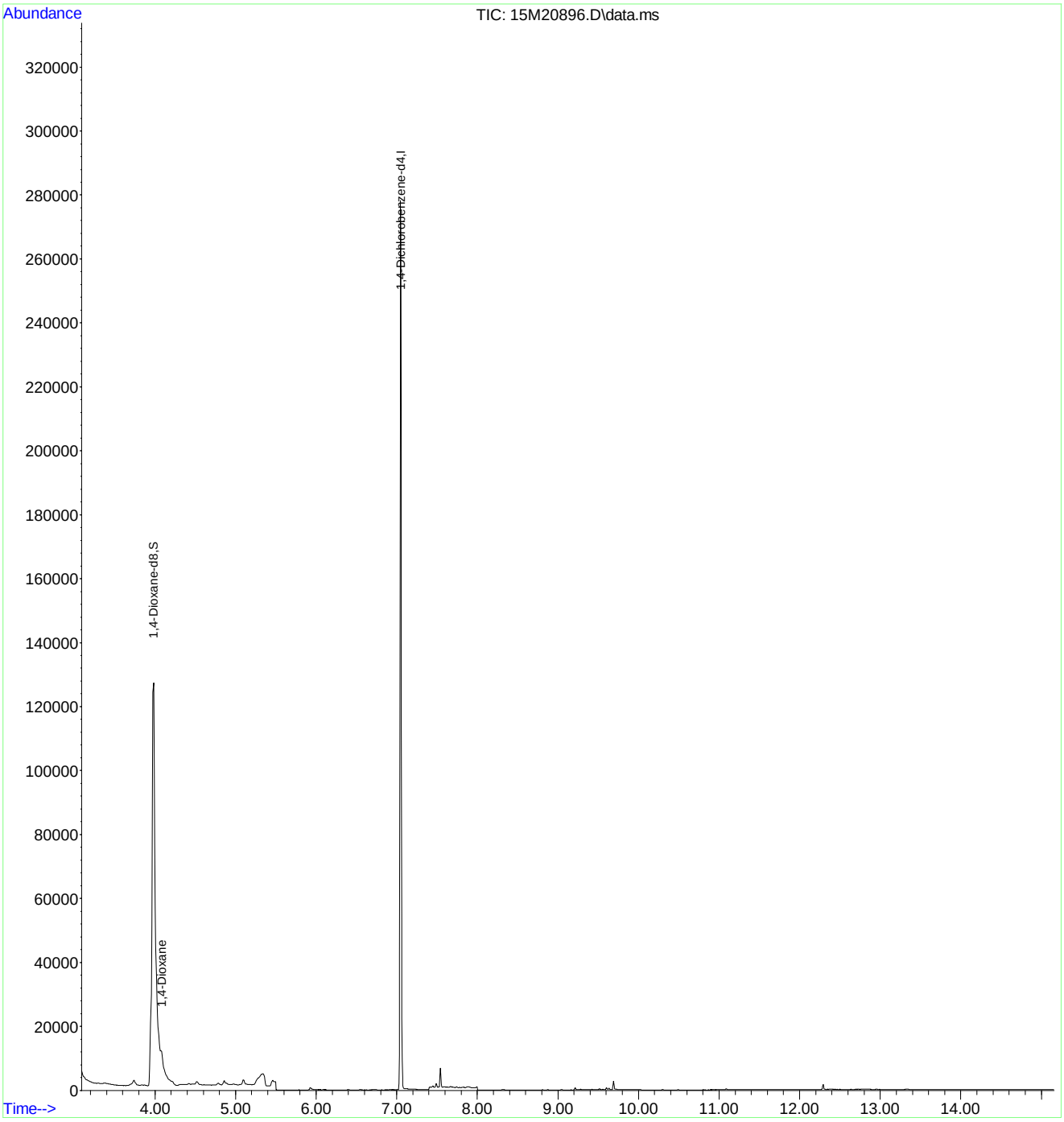
Quant Time: Mar 21 15:32:29 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

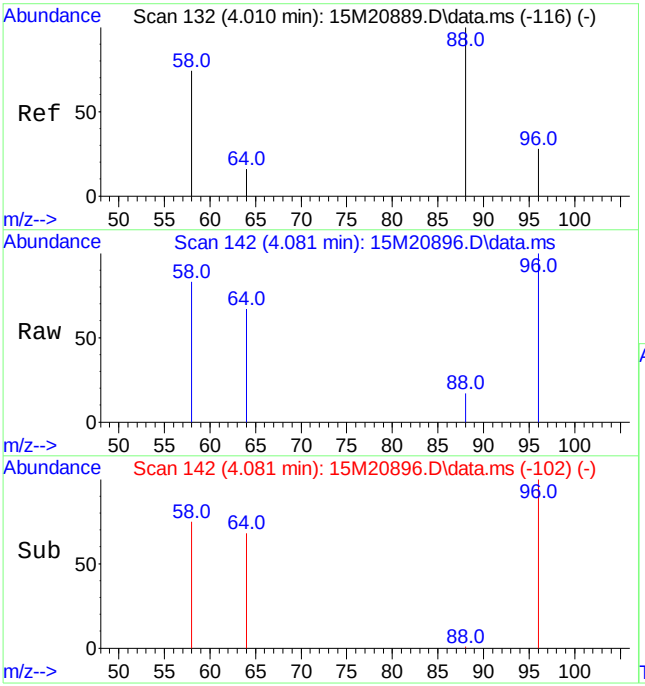
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	7.051	152	114953	1.0000	ug/mL	# 0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.982	96	242423	5.3966	ug/L	0.00
Spiked Amount 5.000			Recovery = 108.00%			
4) Nitrobenzene-d5	7.544	82	3247	0.0265	ug/L	0.00
Spiked Amount 5.000			Recovery = 0.60%			
5) 2-Fluorobiphenyl	9.048	172	96	0.0004	ug/L	0.00
Spiked Amount 5.000			Recovery = 0.00%			
6) p-Terphenyl-d14	12.291	244	1307	0.0050	ug/L	0.00
Spiked Amount 5.000			Recovery = 0.00%			
Target Compounds						Qvalue
2) 1,4-Dioxane	4.081	58	14663	0.4212	ug/L #	1

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

Data Path : C:\msdchem\1\data\032117\
Data File : 15M20896.D
Acq On : 21 Mar 2017 2:14 pm
Operator : SCB
Sample : WG606465-01 BLANK 3/16
Misc : 1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 21 15:32:29 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

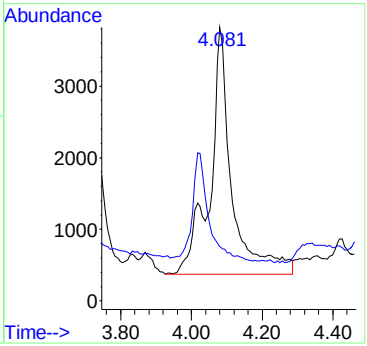




#2
1,4-Dioxane
Concen: 0.42 ug/L
RT: 4.081 min Scan# 142
Delta R.T. 0.071 min
Lab File: 15M20896.D
Acq: 21 Mar 2017 2:14 pm

Tgt Ion: 58 Resp: 14663

Ion	Ratio	Lower	Upper
58	100		
88	0.0	118.2	177.2#



Data Path : C:\msdchem\1\data\032317\
Data File : 15M20909.D
Acq On : 23 Mar 2017 12:26 pm
Operator : SCB/LJH
Sample : WG607133-01 BLANK
Misc : 1,1
ALS Vial : 3 Sample Multiplier: 1

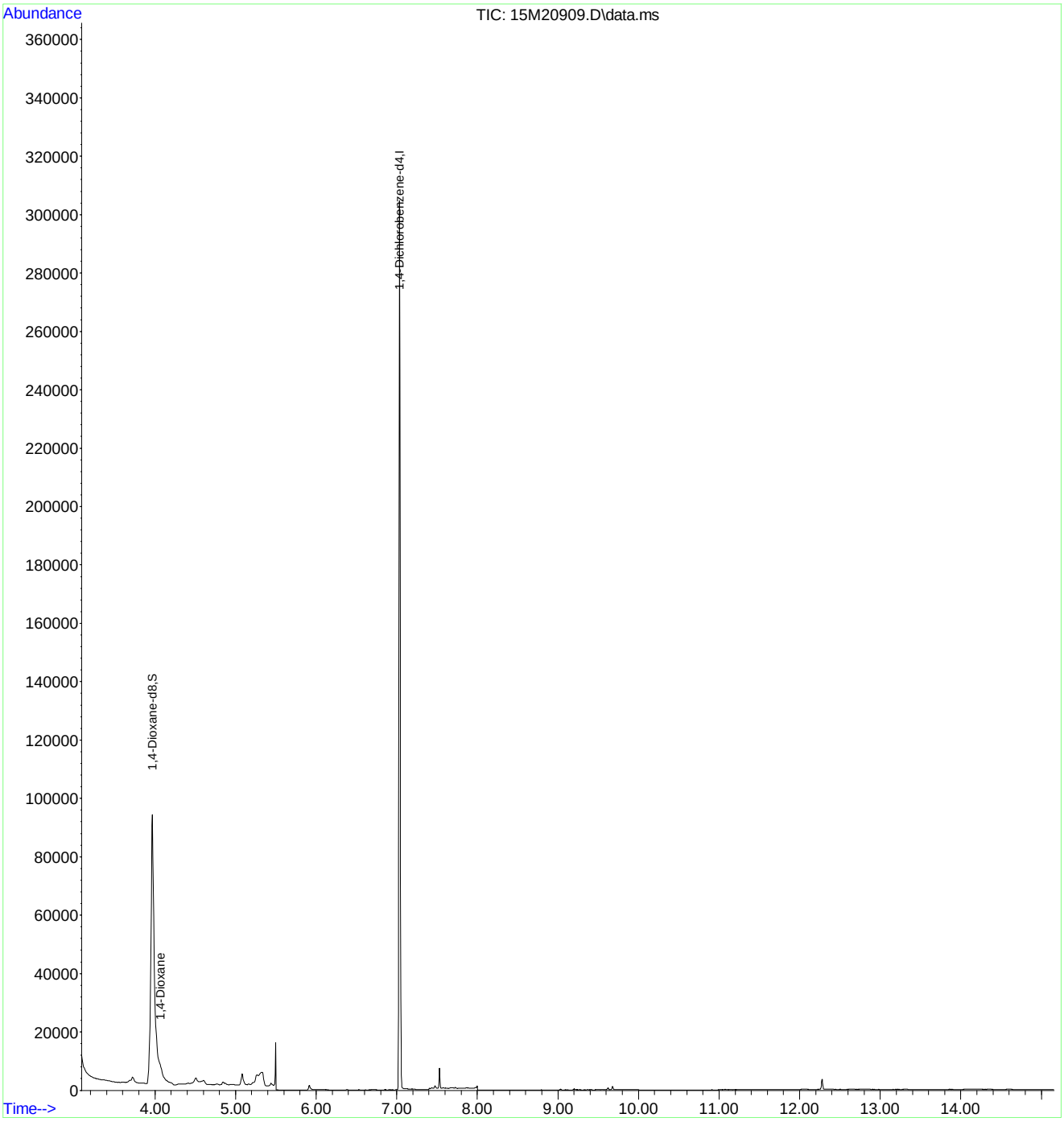
Quant Time: Mar 24 08:36:34 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

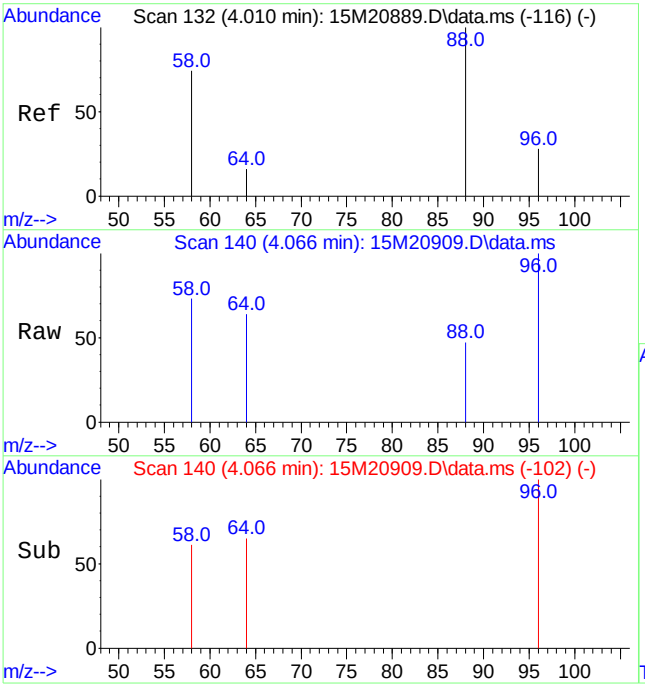
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	7.036	152	121321	1.0000	ug/mL	#-0.02
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.968	96	173543	3.6605	ug/L	0.00
Spiked Amount 5.000			Recovery = 73.20%			
4) Nitrobenzene-d5	7.533	82	4076	0.0315	ug/L	-0.01
Spiked Amount 5.000			Recovery = 0.60%			
5) 2-Fluorobiphenyl	9.033	172	217	0.0008	ug/L	-0.02
Spiked Amount 5.000			Recovery = 0.00%			
6) p-Terphenyl-d14	12.276	244	3024	0.0109	ug/L	-0.02
Spiked Amount 5.000			Recovery = 0.20%			
Target Compounds						Qvalue
2) 1,4-Dioxane	4.066	58	8866	0.2413	ug/L #	1

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

Data Path : C:\msdchem\1\data\032317\
Data File : 15M20909.D
Acq On : 23 Mar 2017 12:26 pm
Operator : SCB/LJH
Sample : WG607133-01 BLANK
Misc : 1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 24 08:36:34 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

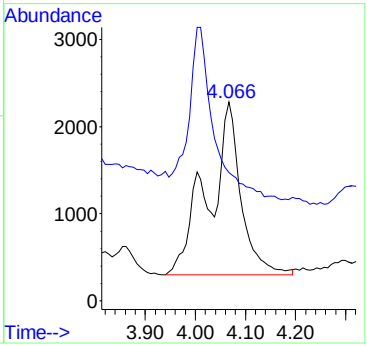




#2
1,4-Dioxane
Concen: 0.24 ug/L
RT: 4.066 min Scan# 140
Delta R.T. 0.056 min
Lab File: 15M20909.D
Acq: 23 Mar 2017 12:26 pm

Tgt Ion: 58 Resp: 8866

Ion	Ratio	Lower	Upper
58	100		
88	0.0	118.2	177.2#



Data Path : C:\msdchem\1\data\032117\
Data File : 15M20897.D
Acq On : 21 Mar 2017 2:37 pm
Operator : SCB
Sample : WG606465-02 LCS 3/16
Misc : 1,1
ALS Vial : 10 Sample Multiplier: 1

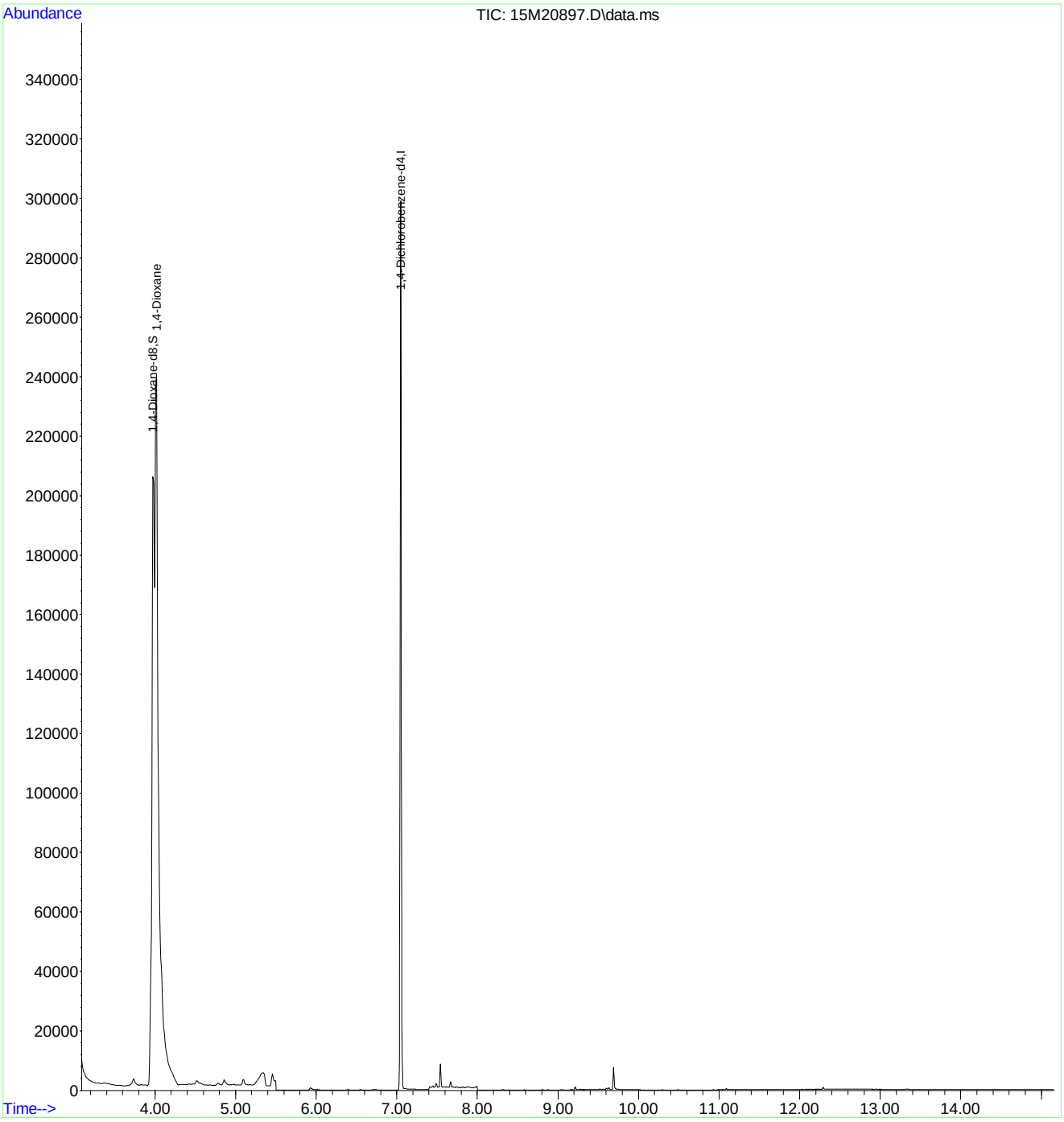
Quant Time: Mar 21 15:32:42 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	7.051	152	120969	1.0000	ug/mL	# 0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.975	96	360182	7.6193	ug/L	0.00
Spiked Amount 5.000			Recovery = 152.40%			
4) Nitrobenzene-d5	7.544	82	4157	0.0322	ug/L	0.00
Spiked Amount 5.000			Recovery = 0.60%			
5) 2-Fluorobiphenyl	8.808	172	87	0.0003	ug/L	-0.24
Spiked Amount 5.000			Recovery = 0.00%			
6) p-Terphenyl-d14	12.291	244	681	0.0025	ug/L	0.00
Spiked Amount 5.000			Recovery = 0.00%			
Target Compounds						Qvalue
2) 1,4-Dioxane	4.017	58	260648	7.1148	ug/L	93

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

Data Path : C:\msdchem\1\data\032117\
Data File : 15M20897.D
Acq On : 21 Mar 2017 2:37 pm
Operator : SCB
Sample : WG606465-02 LCS 3/16
Misc : 1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 21 15:32:42 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\032317\
Data File : 15M20910.D
Acq On : 23 Mar 2017 12:49 pm
Operator : SCB/LJH
Sample : WG607133-02 LCS
Misc : 1,1
ALS Vial : 4 Sample Multiplier: 1

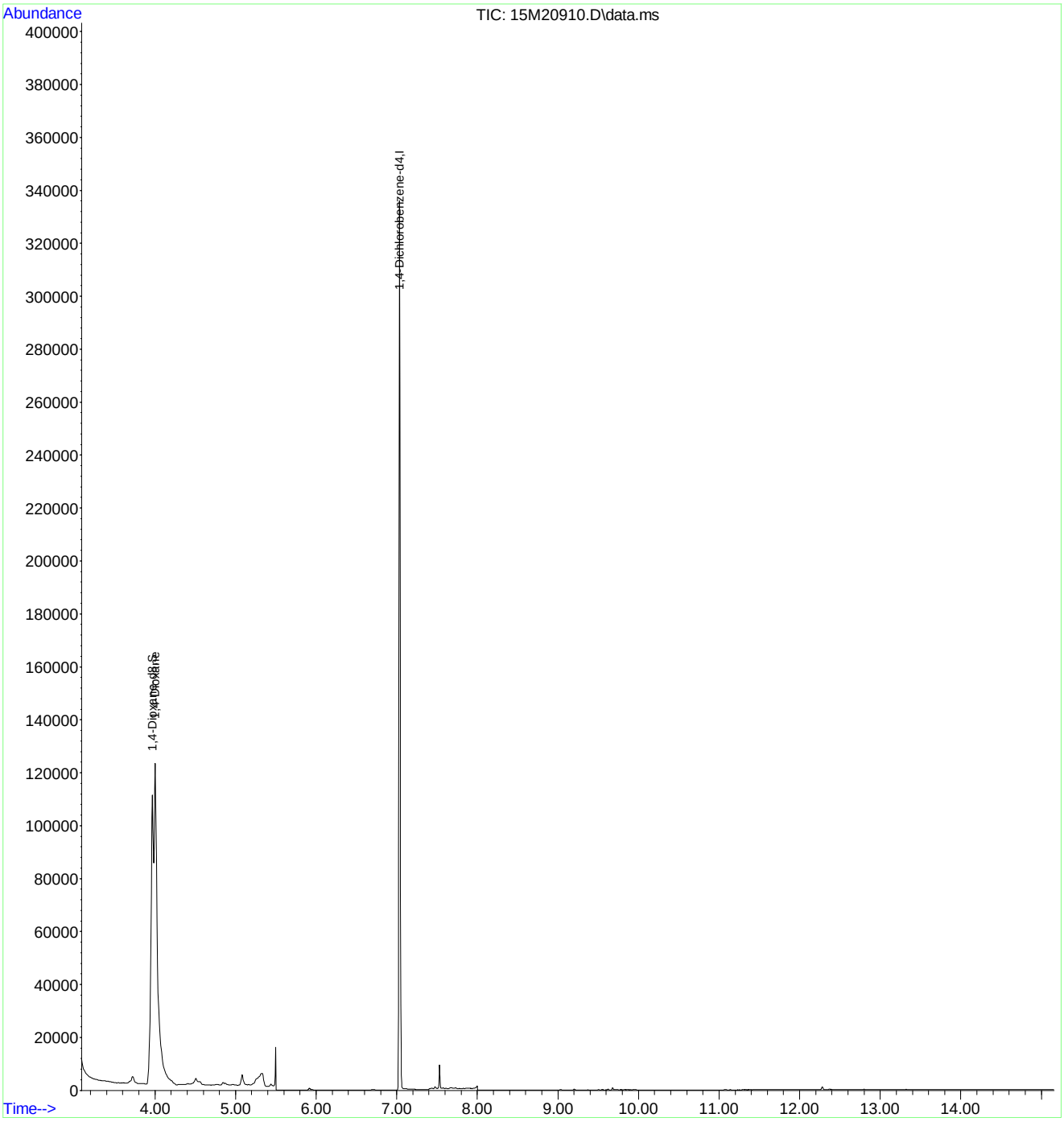
Quant Time: Mar 24 08:36:53 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	7.036	152	133393	1.0000	ug/mL	#-0.02
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.968	96	178457	3.4235	ug/L	0.00
Spiked Amount 5.000			Recovery = 68.40%			
4) Nitrobenzene-d5	7.533	82	5292	0.0372	ug/L	-0.01
Spiked Amount 5.000			Recovery = 0.80%			
5) 2-Fluorobiphenyl	8.797	172	31	0.0001	ug/L	-0.25
Spiked Amount 5.000			Recovery = 0.00%			
6) p-Terphenyl-d14	12.280	244	900	0.0029	ug/L	-0.02
Spiked Amount 5.000			Recovery = 0.00%			
Target Compounds						Qvalue
2) 1,4-Dioxane	4.003	58	127315	3.1516	ug/L	97

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

Data Path : C:\msdchem\1\data\032317\
Data File : 15M20910.D
Acq On : 23 Mar 2017 12:49 pm
Operator : SCB/LJH
Sample : WG607133-02 LCS
Misc : 1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 24 08:36:53 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\032117\
Data File : 15M20898.D
Acq On : 21 Mar 2017 3:00 pm
Operator : SCB
Sample : WG606465-03 LCS2 3/16
Misc : 1,1
ALS Vial : 11 Sample Multiplier: 1

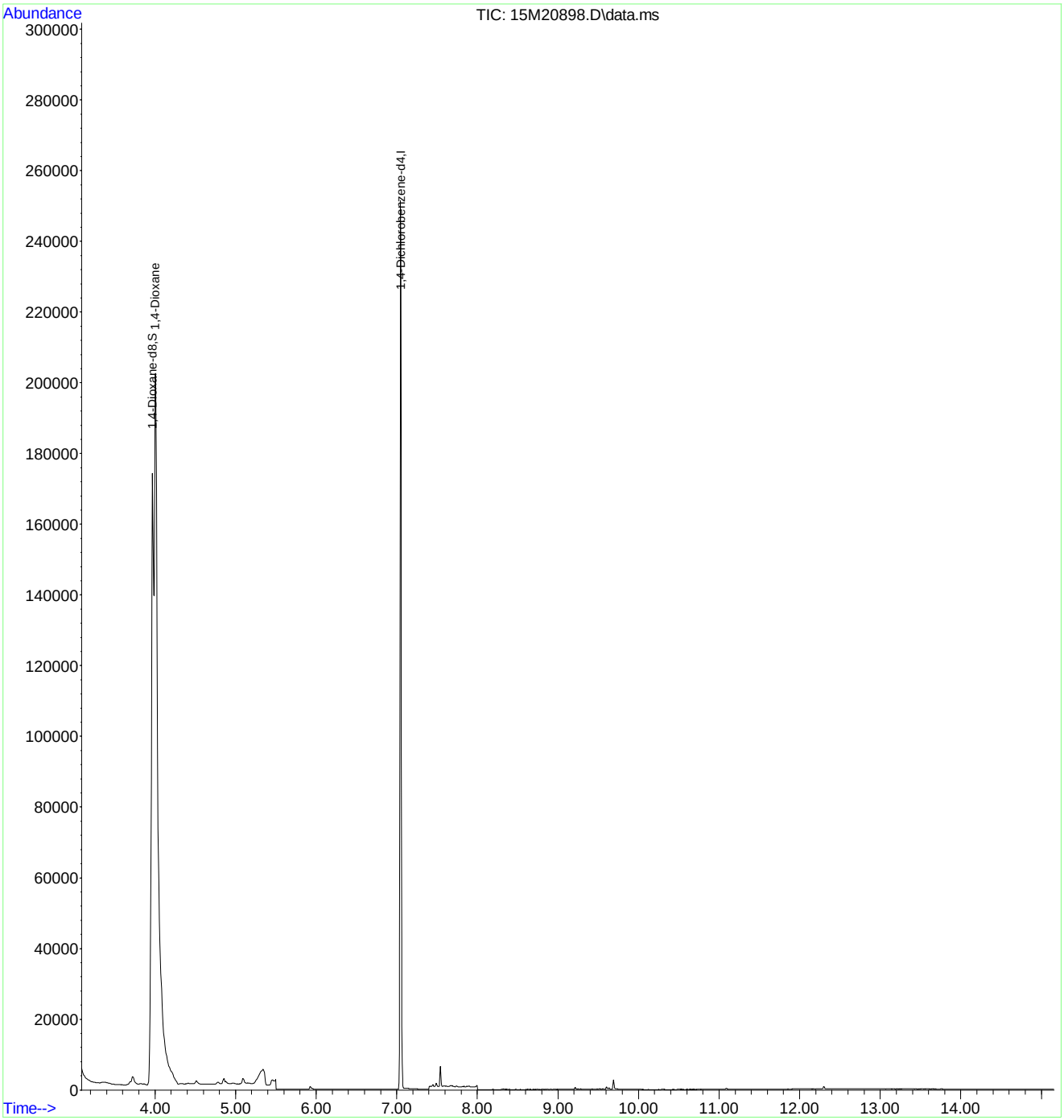
Quant Time: Mar 21 15:32:45 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	7.051	152	101900	1.0000	ug/mL	# 0.00
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.968	96	296305	7.4411	ug/L	0.00
Spiked Amount 5.000			Recovery = 148.80%			
4) Nitrobenzene-d5	7.544	82	3105	0.0286	ug/L	0.00
Spiked Amount 5.000			Recovery = 0.60%			
5) 2-Fluorobiphenyl	9.048	172	89	0.0004	ug/L	0.00
Spiked Amount 5.000			Recovery = 0.00%			
6) p-Terphenyl-d14	12.299	244	648	0.0028	ug/L	0.00
Spiked Amount 5.000			Recovery = 0.00%			
Target Compounds						Qvalue
2) 1,4-Dioxane	4.003	58	218336	7.0752	ug/L	93

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

Data Path : C:\msdchem\1\data\032117\
Data File : 15M20898.D
Acq On : 21 Mar 2017 3:00 pm
Operator : SCB
Sample : WG606465-03 LCS2 3/16
Misc : 1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 21 15:32:45 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\032317\
Data File : 15M20911.D
Acq On : 23 Mar 2017 1:12 pm
Operator : SCB/LJH
Sample : WG607133-03 LCS2
Misc : 1,1
ALS Vial : 5 Sample Multiplier: 1

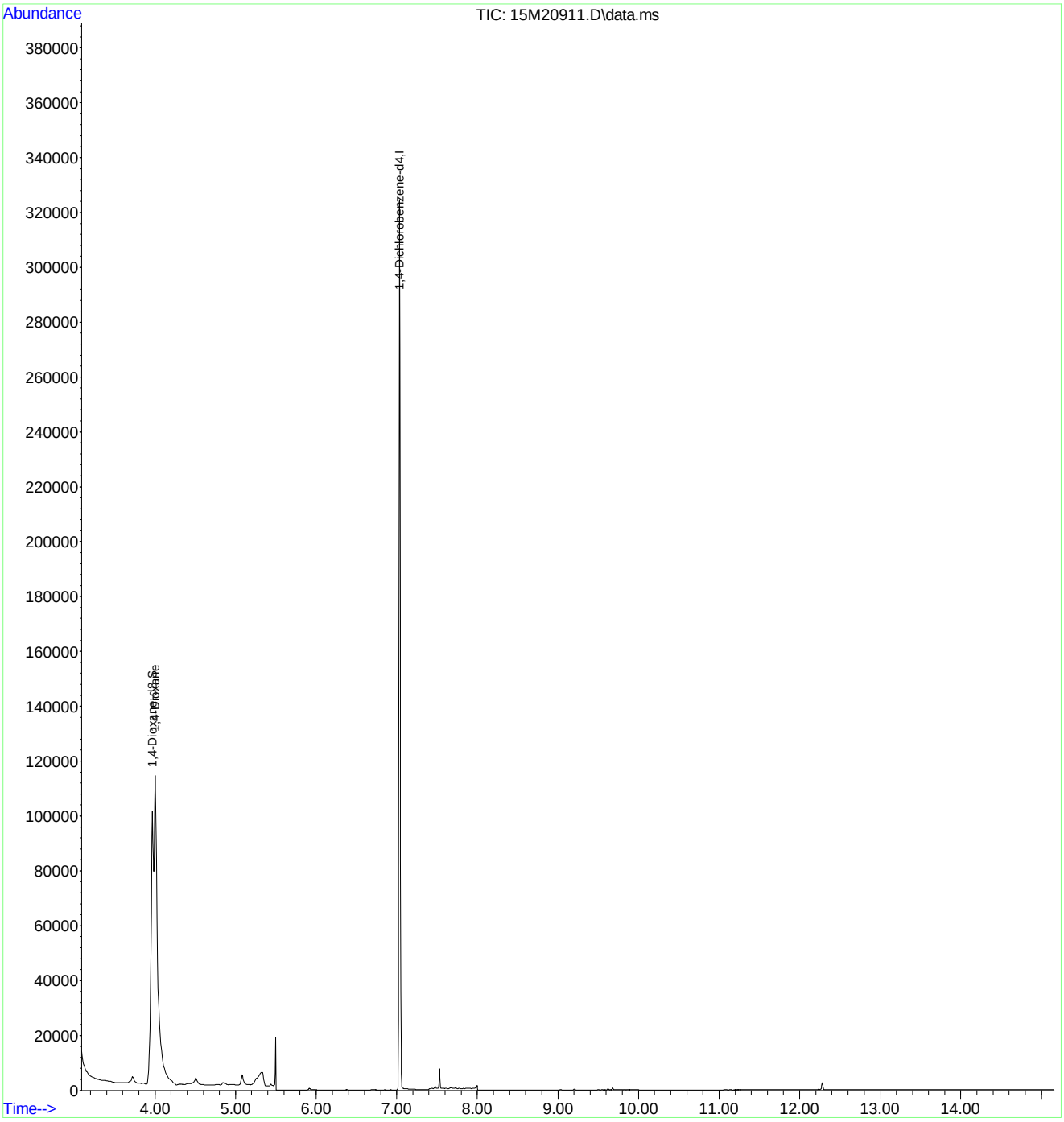
Quant Time: Mar 24 08:36:56 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	7.036	152	135023	1.0000	ug/mL	#-0.02
System Monitoring Compounds						
3) 1,4-Dioxane-d8	3.968	96	166601	3.1575	ug/L	0.00
Spiked Amount 5.000			Recovery = 63.20%			
4) Nitrobenzene-d5	7.533	82	4112	0.0286	ug/L	-0.01
Spiked Amount 5.000			Recovery = 0.60%			
5) 2-Fluorobiphenyl	9.037	172	129	0.0004	ug/L	-0.01
Spiked Amount 5.000			Recovery = 0.00%			
6) p-Terphenyl-d14	12.280	244	2062	0.0067	ug/L	-0.02
Spiked Amount 5.000			Recovery = 0.20%			
Target Compounds						Qvalue
2) 1,4-Dioxane	4.003	58	118678	2.9023	ug/L	97

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

Data Path : C:\msdchem\1\data\032317\
Data File : 15M20911.D
Acq On : 23 Mar 2017 1:12 pm
Operator : SCB/LJH
Sample : WG607133-03 LCS2
Misc : 1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 24 08:36:56 2017
Quant Method : C:\msdchem\1\methods\DIOXANE_D8.M
Quant Title : OVD MSS01 SIM 1,4-dioxane ICAL 032117
QLast Update : Tue Mar 21 13:45:17 2017
Response via : Initial Calibration



2.3 Metals Data

2.3.1 Metals I C P Data

2.3.1.1 Summary Data

Microbac

Lab Report #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Microbac

Lab Report #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030724-01	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO4
Client ID:	LH18/24-SP650-6423-GRAB	**Prep Method:**	3015A	**Prep Date:**	03/15/2017 09:47
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	03/16/2017 10:08
Workgroup #:	WG606355	**Analyst:**	KKB	**Run Date:**	03/16/2017 13:38
Collect Date:	03/13/2017 15:00	**Dilution:**	1	**File ID:**	T4.031617.133814
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Selenium, Total	7782-49-2	0.0800	U	0.0800	0.0800	0.0400

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

Microbac

Lab Report #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

2.3.1.2 QC Summary Data

Example 6010 Calculations
Thermo Scientific iCAP

1.0 Initial Calibration (ICAL) Parameters
For a multi-point calibration, the system performs linear regression from data consisting of a blank and four standards.

2.0 Calculating the concentration (C) of an element in water using data from prep log, run log, and quantitation report (note:the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:	**Example:**
Cs = Concentration computed by the data system in ug/mL (ppm)	0.1
Vf = Final volume (mL)	50
Vi = Initial volume (mL)	50
D = Dilution factor as a multiplier (10X = 10)	1
Cx = Concentration of element in ug/mL (mg/L)	0.1

3.0 Calculating the concentration (C) of an element in soil using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:	**Example:**
Cs = Concentration computed by the data system (mg/L) (ppm)	0.1
Vf = Final volume (mL)	50
Vi = Initial weight (g)	1
D = Dilution factor as a multiplier (10X = 10)	1
Cx = Concentration of element in ug/g (mg/kg)	5

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

Where:	**Example:**
Cx = Concentration calculated as received (wet basis)	5
Px = Percent solids of sample (%wt)	80
$Cdry$ = Concentration calculated as dry weight (mg/kg)	6.25

TCLP Non-Volatile

Analyst(s): BNB
Date: 3-14-17
Filter Lot #: 948e030
Microbac SOP: TCLP01 Rev #: 12

Balance ID: BAL020
pH Probe ID: T5
Temp probe ID: ☒ 1025 ☐ 1023

Analyst / Date		Analyst / Date	
BNB 3-14-17		BNB 3-15-17	
Time On	Temp On °C	Time Off	Temp Off °C
15:04	22.3	7:16	22.1

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	03-0728-01	Me	1311	F2-392	S	100	8.83	5.81	100.58	2011	4.13
16	03-0726-01	Me,Herb					7.91	6.56	100.26	2005	6.03
D	03-0737-01	Me					9.11	7.64	100.95	2019	4.49
NA	03-0737-02	Me		FIL	W	<0.5	NA	NA	100	100	7.65
NA	FBLK-2	Me,Herb	1311	F2-392	NA	NA	NA	NA	100	100	2.85

BNB 3-15-17

*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: Charles Davis

Microbac Laboratories Inc.
Microwave Digestion Log

Workgroup: WG606289
Analyst: ERP
Spike Analyst: ERP
Run Date: 03/15/2017 09:47
Method: 3015A
Balance: BAL019
Instrument: MW-1
Instrument Start: 03/15/2017 10:03

SOP: ME407 Revison 19
Spike Solution: STD80805
Spike Witness: VC
HNO3 Lot #: COA19483
HCL Lot #: COA19441
40 & 50 ML. DIGESTION TU COA19487
ICP FILTERS LOT#R6EA4780 RGT38286

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG606289-02	BLANK	1	40 mL	50 mL	206.123 g	206.11 g		
2	WG606138-01	FBLK2	17	5 mL	50 mL	206.271 g	206.277 g		
3	WG606289-03	LCS	1	40 mL	50 mL	211.258 g	211.234 g	5 mL	
4	L17030709-01	SAMP	1	40 mL	50 mL	208.153 g	208.133 g		03/21/17
5	L17030709-02	SAMP	1	40 mL	50 mL	206.687 g	206.671 g		03/21/17
6	L17030709-03	SAMP	1	40 mL	50 mL	206.121 g	206.099 g		03/21/17
7	L17030709-04	SAMP	1	40 mL	50 mL	206.136 g	206.113 g		03/21/17
8	L17030712-01	SAMP	1	40 mL	50 mL	208.657 g	208.642 g		03/21/17
9	L17030712-02	SAMP	1	40 mL	50 mL	206.22 g	206.197 g		03/21/17
10	L17030723-01	SAMP	1	40 mL	50 mL	204.967 g	204.933 g		03/24/17
11	L17030724-01	SAMP	1	40 mL	50 mL	206.54 g	206.524 g		03/24/17
12	WG606289-01	REF	17	5 mL	50 mL	207.507 g	207.483 g		
13	L17030728-01	SAMP	17	5 mL	50 mL	207.507 g	207.483 g		03/20/17
14	L17030737-01	SAMP	17	5 mL	50 mL	204.773 g	204.704 g		03/21/17
15	L17030737-02	SAMP	17	5 mL	50 mL	205.435 g	205.406 g		03/21/17
16	L17030741-01	SAMP	1	40 mL	50 mL	207.417 g	207.393 g		03/21/17
17	L17030771-01	SAMP	1	40 mL	50 mL	204.226 g	204.209 g		03/22/17
18	L17030772-01	SAMP	1	40 mL	50 mL	207.389 g	207.382 g		03/22/17
19	L17030772-02	SAMP	1	40 mL	50 mL	204.072 g	204.064 g		03/22/17
20	L17030772-03	SAMP	1	40 mL	50 mL	207.238 g	207.218 g		03/22/17
21	L17030772-04	SAMP	1	40 mL	50 mL	207.193 g	207.179 g		03/22/17
22	L17030772-05	SAMP	1	40 mL	50 mL	206.836 g	206.809 g		03/22/17
23	L17030781-01	SAMP	2	40 mL	50 mL	205.178 g	205.153 g		03/22/17
24	WG606289-04	MS	1	5 mL	50 mL	211.446 g	211.44 g	5 mL	
25	WG606289-05	MSD	1	5 mL	50 mL	211.236 g	211.195 g	5 mL	

L17030723-01	filtered digestate
L17030724-01	filtered digestate

Analyst: Erin Potter

Reviewer: Vicki Collins

MW_DIG - Modified 09/30/2009
PDF ID: 5198746
Report generated: 03/15/2017 10:48

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO4 Dataset: 031617T4.1R.TXT
Analyst1: KKB Analyst2: N/A
Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
Maintenance Log ID:

Calibration Std: STD80661 ICV Std: STD80660 Post Spike: STD80131
ICSA: STD80691 ICSAB: STD80650 Int. Std: RGT37691
CCV: ST80800 LLCCV: COA19158 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 606114, 606355, 606391, 606544

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	T4.031617.095341	WG606598-01	Calibration Point		1		03/16/17 09:53
2	T4.031617.095731	WG606598-02	Calibration Point		1		03/16/17 09:57
3	T4.031617.100121	WG606598-03	Calibration Point		1		03/16/17 10:01
4	T4.031617.100511	WG606598-04	Calibration Point		1		03/16/17 10:05
5	T4.031617.100847	WG606598-05	Calibration Point		1		03/16/17 10:08
6	T4.031617.101218	WG606598-06	Initial Calibration Verification		1		03/16/17 10:12
7	T4.031617.101554	WG606598-07	Initial Calib Blank		1		03/16/17 10:15
8	T4.031617.101944	WG606598-08	Low Level Initial Calibration V		1		03/16/17 10:19
9	T4.031617.102333	WG606598-09	Low Level Initial Calibration V		1		03/16/17 10:23
10	T4.031617.102723	WG606598-10	LLICV		1		03/16/17 10:27
11	T4.031617.103111	WG606598-11	Interference Check		1		03/16/17 10:31
12	T4.031617.103458	WG606598-12	Interference Check		1		03/16/17 10:34
13	T4.031617.103839	WG606598-13	CCV		1		03/16/17 10:38
14	T4.031617.104214	WG606598-14	CCB		1		03/16/17 10:42
15	T4.031617.113830	WG606051-02	Method/Prep Blank	40/50	1		03/16/17 11:38
16	T4.031617.114219	WG606051-03	Laboratory Control S	40/50	1		03/16/17 11:42
17	T4.031617.114559	WG606051-01	Reference Sample		1	L17030630-01	03/16/17 11:45
18	T4.031617.114956	WG606051-04	Matrix Spike	5/50	1	L17030630-01	03/16/17 11:49
19	T4.031617.115345	WG606051-05	Matrix Spike Duplica	5/50	1	L17030630-01	03/16/17 11:53
20	T4.031617.115735	L17030640-01	PPL-VACPOT	5/50	1		03/16/17 11:57
21	T4.031617.120125	L17030656-15	15005-C03-WQ-W0013	40/50	1		03/16/17 12:01
22	T4.031617.120515	L17030673-01	46003-G10-WQ-W0009	40/50	1		03/16/17 12:05
23	T4.031617.120901	WG606114-03	Post Digestion Spike		1	L17030673-01	03/16/17 12:09
24	T4.031617.121238	WG606114-04	Serial Dilution		5	L17030673-01	03/16/17 12:12
25	T4.031617.121624	WG606598-15	CCV		1		03/16/17 12:16
26	T4.031617.121956	WG606598-16	CCB		1		03/16/17 12:19
27	T4.031617.122343	L17030673-02	46003-G43-WQ-W0061	40/50	1		03/16/17 12:23
28	T4.031617.122729	L17030673-03	46007-G07-WQ-W0016	40/50	1		03/16/17 12:27
29	T4.031617.123117	L17030673-04	46007-G28-WQ-W0042	40/50	1		03/16/17 12:31
30	T4.031617.123503	L17030673-05	46007-G82-WQ-W0112	40/50	1		03/16/17 12:35
31	T4.031617.123851	WG606598-17	CCV		1		03/16/17 12:38
32	T4.031617.124222	WG606598-18	CCB		1		03/16/17 12:42
33	T4.031617.124609	WG606289-02	Method/Prep Blank		1		03/16/17 12:46
34	T4.031617.124956	WG606289-03	Laboratory Control S		1		03/16/17 12:49

Page: 1 Approved: March 17, 2017

Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO4 Dataset: 031617T4.1R.TXT
Analyst1: KKB Analyst2: N/A
Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
Maintenance Log ID:

Calibration Std: STD80661 ICV Std: STD80660 Post Spike: STD80131
ICSA: STD80691 ICSAB: STD80650 Int. Std: RGT37691
CCV: ST80800 LLCCV: COA19158 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 606114, 606355, 606391, 606544

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	T4.031617.125333	WG606138-01	Fluid Blank 2		1		03/16/17 12:53
36	T4.031617.125720	L17030709-01	59-11-11.11 W1		1		03/16/17 12:57
37	T4.031617.130103	L17030709-02	59-11-11.10 W1		1		03/16/17 13:01
38	T4.031617.130446	L17030709-03	59-10-1.22 W1		1		03/16/17 13:04
39	T4.031617.130829	L17030709-04	6-11-19 S5		1		03/16/17 13:08
40	T4.031617.131213	L17030712-01	2212-154A W1		1		03/16/17 13:12
41	T4.031617.131557	WG606289-01	Reference Sample		1	L17030728-01	03/16/17 13:15
42	T4.031617.131934	WG606289-02	Method/Prep Blank		5		03/16/17 13:19
43	T4.031617.132320	WG606598-19	CCV		1		03/16/17 13:23
44	T4.031617.132652	WG606598-20	CCB		1		03/16/17 13:26
45	T4.031617.133038	L17030712-02	2212-154A W1		1		03/16/17 13:30
46	T4.031617.133422	L17030723-01	LH18/24-SP140-7423-GRAB		1		03/16/17 13:34
47	T4.031617.133814	L17030724-01	LH18/24-SP650-6423-GRAB		1		03/16/17 13:38
48	T4.031617.134206	WG606289-01	Reference Sample		1	L17030728-01	03/16/17 13:42
49	T4.031617.134550	WG606289-04	Matrix Spike		1	L17030728-01	03/16/17 13:45
50	T4.031617.134922	WG606289-05	Matrix Spike Duplica		1	L17030728-01	03/16/17 13:49
51	T4.031617.135254	L17030737-01	J7C0849-01		1		03/16/17 13:52
52	T4.031617.135635	L17030737-02	J7C0849-02		1		03/16/17 13:56
53	T4.031617.140021	L17030741-01	USDA/ 12-20-16		1		03/16/17 14:00
54	T4.031617.140411	L17030771-01	1802-136 S10		1		03/16/17 14:04
55	T4.031617.140755	WG606598-21	CCV		1		03/16/17 14:07
56	T4.031617.141126	WG606598-22	CCB		1		03/16/17 14:11
57	T4.031617.141511	L17030772-01	45-17-1.03 W1		1		03/16/17 14:15
58	T4.031617.141854	L17030772-02	1803-126-D W1		1		03/16/17 14:18
59	T4.031617.142238	L17030772-03	1803-126-D W2		1		03/16/17 14:22
60	T4.031617.142621	L17030772-04	1803-126-D S1		1		03/16/17 14:26
61	T4.031617.143005	L17030772-05	45-17-1.04 W1		1		03/16/17 14:30
62	T4.031617.143347	L17030781-01	EGU04		1		03/16/17 14:33
63	T4.031617.143733	WG606598-23	CCV		1		03/16/17 14:37
64	T4.031617.144104	WG606598-24	CCB		1		03/16/17 14:41
65	T4.031617.145128	WG606343-02	Method/Prep Blank		1		03/16/17 14:51
66	T4.031617.145514	WG606343-03	Laboratory Control S		1		03/16/17 14:55
67	T4.031617.145852	L17030774-01	2212-118 W2		1		03/16/17 14:58
68	T4.031617.150235	L17030774-02	2212-118 W1		1		03/16/17 15:02

Page: 2 Approved: March 17, 2017

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO4 Dataset: 031617T4.1R.TXT
Analyst1: KKB Analyst2: N/A
Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
Maintenance Log ID:

Calibration Std: STD80661 ICV Std: STD80660 Post Spike: STD80131
ICSA: STD80691 ICSAB: STD80650 Int. Std: RGT37691
CCV: ST80800 LLCCV: COA19158 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 606114, 606355, 606391, 606544

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	T4.031617.150619	L17030774-03	2212-118 S1		1		03/16/17 15:06
70	T4.031617.151003	L17030774-04	2212-118 S2		1		03/16/17 15:10
71	T4.031617.151346	L17030774-05	2212-118 S3		1		03/16/17 15:13
72	T4.031617.151730	L17030774-06	2212-118 S4		1		03/16/17 15:17
73	T4.031617.152112	WG606598-25	CCV		1		03/16/17 15:21
74	T4.031617.152444	WG606598-26	CCB		1		03/16/17 15:24
75	T4.031617.152831	L17030774-07	2212-118 S5		1		03/16/17 15:28
76	T4.031617.153213	L17030777-01	1802-109 W1		1		03/16/17 15:32
77	T4.031617.153557	L17030777-02	1802-109 S1		1		03/16/17 15:35
78	T4.031617.153940	L17030777-03	1802-109 S2		1		03/16/17 15:39
79	T4.031617.154324	L17030777-04	1802-109 S3		1		03/16/17 15:43
80	T4.031617.154707	L17030779-01	2210-131 S1		1		03/16/17 15:47
81	T4.031617.155050	L17030779-02	2210-131 S2		1		03/16/17 15:50
82	T4.031617.155432	L17030780-01	1802-118 W2		1		03/16/17 15:54
83	T4.031617.155816	L17030780-02	1802-118 W3		1		03/16/17 15:58
84	T4.031617.160159	L17030780-03	1802-118 W1		1		03/16/17 16:01
85	T4.031617.160541	WG606598-27	CCV		1		03/16/17 16:05
86	T4.031617.160912	WG606598-28	CCB		1		03/16/17 16:09
87	T4.031617.161258	L17030783-01	1001-101-A S1		1		03/16/17 16:12
88	T4.031617.161641	WG606343-01	Reference Sample		1	L17030801-01	03/16/17 16:16
89	T4.031617.162027	WG606391-01	Post Digestion Spike		1	L17030801-01	03/16/17 16:20
90	T4.031617.162404	WG606391-02	Post Digestion Spike		5	L17030801-01	03/16/17 16:24
91	T4.031617.162749	WG606343-04	Matrix Spike		1	L17030801-01	03/16/17 16:27
92	T4.031617.163126	WG606343-05	Matrix Spike Duplica		1	L17030801-01	03/16/17 16:31
93	T4.031617.163502	WG606598-29	CCV		1		03/16/17 16:35
94	T4.031617.163834	WG606598-30	CCB		1		03/16/17 16:38
95	T4.031617.164219	WG606598-31	Low Level Continuing Calibra		1		03/16/17 16:42
96	T4.031617.164605	WG606598-32	Low Level Continuing Calibra		1		03/16/17 16:46
97	T4.031617.164950	WG606598-33	LLCCV		1		03/16/17 16:49
98	T4.031617.165335	WG606460-02	Method/Prep Blank		1		03/16/17 16:53
99	T4.031617.165722	WG606460-03	Laboratory Control S		1		03/16/17 16:57
100	T4.031617.170100	WG606253-02	Fluid Blank 1		1		03/16/17 17:01
101	T4.031617.170446	WG606253-01	Fluid Blank 2		1		03/16/17 17:04
102	T4.031617.170832	L17030739-01	COMPOSITE (3-10-17)		1		03/16/17 17:08

Page: 3 Approved: March 17, 2017

Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO4 Dataset: 031617T4.1R.TXT
Analyst1: KKB Analyst2: N/A
Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
Maintenance Log ID:

Calibration Std: STD80661 ICV Std: STD80660 Post Spike: STD80131
ICSA: STD80691 ICSAB: STD80650 Int. Std: RGT37691
CCV: ST80800 LLCCV: COA19158 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 606114, 606355, 606391, 606544

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
103	T4.031617.171216	L17030816-02	PERMEATE		1		03/16/17 17:12
104	T4.031617.171602	L17030816-04	BLEED		1		03/16/17 17:16
105	T4.031617.171946	L17030816-06	N. DOCK FLUME		1		03/16/17 17:19
106	T4.031617.172332	WG606544-01	Post Digestion Spike		1	L17030816-06	03/16/17 17:23
107	T4.031617.172710	WG606544-02	Serial Dilution		5	L17030816-06	03/16/17 17:27
108	T4.031617.173056	WG606598-34	CCV		1		03/16/17 17:30
109	T4.031617.173427	WG606598-35	CCB		1		03/16/17 17:34
110	T4.031617.173812	L17030819-01	17C1064-01		1		03/16/17 17:38
111	T4.031617.174153	L17030821-01	17C0727-01		1		03/16/17 17:41
112	T4.031617.174536	WG606460-01	Reference Sample		1	L17030826-01	03/16/17 17:45
113	T4.031617.174921	WG606460-04	Matrix Spike		1	L17030826-01	03/16/17 17:49
114	T4.031617.175258	WG606460-05	Matrix Spike Duplica		1	L17030826-01	03/16/17 17:52
115	T4.031617.175635	L17030839-01	2402-102-A S1		1		03/16/17 17:56
116	T4.031617.180018	L17030840-01	1802-120-D S1		1		03/16/17 18:00
117	T4.031617.180402	L17030841-01	1805-106-B W1		1		03/16/17 18:04
118	T4.031617.180744	L17030842-01	1802-120-B W1		1		03/16/17 18:07
119	T4.031617.181128	L17030842-02	1802-120-B W2		1		03/16/17 18:11
120	T4.031617.181512	WG606598-36	CCV		1		03/16/17 18:15
121	T4.031617.181843	WG606598-37	CCB		1		03/16/17 18:18
122	T4.031617.182229	L17030843-01	1802-119 W1		1		03/16/17 18:22
123	T4.031617.182612	L17030843-02	1802-119 S1		1		03/16/17 18:26
124	T4.031617.182955	L17030843-03	1802-119 S4		1		03/16/17 18:29
125	T4.031617.183339	L17030843-04	1802-119 S2		1		03/16/17 18:33
126	T4.031617.183722	L17030743-05	4147		1		03/16/17 18:37
127	T4.031617.184106	WG606598-38	CCV		1		03/16/17 18:41
128	T4.031617.184439	WG606598-39	CCB		1		03/16/17 18:44

Page: 4 Approved: March 17, 2017

Kym H. Rhoden

Microbac

Microbac Laboratories Inc.

Data Checklist

Date: 16-MAR-2017
Analyst: KKB
Analyst: NA
Method: 6010B/6010C/200.7
Instrument: ICP-THERMO4
Curve Workgroup: 606598
Runlog ID: 81010
Analytical Workgroups: 606114, 606355, 606391, 606544

STD ID#s on Runlog	X
Calibration/Linearity	X
ICV/CCV	X
ICV RSD < 3% (EPA 200.7 only)	X
ICB/CCB	X
ICSA/ICSAB	X
CRI	X
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	0656, 0673, 0723, 0724, 0801
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:
17-MAR-2017

Secondary Reviewer:
17-MAR-2017

CHECKLIST1 - Modified 03/05/2008
Generated: MAR-17-2017 09:55:58

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6010C AAB#: WG606355

Login Number: L17030724

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
LH18/24-SP650-6423-GRAB	01	03/13/17					03/15/2017	1.8	180		03/16/17	2.9	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5204287
Report generated 03/17/2017 13:42

METHOD BLANK SUMMARY

Login Number:	L17030724	**Work Group:**	WG606355
Blank File ID:	T4.031617.124609	**Blank Sample ID:**	WG606289-02
Prep Date:	03/15/17 09:47	**Instrument ID:**	ICP-THERMO4
Analyzed Date:	03/16/17 12:46	**Method:**	6010C
Analyst:	KKB		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG606289-03	T4.031617.124956	03/16/17 12:49	01
LH18/24-SP650-6423-GRAB	L17030724-01	T4.031617.133814	03/16/17 13:38	01

Report Name: BLANK_SUMMARY
PDF File ID: 5204288
Report generated 03/17/2017 13:39

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L17030724 Prep Date: 03/15/17 09:47 Sample ID: WG606289-02
Instrument ID: ICP-THERMO4 Run Date: 03/16/17 12:46 Prep Method: 3015A
File ID: T4.031617.124609 Analyst: KKB Method: 6010C
Workgroup (AAB#): WG606355 Matrix: Water Units: mg/L
Contract #: Cal ID: ICP-TH-16-MAR-17

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Selenium, Total	0.0400	0.0800	0.0400	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: 5204289
17-MAR-2017 13:42

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17030724 **Run Date:** 03/16/2017 **Sample ID:** WG606289-03
Instrument ID: ICP-THERMO4 **Run Time:** 12:49 **Prep Method:** 3015A
File ID: T4.031617.124956 **Analyst:** KKB **Method:** 6010C
Workgroup (AAB#): WG606355 **Matrix:** Water **Units:** mg/L
QC Key: DOD4 **Lot#:** STD80805 **Cal ID:** ICP-TH-16-MAR-17

Analytes	Expected	Found	% Rec	LCS Limits	Q
Selenium, Total	0.250	0.234	93.5	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 5204290
Report generated: 03/17/2017 13:42

Loginnum:L17030724 Cal ID:ICP-THERMO4- Worknum:WG606355
Instrument ID:ICP-THERMO4 Contract #: Method:6010C
Parent ID:WG606289-01 File ID:T4.031617.134206 Dil:1 Matrix:WATER
Sample ID:WG606289-04 MS File ID:T4.031617.134550 Dil:1 Units:mg/L
Sample ID:WG606289-05 MSD File ID:T4.031617.134922 Dil:1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Selenium, TCLP	ND	2.00	1.89	94.3	2.00	1.88	93.9	0.329	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: 5204291
Report generated 03/17/2017 13:42

Microbac Laboratories Inc.
Serial Dilution Report

Login: L17030724 **Worknum:** WG606355
Instrument: ICP-THERMO4 **Method:** 6010C
Serial Dil: WG606355-02 **File ID:** T4.031617.131934 **Dil:** 5 **Units:** ug/L
Sample: L17030712-01 **File ID:** T4.031617.131213 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Selenium	1.86		19.0		922.00	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: 5204285
03/17/2017 13:42

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L17030724 **Worknum:** WG606355
Instrument ID: ICP-THERMO4 **Method:** 6010C
Post Spike ID: WG606355-01 **File ID:** T4.031617.131557 **Dil:** 1 **Units:** ug/L
Sample ID: L17030712-01 **File ID:** T4.031617.131213 **Dil:** 1 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
SELENIUM	184		0	U	200	92.2	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: 5204286
Report generated: 03/17/2017 13:42

Microbac Laboratories Inc.
Initial Calibration Summary

Login:	**L17030724**	Workgroup (AAB#):	**WG606355**
Analytical Method:	**6010C**	Instrument ID:	**ICP-THERMO4**
ICAL Worknum:	**WG606598**	Initial Calibration Date:	**16-MAR-2017 10:08**

	WG606598-01		WG606598-02		WG606598-03		WG606598-04		WG606598-05			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
SELENIUM	0	0.0000300	NA	NA	.008	0.000180	.4	0.00592	.8	0.0119	.999076	

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: 5204294
Report generated: 17-MAR-2017 13:40

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L17030724 Run Date: 03/16/2017 Sample ID: WG606598-07
Instrument ID: ICP-THERMO4 Run Time: 10:15 Method: 6010C
File ID: T4.031617.101554 Analyst: KKB Units: mg/L
Workgroup (AAB#): WG606355 Cal ID: ICP-THERI - 16-MAR-17
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
SELENIUM	.032	.064	.032	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: 5204296
Report generated 03/17/2017 13:40

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L17030724	Run Date:	03/16/2017	Sample ID:	WG606598-14
Instrument ID:	ICP-THERMO4	Run Time:	10:42	Method:	6010C
File ID:	T4.031617.104214	Analyst:	KKB	Units:	mg/L
Workgroup (AAB#):	WG606355	Cal ID:	ICP-TH - 16-MAR-17		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Selenium	0.0320	0.0640	0.0320	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: 5204299
Report generated 03/17/2017 13:40

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L17030724	**Run Date:**	03/16/2017	**Sample ID:**	WG606598-18
Instrument ID:	ICP-THERMO4	**Run Time:**	12:42	**Method:**	6010C
File ID:	T4.031617.124222	**Analyst:**	KKB	**Units:**	mg/L
Workgroup (AAB#):	WG606355	**Cal ID:**	ICP-TH - 16-MAR-17		
Matrix:	WATER	**QAPP:**	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Selenium	0.0320	0.0640	0.0320	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: 5204299
Report generated 03/17/2017 13:40

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L17030724	Run Date:	03/16/2017	Sample ID:	WG606598-20
Instrument ID:	ICP-THERMO4	Run Time:	13:26	Method:	6010C
File ID:	T4.031617.132652	Analyst:	KKB	Units:	mg/L
Workgroup (AAB#):	WG606355	Cal ID:	ICP-TH - 16-MAR-17		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Selenium	0.0320	0.0640	0.0320	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: 5204299
Report generated 03/17/2017 13:40

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L17030724	Run Date:	03/16/2017	Sample ID:	WG606598-22
Instrument ID:	ICP-THERMO4	Run Time:	14:11	Method:	6010C
File ID:	T4.031617.141126	Analyst:	KKB	Units:	mg/L
Workgroup (AAB#):	WG606355	Cal ID:	ICP-TH - 16-MAR-17		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Selenium	0.0320	0.0640	0.0320	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: 5204299
Report generated 03/17/2017 13:40

Microbac Laboratories Inc.

INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L17030724 Run Date: 03/16/2017 Sample ID: WG606598-06
Instrument ID: ICP-THERMO4 Run Time: 10:12 Method: 6010C
File ID: T4.031617.101218 Analyst: KKB Units: mg/L
Workgroup (AAB#): WG606355 Cal ID: ICP-TH - 16-MAR-17
QC Key: DOD4

Analyte		Expected	Found	%REC	LIMITS	Q
Selenium		.4	0.407	102	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 5204295
Report generated 03/17/2017 13:40

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17030724 **Run Date:** 03/16/2017 **Sample ID:** WG606598-13
Instrument ID: ICP-THERMO4 **Run Time:** 10:38 **Method:** 6010C
File ID: T4.031617.103839 **Analyst:** KKB **QC Key:** DOD4
Workgroup (AAB#): WG606355 **Cal ID:** ICP-TH - 16-MAR-17
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Selenium		0.400	0.397	mg/L	99.3	90 - 110		

*** Exceeds LIMITS Criteria**

CCV - Modified 03/05/2008
PDF File ID: 5204298
Report generated 03/17/2017 13:40

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17030724 Run Date: 03/16/2017 Sample ID: WG606598-17

Instrument ID: ICP-THERMO4 Run Time: 12:38 Method: 6010C

File ID: T4.031617.123851 Analyst: KKB QC Key: DOD4

Workgroup (AAB#): WG606355 Cal ID: ICP-TH - 16-MAR-17

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Selenium		0.400	0.406	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 5204298

Report generated 03/17/2017 13:40

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17030724 Run Date: 03/16/2017 Sample ID: WG606598-19

Instrument ID: ICP-THERMO4 Run Time: 13:23 Method: 6010C

File ID: T4.031617.132320 Analyst: KKB QC Key: DOD4

Workgroup (AAB#): WG606355 Cal ID: ICP-TH - 16-MAR-17

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Selenium		0.400	0.403	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 5204298

Report generated 03/17/2017 13:40

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17030724 Run Date: 03/16/2017 Sample ID: WG606598-21
Instrument ID: ICP-THERMO4 Run Time: 14:07 Method: 6010C
File ID: T4.031617.140755 Analyst: KKB QC Key: DOD4
Workgroup (AAB#): WG606355 Cal ID: ICP-TH - 16-MAR-17
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Selenium		0.400	0.399	mg/L	99.7	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 5204298
Report generated 03/17/2017 13:40

Microbac Laboratories Inc.

LOW LEVEL CALIBRATION VERIFICATION

Login Number: L17030724 Run Date: 03/16/2017 Sample ID: WG606598-08

Instrument ID: ICP-THERMO4 Run Time: 10:19 Method: 6010C

File ID: T4.031617.101944 Analyst: KKB QC Key: DOD4

Workgroup (AAB#): WG606355 Cal ID: ICP-TH - 16-MAR-17

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Selenium		0.0160	0.0199	mg/L	124	70 - 130		

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010

PDF File ID: 5204435

Report generated 03/17/2017 13:40

Login Number: L17030724 Run Date: 03/16/2017 Sample ID: WG606598-31
Instrument ID: ICP-THERMO4 Run Time: 16:42 Method: 6010C
File ID: T4.031617.164219 Analyst: KKB QC Key: DOD4
Workgroup (AAB#): WG606355 Cal ID: ICP-TH - 16-MAR-17
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Selenium		0.0160	0.0173	mg/L	108	70 - 130		

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
PDF File ID: 5204435
Report generated 03/17/2017 13:40

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L17030724 **Workgroup (AAB#):** WG606355
Instrument ID: ICP-THERMO4 **Method:** 6010C
Sol. A : WG606598-11 **File ID:** T4.031617.103111 **Units:** mg/L
Sol. AB : WG606598-12 **File ID:** T4.031617.103458 **Matrix:** Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Selenium	NS	-0.00126	NS	0.250	0.237	94.8	

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: 5204297
Report generated 03/17/2017 13:40

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L17030724 **Date:** 01/04/2017
Insturment ID: ICP-THERMO4 **Method:** 6010C

Analyte	Wave Length	AG	AL	AS	B	BA
ALUMINUM	308.20	0	0	0	0	0
ANTIMONY	206.80	0	0.0000410	0	0	0
ARSENIC	189.00	0	0	0	0	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	0	0	0	0
BORON	249.60	0	0	0	0	0
CADMIUM	228.80	0	0	0.0145	0	-0.0000800
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0	0	0	0	0
COBALT	228.60	0	0	0	0	0
COPPER	224.70	0	0	0	0	0
IRON	261.10	0	0	0	0	0
LEAD	220.30	0	0.000378	0	0	0
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.10	0	0	0	0	0
MANGANESE	257.60	0	0	0	0	0
MOLYBDENUM	202.00	0	0	0	0	0
NICKEL	231.60	0	0	0	0	0
PHOSPHORUS	214.90	0	-0.000289	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.10	0	0.0000140	0	0	0
SILICON	212.40	0	0	0	0	0
SILVER	328.10	0	0	0	0	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0	0	0	0
THALLIUM	190.80	0	-0.0000120	0	0	0
TIN	189.90	0	0	0	0	0
TITANIUM	337.20	0	0	0	0	0
VANADIUM	292.40	0	0	0	0	0
ZINC	206.20	0	0.0000320	0	0	0
ZIRCONIUM	339.10	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 5204293
Report generated: 03/17/2017 13:40

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L17030724 **Date:** 01/04/2017
Insturment ID: ICP-THERMO4 **Method:** 6010C

Analyte	Wave Length	BE	CA	CD	CO	CR
ALUMINUM	308.20	0	0	0	-0.000820	0
ANTIMONY	206.80	0	0	0	0	0.0260
ARSENIC	189.00	0	0	0	0	-0.00730
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	0	0	0	0
BORON	249.60	0	0	0	0.00343	0
CADMIUM	228.80	0	0	0	-0.00390	0
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0	0	0	0	0
COBALT	228.60	0	0	0	0	-0.000200
COPPER	224.70	0	0	0	0.0000770	-0.00100
IRON	261.10	0	0	0	0	-0.00100
LEAD	220.30	0	0	0	-0.0000130	-0.000132
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.10	0	0	0	0	0
MANGANESE	257.60	0	0	0	0	0.0000500
MOLYBDENUM	202.00	0	0	0	0	0
NICKEL	231.60	0	0	0	-0.000860	0
PHOSPHORUS	214.90	0	0	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.10	0	0	0	0	0
SILICON	212.40	0	0	0	0	0
SILVER	328.10	0	0	0	0	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0.00000500	0	0	0
THALLIUM	190.80	0	0	0	0.00240	0.000276
TIN	189.90	0	0	0	0	0
TITANIUM	337.20	0	0	0	0	0
VANADIUM	292.40	0	0	0	0	-0.00350
ZINC	206.20	0	0	0	0	-0.00180
ZIRCONIUM	339.10	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 5204293
Report generated: 03/17/2017 13:40

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L17030724 **Date:** 01/04/2017
Insturment ID: ICP-THERMO4 **Method:** 6010C

Analyte	Wave Length	CU	FE	K	LI	MG
ALUMINUM	308.20	0	0	0	0	0
ANTIMONY	206.80	0	0.0000560	0	0	0
ARSENIC	189.00	0	-0.0000490	0	0	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	0	0	0	0
BORON	249.60	0	0.000648	0	0	0
CADMIUM	228.80	0	-0.00000500	0	0	0
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0	0.0000400	0	0	0
COBALT	228.60	0	0	0	0	0
COPPER	224.70	0	0.00139	0	0	0
IRON	261.10	0	0	0	0	0
LEAD	220.30	0.000609	0	0	0	0
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.10	0	0	0	0	0
MANGANESE	257.60	0	0	0	0	0.0000220
MOLYBDENUM	202.00	0	0	0	0	0
NICKEL	231.60	0	0.0000420	0	0	0
PHOSPHORUS	214.90	0.0390	0.000900	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.10	0	0	0	0	0
SILICON	212.40	0	0	0	0	0
SILVER	328.10	0	-0.000118	0	0	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.90	0	0	0	0	0
TITANIUM	337.20	0	-0.000200	0	0	0
VANADIUM	292.40	0	0.0000700	0	0	0
ZINC	206.20	0	0	0	0	0
ZIRCONIUM	339.10	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 5204293
Report generated: 03/17/2017 13:40

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L17030724 **Date:** 01/04/2017
Insturment ID: ICP-THERMO4 **Method:** 6010C

Analyte	Wave Length	MN	MO	NA	NI	P
ALUMINUM	308.20	0	0.0163	0	0	0
ANTIMONY	206.80	0	0.000910	0	-0.00190	0
ARSENIC	189.00	0	0.000139	0	0	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	0	0	0	0
BORON	249.60	0	-0.00190	0	0	0
CADMIUM	228.80	0	0.0000320	0	-0.000770	0
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0.000360	0	0	0	0
COBALT	228.60	0	-0.00200	0	0.000100	0
COPPER	224.70	0	0.00160	0	-0.0123	0
IRON	261.10	0	0	0	0	0
LEAD	220.30	0	-0.000610	0	0.000110	0
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.10	-0.00290	-0.0230	0	0	0
MANGANESE	257.60	0	0	0	0	0
MOLYBDENUM	202.00	0	0.0000300	0	0	0
NICKEL	231.60	0	0	0	0	0
PHOSPHORUS	214.90	0	0.00710	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.10	0.000600	0.000580	0	0	0
SILICON	212.40	0	-0.354	0	0	0
SILVER	328.10	0	-0.0000100	0	0	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0	0	0	0
THALLIUM	190.80	0.00100	0	0	0	0
TIN	189.90	0	0	0	0	0
TITANIUM	337.20	0	-0.000153	0	0	0
VANADIUM	292.40	-0.000200	-0.00160	0	0	0
ZINC	206.20	0	0	0	0	0
ZIRCONIUM	339.10	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 5204293
Report generated: 03/17/2017 13:40

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L17030724 **Date:** 01/04/2017
Insturment ID: ICP-THERMO4 **Method:** 6010C

Analyte	Wave Length	PB	SB	SE	SI	SN
ALUMINUM	308.20	0	0	0	0	0
ANTIMONY	206.80	0	0	0	0	-0.0320
ARSENIC	189.00	0	0	0	0	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	0	0	0	0
BORON	249.60	0	0	0	0	0
CADMIUM	228.80	0	0	0	0	0
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0	0	0	0	0
COBALT	228.60	0	0	0	0	0
COPPER	224.70	0.00440	0	0	0	0
IRON	261.10	0	0	0	0	0
LEAD	220.30	0	0	0	0	0
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.10	0	0	0	0	0
MANGANESE	257.60	0	0	0	0	0
MOLYBDENUM	202.00	0	0	0	0	0
NICKEL	231.60	0	0	0	0	0
PHOSPHORUS	214.90	0	0	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.10	0	0	0	0	0
SILICON	212.40	0	0	0	0	0
SILVER	328.10	0	0	0	0	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.90	0	0	0	0	0
TITANIUM	337.20	0	0	0	0	0
VANADIUM	292.40	0	0	0	0	0
ZINC	206.20	0	0	0	0	0
ZIRCONIUM	339.10	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 5204293
Report generated: 03/17/2017 13:40

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L17030724 **Date:** 01/04/2017
Insturment ID: ICP-THERMO4 **Method:** 6010C

Analyte	Wave Length	SR	TI	TL	V	ZN
ALUMINUM	308.20	0	0	0	0.0720	0
ANTIMONY	206.80	0	0.000500	0	-0.00360	0
ARSENIC	189.00	0	0	0	0.000107	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	-0.00000700	0	0.000990	0
BORON	249.60	0	0	0	0	0
CADMIUM	228.80	0	0	0	0.000102	0
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0	0.0000550	0	0	0
COBALT	228.60	0	0.00170	0	0.0000200	0
COPPER	224.70	0	0.000269	0	0	0
IRON	261.10	0	0	0	0	0
LEAD	220.30	0	0	0	-0.000126	0
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.10	0	-0.00290	0	0	0
MANGANESE	257.60	0	0	0	0	0
MOLYBDENUM	202.00	0	0	0	-0.000110	0
NICKEL	231.60	0	0	0	0	0
PHOSPHORUS	214.90	0	0	0	-0.00100	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.10	0	0	0	0	0
SILICON	212.40	0	0	0	0	0
SILVER	328.10	0	-0.000720	0	-0.000260	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0	0	0	0
THALLIUM	190.80	0	-0.00100	0	-0.0420	0
TIN	189.90	0	-0.00190	0	0	0
TITANIUM	337.20	0	0	0	0	0
VANADIUM	292.40	0	0.000820	0	0	0
ZINC	206.20	0	0	0	0	0
ZIRCONIUM	339.10	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 5204293
Report generated: 03/17/2017 13:40

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L17030724 **Date:** 01/04/2017
Insturment ID: ICP-THERMO4 **Method:** 6010C

Analyte	Wave Length	ZR
ALUMINUM	308.20	0
ANTIMONY	206.80	0
ARSENIC	189.00	0
BARIUM	455.40	0
BERYLLIUM	313.10	0
BORON	249.60	0
CADMIUM	228.80	0
CALCIUM	422.60	0
CHROMIUM	267.70	0
COBALT	228.60	0
COPPER	224.70	0
IRON	261.10	0
LEAD	220.30	0
LITHIUM	670.70	0
MAGNESIUM	279.10	0
MANGANESE	257.60	0
MOLYBDENUM	202.00	0
NICKEL	231.60	0
PHOSPHORUS	214.90	0
POTASSIUM	766.40	0
SELENIUM	196.10	0
SILICON	212.40	0
SILVER	328.10	0
SODIUM	589.50	0
STRONTIUM	407.70	0
THALLIUM	190.80	0
TIN	189.90	0
TITANIUM	337.20	0
VANADIUM	292.40	0
ZINC	206.20	0
ZIRCONIUM	339.10	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 5204293
Report generated: 03/17/2017 13:40

Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L17030724 **Date:** 01/24/2017
Insturment ID: ICP-THERMO4 **Method:** 6010C

Analyte	Integration Time (Sec.)	Concentration (ug/L)
Aluminum	10.00	900.0
Antimony	20.00	45.0
Arsenic	10.00	45.0
Barium	10.00	45.0
Beryllium	10.00	1.8
Boron	20.00	45.0
Cadmium	20.00	4.5
Calcium	8.00	270.0
Chromium	20.00	36.0
Cobalt	20.00	45.0
Copper	20.00	180.0
Iron	8.00	720.0
Lead	20.00	225.0
Lithium	8.00	36.0
Magnesium	8.00	900.0
Manganese	10.00	36.0
Molybdenum	20.00	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	4.5
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: 5204292
Report generated: 03/17/2017 13:39

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}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	-0.000377	0.040947	0.000000	1.000000
Al 308.215 {109}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.001052	0.009807	0.000000	1.000000
As 189.042 {478}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000055	0.023517	0.000000	1.000000
B 249.678 {135}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000155	0.014403	0.000000	1.000000
Ba 455.403 { 74}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.011912	1.667451	0.000000	1.000000
Be 313.107 {108}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000249	0.755798	0.000000	1.000000
Ca 422.673 { 80}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000486	0.034315	0.000000	1.000000
Cd 228.802 {447}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000543	0.412574	0.000000	1.000000
Co 228.616 {447}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000314	0.314408	0.000000	1.000000
Cr 267.716 {126}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000037	0.038641	0.000000	1.000000
Cu 224.700 {450}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	-0.000345	0.096233	0.000000	1.000000
Fe 261.187 {129}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	-0.000011	0.015007	0.000000	1.000000
K 766.490 { 44}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	-0.004922	0.037360	0.000000	1.000000
Li 670.784 { 50}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	-0.002031	0.737314	0.000000	1.000000
Mg 279.079 {121}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	-0.000445	0.003212	0.000000	1.000000
Mn 257.610 {131}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000820	0.151843	0.000000	1.000000
Mo 202.030 {467}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000149	0.136077	0.000000	1.000000
Na 589.592 { 57}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	-0.008662	0.098226	0.000000	1.000000
Ni 231.604 {446}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	-0.000647	0.088890	0.000000	1.000000
P 214.914 {457}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000037	0.010596	0.000000	1.000000
Pb 220.353 {453}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	-0.000374	0.053962	0.000000	1.000000
Sb 206.833 {463}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000381	0.025000	0.000000	1.000000
Se 196.090 {472}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000026	0.014841	0.000000	1.000000
Si 212.412 {459}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000200	0.029746	0.000000	1.000000
Sn 189.989 {477}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.001459	0.070495	0.000000	1.000000
Sr 407.771 { 83}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.002520	2.437521	0.000000	1.000000
Ti 337.280 {100}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	-0.000870	0.088370	0.000000	1.000000
Tl 190.856 {477}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	-0.000118	0.019514	0.000000	1.000000
V 292.402 {115}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000074	0.053074	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}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	0.000524	0.460070	0.000000	1.000000
Zr 339.198 { 99}	3/16/2017 10:12:14	3/16/2017 10:12:14	Linear	1/Conc	-0.001965	0.002985	0.000000	1.000000

Approved: March 17, 2017

	Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Reslope		QC Norm	
							Slope	Y-int	Slope factor	Offset
	Ag 328.068 {103}	0.999528	0.000003	0.002400	0.008000	OK.	1.000000	0.000000	1	0
	Al 308.215 {109}	0.999861	0.000010	0.007659	0.025529	OK.	1.000000	0.000000	1	0
	As 189.042 {478}	0.999626	0.000003	0.004894	0.016312	OK.	1.000000	0.000000	1	0
	B 249.678 {135}	0.999694	0.000002	0.003360	0.011199	OK.	1.000000	0.000000	1	0
	Ba 455.403 { 74}	0.999987	0.000054	0.000831	0.002771	OK.	1.000000	0.000000	1	0
	Be 313.107 {108}	0.999952	0.000002	0.000088	0.000294	OK.	1.000000	0.000000	1	0
	Ca 422.673 { 80}	0.999979	0.000014	0.029006	0.096685	OK.	1.000000	0.000000	1	0
	Cd 228.802 {447}	0.999311	0.000005	0.000420	0.001401	OK.	1.000000	0.000000	1	0
	Co 228.616 {447}	0.999913	0.000005	0.000641	0.002138	OK.	1.000000	0.000000	1	0
	Cr 267.716 {126}	0.999824	0.000002	0.001518	0.005061	OK.	1.000000	0.000000	1	0
	Cu 224.700 {450}	0.999772	0.000007	0.002357	0.007858	OK.	1.000000	0.000000	1	0
	Fe 261.187 {129}	0.999879	0.000006	0.020959	0.069864	OK.	1.000000	0.000000	1	0
	K 766.490 { 44}	0.999976	0.000083	0.086305	0.287682	OK.	1.000000	0.000000	1	0
	Li 670.784 { 50}	0.999888	0.000108	0.004548	0.015160	OK.	1.000000	0.000000	1	0
	Mg 279.079 {121}	0.999931	0.000004	0.098161	0.327203	OK.	1.000000	0.000000	1	0
	Mn 257.610 {131}	0.999653	0.000013	0.002593	0.008644	OK.	1.000000	0.000000	1	0
	Mo 202.030 {467}	0.999984	0.000005	0.000798	0.002661	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	0.999990	0.000137	0.031103	0.103677	OK.	1.000000	0.000000	1	0
	Ni 231.604 {446}	0.999956	0.000003	0.002169	0.007231	OK.	1.000000	0.000000	1	0
	P 214.914 {457}	0.999944	0.000007	0.012054	0.040179	OK.	1.000000	0.000000	1	0
	Pb 220.353 {453}	0.998364	0.000010	0.005496	0.018321	OK.	1.000000	0.000000	1	0
	Sb 206.833 {463}	0.999901	0.000003	0.007448	0.024827	OK.	1.000000	0.000000	1	0
	Se 196.090 {472}	0.999076	0.000003	0.010472	0.034908	OK.	1.000000	0.000000	1	0
	Si 212.412 {459}	0.999988	0.000004	0.004176	0.013920	OK.	1.000000	0.000000	1	0
	Sn 189.989 {477}	0.999983	0.000003	0.001367	0.004557	OK.	1.000000	0.000000	1	0
	Sr 407.771 { 83}	0.999996	0.000046	0.000411	0.001370	OK.	1.000000	0.000000	1	0
	Ti 337.280 {100}	0.999936	0.000006	0.006407	0.021357	OK.	1.000000	0.000000	1	0
	Tl 190.856 {477}	0.999918	0.000001	0.006567	0.021891	OK.	1.000000	0.000000	1	0
	V 292.402 {115}	0.999973	0.000002	0.001210	0.004034	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}	0.999999	0.000005	0.000278	0.000928	OK.	1.000000	0.000000	1	0
	Zr 339.198 { 99}	0.612412	0.000024	0.295495	0.984985	OK.	1.000000	0.000000	1	0

Approved: March 17, 2017

Sample Name: S0 Acquired: 3/16/2017 9:53:41 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00038**	**.00105**	**.00006**	**.00016**	**.01191**	**.00025**	**.00049**
Stddev	.00007	.00002	.00016	.00001	.00145	.00007	.00084
%RSD	19.214	1.4476	287.21	7.6317	12.214	28.804	171.89
#1	-.00039	.00105	.00015	.00014	.01217	.00022	.00144
#2	-.00030	.00107	.00015	.00017	.01034	.00020	-.00011
#3	-.00044	.00104	-.00013	.00016	.01322	.00033	.00013

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	**.00054**	**.00031**	**.00004**	**-.00034**	**-.00001**	**-.00492**	**-.00203**
Stddev	.00021	.00015	.00003	.00011	.00018	.00285	.00512
%RSD	38.936	46.427	70.381	30.729	1619.3	57.865	251.69
#1	.00057	.00015	.00004	-.00024	-.00016	-.00776	-.00788
#2	.00032	.00039	.00006	-.00035	.00020	-.00206	.00014
#3	.00074	.00041	.00001	-.00045	-.00007	-.00495	.00164

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	**-.00044**	**.00082**	**.00015**	**-.00866**	**-.00065**	**.00004**	**-.00037**
Stddev	.00040	.00031	.00010	.00184	.00003	.00014	.00019
%RSD	90.124	38.227	69.178	21.258	3.9926	378.07	51.799
#1	-.00086	.00090	.00014	-.00697	-.00065	-.00013	-.00021
#2	-.00006	.00047	.00026	-.01063	-.00067	.00011	-.00032
#3	-.00042	.00109	.00005	-.00839	-.00062	.00012	-.00059

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00038**	**.00003**	**.00020**	**.00146**	**.00252**	**-.00087**	**-.00012**
Stddev	.00011	.00003	.00005	.00003	.00096	.00063	.00011
%RSD	29.821	120.42	25.119	1.9051	38.184	72.470	88.904
#1	.00029	.00006	.00015	.00148	.00341	-.00044	-.00006
#2	.00034	-.00001	.00021	.00147	.00265	-.00057	-.00006
#3	.00051	.00003	.00024	.00143	.00150	-.00159	-.00024

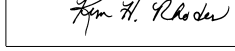
Approved: March 17, 2017

Sample Name: S0 Acquired: 3/16/2017 9:53:41 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: IR Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S
Avg	**.00007**	**.00052**	**-.00197**
Stddev	.00005	.00012	.00086
%RSD	69.041	22.486	43.549
#1	.00004	.00039	-.00147
#2	.00013	.00057	-.00295
#3	.00005	.00061	-.00147

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4985.9**	**59970.**	**5422.6**
Stddev	24.4	1440.	51.7
%RSD	.48850	2.4009	.95292
#1	5010.8	58335.	5477.9
#2	4984.6	60522.	5414.3
#3	4962.2	61051.	5375.6

Approved: March 17, 2017



Sample Name: S1 Acquired: 3/16/2017 9:57:31 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00023**	**.00196**	**.02598**	**.00053**	**.00349**	**.00059**	**.00069**
Stddev	.00011	.00002	.00215	.00004	.00029	.00013	.00008
%RSD	46.712	1.0460	8.2714	6.9282	8.4091	21.614	11.298
#1	-.00011	.00198	.02421	.00050	.00315	.00056	.00060
#2	-.00027	.00194	.02535	.00053	.00369	.00073	.00074
#3	-.00032	.00196	.02837	.00057	.00362	.00048	.00073

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	**.00015**	**.00001**	**.00061**	**.01084**	**.00165**	**.00119**	**.03060**
Stddev	.00002	.00015	.00014	.00100	.00016	.00003	.00274
%RSD	14.766	1215.3	22.862	9.2209	9.4658	2.6491	8.9386
#1	.00014	.00016	.00069	.01193	.00166	.00118	.02890
#2	.00017	.00001	.00045	.00997	.00149	.00116	.03376
#3	.00013	-.00013	.00069	.01062	.00180	.00122	.02915

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	**-.00024**	**.00076**	**.00007**	**.00057**	**.00140**	**.00206**	**.02246**
Stddev	.00016	.00009	.00019	.00021	.00010	.00007	.00028
%RSD	67.459	12.089	255.74	36.296	6.9281	3.5973	1.2646
#1	-.00024	.00084	.00026	.00033	.00137	.00214	.02265
#2	-.00008	.00079	-.00012	.00072	.00151	.00204	.02259
#3	-.00040	.00066	.00009	.00066	.00132	.00199	.02213

Elem	Ti3372	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.00018**	**.00045**	**.00420**	**-.00159**
Stddev	.00009	.00006	.00009	.00063
%RSD	48.912	13.450	2.0702	39.439
#1	-.00011	.00043	.00423	-.00224
#2	-.00027	.00052	.00410	-.00156
#3	-.00014	.00041	.00426	-.00098

Approved: March 17, 2017

Sample Name: S1 Acquired: 3/16/2017 9:57:31 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**4977.3**	**61004.**	**5483.7**
Stddev	11.6	200.	20.1
%RSD	.23263	.32739	.36621
#1	4963.9	61176.	5495.0
#2	4984.3	61051.	5460.6
#3	4983.6	60785.	5495.7

Approved: March 17, 2017

Sample Name: S2 Acquired: 3/16/2017 10:01:21 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: IR Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.00001**	**.00286**	**.00015**	**.00031**	**.03944**	**.00081**	**.00592**
Stddev	.00002	.00007	.00003	.00001	.00044	.00003	.00041
%RSD	299.56	2.5772	19.824	4.1105	1.1092	3.7542	6.8902
#1	.00000	.00292	.00013	.00032	.03956	.00080	.00631
#2	.00001	.00278	.00014	.00030	.03980	.00084	.00596
#3	-.00003	.00288	.00018	.00030	.03896	.00078	.00549

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	**.00082**	**.00134**	**.00030**	**.00021**	**.00089**	**.02359**	**.01218**
Stddev	.00005	.00011	.00006	.00031	.00001	.00496	.00166
%RSD	5.7783	8.1894	20.546	152.04	.93405	21.047	13.593
#1	.00082	.00127	.00034	.00004	.00089	.02573	.01103
#2	.00077	.00128	.00023	.00001	.00090	.01791	.01142
#3	.00087	.00147	.00033	.00057	.00088	.02712	.01407

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	**.00015**	**.00234**	**.00221**	**.07256**	**.00012**	**.00169**	**.00015**
Stddev	.00029	.00020	.00008	.00400	.00015	.00015	.00015
%RSD	199.61	8.4304	3.7202	5.5119	126.04	8.6868	102.42
#1	.00013	.00244	.00213	.06795	.00011	.00169	-.00002
#2	.00045	.00211	.00221	.07516	-.00003	.00184	.00019
#3	-.00014	.00247	.00229	.07455	.00028	.00154	.00027

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00091**	**.00018**	**.00248**	**.00266**	**.04181**	**.00072**	**.00004**
Stddev	.00023	.00006	.00011	.00002	.00072	.00019	.00015
%RSD	25.280	33.751	4.4920	.90865	1.7279	25.920	386.14
#1	.00078	.00024	.00249	.00265	.04182	.00071	.00021
#2	.00077	.00013	.00236	.00264	.04253	.00054	-.00004
#3	.00117	.00016	.00258	.00268	.04108	.00092	-.00006

Approved: March 17, 2017

Sample Name: S2 Acquired: 3/16/2017 10:01:21 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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**	**.00789**	**-.00124**
Stddev	.00002	.00013	.00065
%RSD	2.2634	1.5888	52.540
#1	.00092	.00781	-.00190
#2	.00096	.00804	-.00120
#3	.00093	.00784	-.00060

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4981.2**	**61050.**	**5446.2**
Stddev	16.8	156.	33.0
%RSD	.33697	.25529	.60541
#1	4997.5	61145.	5484.1
#2	4982.1	61135.	5423.8
#3	4963.9	60870.	5430.8

Approved: March 17, 2017

Sample Name: S3 Acquired: 3/16/2017 10:05:11 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: IR Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.01589**	**.10133**	**.00936**	**.00726**	**1.6704**	**.03850**	**.34153**	**.02306**
Stddev	.00008	.00014	.00007	.00006	.0074	.00012	.00162	.00013
%RSD	.48613	.13528	.78665	.82204	.44246	.31545	.47341	.54432
#1	.01594	.10118	.00932	.00722	1.6713	.03840	.34220	.02295
#2	.01580	.10146	.00932	.00722	1.6773	.03846	.34271	.02319
#3	.01592	.10136	.00945	.00733	1.6626	.03864	.33969	.02304

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.06319**	**.01936**	**.04807**	**.05996**	**1.8489**	**.73334**	**.03141**	**.07649**
Stddev	.00013	.00009	.00024	.00021	.0076	.00253	.00023	.00009
%RSD	.19952	.45261	.49665	.35744	.41160	.34560	.74545	.11960
#1	.06333	.01931	.04779	.06009	1.8435	.73371	.03167	.07648
#2	.06311	.01930	.04822	.05971	1.8576	.73567	.03134	.07658
#3	.06311	.01946	.04819	.06008	1.8456	.73064	.03121	.07640

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.13560**	**4.8762**	**.04380**	**.10527**	**.02694**	**.02966**	**.00592**	**.13809**
Stddev	.00019	.0144	.00014	.00025	.00007	.00013	.00006	.00030
%RSD	.13879	.29507	.33094	.24158	.27667	.43967	.93108	.21452
#1	.13549	4.8816	.04396	.10512	.02695	.02965	.00599	.13842
#2	.13551	4.8871	.04368	.10512	.02702	.02980	.00591	.13786
#3	.13582	4.8599	.04376	.10556	.02687	.02954	.00588	.13798

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.07194**	**2.4306**	**.08658**	**.00895**	**.05268**	**.45928**	**.00090**
Stddev	.00024	.0116	.00063	.00011	.00007	.00032	.00067
%RSD	.33245	.47715	.73125	1.2583	.12596	.06985	75.083
#1	.07167	2.4273	.08603	.00905	.05274	.45892	.00016
#2	.07206	2.4434	.08727	.00897	.05269	.45940	.00106
#3	.07210	2.4209	.08644	.00882	.05261	.45953	.00147

Approved: March 17, 2017

Sample Name: S3 Acquired: 3/16/2017 10:05:11 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**4910.4**	**58241.**	**5448.8**
Stddev	11.7	264.	38.5
%RSD	.23727	.45361	.70601
#1	4909.9	58539.	5486.3
#2	4899.0	58036.	5409.4
#3	4922.3	58148.	5450.7

Approved: March 17, 2017

Sample Name: S4 Acquired: 3/16/2017 10:08:47 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: IR Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.03223**	**.19722**	**.01885**	**.01453**	**3.3542**	**.07768**	**.68869**	**.04586**
Stddev	.00023	.00058	.00003	.00014	.0070	.00010	.00309	.00019
%RSD	.71997	.29280	.16468	.98325	.20816	.12810	.44857	.40441
#1	.03225	.19681	.01885	.01444	3.3477	.07759	.68715	.04587
#2	.03198	.19788	.01882	.01446	3.3534	.07779	.68667	.04567
#3	.03244	.19696	.01888	.01470	3.3616	.07767	.69224	.04604

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.12588**	**.03881**	**.09633**	**.12000**	**3.7458**	**1.4721**	**.06374**	**.15242**
Stddev	.00052	.00011	.00027	.00101	.0086	.0089	.00049	.00014
%RSD	.41265	.27229	.27803	.83953	.22816	.60481	.77240	.09128
#1	.12590	.03869	.09661	.11927	3.7439	1.4684	.06403	.15230
#2	.12535	.03889	.09607	.11959	3.7552	1.4657	.06401	.15238
#3	.12639	.03885	.09631	.12115	3.7384	1.4823	.06317	.15257

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.27304**	**9.8377**	**.08813**	**.21368**	**.05342**	**.05948**	**.01192**	**.27676**
Stddev	.00088	.0417	.00038	.00111	.00037	.00042	.00014	.00136
%RSD	.32070	.42342	.42818	.51767	.69465	.71450	1.1750	.49215
#1	.27300	9.8159	.08831	.21415	.05340	.05958	.01202	.27744
#2	.27219	9.8115	.08770	.21242	.05306	.05901	.01176	.27519
#3	.27394	9.8857	.08839	.21448	.05380	.05984	.01199	.27765

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.14195**	**4.8867**	**.17637**	**.01761**	**.10635**	**.92117**	**.00309**
Stddev	.00071	.0133	.00085	.00020	.00019	.00304	.00056
%RSD	.49883	.27230	.47921	1.1585	.17432	.32960	17.982
#1	.14255	4.8751	.17643	.01784	.10614	.92316	.00247
#2	.14117	4.8837	.17719	.01745	.10642	.91767	.00354
#3	.14214	4.9012	.17550	.01755	.10649	.92267	.00327

Approved: March 17, 2017

Sample Name: S4 Acquired: 3/16/2017 10:08:47 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**4818.1**	**57424.**	**5382.5**
Stddev	27.4	346.	40.8
%RSD	.56790	.60225	.75792
#1	4800.4	57111.	5381.6
#2	4804.3	57795.	5342.2
#3	4849.6	57366.	5423.8

Approved: March 17, 2017

Sample Name: ICV Acquired: 3/16/2017 10:12:18 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.40077**	**10.093**	**.40616**	**.49379**	**.99352**	**.05039**	**10.072**
Stddev	.00401	.060	.00720	.00369	.00138	.00025	.077
%RSD	1.0007	.59713	1.7738	.74736	.13870	.50571	.76760
#1	.39723	10.076	.41045	.49011	.99467	.05012	10.140
#2	.40512	10.043	.41020	.49375	.99199	.05045	9.9879
#3	.39996	10.160	.39785	.49749	.99389	.05062	10.087
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	**.05054**	**.20141**	**.49945**	**.50288**	**3.9896**	**49.892**	**.99273**
Stddev	.00031	.00088	.00261	.00139	.0089	.094	.00387
%RSD	.60902	.43629	.52206	.27611	.22358	.18926	.38979
#1	.05023	.20078	.49981	.50360	3.9899	49.956	.99712
#2	.05085	.20104	.49668	.50376	3.9984	49.936	.98980
#3	.05053	.20241	.50186	.50128	3.9805	49.783	.99129
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	**10.095**	**.49880**	F **.94188**	**49.605**	**.50127**	**9.9306**	**.49731**
Stddev	.036	.00118	.00321	.251	.00232	.0402	.00218
%RSD	.35440	.23636	.34070	.50546	.46315	.40496	.43815
#1	10.103	.49786	.94404	49.885	.49862	9.9152	.49979
#2	10.126	.49841	.93819	49.402	.50231	9.9004	.49569
#3	10.056	.50012	.94341	49.528	.50290	9.9763	.49647
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value			1.0000				
Range			-5.0000%				

Approved: March 17, 2017

Sample Name: ICV Acquired: 3/16/2017 10:12:18 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**1.2173**	**.40720**	**4.9071**	**1.0050**	**.99554**	**.98996**	**.50052**
Stddev	.0033	.00097	.0220	.0056	.00192	.00601	.00678
%RSD	.27186	.23794	.44726	.55723	.19303	.60700	1.3545
#1	1.2135	.40700	4.8936	1.0037	.99650	.99533	.49728
#2	1.2191	.40635	4.8953	1.0002	.99679	.98347	.49597
#3	1.2193	.40826	4.9325	1.0112	.99332	.99108	.50831
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	**.99101**	**1.0026**	F **.64550**
Stddev	.00524	.0030	.07183
%RSD	.52924	.29989	11.129
#1	.98865	1.0020	.65576
#2	.98735	.99994	.71165
#3	.99702	1.0059	.56908
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	**4907.5**	**58305.**	**5468.6**
Stddev	13.5	667.	8.9
%RSD	.27458	1.1434	.16258
#1	4898.3	58516.	5458.5
#2	4923.0	58842.	5475.1
#3	4901.4	57559.	5472.3

Approved: March 17, 2017

Sample Name: ICB Acquired: 3/16/2017 10:15:54 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00124**	**.00159**	**-.00136**	**.00489**	**.00017**	**-.00007**	**-.03050**
Stddev	.00042	.00584	.00400	.00226	.00057	.00004	.01140
%RSD	34.112	366.75	293.42	46.210	327.91	55.496	37.393
#1	.00148	.00828	.00081	.00640	-.00033	-.00003	-.02036
#2	.00075	-.00100	.00107	.00229	.00080	-.00007	-.04284
#3	.00149	-.00250	-.00597	.00599	.00005	-.00011	-.02829
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	**-.00027**	**.00040**	**-.00143**	**-.00179**	**.01571**	**.15347**	**-.00026**
Stddev	.00033	.00045	.00117	.00333	.02058	.04886	.00197
%RSD	119.87	111.76	81.980	185.81	131.00	31.837	749.88
#1	-.00065	.00051	-.00027	-.00387	-.00632	.20641	-.00241
#2	-.00010	-.00009	-.00262	.00205	.01901	.14389	.00018
#3	-.00007	.00078	-.00140	-.00356	.03444	.11011	.00145
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	**.02218**	**.00253**	**-.00041**	**.02271**	**-.00031**	**.00374**	**-.00114**
Stddev	.00665	.00275	.00058	.03329	.00104	.00769	.00405
%RSD	29.992	108.42	139.96	146.57	332.43	205.52	354.95
#1	.01602	.00282	-.00031	.04380	-.00108	.00145	-.00010
#2	.02924	-.00035	.00011	-.01567	.00087	-.00254	.00228
#3	.02129	.00513	-.00103	.04001	-.00073	.01232	-.00561
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: ICB Acquired: 3/16/2017 10:15:54 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00085**	**.00443**	**.00088**	**.00023**	**-.00005**	**.00143**	**-.00219**
Stddev	.00349	.00512	.00090	.00076	.00049	.00138	.00309
%RSD	411.13	115.55	101.26	324.29	931.79	96.354	140.79
#1	-.00042	.00798	.00063	-.00020	.00040	.00001	-.00543
#2	.00241	.00676	.00014	.00111	.00002	.00152	-.00187
#3	-.00454	-.00144	.00188	-.00021	-.00058	.00275	.00072
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.00101**	**.00085**	F **.21915**
Stddev	.00119	.00018	.15808
%RSD	118.53	20.702	72.134
#1	.00235	.00068	.17629
#2	.00059	.00083	.39425
#3	.00008	.00104	.08692
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	**4988.5**	**60802.**	**5491.2**
Stddev	26.9	47.	17.3
%RSD	.53831	.07665	.31540
#1	4964.2	60847.	5496.8
#2	5017.4	60805.	5471.8
#3	4984.0	60754.	5505.1

Approved: March 17, 2017

Sample Name: LLICV Acquired: 3/16/2017 10:19:44 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.01235**	**.18783**	**.00400**	**.07759**	**.00857**	**.00155**	**.40930**	**.00044**
Stddev	.00134	.00596	.00171	.00175	.00015	.00002	.01525	.00026
%RSD	10.825	3.1726	42.864	2.2590	1.7165	1.2910	3.7261	58.483
#1	.01133	.19346	.00211	.07943	.00863	.00155	.39230	.00050
#2	.01186	.18845	.00545	.07739	.00840	.00157	.41382	.00016
#3	.01386	.18159	.00444	.07594	.00868	.00153	.42178	.00066
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00317**	**.00389**	**.00307**	**.08032**	**.80759**	**.08075**	**.42430**	**.00970**
Stddev	.00026	.00118	.00083	.00467	.04782	.00444	.09142	.00105
%RSD	8.1186	30.474	27.074	5.8130	5.9211	5.5029	21.546	10.802
#1	.00334	.00486	.00340	.08540	.85398	.08545	.47376	.00850
#2	.00329	.00257	.00368	.07932	.81032	.08017	.48032	.01019
#3	.00287	.00423	.00212	.07623	.75846	.07662	.31880	.01042
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	**.00766**	**.43968**	**.01615**	**.79905**	**.00882**	**.07811**	**.01988**	**.74125**
Stddev	.00026	.01485	.00118	.01799	.00084	.00368	.00777	.00268
%RSD	3.3902	3.3771	7.2763	2.2509	9.5061	4.7081	39.074	.36137
#1	.00740	.42253	.01486	.77828	.00958	.07598	.02490	.74434
#2	.00791	.44841	.01716	.80930	.00792	.07599	.01093	.73953
#3	.00767	.44809	.01642	.80956	.00896	.08236	.02381	.73989
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: LLICV Acquired: 3/16/2017 10:19:44 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.41451**	**.04093**	**.02264**	**.16818**	**.00809**	**.01818**	**27.797**
Stddev	.00100	.00021	.00282	.00225	.00106	.00033	.630
%RSD	.24091	.52400	12.475	1.3355	13.042	1.8160	2.2678
#1	.41562	.04068	.02588	.16736	.00930	.01843	28.453
#2	.41368	.04104	.02065	.16646	.00734	.01781	27.741
#3	.41424	.04107	.02140	.17072	.00764	.01831	27.196
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	**5012.3**	**61736.**	**5554.4**
Stddev	11.9	49.	40.8
%RSD	.23774	.07937	.73392
#1	5011.5	61714.	5510.3
#2	5000.8	61702.	5590.7
#3	5024.6	61792.	5562.1

Approved: March 17, 2017

Sample Name: LLICV Acquired: 3/16/2017 10:23:33 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.01141**	**.18195**	**.00859**	**.08037**	**.00863**	**.00149**	**.40664**	**.00062**
Stddev	.00120	.00725	.00166	.00293	.00026	.00006	.02031	.00019
%RSD	10.481	3.9872	19.322	3.6401	2.9589	4.0344	4.9936	29.780
#1	.01223	.17438	.00669	.08355	.00843	.00156	.42749	.00084
#2	.01004	.18884	.00927	.07978	.00856	.00145	.38693	.00052
#3	.01196	.18264	.00980	.07779	.00892	.00147	.40548	.00051
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	**.00433**	**.00258**	**.00043**	**.07734**	**.90854**	**.08150**	**.51160**	**.01046**
Stddev	.00033	.00043	.00076	.02001	.06499	.00344	.07751	.00213
%RSD	7.6549	16.477	176.35	25.875	7.1532	4.2152	15.151	20.379
#1	.00430	.00215	.00025	.07456	.96384	.08481	.43383	.00950
#2	.00401	.00260	.00127	.05886	.83696	.07795	.58886	.01290
#3	.00468	.00300	-.00022	.09859	.92483	.08175	.51212	.00897
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	**.00764**	**.43760**	**.01566**	**.78887**	**.01115**	**.08906**	**.01617**	**.73442**
Stddev	.00034	.04596	.00039	.01053	.00417	.00426	.00879	.00383
%RSD	4.4392	10.502	2.4892	1.3347	37.420	4.7871	54.361	.52204
#1	.00731	.40744	.01539	.79448	.00637	.08766	.01578	.73060
#2	.00799	.49049	.01610	.77673	.01302	.08568	.00759	.73438
#3	.00764	.41488	.01548	.79541	.01406	.09385	.02516	.73827
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: LLICV Acquired: 3/16/2017 10:23:33 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.40986**	**.04092**	**.02746**	**.16199**	**.00731**	**.01740**	**27.934**
Stddev	.00095	.00053	.00407	.00742	.00080	.00012	.083
%RSD	.23250	1.2906	14.819	4.5816	11.000	.69576	.29559
#1	.40876	.04073	.02671	.16994	.00663	.01744	27.975
#2	.41046	.04152	.02381	.16078	.00709	.01750	27.989
#3	.41035	.04052	.03185	.15524	.00820	.01727	27.839
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	**5007.4**	**61166.**	**5518.4**
Stddev	8.8	261.	12.2
%RSD	.17548	.42696	.22032
#1	5003.8	61415.	5522.1
#2	5017.4	61189.	5504.8
#3	5001.0	60894.	5528.2

Approved: March 17, 2017

Sample Name: LLICV Acquired: 3/16/2017 10:27:23 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.01203**	**.23284**	**.00726**	**.10003**	**.01115**	**.00194**	**.50169**	**.00104**
Stddev	.00177	.00731	.00587	.00016	.00094	.00007	.02196	.00045
%RSD	14.690	3.1408	80.834	.15923	8.4332	3.4763	4.3774	43.702
#1	.01406	.22497	.01350	.10015	.01071	.00197	.51461	.00051
#2	.01089	.23414	.00647	.10008	.01223	.00198	.51413	.00129
#3	.01112	.23943	.00183	.09985	.01051	.00186	.47634	.00131
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	**.00539**	**.00463**	**.00338**	**.10556**	**1.0697**	**.10224**	**.53436**	**.01050**
Stddev	.00008	.00171	.00232	.00695	.0254	.00272	.07963	.00322
%RSD	1.4023	36.984	68.497	6.5808	2.3726	2.6619	14.902	30.687
#1	.00548	.00558	.00530	.10841	1.0917	.09943	.58043	.01071
#2	.00534	.00566	.00404	.11064	1.0419	.10242	.44241	.00718
#3	.00536	.00265	.00081	.09765	1.0754	.10486	.58023	.01361
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	**.00946**	**.53022**	**.01992**	**1.0086**	**.01530**	**.10371**	**.01787**	**.93116**
Stddev	.00024	.01964	.00039	.0051	.00162	.00489	.00531	.00209
%RSD	2.5079	3.7039	1.9811	.50755	10.574	4.7156	29.727	.22435
#1	.00921	.53809	.02026	1.0135	.01352	.10935	.02130	.93163
#2	.00968	.50787	.01949	1.0033	.01573	.10064	.02056	.93297
#3	.00949	.54471	.02002	1.0090	.01667	.10114	.01175	.92888
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: LLICV Acquired: 3/16/2017 10:27:23 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.52050**	**.05171**	**.02954**	**.20822**	**.00963**	**.02202**	**35.189**
Stddev	.00217	.00009	.00636	.00170	.00053	.00011	.379
%RSD	.41690	.16852	21.540	.81831	5.5180	.48218	1.0759
#1	.52280	.05181	.03552	.20626	.00923	.02209	35.625
#2	.52020	.05166	.03025	.20930	.00943	.02190	34.951
#3	.51849	.05165	.02286	.20911	.01023	.02206	34.990
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	**4967.7**	**60119.**	**5545.6**
Stddev	41.5	608.	38.4
%RSD	.83508	1.0114	.69161
#1	4922.5	60821.	5545.1
#2	5004.1	59775.	5584.1
#3	4976.5	59760.	5507.4

Approved: March 17, 2017

Sample Name: ICSA Acquired: 3/16/2017 10:31:11 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00285**	**244.89**	**.00123**	**.01589**	**.00032**	**-.00005**	**226.01**
Stddev	.00179	.18	.00630	.00146	.00034	.00004	1.12
%RSD	62.951	.07294	512.42	9.1677	105.47	77.224	.49415
#1	.00182	244.89	.00392	.01615	.00060	-.00004	224.88
#2	.00180	244.72	-.00597	.01720	.00040	-.00002	226.05
#3	.00492	245.07	.00574	.01432	-.00005	-.00010	227.11
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	**.00024**	**-.00143**	**-.00243**	**-.00003**	**97.292**	**.16432**	**.00674**
Stddev	.00021	.00026	.00067	.00181	.418	.06369	.00160
%RSD	88.031	18.061	27.540	6027.7	.42924	38.763	23.722
#1	.00047	-.00173	-.00168	.00182	96.933	.10798	.00612
#2	.00005	-.00128	-.00295	-.00010	97.194	.15154	.00855
#3	.00021	-.00129	-.00266	-.00181	97.750	.23343	.00554
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	**245.39**	**.00220**	**-.00105**	**.06634**	**-.00478**	**.05064**	**.00007**
Stddev	.89	.00301	.00067	.03624	.00226	.00221	.00238
%RSD	.36217	136.81	63.738	54.622	47.279	4.3696	3505.0
#1	244.40	.00442	-.00073	.10692	-.00604	.04832	-.00266
#2	245.67	-.00122	-.00060	.05489	-.00217	.05273	.00173
#3	246.11	.00340	-.00182	.03721	-.00612	.05086	.00114
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: ICSA Acquired: 3/16/2017 10:31:11 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00236**	**-.00126**	**.01569**	**-.00011**	**.00131**	**-.00091**	**.00422**
Stddev	.00327	.01261	.00257	.00196	.00002	.00679	.00601
%RSD	138.62	1001.7	16.385	1792.2	1.7512	745.36	142.43
#1	.00162	-.00751	.01360	.00036	.00134	-.00704	.01083
#2	.00593	.01326	.01856	.00157	.00130	-.00209	-.00092
#3	-.00048	-.00952	.01491	-.00226	.00129	.00640	.00275
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	**-.00143**	**-.00617**	F **-2.8987**
Stddev	.00050	.00010	.2367
%RSD	34.861	1.6822	8.1657
#1	-.00174	-.00606	-2.8916
#2	-.00086	-.00626	-2.6656
#3	-.00171	-.00620	-3.1388
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	**4625.3**	**54858.**	**5398.8**
Stddev	22.8	229.	5.8
%RSD	.49349	.41683	.10731
#1	4605.3	55051.	5402.9
#2	4620.3	54606.	5401.3
#3	4650.2	54918.	5392.1

Approved: March 17, 2017

Sample Name: ICSAB Acquired: 3/16/2017 10:34:58 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.50777**	**246.71**	**.23656**	**.51030**	**.24764**	**.25679**	**227.43**
Stddev	.00272	.74	.00388	.00419	.00101	.00083	.85
%RSD	.53629	.30197	1.6400	.82053	.40731	.32448	.37317
#1	.50974	246.39	.23901	.50742	.24880	.25640	228.39
#2	.50467	246.17	.23209	.50838	.24720	.25622	227.15
#3	.50891	247.56	.23859	.51510	.24693	.25774	226.76
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	**.44712**	**.23733**	**.24470**	**.24451**	**98.327**	**5.2614**	**.00255**
Stddev	.00078	.00085	.00074	.00129	.203	.0955	.00219
%RSD	.17445	.35635	.30144	.52591	.20661	1.8149	85.980
#1	.44712	.23680	.24478	.24466	98.100	5.3501	.00385
#2	.44634	.23689	.24393	.24315	98.492	5.1603	.00002
#3	.44790	.23831	.24540	.24571	98.389	5.2739	.00379
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	**246.46**	**.24331**	**-.00140**	**5.1351**	**.47237**	**-.03055**	**.46480**
Stddev	.94	.00318	.00144	.0244	.00262	.02009	.00437
%RSD	.38173	1.3069	102.88	.47494	.55362	65.764	.93943
#1	247.05	.24023	-.00171	5.1577	.47428	-.00980	.46982
#2	246.96	.24658	.00017	5.1092	.46939	-.03193	.46188
#3	245.38	.24311	-.00265	5.1384	.47343	-.04990	.46270
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: ICSAB Acquired: 3/16/2017 10:34:58 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.48334**	**.23730**	**.00813**	**.48373**	**.00129**	**.00129**	**.44575**
Stddev	.00351	.01847	.00111	.00185	.00013	.00327	.00577
%RSD	.72628	7.7852	13.666	.38151	10.230	253.55	1.2953
#1	.48155	.24903	.00888	.48432	.00119	-.00068	.44041
#2	.48738	.24688	.00685	.48166	.00144	.00507	.45188
#3	.48109	.21601	.00865	.48521	.00125	-.00052	.44498
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	**.24805**	**.46914**	F **-3.0785**
Stddev	.00173	.00130	.0685
%RSD	.69639	.27765	2.2240
#1	.24820	.46864	-3.1121
#2	.24626	.46816	-2.9997
#3	.24971	.47061	-3.1236
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	**4621.4**	**54759.**	**5325.3**
Stddev	15.0	533.	32.1
%RSD	.32432	.97343	.60336
#1	4619.5	54214.	5354.9
#2	4607.4	54783.	5291.1
#3	4637.2	55279.	5329.9

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 10:38:39 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.39769**	**10.251**	**.39854**	**.49598**	**.99382**	**.04991**	**9.9775**
Stddev	.00299	.024	.00115	.00831	.00471	.00008	.0728
%RSD	.75203	.23499	.28936	1.6750	.47369	.15915	.72944
#1	.39768	10.223	.39766	.48889	.98842	.04982	9.9296
#2	.39471	10.266	.39811	.49393	.99597	.04995	9.9417
#3	.40069	10.264	.39984	.50512	.99707	.04996	10.061
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04974**	**.19999**	**.50106**	**.50351**	**3.9927**	**49.610**	**.99941**
Stddev	.00014	.00009	.00122	.00114	.0369	.465	.01207
%RSD	.28785	.04297	.24301	.22625	.92441	.93690	1.2073
#1	.04959	.20004	.50103	.50470	3.9672	49.098	.98685
#2	.04977	.20003	.49985	.50243	4.0350	49.727	1.0005
#3	.04987	.19989	.50229	.50339	3.9757	50.005	1.0109
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	**9.9192**	**.49826**	**.98748**	**49.722**	**.50377**	**9.8828**	**.50264**
Stddev	.2258	.00436	.00343	.562	.00244	.0232	.00559
%RSD	2.2767	.87561	.34717	1.1307	.48430	.23480	1.1123
#1	9.7166	.49384	.98934	49.116	.50096	9.8772	.49861
#2	10.163	.50256	.98957	49.822	.50535	9.9083	.50902
#3	9.8782	.49840	.98352	50.227	.50499	9.8629	.50028
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 10:38:39 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**1.1932**	**.39712**	**4.9273**	**.99282**	**.99262**	**.97334**	**.50680**
Stddev	.0063	.00302	.0082	.00070	.00198	.00652	.00460
%RSD	.52417	.76027	.16576	.07101	.19979	.67036	.90794
#1	1.1870	.39546	4.9213	.99201	.99043	.97058	.50150
#2	1.1995	.39531	4.9366	.99324	.99311	.96865	.50913
#3	1.1931	.40061	4.9241	.99322	.99431	.98079	.50978
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	**.99990**	**1.0046**	F **1.5699**
Stddev	.00127	.0012	.2966
%RSD	.12688	.12070	18.894
#1	.99854	1.0038	1.3408
#2	1.0001	1.0060	1.9050
#3	1.0010	1.0041	1.4641
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	**4879.7**	**58638.**	**5072.7**
Stddev	22.0	251.	329.5
%RSD	.45037	.42830	6.4951
#1	4905.1	58907.	5431.7
#2	4867.9	58599.	5002.3
#3	4866.2	58409.	4784.2

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 10:42:14 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00179**	**.00033**	**-.00177**	**.00367**	**.00054**	**-.00007**	**-.01348**
Stddev	.00183	.00307	.00182	.00024	.00082	.00002	.01321
%RSD	102.13	942.54	103.14	6.4799	150.37	23.479	97.970
#1	.00159	.00372	-.00241	.00377	.00148	-.00005	-.00061
#2	.00372	-.00227	-.00319	.00340	.00020	-.00008	-.01283
#3	.00007	-.00047	.00029	.00385	-.00005	-.00007	-.02700
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**	**.00002**	**-.00017**	**-.00270**	**-.00293**	**.04235**	**.00117**
Stddev	.00047	.00026	.00134	.00100	.00824	.11126	.00102
%RSD	773.33	1307.1	803.41	37.071	281.34	262.69	87.030
#1	-.00060	.00031	-.00108	-.00221	-.00736	.05675	.00000
#2	.00028	-.00007	-.00079	-.00204	.00658	.14571	.00187
#3	.00014	-.00018	.00137	-.00385	-.00801	-.07540	.00162
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04768**	**.00019**	**-.00060**	**.00937**	**-.00068**	**-.00837**	**.00028**
Stddev	.01266	.00178	.00018	.02103	.00056	.01020	.00086
%RSD	26.554	924.61	30.608	224.42	82.479	121.91	313.77
#1	.04210	-.00071	-.00061	-.01120	-.00070	-.01913	-.00071
#2	.06218	-.00095	-.00041	.00849	-.00011	.00118	.00065
#3	.03877	.00225	-.00077	.03084	-.00124	-.00716	.00089
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 10:42:14 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00306**	**-.00268**	**.00247**	**.00039**	**.00004**	**-.00113**	**-.00470**
Stddev	.00836	.01168	.00367	.00032	.00008	.00231	.00312
%RSD	273.18	435.66	148.57	83.911	191.80	204.12	66.385
#1	.00543	.00099	-.00073	.00074	-.00005	-.00371	-.00145
#2	-.00332	.00673	.00648	.00030	.00009	-.00042	-.00767
#3	-.01129	-.01576	.00167	.00011	.00008	.00074	-.00498
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**	**.00003**	F **.40223**
Stddev	.00070	.00037	.19392
%RSD	74.974	1254.6	48.212
#1	.00019	.00039	.55434
#2	.00159	-.00034	.46849
#3	.00102	.00004	.18386
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	**4958.2**	**60531.**	**5453.4**
Stddev	14.9	271.	24.8
%RSD	.29975	.44782	.45419
#1	4975.2	60229.	5478.5
#2	4951.6	60609.	5428.9
#3	4947.8	60754.	5452.9

Approved: March 17, 2017

Sample Name: PBW H5 Acquired: 3/16/2017 11:38:30 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606051-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00350**	**.00661**	**.00006**	**.00357**	**.00083**	**-.00005**	**-.01761**	**.00016**
Stddev	.00165	.00457	.00339	.00270	.00031	.00002	.02952	.00027
%RSD	47.113	69.098	5533.2	75.600	37.320	36.997	167.63	172.97
#1	.00210	.00149	.00373	.00285	.00063	-.00005	-.00649	.00008
#2	.00308	.00809	-.00296	.00131	.00118	-.00007	.00474	-.00007
#3	.00532	.01025	-.00058	.00656	.00067	-.00003	-.05107	.00046
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00063**	**-.00017**	**-.00078**	**.01323**	**-.02932**	**-.00257**	**.12674**	**-.00119**
Stddev	.00032	.00116	.00101	.01195	.05647	.00393	.07692	.00252
%RSD	50.324	695.83	129.29	90.300	192.64	152.76	60.692	212.77
#1	-.00099	.00043	-.00144	.02699	-.04019	.00196	.04589	-.00369
#2	-.00040	.00058	.00038	.00736	-.07956	-.00501	.13532	.00136
#3	-.00050	-.00150	-.00127	.00536	.03180	-.00466	.19902	-.00123
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	**-.00013**	**.02114**	**-.00029**	**-.01669**	**.00299**	**.00148**	**.00010**	**.00913**
Stddev	.00014	.05098	.00223	.00973	.00540	.00241	.00851	.00173
%RSD	111.44	241.10	766.10	58.310	180.38	162.56	8169.2	18.938
#1	.00004	-.01458	-.00257	-.02207	-.00001	.00151	-.00062	.01020
#2	-.00021	.07952	-.00018	-.02254	-.00023	-.00094	.00896	.01005
#3	-.00022	-.00151	.00188	-.00545	.00923	.00388	-.00802	.00714
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: PBW H5 Acquired: 3/16/2017 11:38:30 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606051-02

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00059**	**-.00003**	**-.00083**	**-.00282**	**-.00034**	**.00161**	**.31659**
Stddev	.00146	.00021	.00117	.00428	.00149	.00015	.39654
%RSD	247.74	631.78	141.17	151.63	440.16	9.3303	125.25
#1	.00066	-.00017	-.00214	.00103	.00106	.00146	-.12091
#2	.00201	-.00014	-.00050	-.00208	-.00190	.00162	.65234
#3	-.00090	.00021	.00014	-.00742	-.00018	.00176	.41834
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	**4949.0**	**59602.**	**5321.0**
Stddev	14.7	483.	91.1
%RSD	.29739	.80992	1.7113
#1	4964.0	60146.	5249.1
#2	4934.6	59437.	5290.6
#3	4948.3	59224.	5423.4

Approved: March 17, 2017

Sample Name: LCSW H5 Acquired: 3/16/2017 11:42:19 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606051-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20404**	**5.2169**	**.19196**	**.93752**	**.50352**	**.02499**	**4.9117**	**.02462**
Stddev	.00052	.0146	.00116	.00138	.00312	.00004	.0496	.00004
%RSD	.25571	.27885	.60554	.14763	.61985	.16538	1.0107	.14715
#1	.20353	5.2237	.19126	.93862	.50130	.02496	4.8582	.02462
#2	.20400	5.2267	.19131	.93797	.50218	.02503	4.9206	.02458
#3	.20457	5.2002	.19330	.93596	.50709	.02497	4.9562	.02466
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	**.10139**	**.25377**	**.25002**	**2.0230**	**24.575**	**.49333**	**5.0889**	**.25106**
Stddev	.00046	.00087	.00128	.0060	.145	.00591	.0803	.00505
%RSD	.44908	.34208	.51111	.29712	.59051	1.1988	1.5770	2.0127
#1	.10157	.25307	.24858	2.0167	24.431	.48794	5.0073	.24888
#2	.10088	.25474	.25047	2.0287	24.721	.49240	5.1677	.24746
#3	.10174	.25350	.25101	2.0236	24.572	.49965	5.0917	.25684
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	**.48714**	**24.868**	**.25372**	**4.7695**	**.25071**	**.60385**	**.18914**	**2.4696**
Stddev	.00194	.220	.00232	.0214	.00600	.00400	.00667	.0084
%RSD	.39916	.88535	.91451	.44917	2.3937	.66313	3.5264	.33938
#1	.48555	24.670	.25155	4.7597	.24508	.60014	.19302	2.4616
#2	.48657	24.830	.25617	4.7548	.25703	.60330	.18144	2.4688
#3	.48931	25.105	.25345	4.7941	.25001	.60809	.19297	2.4783
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: LCSW H5 Acquired: 3/16/2017 11:42:19 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606051-03

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50592**	**.50014**	**.50046**	**.25594**	**.50450**	**.50117**	**.69420**
Stddev	.00118	.00357	.00126	.00300	.00116	.00225	.20527
%RSD	.23271	.71320	.25128	1.1702	.22976	.44944	29.570
#1	.50539	.49631	.49952	.25689	.50450	.49877	.49764
#2	.50510	.50075	.50189	.25259	.50566	.50151	.90720
#3	.50727	.50336	.49997	.25835	.50334	.50324	.67776
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	**4907.6**	**59385.**	**5512.3**
Stddev	27.7	278.	45.3
%RSD	.56538	.46758	.82176
#1	4934.6	59064.	5542.3
#2	4908.8	59542.	5534.4
#3	4879.2	59549.	5460.2

Approved: March 17, 2017

Sample Name: L1703063001 Acquired: 3/16/2017 11:45:59 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606051-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00191**	**.47760**	**-.00191**	**.02550**	**.01960**	**-.00006**	**5.5356**
Stddev	.00264	.00099	.00173	.00300	.00020	.00001	.0554
%RSD	138.03	.20660	90.157	11.763	1.0041	18.482	1.0013
#1	.00467	.47867	-.00139	.02760	.01938	-.00006	5.5598
#2	.00164	.47740	-.00384	.02207	.01974	-.00006	5.5747
#3	-.00058	.47672	-.00051	.02684	.01968	-.00004	5.4721
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**	**.00048**	**-.00101**	**-.00304**	**.00268**	**145.84**	**.02133**
Stddev	.00025	.00016	.00072	.00136	.00124	.38	.00203
%RSD	294.67	33.081	70.522	44.614	46.404	.25851	9.5101
#1	.00031	.00030	-.00159	-.00195	.00358	145.73	.02014
#2	.00012	.00054	-.00124	-.00456	.00126	146.27	.02019
#3	-.00018	.00059	-.00021	-.00262	.00319	145.54	.02368
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	**33.513**	**.29218**	**-.00027**	F **346.85**	**-.00026**	**.08220**	**.00240**
Stddev	.226	.00146	.00025	7.22	.00030	.00744	.00442
%RSD	.67472	.49801	92.909	2.0827	112.39	9.0497	184.45
#1	33.391	.29376	-.00035	340.20	-.00060	.08913	.00382
#2	33.774	.29190	.00001	345.81	-.00013	.07434	.00594
#3	33.375	.29089	-.00048	354.54	-.00006	.08313	-.00256
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: March 17, 2017

Sample Name: L1703063001 Acquired: 3/16/2017 11:45:59 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606051-01

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00251**	**.01614**	**.46143**	**.00112**	**.04502**	**.00215**	**-.00706**
Stddev	.00593	.00415	.00814	.00249	.00035	.00531	.00359
%RSD	236.51	25.727	1.7636	221.87	.78240	246.92	50.907
#1	.00368	.01788	.45219	-.00175	.04517	.00401	-.00515
#2	-.00813	.01913	.46459	.00270	.04526	-.00384	-.01120
#3	-.00306	.01140	.46752	.00241	.04461	.00628	-.00482
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**-.00009**	**.00288**	F **-.06984**
Stddev	.00146	.00006	.16875
%RSD	1668.1	1.9170	241.62
#1	.00145	.00290	-.03236
#2	-.00026	.00282	.07702
#3	-.00145	.00292	-.25419
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	**4674.7**	**55281.**	**5450.4**
Stddev	19.6	237.	28.2
%RSD	.41880	.42945	.51797
#1	4694.2	55117.	5482.6
#2	4674.6	55554.	5429.8
#3	4655.1	55173.	5438.8

Approved: March 17, 2017

Sample Name: L1703063001MS Acquired: 3/16/2017 11:49:56 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606051-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20370**	**5.2152**	**.19982**	**.98464**	**.51665**	**.02590**	**10.470**
Stddev	.00435	.0136	.00103	.00661	.00172	.00010	.011
%RSD	2.1343	.26145	.51300	.67162	.33240	.39224	.10896
#1	.20665	5.2260	.19984	.98582	.51566	.02596	10.469
#2	.20576	5.1999	.20083	.99058	.51863	.02578	10.482
#3	.19871	5.2197	.19878	.97752	.51566	.02595	10.459
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	**.02474**	**.09861**	**.25645**	**.24320**	**1.9993**	**169.66**	**.51709**
Stddev	.00049	.00062	.00060	.00257	.0158	.45	.00286
%RSD	1.9652	.62742	.23502	1.0547	.78873	.26556	.55330
#1	.02455	.09925	.25589	.24239	1.9862	169.56	.51973
#2	.02437	.09801	.25709	.24114	1.9950	170.15	.51405
#3	.02529	.09856	.25639	.24608	2.0168	169.26	.51749
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**38.534**	**.53904**	**.48799**	F **371.49**	**.24703**	**5.0630**	**.24231**
Stddev	.177	.00551	.00020	1.74	.00166	.0049	.00219
%RSD	.46010	1.0219	.04032	.46837	.67047	.09639	.90536
#1	38.514	.53959	.48821	370.34	.24646	5.0668	.23981
#2	38.720	.54425	.48782	370.63	.24573	5.0646	.24391
#3	38.367	.53327	.48794	373.49	.24889	5.0575	.24320
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: March 17, 2017

Sample Name: L1703063001MS Acquired: 3/16/2017 11:49:56 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606051-04

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.60875**	**.21344**	**2.7642**	**.49395**	**.53902**	**.49702**	**.23060**
Stddev	.00552	.00685	.0036	.00254	.00107	.00584	.00251
%RSD	.90731	3.2097	.12899	.51337	.19788	1.1745	1.0873
#1	.61307	.20668	2.7681	.49685	.53900	.50078	.23194
#2	.60252	.22038	2.7613	.49287	.54009	.49998	.22771
#3	.61064	.21326	2.7631	.49213	.53796	.49029	.23215
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	**.51268**	**.50725**	**.26497**
Stddev	.00083	.00078	.46412
%RSD	.16241	.15408	175.16
#1	.51173	.50793	.74800
#2	.51331	.50744	-.17760
#3	.51299	.50640	.22450
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	**4654.8**	**54571.**	**5414.8**
Stddev	14.5	103.	33.4
%RSD	.31246	.18871	.61733
#1	4639.0	54686.	5452.4
#2	4667.6	54542.	5388.2
#3	4657.8	54486.	5403.9

Approved: March 17, 2017

Sample Name: L1703063001MSD Acquired: 3/16/2017 11:53:45 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606051-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19862**	**5.1182**	**.19508**	**.97876**	**.51062**	**.02535**	**10.372**
Stddev	.00183	.0730	.00391	.01574	.00066	.00037	.012
%RSD	.92202	1.4267	2.0028	1.6086	.12888	1.4421	.11244
#1	.19774	5.0349	.19450	.96229	.51068	.02497	10.360
#2	.20073	5.1714	.19925	.99366	.50993	.02569	10.383
#3	.19740	5.1482	.19150	.98031	.51124	.02539	10.373
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	**.02446**	**.09735**	**.25116**	**.24052**	**1.9978**	**168.20**	**.50957**
Stddev	.00064	.00062	.00367	.00064	.0066	.72	.00322
%RSD	2.6194	.63938	1.4622	.26596	.32884	.42646	.63277
#1	.02519	.09761	.24701	.24076	2.0049	168.95	.50841
#2	.02401	.09663	.25400	.24100	1.9920	167.52	.50708
#3	.02417	.09779	.25247	.23979	1.9965	168.15	.51321
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**38.122**	**.53327**	**.47964**	F **366.52**	**.24199**	**4.9463**	**.24042**
Stddev	.147	.00470	.00217	.39	.00147	.0189	.00287
%RSD	.38603	.88140	.45143	.10521	.60673	.38221	1.1937
#1	38.009	.52883	.48066	366.16	.24305	4.9616	.23985
#2	38.288	.53279	.47715	366.47	.24031	4.9251	.23788
#3	38.069	.53819	.48110	366.93	.24261	4.9520	.24354
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: March 17, 2017

Sample Name: L1703063001MSD Acquired: 3/16/2017 11:53:45 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606051-05

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.58749**	**.20650**	**2.7126**	**.48432**	**.53500**	**.49797**	**.23312**
Stddev	.00336	.01325	.0099	.00117	.00102	.00547	.00841
%RSD	.57125	6.4164	.36540	.24158	.18980	1.0989	3.6091
#1	.58842	.21259	2.7072	.48471	.53617	.49171	.23201
#2	.58377	.19131	2.7066	.48300	.53430	.50036	.22532
#3	.59028	.21562	2.7241	.48524	.53454	.50185	.24204
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	**.50262**	**.49909**	**.44276**
Stddev	.00679	.00103	.28197
%RSD	1.3518	.20623	63.684
#1	.49523	.49945	.75691
#2	.50860	.49793	.35980
#3	.50402	.49990	.21158
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	**4585.0**	**55195.**	**5452.2**
Stddev	12.3	1086.	11.4
%RSD	.26900	1.9667	.20906
#1	4587.5	56428.	5442.7
#2	4595.9	54383.	5449.0
#3	4571.6	54774.	5464.8

Approved: March 17, 2017

Sample Name: L1703064001 Acquired: 3/16/2017 11:57:35 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00427**	**.02496**	**.00223**	**.15443**	**.00136**	**-.00011**	**.27490**	**-.00006**
Stddev	.00297	.00245	.00192	.00283	.00069	.00003	.02854	.00025
%RSD	69.537	9.8335	86.053	1.8309	50.931	24.766	10.383	398.98
#1	.00221	.02772	.00082	.15676	.00211	-.00014	.24419	.00022
#2	.00293	.02302	.00441	.15129	.00074	-.00008	.30061	-.00017
#3	.00768	.02413	.00145	.15526	.00124	-.00012	.27990	-.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	**-.00022**	**-.00053**	**-.00238**	**.01086**	**2.0537**	**-.00037**	**.37077**	**.00352**
Stddev	.00052	.00041	.00169	.01690	.0728	.00349	.07291	.00072
%RSD	234.67	77.552	70.967	155.66	3.5464	952.65	19.666	20.532
#1	.00018	-.00029	-.00111	.01103	2.0891	-.00209	.33152	.00353
#2	-.00081	-.00101	-.00429	.02766	2.1022	.00365	.45490	.00424
#3	-.00003	-.00030	-.00173	-.00613	1.9700	-.00266	.32588	.00280
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	**-.00054**	**140.21**	**-.00107**	**.08891**	**.00302**	**.00215**	**-.00571**	**.04927**
Stddev	.00053	.45	.00147	.00566	.00407	.00106	.00718	.00287
%RSD	97.873	.31983	136.98	6.3610	134.76	49.160	125.84	5.8211
#1	-.00088	140.72	.00049	.09507	.00123	.00332	-.01067	.04928
#2	-.00081	140.03	-.00129	.08396	.00768	.00186	-.00899	.05213
#3	.00007	139.87	-.00242	.08769	.00015	.00127	.00253	.04639
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703064001 Acquired: 3/16/2017 11:57:35 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00059**	**.00057**	**.00576**	**-.00752**	**.00036**	**.01612**	**.09695**
Stddev	.00087	.00065	.00075	.00773	.00067	.00026	.16765
%RSD	147.58	113.12	13.018	102.78	185.91	1.5990	172.92
#1	-.00018	-.00008	.00508	-.01395	-.00011	.01593	.19084
#2	.00154	.00122	.00565	-.00967	.00006	.01601	.19662
#3	.00042	.00057	.00656	.00106	.00113	.01641	-.09661
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	**4923.1**	**59427.**	**5732.0**
Stddev	17.7	999.	20.6
%RSD	.35915	1.6803	.35982
#1	4912.7	59949.	5755.1
#2	4913.1	58275.	5715.4
#3	4943.6	60056.	5725.7

Approved: March 17, 2017

Sample Name: L1703065615 Acquired: 3/16/2017 12:01:25 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00286**	**.86308**	**.00138**	**.01226**	**.01021**	**-.00010**	**3.1859**	**.00012**
Stddev	.00021	.00561	.00279	.00131	.00065	.00006	.0353	.00048
%RSD	7.1772	.64967	202.36	10.707	6.3854	55.163	1.1073	392.68
#1	.00304	.86570	.00220	.01125	.00950	-.00016	3.1624	-.00043
#2	.00289	.86689	-.00173	.01374	.01036	-.00008	3.2264	.00041
#3	.00264	.85664	.00366	.01178	.01078	-.00006	3.1688	.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	**.00004**	**.00102**	**.09176**	**.65824**	**.55556**	**-.00105**	**.63243**	**.02554**
Stddev	.00056	.00064	.00095	.01455	.08244	.00594	.04338	.00113
%RSD	1446.6	62.390	1.0375	2.2106	14.839	563.28	6.8585	4.4106
#1	.00043	.00145	.09079	.66751	.47173	-.00427	.68252	.02642
#2	-.00060	.00131	.09269	.66573	.55841	-.00469	.60703	.02427
#3	.00028	.00029	.09178	.64147	.63653	.00580	.60776	.02593
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**	**.56257**	**.00221**	**.00870**	**.00886**	**-.00130**	**.00366**	**1.6182**
Stddev	.00011	.00610	.00041	.00622	.00356	.00557	.00521	.0032
%RSD	134.54	1.0844	18.659	71.537	40.188	427.86	142.40	.19724
#1	-.00013	.56811	.00215	.01578	.01264	.00326	.00966	1.6219
#2	.00004	.56357	.00183	.00408	.00836	-.00752	.00042	1.6164
#3	-.00017	.55603	.00265	.00624	.00558	.00035	.00089	1.6164
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703065615 Acquired: 3/16/2017 12:01:25 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00131**	**.00639**	**.02907**	**-.00492**	**.00213**	**.04405**	**.35445**
Stddev	.00160	.00021	.00433	.00444	.00022	.00040	.15277
%RSD	122.04	3.2189	14.897	90.175	10.464	.91866	43.101
#1	.00306	.00616	.03342	-.01004	.00237	.04360	.52935
#2	-.00008	.00646	.02903	-.00211	.00210	.04418	.24705
#3	.00096	.00656	.02476	-.00261	.00193	.04438	.28696
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	**5018.7**	**60597.**	**5406.0**
Stddev	9.2	233.	28.7
%RSD	.18408	.38382	.53108
#1	5009.3	60390.	5400.8
#2	5019.2	60849.	5437.0
#3	5027.8	60552.	5380.3

Approved: March 17, 2017

Sample Name: L1703067301 Acquired: 3/16/2017 12:05:15 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00215**	**.07243**	**-.00292**	**.00899**	**.00180**	**-.00009**	**.26762**	**.00034**
Stddev	.00064	.00717	.00047	.00170	.00053	.00005	.01639	.00016
%RSD	29.619	9.9017	16.181	18.930	29.395	51.227	6.1226	47.322
#1	.00173	.07937	-.00342	.01081	.00227	-.00008	.25571	.00016
#2	.00184	.06505	-.00248	.00869	.00123	-.00005	.26084	.00046
#3	.00288	.07286	-.00285	.00745	.00189	-.00014	.28631	.00041
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00043**	**.00022**	**.01966**	**.06206**	**.27290**	**-.00049**	**.00061**	**.00080**
Stddev	.00023	.00099	.00090	.00648	.02072	.00448	.10305	.00397
%RSD	53.078	455.07	4.5652	10.448	7.5925	916.24	16870.	499.12
#1	-.00051	.00135	.01864	.06297	.28558	-.00535	.09254	.00527
#2	-.00060	-.00037	.02032	.05517	.24899	.00346	-.11079	-.00054
#3	-.00017	-.00034	.02001	.06804	.28413	.00042	.02008	-.00234
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**	**.26083**	**-.00115**	**-.01345**	**.00175**	**.00343**	**-.00061**	**.11789**
Stddev	.00019	.03219	.00102	.00926	.00505	.00533	.00283	.00241
%RSD	225.66	12.340	88.647	68.852	289.21	155.61	460.79	2.0466
#1	.00015	.29793	-.00136	-.01024	.00696	-.00209	-.00388	.11829
#2	-.00013	.24414	-.00205	-.00622	.00142	.00381	.00121	.12008
#3	.00023	.24042	-.00004	-.02389	-.00314	.00856	.00082	.11531
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703067301 Acquired: 3/16/2017 12:05:15 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00134**	**.00083**	**.00448**	**-.00141**	**.00095**	**.00532**	**.16510**
Stddev	.00083	.00014	.00693	.00407	.00020	.00008	.25941
%RSD	61.892	17.287	154.65	288.96	21.391	1.4269	157.12
#1	.00101	.00068	-.00269	.00053	.00103	.00540	.30681
#2	.00228	.00096	.01114	-.00609	.00072	.00525	.32279
#3	.00073	.00086	.00499	.00133	.00110	.00531	-.13430
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	**4924.8**	**60735.**	**5393.7**
Stddev	13.9	419.	23.2
%RSD	.28193	.68912	.43036
#1	4937.0	60257.	5390.9
#2	4909.7	61036.	5418.3
#3	4927.8	60911.	5372.1

Approved: March 17, 2017

Sample Name: L1703067301PS Acquired: 3/16/2017 12:09:01 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606114-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20138**	**5.2798**	**.19475**	**.94245**	**.50680**	**.02488**	**5.1932**	**.02502**
Stddev	.00292	.0153	.00246	.00522	.00145	.00022	.0123	.00030
%RSD	1.4522	.28967	1.2655	.55344	.28624	.90206	.23771	1.2115
#1	.20322	5.2657	.19358	.94377	.50839	.02474	5.1932	.02476
#2	.19801	5.2775	.19309	.93669	.50647	.02514	5.2055	.02495
#3	.20292	5.2961	.19758	.94687	.50555	.02477	5.1808	.02535
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	**.10122**	**.25296**	**.26962**	**2.0597**	**25.040**	**.49643**	**5.1048**	**.25136**
Stddev	.00151	.00022	.00349	.0374	.136	.00329	.1775	.00215
%RSD	1.4876	.08792	1.2951	1.8135	.54217	.66313	3.4778	.85653
#1	.09991	.25291	.26780	2.1021	25.071	.49856	5.3076	.25202
#2	.10089	.25277	.27365	2.0454	25.157	.49264	4.9777	.25310
#3	.10287	.25321	.26741	2.0316	24.891	.49809	5.0290	.24895
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	**.48889**	**25.165**	**.25352**	**4.7838**	**.26278**	**.60322**	**.18992**	**2.5608**
Stddev	.00172	.141	.00271	.0196	.00116	.00788	.00725	.0041
%RSD	.35088	.55863	1.0702	.40958	.44152	1.3065	3.8198	.15981
#1	.48692	25.326	.25247	4.7666	.26171	.59508	.19653	2.5571
#2	.49003	25.097	.25148	4.8051	.26261	.61082	.19106	2.5652
#3	.48974	25.071	.25660	4.7797	.26401	.60377	.18216	2.5602
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703067301PS Acquired: 3/16/2017 12:09:01 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606114-03

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50536**	**.50307**	**.50443**	**.24841**	**.50407**	**.50638**	**.77093**
Stddev	.00241	.00174	.00544	.00523	.00153	.00172	.20009
%RSD	.47620	.34618	1.0782	2.1049	.30255	.33948	25.954
#1	.50258	.50438	.49871	.24344	.50462	.50455	.55640
#2	.50691	.50372	.50954	.24792	.50234	.50664	.95247
#3	.50658	.50109	.50504	.25386	.50524	.50796	.80391
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	**4881.8**	**59998.**	**5457.2**
Stddev	13.6	427.	47.8
%RSD	.27803	.71210	.87650
#1	4878.6	60224.	5430.6
#2	4896.7	60266.	5512.5
#3	4870.1	59506.	5428.7

Approved: March 17, 2017

Sample Name: L1703067301SDL Acquired: 3/16/2017 12:12:38 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG606114-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00400**	**.01677**	**.00155**	**.00424**	**.00056**	**-.00003**	**.03745**	**-.00016**
Stddev	.00323	.00356	.00160	.00087	.00023	.00005	.03589	.00028
%RSD	80.844	21.204	103.38	20.546	41.904	139.59	95.827	171.11
#1	.00133	.01391	-.00028	.00325	.00082	-.00006	.02142	-.00003
#2	.00308	.02075	.00268	.00485	.00038	.00002	.01237	.00002
#3	.00759	.01564	.00224	.00464	.00047	-.00006	.07857	-.00048
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00017**	**-.00189**	**.00224**	**.01201**	**.24597**	**-.00151**	**.08285**	**.00218**
Stddev	.00003	.00136	.00020	.02532	.08659	.00202	.03435	.00079
%RSD	20.037	72.054	8.8396	210.90	35.204	134.15	41.464	36.322
#1	-.00018	-.00055	.00214	.03442	.24587	-.00190	.04427	.00299
#2	-.00020	-.00327	.00211	.01706	.15943	-.00330	.11012	.00141
#3	-.00013	-.00184	.00247	-.01546	.33261	.00068	.09416	.00214
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**	**.07851**	**.00041**	**-.00562**	**.00312**	**-.00677**	**-.00854**	**.02482**
Stddev	.00065	.02528	.00110	.00661	.00277	.00186	.00657	.00512
%RSD	289.43	32.201	267.44	117.55	88.757	27.565	76.995	20.613
#1	-.00005	.08886	.00149	-.00725	.00372	-.00537	-.00288	.03070
#2	-.00094	.04969	.00046	-.01127	.00553	-.00605	-.01575	.02242
#3	.00032	.09696	-.00071	.00165	.00010	-.00888	-.00699	.02136
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703067301SDL Acquired: 3/16/2017 12:12:38 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG606114-04

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00029**	**-.00011**	**.00093**	**-.00482**	**.00002**	**.00168**	**.29097**
Stddev	.00129	.00042	.00495	.00423	.00062	.00010	.27404
%RSD	438.34	377.76	530.34	87.609	3915.1	6.1218	94.183
#1	.00119	.00020	.00140	-.00665	-.00063	.00166	.60518
#2	-.00103	.00006	-.00424	-.00783	.00008	.00179	.16629
#3	-.00104	-.00059	.00564	.00001	.00060	.00159	.10144
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	**4919.5**	**60343.**	**5461.3**
Stddev	16.8	306.	42.7
%RSD	.34227	.50756	.78260
#1	4904.0	60157.	5492.1
#2	4917.2	60696.	5479.3
#3	4937.4	60175.	5412.5

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 12:16:24 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.39902**	**10.262**	**.39835**	**.50428**	**1.0024**	**.05123**	**9.9241**
Stddev	.00172	.033	.00466	.00123	.0008	.00013	.0265
%RSD	.43082	.32132	1.1709	.24374	.07658	.25053	.26746
#1	.40098	10.225	.40365	.50561	1.0028	.05109	9.9002
#2	.39775	10.288	.39487	.50319	1.0028	.05126	9.9527
#3	.39833	10.273	.39653	.50405	1.0015	.05134	9.9194
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	**.05027**	**.20148**	**.51335**	**.50754**	**4.0627**	**49.882**	**.99000**
Stddev	.00061	.00107	.00271	.00275	.0144	.347	.00319
%RSD	1.2041	.53115	.52887	.54180	.35444	.69573	.32256
#1	.04962	.20270	.51044	.51050	4.0470	50.280	.98651
#2	.05037	.20108	.51380	.50708	4.0754	49.726	.99278
#3	.05082	.20067	.51582	.50505	4.0655	49.640	.99070
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	**9.9326**	**.49726**	**.99554**	**49.571**	**.50700**	**9.8664**	**.50645**
Stddev	.0934	.00447	.00304	.061	.00150	.0245	.00752
%RSD	.94078	.89887	.30549	.12211	.29637	.24821	1.4856
#1	9.8299	.49248	.99830	49.528	.50674	9.8934	.51329
#2	9.9554	.50134	.99228	49.640	.50565	9.8599	.49839
#3	10.013	.49796	.99604	49.545	.50862	9.8458	.50768
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 12:16:24 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**1.2033**	**.39186**	**4.9375**	**1.0015**	**.99829**	**.99565**	**.50930**
Stddev	.0026	.00312	.0106	.0006	.00168	.01012	.00441
%RSD	.21738	.79709	.21410	.06037	.16802	1.0165	.86586
#1	1.2008	.39453	4.9371	1.0019	.99636	1.0032	.51229
#2	1.2033	.38842	4.9271	1.0008	.99939	.99965	.51136
#3	1.2060	.39262	4.9482	1.0019	.99912	.98414	.50423
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**1.0150**	**1.0212**	F **.82993**
Stddev	.0022	.0017	.05910
%RSD	.22037	.17081	7.1207
#1	1.0127	1.0232	.87575
#2	1.0152	1.0203	.76323
#3	1.0171	1.0201	.85081
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	**4806.0**	**57654.**	**5395.4**
Stddev	33.8	252.	40.5
%RSD	.70398	.43654	.74971
#1	4768.4	57933.	5350.5
#2	4834.0	57585.	5406.7
#3	4815.6	57444.	5429.0

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 12:19:56 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00262**	**.00773**	**.00136**	**.00509**	**-.00014**	**-.00005**	**-.00821**
Stddev	.00244	.00203	.00075	.00071	.00085	.00004	.00402
%RSD	93.314	26.328	55.217	14.051	611.51	88.820	49.015
#1	-.00001	.00882	.00061	.00469	-.00105	-.00004	-.00570
#2	.00304	.00538	.00136	.00591	.00063	-.00009	-.00607
#3	.00482	.00898	.00211	.00466	.00001	-.00001	-.01285
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**	**-.00001**	**-.00006**	**-.00235**	**-.01523**	**.21701**	**.00418**
Stddev	.00032	.00061	.00202	.00240	.00514	.06681	.00024
%RSD	296.50	4108.3	3271.1	102.28	33.780	30.785	5.8041
#1	-.00026	.00002	-.00194	.00006	-.00982	.26863	.00441
#2	.00030	-.00064	.00208	-.00474	-.01581	.14156	.00421
#3	.00029	.00058	-.00033	-.00237	-.02006	.24085	.00393
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	**.08612**	**-.00039**	**-.00103**	**.05097**	**.00039**	**-.00823**	**.00287**
Stddev	.07148	.00289	.00051	.02697	.00080	.00690	.00318
%RSD	82.999	749.03	50.045	52.915	205.25	83.884	110.66
#1	.01364	.00287	-.00162	.08185	.00107	-.01176	.00564
#2	.08817	-.00139	-.00076	.03202	-.00050	-.01266	.00357
#3	.15656	-.00263	-.00070	.03905	.00060	-.00028	-.00060
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 12:19:56 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00090**	**-.00204**	**.00276**	**-.00053**	**-.00002**	**.00172**	**-.00360**
Stddev	.00091	.00176	.00286	.00166	.00039	.00370	.00340
%RSD	101.74	86.196	103.70	316.37	2015.3	215.83	94.613
#1	.00087	-.00317	.00547	-.00210	-.00044	-.00179	-.00491
#2	-.00000	-.00293	.00305	-.00069	.00005	.00135	.00027
#3	.00182	-.00001	-.00024	.00121	.00033	.00559	-.00614
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.00071**	**.00006**	F **.16254**
Stddev	.00055	.00010	.07281
%RSD	77.768	171.01	44.796
#1	.00081	-.00001	.16551
#2	.00011	.00001	.23383
#3	.00120	.00017	.08829
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	**4869.0**	**58929.**	**5345.8**
Stddev	16.4	233.	29.9
%RSD	.33629	.39502	.55903
#1	4886.5	59079.	5360.9
#2	4866.2	59047.	5365.2
#3	4854.1	58661.	5311.4

Approved: March 17, 2017

Sample Name: L1703067302 Acquired: 3/16/2017 12:23:43 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00484**	**.05169**	**.00019**	**.00899**	**.00080**	**-.00007**	**.13383**	**.00023**
Stddev	.00142	.00803	.00446	.00611	.00071	.00006	.01741	.00070
%RSD	29.337	15.531	2406.9	67.961	88.439	88.467	13.006	308.52
#1	.00537	.04504	-.00424	.00764	.00161	-.00005	.11550	.00100
#2	.00593	.04942	.00468	.01565	.00047	-.00002	.13585	-.00036
#3	.00323	.06061	.00011	.00366	.00032	-.00013	.15014	.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00036**	**-.00058**	**.00862**	**.06096**	**.12768**	**-.00096**	**.04574**	**.00211**
Stddev	.00077	.00022	.00181	.01464	.05725	.00305	.04335	.00155
%RSD	215.89	36.901	20.955	24.020	44.837	319.58	94.777	73.472
#1	-.00040	-.00079	.00657	.04636	.16185	-.00221	-.00389	.00355
#2	-.00111	-.00060	.00998	.06089	.06159	.00252	.06493	.00047
#3	.00044	-.00036	.00931	.07565	.15960	-.00318	.07618	.00230
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	**-.00029**	**.08485**	**.00144**	**-.01405**	**.00018**	**-.00144**	**-.00065**	**.08617**
Stddev	.00038	.01369	.00188	.00209	.00086	.00434	.00646	.00126
%RSD	134.20	16.131	130.10	14.859	484.80	301.64	993.13	1.4582
#1	-.00004	.09857	.00238	-.01192	.00049	-.00220	-.00793	.08656
#2	-.00009	.08479	-.00072	-.01413	.00084	-.00534	.00158	.08719
#3	-.00073	.07119	.00266	-.01610	-.00080	.00323	.00440	.08477
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703067302 Acquired: 3/16/2017 12:23:43 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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**	**.00045**	**.00022**	**-.00657**	**.00031**	**.00311**	**.28177**
Stddev	.00068	.00015	.00929	.00411	.00047	.00013	.07811
%RSD	91.851	34.383	4139.2	62.650	148.67	4.1585	27.722
#1	.00090	.00033	-.00402	-.00273	.00028	.00322	.20989
#2	.00132	.00040	.01088	-.00607	-.00013	.00315	.36489
#3	-.00001	.00062	-.00619	-.01091	.00080	.00297	.27052
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	**4954.8**	**60501.**	**5433.3**
Stddev	23.8	333.	53.5
%RSD	.47975	.55054	.98550
#1	4950.4	60404.	5393.4
#2	4933.5	60227.	5494.1
#3	4980.4	60872.	5412.3

Approved: March 17, 2017

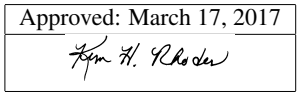
Sample Name: L1703067303 Acquired: 3/16/2017 12:27:29 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00366**	**.06243**	**-.00179**	**.00759**	**.00095**	**-.00009**	**.42168**	**.00025**
Stddev	.00223	.00805	.00292	.00259	.00024	.00002	.03078	.00025
%RSD	60.935	12.893	163.04	34.055	25.602	25.875	7.3003	98.628
#1	.00464	.05368	.00144	.00470	.00123	-.00006	.45635	.00054
#2	.00111	.06952	-.00258	.00842	.00082	-.00010	.41115	.00016
#3	.00524	.06410	-.00423	.00967	.00079	-.00011	.39754	.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	**-.00030**	**-.00076**	**.05534**	**.06019**	**.19732**	**.00066**	**.08313**	**.00157**
Stddev	.00062	.00068	.00074	.01094	.09485	.00345	.09283	.00134
%RSD	205.23	89.452	1.3402	18.182	48.073	525.37	111.67	85.566
#1	.00032	-.00000	.05580	.06428	.16856	-.00333	.03438	.00298
#2	-.00091	-.00096	.05574	.04779	.30322	.00265	.19018	.00032
#3	-.00032	-.00131	.05449	.06849	.12017	.00265	.02483	.00140
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	**.00013**	**.35047**	**.00077**	**-.03006**	**.00589**	**.00067**	**-.00561**	**.11421**
Stddev	.00045	.02218	.00159	.00357	.00465	.01075	.00338	.00437
%RSD	335.69	6.3281	206.42	11.870	78.937	1602.7	60.319	3.8253
#1	.00057	.36762	.00256	-.02912	.00054	.00712	-.00499	.11870
#2	-.00032	.35837	-.00048	-.03400	.00821	-.01174	-.00258	.11395
#3	.00015	.32543	.00023	-.02706	.00894	.00663	-.00926	.10997
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017



Sample Name: L1703067303 Acquired: 3/16/2017 12:27:29 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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**	**.00113**	**.00402**	**-.00644**	**-.00012**	**.01050**	**.29208**
Stddev	.00139	.00009	.00359	.00506	.00078	.00004	.13767
%RSD	163.39	7.9739	89.391	78.613	645.29	.35522	47.135
#1	.00055	.00105	.00470	-.01162	.00078	.01045	.17982
#2	.00236	.00111	.00722	-.00618	-.00054	.01052	.25072
#3	-.00036	.00123	.00013	-.00151	-.00061	.01051	.44568
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	**4975.6**	**61151.**	**5529.5**
Stddev	18.9	130.	34.8
%RSD	.37954	.21306	.62957
#1	4991.4	61014.	5549.9
#2	4954.7	61274.	5489.3
#3	4980.8	61164.	5549.3

Approved: March 17, 2017

Sample Name: L1703067304 Acquired: 3/16/2017 12:31:17 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00302**	**.03692**	**.00001**	**.00791**	**.00089**	**-.00011**	**.25280**	**.00012**
Stddev	.00140	.01046	.00252	.00654	.00033	.00006	.01709	.00014
%RSD	46.242	28.340	25198.	82.688	37.133	56.971	6.7600	112.47
#1	.00236	.04229	.00043	.00627	.00052	-.00018	.26497	.00013
#2	.00462	.04362	-.00269	.01512	.00099	-.00008	.23326	.00026
#3	.00207	.02486	.00229	.00235	.00116	-.00006	.26017	-.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	**-.00031**	**.00126**	**.00564**	**.18329**	**.04400**	**-.00135**	**.00428**	**.00110**
Stddev	.00074	.00235	.00155	.01295	.00703	.00371	.03165	.00050
%RSD	241.67	186.35	27.396	7.0627	15.988	275.32	738.61	45.256
#1	-.00082	.00179	.00563	.19246	.04841	.00203	.03822	.00162
#2	.00054	.00331	.00720	.18894	.03589	-.00532	-.00095	.00063
#3	-.00065	-.00131	.00410	.16848	.04769	-.00076	-.02442	.00106
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**	**.08321**	**.00027**	**-.01483**	**.00457**	**.00124**	**.00026**	**.06998**
Stddev	.00024	.02186	.00112	.00954	.00063	.00067	.00597	.00246
%RSD	86.678	26.266	413.00	64.366	13.866	53.749	2263.2	3.5184
#1	-.00054	.09531	-.00101	-.01786	.00519	.00048	-.00286	.07281
#2	-.00024	.05798	.00079	-.00414	.00392	.00150	-.00349	.06836
#3	-.00006	.09634	.00103	-.02249	.00460	.00174	.00715	.06876
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703067304 Acquired: 3/16/2017 12:31:17 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00120**	**.00082**	**.00230**	**-.00177**	**.00022**	**.00380**	**.05672**
Stddev	.00037	.00031	.00191	.00599	.00086	.00004	.30929
%RSD	30.411	37.963	83.078	339.64	396.64	1.1837	545.29
#1	.00122	.00079	.00337	-.00559	.00121	.00375	-.26433
#2	.00083	.00115	.00009	-.00485	-.00034	.00382	.08177
#3	.00156	.00053	.00343	.00514	-.00022	.00383	.35272
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	**4954.9**	**61522.**	**5467.4**
Stddev	19.7	123.	38.7
%RSD	.39810	.19915	.70860
#1	4973.7	61401.	5503.5
#2	4934.4	61646.	5426.4
#3	4956.6	61519.	5472.3

Approved: March 17, 2017

Sample Name: L1703067305 Acquired: 3/16/2017 12:35:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00186**	**.02396**	**-.00229**	**.00736**	**.00089**	**-.00010**	**.17985**	**.00011**
Stddev	.00119	.00444	.00258	.00115	.00087	.00012	.01768	.00019
%RSD	63.985	18.514	112.50	15.688	97.603	122.90	9.8287	175.41
#1	.00049	.01947	.00050	.00838	.00025	.00003	.16190	.00025
#2	.00246	.02408	-.00460	.00760	.00188	-.00020	.18041	-.00011
#3	.00263	.02834	-.00278	.00611	.00054	-.00012	.19724	.00018
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00053**	**-.00040**	**.00825**	**.02321**	**.04866**	**.00314**	**.04998**	**.00249**
Stddev	.00042	.00067	.00184	.01360	.08793	.00157	.15909	.00314
%RSD	78.959	166.11	22.271	58.600	180.70	49.993	318.28	126.25
#1	-.00069	.00030	.01012	.02740	.00893	.00466	-.12958	-.00106
#2	-.00005	-.00048	.00645	.03421	.14945	.00324	.10618	.00359
#3	-.00084	-.00103	.00819	.00800	-.01239	.00152	.17335	.00492
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00067**	**.15602**	**-.00052**	**-.01734**	**.00512**	**.00130**	**.00361**	**.04064**
Stddev	.00060	.01606	.00081	.00690	.00575	.00354	.00213	.00173
%RSD	89.952	10.295	156.97	39.795	112.47	272.44	59.078	4.2512
#1	-.00123	.15185	.00001	-.01330	.00935	-.00265	.00115	.04145
#2	-.00004	.14246	-.00011	-.01341	.00743	.00419	.00472	.03866
#3	-.00073	.17376	-.00145	-.02531	-.00143	.00236	.00496	.04182
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703067305 Acquired: 3/16/2017 12:35:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	.00151	.00047	.00094	-.00688	-.00022	.00245	1.1164
Stddev	.00122	.00020	.00441	.00084	.00051	.00006	.2433
%RSD	80.637	43.399	471.04	12.251	231.04	2.4763	21.794
#1	.00289	.00027	.00190	-.00740	.00002	.00243	.93318
#2	.00057	.00067	-.00388	-.00732	.00013	.00240	1.3924
#3	.00108	.00046	.00479	-.00591	-.00081	.00251	1.0236
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	4897.9	60782.	5368.2
Stddev	33.2	540.	21.4
%RSD	.67783	.88852	.39906
#1	4936.2	60170.	5354.3
#2	4878.1	61194.	5392.9
#3	4879.3	60981.	5357.5

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 12:38:51 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.40250**	**10.331**	**.39823**	**.49988**	**1.0097**	**.05138**	**9.9561**
Stddev	.00099	.030	.00218	.00494	.0036	.00011	.0269
%RSD	.24662	.29323	.54634	.98892	.35655	.20513	.27006
#1	.40138	10.296	.40074	.50200	1.0056	.05141	9.9789
#2	.40325	10.349	.39686	.49423	1.0122	.05126	9.9629
#3	.40288	10.348	.39709	.50342	1.0114	.05147	9.9265
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	**.05048**	**.20187**	**.51591**	**.50795**	**4.0806**	**50.068**	**.99056**
Stddev	.00045	.00109	.00210	.00248	.0030	.122	.00483
%RSD	.88526	.54031	.40702	.48781	.07442	.24272	.48770
#1	.05043	.20308	.51769	.51076	4.0773	49.929	.99240
#2	.05006	.20159	.51359	.50702	4.0811	50.125	.99419
#3	.05095	.20095	.51645	.50608	4.0834	50.151	.98508
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	**9.8646**	**.49742**	**.99854**	**49.909**	**.50889**	**9.8905**	**.50430**
Stddev	.1788	.00933	.00176	.177	.00216	.0375	.00462
%RSD	1.8128	1.8750	.17632	.35441	.42392	.37939	.91593
#1	9.7665	.49830	.99996	49.910	.50750	9.9338	.50761
#2	10.071	.50627	.99909	50.085	.50778	9.8708	.50627
#3	9.7563	.48768	.99657	49.732	.51137	9.8669	.49903
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 12:38:51 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**1.2190**	**.40596**	**4.9533**	**1.0019**	**1.0043**	**1.0040**	**.51730**
Stddev	.0052	.01017	.0098	.0026	.0052	.0082	.00251
%RSD	.42463	2.5042	.19867	.25798	.51704	.81304	.48600
#1	1.2243	.41278	4.9642	1.0046	.99834	1.0030	.51998
#2	1.2188	.41082	4.9508	1.0018	1.0071	1.0126	.51500
#3	1.2139	.39427	4.9450	.99940	1.0076	.99632	.51691
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**1.0200**	**1.0233**	F **.89916**
Stddev	.0037	.0047	.17724
%RSD	.36743	.46082	19.712
#1	1.0168	1.0286	.69525
#2	1.0192	1.0215	.98606
#3	1.0241	1.0197	1.0162
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	**4869.9**	**58599.**	**5333.5**
Stddev	35.4	432.	127.7
%RSD	.72770	.73774	2.3933
#1	4829.0	58925.	5299.5
#2	4891.1	58763.	5226.4
#3	4889.6	58108.	5474.8

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 12:42:22 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00197**	**-.00212**	**.00211**	**.00406**	**-.00047**	**-.00007**	**-.01390**
Stddev	.00262	.00276	.00076	.00125	.00005	.00002	.00771
%RSD	133.00	129.95	36.148	30.860	10.221	29.802	55.460
#1	.00091	-.00529	.00127	.00472	-.00045	-.00005	-.02092
#2	.00495	-.00082	.00276	.00485	-.00044	-.00008	-.01511
#3	.00004	-.00026	.00230	.00262	-.00053	-.00009	-.00565
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**	**-.00012**	**-.00062**	**-.00082**	**.00288**	**.14269**	**.00353**
Stddev	.00037	.00056	.00062	.00084	.01662	.04877	.00096
%RSD	112.39	466.13	100.01	102.39	577.54	34.183	27.332
#1	-.00074	-.00029	-.00129	-.00001	-.01621	.12913	.00424
#2	-.00001	-.00058	-.00006	-.00077	.01063	.10212	.00392
#3	-.00024	.00051	-.00051	-.00169	.01421	.19681	.00243
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	**-.01994**	**.00020**	**-.00044**	**.04875**	**-.00056**	**-.00346**	**.00149**
Stddev	.13166	.00291	.00021	.00756	.00094	.00987	.00505
%RSD	660.38	1451.8	48.261	15.511	165.68	284.91	340.15
#1	.12661	.00351	-.00031	.05207	.00040	.00311	.00684
#2	-.05815	-.00198	-.00032	.05408	-.00147	.00130	-.00319
#3	-.12827	-.00093	-.00068	.04009	-.00062	-.01481	.00081
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 12:42:22 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00026**	**-.00423**	**-.00162**	**-.00099**	**-.00002**	**.00223**	**-.00308**
Stddev	.00395	.00498	.00109	.00102	.00033	.00631	.00174
%RSD	1541.4	117.91	67.459	102.22	1445.1	282.74	56.569
#1	-.00219	.00121	-.00246	-.00195	.00030	.00253	-.00402
#2	-.00186	-.00857	-.00201	.00007	-.00001	-.00422	-.00415
#3	.00481	-.00532	-.00038	-.00111	-.00036	.00839	-.00107
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**-.00041**	**.00018**	F **-.04741**
Stddev	.00065	.00014	.09558
%RSD	160.21	76.222	201.61
#1	.00012	.00019	.02046
#2	-.00021	.00004	-.15671
#3	-.00113	.00031	-.00597
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	**4848.4**	**60362.**	**5455.3**
Stddev	63.3	334.	12.9
%RSD	1.3055	.55413	.23691
#1	4830.4	60735.	5469.5
#2	4796.0	60261.	5452.2
#3	4918.7	60089.	5444.2

Approved: March 17, 2017

Sample Name: PBW 4W Acquired: 3/16/2017 12:46:09 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606289-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00197**	**.00791**	**-.00225**	**.00148**	**.00017**	**-.00015**	**.02574**	**.00008**
Stddev	.00161	.01117	.00110	.00281	.00016	.00004	.03214	.00039
%RSD	81.706	141.31	49.165	189.77	98.321	27.332	124.86	490.97
#1	.00059	.00554	-.00098	.00467	.00031	-.00014	.01434	-.00009
#2	.00159	.02007	-.00303	.00040	-.00001	-.00012	.06204	-.00020
#3	.00374	-.00189	-.00272	-.00063	.00020	-.00019	.00086	.00052
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00053**	**-.00063**	**-.00052**	**-.00778**	**.09004**	**.00344**	**.02787**	**.00159**
Stddev	.00018	.00043	.00103	.01833	.08258	.00426	.03726	.00094
%RSD	34.689	68.487	198.19	235.60	91.714	124.10	133.70	58.916
#1	-.00045	-.00076	.00047	.00939	.18509	.00747	.01360	.00055
#2	-.00074	-.00098	-.00158	-.02708	.03589	-.00103	.07016	.00184
#3	-.00040	-.00015	-.00045	-.00565	.04914	.00387	-.00015	.00238
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00006**	**.03319**	**.00128**	**-.02144**	**.00529**	**-.00035**	**-.00207**	**.00388**
Stddev	.00015	.01328	.00062	.00447	.00578	.00444	.00978	.00105
%RSD	269.63	39.994	48.835	20.853	109.35	1254.8	473.07	26.992
#1	-.00009	.02704	.00158	-.02482	.00993	-.00538	.00914	.00276
#2	.00011	.02411	.00056	-.02312	-.00119	.00303	-.00888	.00484
#3	-.00018	.04843	.00170	-.01637	.00713	.00129	-.00646	.00403
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: PBW 4W Acquired: 3/16/2017 12:46:09 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606289-02

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00078**	**-.00022**	**.00241**	**-.00413**	**-.00042**	**.00098**	**.08352**
Stddev	.00130	.00030	.00695	.00830	.00033	.00005	.27208
%RSD	166.91	140.69	288.10	200.91	79.474	5.4652	325.78
#1	.00179	-.00033	-.00229	-.00882	-.00016	.00095	.12010
#2	.00123	-.00045	-.00087	-.00904	-.00030	.00095	.33546
#3	-.00069	.00013	.01040	.00545	-.00080	.00104	-.20500
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	**4982.3**	**62029.**	**5524.1**
Stddev	3.0	53.	35.1
%RSD	.05974	.08519	.63605
#1	4979.0	62053.	5527.8
#2	4983.1	61969.	5487.3
#3	4984.7	62067.	5557.3

Approved: March 17, 2017

Sample Name: LCSW 4W Acquired: 3/16/2017 12:49:56 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606289-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20116**	**5.2242**	**.19484**	**.92964**	**.50424**	**.02481**	**4.9286**	**.02479**
Stddev	.00115	.0063	.00407	.00427	.00029	.00012	.0473	.00038
%RSD	.57190	.12129	2.0907	.45910	.05732	.47911	.95933	1.5129
#1	.20098	5.2241	.19335	.92514	.50405	.02494	4.8876	.02523
#2	.20012	5.2305	.19945	.93364	.50409	.02470	4.9179	.02457
#3	.20240	5.2179	.19172	.93015	.50457	.02480	4.9803	.02458
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	**.10073**	**.25387**	**.24917**	**2.0357**	**24.738**	**.49564**	**5.0444**	**.24796**
Stddev	.00023	.00133	.00064	.0386	.075	.00677	.1350	.00471
%RSD	.22868	.52254	.25764	1.8965	.30299	1.3650	2.6769	1.8981
#1	.10073	.25458	.24923	1.9912	24.705	.48978	5.0903	.25280
#2	.10096	.25470	.24978	2.0607	24.685	.49411	4.8924	.24770
#3	.10050	.25234	.24850	2.0551	24.824	.50304	5.1505	.24339
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	**.48915**	**24.908**	**.25301**	**4.7745**	**.25475**	**.60111**	**.18702**	**2.4715**
Stddev	.00133	.121	.00055	.0130	.00075	.00872	.00587	.0099
%RSD	.27230	.48653	.21787	.27276	.29573	1.4505	3.1399	.40075
#1	.49047	24.792	.25331	4.7861	.25551	.59107	.18063	2.4720
#2	.48919	24.898	.25238	4.7770	.25400	.60672	.18827	2.4812
#3	.48781	25.034	.25334	4.7604	.25475	.60555	.19217	2.4614
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: LCSW 4W Acquired: 3/16/2017 12:49:56 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606289-03

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50509**	**.50185**	**.50065**	**.25383**	**.50297**	**.49999**	**.20400**
Stddev	.00048	.00105	.00247	.00396	.00089	.00114	.19833
%RSD	.09522	.20828	.49251	1.5604	.17770	.22852	97.222
#1	.50457	.50249	.49908	.25501	.50226	.50131	.28406
#2	.50519	.50065	.50349	.25706	.50397	.49941	-.02185
#3	.50552	.50241	.49938	.24941	.50269	.49926	.34979
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	**4911.5**	**59838.**	**5582.5**
Stddev	57.4	185.	72.5
%RSD	1.1690	.30954	1.2995
#1	4845.5	60043.	5665.8
#2	4950.1	59792.	5533.2
#3	4938.8	59681.	5548.5

Approved: March 17, 2017

Sample Name: FBLK2 Acquired: 3/16/2017 12:53:33 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606138-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00275**	**.00504**	**-.00064**	**.00521**	**.00024**	**-.00006**	**.02046**	**-.00020**
Stddev	.00256	.00184	.00352	.00129	.00051	.00009	.01571	.00030
%RSD	93.265	36.588	551.60	24.827	212.83	134.78	76.769	146.19
#1	.00020	.00379	-.00461	.00638	-.00002	-.00003	.02718	-.00051
#2	.00271	.00716	.00056	.00542	.00083	-.00016	.03170	-.00017
#3	.00533	.00418	.00213	.00382	-.00009	.00000	.00251	.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	**-.00063**	**-.00087**	**-.00150**	**.02069**	**.13687**	**.00097**	**.10447**	**.00013**
Stddev	.00054	.00091	.00138	.01329	.04233	.00313	.04079	.00091
%RSD	85.852	103.88	92.262	64.238	30.926	321.70	39.040	685.37
#1	-.00095	-.00192	-.00293	.00555	.10051	.00409	.07878	.00033
#2	-.00001	-.00041	-.00138	.02611	.12677	-.00217	.15150	.00093
#3	-.00095	-.00029	-.00018	.03041	.18334	.00099	.08314	-.00086
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**	**.05852**	**.00030**	**-.01404**	**.00293**	**-.00134**	**-.00542**	**.00977**
Stddev	.00019	.02171	.00032	.00219	.00491	.00835	.01469	.00297
%RSD	87.614	37.100	106.99	15.612	167.81	621.85	270.90	30.396
#1	-.00038	.08021	.00042	-.01657	-.00227	.00822	-.02040	.00641
#2	-.00001	.03679	.00054	-.01265	.00357	-.00507	-.00485	.01085
#3	-.00027	.05855	-.00006	-.01290	.00749	-.00718	.00897	.01206
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: FBLK2 Acquired: 3/16/2017 12:53:33 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606138-01

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00143**	**.00013**	**.00248**	**-.00585**	**-.00037**	**.00303**	**.27620**
Stddev	.00124	.00039	.00271	.00749	.00072	.00010	.21245
%RSD	87.136	303.43	109.33	127.89	194.03	3.1787	76.919
#1	.00270	-.00032	-.00004	-.00869	-.00090	.00295	.51976
#2	.00136	.00034	.00213	-.01150	-.00066	.00300	.17980
#3	.00022	.00037	.00535	.00264	.00045	.00313	.12904
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	**5016.0**	**61289.**	**5529.8**
Stddev	80.9	469.	48.2
%RSD	1.6135	.76486	.87204
#1	4922.6	61401.	5555.7
#2	5065.0	60775.	5474.2
#3	5060.3	61692.	5559.6

Approved: March 17, 2017

Sample Name: L1703070901 Acquired: 3/16/2017 12:57:20 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00348**	**.04464**	**.00372**	**.03256**	**.16804**	**-.00005**	**48.843**	**.00028**
Stddev	.00129	.00491	.00203	.00374	.00020	.00002	.121	.00015
%RSD	36.958	11.011	54.507	11.472	.11755	31.394	.24829	55.058
#1	.00343	.03904	.00163	.03063	.16785	-.00007	48.974	.00030
#2	.00222	.04660	.00386	.03019	.16824	-.00004	48.822	.00012
#3	.00479	.04826	.00568	.03686	.16803	-.00004	48.734	.00042
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00014**	**-.00109**	**.00655**	**.09458**	**1.1624**	**.01146**	**14.530**	**.00254**
Stddev	.00039	.00101	.00156	.00283	.0249	.00079	.031	.00066
%RSD	267.99	92.053	23.760	2.9884	2.1430	6.9184	.21385	25.852
#1	.00023	-.00223	.00693	.09482	1.1493	.01236	14.559	.00318
#2	-.00054	-.00071	.00789	.09728	1.1912	.01110	14.533	.00257
#3	-.00012	-.00033	.00484	.09165	1.1468	.01090	14.497	.00187
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00016**	**5.8956**	**-.00006**	**-.02474**	**-.00277**	**-.00193**	**.00341**	**5.0608**
Stddev	.00071	.0314	.00132	.00755	.00249	.00684	.00955	.0103
%RSD	452.82	.53310	2060.8	30.524	89.890	355.06	280.07	.20317
#1	.00067	5.9235	.00141	-.02370	-.00193	.00401	-.00542	5.0548
#2	-.00066	5.8615	-.00114	-.01777	-.00557	-.00039	.01354	5.0548
#3	.00046	5.9018	-.00045	-.03277	-.00081	-.00940	.00211	5.0726
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703070901 Acquired: 3/16/2017 12:57:20 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00009**	**.49011**	**-.00750**	**-.00602**	**-.00034**	**.00296**	**.28540**
Stddev	.00153	.00057	.00289	.00247	.00066	.00028	.13864
%RSD	1786.4	.11568	38.567	40.962	191.48	9.5410	48.577
#1	-.00172	.49054	-.00512	-.00389	.00033	.00274	.26648
#2	.00132	.48947	-.00666	-.00545	-.00099	.00287	.43254
#3	.00014	.49033	-.01072	-.00873	-.00038	.00328	.15720
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	**4857.9**	**58736.**	**5450.1**
Stddev	11.7	581.	29.5
%RSD	.24097	.98853	.54212
#1	4853.3	59327.	5483.6
#2	4849.2	58715.	5439.0
#3	4871.2	58166.	5427.7

Approved: March 17, 2017

Sample Name: L1703070902 Acquired: 3/16/2017 13:01:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00437**	**.00493**	**-.00083**	**.07312**	**.17712**	**-.00006**	**42.427**
Stddev	.00151	.00681	.00270	.00131	.00097	.00002	.179
%RSD	34.492	137.97	325.74	1.7954	.54530	37.886	.42228
#1	.00389	.00595	-.00192	.07162	.17601	-.00008	42.278
#2	.00606	-.00232	-.00281	.07404	.17759	-.00005	42.377
#3	.00316	.01117	.00224	.07369	.17777	-.00004	42.625
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00010**	**.00025**	**.00028**	**.00142**	**.05684**	**1.4014**	**.01007**
Stddev	.00023	.00042	.00088	.00076	.01447	.0730	.00104
%RSD	231.94	167.05	314.58	53.497	25.450	5.2095	10.371
#1	-.00007	.00072	.00103	.00141	.05531	1.4396	.00894
#2	.00012	-.00012	.00051	.00218	.04320	1.4473	.01099
#3	-.00035	.00016	-.00069	.00066	.07201	1.3172	.01030
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**15.127**	**.00437**	**.00052**	**9.4799**	**.00055**	**-.01862**	**.00393**
Stddev	.057	.00102	.00069	.0534	.00296	.00820	.00332
%RSD	.37921	23.234	133.67	.56349	540.90	44.042	84.555
#1	15.118	.00505	-.00001	9.5365	-.00255	-.01030	.00177
#2	15.075	.00486	.00130	9.4304	.00333	-.01887	.00226
#3	15.188	.00320	.00027	9.4727	.00086	-.02669	.00775
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: L1703070902 Acquired: 3/16/2017 13:01:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00175**	F **-.01580**	**5.7440**	**-.00036**	**1.2760**	**-.00577**	**-.00383**
Stddev	.01078	.00313	.0119	.00080	.0046	.00312	.00419
%RSD	616.58	19.795	.20648	226.17	.36444	53.961	109.46
#1	-.01152	-.01715	5.7310	-.00122	1.2714	-.00903	.00084
#2	-.00354	-.01802	5.7468	-.00022	1.2760	-.00547	-.00726
#3	.00981	-.01222	5.7543	.00037	1.2807	-.00282	-.00507
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		90.000					
Low Limit		-.01000					

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.00067**	**.00242**	**.42525**
Stddev	.00037	.00006	.10713
%RSD	54.793	2.6395	25.193
#1	.00037	.00240	.37672
#2	.00108	.00236	.35097
#3	.00056	.00249	.54806
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	**4841.2**	**59396.**	**5417.6**
Stddev	48.1	411.	34.3
%RSD	.99316	.69218	.63361
#1	4790.8	59591.	5380.3
#2	4846.1	59674.	5447.9
#3	4886.6	58924.	5424.5

Approved: March 17, 2017

Sample Name: L1703070903 Acquired: 3/16/2017 13:04:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00171**	**.02110**	**-.00140**	**.00932**	**.10507**	**-.00007**	**51.719**	**-.00001**
Stddev	.00141	.00333	.00203	.00057	.00075	.00006	.208	.00015
%RSD	82.744	15.792	145.59	6.1323	.71304	83.581	.40311	1709.9
#1	.00319	.01746	.00005	.00930	.10587	-.00013	51.736	-.00006
#2	.00156	.02184	-.00051	.00875	.10496	-.00003	51.918	.00016
#3	.00038	.02400	-.00372	.00989	.10438	-.00004	51.502	-.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	**-.00041**	**.00012**	**-.00021**	**.04351**	**.68630**	**.00066**	**3.4042**	**.00514**
Stddev	.00053	.00047	.00093	.00884	.07794	.00221	.0768	.00343
%RSD	127.85	399.14	442.29	20.305	11.356	332.12	2.2548	66.680
#1	-.00087	.00033	.00053	.05032	.73205	-.00059	3.4912	.00452
#2	-.00054	-.00042	-.00125	.03353	.59632	-.00063	3.3459	.00883
#3	.00017	.00045	.00009	.04670	.73054	.00321	3.3755	.00206
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	**.00005**	**3.0407**	**.00017**	**-.01465**	**.00459**	**-.00025**	**-.00191**	**3.7728**
Stddev	.00068	.0060	.00023	.00327	.00225	.01051	.00924	.0039
%RSD	1303.3	.19710	133.66	22.296	49.045	4157.2	483.82	.10338
#1	-.00059	3.0408	-.00005	-.01113	.00464	.01179	-.00881	3.7726
#2	-.00002	3.0466	.00041	-.01525	.00681	-.00760	.00858	3.7768
#3	.00077	3.0346	.00016	-.01758	.00231	-.00495	-.00550	3.7690
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703070903 Acquired: 3/16/2017 13:04:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00025**	**.10163**	**.00252**	**-.00446**	**.00014**	**.00180**	**-.01795**
Stddev	.00169	.00030	.00507	.00888	.00107	.00035	.22460
%RSD	682.56	.29148	201.16	199.08	769.76	19.285	1251.2
#1	-.00015	.10131	-.00217	.00097	.00131	.00217	.22580
#2	-.00198	.10169	.00182	.00036	-.00010	.00149	-.06312
#3	.00139	.10189	.00791	-.01472	-.00079	.00172	-.21653
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	**4933.4**	**59988.**	**5377.8**
Stddev	4.4	1065.	51.4
%RSD	.08965	1.7757	.95578
#1	4935.4	61000.	5384.5
#2	4928.3	60086.	5323.4
#3	4936.5	58876.	5425.5

Approved: March 17, 2017

Sample Name: L1703070904 Acquired: 3/16/2017 13:08:29 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00260**	**.76990**	**.00138**	**.01181**	**.06063**	**-.00003**	**41.011**	**-.00024**
Stddev	.00182	.00874	.00121	.00457	.00028	.00001	.159	.00047
%RSD	69.966	1.1349	87.792	38.677	.45888	29.939	.38763	192.00
#1	.00439	.76695	.00162	.00654	.06095	-.00003	40.888	-.00058
#2	.00076	.77972	.00007	.01464	.06054	-.00004	40.953	.00029
#3	.00263	.76301	.00245	.01426	.06042	-.00003	41.190	-.00045
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00014**	**.00021**	**.00123**	**1.2578**	**2.2085**	**.00065**	**5.3028**	**.11531**
Stddev	.00108	.00076	.00057	.0223	.1227	.00392	.1053	.00145
%RSD	751.01	354.97	46.869	1.7746	5.5575	604.07	1.9860	1.2615
#1	-.00110	.00057	.00184	1.2463	2.2953	-.00377	5.1889	.11389
#2	.00072	-.00066	.00071	1.2836	2.0681	.00203	5.3966	.11680
#3	.00081	.00074	.00113	1.2436	2.2621	.00368	5.3229	.11525
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00018**	**4.1715**	**.00132**	**.03596**	**.00566**	**-.00031**	**-.00579**	**3.2420**
Stddev	.00080	.0144	.00230	.00875	.00421	.00275	.01070	.0091
%RSD	442.43	.34390	173.98	24.342	74.295	883.40	184.87	.28063
#1	.00111	4.1825	.00021	.02586	.00105	.00004	.00068	3.2327
#2	-.00034	4.1553	.00397	.04087	.00929	.00225	.00010	3.2423
#3	-.00022	4.1766	-.00021	.04116	.00666	-.00322	-.01813	3.2509
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703070904 Acquired: 3/16/2017 13:08:29 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00162**	**.12379**	**.01319**	**-.00628**	**.00095**	**.00554**	**.50514**
Stddev	.00049	.00066	.00126	.00273	.00146	.00008	.11963
%RSD	30.093	.53388	9.5190	43.532	153.49	1.4248	23.682
#1	.00148	.12319	.01461	-.00585	-.00046	.00545	.36775
#2	.00216	.12368	.01223	-.00378	.00086	.00556	.58620
#3	.00121	.12450	.01273	-.00920	.00245	.00561	.56147
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	**4940.6**	**60828.**	**5584.2**
Stddev	57.5	166.	17.5
%RSD	1.1643	.27246	.31313
#1	4966.6	60815.	5588.2
#2	4980.7	60669.	5599.4
#3	4874.7	61000.	5565.1

Approved: March 17, 2017

Sample Name: L1703071201 Acquired: 3/16/2017 13:12:13 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00509**	**.09440**	**-.00207**	**.13652**	**.07709**	**-.00009**	**3.9306**	**.00019**
Stddev	.00015	.00911	.00215	.00258	.00060	.00004	.0264	.00059
%RSD	2.8814	9.6542	104.05	1.8907	.78427	44.556	.67052	313.24
#1	.00526	.10449	.00003	.13473	.07699	-.00009	3.9044	-.00034
#2	.00504	.08677	-.00427	.13535	.07655	-.00013	3.9305	.00082
#3	.00498	.09193	-.00197	.13948	.07774	-.00005	3.9571	.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	**-.00008**	**-.00048**	**-.00024**	**.32065**	**.54035**	**.00791**	**.80011**	**.05742**
Stddev	.00072	.00172	.00121	.02197	.01310	.00081	.09111	.00212
%RSD	938.86	362.66	497.96	6.8523	2.4252	10.188	11.387	3.6872
#1	.00070	-.00210	-.00163	.34210	.53978	.00875	.70589	.05525
#2	-.00073	-.00066	.00035	.32165	.52754	.00784	.88775	.05948
#3	-.00019	.00133	.00055	.29819	.55373	.00714	.80668	.05754
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	**.00805**	**138.76**	**.00020**	**.00733**	**.00101**	**.00133**	**.00186**	**3.0628**
Stddev	.00062	.23	.00076	.01063	.00294	.00434	.00254	.0038
%RSD	7.7233	.16454	373.29	145.05	291.65	326.72	136.64	.12340
#1	.00869	138.78	.00075	.00062	-.00204	-.00355	-.00107	3.0605
#2	.00802	138.52	-.00067	.01959	.00123	.00278	.00346	3.0606
#3	.00745	138.97	.00053	.00178	.00384	.00475	.00319	3.0671
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703071201 Acquired: 3/16/2017 13:12:13 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00039**	**.07939**	**.00196**	**.00452**	**-.00010**	**.00257**	**.10051**
Stddev	.00039	.00095	.01038	.00215	.00053	.00015	.23214
%RSD	98.322	1.2020	529.22	47.528	514.07	5.9167	230.96
#1	-.00076	.07841	.00669	.00343	-.00070	.00265	.08159
#2	-.00044	.07946	.00914	.00699	.00031	.00239	.34153
#3	.00001	.08031	-.00994	.00313	.00008	.00266	-.12159
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	**4791.2**	**58456.**	**5464.8**
Stddev	15.2	205.	24.4
%RSD	.31789	.35086	.44736
#1	4802.4	58274.	5492.8
#2	4797.3	58678.	5447.6
#3	4773.9	58415.	5453.9

Approved: March 17, 2017

Sample Name: L1703071201PS Acquired: 3/16/2017 13:15:57 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606289-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19595**	**5.0157**	**.19341**	**1.0485**	**.56321**	**.02481**	**8.4138**	**.02477**
Stddev	.00143	.0116	.00428	.0072	.00104	.00022	.0604	.00030
%RSD	.73186	.23191	2.2117	.68902	.18497	.89111	.71820	1.2201
#1	.19681	5.0026	.19566	1.0461	.56222	.02455	8.3911	.02507
#2	.19429	5.0196	.18848	1.0566	.56313	.02493	8.4824	.02446
#3	.19674	5.0248	.19609	1.0427	.56429	.02494	8.3681	.02477
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	**.09876**	**.25105**	**.24492**	**2.2447**	**25.441**	**.49249**	**5.5400**	**.29231**
Stddev	.00031	.00177	.00087	.0061	.078	.00455	.0825	.00362
%RSD	.31222	.70639	.35486	.27294	.30720	.92418	1.4890	1.2396
#1	.09842	.25277	.24592	2.2419	25.351	.49019	5.4992	.29448
#2	.09900	.24923	.24452	2.2404	25.475	.49773	5.6350	.29432
#3	.09888	.25115	.24433	2.2517	25.496	.48954	5.4859	.28813
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	**.49199**	**149.42**	**.24534**	**4.7332**	**.24449**	**.59027**	**.18431**	**5.2256**
Stddev	.00172	.55	.00287	.0228	.00130	.01056	.01102	.0156
%RSD	.34918	.36565	1.1711	.48167	.53206	1.7897	5.9814	.29749
#1	.49015	149.03	.24283	4.7107	.24306	.59818	.17735	5.2156
#2	.49227	150.04	.24473	4.7325	.24559	.59437	.19702	5.2177
#3	.49355	149.19	.24848	4.7563	.24483	.57827	.17856	5.2435
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703071201PS Acquired: 3/16/2017 13:15:57 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606289-01

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48968**	**.56250**	**.49539**	**.24120**	**.49739**	**.49448**	**.59310**
Stddev	.00200	.00185	.00217	.00442	.00157	.00129	.21980
%RSD	.40930	.32816	.43789	1.8312	.31475	.25993	37.059
#1	.48767	.56045	.49516	.23886	.49602	.49307	.83864
#2	.48968	.56403	.49767	.24629	.49909	.49480	.52599
#3	.49168	.56302	.49335	.23844	.49706	.49558	.41468
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	**4738.2**	**57130.**	**5388.5**
Stddev	43.0	183.	34.1
%RSD	.90804	.32102	.63289
#1	4715.1	57339.	5387.9
#2	4711.7	56996.	5354.8
#3	4787.8	57054.	5423.0

Approved: March 17, 2017
Kim K. Rhoden

Sample Name: L1703071201SDL Acquired: 3/16/2017 13:19:34 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG606289-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00372**	**.02379**	**.00346**	**.03265**	**.01590**	**-.00015**	**.78618**	**-.00040**
Stddev	.00105	.00265	.00293	.00261	.00082	.00002	.02824	.00006
%RSD	28.356	11.149	84.618	8.0086	5.1451	13.685	3.5920	15.940
#1	.00256	.02111	.00067	.03007	.01684	-.00013	.81650	-.00040
#2	.00462	.02385	.00651	.03257	.01539	-.00017	.76064	-.00047
#3	.00398	.02641	.00321	.03530	.01547	-.00015	.78139	-.00034
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00010**	**-.00145**	**-.00133**	**.06589**	**.11137**	**-.00081**	**.10914**	**.01137**
Stddev	.00057	.00093	.00116	.01489	.04071	.00624	.06093	.00122
%RSD	541.40	64.035	86.548	22.592	36.550	771.15	55.826	10.726
#1	.00059	-.00227	-.00029	.07833	.10238	-.00767	.05877	.01240
#2	.00024	-.00165	-.00115	.06995	.07592	.00454	.09178	.01170
#3	-.00052	-.00044	-.00257	.04940	.15583	.00070	.17686	.01002
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	**.00121**	**28.253**	**-.00088**	**.00074**	**.00304**	**.00085**	**.00380**	**.63271**
Stddev	.00044	.198	.00088	.01294	.00084	.00734	.01146	.00293
%RSD	36.036	.70113	99.967	1744.4	27.506	865.13	301.43	.46302
#1	.00167	28.462	-.00188	-.01147	.00289	.00924	.01653	.62995
#2	.00080	28.226	-.00051	.01431	.00229	-.00232	-.00570	.63579
#3	.00115	28.069	-.00025	-.00061	.00394	-.00438	.00058	.63239
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703071201SDL Acquired: 3/16/2017 13:19:34 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG606289-02

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00001**	**.01546**	**.00316**	**-.00273**	**.00065**	**.00079**	**.21519**
Stddev	.00146	.00029	.00098	.00367	.00161	.00015	.24132
%RSD	14773.	1.9007	31.128	134.65	249.93	18.558	112.14
#1	-.00103	.01522	.00387	-.00024	.00118	.00093	.12855
#2	-.00066	.01579	.00357	-.00694	-.00117	.00064	.02915
#3	.00166	.01538	.00204	-.00099	.00193	.00082	.48787
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	**5030.9**	**61310.**	**5574.3**
Stddev	20.3	297.	130.4
%RSD	.40359	.48432	2.3395
#1	5017.7	61418.	5424.3
#2	5054.3	61538.	5660.9
#3	5020.7	60974.	5637.6

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 13:23:20 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.40295**	**10.408**	**.40222**	**.50819**	**1.0124**	**.05126**	**10.004**
Stddev	.00190	.024	.00057	.00173	.0031	.00006	.049
%RSD	.47188	.23090	.14094	.34013	.30235	.12515	.48661
#1	.40455	10.383	.40253	.50719	1.0121	.05123	9.9790
#2	.40346	10.431	.40156	.51018	1.0095	.05133	9.9732
#3	.40085	10.410	.40256	.50719	1.0156	.05121	10.060
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	**.05111**	**.20350**	**.51442**	**.50933**	**4.0690**	**50.043**	**1.0002**
Stddev	.00091	.00033	.00179	.00263	.0506	.272	.0057
%RSD	1.7739	.16130	.34844	.51687	1.2431	.54263	.56707
#1	.05118	.20353	.51622	.50698	4.0803	49.787	.99859
#2	.05198	.20381	.51263	.51218	4.0137	50.015	.99551
#3	.05017	.20315	.51440	.50883	4.1129	50.328	1.0065
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	**10.003**	**.49697**	**1.0036**	**50.165**	**.51213**	**9.9671**	**.50929**
Stddev	.073	.00092	.0031	.126	.00243	.0115	.00236
%RSD	.73034	.18444	.30927	.25212	.47354	.11530	.46269
#1	9.9241	.49607	1.0035	50.035	.51477	9.9582	.50722
#2	10.069	.49790	1.0068	50.171	.51001	9.9801	.50881
#3	10.015	.49695	1.0006	50.288	.51159	9.9632	.51185
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 13:23:20 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**1.2227**	**.40268**	**4.9927**	**1.0062**	**1.0067**	**1.0025**	**.51785**
Stddev	.0087	.00233	.0180	.0023	.0052	.0171	.01267
%RSD	.70945	.57874	.36102	.22932	.51243	1.7013	2.4468
#1	1.2149	.40301	4.9877	1.0078	1.0025	1.0066	.50322
#2	1.2320	.40021	5.0127	1.0072	1.0050	.98372	.52500
#3	1.2211	.40483	4.9777	1.0035	1.0124	1.0171	.52534
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**1.0191**	**1.0243**	F **.73596**
Stddev	.0014	.0021	.09911
%RSD	.13207	.20312	13.467
#1	1.0178	1.0243	.84106
#2	1.0190	1.0263	.64420
#3	1.0205	1.0221	.72261
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	**4858.7**	**58796.**	**5461.3**
Stddev	15.0	88.	42.5
%RSD	.30946	.14992	.77788
#1	4852.0	58842.	5475.3
#2	4848.3	58694.	5413.6
#3	4876.0	58851.	5495.0

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 13:26:52 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00526**	**.00058**	**-.00187**	**.00606**	**.00069**	**-.00001**	**-.01023**
Stddev	.00084	.00550	.00328	.00262	.00109	.00005	.01558
%RSD	15.939	941.86	175.91	43.302	157.69	475.54	152.29
#1	.00553	-.00575	.00192	.00328	.00191	.00004	-.01768
#2	.00593	.00415	-.00371	.00849	.00034	-.00002	-.02069
#3	.00432	.00335	-.00381	.00641	-.00018	-.00005	.00768
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**	**-.00015**	**.00030**	**-.00282**	**.01039**	**.16722**	**-.00108**
Stddev	.00009	.00050	.00094	.00127	.01251	.08844	.00180
%RSD	114.61	346.19	318.29	44.983	120.41	52.889	166.31
#1	-.00002	-.00071	.00051	-.00421	-.00206	.15967	-.00190
#2	.00013	.00025	.00112	-.00256	.02295	.25919	-.00233
#3	.00012	.00002	-.00074	-.00171	.01027	.08279	.00098
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	**.00014**	**.00076**	**-.00026**	**.06463**	**-.00089**	**-.00493**	**.00193**
Stddev	.04844	.00229	.00054	.00638	.00174	.00887	.00259
%RSD	33926.	301.24	207.50	9.8700	195.80	179.83	134.47
#1	.01592	-.00145	-.00040	.05883	-.00254	-.01255	.00373
#2	.03872	.00313	-.00071	.06360	.00094	-.00704	-.00104
#3	-.05422	.00061	.00033	.07146	-.00107	.00480	.00309
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 13:26:52 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00095**	**.00079**	**.00354**	**.00086**	**-.00041**	**.00004**	**-.00379**
Stddev	.00209	.00705	.00201	.00089	.00021	.00564	.00134
%RSD	219.01	893.79	56.605	102.80	50.837	15570.	35.462
#1	-.00332	.00112	.00128	.00119	-.00050	-.00647	-.00376
#2	-.00017	-.00642	.00426	-.00014	-.00017	.00308	-.00246
#3	.00063	.00766	.00509	.00154	-.00056	.00350	-.00514
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.00032**	**.00016**	F **.04785**
Stddev	.00037	.00019	.30292
%RSD	116.41	117.89	633.06
#1	.00009	-.00006	.23605
#2	.00075	.00026	-.30158
#3	.00012	.00028	.20909
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	**4883.5**	**59830.**	**5343.7**
Stddev	25.0	89.	21.4
%RSD	.51118	.14864	.40090
#1	4909.7	59917.	5335.5
#2	4880.6	59739.	5327.6
#3	4860.0	59833.	5368.0

Approved: March 17, 2017

Sample Name: L1703071202 Acquired: 3/16/2017 13:30:38 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00387**	**.05608**	**.00215**	**.13149**	**.05789**	**-.00015**	**3.3588**	**-.00010**
Stddev	.00264	.00241	.00363	.00168	.00052	.00004	.0374	.00034
%RSD	68.251	4.2979	168.82	1.2802	.89249	24.076	1.1134	327.07
#1	.00601	.05381	.00473	.12982	.05756	-.00013	3.3207	.00028
#2	.00466	.05582	.00372	.13148	.05763	-.00013	3.3603	-.00023
#3	.00092	.05860	-.00200	.13318	.05849	-.00019	3.3954	-.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	**-.00020**	**-.00084**	**-.00228**	**.09311**	**.65499**	**.00705**	**.71802**	**.03939**
Stddev	.00016	.00094	.00118	.01574	.08913	.00384	.08136	.00213
%RSD	79.112	110.78	51.957	16.906	13.608	54.427	11.331	5.4191
#1	-.00013	-.00005	-.00333	.07587	.73118	.00744	.81004	.03763
#2	-.00009	-.00061	-.00100	.10671	.67681	.01067	.65563	.04177
#3	-.00038	-.00187	-.00250	.09674	.55698	.00303	.68840	.03877
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	**.00686**	**144.94**	**.00396**	**.00247**	**.00557**	**.00369**	**-.00085**	**2.8947**
Stddev	.00048	.73	.00077	.00783	.00298	.00706	.01153	.0094
%RSD	6.9702	.50439	19.458	316.58	53.450	191.40	1351.6	.32430
#1	.00638	144.12	.00356	.01102	.00745	-.00346	-.01293	2.9053
#2	.00734	145.54	.00347	.00075	.00214	.00387	.00031	2.8916
#3	.00686	145.15	.00485	-.00435	.00712	.01066	.01005	2.8873
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703071202 Acquired: 3/16/2017 13:30:38 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00068**	**.06534**	**.00244**	**-.00469**	**.00018**	**.00635**	**.09496**
Stddev	.00038	.00050	.00212	.00742	.00105	.00013	.07708
%RSD	55.441	.76603	87.198	158.33	599.66	2.0758	81.172
#1	-.00028	.06490	.00489	.00137	-.00104	.00630	.17384
#2	-.00103	.06523	.00117	-.01297	.00081	.00650	.09122
#3	-.00074	.06588	.00125	-.00246	.00076	.00625	.01981
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	**4699.2**	**56870.**	**5254.0**
Stddev	14.2	259.	40.8
%RSD	.30199	.45482	.77567
#1	4714.8	56580.	5300.3
#2	4696.1	56952.	5238.4
#3	4686.9	57078.	5223.4

Approved: March 17, 2017

Sample Name: L1703072301 Acquired: 3/16/2017 13:34:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00072**	**.06550**	**-.00042**	**.12108**	**.13881**	**.00002**	**25.924**
Stddev	.00112	.00646	.00362	.00460	.00071	.00006	.085
%RSD	155.75	9.8580	852.46	3.7970	.51039	326.21	.32911
#1	-.00030	.06700	-.00328	.12605	.13913	-.00002	25.899
#2	.00054	.05842	.00364	.12020	.13930	.00009	26.019
#3	.00191	.07107	-.00163	.11698	.13800	-.00001	25.853
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	**-.00027**	**.00497**	**.00509**	**-.00016**	**.52524**	**5.5597**	**.01994**
Stddev	.00013	.00020	.00200	.00046	.03771	.0979	.00278
%RSD	47.349	3.9935	39.331	282.50	7.1792	1.7616	13.920
#1	-.00013	.00519	.00361	.00023	.52938	5.4482	.02101
#2	-.00029	.00480	.00737	-.00066	.48564	5.5992	.01679
#3	-.00038	.00493	.00430	-.00005	.56071	5.6318	.02203
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	**11.397**	**.09682**	**.00693**	F **1725.1**	**.01642**	**2.9627**	**.00455**
Stddev	.073	.00111	.00046	17.6	.00042	.0174	.00668
%RSD	.63646	1.1415	6.7027	1.0230	2.5818	.58641	146.82
#1	11.382	.09744	.00727	1734.1	.01607	2.9427	-.00131
#2	11.333	.09748	.00640	1736.4	.01629	2.9739	.01182
#3	11.476	.09554	.00712	1704.7	.01689	2.9715	.00313
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: March 17, 2017

Sample Name: L1703072301 Acquired: 3/16/2017 13:34:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00506**	**-.00192**	**4.0730**	**.00010**	**1.6845**	**-.00038**	**-.01084**
Stddev	.00167	.00054	.0077	.00167	.0029	.00758	.00389
%RSD	33.052	28.052	.18960	1695.9	.17206	1988.1	35.916
#1	.00575	-.00205	4.0806	.00201	1.6825	-.00909	-.01506
#2	.00627	-.00239	4.0652	-.00105	1.6878	.00318	-.01007
#3	.00315	-.00133	4.0731	-.00067	1.6831	.00476	-.00739
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	**.00047**	**.09085**	F **-.37101**
Stddev	.00088	.00032	.05832
%RSD	189.06	.35344	15.719
#1	-.00030	.09049	-.43478
#2	.00027	.09095	-.32040
#3	.00143	.09111	-.35783
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	**4260.9**	**49256.**	**5303.0**
Stddev	10.3	558.	8.9
%RSD	.24063	1.1333	.16727
#1	4271.4	49128.	5313.0
#2	4260.4	48772.	5296.0
#3	4250.9	49867.	5300.1

Approved: March 17, 2017

Sample Name: L1703072401 Acquired: 3/16/2017 13:38:14 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00546**	**.04568**	**.00152**	**.12056**	**.08916**	**-.00001**	**12.810**
Stddev	.00199	.00586	.00248	.00290	.00079	.00006	.072
%RSD	36.433	12.834	163.95	2.4053	.88505	828.19	.56165
#1	.00318	.03995	-.00126	.12098	.09004	.00002	12.742
#2	.00683	.05167	.00227	.11748	.08895	-.00007	12.804
#3	.00638	.04544	.00353	.12323	.08850	.00003	12.885
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00014**	**.00487**	**.00227**	**-.00053**	**.12608**	**5.5700**	**.02303**
Stddev	.00016	.00069	.00238	.00040	.01143	.1039	.00480
%RSD	112.14	14.151	104.93	74.623	9.0677	1.8648	20.837
#1	-.00032	.00566	.00184	-.00067	.12711	5.4560	.02021
#2	-.00009	.00460	.00013	-.00085	.11416	5.5947	.02857
#3	-.00002	.00437	.00484	-.00009	.13696	5.6593	.02030
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	**6.0747**	**.01112**	**.00610**	F **1765.8**	**.01438**	**4.1070**	**.00093**
Stddev	.0759	.00277	.00058	26.2	.00157	.0126	.00244
%RSD	1.2486	24.865	9.4888	1.4859	10.931	.30727	262.25
#1	6.1337	.01364	.00544	1795.9	.01617	4.1123	-.00165
#2	6.1012	.01157	.00653	1748.1	.01325	4.1161	.00124
#3	5.9891	.00816	.00633	1753.3	.01371	4.0926	.00320
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: March 17, 2017

Sample Name: L1703072401 Acquired: 3/16/2017 13:38:14 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00447**	**-.00357**	**3.6489**	**-.00036**	**1.2965**	**.00174**	**-.00455**
Stddev	.00533	.01208	.0063	.00159	.0044	.00786	.00478
%RSD	119.14	338.51	.17175	443.12	.34075	450.55	104.96
#1	.00476	-.00705	3.6495	-.00024	1.3010	-.00622	-.00052
#2	-.00099	.00987	3.6549	-.00200	1.2921	.00949	-.00331
#3	.00965	-.01353	3.6424	.00116	1.2965	.00196	-.00983
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.00122**	**.05433**	F **-.45270**
Stddev	.00091	.00010	.34046
%RSD	74.118	.18106	75.206
#1	.00192	.05432	-.22650
#2	.00020	.05424	-.28735
#3	.00156	.05443	-.84426
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	**4268.8**	**49758.**	**5313.5**
Stddev	9.5	106.	54.9
%RSD	.22217	.21204	1.0339
#1	4264.0	49785.	5250.2
#2	4279.8	49642.	5341.7
#3	4262.8	49848.	5348.5

Approved: March 17, 2017

Sample Name: L1703072801 Acquired: 3/16/2017 13:42:06 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606289-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00627**	**.02462**	**-.00743**	**.20657**	**.00143**	**-.00012**	**.21114**
Stddev	.00079	.00199	.00180	.00357	.00056	.00012	.02127
%RSD	12.678	8.0936	24.182	1.7290	39.407	97.508	10.072
#1	.00718	.02484	-.00926	.20313	.00079	-.00019	.19489
#2	.00575	.02650	-.00567	.21026	.00183	.00001	.23521
#3	.00587	.02253	-.00736	.20632	.00168	-.00018	.20333
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	**.00632**	**.01465**	**.01978**	**.23148**	**120.67**	**45.257**	**-.00146**
Stddev	.00038	.00071	.00085	.00121	.59	.270	.00319
%RSD	5.9424	4.8381	4.3215	.52381	.49295	.59681	218.86
#1	.00607	.01453	.02068	.23145	120.36	44.946	.00200
#2	.00613	.01401	.01898	.23028	121.36	45.422	-.00430
#3	.00675	.01541	.01969	.23271	120.30	45.405	-.00208
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	**.13126**	**1.3915**	**-.00167**	**15.531**	**13.189**	**-.07700**	**.02390**
Stddev	.03453	.0057	.00034	.063	.002	.00809	.00253
%RSD	26.306	.40820	20.560	.40650	.01224	10.512	10.601
#1	.09623	1.3904	-.00169	15.533	13.191	-.07462	.02215
#2	.16526	1.3976	-.00132	15.593	13.189	-.07036	.02274
#3	.13229	1.3864	-.00201	15.467	13.187	-.08602	.02680
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: L1703072801 Acquired: 3/16/2017 13:42:06 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606289-01

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00112**	**-.00231**	**.23601**	**.00051**	**.00031**	**.02577**	**-.00261**
Stddev	.00344	.00937	.00123	.00174	.00020	.00413	.00587
%RSD	308.34	405.04	.51968	342.52	63.312	16.024	225.08
#1	-.00249	.00758	.23466	-.00014	.00044	.02665	-.00717
#2	.00437	-.01106	.23706	-.00081	.00041	.02939	-.00467
#3	.00147	-.00346	.23632	.00247	.00008	.02127	.00401
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	**-.00206**	**.09581**	F **-4.2940**
Stddev	.00086	.00030	.0833
%RSD	41.505	.31658	1.9402
#1	-.00190	.09553	-4.1983
#2	-.00129	.09577	-4.3507
#3	-.00298	.09613	-4.3329
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	**4942.6**	**59230.**	**5474.7**
Stddev	6.2	555.	104.1
%RSD	.12445	.93733	1.9006
#1	4943.3	59039.	5594.8
#2	4948.3	58795.	5414.6
#3	4936.1	59855.	5414.5

Approved: March 17, 2017

Sample Name: L1703072801MS Acquired: 3/16/2017 13:45:50 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606289-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20669**	**5.2205**	**.19180**	**1.1599**	**.51148**	**.02536**	**5.2474**
Stddev	.00061	.0109	.00219	.0047	.00275	.00005	.0266
%RSD	.29468	.20925	1.1409	.40228	.53806	.18502	.50633
#1	.20691	5.2185	.19379	1.1635	.50949	.02540	5.2244
#2	.20716	5.2108	.18946	1.1615	.51462	.02531	5.2765
#3	.20600	5.2323	.19215	1.1546	.51033	.02537	5.2413
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	**.03188**	**.11703**	**.27747**	**.48022**	**122.21**	**70.403**	**.50789**
Stddev	.00049	.00035	.00027	.00051	.49	.081	.00388
%RSD	1.5512	.29479	.09829	.10650	.40224	.11476	.76432
#1	.03238	.11737	.27719	.47968	121.69	70.356	.50610
#2	.03140	.11668	.27774	.48069	122.67	70.497	.51234
#3	.03185	.11706	.27747	.48030	122.26	70.357	.50522
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	**5.0954**	**1.6285**	**.49503**	**40.667**	**13.297**	**4.7670**	**.27453**
Stddev	.0555	.0034	.00133	.160	.007	.0222	.00499
%RSD	1.0895	.20914	.26788	.39359	.05041	.46503	1.8165
#1	5.1445	1.6312	.49374	40.680	13.299	4.7782	.28029
#2	5.1066	1.6297	.49495	40.821	13.303	4.7415	.27175
#3	5.0352	1.6247	.49639	40.501	13.290	4.7813	.27155
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: L1703072801MS Acquired: 3/16/2017 13:45:50 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606289-04

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.61129**	**.18851**	**2.7215**	**.50117**	**.50797**	**.52903**	**.09692**
Stddev	.00464	.00496	.0022	.00213	.00130	.00654	.00134
%RSD	.75940	2.6307	.08087	.42407	.25652	1.2358	1.3824
#1	.60652	.18378	2.7237	.50077	.50658	.53465	.09626
#2	.61579	.19367	2.7215	.50347	.50916	.52186	.09603
#3	.61157	.18808	2.7193	.49927	.50818	.53060	.09846
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	**.50879**	**.59881**	F **-3.9287**
Stddev	.00068	.00121	.0348
%RSD	.13377	.20218	.88720
#1	.50818	.60021	-3.9545
#2	.50867	.59819	-3.9425
#3	.50952	.59804	-3.8890
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	**4821.4**	**58584.**	**5403.2**
Stddev	12.4	175.	22.7
%RSD	.25637	.29866	.42069
#1	4819.7	58447.	5402.3
#2	4810.0	58781.	5381.0
#3	4834.5	58524.	5426.4

Approved: March 17, 2017

Sample Name: L1703072801MSD Acquired: 3/16/2017 13:49:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606289-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20800**	**5.2391**	**.19479**	**1.1516**	**.51123**	**.02519**	**5.2604**
Stddev	.00228	.0327	.00270	.0088	.00075	.00007	.0117
%RSD	1.0948	.62413	1.3849	.76559	.14653	.26829	.22324
#1	.20673	5.2112	.19584	1.1504	.51054	.02512	5.2720
#2	.21063	5.2751	.19680	1.1610	.51113	.02526	5.2485
#3	.20664	5.2311	.19172	1.1435	.51203	.02520	5.2606
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	**.03122**	**.11663**	**.27516**	**.48161**	**121.39**	**70.504**	**.51149**
Stddev	.00030	.00052	.00154	.00087	.12	.202	.00402
%RSD	.95370	.44183	.55975	.17989	.10154	.28702	.78601
#1	.03151	.11718	.27549	.48160	121.47	70.446	.50916
#2	.03091	.11615	.27651	.48076	121.46	70.337	.50916
#3	.03124	.11656	.27349	.48249	121.25	70.729	.51613
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	**5.0717**	**1.6223**	**.49500**	**40.686**	**13.279**	**4.7616**	**.27309**
Stddev	.1529	.0071	.00103	.220	.022	.0143	.00520
%RSD	3.0144	.43813	.20759	.54060	.16517	.29982	1.9023
#1	4.9676	1.6238	.49471	40.544	13.254	4.7472	.26906
#2	5.0002	1.6146	.49414	40.574	13.290	4.7757	.27895
#3	5.2472	1.6286	.49614	40.939	13.293	4.7620	.27126
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: L1703072801MSD Acquired: 3/16/2017 13:49:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606289-05

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.60728**	**.18789**	**2.7387**	**.50161**	**.50714**	**.53473**	**.08077**
Stddev	.00294	.01099	.0102	.00132	.00100	.00704	.00364
%RSD	.48495	5.8508	.37222	.26240	.19643	1.3161	4.5040
#1	.61067	.18092	2.7277	.50294	.50767	.53749	.08308
#2	.60586	.18218	2.7479	.50158	.50599	.52674	.08265
#3	.60531	.20056	2.7406	.50031	.50775	.53998	.07658
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	**.50858**	**.59528**	F **-3.8920**
Stddev	.00087	.00077	.1732
%RSD	.17199	.12868	4.4514
#1	.50769	.59441	-4.0898
#2	.50860	.59557	-3.7669
#3	.50944	.59586	-3.8194
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	**4856.0**	**58839.**	**5286.1**
Stddev	14.2	314.	107.4
%RSD	.29339	.53430	2.0323
#1	4839.6	58574.	5344.9
#2	4865.5	58756.	5351.4
#3	4862.8	59186.	5162.1

Approved: March 17, 2017

Sample Name: L1703073701 Acquired: 3/16/2017 13:52:54 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00227**	**.09426**	**.01269**	F **73.299**	**.02587**	**-.00010**	**41.432**
Stddev	.00274	.00652	.00294	.132	.00033	.00001	.103
%RSD	120.60	6.9119	23.140	.18059	1.2573	5.2974	.24962
#1	.00542	.09951	.01540	73.428	.02571	-.00010	41.527
#2	.00087	.09631	.00957	73.164	.02566	-.00009	41.448
#3	.00051	.08697	.01312	73.305	.02625	-.00010	41.322
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				45.000			
Low Limit				-.10000			

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00007**	**.01110**	**.00428**	**.01803**	**2.9252**	**95.270**	**.11010**
Stddev	.00045	.00048	.00062	.00285	.0160	.205	.00147
%RSD	610.76	4.3260	14.580	15.782	.54614	.21560	1.3337
#1	-.00034	.01157	.00448	.02106	2.9397	95.078	.11171
#2	.00056	.01061	.00478	.01760	2.9277	95.246	.10883
#3	-.00000	.01112	.00358	.01542	2.9080	95.486	.10978
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	**3.7828**	**1.2431**	**.00563**	**120.62**	**.07591**	**4.1311**	**.00143**
Stddev	.0391	.0057	.00046	.55	.00140	.0330	.00427
%RSD	1.0332	.46152	8.1968	.45709	1.8447	.79966	299.41
#1	3.7377	1.2385	.00578	120.72	.07444	4.1564	.00519
#2	3.8066	1.2413	.00512	121.11	.07607	4.0938	.00230
#3	3.8041	1.2495	.00600	120.02	.07723	4.1433	-.00321
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: L1703073701 Acquired: 3/16/2017 13:52:54 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00473**	**-.00706**	**3.3139**	**.00111**	**.08149**	**-.00044**	**-.00113**
Stddev	.00408	.00308	.0039	.00119	.00021	.00230	.00570
%RSD	86.200	43.554	.11706	107.07	.25602	524.12	505.31
#1	.00497	-.00868	3.3146	.00123	.08126	.00022	-.00685
#2	.00054	-.00900	3.3174	-.00014	.08157	.00146	-.00109
#3	.00868	-.00352	3.3097	.00223	.08165	-.00300	.00456
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	**.00207**	**.38541**	**.08851**
Stddev	.00070	.00037	.05592
%RSD	33.622	.09473	63.179
#1	.00187	.38508	.15150
#2	.00150	.38534	.04469
#3	.00285	.38580	.06935
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	**4762.7**	**57303.**	**5431.2**
Stddev	12.7	303.	15.8
%RSD	.26767	.52876	.29086
#1	4755.1	57553.	5446.0
#2	4777.4	56966.	5414.5
#3	4755.6	57390.	5433.0

Approved: March 17, 2017

Sample Name: L1703073702 Acquired: 3/16/2017 13:56:35 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00217**	**.01869**	**-.00144**	**.21942**	**.02578**	**-.00004**	**3.1692**	**.00287**
Stddev	.00104	.00614	.00168	.01798	.00038	.00006	.0268	.00037
%RSD	47.868	32.835	117.11	8.1947	1.4666	136.77	.84601	12.945
#1	.00336	.01328	-.00149	.22307	.02553	-.00011	3.1384	.00327
#2	.00139	.01743	-.00309	.23529	.02559	.00001	3.1816	.00279
#3	.00178	.02535	.00027	.19989	.02621	-.00003	3.1876	.00254
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	**.00491**	**-.00137**	**-.00209**	**.04385**	**3.9422**	**.00924**	**.87191**	**.00504**
Stddev	.00033	.00057	.00241	.01169	.0999	.00518	.04939	.00292
%RSD	6.6403	41.552	115.29	26.662	2.5332	56.134	5.6649	58.022
#1	.00518	-.00197	-.00037	.05644	3.9639	.00335	.84795	.00811
#2	.00455	-.00132	-.00105	.03334	3.8333	.01314	.83906	.00472
#3	.00500	-.00083	-.00484	.04177	4.0294	.01121	.92871	.00229
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	**.00002**	**111.94**	**.00381**	**-.01405**	**.01769**	**.00120**	**-.00686**	**.16723**
Stddev	.00066	.62	.00185	.00920	.00170	.00831	.00432	.00674
%RSD	3079.6	.55197	48.578	65.475	9.6221	689.89	62.903	4.0301
#1	.00071	111.24	.00325	-.02433	.01693	.01074	-.00395	.17457
#2	-.00004	112.17	.00587	-.01127	.01964	-.00266	-.01182	.16582
#3	-.00061	112.41	.00230	-.00657	.01650	-.00447	-.00482	.16131
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703073702 Acquired: 3/16/2017 13:56:35 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00041**	**.01650**	**-.00093**	**-.00497**	**.00044**	**.01450**	**.20738**
Stddev	.00070	.00018	.00254	.00160	.00078	.00020	.17964
%RSD	171.06	1.0895	273.17	32.254	175.85	1.3758	86.622
#1	-.00002	.01629	.00057	-.00601	-.00042	.01465	.38108
#2	.00121	.01657	-.00387	-.00577	.00109	.01428	.02234
#3	.00003	.01663	.00051	-.00312	.00067	.01459	.21873
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	**4879.7**	**58986.**	**5320.1**
Stddev	10.4	169.	52.3
%RSD	.21370	.28709	.98392
#1	4885.2	58830.	5376.6
#2	4867.6	58962.	5310.5
#3	4886.1	59166.	5273.2

Approved: March 17, 2017

Sample Name: L1703074101 Acquired: 3/16/2017 14:00:21 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00103**	**.19347**	**.00202**	**13.738**	**.45285**	**-.00007**	**94.134**
Stddev	.00267	.00244	.00449	.052	.00101	.00006	.295
%RSD	259.63	1.2632	222.23	.37658	.22206	88.665	.31384
#1	.00087	.19620	-.00047	13.786	.45203	-.00001	94.046
#2	.00377	.19148	-.00067	13.684	.45254	-.00014	93.893
#3	-.00156	.19274	.00720	13.745	.45397	-.00008	94.464
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	**.00135**	**.00140**	**.00602**	**.00795**	**.70646**	**150.65**	**.08482**
Stddev	.00019	.00038	.00133	.00348	.01034	.64	.00083
%RSD	13.809	27.210	22.000	43.699	1.4635	.42614	.97656
#1	.00135	.00140	.00458	.00619	.70912	150.26	.08578
#2	.00154	.00178	.00718	.01196	.69505	150.29	.08427
#3	.00116	.00102	.00632	.00571	.71520	151.39	.08443
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	**39.992**	**6.7902**	**.00234**	F **560.32**	**.02464**	**.34205**	**.00752**
Stddev	.263	.0141	.00019	3.36	.00143	.00984	.00333
%RSD	.65864	.20818	8.2210	.59975	5.7860	2.8767	44.259
#1	39.791	6.7934	.00243	562.99	.02623	.35191	.00372
#2	39.894	6.7747	.00212	556.55	.02421	.34201	.00992
#3	40.290	6.8024	.00247	561.42	.02348	.33223	.00891
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: March 17, 2017

Sample Name: L1703074101 Acquired: 3/16/2017 14:00:21 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00064**	**.00616**	**6.1696**	**.00129**	**.72936**	**.00101**	**.00182**
Stddev	.00161	.00506	.0049	.00168	.00132	.00718	.00500
%RSD	251.90	82.203	.07970	130.33	.18094	709.04	274.40
#1	.00223	.00276	6.1655	-.00049	.72882	.00333	.00202
#2	.00069	.00374	6.1751	.00283	.72840	.00674	-.00328
#3	-.00100	.01198	6.1684	.00152	.73087	-.00704	.00673
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	**.07060**	**.03629**	**1.2916**
Stddev	.00063	.00022	.0546
%RSD	.88891	.60489	4.2265
#1	.07132	.03654	1.3543
#2	.07026	.03611	1.2650
#3	.07021	.03623	1.2553
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	**4559.3**	**53875.**	**5431.9**
Stddev	7.0	324.	46.5
%RSD	.15395	.60088	.85669
#1	4553.3	54171.	5433.3
#2	4567.0	53924.	5477.8
#3	4557.5	53529.	5384.8

Approved: March 17, 2017

Sample Name: L1703077101 Acquired: 3/16/2017 14:04:11 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00259**	**.19545**	**-.00119**	**.08838**	**.03799**	**-.00000**	**35.021**	**-.00011**
Stddev	.00098	.00717	.00321	.00232	.00048	.00004	.055	.00017
%RSD	37.679	3.6687	270.51	2.6248	1.2696	2080.0	.15720	162.88
#1	.00359	.19687	.00035	.08999	.03804	.00003	34.960	-.00024
#2	.00255	.18767	.00096	.08944	.03844	-.00000	35.035	-.00017
#3	.00164	.20180	-.00487	.08572	.03748	-.00004	35.068	.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	**-.00041**	**-.00098**	**-.00072**	**.11401**	**1.6426**	**.00767**	**3.8396**	**.00464**
Stddev	.00015	.00071	.00177	.01930	.0929	.00177	.0522	.00165
%RSD	36.473	72.913	244.49	16.924	5.6569	23.061	1.3596	35.546
#1	-.00049	-.00173	.00132	.09750	1.6155	.00941	3.8430	.00282
#2	-.00050	-.00031	-.00167	.13522	1.7460	.00587	3.8900	.00604
#3	-.00024	-.00090	-.00183	.10932	1.5662	.00772	3.7857	.00505
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**	**4.5910**	**-.00094**	**.01302**	**.00345**	**-.00113**	**.00286**	**3.5560**
Stddev	.00060	.0236	.00270	.01169	.00154	.00922	.00400	.0185
%RSD	271.75	.51451	285.68	89.786	44.713	812.60	139.84	.51966
#1	.00019	4.6180	.00078	.00780	.00175	-.01060	.00563	3.5463
#2	.00084	4.5741	-.00405	.00485	.00476	-.00062	-.00173	3.5444
#3	-.00037	4.5809	.00044	.02642	.00385	.00781	.00468	3.5773
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077101 Acquired: 3/16/2017 14:04:11 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00125**	**.11673**	**.01045**	**-.00367**	**-.00037**	**.00132**	**.33463**
Stddev	.00037	.00035	.00280	.01048	.00075	.00034	.28329
%RSD	29.409	.30242	26.830	285.65	202.19	25.880	84.657
#1	.00101	.11708	.00990	-.00491	-.00024	.00154	.08963
#2	.00107	.11637	.01349	-.01348	.00030	.00150	.26943
#3	.00168	.11674	.00796	.00738	-.00118	.00093	.64483
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	**4842.2**	**59039.**	**5263.1**
Stddev	25.2	173.	30.4
%RSD	.52097	.29294	.57739
#1	4817.8	59238.	5257.3
#2	4840.6	58927.	5236.0
#3	4868.2	58951.	5296.0

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 14:07:55 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.40207**	**10.408**	**.39542**	F **.56160**	**1.0142**	**.05106**	**10.107**
Stddev	.00149	.035	.00431	.00127	.0022	.00010	.055
%RSD	.36938	.33414	1.0891	.22541	.21478	.19624	.54266
#1	.40288	10.408	.39523	.56124	1.0116	.05095	10.066
#2	.40297	10.373	.39982	.56301	1.0153	.05108	10.087
#3	.40035	10.443	.39121	.56056	1.0155	.05114	10.170
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value				.50000			
Range				10.000%			

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05104**	**.20314**	**.51576**	**.51015**	**4.0411**	**51.052**	**1.0255**
Stddev	.00018	.00126	.00139	.00173	.0291	.449	.0047
%RSD	.35776	.61793	.26977	.33880	.72071	.87864	.45595
#1	.05086	.20274	.51638	.51154	4.0076	50.543	1.0201
#2	.05123	.20213	.51417	.50821	4.0594	51.221	1.0286
#3	.05104	.20455	.51674	.51070	4.0565	51.392	1.0276
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.051**	**.49796**	**1.0033**	**50.982**	**.51323**	**9.9283**	**.50667**
Stddev	.022	.00518	.0004	.013	.00187	.0116	.00256
%RSD	.21785	1.0394	.03966	.02496	.36381	.11687	.50541
#1	10.027	.49887	1.0030	50.995	.51154	9.9230	.50960
#2	10.069	.49239	1.0038	50.969	.51292	9.9203	.50486
#3	10.057	.50262	1.0033	50.983	.51524	9.9416	.50555
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 14:07:55 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**1.2140**	**.39879**	**4.9742**	**1.0074**	**1.0077**	**1.0007**	**.51949**
Stddev	.0048	.00745	.0105	.0018	.0041	.0076	.00244
%RSD	.39202	1.8670	.21150	.17436	.41085	.76130	.46927
#1	1.2190	.39998	4.9641	1.0067	1.0040	1.0033	.52068
#2	1.2135	.40556	4.9734	1.0062	1.0071	1.0066	.52110
#3	1.2095	.39082	4.9851	1.0095	1.0122	.99208	.51668
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**1.0178**	**1.0224**	F **.71636**
Stddev	.0021	.0016	.03764
%RSD	.20285	.15212	5.2541
#1	1.0156	1.0207	.75850
#2	1.0196	1.0229	.68610
#3	1.0183	1.0237	.70446
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	**4833.9**	**58291.**	**5316.9**
Stddev	14.9	93.	53.5
%RSD	.30727	.16036	1.0055
#1	4827.0	58389.	5370.2
#2	4823.8	58203.	5263.3
#3	4851.0	58282.	5317.1

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 14:11:26 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00408**	**.00470**	**.00187**	**.05458**	**.00098**	**-.00006**	**.01391**	**-.00010**
Stddev	.00101	.00219	.00345	.00151	.00080	.00004	.02767	.00032
%RSD	24.775	46.553	183.79	2.7698	82.003	60.633	198.88	312.67
#1	.00291	.00692	-.00187	.05291	.00155	-.00005	-.00850	.00007
#2	.00469	.00464	.00491	.05499	.00006	-.00010	.00541	-.00047
#3	.00463	.00255	.00259	.05584	.00132	-.00003	.04484	.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	**.00009**	**-.00058**	**-.00178**	**.00999**	**.26124**	**.00071**	**.11780**	**.00023**
Stddev	.00024	.00102	.00167	.03305	.04418	.00136	.07760	.00082
%RSD	272.10	175.02	93.690	330.94	16.911	192.36	65.875	357.40
#1	-.00013	.00058	-.00314	-.00399	.27230	.00211	.18350	.00014
#2	.00034	-.00130	-.00229	.04773	.29884	.00063	.03218	-.00054
#3	.00005	-.00103	.00008	-.01378	.21258	-.00061	.13773	.00109
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**	**.18803**	**-.00198**	**-.00495**	**.00207**	**.00109**	**-.00566**	**.00319**
Stddev	.00061	.01067	.00272	.00222	.00494	.00410	.01429	.00301
%RSD	176.72	5.6768	136.99	44.771	238.35	375.07	252.25	94.410
#1	-.00103	.19642	-.00467	-.00738	.00245	.00580	-.01817	-.00018
#2	-.00015	.19166	-.00204	-.00304	-.00305	-.00078	.00991	.00562
#3	.00014	.17602	.00076	-.00443	.00682	-.00174	-.00874	.00411
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 14:11:26 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00022**	**-.00016**	**.00531**	**-.00169**	**.00082**	**-.00006**	**.01561**
Stddev	.00051	.00039	.00249	.00174	.00091	.00009	.40301
%RSD	232.20	241.17	46.851	102.56	110.38	153.54	2582.4
#1	.00001	-.00060	.00264	-.00358	.00007	.00003	-.17569
#2	.00014	-.00004	.00571	-.00134	.00183	-.00007	-.25613
#3	-.00080	.00016	.00757	-.00016	.00057	-.00014	.47864
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	**4888.2**	**59102.**	**5276.0**
Stddev	31.5	307.	7.4
%RSD	.64390	.51863	.13984
#1	4885.4	59456.	5268.7
#2	4858.3	58924.	5283.5
#3	4921.1	58927.	5275.7

Approved: March 17, 2017

Sample Name: L1703077201 Acquired: 3/16/2017 14:15:11 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00328**	**.02770**	**-.00136**	**.09160**	**.06978**	**-.00003**	**55.197**	**-.00009**
Stddev	.00081	.02383	.00201	.05838	.00092	.00011	.040	.00041
%RSD	24.741	86.022	148.01	63.730	1.3139	457.52	.07276	466.06
#1	.00362	.01490	.00077	.05968	.07019	-.00008	55.151	-.00039
#2	.00387	.01301	-.00163	.05614	.07041	-.00010	55.228	.00038
#3	.00236	.05520	-.00322	.15897	.06872	.00011	55.211	-.00026
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00013**	**.00063**	**.01420**	**.01723**	**1.4910**	**.00826**	**16.359**	**-.00014**
Stddev	.00065	.00206	.00225	.01326	.0257	.00346	.219	.00184
%RSD	514.73	326.16	15.851	76.927	1.7226	41.893	1.3382	1274.0
#1	-.00039	-.00012	.01234	.02737	1.5138	.00486	16.304	-.00224
#2	.00062	-.00095	.01357	.00223	1.4632	.01177	16.601	.00121
#3	-.00060	.00296	.01670	.02209	1.4961	.00814	16.174	.00060
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	**.00056**	**5.4597**	**.00011**	**-.01498**	**.00554**	**-.00089**	**.00971**	**4.4184**
Stddev	.00068	.0281	.00303	.00770	.00323	.00711	.01043	.0040
%RSD	121.00	.51410	2775.5	51.420	58.302	800.28	107.47	.08942
#1	.00125	5.4837	-.00335	-.01198	.00835	-.00906	.00642	4.4214
#2	.00052	5.4665	.00136	-.00922	.00201	.00388	.00131	4.4198
#3	-.00010	5.4288	.00231	-.02372	.00626	.00251	.02139	4.4139
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077201 Acquired: 3/16/2017 14:15:11 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00039**	**.38894**	**-.00282**	**-.00456**	**.00073**	**.02104**	**.02688**
Stddev	.00087	.00123	.00019	.00448	.00243	.00021	.19618
%RSD	221.43	.31717	6.8866	98.340	332.32	.98647	729.80
#1	-.00035	.38836	-.00270	-.00946	-.00109	.02109	.05764
#2	.00017	.38809	-.00272	-.00353	-.00020	.02081	.20586
#3	.00135	.39035	-.00305	-.00068	.00350	.02122	-.18286
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	**4756.0**	**58614.**	**5236.8**
Stddev	6.2	348.	20.0
%RSD	.13090	.59387	.38110
#1	4761.5	58313.	5259.8
#2	4749.2	58533.	5225.0
#3	4757.2	58995.	5225.5

Approved: March 17, 2017

Sample Name: L1703077202 Acquired: 3/16/2017 14:18:54 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00235**	**.01996**	**-.00091**	**.04123**	**.05261**	**-.00006**	**56.260**	**.00011**
Stddev	.00300	.00416	.00728	.00055	.00044	.00005	.197	.00059
%RSD	127.81	20.824	802.42	1.3257	.83086	81.899	.34976	556.31
#1	.00425	.01979	-.00627	.04126	.05211	-.00010	56.214	-.00056
#2	-.00111	.01589	-.00384	.04176	.05295	-.00001	56.091	.00032
#3	.00390	.02420	.00738	.04066	.05275	-.00007	56.476	.00056
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00036**	**-.00040**	**-.00361**	**.00001**	**1.1638**	**.00999**	**9.8235**	**.00327**
Stddev	.00081	.00127	.00146	.02453	.0799	.00298	.1994	.00116
%RSD	222.98	315.99	40.459	247260.	6.8697	29.816	2.0300	35.452
#1	.00053	-.00077	-.00513	-.01378	1.1866	.00800	10.033	.00199
#2	-.00056	-.00144	-.00348	.02833	1.2299	.01342	9.8017	.00357
#3	-.00106	.00101	-.00222	-.01452	1.0749	.00857	9.6358	.00424
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	**.00079**	**4.0937**	**.00027**	**-.00234**	**.00031**	**.00199**	**.00000**	**4.2611**
Stddev	.00063	.0296	.00288	.00485	.00570	.00515	.00495	.0198
%RSD	79.787	.72214	1064.7	207.22	1837.7	258.41	154270.	.46484
#1	.00037	4.0600	.00307	-.00738	-.00543	.00744	-.00572	4.2679
#2	.00048	4.1151	.00043	-.00194	.00040	.00134	.00286	4.2388
#3	.00151	4.1061	-.00269	.00230	.00596	-.00280	.00287	4.2767
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077202 Acquired: 3/16/2017 14:18:54 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00087**	**.25047**	**-.00680**	**-.00356**	**-.00021**	**.00576**	**.02724**
Stddev	.00057	.00029	.00789	.00719	.00186	.00028	.22951
%RSD	65.634	.11515	116.06	202.32	892.19	4.9474	842.56
#1	.00022	.25039	-.00362	.00083	-.00108	.00608	.26694
#2	.00111	.25023	-.01577	-.01186	-.00147	.00554	-.19050
#3	.00129	.25079	-.00099	.00037	.00193	.00565	.00529
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	**4758.3**	**57932.**	**5213.1**
Stddev	27.7	160.	16.4
%RSD	.58229	.27618	.31449
#1	4789.7	58090.	5194.2
#2	4747.6	57770.	5221.6
#3	4737.5	57935.	5223.5

Approved: March 17, 2017

Sample Name: L1703077203 Acquired: 3/16/2017 14:22:38 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00229**	**.08667**	**-.00003**	**.04572**	**.05255**	**-.00004**	**68.752**	**.00020**
Stddev	.00004	.00983	.00358	.00320	.00112	.00001	.268	.00017
%RSD	1.8291	11.340	10539.	7.0026	2.1294	20.894	.38910	84.515
#1	.00225	.07886	.00304	.04812	.05256	-.00005	68.565	.00029
#2	.00233	.08345	.00083	.04208	.05143	-.00005	69.058	.00031
#3	.00229	.09771	-.00397	.04695	.05367	-.00003	68.632	.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	**-.00010**	**-.00064**	**-.00210**	**.10266**	**1.1573**	**.01090**	**11.602**	**.00636**
Stddev	.00018	.00010	.00312	.02490	.0566	.00332	.104	.00240
%RSD	177.87	14.964	148.30	24.253	4.8902	30.464	.89788	37.695
#1	.00008	-.00074	-.00081	.07571	1.1258	.00743	11.482	.00896
#2	-.00027	-.00055	-.00566	.12480	1.1234	.01404	11.659	.00587
#3	-.00011	-.00063	.00016	.10747	1.2226	.01124	11.665	.00424
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00075**	**5.0517**	**-.00115**	**-.00908**	**.00777**	**-.00131**	**.00362**	**4.4365**
Stddev	.00030	.0245	.00177	.01619	.00298	.00357	.00596	.0048
%RSD	40.196	.48483	153.47	178.38	38.405	272.32	164.54	.10813
#1	.00093	5.0479	-.00264	-.02233	.00997	-.00543	-.00291	4.4310
#2	.00092	5.0778	-.00163	-.01386	.00437	.00082	.00502	4.4391
#3	.00040	5.0293	.00081	.00897	.00897	.00068	.00876	4.4395
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077203 Acquired: 3/16/2017 14:22:38 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00112**	**.33804**	**.00096**	**-.00430**	**-.00051**	**.00443**	**.00945**
Stddev	.00098	.00147	.00124	.00417	.00116	.00019	.07152
%RSD	87.333	.43488	129.14	96.948	227.45	4.2488	756.62
#1	.00026	.33664	-.00031	.00047	.00076	.00429	-.07305
#2	.00092	.33957	.00103	-.00724	-.00152	.00437	.05387
#3	.00219	.33789	.00217	-.00614	-.00077	.00465	.04754
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	**4792.0**	**58550.**	**5319.3**
Stddev	14.4	402.	19.2
%RSD	.30098	.68642	.36051
#1	4775.5	58912.	5327.3
#2	4798.6	58622.	5297.4
#3	4802.0	58118.	5333.1

Approved: March 17, 2017

Sample Name: L1703077204 Acquired: 3/16/2017 14:26:21 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00175**	**.41285**	**-.00071**	**.04265**	**.03452**	**-.00003**	**38.943**	**.00034**
Stddev	.00150	.01013	.00240	.00062	.00037	.00004	.190	.00028
%RSD	85.797	2.4537	337.99	1.4505	1.0671	145.00	.48899	83.732
#1	.00191	.41110	-.00245	.04273	.03412	.00000	38.761	.00060
#2	.00317	.40371	-.00171	.04200	.03461	-.00007	39.141	.00039
#3	.00018	.42375	.00203	.04323	.03484	-.00001	38.926	.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**	**-.00017**	**-.00170**	**.38238**	**.45416**	**.00541**	**4.4282**	**.11477**
Stddev	.00038	.00146	.00167	.02340	.02771	.00405	.0601	.00652
%RSD	534.74	847.35	98.303	6.1201	6.1010	74.910	1.3577	5.6814
#1	-.00003	.00149	-.00347	.35537	.43527	.00275	4.4365	.12004
#2	.00029	-.00074	-.00016	.39525	.48597	.00340	4.3643	.10748
#3	-.00047	-.00126	-.00146	.39653	.44123	.01007	4.4837	.11679
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00006**	**4.0797**	**.00004**	**.00505**	**.00297**	**-.00662**	**-.00521**	**2.9189**
Stddev	.00020	.0281	.00124	.00576	.00281	.00646	.00536	.0073
%RSD	323.51	.68952	3309.4	113.92	94.880	97.634	102.87	.24829
#1	-.00010	4.0755	-.00140	.00773	-.00021	-.00852	-.01083	2.9189
#2	.00029	4.1097	.00079	-.00156	.00514	-.01191	-.00463	2.9262
#3	-.00000	4.0540	.00072	.00898	.00397	.00058	-.00016	2.9117
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077204 Acquired: 3/16/2017 14:26:21 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00034**	**.11073**	**.00370**	**-.00446**	**.00120**	**.00191**	**.20607**
Stddev	.00078	.00042	.00114	.00362	.00042	.00009	.39097
%RSD	228.82	.37526	30.718	81.013	35.118	4.4664	189.72
#1	.00120	.11027	.00306	-.00088	.00109	.00197	.59548
#2	-.00029	.11107	.00501	-.00811	.00084	.00181	.20917
#3	.00011	.11087	.00302	-.00440	.00166	.00195	-.18643
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	**4861.6**	**58914.**	**5268.1**
Stddev	85.3	510.	31.0
%RSD	1.7540	.86504	.58895
#1	4763.4	58998.	5304.0
#2	4905.1	59376.	5249.6
#3	4916.3	58367.	5250.9

Approved: March 17, 2017

Sample Name: L1703077205 Acquired: 3/16/2017 14:30:05 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00170**	**.01527**	**.00385**	**.07515**	**.06332**	**-.00008**	**42.916**	**.00030**
Stddev	.00258	.00292	.00114	.00154	.00030	.00006	.116	.00020
%RSD	151.61	19.134	29.611	2.0430	.47547	71.714	.26947	66.408
#1	.00247	.01706	.00279	.07342	.06310	-.00001	42.808	.00011
#2	.00382	.01190	.00506	.07569	.06366	-.00011	42.900	.00028
#3	-.00117	.01686	.00371	.07635	.06319	-.00012	43.038	.00051
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	**-.00020**	**-.00039**	**.00170**	**.12350**	**1.5093**	**.01368**	**12.301**	**.03596**
Stddev	.00017	.00062	.00048	.02634	.0138	.00441	.228	.00302
%RSD	84.771	157.99	28.163	21.332	.91550	32.261	1.8505	8.4008
#1	-.00033	-.00033	.00196	.13640	1.5192	.00984	12.233	.03781
#2	-.00027	-.00104	.00115	.09319	1.4935	.01270	12.116	.03760
#3	-.00001	.00020	.00200	.14091	1.5152	.01850	12.555	.03248
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**	**44.868**	**.00071**	**-.00380**	**.00183**	**.00188**	**.00060**	**5.2672**
Stddev	.00091	.183	.00212	.00921	.00710	.00137	.01167	.0145
%RSD	327.36	.40679	299.73	242.38	388.13	73.087	1949.3	.27458
#1	.00011	44.774	-.00074	.00438	.00722	.00105	.01355	5.2539
#2	-.00053	44.751	-.00028	-.01379	.00448	.00113	-.00911	5.2826
#3	.00126	45.078	.00313	-.00200	-.00621	.00346	-.00264	5.2650
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077205 Acquired: 3/16/2017 14:30:05 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00011**	**.95839**	**.00283**	**-.00699**	**.00047**	**.00497**	**-.03889**
Stddev	.00116	.00227	.00149	.00502	.00153	.00023	.21221
%RSD	1083.3	.23714	52.621	71.756	327.41	4.5419	545.62
#1	.00091	.95629	.00395	-.01039	.00119	.00517	.20592
#2	.00063	.95807	.00114	-.00123	-.00129	.00472	-.15208
#3	-.00122	.96081	.00341	-.00935	.00150	.00500	-.17052
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	**4734.1**	**58321.**	**5275.4**
Stddev	28.6	141.	8.8
%RSD	.60516	.24135	.16712
#1	4756.0	58343.	5284.6
#2	4744.6	58449.	5267.0
#3	4701.7	58170.	5274.6

Approved: March 17, 2017

Sample Name: L1703078101 Acquired: 3/16/2017 14:33:47 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00230**	**.25719**	**.00153**	**.02528**	**.03374**	**-.00007**	**22.174**	**.00008**
Stddev	.00078	.00826	.00201	.00200	.00012	.00000	.033	.00025
%RSD	33.762	3.2135	131.19	7.9226	.34322	2.2296	.15048	316.03
#1	.00309	.25591	.00316	.02540	.03367	-.00007	22.157	.00015
#2	.00154	.26602	-.00071	.02722	.03368	-.00007	22.152	-.00020
#3	.00228	.24964	.00214	.02322	.03388	-.00007	22.212	.00029
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00029**	**-.00020**	**-.00134**	**.16421**	**3.7986**	**.00144**	**3.3930**	**.00636**
Stddev	.00047	.00179	.00140	.01780	.0390	.00368	.0086	.00171
%RSD	162.40	889.37	104.70	10.839	1.0273	255.31	.25363	26.912
#1	-.00073	-.00226	-.00266	.14944	3.8364	-.00232	3.4002	.00449
#2	-.00034	.00075	-.00149	.18397	3.7585	.00161	3.3952	.00785
#3	.00020	.00091	.00013	.15921	3.8008	.00503	3.3835	.00675
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00044**	**3.5390**	**-.00011**	**.00131**	**.00294**	**-.00610**	**-.00792**	**1.6699**
Stddev	.00022	.0139	.00262	.00755	.00213	.00525	.00635	.0022
%RSD	51.304	.39300	2395.0	576.96	72.484	85.927	80.179	.13484
#1	-.00058	3.5549	.00237	-.00587	.00421	-.00060	-.00511	1.6684
#2	-.00018	3.5332	.00014	.00917	.00411	-.01105	-.00346	1.6725
#3	-.00055	3.5290	-.00284	.00062	.00048	-.00667	-.01520	1.6688
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703078101 Acquired: 3/16/2017 14:33:47 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00024**	**.07217**	**.00585**	**-.00516**	**-.00027**	**.00201**	**.29844**
Stddev	.00073	.00069	.00812	.00203	.00102	.00012	.38593
%RSD	299.74	.95642	138.75	39.357	385.30	5.9146	129.32
#1	-.00087	.07219	.01004	-.00406	-.00109	.00205	-.14702
#2	-.00042	.07148	-.00351	-.00750	.00088	.00187	.51010
#3	.00056	.07286	.01102	-.00392	-.00059	.00210	.53223
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	**4899.5**	**60422.**	**5457.9**
Stddev	13.2	258.	39.1
%RSD	.27041	.42651	.71607
#1	4884.4	60129.	5414.9
#2	4904.5	60614.	5467.5
#3	4909.4	60523.	5491.3

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 14:37:33 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.40639**	**10.351**	**.40092**	**.51498**	**1.0143**	**.05093**	**9.9988**
Stddev	.00453	.016	.00305	.00263	.0050	.00020	.0215
%RSD	1.1158	.15331	.76152	.51033	.48938	.40037	.21459
#1	.40183	10.333	.40435	.51454	1.0087	.05070	10.013
#2	.41089	10.357	.39988	.51781	1.0159	.05108	9.9741
#3	.40645	10.363	.39851	.51261	1.0182	.05102	10.010
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	**.05110**	**.20341**	**.51343**	**.51209**	**4.0252**	**50.442**	**1.0128**
Stddev	.00076	.00096	.00300	.00153	.0385	.371	.0034
%RSD	1.4783	.47017	.58479	.29820	.95602	.73605	.33058
#1	.05023	.20303	.51504	.51384	3.9819	50.020	1.0108
#2	.05158	.20270	.50997	.51140	4.0381	50.591	1.0109
#3	.05149	.20450	.51528	.51102	4.0555	50.716	1.0167
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	**10.108**	**.49877**	**1.0060**	**50.608**	**.51100**	**9.9473**	**.50718**
Stddev	.073	.00619	.0016	.028	.00237	.0474	.00571
%RSD	.72686	1.2401	.15535	.05479	.46443	.47645	1.1250
#1	10.083	.49266	1.0042	50.606	.50917	9.8976	.50409
#2	10.190	.49864	1.0068	50.582	.51016	9.9524	.50368
#3	10.050	.50503	1.0071	50.638	.51369	9.9920	.51376
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 14:37:33 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**1.2224**	**.40871**	**4.9976**	**1.0091**	**1.0093**	**.99004**	**.51502**
Stddev	.0049	.01500	.0142	.0032	.0040	.00473	.00051
%RSD	.40385	3.6708	.28345	.32210	.39596	.47805	.09972
#1	1.2197	.40523	4.9895	1.0055	1.0049	.98783	.51455
#2	1.2281	.42514	4.9895	1.0118	1.0102	.98682	.51493
#3	1.2195	.39574	5.0140	1.0101	1.0127	.99548	.51557
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**1.0179**	**1.0201**	F **1.1342**
Stddev	.0010	.0016	.4011
%RSD	.09371	.16003	35.364
#1	1.0174	1.0182	.70854
#2	1.0172	1.0209	1.5051
#3	1.0190	1.0211	1.1889
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	**4870.3**	**59046.**	**5514.9**
Stddev	11.4	83.	25.1
%RSD	.23441	.14093	.45449
#1	4871.6	59039.	5533.9
#2	4881.1	59132.	5524.3
#3	4858.4	58966.	5486.5

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 14:41:04 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00259**	**-.00072**	**-.00134**	**.01520**	**.00044**	**-.00005**	**-.00173**
Stddev	.00117	.00609	.00031	.00269	.00054	.00002	.03510
%RSD	45.292	843.56	23.331	17.677	123.11	49.491	2023.4
#1	.00308	.00038	-.00098	.01660	-.00002	-.00004	.03879
#2	.00125	.00474	-.00146	.01211	.00104	-.00008	-.02151
#3	.00343	-.00729	-.00157	.01691	.00030	-.00003	-.02248
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**	**.00000**	**-.00137**	**-.00223**	**-.01008**	**.11951**	**.00285**
Stddev	.00018	.00041	.00103	.00161	.02216	.08925	.00244
%RSD	4547.9	17472.	75.695	72.022	219.93	74.683	85.484
#1	.00011	.00014	-.00083	-.00062	-.01328	.15156	.00298
#2	-.00021	.00032	-.00256	-.00384	.01351	.18831	.00035
#3	.00009	-.00046	-.00071	-.00224	-.03046	.01866	.00523
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	**-.01154**	**-.00037**	**-.00072**	**.09376**	**-.00046**	**.00093**	**.00326**
Stddev	.09290	.00225	.00147	.01224	.00056	.00178	.00406
%RSD	804.90	615.39	203.13	13.054	120.40	191.29	124.57
#1	.08094	-.00253	-.00202	.09281	.00018	-.00023	.00034
#2	-.01070	.00196	.00087	.08202	-.00081	.00297	.00154
#3	-.10486	-.00053	-.00102	.10644	-.00076	.00004	.00789
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 14:41:04 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00078**	**-.00360**	**.00321**	**-.00007**	**.00004**	**-.00175**	**-.00606**
Stddev	.00453	.00841	.00407	.00172	.00005	.00523	.00369
%RSD	581.32	233.91	126.84	2319.5	131.53	298.65	60.837
#1	.00025	-.01330	.00257	-.00167	-.00000	-.00324	-.00945
#2	.00315	.00095	.00756	-.00029	.00002	-.00608	-.00661
#3	-.00574	.00157	-.00051	.00174	.00010	.00406	-.00213
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	**.00066**	**-.00001**	F **.21126**
Stddev	.00049	.00031	.24711
%RSD	74.117	2422.5	116.97
#1	.00087	-.00001	.00327
#2	.00010	.00030	.14608
#3	.00100	-.00032	.48443
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	**4892.3**	**59731.**	**5409.1**
Stddev	23.4	178.	14.8
%RSD	.47815	.29787	.27319
#1	4917.1	59807.	5424.3
#2	4870.7	59527.	5394.8
#3	4889.1	59858.	5408.3

Approved: March 17, 2017

Sample Name: PBW 5W Acquired: 3/16/2017 14:51:28 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606343-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00131**	**.00518**	**-.00355**	**.00601**	**-.00001**	**-.00007**	**.00003**	**-.00012**
Stddev	.00161	.00787	.00461	.00226	.00116	.00001	.01652	.00018
%RSD	122.39	151.96	129.56	37.667	17242.	16.214	54065.	147.92
#1	-.00049	-.00383	.00176	.00530	.00107	-.00008	.01253	-.00002
#2	.00259	.01072	-.00619	.00854	-.00123	-.00006	.00626	-.00032
#3	.00185	.00865	-.00624	.00418	.00014	-.00007	-.01870	-.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	**-.00019**	**.00036**	**-.00100**	**.01285**	**.12203**	**-.00004**	**.06415**	**.00050**
Stddev	.00067	.00095	.00240	.02301	.05991	.00515	.07514	.00172
%RSD	356.81	263.76	239.56	179.07	49.097	14106.	117.13	340.95
#1	.00054	.00086	-.00028	.02647	.15591	.00583	-.02245	.00164
#2	-.00078	.00095	-.00367	-.01372	.15734	-.00214	.11205	-.00147
#3	-.00032	-.00073	.00095	.02581	.05285	-.00381	.10285	.00134
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**	**.06806**	**-.00020**	**-.00847**	**.00366**	**.00222**	**-.00101**	**.00918**
Stddev	.00059	.01240	.00061	.01590	.00194	.00548	.00305	.00117
%RSD	667.25	18.214	303.08	187.63	53.123	246.43	302.41	12.781
#1	.00012	.05455	.00047	-.01697	.00155	-.00368	.00246	.01011
#2	.00065	.07891	-.00035	-.01833	.00404	.00319	-.00220	.00786
#3	-.00051	.07073	-.00073	.00987	.00538	.00715	-.00329	.00956
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: PBW 5W Acquired: 3/16/2017 14:51:28 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606343-02

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00101**	**.00005**	**-.00108**	**-.00676**	**.00029**	**.00049**	**.20999**
Stddev	.00106	.00025	.00660	.00245	.00026	.00014	.25752
%RSD	104.62	537.65	610.09	36.235	87.963	27.851	122.63
#1	.00124	.00029	-.00613	-.00395	.00019	.00053	.01547
#2	-.00014	-.00022	.00639	-.00847	.00059	.00034	.50203
#3	.00193	.00008	-.00351	-.00785	.00011	.00061	.11249
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	**4977.3**	**61097.**	**5494.5**
Stddev	7.1	146.	27.6
%RSD	.14217	.23913	.50286
#1	4972.9	61177.	5483.8
#2	4985.4	60928.	5525.9
#3	4973.5	61186.	5473.8

Approved: March 17, 2017

Sample Name: LCSW 5W Acquired: 3/16/2017 14:55:14 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606343-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20315**	**5.2195**	**.19022**	**.94771**	**.50565**	**.02470**	**4.9492**	**.02471**
Stddev	.00427	.0154	.00254	.00374	.00248	.00011	.0415	.00012
%RSD	2.1039	.29454	1.3327	.39434	.48985	.44740	.83946	.48325
#1	.19834	5.2322	.19075	.95137	.50325	.02479	4.9115	.02478
#2	.20651	5.2238	.18746	.94390	.50820	.02457	4.9424	.02478
#3	.20460	5.2024	.19244	.94786	.50551	.02473	4.9937	.02457
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.10127**	**.25182**	**.25139**	**2.0022**	**25.012**	**.50260**	**5.0508**	**.25078**
Stddev	.00028	.00073	.00042	.0097	.111	.00752	.1046	.00689
%RSD	.27981	.28863	.16825	.48601	.44427	1.4959	2.0710	2.7486
#1	.10133	.25168	.25104	2.0055	25.072	.49539	4.9329	.24406
#2	.10152	.25117	.25128	2.0098	25.080	.51039	5.0874	.25044
#3	.10096	.25260	.25186	1.9912	24.884	.50201	5.1323	.25783
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	**.48782**	**25.289**	**.25176**	**4.7509**	**.25597**	**.60002**	**.19581**	**2.4743**
Stddev	.00099	.225	.00318	.0049	.01124	.00559	.00578	.0010
%RSD	.20246	.88776	1.2627	.10358	4.3917	.93181	2.9517	.03959
#1	.48669	25.030	.25327	4.7517	.24386	.60642	.20223	2.4738
#2	.48828	25.400	.25390	4.7553	.25797	.59755	.19415	2.4755
#3	.48850	25.436	.24811	4.7456	.26607	.59610	.19104	2.4737
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: LCSW 5W Acquired: 3/16/2017 14:55:14 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606343-03

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50572**	**.50215**	**.49700**	**.25649**	**.50132**	**.49838**	**.36711**
Stddev	.00137	.00157	.00851	.00262	.00089	.00114	.14750
%RSD	.27093	.31228	1.7121	1.0217	.17658	.22949	40.177
#1	.50689	.50049	.50112	.25767	.50175	.49731	.22314
#2	.50607	.50237	.50266	.25832	.50030	.49958	.51790
#3	.50421	.50360	.48721	.25349	.50191	.49825	.36030
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	**4862.5**	**58546.**	**5295.3**
Stddev	25.7	1156.	34.3
%RSD	.52843	1.9746	.64708
#1	4890.4	57218.	5334.0
#2	4857.4	59332.	5283.0
#3	4839.7	59087.	5268.8

Approved: March 17, 2017

Sample Name: L1703077401 Acquired: 3/16/2017 14:58:52 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00329**	**.03238**	**.00036**	**.03396**	**.17979**	**.00000**	**67.115**	**.00015**
Stddev	.00155	.00548	.00539	.00145	.00051	.00007	.680	.00072
%RSD	47.209	16.927	1494.0	4.2759	.28577	2785.1	1.0128	462.63
#1	.00242	.03852	.00275	.03520	.17929	.00009	66.348	-.00022
#2	.00236	.02799	-.00581	.03431	.17978	-.00005	67.352	.00098
#3	.00508	.03062	.00414	.03236	.18031	-.00003	67.644	-.00029
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	**-.00042**	**-.00029**	**.04376**	**.10634**	**1.6249**	**.00871**	**10.954**	**.03792**
Stddev	.00058	.00087	.00167	.03165	.0710	.00441	.103	.00226
%RSD	140.11	299.37	3.8266	29.767	4.3722	50.624	.93855	5.9728
#1	-.00047	.00071	.04242	.13462	1.7036	.00411	10.945	.03841
#2	.00019	-.00082	.04564	.11226	1.6054	.01289	10.855	.03545
#3	-.00097	-.00077	.04323	.07215	1.5656	.00912	11.060	.03990
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	**.00029**	**30.320**	**-.00077**	**-.02866**	**.00602**	**-.00207**	**-.00034**	**3.3775**
Stddev	.00055	.280	.00174	.00365	.00684	.00335	.00822	.0047
%RSD	186.42	.92501	226.90	12.721	113.73	162.15	2419.6	.13931
#1	-.00032	29.997	.00034	-.02851	-.00015	.00177	.00656	3.3744
#2	.00074	30.461	-.00278	-.03238	.00483	-.00445	.00186	3.3829
#3	.00046	30.501	.00013	-.02510	.01338	-.00353	-.00944	3.3752
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077401 Acquired: 3/16/2017 14:58:52 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00017**	**.45024**	**-.00534**	**-.00701**	**.00021**	**.02884**	**-.00222**
Stddev	.00066	.00148	.00397	.00189	.00120	.00003	.10733
%RSD	388.00	.32881	74.403	26.984	581.19	.10198	4827.5
#1	-.00015	.44868	-.00515	-.00497	-.00046	.02887	-.05801
#2	-.00026	.45039	-.00147	-.00870	.00159	.02881	.12151
#3	.00092	.45163	-.00941	-.00735	-.00051	.02883	-.07017
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	**4736.2**	**57721.**	**5192.6**
Stddev	15.0	1081.	83.5
%RSD	.31658	1.8722	1.6078
#1	4753.2	56505.	5288.5
#2	4724.7	58087.	5153.5
#3	4730.9	58572.	5135.8

Approved: March 17, 2017

Sample Name: L1703077402 Acquired: 3/16/2017 15:02:35 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00300**	**.14018**	**.00355**	**.02700**	**.07057**	**-.00009**	**52.911**	**.00017**
Stddev	.00026	.00319	.00140	.00249	.00029	.00003	.092	.00014
%RSD	8.7601	2.2751	39.347	9.2149	.41076	35.081	.17375	79.366
#1	.00300	.14383	.00462	.02478	.07076	-.00012	52.806	.00018
#2	.00327	.13877	.00408	.02652	.07072	-.00006	52.980	.00030
#3	.00274	.13794	.00197	.02969	.07024	-.00009	52.945	.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	**-.00051**	**.00093**	**-.00203**	**.15325**	**1.8690**	**.00246**	**8.6388**	**.00615**
Stddev	.00053	.00085	.00187	.01655	.0426	.00490	.0260	.00258
%RSD	104.25	91.506	91.968	10.802	2.2811	198.81	.30108	41.991
#1	-.00079	.00094	-.00186	.16828	1.8844	.00025	8.6174	.00705
#2	.00010	.00178	-.00025	.15597	1.9018	-.00094	8.6311	.00816
#3	-.00083	.00007	-.00397	.13551	1.8208	.00807	8.6677	.00324
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	**.00045**	**28.151**	**.00029**	**.00863**	**.00693**	**.00045**	**-.00717**	**2.7992**
Stddev	.00045	.041	.00142	.00586	.00497	.00814	.00501	.0076
%RSD	99.614	.14425	484.09	67.886	71.655	1795.9	69.926	.27254
#1	.00071	28.108	-.00130	.00333	.00973	-.00521	-.01191	2.7983
#2	.00071	28.156	.00141	.01493	.00986	-.00320	-.00769	2.8072
#3	-.00007	28.188	.00076	.00764	.00120	.00978	-.00192	2.7920
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077402 Acquired: 3/16/2017 15:02:35 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00025**	**.17468**	**.00184**	**.00025**	**.00012**	**.00376**	**.16072**
Stddev	.00032	.00050	.00320	.00070	.00049	.00006	.43860
%RSD	128.53	.28811	174.12	277.23	405.59	1.5600	272.91
#1	-.00004	.17419	-.00145	-.00049	.00036	.00369	-.33442
#2	.00020	.17464	.00201	.00090	.00044	.00379	.31607
#3	.00060	.17520	.00495	.00034	-.00044	.00380	.50050
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	**4815.6**	**58974.**	**5358.6**
Stddev	17.4	99.	61.2
%RSD	.36196	.16730	1.1413
#1	4828.9	59082.	5290.7
#2	4795.9	58889.	5375.9
#3	4822.2	58951.	5409.2

Approved: March 17, 2017

Sample Name: L1703077403 Acquired: 3/16/2017 15:06:19 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00356**	**.45698**	**-.00326**	**.01197**	**.01939**	**-.00006**	**12.563**	**.00000**
Stddev	.00148	.00432	.00168	.00419	.00092	.00010	.069	.00028
%RSD	41.715	.94594	51.410	34.980	4.7475	174.98	.54795	8324.2
#1	.00431	.46197	-.00235	.01678	.01844	-.00005	12.484	-.00029
#2	.00185	.45452	-.00224	.00915	.01946	-.00017	12.596	.00004
#3	.00451	.45445	-.00519	.00997	.02027	.00004	12.610	.00026
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00033**	**-.00054**	**-.00155**	**.35372**	**.50937**	**.00084**	**2.8202**	**.04112**
Stddev	.00035	.00164	.00057	.01723	.01617	.00260	.0835	.00307
%RSD	107.79	303.56	36.822	4.8698	3.1746	310.55	2.9601	7.4742
#1	-.00021	.00072	-.00092	.34748	.52289	.00052	2.8652	.03930
#2	-.00005	-.00239	-.00172	.34048	.49146	.00359	2.8715	.03939
#3	-.00072	.00006	-.00202	.37319	.51378	-.00159	2.7239	.04467
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00044**	**1.4292**	**.00042**	**-.00127**	**.00171**	**.00008**	**-.00523**	**2.6329**
Stddev	.00076	.0297	.00017	.01392	.00156	.00749	.00777	.0137
%RSD	173.11	2.0778	41.077	1096.8	91.295	8888.9	148.51	.52039
#1	-.00111	1.4293	.00030	-.00869	.00156	-.00423	-.00783	2.6450
#2	-.00059	1.3995	.00062	-.00990	.00023	-.00426	-.01137	2.6358
#3	.00038	1.4589	.00034	.01479	.00334	.00873	.00351	2.6180
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077403 Acquired: 3/16/2017 15:06:19 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00032**	**.04650**	**.01138**	**-.00272**	**.00152**	**.00137**	**.25360**
Stddev	.00061	.00015	.00200	.00928	.00091	.00053	.13850
%RSD	191.84	.31478	17.571	340.64	60.199	38.512	54.614
#1	-.00003	.04635	.01282	.00522	.00049	.00194	.32140
#2	.00009	.04649	.00910	-.01292	.00224	.00091	.34514
#3	-.00102	.04665	.01223	-.00047	.00183	.00124	.09426
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	**4957.7**	**59781.**	**5354.4**
Stddev	13.2	733.	58.4
%RSD	.26525	1.2262	1.0913
#1	4969.5	60477.	5416.4
#2	4960.2	59850.	5346.4
#3	4943.5	59016.	5300.3

Approved: March 17, 2017

Sample Name: L1703077404 Acquired: 3/16/2017 15:10:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00171**	**.46148**	**.00086**	**.01588**	**.01998**	**-.00004**	**14.149**	**-.00019**
Stddev	.00046	.00704	.00353	.00326	.00063	.00004	.099	.00057
%RSD	26.891	1.5250	412.39	20.521	3.1311	110.00	.70112	293.39
#1	.00121	.46951	.00127	.01894	.02060	-.00007	14.056	-.00033
#2	.00210	.45857	-.00286	.01245	.01935	-.00006	14.138	.00043
#3	.00183	.45637	.00416	.01625	.01999	.00001	14.253	-.00068
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00003**	**-.00054**	**-.00199**	**.39679**	**.55160**	**.00041**	**3.4433**	**.03389**
Stddev	.00051	.00124	.00175	.01041	.05674	.00302	.1119	.00279
%RSD	1760.4	227.50	87.826	2.6228	10.286	742.03	3.2494	8.2426
#1	-.00029	-.00192	-.00395	.40444	.51248	.00311	3.4751	.03105
#2	.00056	.00047	-.00145	.38494	.52564	.00095	3.3190	.03398
#3	-.00036	-.00018	-.00058	.40099	.61667	-.00284	3.5359	.03664
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	**.00011**	**2.2082**	**-.00088**	**-.00133**	**.00607**	**.00303**	**-.00369**	**2.6496**
Stddev	.00010	.0058	.00056	.00667	.00184	.00908	.00666	.0195
%RSD	86.471	.26433	63.734	502.07	30.242	299.44	180.27	.73449
#1	.00014	2.2117	-.00073	.00349	.00792	-.00562	.00064	2.6712
#2	.00000	2.2015	-.00042	-.00894	.00424	.01248	-.00036	2.6441
#3	.00019	2.2114	-.00151	.00147	.00605	.00224	-.01136	2.6334
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077404 Acquired: 3/16/2017 15:10:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00062**	**.07904**	**.01285**	**-.00318**	**.00068**	**.00149**	**.30658**
Stddev	.00015	.00082	.00540	.00421	.00122	.00021	.10061
%RSD	24.987	1.0354	42.010	132.15	178.82	14.365	32.817
#1	-.00055	.07811	.00849	-.00109	.00145	.00173	.20283
#2	-.00051	.07965	.01118	-.00043	.00132	.00137	.40373
#3	-.00079	.07936	.01889	-.00803	-.00072	.00135	.31318
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	**4947.9**	**60406.**	**5378.3**
Stddev	10.9	1090.	77.8
%RSD	.22093	1.8036	1.4463
#1	4945.5	59169.	5455.4
#2	4959.8	60823.	5379.7
#3	4938.4	61225.	5299.9

Approved: March 17, 2017

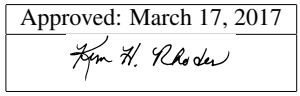
Sample Name: L1703077405 Acquired: 3/16/2017 15:13:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00275**	**.20607**	**-.00080**	**.01589**	**.02186**	**-.00008**	**17.742**	**.00022**
Stddev	.00071	.00791	.00495	.00180	.00127	.00002	.017	.00025
%RSD	25.841	3.8385	617.03	11.331	5.8049	27.591	.09336	110.62
#1	.00308	.20886	-.00651	.01637	.02330	-.00006	17.730	.00041
#2	.00323	.19714	.00233	.01389	.02141	-.00011	17.736	-.00006
#3	.00193	.21220	.00177	.01740	.02088	-.00008	17.761	.00032
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00035**	**-.00050**	**-.00158**	**.10484**	**.56791**	**.00221**	**3.4420**	**.00252**
Stddev	.00056	.00066	.00234	.00539	.08479	.00523	.0503	.00117
%RSD	159.39	131.25	148.71	5.1383	14.930	236.80	1.4623	46.224
#1	-.00041	-.00123	-.00126	.10142	.48363	.00568	3.3861	.00347
#2	.00024	-.00035	-.00406	.11105	.65320	-.00381	3.4562	.00122
#3	-.00088	.00007	.00059	.10204	.56688	.00475	3.4837	.00288
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**	**5.1772**	**-.00004**	**-.00364**	**.00367**	**-.00127**	**-.00507**	**2.6395**
Stddev	.00012	.0153	.00099	.00033	.00145	.00693	.01033	.0083
%RSD	30.751	.29452	2684.6	8.9353	39.549	544.32	203.73	.31364
#1	.00035	5.1597	-.00117	-.00368	.00201	.00390	-.00742	2.6300
#2	.00028	5.1842	.00041	-.00395	.00432	.00143	-.01403	2.6445
#3	.00050	5.1877	.00065	-.00330	.00469	-.00914	.00623	2.6441
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017



Sample Name: L1703077405 Acquired: 3/16/2017 15:13:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00092**	**.08464**	**.00399**	**-.00208**	**.00038**	**.00079**	**.22337**
Stddev	.00087	.00021	.00441	.00079	.00169	.00008	.15461
%RSD	94.791	.24347	110.50	38.115	445.13	10.702	69.219
#1	.00050	.08488	.00414	-.00135	.00160	.00087	.08063
#2	.00033	.08449	-.00049	-.00292	.00108	.00079	.38761
#3	.00192	.08456	.00833	-.00197	-.00154	.00070	.20187
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	**4847.8**	**59729.**	**5344.0**
Stddev	26.1	157.	7.0
%RSD	.53798	.26325	.13120
#1	4856.0	59577.	5344.8
#2	4818.6	59718.	5336.6
#3	4868.8	59891.	5350.6

Approved: March 17, 2017

Sample Name: L1703077406 Acquired: 3/16/2017 15:17:30 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00241**	**.28592**	**-.00590**	**.01179**	**.02068**	**-.00008**	**18.109**	**.00021**
Stddev	.00173	.00286	.00253	.00363	.00045	.00008	.057	.00027
%RSD	71.982	1.0018	42.920	30.782	2.1768	99.801	.31277	129.23
#1	.00370	.28299	-.00322	.01595	.02023	.00001	18.076	.00001
#2	.00044	.28607	-.00826	.00927	.02070	-.00015	18.075	.00052
#3	.00309	.28871	-.00621	.01014	.02113	-.00010	18.174	.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	**-.00012**	**-.00097**	**-.00396**	**.16119**	**.66072**	**.00007**	**3.2739**	**.00208**
Stddev	.00071	.00022	.00108	.01030	.03276	.00153	.0663	.00139
%RSD	603.33	22.256	27.280	6.3910	4.9579	2132.3	2.0256	66.912
#1	-.00077	-.00082	-.00387	.15574	.67435	-.00167	3.3426	.00206
#2	-.00023	-.00122	-.00508	.15476	.68446	.00072	3.2688	.00348
#3	.00064	-.00087	-.00293	.17307	.62335	.00117	3.2103	.00070
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**	**3.5452**	**.00087**	**-.00849**	**-.00068**	**.00260**	**.00259**	**3.0544**
Stddev	.00089	.0281	.00183	.00706	.00352	.00377	.00937	.0099
%RSD	215.04	.79201	211.18	83.095	518.11	145.03	361.65	.32289
#1	.00135	3.5128	.00202	-.01659	.00333	.00650	.01337	3.0463
#2	-.00042	3.5592	-.00124	-.00529	-.00211	.00234	-.00207	3.0514
#3	.00031	3.5635	.00182	-.00361	-.00325	-.00104	-.00354	3.0654
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077406 Acquired: 3/16/2017 15:17:30 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00080**	**.06535**	**.00607**	**-.00516**	**-.00034**	**.00134**	**.27422**
Stddev	.00225	.00001	.00394	.00441	.00152	.00020	.08692
%RSD	279.66	.01949	65.018	85.335	451.05	15.335	31.697
#1	-.00100	.06535	.00941	-.00172	.00133	.00152	.18179
#2	.00009	.06537	.00708	-.01013	-.00166	.00111	.28655
#3	.00332	.06534	.00171	-.00365	-.00069	.00138	.35432
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	**4877.4**	**59840.**	**5322.9**
Stddev	69.3	528.	49.9
%RSD	1.4206	.88240	.93730
#1	4838.4	60407.	5266.8
#2	4836.3	59749.	5339.9
#3	4957.4	59363.	5362.1

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 15:21:12 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.39812**	**10.165**	**.39609**	**.50206**	**.99755**	**.05001**	**9.8678**
Stddev	.00186	.018	.00391	.00081	.00214	.00010	.0164
%RSD	.46719	.17707	.98670	.16156	.21451	.20296	.16601
#1	.40006	10.179	.39916	.50140	.99732	.05003	9.8511
#2	.39635	10.145	.39169	.50182	.99980	.04990	9.8838
#3	.39796	10.172	.39742	.50297	.99553	.05010	9.8685
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	**.05013**	**.19963**	**.50490**	**.50570**	**3.9991**	**49.914**	**1.0024**
Stddev	.00029	.00066	.00216	.00435	.0408	.259	.0037
%RSD	.58550	.33118	.42719	.86058	1.0215	.51835	.37127
#1	.04998	.19946	.50582	.50914	4.0461	50.210	.99839
#2	.05047	.19907	.50244	.50081	3.9780	49.798	1.0057
#3	.04995	.20036	.50646	.50716	3.9730	49.733	1.0032
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	**9.8281**	**.49179**	**.98534**	**50.007**	**.50294**	**9.8271**	**.50208**
Stddev	.1076	.00382	.00122	.141	.00166	.0191	.00467
%RSD	1.0952	.77725	.12361	.28217	.32943	.19434	.93106
#1	9.7382	.49274	.98674	49.884	.50479	9.8176	.50109
#2	9.9474	.48759	.98454	49.976	.50161	9.8490	.50717
#3	9.7988	.49506	.98475	50.161	.50240	9.8145	.49798
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 15:21:12 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.1996**	**.39494**	**4.9067**	**.98705**	**.99283**	**.97438**	**.50736**
Stddev	.0037	.00492	.0053	.00207	.00197	.00637	.00211
%RSD	.31153	1.2464	.10882	.21007	.19857	.65327	.41537
#1	1.2026	.39016	4.9057	.98819	.99111	.97679	.50928
#2	1.2009	.40000	4.9020	.98466	.99498	.97919	.50769
#3	1.1954	.39467	4.9125	.98830	.99240	.96716	.50510
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	**.99828**	**1.0030**	F **.83211**
Stddev	.00133	.0004	.27936
%RSD	.13274	.03908	33.573
#1	.99977	1.0034	.51625
#2	.99786	1.0027	1.0467
#3	.99722	1.0028	.93336
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	**4844.5**	**58643.**	**5402.7**
Stddev	26.0	260.	22.4
%RSD	.53663	.44270	.41505
#1	4822.8	58941.	5402.6
#2	4873.3	58471.	5380.3
#3	4837.5	58516.	5425.1

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 15:24:44 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	.00301	.00481	.00075	.00679	.00045	-.00008	-.01673
Stddev	.00066	.00156	.00347	.00216	.00016	.00004	.02074
%RSD	21.783	32.438	465.35	31.791	35.140	52.994	123.98
#1	.00278	.00301	-.00270	.00877	.00031	-.00013	-.03598
#2	.00375	.00561	.00070	.00449	.00041	-.00007	.00524
#3	.00250	.00580	.00425	.00710	.00062	-.00005	-.01945
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00001	.00015	.00029	-.00123	-.00663	.02267	.00286
Stddev	.00025	.00033	.00063	.00036	.01850	.11399	.00117
%RSD	2103.9	224.35	218.34	28.865	279.07	502.90	41.071
#1	-.00029	.00033	.00079	-.00148	.01385	.11793	.00224
#2	.00017	.00033	-.00042	-.00139	-.02212	.05370	.00212
#3	.00009	-.00023	.00050	-.00083	-.01162	-.10363	.00422
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	.03966	.00111	-.00026	.07502	.00050	F -.01408	F .00528
Stddev	.08758	.00325	.00071	.01099	.00065	.00059	.00786
%RSD	220.82	291.93	279.70	14.646	129.84	4.2057	148.85
#1	.07438	.00484	.00057	.06247	.00071	-.01383	.01417
#2	-.05995	-.00037	-.00061	.08294	.00101	-.01365	-.00073
#3	.10456	-.00113	-.00072	.07964	-.00023	-.01475	.00240
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail
High Limit						.01000	.00500
Low Limit						-.01000	-.00500

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 15:24:44 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00175**	**-.01108**	**.00383**	**.00127**	**-.00035**	**.00140**	**.00004**
Stddev	.00382	.01022	.00086	.00039	.00035	.01031	.00332
%RSD	218.70	92.277	22.375	30.406	99.191	736.51	7783.9
#1	.00613	-.01505	.00331	.00089	-.00016	-.00146	-.00100
#2	.00006	-.01872	.00336	.00126	-.00014	.01284	-.00263
#3	-.00094	.00053	.00482	.00166	-.00075	-.00718	.00376
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	**.00079**	**-.00024**	F **.37998**
Stddev	.00104	.00027	.26660
%RSD	132.37	111.11	70.161
#1	.00054	-.00054	.42528
#2	-.00011	-.00018	.09363
#3	.00193	-.00001	.62103
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	**4884.7**	**59187.**	**5377.7**
Stddev	75.7	405.	42.8
%RSD	1.5499	.68497	.79601
#1	4930.0	59322.	5424.8
#2	4797.3	59508.	5367.3
#3	4926.8	58732.	5341.1

Approved: March 17, 2017

Sample Name: L1703077407 Acquired: 3/16/2017 15:28:31 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00326**	**.46941**	**-.00247**	**.01365**	**.02498**	**-.00001**	**23.779**	**-.00003**
Stddev	.00030	.00255	.00429	.00214	.00058	.00006	.042	.00027
%RSD	9.0802	.54378	173.43	15.695	2.3280	723.03	.17864	1073.2
#1	.00314	.47226	-.00668	.01137	.02459	.00001	23.768	.00008
#2	.00360	.46735	-.00262	.01396	.02470	-.00008	23.742	.00018
#3	.00304	.46862	.00188	.01561	.02565	.00004	23.825	-.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	**-.00055**	**-.00031**	**-.00003**	**.33047**	**.60839**	**.00045**	**3.4182**	**.04190**
Stddev	.00007	.00087	.00318	.03357	.07275	.00164	.0574	.00078
%RSD	13.195	282.79	11917.	10.157	11.959	362.53	1.6800	1.8617
#1	-.00050	-.00123	-.00314	.32751	.65844	.00180	3.4493	.04123
#2	-.00063	-.00021	-.00016	.36542	.52493	.00092	3.3519	.04172
#3	-.00051	.00051	.00322	.29848	.64179	-.00137	3.4534	.04276
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	**-.00015**	**1.8700**	**-.00077**	**-.00125**	**.00281**	**-.00106**	**.00496**	**2.7812**
Stddev	.00025	.0353	.00212	.01458	.00058	.00126	.00501	.0110
%RSD	163.05	1.8887	275.07	1163.8	20.639	118.89	101.15	.39614
#1	-.00032	1.8931	.00045	-.01151	.00321	-.00053	.01069	2.7691
#2	-.00027	1.8293	-.00321	-.00768	.00214	-.00251	.00279	2.7905
#3	.00013	1.8876	.00045	.01543	.00307	-.00016	.00139	2.7841
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077407 Acquired: 3/16/2017 15:28:31 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00120**	**.07009**	**.01282**	**-.00620**	**.00110**	**.00164**	**.31213**
Stddev	.00091	.00061	.00065	.00594	.00028	.00019	.07497
%RSD	75.811	.87557	5.1031	95.757	25.496	11.418	24.020
#1	-.00017	.07054	.01238	-.00359	.00142	.00180	.22700
#2	-.00188	.07035	.01251	-.01300	.00098	.00169	.34106
#3	-.00156	.06939	.01358	-.00201	.00090	.00144	.36832
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	**4848.3**	**59383.**	**5379.6**
Stddev	70.5	620.	48.1
%RSD	1.4533	1.0439	.89461
#1	4767.0	60005.	5324.2
#2	4890.0	59378.	5404.1
#3	4888.0	58765.	5410.6

Approved: March 17, 2017

Sample Name: L1703077701 Acquired: 3/16/2017 15:32:13 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00290**	**.28984**	**-.00241**	**.01642**	**.05102**	**-.00005**	**46.727**	**.00031**
Stddev	.00142	.01044	.00383	.00101	.00018	.00006	.109	.00006
%RSD	48.811	3.6010	158.65	6.1522	.34408	121.79	.23353	17.963
#1	.00151	.29706	-.00476	.01717	.05082	-.00001	46.853	.00035
#2	.00435	.27787	-.00448	.01683	.05109	-.00011	46.671	.00025
#3	.00285	.29458	.00200	.01527	.05114	-.00002	46.658	.00034
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00045**	**-.00063**	**.00107**	**.20459**	**1.7321**	**.00246**	**4.1060**	**.00900**
Stddev	.00064	.00175	.00094	.01999	.0165	.00533	.0240	.00194
%RSD	142.93	276.74	87.783	9.7686	.95455	216.85	.58460	21.589
#1	.00119	-.00187	.00169	.19911	1.7488	.00462	4.0981	.01037
#2	.00008	.00137	-.00001	.18792	1.7317	-.00361	4.1330	.00677
#3	.00008	-.00140	.00154	.22675	1.7158	.00637	4.0871	.00985
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	**.00000**	**3.7237**	**.00077**	**.03530**	**.00707**	**-.00028**	**-.00760**	**2.9678**
Stddev	.00111	.0206	.00130	.00922	.00302	.00656	.00768	.0323
%RSD	118320.	.55327	168.69	26.115	42.765	2327.5	101.04	1.0898
#1	.00094	3.7138	.00019	.02476	.01030	.00647	-.01182	2.9326
#2	-.00122	3.7100	.00226	.03929	.00658	-.00664	-.01225	2.9748
#3	.00028	3.7474	-.00014	.04186	.00432	-.00067	.00126	2.9961
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077701 Acquired: 3/16/2017 15:32:13 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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**	**.13378**	**.00712**	**-.00683**	**-.00021**	**.00566**	**.04421**
Stddev	.00116	.00043	.00258	.00164	.00128	.00016	.17131
%RSD	305.75	.32500	36.219	23.998	597.51	2.8396	387.45
#1	-.00071	.13422	.00981	-.00871	.00124	.00568	.09368
#2	.00025	.13335	.00466	-.00570	-.00072	.00549	-.14639
#3	.00160	.13378	.00689	-.00608	-.00116	.00580	.18535
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	**4829.9**	**59055.**	**5167.8**
Stddev	17.0	103.	65.0
%RSD	.35132	.17397	1.2569
#1	4849.0	58937.	5092.8
#2	4823.8	59126.	5203.5
#3	4816.7	59102.	5207.1

Approved: March 17, 2017

Sample Name: L1703077702 Acquired: 3/16/2017 15:35:57 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00303**	**.07836**	**-.00303**	**.00930**	**.04473**	**-.00003**	**41.453**	**.00020**
Stddev	.00215	.00409	.00217	.00119	.00021	.00007	.043	.00039
%RSD	70.829	5.2213	71.686	12.829	.47466	253.20	.10360	195.35
#1	.00107	.07391	-.00077	.01067	.04476	-.00006	41.435	.00045
#2	.00532	.07919	-.00509	.00864	.04450	-.00007	41.502	-.00025
#3	.00270	.08196	-.00321	.00858	.04492	.00005	41.422	.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	**-.00019**	**.00042**	**-.00169**	**.05775**	**.63363**	**.00815**	**4.0872**	**.00731**
Stddev	.00011	.00036	.00321	.00684	.04788	.00545	.1356	.00062
%RSD	55.059	84.333	189.86	11.839	7.5570	66.807	3.3168	8.4913
#1	-.00031	.00063	.00094	.06202	.62025	.00620	4.0091	.00766
#2	-.00018	.00063	-.00075	.04986	.59386	.01431	4.2437	.00660
#3	-.00010	.00001	-.00526	.06137	.68678	.00395	4.0088	.00768
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00010**	**2.8093**	**.00045**	**.00189**	**.00479**	**.00590**	**.00002**	**3.5686**
Stddev	.00051	.0259	.00094	.00946	.00385	.00719	.00746	.0042
%RSD	533.03	.92236	209.88	500.59	80.327	121.88	41553.	.11701
#1	.00030	2.8341	.00036	-.00723	.00099	.01146	.00790	3.5638
#2	.00047	2.7824	.00143	.00124	.00469	-.00222	-.00091	3.5713
#3	-.00049	2.8114	-.00044	.01166	.00868	.00845	-.00694	3.5708
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077702 Acquired: 3/16/2017 15:35:57 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00054**	**.10555**	**-.00275**	**-.00451**	**.00041**	**.00100**	**.34443**
Stddev	.00063	.00045	.00718	.00197	.00047	.00038	.19775
%RSD	118.31	.42310	261.18	43.795	115.36	37.780	57.413
#1	.00106	.10529	-.00837	-.00475	.00095	.00118	.55721
#2	.00072	.10606	.00534	-.00634	.00023	.00056	.16630
#3	-.00017	.10528	-.00522	-.00242	.00006	.00125	.30978
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	**4836.0**	**59647.**	**5427.7**
Stddev	73.7	325.	31.8
%RSD	1.5231	.54406	.58558
#1	4861.7	59954.	5407.4
#2	4893.3	59681.	5411.4
#3	4752.9	59307.	5464.3

Approved: March 17, 2017

Sample Name: L1703077703 Acquired: 3/16/2017 15:39:40 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00146**	**.04648**	**.00214**	**.01386**	**.09548**	**-.00004**	**46.327**	**.00001**
Stddev	.00157	.00192	.00279	.00294	.00068	.00008	.064	.00018
%RSD	107.48	4.1246	130.84	21.186	.70739	186.97	.13766	2594.2
#1	.00127	.04867	.00505	.01496	.09624	-.00006	46.385	.00018
#2	-.00001	.04569	.00188	.01054	.09525	.00004	46.338	.00002
#3	.00312	.04510	-.00052	.01609	.09495	-.00011	46.259	-.00018
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**	**-.00050**	**-.00080**	**.04073**	**.68985**	**.00358**	**7.1978**	**.00604**
Stddev	.00021	.00132	.00131	.01137	.03428	.00235	.0423	.00135
%RSD	114.90	262.09	163.95	27.923	4.9685	65.828	.58786	22.390
#1	-.00014	-.00140	.00068	.03958	.65670	.00340	7.2209	.00495
#2	.00000	.00101	-.00127	.05263	.72515	.00602	7.1490	.00756
#3	-.00041	-.00112	-.00182	.02997	.68771	.00132	7.2236	.00562
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	**.00045**	**3.0251**	**.00047**	**-.00834**	**.00293**	**.00180**	**-.00658**	**3.3613**
Stddev	.00025	.0377	.00083	.00544	.00460	.00181	.00390	.0195
%RSD	54.595	1.2459	174.71	65.265	157.41	100.92	59.195	.57905
#1	.00071	3.0633	-.00046	-.00538	.00802	.00031	-.01067	3.3710
#2	.00044	3.0240	.00112	-.00502	.00171	.00381	-.00291	3.3740
#3	.00022	2.9880	.00075	-.01462	-.00095	.00127	-.00617	3.3389
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077703 Acquired: 3/16/2017 15:39:40 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00026**	**.31951**	**-.00213**	**-.00342**	**.00001**	**.00069**	**.26424**
Stddev	.00110	.00087	.00402	.00627	.00041	.00031	.22579
%RSD	427.92	.27235	188.96	183.48	3776.4	44.449	85.449
#1	-.00072	.32051	-.00498	-.00963	-.00021	.00039	.52441
#2	.00144	.31915	.00247	-.00354	-.00024	.00100	.11942
#3	.00005	.31888	-.00387	.00291	.00048	.00067	.14890
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	**4810.6**	**59645.**	**5357.9**
Stddev	25.9	1098.	18.4
%RSD	.53770	1.8415	.34412
#1	4809.2	59865.	5361.2
#2	4785.5	58453.	5338.0
#3	4837.2	60617.	5374.5

Approved: March 17, 2017

Sample Name: L1703077704 Acquired: 3/16/2017 15:43:24 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00362**	**.32271**	**-.00062**	**.01543**	**.03270**	**-.00003**	**38.128**	**.00060**
Stddev	.00228	.00644	.00332	.00570	.00049	.00007	.153	.00015
%RSD	62.983	1.9951	539.19	36.925	1.5040	264.01	.40104	24.596
#1	.00376	.32469	-.00406	.01124	.03270	-.00010	38.289	.00059
#2	.00582	.32793	.00256	.02192	.03319	.00003	38.110	.00075
#3	.00127	.31552	-.00035	.01314	.03221	-.00001	37.985	.00046
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00026**	**-.00005**	**-.00161**	**.20348**	**1.0275**	**.00098**	**6.5428**	**.00855**
Stddev	.00001	.00101	.00073	.00566	.0645	.00216	.0458	.00192
%RSD	4.1702	1875.2	45.527	2.7792	6.2735	219.45	.70048	22.424
#1	-.00026	-.00117	-.00169	.20973	.95309	.00308	6.5605	.01076
#2	-.00024	.00022	-.00230	.19872	1.0661	.00109	6.4908	.00737
#3	-.00027	.00080	-.00084	.20198	1.0634	-.00123	6.5771	.00752
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	**-.00046**	**3.2285**	**-.00044**	**.00331**	**.00502**	**.00288**	**-.00305**	**3.3074**
Stddev	.00039	.0361	.00066	.01725	.00532	.00308	.00321	.0119
%RSD	84.689	1.1178	150.63	521.40	105.90	106.65	105.10	.36022
#1	-.00002	3.1897	-.00113	-.01188	.00265	.00500	-.00268	3.3207
#2	-.00058	3.2347	.00018	.02206	.01111	.00429	-.00004	3.3037
#3	-.00077	3.2610	-.00036	-.00026	.00130	-.00064	-.00643	3.2977
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077704 Acquired: 3/16/2017 15:43:24 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00097**	**.12779**	**.00138**	**-.00006**	**.00051**	**.00145**	**.37375**
Stddev	.00073	.00078	.00642	.00275	.00020	.00005	.21518
%RSD	75.306	.61370	466.64	4764.0	39.705	3.3874	57.574
#1	.00048	.12858	.00569	-.00125	.00051	.00150	.25684
#2	.00181	.12701	.00444	.00308	.00072	.00143	.62209
#3	.00062	.12778	-.00600	-.00201	.00031	.00141	.24233
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	**4914.1**	**60526.**	**5457.9**
Stddev	39.1	463.	53.9
%RSD	.79636	.76418	.98688
#1	4956.5	61025.	5396.3
#2	4906.3	60440.	5496.0
#3	4879.4	60112.	5481.4

Approved: March 17, 2017

Sample Name: L1703077901 Acquired: 3/16/2017 15:47:07 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00101**	**.10792**	**-.00307**	**.01293**	**.07436**	**-.00010**	**52.335**	**.00041**
Stddev	.00221	.00411	.00205	.00064	.00034	.00007	.131	.00014
%RSD	219.06	3.8079	66.972	4.9454	.45195	73.221	.25021	33.763
#1	.00268	.10774	-.00071	.01290	.07461	-.00018	52.302	.00025
#2	-.00150	.10391	-.00446	.01230	.07398	-.00007	52.479	.00050
#3	.00185	.11212	-.00403	.01358	.07449	-.00005	52.224	.00048
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00016**	**.00068**	**-.00115**	**.10496**	**.95984**	**.00305**	**4.2520**	**.00840**
Stddev	.00003	.00081	.00188	.02505	.02601	.00452	.0836	.00153
%RSD	20.308	118.93	163.68	23.864	2.7094	148.07	1.9652	18.157
#1	-.00019	-.00000	-.00314	.12845	.98938	.00063	4.2241	.00898
#2	-.00013	.00047	.00061	.07860	.94972	.00026	4.3459	.00956
#3	-.00018	.00157	-.00093	.10783	.94041	.00827	4.1860	.00667
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**	**2.6358**	**-.00043**	**.00145**	**.00353**	**-.00153**	**-.00816**	**2.8649**
Stddev	.00065	.0222	.00192	.00943	.00420	.00780	.00854	.0101
%RSD	131.85	.84264	447.65	652.70	118.79	511.43	104.62	.35091
#1	-.00123	2.6258	.00091	.00476	.00252	-.00956	-.00581	2.8710
#2	.00000	2.6204	.00043	-.00920	-.00006	-.00104	-.00104	2.8533
#3	-.00025	2.6613	-.00262	.00877	.00814	.00602	-.01763	2.8703
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077901 Acquired: 3/16/2017 15:47:07 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00050**	**.12246**	**.00042**	**.00032**	**.00010**	**.02602**	**.06171**
Stddev	.00046	.00041	.00411	.00307	.00042	.00033	.13366
%RSD	92.538	.33659	977.36	962.34	426.49	1.2592	216.58
#1	-.00028	.12225	.00161	.00348	.00057	.02570	-.00261
#2	-.00103	.12294	-.00415	.00011	-.00007	.02598	-.02763
#3	-.00019	.12220	.00381	-.00264	-.00021	.02636	.21537
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	**4849.1**	**59874.**	**5385.9**
Stddev	8.3	107.	42.3
%RSD	.17093	.17927	.78590
#1	4858.7	59760.	5346.4
#2	4844.2	59973.	5380.8
#3	4844.5	59888.	5430.6

Approved: March 17, 2017

Sample Name: L1703077902 Acquired: 3/16/2017 15:50:50 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00345**	**.06943**	**-.00044**	**.01307**	**.04899**	**-.00005**	**65.185**	**.00029**
Stddev	.00228	.00409	.00296	.00042	.00082	.00004	.143	.00011
%RSD	66.097	5.8916	671.63	3.2147	1.6646	75.362	.22009	36.953
#1	.00604	.07410	.00104	.01355	.04823	-.00003	65.234	.00033
#2	.00173	.06775	.00148	.01294	.04890	-.00003	65.024	.00017
#3	.00258	.06645	-.00385	.01274	.04985	-.00010	65.298	.00037
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00039**	**.00029**	**-.00137**	**.04984**	**.80073**	**.00300**	**9.0172**	**.00233**
Stddev	.00036	.00216	.00031	.01263	.06426	.00208	.1374	.00283
%RSD	93.114	739.62	22.837	25.341	8.0253	69.435	1.5233	121.63
#1	-.00024	.00245	-.00106	.06286	.79892	.00127	9.1544	.00147
#2	-.00013	-.00186	-.00168	.03764	.73740	.00531	8.8796	.00548
#3	-.00081	.00028	-.00136	.04902	.86588	.00242	9.0177	.00002
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**	**4.8045**	**-.00039**	**-.01148**	**.00306**	**-.00174**	**.00406**	**2.6569**
Stddev	.00010	.0495	.00191	.00730	.00576	.00441	.00883	.0027
%RSD	49.353	1.0300	488.37	63.584	188.28	252.98	217.77	.10174
#1	-.00031	4.8440	-.00239	-.00851	.00492	-.00683	-.00408	2.6539
#2	-.00010	4.8206	.00141	-.00613	-.00340	.00101	.00280	2.6577
#3	-.00022	4.7490	-.00019	-.01980	.00765	.00059	.01345	2.6591
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703077902 Acquired: 3/16/2017 15:50:50 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00053**	**.20015**	**-.00441**	**-.00688**	**.00081**	**.00091**	**.19088**
Stddev	.00108	.00075	.00208	.00299	.00113	.00014	.21985
%RSD	205.07	.37523	47.076	43.429	140.07	15.836	115.18
#1	-.00011	.19977	-.00662	-.00440	.00144	.00080	-.05908
#2	.00177	.19966	-.00411	-.01020	-.00050	.00107	.27746
#3	-.00008	.20101	-.00250	-.00605	.00148	.00086	.35425
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	**4807.5**	**58630.**	**5318.5**
Stddev	3.6	120.	18.3
%RSD	.07408	.20515	.34442
#1	4806.5	58561.	5297.5
#2	4804.6	58561.	5331.4
#3	4811.5	58769.	5326.6

Approved: March 17, 2017

Sample Name: L1703078001 Acquired: 3/16/2017 15:54:32 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00312**	**.04089**	**.00017**	**.17027**	**.19916**	**-.00007**	**2.2542**	**-.00023**
Stddev	.00153	.00925	.00201	.00081	.00154	.00004	.0492	.00028
%RSD	48.990	22.626	1179.5	.47684	.77288	60.418	2.1820	119.89
#1	.00231	.03034	-.00090	.17086	.19953	-.00010	2.1977	.00007
#2	.00216	.04763	.00249	.16934	.20048	-.00008	2.2877	-.00029
#3	.00488	.04471	-.00108	.17061	.19747	-.00002	2.2771	-.00048
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00047**	**-.00077**	**.00008**	**.03419**	**.67981**	**.00887**	**1.9663**	**-.00097**
Stddev	.00040	.00147	.00207	.03554	.12471	.00204	.0597	.00098
%RSD	84.951	191.82	2439.8	103.97	18.344	23.044	3.0371	101.03
#1	-.00079	-.00026	.00072	-.00658	.58934	.00839	1.9048	-.00206
#2	-.00058	-.00242	-.00223	.05043	.82207	.00710	1.9700	-.00015
#3	-.00002	.00038	.00176	.05870	.62802	.01111	2.0241	-.00070
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	**.00208**	**236.84**	**.00007**	**.01537**	**.00447**	**.00402**	**-.00269**	**2.3315**
Stddev	.00023	1.45	.00116	.00178	.00293	.00382	.00285	.0124
%RSD	11.107	.61064	1655.2	11.602	65.529	94.956	106.01	.53283
#1	.00231	236.88	.00010	.01730	.00466	.00816	-.00584	2.3268
#2	.00207	238.26	.00122	.01379	.00145	.00324	-.00027	2.3221
#3	.00185	235.37	-.00110	.01503	.00730	.00065	-.00197	2.3456
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703078001 Acquired: 3/16/2017 15:54:32 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00114**	**.18008**	**.00280**	**-.00128**	**-.00080**	**.01808**	**.23090**
Stddev	.00141	.00074	.00341	.00583	.00115	.00007	.12579
%RSD	123.54	.41204	121.95	454.87	144.73	.38180	54.477
#1	.00015	.17926	.00400	-.00564	-.00028	.01815	.36764
#2	-.00092	.18027	-.00105	-.00355	-.00212	.01801	.20497
#3	-.00264	.18070	.00545	.00534	.00001	.01809	.12010
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	**4720.1**	**57129.**	**5382.7**
Stddev	17.1	290.	55.2
%RSD	.36154	.50702	1.0260
#1	4702.7	57302.	5369.5
#2	4720.6	57290.	5335.2
#3	4736.8	56794.	5443.3

Approved: March 17, 2017

Sample Name: L1703078002 Acquired: 3/16/2017 15:58:16 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00377**	**.12092**	**-.00401**	**.01941**	**.04593**	**-.00003**	**31.005**	**.00009**
Stddev	.00244	.00383	.00214	.00053	.00021	.00003	.011	.00033
%RSD	64.855	3.1683	53.351	2.7224	.45628	122.03	.03583	371.55
#1	.00102	.12454	-.00537	.02001	.04594	-.00005	31.002	-.00029
#2	.00457	.11691	-.00513	.01917	.04614	.00001	31.018	.00031
#3	.00571	.12130	-.00154	.01904	.04572	-.00005	30.996	.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	**-.00033**	**-.00059**	**-.00017**	**.10907**	**5.2664**	**-.00194**	**3.8859**	**.00607**
Stddev	.00088	.00021	.00168	.03683	.0225	.00137	.1386	.00050
%RSD	262.80	35.934	987.06	33.764	.42699	70.343	3.5662	8.2803
#1	.00039	-.00037	.00159	.10572	5.2429	-.00054	4.0317	.00623
#2	-.00131	-.00079	-.00033	.14746	5.2687	-.00201	3.8702	.00648
#3	-.00008	-.00060	-.00176	.07403	5.2877	-.00327	3.7559	.00551
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	**.00078**	**7.3182**	**.00491**	**.16108**	**.00168**	**.00415**	**-.00376**	**2.3713**
Stddev	.00011	.0459	.00130	.01135	.00161	.00452	.00503	.0066
%RSD	13.534	.62650	26.470	7.0484	95.495	108.93	133.80	.27896
#1	.00067	7.3436	.00481	.17356	.00272	.00392	-.00730	2.3749
#2	.00088	7.3458	.00625	.15138	.00250	-.00025	-.00597	2.3753
#3	.00079	7.2653	.00366	.15829	-.00017	.00879	.00200	2.3636
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703078002 Acquired: 3/16/2017 15:58:16 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00030**	**.09107**	**-.00463**	**-.00729**	**.00137**	**.00587**	**.33323**
Stddev	.00221	.00075	.00661	.00258	.00081	.00033	.13020
%RSD	738.93	.82212	142.73	35.373	59.239	5.6879	39.071
#1	-.00285	.09097	-.00118	-.00738	.00075	.00617	.38957
#2	.00109	.09186	-.00046	-.00982	.00107	.00551	.18435
#3	.00087	.09038	-.01225	-.00467	.00228	.00592	.42578
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	**4845.6**	**58921.**	**5162.0**
Stddev	24.9	986.	97.3
%RSD	.51460	1.6729	1.8857
#1	4871.8	58911.	5263.3
#2	4842.7	57940.	5153.5
#3	4822.2	59911.	5069.2

Approved: March 17, 2017

Sample Name: L1703078003 Acquired: 3/16/2017 16:01:59 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00303**	**.01622**	**-.00263**	**.02642**	**.02261**	**-.00008**	**20.105**
Stddev	.00202	.00652	.00295	.00256	.00078	.00003	.085
%RSD	66.640	40.176	112.36	9.6834	3.4700	39.293	.42475
#1	.00367	.01894	.00013	.02540	.02348	-.00009	20.202
#2	.00465	.00878	-.00575	.02933	.02242	-.00005	20.073
#3	.00077	.02094	-.00227	.02453	.02195	-.00011	20.041
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**	**-.00016**	**-.00115**	**.00705**	**.60242**	**1.1746**	**.00578**
Stddev	.00006	.00011	.00137	.00271	.02250	.0164	.00782
%RSD	38.934	70.568	118.85	38.394	3.7341	1.3947	135.30
#1	.00024	-.00003	-.00272	.00974	.62768	1.1778	.00023
#2	.00012	-.00025	-.00050	.00433	.59504	1.1569	.00239
#3	.00013	-.00020	-.00023	.00707	.58455	1.1891	.01473
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	**5.0266**	**.01683**	**.00072**	**22.410**	**.00531**	**-.00638**	**.00067**
Stddev	.1259	.00241	.00044	.076	.00073	.00633	.00207
%RSD	2.5041	14.295	61.163	.33976	13.657	99.158	309.74
#1	5.1680	.01521	.00028	22.498	.00574	-.00392	.00300
#2	4.9853	.01570	.00116	22.369	.00447	-.00166	-.00095
#3	4.9266	.01960	.00072	22.363	.00572	-.01357	-.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: L1703078003 Acquired: 3/16/2017 16:01:59 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00352**	**-.00414**	**1.3910**	**.00135**	**.12179**	**.00049**	**-.00574**
Stddev	.00498	.00556	.0062	.00078	.00058	.00601	.00053
%RSD	141.49	134.46	.44892	57.657	.47504	1215.6	9.2609
#1	.00538	.00054	1.3859	.00070	.12223	.00363	-.00621
#2	.00731	-.01029	1.3980	.00221	.12200	-.00643	-.00585
#3	-.00212	-.00267	1.3892	.00113	.12113	.00428	-.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	**-.00051**	**.55588**	F **-.04649**
Stddev	.00111	.00168	.13007
%RSD	217.26	.30227	279.79
#1	.00054	.55781	.08785
#2	-.00040	.55477	-.17183
#3	-.00168	.55506	-.05549
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	**4807.4**	**58988.**	**5255.7**
Stddev	21.4	383.	42.2
%RSD	.44444	.64869	.80201
#1	4784.7	58594.	5219.1
#2	4827.2	59358.	5301.8
#3	4810.3	59012.	5246.3

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 16:05:41 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.39692**	**10.236**	**.39279**	**.49434**	**.99312**	**.04995**	**9.8722**	**.05008**
Stddev	.00120	.074	.00112	.00234	.00073	.00020	.0219	.00042
%RSD	.30256	.72366	.28601	.47338	.07400	.39957	.22184	.84484
#1	.39776	10.172	.39268	.49522	.99302	.04981	9.8963	.05026
#2	.39746	10.317	.39397	.49169	.99389	.05018	9.8666	.05039
#3	.39555	10.218	.39173	.49611	.99244	.04986	9.8536	.04960
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	**.20054**	**.50068**	**.50077**	**3.9688**	**49.648**	**1.0052**	**9.8580**	**.49485**
Stddev	.00045	.00610	.00228	.0430	.031	.0030	.0755	.00105
%RSD	.22315	1.2190	.45624	1.0830	.06301	.29706	.76542	.21209
#1	.20025	.49764	.50140	3.9322	49.618	1.0067	9.9394	.49505
#2	.20031	.50770	.50267	4.0161	49.681	1.0072	9.8443	.49579
#3	.20106	.49669	.49823	3.9581	49.645	1.0018	9.7904	.49372
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	**.99000**	**50.090**	**.50341**	**9.7310**	**.49828**	**1.1984**	**.39790**	**4.9155**
Stddev	.00091	.141	.00091	.0100	.00220	.0057	.00803	.0077
%RSD	.09208	.28241	.18134	.10316	.44163	.47940	2.0174	.15776
#1	.99098	50.104	.50296	9.7194	.49684	1.1981	.39919	4.9067
#2	.98918	50.224	.50446	9.7359	.49719	1.2043	.38931	4.9214
#3	.98983	49.942	.50280	9.7376	.50082	1.1928	.40521	4.9184
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 16:05:41 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.98878**	**.98885**	**.97644**	**.51340**	**.99656**	**1.0009**	**.95931**
Stddev	.00109	.00345	.00469	.00493	.00409	.0007	.36809
%RSD	.11063	.34855	.47985	.96107	.41085	.06907	38.370
#1	.98755	.98969	.97862	.51904	.99258	1.0009	1.3152
#2	.98916	.99181	.97964	.50988	1.0008	1.0015	.98261
#3	.98963	.98507	.97106	.51129	.99633	1.0002	.58013
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	**4838.2**	**56848.**	**5292.3**
Stddev	10.9	473.	74.9
%RSD	.22490	.83227	1.4154
#1	4825.7	56784.	5352.2
#2	4844.9	56411.	5316.4
#3	4844.1	57350.	5208.3

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 16:09:12 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00359**	**.00883**	**-.00190**	**.00308**	**.00007**	**-.00006**	**-.00601**
Stddev	.00139	.00346	.00137	.00098	.00062	.00004	.01760
%RSD	38.714	39.147	72.158	31.759	848.45	72.497	292.87
#1	.00341	.00722	-.00293	.00400	.00006	-.00007	-.02289
#2	.00507	.00647	-.00034	.00205	.00070	-.00001	.01224
#3	.00231	.01280	-.00243	.00320	-.00054	-.00010	-.00738
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00004**	**.00020**	**-.00173**	**-.00188**	**.00860**	**.00886**	**-.00118**
Stddev	.00033	.00018	.00046	.00099	.03593	.08304	.00067
%RSD	913.86	88.057	26.741	52.965	417.51	937.04	56.353
#1	-.00001	.00019	-.00144	-.00152	-.02569	-.00045	-.00050
#2	-.00027	.00003	-.00227	-.00111	.04596	.09617	-.00123
#3	.00039	.00039	-.00149	-.00300	.00555	-.06913	-.00183
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	**.06208**	**.00024**	**-.00012**	**.07092**	**.00077**	**.00233**	**-.00053**
Stddev	.01861	.00035	.00035	.01385	.00113	.01098	.00296
%RSD	29.974	149.98	294.53	19.523	147.14	471.07	562.65
#1	.04102	.00064	-.00023	.07979	.00192	.00453	-.00224
#2	.07631	-.00002	-.00039	.05497	-.00033	.01204	-.00223
#3	.06889	.00008	.00027	.07802	.00071	-.00958	.00289
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 16:09:12 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00118**	**-.00099**	**-.00139**	**.00009**	**-.00012**	**-.00397**	**-.00814**
Stddev	.00992	.00535	.00242	.00130	.00037	.00251	.00225
%RSD	839.68	540.79	173.90	1517.3	292.64	63.249	27.708
#1	.00694	.00250	-.00372	-.00067	.00015	-.00643	-.00940
#2	-.01028	.00169	-.00157	.00159	-.00054	-.00141	-.00947
#3	.00689	-.00715	.00111	-.00066	.00001	-.00408	-.00553
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.00031**	**-.00010**	F **.37525**
Stddev	.00069	.00018	.12416
%RSD	227.51	173.94	33.087
#1	.00021	.00007	.37023
#2	-.00034	-.00028	.50184
#3	.00104	-.00010	.25367
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	**4922.2**	**60321.**	**5359.5**
Stddev	7.3	86.	31.3
%RSD	.14787	.14309	.58490
#1	4930.0	60346.	5375.9
#2	4921.1	60392.	5379.1
#3	4915.5	60225.	5323.3

Approved: March 17, 2017

Sample Name: L1703078301 Acquired: 3/16/2017 16:12:58 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00344**	**.42952**	**.00021**	**.00950**	**.03392**	**-.00008**	**19.691**	**.00032**
Stddev	.00208	.00641	.00080	.00146	.00064	.00003	.084	.00026
%RSD	60.480	1.4916	382.40	15.365	1.8806	31.758	.42477	80.769
#1	.00411	.42370	.00051	.00788	.03430	-.00010	19.657	.00049
#2	.00110	.42848	.00081	.00991	.03319	-.00005	19.631	.00002
#3	.00509	.43639	-.00070	.01072	.03428	-.00010	19.787	.00043
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00029**	**-.00009**	**.00037**	**.19760**	**.51096**	**-.00365**	**2.3720**	**.00335**
Stddev	.00052	.00112	.00097	.03517	.03684	.00059	.0501	.00230
%RSD	179.67	1195.3	264.48	17.800	7.2104	16.230	2.1138	68.527
#1	.00011	-.00003	.00081	.23770	.47721	-.00305	2.3143	.00153
#2	-.00010	-.00124	-.00075	.17196	.55027	-.00367	2.3968	.00593
#3	-.00088	.00099	.00105	.18315	.50541	-.00423	2.4050	.00260
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**	**3.3862**	**-.00024**	**.00906**	**.00526**	**-.00161**	**-.00695**	**3.5822**
Stddev	.00038	.0216	.00033	.00334	.00504	.00195	.00414	.0086
%RSD	108.44	.63697	137.04	36.849	95.816	121.53	59.554	.24117
#1	.00001	3.3913	-.00063	.00987	.01096	-.00128	-.00646	3.5918
#2	-.00075	3.4048	-.00007	.01193	.00339	.00016	-.00307	3.5796
#3	-.00032	3.3626	-.00003	.00540	.00142	-.00370	-.01131	3.5751
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703078301 Acquired: 3/16/2017 16:12:58 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00040**	**.04820**	**.01134**	**-.00344**	**.00065**	**.00119**	**.44582**
Stddev	.00150	.00033	.01024	.00339	.00035	.00019	.04879
%RSD	378.67	.68684	90.322	98.638	53.481	15.909	10.945
#1	-.00153	.04789	.00916	-.00261	.00052	.00136	.48966
#2	-.00096	.04815	.00236	-.00717	.00038	.00099	.39325
#3	.00130	.04855	.02249	-.00054	.00104	.00124	.45456
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	**4919.7**	**59385.**	**5409.9**
Stddev	17.0	710.	55.1
%RSD	.34647	1.1959	1.0177
#1	4938.5	59694.	5415.8
#2	4915.3	59888.	5461.7
#3	4905.2	58572.	5352.1

Approved: March 17, 2017

Sample Name: L1703080101 Acquired: 3/16/2017 16:16:41 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606343-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00244**	**.03418**	**-.00044**	**.00831**	**.00069**	**-.00004**	**.19569**	**-.00025**
Stddev	.00362	.00680	.00341	.00230	.00037	.00003	.01564	.00024
%RSD	148.76	19.908	767.27	27.687	53.237	78.133	7.9937	93.868
#1	-.00128	.02714	.00338	.00622	.00108	-.00004	.20344	-.00000
#2	.00596	.04072	-.00318	.01078	.00035	-.00001	.20595	-.00029
#3	.00263	.03468	-.00154	.00793	.00064	-.00007	.17769	-.00047
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	**-.00050**	**-.00097**	**.00281**	**.02334**	**.10473**	**-.00484**	**-.04708**	**.00269**
Stddev	.00064	.00052	.00169	.01720	.16456	.00278	.03598	.00226
%RSD	129.11	54.194	60.326	73.701	157.13	57.517	76.439	84.228
#1	.00007	-.00153	.00228	.03370	.18617	-.00173	-.05041	.00070
#2	-.00120	-.00050	.00470	.00348	-.08467	-.00569	-.08128	.00221
#3	-.00037	-.00088	.00144	.03285	.21268	-.00709	-.00954	.00515
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**	**.09830**	**-.00097**	**-.01991**	**.00477**	**-.00220**	**.00321**	**.05243**
Stddev	.00010	.03429	.00083	.00825	.00212	.00354	.00900	.00120
%RSD	29.661	34.885	85.492	41.415	44.335	160.55	280.07	2.2931
#1	-.00041	.05908	-.00172	-.02750	.00708	.00182	.00552	.05216
#2	-.00039	.11318	-.00113	-.01114	.00291	-.00482	.01083	.05139
#3	-.00022	.12263	-.00008	-.02109	.00434	-.00362	-.00671	.05375
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703080101 Acquired: 3/16/2017 16:16:41 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606343-01

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00005**	**.00065**	**.00139**	**-.00782**	**-.00021**	**.00216**	**.32219**
Stddev	.00064	.00018	.00382	.00179	.00046	.00023	.24378
%RSD	1179.0	27.598	274.64	22.868	216.02	10.496	75.663
#1	-.00080	.00054	.00126	-.00583	.00030	.00238	.06624
#2	.00033	.00086	-.00236	-.00835	-.00060	.00193	.34869
#3	.00031	.00055	.00528	-.00928	-.00035	.00216	.55163
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	**4856.8**	**59658.**	**5141.8**
Stddev	22.5	459.	87.6
%RSD	.46314	.76973	1.7042
#1	4862.7	59192.	5106.7
#2	4875.7	59671.	5077.2
#3	4831.9	60111.	5241.5

Approved: March 17, 2017

Sample Name: L1703080101PS Acquired: 3/16/2017 16:20:27 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606391-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19850**	**5.1102**	**.19227**	**.91130**	**.49501**	**.02404**	**5.0072**	**.02443**
Stddev	.00086	.0249	.00389	.00981	.00121	.00009	.0341	.00019
%RSD	.43376	.48671	2.0240	1.0761	.24404	.35641	.68128	.76684
#1	.19904	5.0855	.19661	.90179	.49412	.02411	5.0435	.02436
#2	.19751	5.1097	.18910	.92138	.49452	.02407	4.9758	.02428
#3	.19895	5.1353	.19110	.91074	.49638	.02394	5.0025	.02464
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	**.09892**	**.24635**	**.25027**	**1.9879**	**24.501**	**.49681**	**4.9238**	**.24337**
Stddev	.00019	.00050	.00023	.0161	.088	.00650	.0406	.00269
%RSD	.18750	.20298	.09116	.81207	.35825	1.3094	.82535	1.1056
#1	.09886	.24578	.25038	1.9705	24.518	.49973	4.8902	.24128
#2	.09912	.24673	.25001	2.0024	24.406	.50134	4.9121	.24242
#3	.09877	.24653	.25044	1.9909	24.579	.48935	4.9690	.24640
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	**.47932**	**24.796**	**.24915**	**4.6354**	**.25175**	**.58551**	**.18933**	**2.4487**
Stddev	.00063	.062	.00233	.0102	.00106	.01309	.00761	.0055
%RSD	.13158	.24848	.93504	.21961	.42208	2.2361	4.0199	.22380
#1	.47927	24.730	.25183	4.6237	.25105	.58571	.19777	2.4435
#2	.47998	24.851	.24791	4.6413	.25123	.57232	.18299	2.4481
#3	.47872	24.809	.24769	4.6413	.25297	.59850	.18724	2.4544
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703080101PS Acquired: 3/16/2017 16:20:27 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606391-01

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49264**	**.49221**	**.48559**	**.25332**	**.48610**	**.48682**	**.77683**
Stddev	.00224	.00092	.00274	.00443	.00202	.00127	.08667
%RSD	.45372	.18758	.56528	1.7474	.41472	.26171	11.157
#1	.49027	.49302	.48778	.25322	.48383	.48549	.75932
#2	.49292	.49121	.48251	.24895	.48769	.48802	.70026
#3	.49471	.49240	.48647	.25780	.48677	.48696	.87093
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	**4863.9**	**59360.**	**5312.0**
Stddev	13.9	168.	62.5
%RSD	.28567	.28288	1.1759
#1	4853.3	59256.	5379.9
#2	4858.8	59554.	5257.0
#3	4879.6	59270.	5299.2

Approved: March 17, 2017

Sample Name: L1703080101SDL Acquired: 3/16/2017 16:24:04 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG606391-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00182**	**.01143**	**-.00119**	**.00508**	**.00061**	**-.00012**	**.02704**	**.00004**
Stddev	.00274	.01073	.00145	.00138	.00079	.00001	.00134	.00012
%RSD	150.44	93.884	121.54	27.059	129.76	4.9237	4.9457	305.14
#1	.00431	.01003	-.00274	.00647	-.00030	-.00012	.02551	-.00010
#2	-.00112	.00147	.00013	.00506	.00106	-.00012	.02793	.00010
#3	.00228	.02280	-.00097	.00372	.00106	-.00013	.02770	.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	**-.00032**	**-.00084**	**-.00185**	**.02831**	**-.01212**	**.00102**	**.11924**	**.00104**
Stddev	.00029	.00068	.00140	.00741	.04463	.00398	.10795	.00185
%RSD	90.244	80.388	75.463	26.178	368.14	388.91	90.533	177.87
#1	-.00056	-.00062	-.00345	.03629	.02785	.00401	.07550	-.00109
#2	-.00000	-.00030	-.00128	.02164	-.06027	-.00350	.24220	.00202
#3	-.00039	-.00160	-.00083	.02702	-.00394	.00257	.04003	.00220
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00016**	**.05791**	**-.00144**	**-.00252**	**-.00054**	**-.00020**	**-.00382**	**.01207**
Stddev	.00026	.01387	.00062	.00241	.00326	.00607	.00360	.00147
%RSD	167.09	23.946	43.133	95.389	604.42	3101.5	94.344	12.190
#1	.00022	.04699	-.00074	.00004	-.00430	.00504	-.00332	.01314
#2	.00038	.07351	-.00193	-.00287	.00155	.00122	-.00049	.01039
#3	-.00013	.05323	-.00166	-.00473	.00113	-.00684	-.00764	.01267
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703080101SDL Acquired: 3/16/2017 16:24:04 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG606391-02

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00075**	**-.00006**	**-.00141**	**-.00192**	**-.00052**	**.00097**	**.08669**
Stddev	.00129	.00052	.00621	.00230	.00035	.00029	.11262
%RSD	172.73	844.82	439.59	119.47	66.921	30.288	129.91
#1	-.00046	.00048	-.00743	.00030	-.00022	.00076	.17186
#2	.00038	-.00055	-.00178	-.00179	-.00090	.00083	.12919
#3	-.00215	-.00011	.00497	-.00428	-.00044	.00130	-.04100
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	**5006.6**	**59966.**	**5081.6**
Stddev	26.7	476.	330.6
%RSD	.53416	.79325	6.5059
#1	5011.5	59733.	5453.2
#2	4977.7	60513.	4971.8
#3	5030.5	59651.	4819.9

Approved: March 17, 2017

Sample Name: L1703080101MS Acquired: 3/16/2017 16:27:49 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606343-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20147**	**5.1876**	**.19227**	**.92474**	**.50295**	**.02456**	**5.0579**	**.02464**
Stddev	.00110	.0283	.00285	.00477	.00031	.00007	.0533	.00037
%RSD	.54738	.54516	1.4823	.51586	.06067	.26927	1.0546	1.4883
#1	.20143	5.1719	.19010	.92999	.50329	.02460	5.0077	.02430
#2	.20039	5.2202	.19550	.92356	.50286	.02459	5.1139	.02460
#3	.20260	5.1706	.19121	.92067	.50269	.02448	5.0520	.02502
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	**.10019**	**.25078**	**.25223**	**2.0632**	**24.759**	**.49542**	**5.0300**	**.25022**
Stddev	.00046	.00019	.00174	.0131	.061	.00277	.0824	.00275
%RSD	.46158	.07629	.69023	.63295	.24742	.55902	1.6389	1.1003
#1	.09987	.25065	.25338	2.0688	24.704	.49223	5.0795	.24828
#2	.10072	.25068	.25023	2.0725	24.748	.49688	4.9348	.24900
#3	.09999	.25100	.25309	2.0482	24.825	.49716	5.0757	.25337
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	**.48333**	**24.954**	**.25130**	**4.7322**	**.25127**	**.59768**	**.18631**	**2.5065**
Stddev	.00040	.034	.00090	.0232	.00350	.00678	.01320	.0007
%RSD	.08273	.13602	.36002	.49016	1.3917	1.1341	7.0838	.02767
#1	.48289	24.973	.25069	4.7191	.24798	.59183	.19863	2.5067
#2	.48367	24.914	.25234	4.7185	.25495	.59611	.18791	2.5070
#3	.48343	24.973	.25087	4.7590	.25089	.60511	.17238	2.5057
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703080101MS Acquired: 3/16/2017 16:27:49 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606343-04

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49981**	**.49890**	**.49911**	**.24882**	**.49707**	**.49612**	**.76483**
Stddev	.00105	.00100	.00484	.00316	.00160	.00084	.05553
%RSD	.21093	.19975	.96931	1.2687	.32176	.16848	7.2598
#1	.49905	.49894	.49656	.24522	.49795	.49557	.70442
#2	.50102	.49788	.49608	.25110	.49523	.49571	.77644
#3	.49938	.49987	.50469	.25014	.49804	.49709	.81363
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	**4862.4**	**58666.**	**5392.5**
Stddev	11.4	172.	34.8
%RSD	.23544	.29285	.64580
#1	4857.3	58659.	5432.6
#2	4854.3	58841.	5374.6
#3	4875.5	58498.	5370.2

Approved: March 17, 2017

Sample Name: L1703080101MSD Acquired: 3/16/2017 16:31:26 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606343-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19564**	**5.1536**	**.19127**	**.91503**	**.49929**	**.02424**	**5.0565**	**.02443**
Stddev	.00307	.0033	.00268	.00743	.00208	.00018	.0249	.00007
%RSD	1.5695	.06477	1.4004	.81230	.41677	.73917	.49205	.28649
#1	.19757	5.1544	.19352	.92217	.50117	.02441	5.0302	.02436
#2	.19726	5.1565	.18831	.91560	.49705	.02425	5.0596	.02442
#3	.19210	5.1500	.19199	.90733	.49964	.02406	5.0796	.02450
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.09926**	**.24932**	**.25092**	**2.0482**	**24.753**	**.50165**	**5.0616**	**.24740**
Stddev	.00081	.00273	.00146	.0301	.049	.00553	.1273	.00493
%RSD	.81219	1.0937	.58081	1.4697	.19864	1.1022	2.5145	1.9937
#1	.10006	.25071	.25125	2.0197	24.760	.50371	4.9146	.24919
#2	.09927	.25107	.25219	2.0451	24.799	.49539	5.1351	.25119
#3	.09845	.24618	.24933	2.0797	24.701	.50585	5.1351	.24182
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	**.48096**	**24.969**	**.24932**	**4.6339**	**.25106**	**.58269**	**.19044**	**2.4791**
Stddev	.00144	.067	.00097	.0243	.00454	.00436	.00749	.0045
%RSD	.30026	.26917	.39030	.52330	1.8103	.74794	3.9334	.18270
#1	.48097	25.024	.24821	4.6531	.24821	.58660	.19489	2.4816
#2	.48240	24.894	.24973	4.6420	.24867	.58349	.18180	2.4818
#3	.47952	24.989	.25001	4.6067	.25630	.57799	.19465	2.4739
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703080101MSD Acquired: 3/16/2017 16:31:26 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606343-05

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49233**	**.49546**	**.49401**	**.24896**	**.49205**	**.48888**	**.43269**
Stddev	.00048	.00082	.00228	.00919	.00142	.00116	.20451
%RSD	.09705	.16589	.46157	3.6916	.28823	.23650	47.264
#1	.49183	.49632	.49485	.24457	.49369	.49019	.62032
#2	.49278	.49468	.49575	.24280	.49132	.48842	.46306
#3	.49239	.49538	.49143	.25952	.49115	.48802	.21470
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	**4819.6**	**58742.**	**5308.6**
Stddev	19.4	393.	56.4
%RSD	.40246	.66932	1.0616
#1	4835.6	59105.	5248.0
#2	4825.2	58795.	5359.4
#3	4798.1	58324.	5318.5

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 16:35:02 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.39786**	**10.348**	**.39974**	**.50149**	**1.0047**	**.05039**	**9.9983**
Stddev	.00100	.036	.00484	.00237	.0013	.00010	.0130
%RSD	.25025	.35083	1.2097	.47161	.12893	.18906	.13047
#1	.39825	10.376	.40143	.50157	1.0037	.05050	9.9856
#2	.39861	10.307	.40351	.49908	1.0061	.05034	10.012
#3	.39673	10.361	.39429	.50381	1.0043	.05033	9.9977
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	**.05018**	**.20150**	**.50785**	**.50728**	**4.0444**	**50.463**	**1.0182**
Stddev	.00016	.00039	.00209	.00259	.0081	.149	.0008
%RSD	.31874	.19376	.41205	.51113	.19997	.29436	.07467
#1	.05000	.20170	.50590	.50490	4.0516	50.622	1.0180
#2	.05031	.20105	.51006	.50690	4.0458	50.328	1.0176
#3	.05023	.20174	.50760	.51004	4.0357	50.439	1.0191
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	**9.9685**	**.49492**	**.99837**	**50.426**	**.50546**	**9.7893**	**.50130**
Stddev	.0341	.00262	.00136	.038	.00095	.0045	.00348
%RSD	.34192	.53038	.13632	.07619	.18866	.04544	.69322
#1	9.9332	.49213	.99724	50.463	.50542	9.7855	.50416
#2	9.9709	.49530	.99799	50.386	.50643	9.7942	.50230
#3	10.001	.49734	.99988	50.429	.50452	9.7882	.49743
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 16:35:02 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**1.2075**	**.40174**	**4.9353**	**.99732**	**.99931**	**.97701**	**.51134**
Stddev	.0026	.01368	.0109	.00365	.00100	.00711	.00483
%RSD	.21214	3.4054	.22130	.36631	.10047	.72763	.94514
#1	1.2102	.38670	4.9361	.99314	.99889	.96891	.50598
#2	1.2051	.40505	4.9240	.99990	1.0005	.97990	.51536
#3	1.2071	.41345	4.9458	.99893	.99860	.98221	.51269
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**1.0084**	**1.0091**	F **.75697**
Stddev	.0012	.0020	.32697
%RSD	.11924	.19748	43.194
#1	1.0082	1.0068	1.1182
#2	1.0097	1.0101	.48118
#3	1.0074	1.0105	.67157
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	**4623.6**	**56298.**	**5283.8**
Stddev	10.9	239.	101.4
%RSD	.23673	.42527	1.9184
#1	4620.2	56565.	5327.9
#2	4614.8	56227.	5355.8
#3	4635.8	56102.	5167.9

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 16:38:34 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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**	**.00636**	**-.00023**	**.00693**	**.00042**	**-.00005**	**-.01625**
Stddev	.00376	.00859	.00641	.00027	.00065	.00003	.01096
%RSD	102.42	135.07	2758.2	3.9616	156.66	64.994	67.423
#1	-.00052	.01592	.00704	.00702	.00023	-.00006	-.00561
#2	.00477	.00383	-.00509	.00715	-.00012	-.00001	-.01564
#3	.00676	-.00068	-.00264	.00662	.00114	-.00006	-.02750
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**	**-.00067**	**-.00092**	**-.00271**	**-.00955**	**.05944**	**.00026**
Stddev	.00036	.00072	.00073	.00290	.00742	.07024	.00147
%RSD	144.66	108.16	79.461	107.14	77.636	118.17	569.27
#1	-.00041	-.00068	-.00140	.00008	-.00568	.01713	.00186
#2	-.00051	.00006	-.00008	-.00250	-.01810	.02067	-.00102
#3	.00016	-.00138	-.00127	-.00571	-.00488	.14053	-.00007
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	**-.02224**	**.00006**	**-.00006**	**.07177**	**-.00088**	**-.00655**	**.00496**
Stddev	.05393	.00198	.00043	.00578	.00153	.00634	.00470
%RSD	242.49	3422.9	720.14	8.0538	173.85	96.832	94.803
#1	.02506	.00141	.00022	.07326	-.00221	-.00072	.01038
#2	-.08098	-.00221	.00016	.06540	-.00121	-.01331	.00247
#3	-.01081	.00098	-.00056	.07667	.00079	-.00563	.00202
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 16:38:34 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00005**	**-.00458**	**.00105**	**-.00027**	**-.00011**	**.00131**	**-.00335**
Stddev	.00638	.00724	.00582	.00162	.00025	.00043	.00333
%RSD	12073.	158.33	551.86	597.43	228.73	32.922	99.428
#1	.00009	-.01099	.00745	-.00136	-.00040	.00094	.00045
#2	-.00650	.00328	-.00036	-.00105	.00008	.00178	-.00474
#3	.00625	-.00602	-.00393	.00159	-.00001	.00120	-.00577
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	**-.00091**	**-.00009**	F **.04437**
Stddev	.00036	.00028	.11605
%RSD	39.386	301.07	261.55
#1	-.00050	-.00002	.15094
#2	-.00108	.00014	.06144
#3	-.00115	-.00040	-.07927
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	**4924.9**	**59377.**	**5326.0**
Stddev	15.5	1050.	109.0
%RSD	.31413	1.7683	2.0460
#1	4923.5	58181.	5445.1
#2	4910.1	59808.	5301.8
#3	4941.0	60144.	5231.3

Approved: March 17, 2017

Sample Name: LLCCV Acquired: 3/16/2017 16:42:19 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.01034**	**.19344**	**.01051**	**.08310**	**.00937**	**.00159**	**.41705**	**.00094**
Stddev	.00035	.00288	.00355	.00336	.00052	.00005	.03003	.00025
%RSD	3.4027	1.4878	33.753	4.0456	5.5033	3.2627	7.2004	26.747
#1	.01066	.19645	.01341	.07975	.00981	.00162	.43405	.00122
#2	.00996	.19071	.01157	.08648	.00881	.00153	.38238	.00086
#3	.01040	.19315	.00655	.08307	.00950	.00163	.43473	.00074
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	**.00396**	**.00277**	**-.00002**	**.08447**	**.94909**	**.07952**	**.49551**	**.00906**
Stddev	.00045	.00078	.00140	.01112	.01485	.00392	.04891	.00019
%RSD	11.358	27.967	7120.3	13.159	1.5649	4.9250	9.8705	2.1060
#1	.00345	.00301	-.00159	.07230	.93202	.07753	.55129	.00886
#2	.00414	.00340	.00111	.08705	.95904	.08403	.45996	.00924
#3	.00430	.00191	.00042	.09407	.95620	.07700	.47527	.00908
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	**.00772**	**.47063**	**.01782**	**.80805**	**.01358**	**.08234**	**.01725**	**.73941**
Stddev	.00071	.02624	.00123	.01206	.00154	.00642	.00775	.00298
%RSD	9.2462	5.5752	6.9047	1.4924	11.371	7.7955	44.962	.40346
#1	.00690	.46722	.01836	.82078	.01536	.08433	.01974	.73685
#2	.00819	.49840	.01868	.79680	.01275	.08753	.02345	.74268
#3	.00808	.44626	.01641	.80658	.01263	.07516	.00855	.73869
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: LLCCV Acquired: 3/16/2017 16:42:19 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.41605**	**.04098**	**.02104**	**.16787**	**.00832**	**.01793**	**27.954**
Stddev	.00208	.00053	.00412	.00325	.00035	.00018	.231
%RSD	.49952	1.2862	19.575	1.9335	4.1589	1.0070	.82726
#1	.41718	.04039	.02295	.17080	.00793	.01783	28.010
#2	.41732	.04112	.02386	.16843	.00845	.01783	28.153
#3	.41365	.04142	.01631	.16438	.00859	.01814	27.700
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	**4923.7**	**59407.**	**5332.7**
Stddev	33.5	573.	49.4
%RSD	.68138	.96470	.92574
#1	4895.0	59929.	5386.6
#2	4915.6	59498.	5321.7
#3	4960.6	58794.	5289.7

Approved: March 17, 2017

Sample Name: LLCCV Acquired: 3/16/2017 16:46:05 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.01125**	**.18403**	**.00626**	**.08013**	**.00788**	**.00151**	**.39882**	**.00093**
Stddev	.00096	.00208	.00348	.00464	.00077	.00004	.01520	.00032
%RSD	8.5653	1.1321	55.597	5.7961	9.8266	2.6021	3.8120	34.403
#1	.01225	.18276	.00383	.08496	.00768	.00147	.38738	.00128
#2	.01032	.18289	.00471	.07570	.00722	.00154	.39301	.00085
#3	.01118	.18644	.01025	.07971	.00873	.00153	.41607	.00066
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00421**	**.00342**	**.00422**	**.08795**	**.88350**	**.07657**	**.47154**	**.01132**
Stddev	.00047	.00043	.00132	.00681	.03858	.00472	.03713	.00113
%RSD	11.261	12.578	31.284	7.7398	4.3668	6.1628	7.8736	9.9791
#1	.00377	.00296	.00402	.09581	.89817	.07323	.51189	.01107
#2	.00471	.00381	.00300	.08400	.91260	.07451	.43882	.01255
#3	.00415	.00351	.00562	.08404	.83974	.08197	.46391	.01033
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	**.00745**	**.44841**	**.01567**	**.78080**	**.00850**	**.07818**	**.00846**	**.72951**
Stddev	.00050	.00815	.00191	.00778	.00447	.00730	.00716	.00340
%RSD	6.7099	1.8184	12.209	.99686	52.532	9.3406	84.575	.46650
#1	.00687	.43930	.01777	.78030	.01364	.08308	.01401	.72944
#2	.00777	.45093	.01403	.78883	.00633	.08166	.01100	.73295
#3	.00770	.45501	.01522	.77328	.00554	.06979	.00038	.72614
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: LLCCV Acquired: 3/16/2017 16:46:05 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.40874**	**.04064**	**.02678**	**.16851**	**.00935**	**.01766**	**28.684**
Stddev	.00070	.00017	.00341	.00493	.00047	.00024	.420
%RSD	.17141	.42360	12.734	2.9251	5.0150	1.3667	1.4659
#1	.40889	.04072	.02754	.17049	.00963	.01778	28.295
#2	.40935	.04075	.02975	.17215	.00881	.01782	28.628
#3	.40797	.04044	.02305	.16290	.00960	.01738	29.130
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	**4911.8**	**60394.**	**5408.5**
Stddev	14.7	166.	34.7
%RSD	.29854	.27565	.64132
#1	4924.4	60547.	5409.1
#2	4895.7	60420.	5442.9
#3	4915.2	60217.	5373.5

Approved: March 17, 2017

Sample Name: LLCCV Acquired: 3/16/2017 16:49:50 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.01331**	**.22293**	**.01037**	**.09920**	**.01059**	**.00198**	**.51710**	**.00107**
Stddev	.00171	.00506	.00280	.00101	.00031	.00002	.01250	.00014
%RSD	12.833	2.2711	26.998	1.0230	2.8859	1.1256	2.4175	12.676
#1	.01197	.21733	.00754	.09908	.01091	.00198	.51118	.00095
#2	.01273	.22428	.01314	.10027	.01031	.00196	.53146	.00103
#3	.01523	.22719	.01045	.09825	.01054	.00201	.50865	.00122
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	**.00484**	**.00358**	**.00341**	**.11401**	**.98200**	**.10346**	**.62647**	**.01208**
Stddev	.00030	.00065	.00188	.00639	.08323	.00455	.09830	.00087
%RSD	6.1870	18.068	55.051	5.6029	8.4754	4.3946	15.691	7.1844
#1	.00477	.00336	.00241	.11429	.88868	.09839	.51413	.01293
#2	.00517	.00308	.00225	.12026	1.0486	.10718	.66855	.01211
#3	.00459	.00431	.00558	.10749	1.0087	.10481	.69672	.01120
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	**.00964**	**.53897**	**.01905**	**.97476**	**.01716**	**.11054**	**.01744**	**.90762**
Stddev	.00044	.00778	.00174	.00301	.00106	.00321	.00668	.00357
%RSD	4.5711	1.4442	9.1197	.30852	6.1641	2.9020	38.326	.39281
#1	.01006	.53417	.01942	.97792	.01594	.10903	.02490	.90544
#2	.00968	.53478	.01716	.97193	.01779	.10836	.01541	.91173
#3	.00918	.54795	.02058	.97442	.01774	.11422	.01200	.90569
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: LLCCV Acquired: 3/16/2017 16:49:50 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.50652**	**.05091**	**.03335**	**.20229**	**.00947**	**.02197**	**36.744**
Stddev	.00038	.00055	.00217	.00164	.00081	.00026	.211
%RSD	.07507	1.0871	6.5033	.81024	8.5353	1.1949	.57370
#1	.50693	.05030	.03420	.20119	.00949	.02187	36.519
#2	.50643	.05106	.03089	.20417	.00865	.02177	36.937
#3	.50619	.05137	.03497	.20149	.01027	.02226	36.775
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	**4827.2**	**59296.**	**5185.4**
Stddev	55.2	221.	20.4
%RSD	1.1425	.37336	.39300
#1	4773.7	59462.	5208.7
#2	4823.9	59382.	5176.3
#3	4883.9	59045.	5171.2

Approved: March 17, 2017

Sample Name: PBW 99 Acquired: 3/16/2017 16:53:35 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606460-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00249**	**.00661**	**.00077**	**.00036**	**.00072**	**-.00007**	**.01877**	**.00006**
Stddev	.00256	.00511	.00599	.00088	.00035	.00003	.03545	.00017
%RSD	102.45	77.294	779.20	242.46	48.909	35.996	188.84	272.46
#1	.00288	.01222	-.00602	-.00011	.00109	-.00010	.00590	.00010
#2	.00484	.00222	.00306	.00138	.00039	-.00007	-.00844	.00020
#3	-.00023	.00540	.00527	-.00018	.00069	-.00005	.05886	-.00012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00043**	**.00005**	**-.00201**	**.01108**	**-.00535**	**-.00073**	**.00323**	**-.00069**
Stddev	.00085	.00015	.00079	.01666	.08192	.00103	.04481	.00335
%RSD	196.56	287.74	39.308	150.29	1532.3	141.45	1385.3	484.03
#1	-.00125	-.00010	-.00234	.03017	.03377	-.00184	.04266	-.00418
#2	.00045	.00019	-.00111	-.00051	-.09949	.00018	-.04550	-.00038
#3	-.00050	.00007	-.00259	.00359	.04968	-.00052	.01254	.00249
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00003**	**.07078**	**-.00012**	**-.01578**	**.00261**	**-.00369**	**.00333**	**.00463**
Stddev	.00046	.01753	.00158	.01404	.00198	.00848	.01256	.00086
%RSD	1566.2	24.764	1288.2	88.958	75.739	230.15	377.01	18.459
#1	-.00048	.09020	.00045	-.00025	.00371	-.01348	-.01034	.00365
#2	-.00004	.05612	-.00191	-.01952	.00379	.00097	.01434	.00512
#3	.00043	.06603	.00109	-.02757	.00033	.00145	.00599	.00514
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: PBW 99 Acquired: 3/16/2017 16:53:35 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606460-02

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00030**	**-.00001**	**-.00073**	**-.00473**	**.00065**	**.00137**	**.38264**
Stddev	.00024	.00026	.00118	.00185	.00125	.00027	.35168
%RSD	81.239	1920.5	160.47	39.114	193.01	19.691	91.908
#1	.00047	.00008	.00039	-.00460	-.00058	.00158	.04183
#2	.00002	-.00031	-.00064	-.00295	.00061	.00146	.36183
#3	.00040	.00019	-.00196	-.00665	.00192	.00106	.74426
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	**4816.9**	**59684.**	**5267.7**
Stddev	26.3	618.	35.1
%RSD	.54656	1.0354	.66687
#1	4846.6	60031.	5227.4
#2	4796.5	58971.	5292.0
#3	4807.7	60051.	5283.7

Approved: March 17, 2017

Sample Name: LCSW 99 Acquired: 3/16/2017 16:57:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606460-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19800**	**5.0875**	**.19062**	**.91165**	**.49628**	**.02443**	**4.8492**	**.02465**
Stddev	.00157	.0351	.00589	.00215	.00144	.00012	.0170	.00031
%RSD	.79201	.69050	3.0876	.23572	.29056	.51052	.35032	1.2632
#1	.19657	5.0571	.19206	.90925	.49789	.02437	4.8296	.02493
#2	.19968	5.0794	.18414	.91232	.49512	.02435	4.8595	.02471
#3	.19777	5.1260	.19564	.91338	.49583	.02457	4.8585	.02431
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	**.10020**	**.24900**	**.24748**	**1.9974**	**24.659**	**.49340**	**4.9375**	**.24321**
Stddev	.00067	.00135	.00094	.0169	.115	.00244	.0557	.00383
%RSD	.66883	.54143	.38169	.84752	.46584	.49400	1.1275	1.5767
#1	.10082	.24789	.24856	2.0016	24.780	.49094	4.9685	.24304
#2	.10027	.24860	.24686	1.9787	24.552	.49581	4.9708	.24713
#3	.09949	.25050	.24701	2.0118	24.645	.49345	4.8732	.23947
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	**.48106**	**24.703**	**.24942**	**4.6864**	**.25074**	**.59095**	**.17922**	**2.4388**
Stddev	.00024	.049	.00323	.0118	.00102	.00398	.01070	.0031
%RSD	.05008	.20008	1.2957	.25102	.40721	.67378	5.9693	.12541
#1	.48116	24.733	.25203	4.6792	.24958	.59528	.17219	2.4370
#2	.48123	24.646	.24580	4.6800	.25116	.59015	.17394	2.4371
#3	.48078	24.729	.25044	4.7000	.25149	.58744	.19153	2.4423
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: LCSW 99 Acquired: 3/16/2017 16:57:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606460-03

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49888**	**.49193**	**.48864**	**.25470**	**.49423**	**.49435**	**1.2889**
Stddev	.00167	.00083	.01222	.00267	.00395	.00124	.2191
%RSD	.33467	.16947	2.5004	1.0468	.79832	.25080	16.996
#1	.50075	.49273	.48789	.25541	.48969	.49497	1.5419
#2	.49753	.49201	.47682	.25175	.49683	.49292	1.1615
#3	.49837	.49106	.50122	.25694	.49618	.49516	1.1634
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	**4792.5**	**57921.**	**5226.5**
Stddev	2.8	432.	17.4
%RSD	.05829	.74592	.33277
#1	4790.0	57993.	5213.0
#2	4792.1	57458.	5220.3
#3	4795.5	58313.	5246.1

Approved: March 17, 2017

Sample Name: FBLK1 Acquired: 3/16/2017 17:01:00 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606253-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00487**	**.01149**	**-.00297**	**.00498**	**.00016**	**-.00005**	**-.00543**	**.00023**
Stddev	.00107	.00196	.00574	.00157	.00083	.00004	.01168	.00015
%RSD	21.989	17.065	193.45	31.629	526.30	78.603	215.32	63.357
#1	.00386	.00981	-.00595	.00361	.00098	-.00002	-.00143	.00023
#2	.00476	.01364	.00365	.00669	-.00068	-.00010	.00374	.00008
#3	.00599	.01101	-.00661	.00463	.00017	-.00005	-.01858	.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	**-.00045**	**-.00086**	**-.00290**	**.03829**	**-.00118**	**.00093**	**.08195**	**-.00028**
Stddev	.00038	.00109	.00217	.01952	.02915	.00203	.08393	.00195
%RSD	83.446	126.83	74.764	50.981	2476.4	217.99	102.40	698.12
#1	-.00081	-.00006	-.00525	.04221	.03157	.00218	.17885	-.00226
#2	-.00048	-.00042	-.00096	.01711	-.02431	-.00141	.03475	-.00021
#3	-.00006	-.00209	-.00250	.05556	-.01079	.00203	.03226	.00164
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00014**	**.08361**	**-.00056**	**-.01595**	**.00077**	**.00239**	**-.00084**	**.00943**
Stddev	.00046	.00774	.00137	.00080	.00319	.00443	.00674	.00219
%RSD	339.70	9.2623	247.65	5.0277	414.65	185.20	797.39	23.178
#1	-.00009	.09252	-.00144	-.01511	.00389	.00715	-.00830	.00851
#2	-.00062	.07971	.00103	-.01605	.00091	.00165	.00095	.00785
#3	.00030	.07858	-.00125	-.01670	-.00249	-.00162	.00481	.01192
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: FBLK1 Acquired: 3/16/2017 17:01:00 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606253-02

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00006**	**-.00011**	**.00169**	**-.00563**	**-.00021**	**.00379**	**.18941**
Stddev	.00010	.00018	.00167	.00600	.00036	.00022	.45016
%RSD	163.04	168.82	98.452	106.57	167.55	5.8755	237.66
#1	.00003	.00006	.00052	-.01254	-.00029	.00405	.46282
#2	-.00004	-.00030	.00096	-.00255	.00018	.00370	.43556
#3	-.00017	-.00008	.00360	-.00179	-.00053	.00363	-.33015
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	**4774.6**	**59334.**	**5274.2**
Stddev	1.3	374.	84.6
%RSD	.02698	.63052	1.6044
#1	4774.0	59731.	5317.3
#2	4776.1	58987.	5328.6
#3	4773.7	59284.	5176.7

Approved: March 17, 2017

Sample Name: FBLK2 Acquired: 3/16/2017 17:04:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606253-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00245**	**.02158**	**.00029**	**.00359**	**.00079**	**-.00004**	**.02922**	**-.00002**
Stddev	.00132	.00231	.00525	.00219	.00056	.00004	.03930	.00021
%RSD	54.043	10.699	1806.3	61.033	70.746	96.452	134.51	1150.4
#1	.00200	.02361	-.00448	.00388	.00027	-.00003	.06197	.00020
#2	.00394	.02207	-.00055	.00126	.00071	-.00008	-.01436	-.00022
#3	.00141	.01907	.00591	.00561	.00138	-.00001	.04004	-.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00046**	**-.00187**	**-.00076**	**.02045**	**.03072**	**-.00255**	**.04871**	**-.00045**
Stddev	.00057	.00126	.00194	.00680	.01738	.00273	.03145	.00226
%RSD	122.00	67.459	256.69	33.239	56.567	107.22	64.556	506.11
#1	-.00059	-.00103	-.00291	.01957	.01432	.00020	.05872	-.00266
#2	.00015	-.00126	.00085	.02764	.04894	-.00527	.01348	.00185
#3	-.00096	-.00332	-.00021	.01413	.02891	-.00259	.07393	-.00053
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	**.00015**	**141.55**	**.00002**	**-.01236**	**.00329**	**-.00216**	**-.00136**	**.01657**
Stddev	.00067	.40	.00216	.00710	.00608	.00219	.01172	.00222
%RSD	449.11	.27983	10979.	57.413	184.85	101.37	863.88	13.395
#1	.00087	141.96	-.00054	-.00716	.00104	-.00443	.01040	.01667
#2	-.00045	141.53	.00240	-.02045	.01018	-.00006	-.01305	.01873
#3	.00003	141.17	-.00181	-.00948	-.00135	-.00199	-.00142	.01429
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: FBLK2 Acquired: 3/16/2017 17:04:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606253-01

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00066**	**.00012**	**.00274**	**-.00542**	**-.00140**	**.00465**	**.00617**
Stddev	.00064	.00020	.00251	.00562	.00149	.00023	.12079
%RSD	96.016	165.18	91.946	103.59	106.69	4.8436	1958.7
#1	-.00019	.00029	.00001	.00024	-.00309	.00488	-.13300
#2	-.00139	-.00010	.00497	-.01099	-.00027	.00443	.06763
#3	-.00041	.00017	.00322	-.00551	-.00084	.00464	.08387
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	**4663.5**	**56801.**	**5151.1**
Stddev	48.2	111.	98.9
%RSD	1.0331	.19600	1.9197
#1	4640.8	56929.	5038.2
#2	4630.9	56726.	5192.7
#3	4718.9	56748.	5222.4

Approved: March 17, 2017

Sample Name: L1703073901 Acquired: 3/16/2017 17:08:32 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00337**	**.14101**	**-.00099**	**.03518**	**.13598**	**.00007**	**145.58**	**.00041**
Stddev	.00178	.00745	.00372	.00076	.00031	.00003	.17	.00025
%RSD	52.811	5.2845	376.18	2.1703	.22830	43.022	.11477	59.593
#1	.00304	.13536	.00254	.03505	.13562	.00011	145.42	.00062
#2	.00178	.14945	-.00487	.03449	.13619	.00005	145.56	.00049
#3	.00530	.13821	-.00063	.03600	.13613	.00006	145.76	.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	**.00240**	**.00108**	**-.00004**	**.03976**	**2.3366**	**.00638**	**18.142**	**1.0149**
Stddev	.00039	.00044	.00134	.02091	.0418	.00471	.185	.0051
%RSD	16.251	40.738	3340.1	52.593	1.7901	73.903	1.0178	.50279
#1	.00282	.00090	-.00144	.02965	2.3793	.00535	18.024	1.0107
#2	.00234	.00158	.00123	.02583	2.3349	.00226	18.046	1.0133
#3	.00205	.00075	.00009	.06381	2.2956	.01152	18.354	1.0206
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00059**	**4.2082**	**.00476**	**-.01697**	**.00549**	**-.00309**	**.00616**	**1.5742**
Stddev	.00031	.0298	.00054	.00922	.00375	.00816	.00253	.0093
%RSD	53.229	.70722	11.374	54.307	68.353	263.92	41.108	.59357
#1	-.00072	4.2066	.00428	-.02662	.00932	-.00404	.00784	1.5638
#2	-.00023	4.1793	.00465	-.00826	.00181	.00550	.00740	1.5769
#3	-.00081	4.2388	.00534	-.01602	.00535	-.01074	.00325	1.5819
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703073901 Acquired: 3/16/2017 17:08:32 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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**	**.24053**	**-.00269**	**-.00806**	**-.00015**	**.02027**	**.26528**
Stddev	.00068	.00077	.00129	.00264	.00037	.00046	.37553
%RSD	180.41	.32076	47.982	32.740	244.00	2.2879	141.56
#1	.00022	.23967	-.00282	-.00966	.00003	.02002	.63653
#2	-.00021	.24074	-.00134	-.00502	-.00057	.01999	-.11438
#3	.00113	.24117	-.00392	-.00952	.00009	.02081	.27370
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	**4709.6**	**58114.**	**5350.7**
Stddev	35.3	123.	51.9
%RSD	.74991	.21175	.97024
#1	4672.5	58004.	5410.3
#2	4713.4	58247.	5326.1
#3	4742.9	58092.	5315.7

Approved: March 17, 2017

Sample Name: L1703081602 Acquired: 3/16/2017 17:12:16 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00320**	**.01071**	**.00068**	**.00862**	**.00096**	**-.00003**	**5.6470**	**.00023**
Stddev	.00086	.00194	.00403	.00295	.00031	.00004	.0102	.00052
%RSD	26.974	18.135	596.29	34.173	32.846	117.62	.18107	225.03
#1	.00403	.00965	-.00368	.01079	.00127	.00001	5.6381	.00027
#2	.00231	.01295	.00145	.00527	.00096	-.00007	5.6582	-.00031
#3	.00327	.00953	.00426	.00982	.00064	-.00004	5.6447	.00074
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	**-.00017**	**-.00176**	**-.00175**	**.03591**	**13.146**	**.00042**	**.82027**	**.00452**
Stddev	.00005	.00180	.00115	.00309	.077	.00202	.06474	.00079
%RSD	31.523	102.20	65.371	8.6066	.58769	481.89	7.8923	17.503
#1	-.00013	-.00032	-.00141	.03890	13.068	.00205	.74801	.00465
#2	-.00016	-.00118	-.00082	.03608	13.146	.00105	.87300	.00523
#3	-.00023	-.00377	-.00303	.03273	13.223	-.00184	.83979	.00366
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00068**	**29.411**	**.00154**	**.94680**	**.00858**	**.00253**	**-.00705**	**.17966**
Stddev	.00060	.114	.00110	.00797	.00507	.00484	.00912	.00333
%RSD	88.630	.38787	71.415	.84155	59.080	191.16	129.33	1.8544
#1	.00137	29.280	.00060	.93761	.00273	-.00130	.00254	.17753
#2	.00025	29.463	.00126	.95172	.01135	.00093	-.01562	.17795
#3	.00042	29.490	.00274	.95107	.01165	.00797	-.00808	.18350
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703081602 Acquired: 3/16/2017 17:12:16 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00138**	**.00424**	**.00169**	**-.00672**	**.00073**	**.00747**	**.08112**
Stddev	.00099	.00027	.00358	.00417	.00067	.00012	.09547
%RSD	72.274	6.3774	211.71	62.081	91.659	1.5399	117.69
#1	-.00028	.00453	.00525	-.00320	.00128	.00740	-.02910
#2	-.00161	.00399	.00173	-.00563	-.00001	.00740	.13805
#3	-.00223	.00419	-.00191	-.01133	.00092	.00760	.13441
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	**4816.9**	**59243.**	**5402.3**
Stddev	17.4	371.	33.0
%RSD	.36021	.62642	.61156
#1	4822.5	59326.	5436.8
#2	4830.8	59565.	5371.0
#3	4797.5	58837.	5399.1

Approved: March 17, 2017

Sample Name: L1703081604 Acquired: 3/16/2017 17:16:02 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00313**	**.13136**	**.00073**	**.01600**	**.01073**	**-.00008**	**62.062**	**.00009**
Stddev	.00232	.00376	.00297	.00265	.00087	.00008	.356	.00002
%RSD	74.131	2.8624	407.81	16.535	8.1053	100.47	.57420	21.525
#1	.00055	.13565	.00416	.01699	.01119	-.00015	61.746	.00010
#2	.00380	.12977	-.00090	.01800	.00972	.00001	61.991	.00006
#3	.00504	.12866	-.00108	.01300	.01126	-.00009	62.448	.00010
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**	**.00283**	**.01375**	**1.0134**	**14.619**	**.00343**	**3.2076**	**.16609**
Stddev	.00030	.00113	.00201	.0040	.085	.00267	.0378	.00402
%RSD	172.90	39.859	14.600	.39766	.57843	77.882	1.1791	2.4208
#1	.00034	.00403	.01191	1.0087	14.543	.00154	3.2136	.16319
#2	-.00018	.00179	.01345	1.0159	14.605	.00226	3.2421	.16441
#3	.00036	.00267	.01589	1.0154	14.710	.00648	3.1672	.17068
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	**.00114**	**32.145**	**.00321**	**34.056**	**.00319**	**.00548**	**.00056**	**.48600**
Stddev	.00029	.154	.00147	.056	.00119	.00451	.00484	.00523
%RSD	25.801	.47948	45.676	.16359	37.282	82.231	871.70	1.0756
#1	.00139	31.998	.00458	34.027	.00456	.00708	-.00496	.48030
#2	.00081	32.130	.00338	34.120	.00260	.00897	.00414	.49056
#3	.00121	32.306	.00167	34.020	.00241	.00039	.00249	.48715
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703081604 Acquired: 3/16/2017 17:16:02 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00062**	**.04290**	**.00442**	**-.00676**	**.00070**	**.10366**	**.18233**
Stddev	.00058	.00047	.00159	.00276	.00060	.00044	.15495
%RSD	93.525	1.0961	36.080	40.889	85.267	.42620	84.982
#1	.00118	.04258	.00335	-.00588	.00095	.10401	.16746
#2	.00001	.04269	.00625	-.00454	.00114	.10381	.34417
#3	.00069	.04344	.00366	-.00985	.00002	.10317	.03535
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	**4889.6**	**58670.**	**5391.6**
Stddev	58.9	404.	108.8
%RSD	1.2048	.68776	2.0175
#1	4822.2	58224.	5454.7
#2	4915.2	58779.	5454.1
#3	4931.4	59008.	5266.0

Approved: March 17, 2017

Sample Name: L1703081606 Acquired: 3/16/2017 17:19:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00216**	**.01198**	**-.00457**	**.00446**	**.00108**	**-.00011**	**6.1242**	**.00009**
Stddev	.00187	.01004	.00199	.00280	.00072	.00002	.0174	.00043
%RSD	86.611	83.813	43.546	62.679	66.581	22.478	.28386	456.03
#1	.00047	.01449	-.00265	.00740	.00078	-.00011	6.1120	.00055
#2	.00417	.02053	-.00663	.00184	.00190	-.00008	6.1441	.00004
#3	.00183	.00092	-.00443	.00415	.00056	-.00013	6.1165	-.00030
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	**.00025**	**-.00183**	**-.00027**	**.00397**	**2.3565**	**-.00063**	**.34653**	**.03863**
Stddev	.00039	.00053	.00133	.01701	.0853	.00131	.12768	.00194
%RSD	160.29	29.217	499.33	428.74	3.6203	207.03	36.846	5.0277
#1	.00031	-.00175	-.00179	-.00112	2.3992	-.00070	.41365	.03901
#2	-.00018	-.00134	.00029	.02294	2.4121	-.00191	.19928	.04036
#3	.00060	-.00240	.00070	-.00992	2.2583	.00071	.42665	.03653
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	**-.00056**	**.78588**	**.00064**	**.11782**	**.00435**	**-.00253**	**-.00088**	**.08542**
Stddev	.00035	.02566	.00032	.00810	.00300	.00393	.00618	.00308
%RSD	62.402	3.2655	50.146	6.8732	69.108	155.50	703.30	3.6112
#1	-.00082	.78123	.00101	.12661	.00465	-.00707	.00474	.08506
#2	-.00070	.76286	.00051	.11066	.00718	-.00018	-.00750	.08867
#3	-.00016	.81355	.00041	.11619	.00120	-.00034	.00012	.08253
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703081606 Acquired: 3/16/2017 17:19:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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**	**.01147**	**.00043**	**-.00359**	**.00080**	**.00499**	**.06412**
Stddev	.00064	.00032	.00628	.00287	.00078	.00026	.14883
%RSD	772.44	2.7596	1460.6	79.730	97.344	5.2154	232.13
#1	.00034	.01162	.00135	-.00686	.00163	.00470	.03331
#2	-.00065	.01110	.00620	-.00244	.00069	.00505	.22594
#3	.00055	.01168	-.00626	-.00148	.00008	.00521	-.06690
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	**4954.6**	**60406.**	**5333.7**
Stddev	15.3	1347.	27.4
%RSD	.30967	2.2299	.51405
#1	4955.5	58851.	5362.9
#2	4969.5	61212.	5329.7
#3	4938.8	61155.	5308.5

Approved: March 17, 2017

Sample Name: L1703081606PS Acquired: 3/16/2017 17:23:32 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606544-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19523**	**5.0255**	**.18839**	**.91217**	**.49248**	**.02433**	**10.310**	**.02425**
Stddev	.00328	.0102	.00338	.00250	.00223	.00010	.067	.00033
%RSD	1.6825	.20238	1.7917	.27364	.45229	.39790	.65093	1.3767
#1	.19823	5.0274	.18450	.90950	.48992	.02428	10.244	.02456
#2	.19172	5.0145	.19051	.91257	.49402	.02444	10.308	.02428
#3	.19574	5.0345	.19016	.91445	.49349	.02427	10.378	.02390
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	**.09856**	**.24748**	**.24486**	**1.9825**	**26.566**	**.49741**	**5.1612**	**.27659**
Stddev	.00058	.00286	.00237	.0380	.145	.00222	.0716	.00093
%RSD	.59132	1.1573	.96766	1.9181	.54442	.44603	1.3871	.33799
#1	.09892	.24921	.24756	1.9411	26.633	.49536	5.1622	.27568
#2	.09789	.24905	.24314	1.9903	26.664	.49977	5.2322	.27655
#3	.09888	.24417	.24387	2.0160	26.400	.49710	5.0891	.27755
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	**.47575**	**25.341**	**.24577**	**4.7133**	**.24922**	**.58364**	**.18538**	**2.4471**
Stddev	.00015	.087	.00357	.0275	.00483	.00112	.01209	.0022
%RSD	.03190	.34346	1.4517	.58328	1.9394	.19170	6.5222	.09175
#1	.47591	25.251	.24718	4.7401	.25302	.58418	.17263	2.4466
#2	.47562	25.347	.24171	4.6852	.25086	.58439	.18684	2.4496
#3	.47571	25.425	.24842	4.7147	.24378	.58236	.19668	2.4452
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703081606PS Acquired: 3/16/2017 17:23:32 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606544-01

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48686**	**.49863**	**.48192**	**.24910**	**.48825**	**.48943**	**.86191**
Stddev	.00078	.00105	.00530	.00573	.00113	.00149	.28774
%RSD	.16003	.21077	1.1007	2.3011	.23245	.30367	33.384
#1	.48733	.49756	.47611	.24435	.48885	.49106	1.1939
#2	.48729	.49867	.48651	.24748	.48897	.48909	.68442
#3	.48596	.49966	.48313	.25547	.48694	.48815	.70741
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	**4735.7**	**57942.**	**5189.8**
Stddev	35.5	47.	131.9
%RSD	.74882	.08080	2.5407
#1	4722.6	57950.	5044.1
#2	4708.7	57891.	5224.5
#3	4775.9	57984.	5300.8

Approved: March 17, 2017

Sample Name: L1703081606SDL Acquired: 3/16/2017 17:27:10 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG606544-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00365**	**.00146**	**.00055**	**.00649**	**.00070**	**-.00007**	**1.2131**	**-.00027**
Stddev	.00211	.00095	.00157	.00231	.00070	.00006	.0154	.00031
%RSD	57.919	65.288	283.48	35.633	100.85	79.355	1.2677	113.25
#1	.00535	.00202	.00058	.00749	.00106	-.00001	1.1992	-.00063
#2	.00128	.00200	-.00103	.00813	-.00011	-.00008	1.2297	-.00015
#3	.00431	.00036	.00211	.00384	.00114	-.00012	1.2105	-.00005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00030**	**-.00131**	**-.00166**	**.00181**	**.53819**	**-.00153**	**.07419**	**.00831**
Stddev	.00050	.00178	.00141	.01475	.04330	.00311	.17428	.00234
%RSD	164.31	136.04	84.621	813.36	8.0462	202.52	234.89	28.149
#1	.00027	-.00309	-.00007	.01793	.51099	.00121	-.11084	.01045
#2	-.00056	-.00131	-.00275	-.00148	.58812	-.00491	.23523	.00581
#3	-.00063	.00047	-.00216	-.01101	.51545	-.00091	.09820	.00867
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**	**.18145**	**.00046**	**.02416**	**.00225**	**-.00262**	**-.00757**	**.01590**
Stddev	.00135	.01402	.00058	.01961	.00333	.00638	.00181	.00039
%RSD	266.98	7.7256	125.16	81.189	148.08	243.39	23.897	2.4319
#1	-.00090	.18576	.00063	.02272	.00596	.00377	-.00959	.01634
#2	-.00161	.16579	.00095	.00530	.00121	-.00899	-.00705	.01562
#3	.00099	.19281	-.00018	.04445	-.00044	-.00265	-.00608	.01574
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703081606SDL Acquired: 3/16/2017 17:27:10 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG606544-02

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00031**	**.00212**	**.00128**	**-.00073**	**.00030**	**.00128**	**.28928**
Stddev	.00078	.00008	.00231	.00410	.00007	.00016	.29309
%RSD	248.65	3.8339	180.80	558.59	23.803	12.216	101.32
#1	.00038	.00212	.00112	-.00149	.00023	.00145	.33528
#2	-.00116	.00220	-.00095	.00369	.00037	.00116	-.02409
#3	-.00016	.00204	.00367	-.00440	.00031	.00121	.55665
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	**5071.1**	**62385.**	**5232.6**
Stddev	26.7	241.	99.4
%RSD	.52597	.38633	1.8998
#1	5049.7	62658.	5136.9
#2	5062.7	62201.	5225.7
#3	5101.0	62297.	5335.4

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 17:30:56 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.39962**	**10.292**	**.40265**	**.50099**	**1.0095**	**.05065**	**9.9539**
Stddev	.00176	.022	.00107	.00521	.0052	.00007	.0892
%RSD	.44098	.21423	.26633	1.0406	.51201	.13643	.89653
#1	.39759	10.301	.40388	.49946	1.0046	.05057	9.8531
#2	.40047	10.307	.40219	.50680	1.0149	.05071	10.023
#3	.40079	10.266	.40189	.49672	1.0089	.05066	9.9858
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	**.05070**	**.20179**	**.50969**	**.50653**	**4.0609**	**50.543**	**1.0101**
Stddev	.00049	.00064	.00213	.00066	.0306	.349	.0103
%RSD	.96317	.31544	.41822	.12994	.75355	.69014	1.0166
#1	.05106	.20153	.50735	.50601	4.0760	50.149	.99917
#2	.05014	.20251	.51020	.50631	4.0810	50.813	1.0195
#3	.05089	.20132	.51152	.50727	4.0257	50.665	1.0117
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	**10.038**	**.49731**	**.99777**	**50.243**	**.50637**	**9.9055**	**.50308**
Stddev	.067	.00340	.00077	.313	.00143	.0361	.00057
%RSD	.66727	.68345	.07727	.62339	.28159	.36473	.11349
#1	9.9780	.49578	.99844	49.938	.50725	9.9295	.50255
#2	10.110	.50121	.99693	50.564	.50473	9.8640	.50301
#3	10.027	.49495	.99795	50.228	.50715	9.9230	.50369
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 17:30:56 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**1.2093**	**.40762**	**4.9832**	**.99963**	**1.0036**	**.99471**	**.51639**
Stddev	.0078	.00761	.0180	.00163	.0046	.01977	.00204
%RSD	.64760	1.8670	.36142	.16312	.46228	1.9880	.39538
#1	1.2158	.40616	4.9796	.99814	.99957	.97629	.51591
#2	1.2006	.41586	4.9673	1.0014	1.0086	1.0156	.51863
#3	1.2114	.40085	5.0027	.99938	1.0024	.99224	.51463
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**1.0101**	**1.0111**	F **1.1065**
Stddev	.0006	.0023	.3374
%RSD	.06473	.22333	30.489
#1	1.0093	1.0120	.94834
#2	1.0105	1.0085	.87733
#3	1.0104	1.0128	1.4939
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	**4900.9**	**59214.**	**5459.5**
Stddev	19.6	137.	37.2
%RSD	.40053	.23134	.68119
#1	4878.4	59181.	5493.2
#2	4909.3	59096.	5419.6
#3	4914.9	59364.	5465.6

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 17:34:27 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00448**	**-.00174**	**-.00168**	**.00409**	**.00030**	**-.00006**	**-.00830**
Stddev	.00070	.00184	.00394	.00198	.00072	.00005	.01408
%RSD	15.716	106.08	234.27	48.300	240.75	88.831	169.72
#1	.00497	.00024	.00286	.00590	-.00044	-.00012	-.02443
#2	.00367	-.00203	-.00416	.00198	.00033	-.00002	-.00201
#3	.00479	-.00341	-.00374	.00441	.00101	-.00003	.00155
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**	**-.00023**	**-.00052**	**-.00306**	**-.00038**	**.05999**	**.00157**
Stddev	.00024	.00021	.00077	.00086	.01862	.01023	.00097
%RSD	161.48	91.393	148.78	27.965	4954.6	17.046	61.831
#1	.00013	-.00046	-.00086	-.00385	-.01272	.04971	.00084
#2	-.00025	-.00015	.00036	-.00215	.02105	.06008	.00121
#3	-.00032	-.00007	-.00106	-.00319	-.00945	.07016	.00268
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	**.07137**	**.00071**	**.00013**	**.07759**	**.00012**	**-.00523**	**.00133**
Stddev	.05650	.00148	.00117	.03058	.00098	.01054	.00375
%RSD	79.160	208.63	900.92	39.415	798.45	201.53	282.27
#1	.01362	-.00016	.00050	.07986	.00122	.00621	.00266
#2	.07398	.00242	-.00118	.10697	-.00017	-.00734	-.00290
#3	.12652	-.00013	.00108	.04594	-.00068	-.01456	.00422
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 17:34:27 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00169**	**.00089**	**.00125**	**.00027**	**.00019**	**.00188**	**-.00063**
Stddev	.00865	.00710	.00835	.00208	.00021	.00541	.00643
%RSD	512.42	794.55	669.70	783.18	108.33	287.41	1014.0
#1	-.00951	.00768	.01021	.00188	-.00004	.00804	.00456
#2	.00760	.00148	-.00014	.00099	.00035	-.00208	-.00783
#3	-.00315	-.00648	-.00633	-.00208	.00027	-.00032	.00136
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**	**-.00008**	F **.25580**
Stddev	.00077	.00009	.18501
%RSD	988.62	112.42	72.324
#1	-.00068	.00001	.46275
#2	.00079	-.00016	.10643
#3	-.00034	-.00009	.19823
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	**4955.0**	**61555.**	**5456.9**
Stddev	43.6	574.	50.8
%RSD	.88000	.93249	.93108
#1	5001.8	61361.	5400.2
#2	4947.9	62200.	5472.2
#3	4915.5	61102.	5498.4

Approved: March 17, 2017

Sample Name: L1703081901 Acquired: 3/16/2017 17:38:12 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00470**	**1.1303**	**-.00567**	**.06461**	**.02006**	**.00006**	**75.998**
Stddev	.00107	.0102	.00138	.00235	.00055	.00007	.110
%RSD	22.845	.89915	24.355	3.6325	2.7633	128.90	.14420
#1	.00402	1.1396	-.00465	.06198	.02048	.00001	75.899
#2	.00593	1.1195	-.00511	.06649	.02026	.00002	75.980
#3	.00413	1.1319	-.00724	.06536	.01943	.00014	76.116
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	**.55465**	**.03047**	**.18795**	**.09426**	**17.431**	**8.3806**	**.02211**
Stddev	.00059	.00058	.00059	.00112	.131	.0383	.00358
%RSD	.10702	1.9018	.31616	1.1837	.74874	.45663	16.191
#1	.55427	.03085	.18832	.09301	17.581	8.3498	.02623
#2	.55533	.02981	.18727	.09514	17.341	8.3686	.02037
#3	.55434	.03077	.18827	.09464	17.372	8.4235	.01973
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	**8.3526**	**2.1274**	**.00141**	**159.01**	**.13015**	**.09924**	**.19734**
Stddev	.1257	.0097	.00093	.28	.00159	.00886	.00313
%RSD	1.5050	.45546	66.276	.17448	1.2234	8.9298	1.5859
#1	8.4936	2.1241	.00216	158.73	.12930	.09428	.19963
#2	8.3123	2.1197	.00036	159.01	.12915	.09398	.19863
#3	8.2521	2.1382	.00170	159.29	.13198	.10948	.19378
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: L1703081901 Acquired: 3/16/2017 17:38:12 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.01647**	**.00177**	**.96827**	**.00134**	**.10833**	**.00209**	**-.00452**
Stddev	.00315	.00413	.00781	.00124	.00013	.00688	.00355
%RSD	19.152	232.84	.80697	92.789	.12015	329.32	78.660
#1	-.01289	.00267	.96281	.00203	.10829	-.00175	-.00218
#2	-.01766	.00538	.96478	-.00010	.10821	-.00201	-.00860
#3	-.01886	-.00273	.97722	.00207	.10847	.01003	-.00276
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.00155**	**36.093**	F **-.26620**
Stddev	.00031	.045	.16066
%RSD	19.708	.12351	60.355
#1	.00126	36.045	-.25619
#2	.00153	36.133	-.11077
#3	.00187	36.102	-.43163
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	**4897.5**	**59435.**	**5703.7**
Stddev	24.6	223.	15.4
%RSD	.50202	.37562	.26952
#1	4869.4	59588.	5691.4
#2	4908.2	59538.	5698.8
#3	4914.9	59179.	5720.9

Approved: March 17, 2017

Sample Name: L1703082101 Acquired: 3/16/2017 17:41:53 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00245**	**7.6965**	**.03840**	**.17698**	**.00902**	**.00161**	**19.086**	**.00449**
Stddev	.00040	.0122	.00368	.00200	.00133	.00005	.066	.00032
%RSD	16.361	.15828	9.5951	1.1275	14.754	3.3915	.34334	7.1419
#1	.00265	7.6987	.03815	.17909	.00871	.00155	19.097	.00476
#2	.00271	7.6834	.03484	.17671	.00787	.00163	19.146	.00457
#3	.00199	7.7075	.04220	.17512	.01047	.00165	19.016	.00414
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	**.00854**	**.01249**	**.00603**	**.58244**	**5.6437**	**.11581**	**2.0694**	**.20057**
Stddev	.00063	.00069	.00067	.04426	.0264	.00083	.0928	.00084
%RSD	7.3817	5.5302	11.163	7.5993	.46714	.71422	4.4822	.42035
#1	.00837	.01255	.00656	.59100	5.6237	.11552	2.1116	.20050
#2	.00923	.01315	.00625	.62180	5.6736	.11516	1.9631	.20145
#3	.00801	.01177	.00527	.53453	5.6338	.11674	2.1336	.19977
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**	**141.26**	**.04484**	**.03363**	**.01081**	**.00353**	**-.00111**	**.44194**
Stddev	.00059	.37	.00052	.01723	.00340	.00229	.01412	.00466
%RSD	80.965	.26530	1.1690	51.234	31.463	64.893	1277.0	1.0545
#1	.00011	140.98	.04429	.03281	.00688	.00096	.00589	.43754
#2	.00078	141.69	.04533	.01683	.01267	.00535	.00815	.44682
#3	.00129	141.12	.04491	.05126	.01288	.00428	-.01736	.44147
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703082101 Acquired: 3/16/2017 17:41:53 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**-.00069**	**.40042**	**.01277**	**-.00160**	**.00249**	**1.2908**	**.32513**
Stddev	.00055	.00023	.00545	.00365	.00020	.0068	.40112
%RSD	79.368	.05621	42.677	227.79	7.8813	.52817	123.37
#1	-.00019	.40024	.00992	.00239	.00255	1.2940	.78803
#2	-.00128	.40067	.00933	-.00477	.00227	1.2954	.10760
#3	-.00061	.40035	.01905	-.00243	.00265	1.2830	.07977
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	**4889.9**	**58952.**	**5319.7**
Stddev	20.2	213.	40.4
%RSD	.41360	.36105	.75872
#1	4876.3	59180.	5351.1
#2	4880.2	58758.	5333.9
#3	4913.2	58920.	5274.2

Approved: March 17, 2017

Sample Name: L1703082601 Acquired: 3/16/2017 17:45:36 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606460-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00581**	**.00983**	**.00209**	**.01533**	**.00024**	**-.00015**	**.05597**	**-.00010**
Stddev	.00038	.00318	.00183	.00365	.00028	.00001	.04507	.00044
%RSD	6.5793	32.314	87.149	23.830	117.18	4.4966	80.528	432.96
#1	.00544	.00640	.00162	.01924	.00035	-.00015	.10352	-.00058
#2	.00579	.01044	.00055	.01200	.00046	-.00014	.05053	.00030
#3	.00620	.01267	.00411	.01476	-.00008	-.00015	.01387	-.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	**-.00049**	**-.00017**	**-.00134**	**.02253**	**.06399**	**-.00218**	**.05743**	**-.00216**
Stddev	.00081	.00077	.00220	.01117	.05695	.00284	.07918	.00193
%RSD	164.95	466.95	163.80	49.571	88.994	130.15	137.88	89.288
#1	-.00080	-.00101	-.00042	.03504	.06994	.00092	.01952	-.00421
#2	-.00110	-.00001	-.00385	.01900	.00430	-.00282	.00433	-.00189
#3	.00043	.00052	.00025	.01356	.11774	-.00465	.14844	-.00038
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00066**	**13.860**	**.00005**	**-.01126**	**.00552**	**.00099**	**.00551**	**.03108**
Stddev	.00108	.057	.00105	.00352	.00681	.00552	.01086	.00340
%RSD	163.58	.40968	2327.3	31.270	123.40	555.37	197.21	10.954
#1	.00053	13.795	-.00114	-.00973	.00687	.00161	.01719	.03492
#2	-.00093	13.883	.00041	-.00876	-.00186	.00618	.00361	.02992
#3	-.00157	13.901	.00086	-.01528	.01156	-.00481	-.00428	.02842
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703082601 Acquired: 3/16/2017 17:45:36 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606460-01

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00012**	**-.00011**	**.00120**	**-.01339**	**.00041**	**.00373**	**.52575**
Stddev	.00150	.00039	.00169	.00773	.00056	.00010	.14662
%RSD	1306.8	356.19	141.55	57.699	134.64	2.6633	27.888
#1	-.00042	.00017	.00235	-.02125	.00102	.00361	.49172
#2	-.00145	-.00055	.00198	-.00580	.00030	.00380	.68640
#3	.00152	.00006	-.00075	-.01313	-.00008	.00376	.39914
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	**5072.6**	**63353.**	**5548.7**
Stddev	15.4	372.	66.3
%RSD	.30430	.58688	1.1940
#1	5082.6	63088.	5517.0
#2	5054.8	63778.	5504.2
#3	5080.4	63193.	5624.8

Approved: March 17, 2017

Sample Name: L1703082601MS Acquired: 3/16/2017 17:49:21 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606460-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19991**	**5.2944**	**.19355**	**.94079**	**.50444**	**.02435**	**4.9428**	**.02511**
Stddev	.00139	.0177	.00255	.00040	.00133	.00003	.0114	.00019
%RSD	.69410	.33397	1.3151	.04257	.26437	.12333	.23146	.76234
#1	.19888	5.2968	.19073	.94050	.50523	.02435	4.9384	.02533
#2	.19936	5.2757	.19567	.94063	.50290	.02438	4.9343	.02503
#3	.20148	5.3108	.19426	.94125	.50520	.02432	4.9558	.02497
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	**.10188**	**.24958**	**.24940**	**2.0371**	**24.997**	**.50268**	**4.8653**	**.24738**
Stddev	.00043	.00107	.00237	.0268	.031	.00441	.1585	.00179
%RSD	.42508	.42845	.94863	1.3158	.12449	.87818	3.2568	.72501
#1	.10190	.25046	.24782	2.0677	25.025	.50759	4.8915	.24943
#2	.10229	.24839	.24826	2.0261	24.964	.49903	4.6954	.24613
#3	.10143	.24989	.25212	2.0176	25.003	.50142	5.0091	.24657
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	**.49085**	**38.705**	**.25185**	**4.7795**	**.24883**	**.60715**	**.19974**	**2.5114**
Stddev	.00103	.148	.00223	.0215	.00410	.00652	.00780	.0019
%RSD	.21033	.38280	.88392	.44888	1.6483	1.0736	3.9029	.07749
#1	.49189	38.838	.25117	4.7740	.24848	.60474	.19520	2.5123
#2	.49085	38.545	.25005	4.7613	.24492	.61453	.19529	2.5128
#3	.48982	38.731	.25434	4.8032	.25310	.60218	.20875	2.5092
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703082601MS Acquired: 3/16/2017 17:49:21 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606460-04

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50043**	**.50115**	**.50791**	**.25208**	**.49831**	**.49416**	**.55552**
Stddev	.00138	.00088	.01042	.00176	.00233	.00028	.21170
%RSD	.27547	.17589	2.0515	.69707	.46858	.05756	38.108
#1	.50197	.50201	.50127	.25150	.49745	.49391	.31198
#2	.49930	.50119	.51992	.25405	.49653	.49410	.69556
#3	.50001	.50024	.50254	.25069	.50095	.49447	.65901
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	**4931.5**	**60526.**	**5592.4**
Stddev	84.6	92.	51.0
%RSD	1.7150	.15227	.91151
#1	4840.7	60548.	5651.0
#2	4945.7	60425.	5558.8
#3	5008.1	60605.	5567.3

Approved: March 17, 2017

Sample Name: L1703082601MSD Acquired: 3/16/2017 17:52:58 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606460-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20007**	**5.1855**	**.19452**	**.93488**	**.49935**	**.02427**	**4.9189**	**.02507**
Stddev	.00285	.0087	.00266	.00591	.00191	.00009	.0283	.00029
%RSD	1.4230	.16773	1.3683	.63238	.38278	.38965	.57610	1.1698
#1	.20336	5.1954	.19755	.94045	.50058	.02426	4.9076	.02512
#2	.19842	5.1822	.19340	.93553	.49715	.02436	4.8980	.02476
#3	.19844	5.1789	.19259	.92868	.50032	.02418	4.9512	.02534
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	**.10104**	**.24916**	**.24819**	**2.0219**	**24.776**	**.49920**	**4.8813**	**.24755**
Stddev	.00018	.00031	.00023	.0150	.072	.00356	.0518	.00277
%RSD	.17683	.12399	.09452	.74204	.29035	.71300	1.0618	1.1203
#1	.10120	.24950	.24793	2.0046	24.842	.49894	4.8246	.24555
#2	.10107	.24907	.24828	2.0301	24.700	.50289	4.8928	.24640
#3	.10084	.24891	.24837	2.0310	24.787	.49578	4.9264	.25072
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	**.48670**	**38.859**	**.25558**	**4.7581**	**.25321**	**.60206**	**.19958**	**2.4850**
Stddev	.00050	.155	.00017	.0032	.00649	.00138	.00730	.0040
%RSD	.10244	.39966	.06735	.06742	2.5632	.22994	3.6600	.16245
#1	.48682	39.021	.25538	4.7603	.26064	.60355	.19631	2.4840
#2	.48615	38.846	.25567	4.7544	.24865	.60081	.19448	2.4816
#3	.48713	38.711	.25568	4.7595	.25034	.60183	.20795	2.4894
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703082601MSD Acquired: 3/16/2017 17:52:58 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG606460-05

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49835**	**.49676**	**.49564**	**.24600**	**.49705**	**.49347**	**.52359**
Stddev	.00205	.00066	.00518	.00403	.00195	.00142	.13267
%RSD	.41112	.13227	1.0457	1.6383	.39173	.28788	25.338
#1	.50072	.49643	.49181	.24936	.49774	.49226	.40089
#2	.49710	.49634	.49357	.24712	.49855	.49312	.66437
#3	.49724	.49752	.50154	.24153	.49485	.49504	.50551
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	**5003.5**	**62402.**	**5706.6**
Stddev	17.3	457.	45.6
%RSD	.34519	.73207	.79932
#1	5001.6	61910.	5657.5
#2	5021.6	62484.	5714.5
#3	4987.2	62812.	5747.7

Approved: March 17, 2017

Sample Name: L1703083901 Acquired: 3/16/2017 17:56:35 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00296**	**.19398**	**-.00093**	**.01335**	**.02342**	**-.00008**	**16.762**	**.00007**
Stddev	.00090	.00623	.00372	.00178	.00079	.00001	.098	.00015
%RSD	30.526	3.2137	400.58	13.356	3.3898	8.4852	.58299	217.36
#1	.00205	.19166	-.00521	.01200	.02251	-.00007	16.661	.00019
#2	.00386	.20104	.00093	.01268	.02397	-.00008	16.856	.00012
#3	.00297	.18924	.00150	.01537	.02378	-.00008	16.769	-.00010
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**	**.00043**	**-.00241**	**.11328**	**.65733**	**.00168**	**2.9571**	**.00266**
Stddev	.00048	.00053	.00240	.00450	.04584	.00135	.0988	.00029
%RSD	181.67	123.58	99.864	3.9684	6.9740	80.637	3.3418	10.767
#1	-.00073	.00104	-.00310	.11193	.70041	.00039	2.8441	.00298
#2	-.00030	.00012	-.00439	.10961	.60915	.00308	3.0276	.00244
#3	.00023	.00012	.00027	.11829	.66243	.00155	2.9996	.00255
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	**-.00007**	**2.4242**	**-.00033**	**.00613**	**.00881**	**-.00710**	**.00281**	**3.5799**
Stddev	.00109	.0396	.00081	.00789	.00501	.00796	.00364	.0039
%RSD	1653.3	1.6328	247.13	128.70	56.841	112.20	129.62	.10834
#1	-.00083	2.4389	-.00126	.01095	.00795	-.01431	.00690	3.5766
#2	.00118	2.4543	.00015	-.00298	.01419	.00144	-.00006	3.5788
#3	-.00055	2.3793	.00013	.01042	.00429	-.00841	.00158	3.5842
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703083901 Acquired: 3/16/2017 17:56:35 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00120**	**.04915**	**.00107**	**-.00815**	**-.00056**	**.03127**	**.24142**
Stddev	.00059	.00048	.00287	.00334	.00067	.00038	.19757
%RSD	48.917	.96721	268.39	41.007	119.01	1.2062	81.836
#1	.00088	.04865	.00033	-.00763	-.00129	.03096	.45925
#2	.00084	.04922	.00423	-.00510	-.00041	.03116	.07381
#3	.00188	.04959	-.00136	-.01173	.00002	.03169	.19120
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	**4950.6**	**61165.**	**5411.4**
Stddev	16.5	294.	75.7
%RSD	.33426	.48133	1.3987
#1	4956.4	61274.	5394.1
#2	4963.5	61389.	5345.9
#3	4931.9	60831.	5494.3

Approved: March 17, 2017

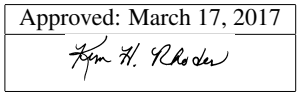
Sample Name: L1703084001 Acquired: 3/16/2017 18:00:18 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00181**	**.36542**	**-.00257**	**.01580**	**.02059**	**-.00014**	**18.396**	**.00021**
Stddev	.00111	.00324	.00046	.00174	.00042	.00005	.035	.00012
%RSD	61.392	.88741	17.927	11.035	2.0497	35.770	.19047	57.227
#1	.00153	.36188	-.00302	.01449	.02085	-.00019	18.433	.00034
#2	.00304	.36613	-.00210	.01512	.02081	-.00013	18.364	.00019
#3	.00087	.36825	-.00261	.01778	.02010	-.00009	18.391	.00010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00034**	**.00042**	**-.00108**	**.17346**	**.91157**	**.00344**	**3.5654**	**.00266**
Stddev	.00032	.00080	.00138	.01327	.07634	.00095	.1196	.00195
%RSD	93.555	193.28	127.79	7.6526	8.3749	27.753	3.3541	73.506
#1	.00000	.00129	.00029	.18855	.82465	.00373	3.6177	.00487
#2	-.00040	.00026	-.00105	.16829	.96776	.00237	3.4286	.00115
#3	-.00062	-.00030	-.00248	.16356	.94230	.00421	3.6500	.00196
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	**-.00013**	**3.4273**	**.00132**	**-.01133**	**.00636**	**-.00172**	**-.00267**	**3.6917**
Stddev	.00011	.0314	.00196	.00756	.00186	.00436	.00714	.0105
%RSD	85.508	.91705	148.64	66.779	29.166	252.86	266.88	.28539
#1	-.00026	3.4301	.00172	-.01931	.00449	-.00226	-.00964	3.6923
#2	-.00006	3.4573	.00304	-.00427	.00638	-.00579	.00462	3.6808
#3	-.00008	3.3946	-.00081	-.01040	.00820	.00288	-.00301	3.7019
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017



Sample Name: L1703084001 Acquired: 3/16/2017 18:00:18 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00055**	**.07206**	**.01164**	**-.00316**	**-.00008**	**.00230**	**.49084**
Stddev	.00016	.00025	.00689	.00885	.00113	.00124	.12753
%RSD	28.827	.34086	59.166	280.36	1468.2	53.835	25.982
#1	.00072	.07205	.01514	-.00140	.00112	.00373	.61742
#2	.00051	.07231	.01608	-.01275	-.00021	.00149	.36238
#3	.00041	.07182	.00371	.00468	-.00114	.00168	.49272
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	**5030.5**	**61420.**	**5400.7**
Stddev	40.4	132.	29.4
%RSD	.80392	.21494	.54444
#1	5045.9	61285.	5408.1
#2	5061.0	61549.	5425.8
#3	4984.7	61426.	5368.4

Approved: March 17, 2017

Sample Name: L1703084101 Acquired: 3/16/2017 18:04:02 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00508**	**.18686**	**-.00218**	**.05870**	**.50855**	**-.00007**	**61.229**	**.00024**
Stddev	.00087	.00469	.00462	.00096	.00130	.00003	.147	.00036
%RSD	17.053	2.5093	211.69	1.6339	.25597	40.256	.23939	147.15
#1	.00412	.18788	-.00345	.05759	.50705	-.00004	61.077	-.00014
#2	.00533	.19095	-.00604	.05924	.50926	-.00008	61.241	.00030
#3	.00580	.18174	.00294	.05927	.50934	-.00010	61.370	.00057
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00083**	**.00056**	**-.00114**	**.30947**	**1.7844**	**.01699**	**13.772**	**.02058**
Stddev	.00014	.00103	.00211	.01760	.0174	.00078	.241	.00287
%RSD	16.783	183.91	184.24	5.6866	.97704	4.5695	1.7475	13.949
#1	-.00094	.00170	-.00252	.32714	1.7684	.01642	13.544	.01737
#2	-.00089	-.00029	-.00220	.29194	1.8030	.01668	13.749	.02292
#3	-.00068	.00026	.00128	.30932	1.7818	.01788	14.024	.02144
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	**.00062**	**23.684**	**.00034**	**-.00885**	**.00094**	**.00168**	**.00412**	**5.6308**
Stddev	.00081	.079	.00244	.00944	.00243	.00621	.00336	.0237
%RSD	131.03	.33474	719.63	106.67	259.67	369.66	81.422	.42029
#1	-.00017	23.596	-.00140	-.01819	.00343	.00182	.00062	5.6070
#2	.00145	23.750	.00313	-.00905	.00081	.00781	.00731	5.6543
#3	.00058	23.707	-.00071	.00069	-.00143	-.00460	.00445	5.6310
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703084101 Acquired: 3/16/2017 18:04:02 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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**	**1.7964**	**.00143**	**-.00140**	**.00012**	**.00313**	**.14686**
Stddev	.00024	.0079	.00739	.00346	.00086	.00033	.13400
%RSD	125.15	.44036	516.03	246.33	704.52	10.658	91.243
#1	-.00008	1.7879	-.00710	.00244	-.00065	.00280	.27375
#2	.00027	1.7979	.00575	-.00237	-.00003	.00313	.00673
#3	.00038	1.8035	.00565	-.00427	.00105	.00347	.16011
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	**4922.5**	**60314.**	**5480.4**
Stddev	10.2	131.	38.4
%RSD	.20766	.21666	.70046
#1	4927.8	60180.	5464.8
#2	4910.7	60441.	5524.2
#3	4929.0	60322.	5452.3

Approved: March 17, 2017

Sample Name: L1703084201 Acquired: 3/16/2017 18:07:44 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00304**	**.12438**	**.00290**	**.02023**	**.12907**	**-.00009**	**83.357**	**.00045**
Stddev	.00127	.00360	.00311	.00376	.00120	.00005	.157	.00028
%RSD	41.935	2.8942	107.39	18.588	.93007	62.577	.18808	61.528
#1	.00447	.12842	.00293	.02390	.12829	-.00015	83.532	.00078
#2	.00204	.12152	-.00023	.02041	.13045	-.00006	83.312	.00029
#3	.00260	.12319	.00600	.01638	.12846	-.00005	83.228	.00030
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00047**	**-.00085**	**.00104**	**.27444**	**.82993**	**.00565**	**9.7432**	**.05854**
Stddev	.00015	.00100	.00162	.01929	.01837	.00178	.0958	.00029
%RSD	33.030	118.14	155.23	7.0301	2.2133	31.440	.98273	.49278
#1	-.00049	-.00026	-.00077	.29407	.83670	.00672	9.6812	.05848
#2	-.00060	-.00200	.00156	.27373	.80913	.00663	9.6949	.05829
#3	-.00030	-.00028	.00234	.25550	.84395	.00360	9.8535	.05886
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00010**	**20.625**	**.00040**	**-.00582**	**.00433**	**.00040**	**-.00940**	**4.1937**
Stddev	.00048	.132	.00108	.00441	.00107	.00818	.01117	.0231
%RSD	468.40	.63985	268.17	75.762	24.763	2052.9	118.93	.55055
#1	-.00035	20.759	.00136	-.01090	.00545	-.00625	-.00981	4.1688
#2	.00061	20.620	.00062	-.00364	.00332	.00953	-.02036	4.2144
#3	.00005	20.495	-.00077	-.00293	.00422	-.00208	.00198	4.1978
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703084201 Acquired: 3/16/2017 18:07:44 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00020**	**.32035**	**-.00357**	**-.00016**	**-.00033**	**.00178**	**.18622**
Stddev	.00063	.00058	.00134	.00121	.00067	.00018	.21250
%RSD	318.74	.18159	37.388	743.16	200.92	10.332	114.11
#1	.00001	.32087	-.00209	.00034	-.00109	.00175	.08888
#2	-.00091	.32045	-.00397	-.00154	-.00007	.00161	.03982
#3	.00030	.31972	-.00467	.00072	.00016	.00198	.42996
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	**4916.0**	**59028.**	**5406.9**
Stddev	20.0	464.	39.6
%RSD	.40596	.78530	.73240
#1	4925.7	58540.	5372.4
#2	4893.1	59081.	5450.1
#3	4929.3	59463.	5398.2

Approved: March 17, 2017

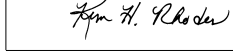
Sample Name: L1703084202 Acquired: 3/16/2017 18:11:28 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00448**	**.03088**	**-.00077**	**.02462**	**.32912**	**-.00010**	**70.053**	**-.00002**
Stddev	.00063	.00402	.00097	.00208	.00200	.00006	.373	.00047
%RSD	14.158	13.018	125.95	8.4483	.60817	58.713	.53264	2869.3
#1	.00517	.03326	-.00105	.02288	.32716	-.00016	69.692	.00032
#2	.00393	.03313	.00031	.02693	.33116	-.00010	70.437	.00018
#3	.00435	.02624	-.00157	.02407	.32904	-.00004	70.029	-.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	**.00006**	**.00170**	**-.00038**	**.29718**	**1.0737**	**.00639**	**10.837**	**.28122**
Stddev	.00066	.00041	.00204	.01055	.0527	.00066	.091	.00383
%RSD	1150.1	24.135	530.22	3.5513	4.9072	10.275	.83855	1.3634
#1	.00053	.00157	.00139	.29497	1.0508	.00570	10.742	.27802
#2	.00033	.00216	-.00261	.28791	1.0363	.00648	10.923	.28547
#3	-.00069	.00137	.00006	.30867	1.1339	.00700	10.845	.28016
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	**-.00023**	**27.944**	**.00048**	**.01108**	**.00567**	**-.00323**	**.00575**	**4.1856**
Stddev	.00012	.113	.00044	.00525	.00238	.00756	.00334	.0181
%RSD	50.655	.40392	92.664	47.418	42.066	234.00	58.053	.43145
#1	-.00036	27.819	.00027	.00629	.00534	-.01131	.00229	4.2049
#2	-.00017	28.038	.00098	.01670	.00346	.00366	.00895	4.1691
#3	-.00016	27.974	.00018	.01024	.00820	-.00204	.00601	4.1829
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017



Sample Name: L1703084202 Acquired: 3/16/2017 18:11:28 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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**	**.48486**	**-.00296**	**-.00570**	**-.00007**	**.00293**	**.12058**
Stddev	.00075	.00172	.00942	.00606	.00055	.00035	.15580
%RSD	87.958	.35520	318.02	106.49	798.58	12.024	129.21
#1	-.00005	.48400	.00083	-.00588	.00036	.00280	-.05664
#2	-.00153	.48684	.00397	.00046	-.00069	.00267	.18238
#3	-.00096	.48373	-.01368	-.01167	.00012	.00333	.23600
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	**4857.0**	**58267.**	**5455.0**
Stddev	11.8	991.	55.3
%RSD	.24347	1.7015	1.0143
#1	4864.7	58219.	5518.0
#2	4863.1	57301.	5414.3
#3	4843.4	59282.	5432.7

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 18:15:12 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.39962**	**10.308**	**.40091**	**.49927**	**1.0118**	**.05048**	**10.066**
Stddev	.00252	.034	.00162	.00222	.0025	.00015	.012
%RSD	.63091	.32942	.40480	.44383	.24994	.29696	.11762
#1	.39889	10.306	.39961	.50087	1.0096	.05044	10.077
#2	.40243	10.275	.40040	.50020	1.0146	.05036	10.066
#3	.39755	10.343	.40273	.49674	1.0113	.05065	10.054
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	**.05069**	**.20110**	**.50717**	**.50490**	**4.0351**	**50.891**	**1.0180**
Stddev	.00061	.00096	.00392	.00080	.0206	.118	.0067
%RSD	1.2053	.47720	.77328	.15882	.51010	.23216	.66034
#1	.04999	.20028	.50893	.50566	4.0557	50.788	1.0167
#2	.05104	.20087	.50268	.50406	4.0146	51.020	1.0253
#3	.05105	.20216	.50991	.50499	4.0350	50.864	1.0121
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	**9.9369**	**.49474**	**.99858**	**50.660**	**.50623**	**9.8374**	**.50190**
Stddev	.0956	.00211	.00176	.026	.00171	.0249	.00241
%RSD	.96220	.42622	.17618	.05204	.33746	.25278	.48068
#1	9.9984	.49293	.99972	50.689	.50749	9.8355	.49958
#2	9.8267	.49706	.99655	50.638	.50429	9.8135	.50439
#3	9.9855	.49423	.99946	50.652	.50692	9.8631	.50174
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 18:15:12 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**1.2134**	**.39679**	**4.9608**	**.99553**	**1.0080**	**1.0004**	**.51021**
Stddev	.0048	.00170	.0094	.00231	.0034	.0120	.00465
%RSD	.39313	.42766	.18905	.23215	.33870	1.1941	.91168
#1	1.2176	.39875	4.9649	.99503	1.0053	1.0022	.51453
#2	1.2082	.39586	4.9500	.99352	1.0119	1.0114	.50529
#3	1.2145	.39576	4.9674	.99806	1.0070	.98769	.51081
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**1.0088**	**1.0069**	F **.64624**
Stddev	.0029	.0015	.08867
%RSD	.28786	.14960	13.721
#1	1.0112	1.0073	.72916
#2	1.0056	1.0052	.65680
#3	1.0096	1.0082	.55276
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	**4922.0**	**58541.**	**5378.2**
Stddev	14.4	629.	27.5
%RSD	.29270	1.0739	.51189
#1	4937.7	59216.	5409.9
#2	4909.4	58434.	5360.6
#3	4918.9	57973.	5364.0

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 18:18:43 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00348**	**.00573**	**-.00224**	**.00398**	**.00056**	**-.00008**	**-.01075**
Stddev	.00071	.00325	.00297	.00117	.00065	.00004	.04011
%RSD	20.479	56.662	133.04	29.446	115.88	45.433	373.06
#1	.00309	.00525	-.00309	.00445	-.00019	-.00012	.03447
#2	.00431	.00920	.00107	.00265	.00088	-.00005	-.02471
#3	.00305	.00275	-.00469	.00485	.00100	-.00007	-.04202
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	**-.00023**	**.00025**	**-.00132**	**-.00121**	**.02003**	**.09596**	**.00490**
Stddev	.00007	.00010	.00029	.00093	.01805	.07629	.00167
%RSD	29.974	39.548	21.782	77.007	90.116	79.506	34.015
#1	-.00020	.00019	-.00149	-.00108	.00303	.17767	.00502
#2	-.00018	.00020	-.00149	-.00035	.01808	.02660	.00650
#3	-.00031	.00037	-.00099	-.00219	.03897	.08360	.00317
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	**.02981**	**.00077**	**-.00035**	**.08511**	**-.00012**	**.00118**	**.00437**
Stddev	.06050	.00088	.00019	.02518	.00125	.00832	.00292
%RSD	202.97	114.30	54.127	29.590	1047.5	702.04	66.723
#1	-.00668	.00141	-.00054	.11358	.00108	.00243	.00135
#2	-.00354	-.00023	-.00016	.06573	-.00142	.00881	.00717
#3	.09965	.00113	-.00035	.07603	-.00003	-.00768	.00460
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 18:18:43 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00396**	**-.00885**	**.00208**	**-.00085**	**-.00002**	**-.00063**	**-.00510**
Stddev	.00893	.00430	.00274	.00152	.00034	.00331	.00642
%RSD	225.52	48.599	132.01	178.97	1381.8	521.89	125.74
#1	-.00383	-.00721	.00134	-.00256	.00033	.00318	-.01080
#2	.00200	-.01374	-.00022	-.00037	-.00007	-.00235	.00185
#3	.01371	-.00562	.00512	.00037	-.00034	-.00273	-.00636
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.00046**	**-.00007**	F **-.10665**
Stddev	.00086	.00015	.30430
%RSD	186.42	234.18	285.34
#1	-.00035	-.00005	-.26737
#2	.00136	-.00022	-.29689
#3	.00037	.00008	.24432
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	**4968.3**	**60296.**	**5349.6**
Stddev	14.1	114.	2.6
%RSD	.28454	.18939	.04886
#1	4952.0	60390.	5351.8
#2	4976.1	60328.	5350.1
#3	4976.9	60169.	5346.7

Approved: March 17, 2017

Sample Name: L1703084301 Acquired: 3/16/2017 18:22:29 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00364**	**1.0097**	**.00079**	**.02655**	**.06559**	**-.00009**	**18.233**	**.00022**
Stddev	.00068	.0019	.00649	.00114	.00063	.00008	.058	.00030
%RSD	18.761	.18756	823.01	4.2928	.96623	79.862	.31777	137.80
#1	.00309	1.0119	.00599	.02524	.06543	-.00003	18.286	.00025
#2	.00343	1.0086	-.00649	.02717	.06629	-.00018	18.242	-.00010
#3	.00441	1.0086	.00287	.02725	.06506	-.00008	18.171	.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	**-.00003**	**.00121**	**.00443**	**1.2637**	**1.9199**	**.00625**	**2.8878**	**.01892**
Stddev	.00058	.00079	.00064	.0085	.0631	.00222	.0288	.00020
%RSD	1887.1	65.175	14.517	.67599	3.2862	35.522	.99836	1.0711
#1	.00040	.00107	.00477	1.2728	1.8675	.00853	2.9196	.01869
#2	.00019	.00206	.00369	1.2625	1.9024	.00611	2.8805	.01909
#3	-.00069	.00050	.00483	1.2559	1.9899	.00410	2.8634	.01897
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	**.00051**	**15.991**	**.00041**	**.04684**	**.00641**	**-.00397**	**-.00504**	**3.6028**
Stddev	.00040	.038	.00124	.00434	.00189	.00331	.00578	.0247
%RSD	79.515	.23994	303.34	9.2554	29.415	83.476	114.77	.68433
#1	.00058	15.982	.00036	.04998	.00753	-.00282	-.01136	3.6117
#2	.00007	16.033	.00167	.04866	.00747	-.00770	-.00000	3.5749
#3	.00087	15.958	-.00081	.04190	.00423	-.00138	-.00376	3.6218
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703084301 Acquired: 3/16/2017 18:22:29 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00057**	**.11166**	**.02013**	**-.00163**	**.00135**	**.00976**	**.70613**
Stddev	.00113	.00021	.00160	.00079	.00080	.00214	.19267
%RSD	199.56	.18440	7.9631	48.495	59.471	21.883	27.286
#1	-.00069	.11152	.02048	-.00086	.00212	.00885	.51007
#2	.00062	.11190	.01838	-.00160	.00141	.00823	.89523
#3	-.00163	.11157	.02153	-.00244	.00052	.01220	.71309
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	**4930.1**	**61128.**	**5438.8**
Stddev	91.5	118.	99.4
%RSD	1.8555	.19322	1.8283
#1	4840.9	61202.	5399.2
#2	5023.7	61190.	5365.3
#3	4925.6	60992.	5551.9

Approved: March 17, 2017

Sample Name: L1703084302 Acquired: 3/16/2017 18:26:12 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00299**	**.31479**	**.00089**	**.01124**	**.05686**	**-.00002**	**51.533**	**.00004**
Stddev	.00106	.00273	.00502	.00122	.00056	.00002	.140	.00022
%RSD	35.468	.86597	566.25	10.858	.97967	83.517	.27177	558.70
#1	.00184	.31618	.00528	.01260	.05628	-.00000	51.534	.00016
#2	.00394	.31165	.00196	.01091	.05689	-.00003	51.392	-.00022
#3	.00319	.31653	-.00458	.01023	.05739	-.00003	51.672	.00018
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	**-.00032**	**.00008**	**.00045**	**.22399**	**.86506**	**.00259**	**6.0117**	**.00613**
Stddev	.00039	.00088	.00202	.00603	.06912	.00248	.0499	.00238
%RSD	123.26	1040.5	450.72	2.6899	7.9896	95.943	.82953	38.800
#1	-.00047	-.00022	-.00102	.21723	.94486	-.00023	5.9614	.00355
#2	.00013	-.00060	-.00040	.22594	.82469	.00446	6.0125	.00661
#3	-.00060	.00107	.00276	.22880	.82562	.00353	6.0612	.00824
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	**.00039**	**3.1784**	**.00044**	**.01616**	**.00069**	**-.00335**	**-.00411**	**3.7155**
Stddev	.00025	.0348	.00102	.00407	.00355	.00158	.00467	.0053
%RSD	65.777	1.0934	233.17	25.202	512.44	47.044	113.57	.14287
#1	.00045	3.2072	-.00064	.01151	.00426	-.00480	-.00235	3.7109
#2	.00060	3.1398	.00138	.01786	-.00284	-.00357	-.00058	3.7213
#3	.00011	3.1881	.00057	.01911	.00067	-.00167	-.00940	3.7143
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703084302 Acquired: 3/16/2017 18:26:12 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00013**	**.15114**	**.00361**	**-.00315**	**.00044**	**.00204**	**.37005**
Stddev	.00031	.00020	.00363	.00543	.00115	.00010	.17983
%RSD	228.39	.13374	100.43	172.18	262.20	4.9339	48.596
#1	.00048	.15092	-.00045	-.00661	.00080	.00211	.50751
#2	-.00001	.15120	.00652	.00311	-.00085	.00192	.16653
#3	-.00008	.15131	.00477	-.00595	.00137	.00207	.43610
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	**4935.3**	**60687.**	**5455.5**
Stddev	19.3	239.	19.3
%RSD	.39087	.39404	.35308
#1	4919.9	60543.	5476.5
#2	4929.0	60963.	5451.3
#3	4956.9	60555.	5438.7

Approved: March 17, 2017

Sample Name: L1703084303 Acquired: 3/16/2017 18:29:55 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00425**	**.17915**	**-.00090**	**.00980**	**.03206**	**-.00007**	**31.678**	**-.00000**
Stddev	.00154	.00627	.00400	.00321	.00055	.00011	.213	.00021
%RSD	36.240	3.5004	446.05	32.771	1.7233	169.62	.67179	9369.4
#1	.00252	.18318	-.00265	.01342	.03165	-.00015	31.450	.00024
#2	.00546	.18234	-.00372	.00730	.03185	.00006	31.712	-.00010
#3	.00478	.17192	.00368	.00867	.03269	-.00012	31.872	-.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	**-.00060**	**-.00134**	**-.00150**	**.08398**	**.68594**	**-.00023**	**4.2781**	**.00226**
Stddev	.00019	.00022	.00072	.02511	.01316	.00366	.1877	.00074
%RSD	31.382	16.352	48.226	29.904	1.9183	1583.7	4.3880	32.954
#1	-.00081	-.00110	-.00197	.11297	.67078	.00345	4.1477	.00161
#2	-.00051	-.00140	-.00186	.06904	.69267	-.00027	4.1934	.00307
#3	-.00046	-.00152	-.00067	.06992	.69438	-.00387	4.4933	.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	**.00027**	**2.1863**	**.00078**	**.00265**	**.00467**	**.00125**	**-.00018**	**2.7024**
Stddev	.00028	.0210	.00162	.00760	.00709	.00520	.00290	.0046
%RSD	105.67	.96007	207.94	286.52	151.75	417.42	1576.4	.17136
#1	.00047	2.1836	-.00097	-.00602	-.00349	-.00419	.00284	2.7075
#2	-.00006	2.2086	.00108	.00581	.00929	.00617	-.00296	2.6985
#3	.00039	2.1669	.00223	.00817	.00820	.00175	-.00043	2.7013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703084303 Acquired: 3/16/2017 18:29:55 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00051**	**.06709**	**.00350**	**-.00359**	**-.00066**	**.00139**	**.32447**
Stddev	.00184	.00119	.00822	.00285	.00022	.00024	.13065
%RSD	359.15	1.7718	235.15	79.513	33.218	17.348	40.267
#1	.00039	.06591	.01237	-.00335	-.00069	.00111	.42421
#2	-.00263	.06707	-.00386	-.00086	-.00087	.00157	.37262
#3	.00070	.06828	.00198	-.00655	-.00043	.00147	.17657
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	**4969.5**	**60955.**	**5405.2**
Stddev	26.8	204.	39.4
%RSD	.54002	.33449	.72967
#1	4973.6	60745.	5413.4
#2	4994.0	60969.	5439.9
#3	4940.8	61152.	5362.3

Approved: March 17, 2017

Sample Name: L1703084304 Acquired: 3/16/2017 18:33:39 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00286**	**.17693**	**.00023**	**.01482**	**.04383**	**-.00011**	**39.608**	**.00004**
Stddev	.00252	.00424	.00194	.00047	.00060	.00014	.124	.00038
%RSD	88.026	2.3991	847.31	3.1466	1.3672	124.22	.31227	1034.7
#1	.00575	.17388	.00067	.01430	.04428	-.00023	39.742	.00005
#2	.00113	.18178	.00191	.01521	.04315	-.00015	39.498	-.00035
#3	.00170	.17513	-.00190	.01495	.04407	.00004	39.585	.00041
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**	**-.00020**	**-.00231**	**.09138**	**.94240**	**.00018**	**7.4040**	**.00511**
Stddev	.00040	.00056	.00085	.01053	.03175	.00548	.0581	.00348
%RSD	154.36	281.16	36.744	11.526	3.3694	3017.1	.78439	68.096
#1	-.00020	.00007	-.00326	.10153	.90615	-.00198	7.3834	.00421
#2	.00011	-.00084	-.00164	.08050	.95580	.00642	7.4696	.00217
#3	-.00068	.00018	-.00202	.09210	.96526	-.00389	7.3591	.00895
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**	**3.4152**	**-.00003**	**.00600**	**.00236**	**.00082**	**-.00206**	**3.1923**
Stddev	.00065	.0242	.00295	.00623	.00088	.00432	.01056	.0049
%RSD	207.04	.70887	10780.	103.87	37.287	527.65	511.79	.15190
#1	-.00043	3.3936	-.00178	.00085	.00245	-.00165	-.01416	3.1867
#2	.00059	3.4414	.00338	.00423	.00319	.00581	.00270	3.1950
#3	.00078	3.4107	-.00168	.01293	.00144	-.00170	.00527	3.1952
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703084304 Acquired: 3/16/2017 18:33:39 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	.00040	.13749	.00506	-.00173	.00002	.00486	.14623
Stddev	.00051	.00031	.00184	.00172	.00034	.00026	.06197
%RSD	128.14	.22797	36.274	99.332	1678.4	5.3285	42.379
#1	.00057	.13781	.00397	-.00316	-.00034	.00516	.10581
#2	.00080	.13747	.00718	.00018	.00034	.00475	.21758
#3	-.00018	.13719	.00404	-.00221	.00006	.00468	.11530
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	4938.9	60800.	5435.7
Stddev	40.8	308.	92.7
%RSD	.82694	.50646	1.7046
#1	4960.3	60912.	5334.1
#2	4964.5	61036.	5515.5
#3	4891.8	60452.	5457.5

Approved: March 17, 2017

Sample Name: L1703074305 Acquired: 3/16/2017 18:37:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00447**	**.07069**	**.00017**	**.01514**	**.06941**	**-.00014**	**46.689**	**.00014**
Stddev	.00145	.00235	.00501	.00185	.00038	.00006	.312	.00023
%RSD	32.360	3.3255	2901.3	12.244	.54236	42.847	.66748	156.92
#1	.00294	.07339	.00565	.01710	.06982	-.00009	46.822	-.00011
#2	.00465	.06948	-.00419	.01342	.06908	-.00020	46.912	.00023
#3	.00582	.06918	-.00094	.01490	.06933	-.00012	46.333	.00032
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00072**	**-.00132**	**.00069**	**.04491**	**.69504**	**.00251**	**7.6845**	**.00736**
Stddev	.00044	.00146	.00111	.00435	.03180	.00453	.0655	.00149
%RSD	61.103	110.93	161.70	9.6973	4.5746	180.82	.85268	20.197
#1	-.00021	-.00128	.00197	.04764	.69214	-.00268	7.7491	.00876
#2	-.00094	.00012	-.00005	.03989	.66480	.00451	7.6862	.00580
#3	-.00100	-.00281	.00015	.04720	.72819	.00569	7.6181	.00751
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**	**44.438**	**-.00057**	**-.00589**	**.00528**	**-.00112**	**-.00130**	**3.3279**
Stddev	.00036	.439	.00243	.00905	.00208	.00769	.00573	.0048
%RSD	71.882	.98718	426.13	153.53	39.332	688.03	442.11	.14406
#1	.00035	44.707	.00134	-.00014	.00712	.00603	-.00105	3.3319
#2	.00024	44.676	.00026	-.01633	.00570	-.00926	-.00714	3.3293
#3	.00091	43.932	-.00331	-.00122	.00303	-.00013	.00431	3.3226
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: March 17, 2017

Sample Name: L1703074305 Acquired: 3/16/2017 18:37:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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**	**.26076**	**-.00091**	**-.00274**	**.00033**	**.00119**	**.15437**
Stddev	.00059	.00077	.00914	.00327	.00102	.00009	.15317
%RSD	64.458	.29626	1009.1	119.24	309.95	7.2732	99.226
#1	.00036	.26161	-.00058	.00091	.00066	.00113	.05321
#2	.00153	.26058	-.01020	-.00540	.00113	.00129	.33060
#3	.00084	.26009	.00806	-.00374	-.00081	.00116	.07930
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	**4909.1**	**58833.**	**5308.9**
Stddev	16.8	544.	123.2
%RSD	.34289	.92536	2.3204
#1	4905.5	59333.	5301.0
#2	4927.5	58914.	5189.8
#3	4894.4	58253.	5435.8

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 18:41:06 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.40268**	**10.413**	**.40460**	**.50401**	**1.0117**	**.05125**	**9.9942**
Stddev	.00172	.009	.00354	.00621	.0017	.00005	.0564
%RSD	.42615	.08376	.87564	1.2320	.16289	.09421	.56447
#1	.40185	10.423	.40207	.50885	1.0100	.05128	9.9908
#2	.40154	10.408	.40865	.50617	1.0133	.05127	10.052
#3	.40465	10.408	.40308	.49701	1.0117	.05119	9.9395
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	**.05119**	**.20259**	**.51286**	**.50718**	**4.0506**	**50.717**	**1.0119**
Stddev	.00048	.00098	.00192	.00273	.0223	.178	.0036
%RSD	.94288	.48364	.37364	.53741	.54994	.35160	.35366
#1	.05103	.20203	.51457	.50404	4.0250	50.743	1.0078
#2	.05081	.20202	.51323	.50878	4.0615	50.881	1.0137
#3	.05173	.20372	.51079	.50873	4.0654	50.527	1.0143
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	**9.9234**	**.49634**	**1.0006**	**50.398**	**.50999**	**9.9867**	**.50442**
Stddev	.2231	.00589	.0008	.076	.00153	.0104	.00332
%RSD	2.2482	1.1870	.08424	.15101	.30005	.10403	.65778
#1	10.181	.50299	1.0016	50.473	.51172	9.9920	.50319
#2	9.8003	.49423	.99998	50.321	.50942	9.9747	.50189
#3	9.7890	.49179	1.0003	50.398	.50883	9.9934	.50817
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: March 17, 2017

Sample Name: CCV Acquired: 3/16/2017 18:41:06 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**1.2175**	**.39810**	**4.9859**	**1.0054**	**1.0040**	**.99426**	**.51422**
Stddev	.0095	.00838	.0038	.0042	.0035	.00252	.00407
%RSD	.77874	2.1038	.07696	.41231	.35107	.25368	.79077
#1	1.2150	.40230	4.9815	1.0086	1.0055	.99554	.51478
#2	1.2280	.40354	4.9885	1.0007	1.0065	.99135	.51797
#3	1.2096	.38846	4.9878	1.0069	1.00000	.99588	.50990
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**1.0175**	**1.0225**	F **.82275**
Stddev	.0016	.0011	.16450
%RSD	.15786	.10838	19.994
#1	1.0157	1.0237	.97628
#2	1.0181	1.0218	.64913
#3	1.0188	1.0218	.84283
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	**4927.3**	**58571.**	**5434.2**
Stddev	42.1	194.	33.1
%RSD	.85344	.33104	.60876
#1	4879.9	58559.	5431.0
#2	4960.2	58384.	5468.8
#3	4941.8	58771.	5402.9

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 18:44:39 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00213**	**.00296**	**-.00060**	**.00224**	**.00013**	**-.00011**	**.00074**
Stddev	.00289	.00457	.00172	.00131	.00031	.00009	.01172
%RSD	135.95	154.49	284.99	58.636	238.48	82.370	1577.6
#1	.00528	-.00182	-.00257	.00320	.00001	-.00003	.00773
#2	.00151	.00341	.00061	.00074	.00048	-.00021	.00729
#3	-.00041	.00728	.00015	.00278	-.00010	-.00009	-.01279
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00017**	**-.00034**	**-.00040**	**-.00130**	**.01628**	**.06029**	**.00126**
Stddev	.00036	.00058	.00175	.00273	.00989	.02580	.00192
%RSD	207.98	172.48	435.07	209.73	60.774	42.795	152.73
#1	-.00047	-.00072	-.00241	-.00137	.01792	.03746	-.00096
#2	-.00027	.00033	.00035	.00146	.00567	.05512	.00230
#3	.00023	-.00063	.00085	-.00399	.02525	.08828	.00243
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	**-.00148**	**.00172**	**.00064**	**.07540**	**-.00065**	**.00128**	**.00376**
Stddev	.04124	.00366	.00041	.01855	.00169	.00982	.00417
%RSD	2780.1	212.39	63.848	24.596	259.93	765.65	110.99
#1	-.01841	.00452	.00101	.09054	.00060	.00506	.00173
#2	-.03157	.00306	.00020	.08095	.00002	-.00987	.00855
#3	.04553	-.00242	.00070	.05472	-.00258	.00866	.00099
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: March 17, 2017

Sample Name: CCB Acquired: 3/16/2017 18:44:39 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v297) 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	**.00026**	**-.00549**	**.00388**	**-.00018**	**-.00023**	**-.00028**	**-.00781**
Stddev	.00614	.00639	.00222	.00093	.00020	.00494	.00160
%RSD	2352.5	116.49	57.069	508.97	85.723	1758.1	20.499
#1	.00666	-.01283	.00451	-.00109	-.00043	.00179	-.00928
#2	-.00029	-.00248	.00142	.00077	-.00022	-.00592	-.00610
#3	-.00558	-.00116	.00572	-.00023	-.00004	.00329	-.00806
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	**.00076**	**-.00019**	F **-.19160**
Stddev	.00048	.00028	.09872
%RSD	63.375	148.34	51.521
#1	.00124	-.00007	-.20472
#2	.00028	-.00051	-.28311
#3	.00076	.00001	-.08699
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	**5006.5**	**61061.**	**5441.8**
Stddev	7.4	25.	22.5
%RSD	.14688	.04046	.41379
#1	4998.3	61088.	5465.2
#2	5008.9	61039.	5420.2
#3	5012.4	61058.	5440.1

Approved: March 17, 2017

2.3.2 Metals ICP-MS Data

2.3.2.1 Summary Data

Microbac

Lab Report #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030724-01	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	LH18/24-SP650-6423-GRAB	**Prep Method:**	3015	**Prep Date:**	03/15/2017 08:03
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	03/15/2017 14:33
Workgroup #:	WG606367	**Analyst:**	JYH	**Run Date:**	03/15/2017 15:16
Collect Date:	03/13/2017 15:00	**Dilution:**	1	**File ID:**	NI.031517.151648
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Barium, Total	7440-39-3	0.114		0.00600	0.00300	0.00150
Lead, Total	7439-92-1	0.00100	U	0.00200	0.00100	0.000500
Silver, Total	7440-22-4	0.00100	U	0.00200	0.00100	0.000500

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

Microbac

Lab Report #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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: WG606254
Analyst: VC
Spike Analyst: VC
Run Date: 03/15/2017 08:03
Method: 3015
Balance: BAL016
Instrument: MW-3
Instrument Start: 03/15/2017 08:07

SOP: ME407 Revison 19
Spike Solution: STD78216
Spike Witness: ERP
40 & 50 ML. DIGESTION TU: COA19487
HNO3 Lot #: COA19483
MS Filters- fisher-Lot#R: RGT38288

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG606254-02	BLANK	1	20 mL	50 mL	183.506 g	183.503 g		
2	WG606254-03	LCS	1	20 mL	50 mL	185.393 g	185.361 g	.25 mL	
3	L17030705-01	SAMP	1	20 mL	50 mL	182.463 g	182.45 g		03/16/17
4	WG606254-01	REF	1	20 mL	50 mL	182.184 g	182.181 g		
5	L17030723-01	SAMP	1	20 mL	50 mL	182.184 g	182.181 g		03/24/17
6	L17030724-01	SAMP	1	20 mL	50 mL	184.781 g	184.774 g		03/24/17
7	WG606254-04	MS	1	20 mL	50 mL	184.714 g	184.703 g	.25 mL	
8	WG606254-05	MSD	1	20 mL	50 mL	182.508 g	182.496 g	.25 mL	

WG606254-04	FILTERED DIGESTATE
WG606254-05	FILTERED DIGESTATE
L17030705-01	FILTERED DIGESTATE
L17030723-01	FILTERED DIGESTATE
WG606254-01	FILTERED DIGESTATE
L17030724-01	FILTERED DIGESTATE

Analyst: Vicki Collins

Reviewer: Erin Potter

MW_DIG - Modified 09/30/2009
PDF ID: 5198040
Report generated: 03/15/2017 09:11

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 031517A.REP
Analyst1: JYH Analyst2: N/A
Method: 6020/6020A/200.8 SOP: ME700A Rev: 3
Maintenance Log ID:

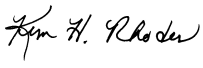
Calibration Std: STD80851 ICV Std: STD80849 Post Spike: STD79415
ICSA: STD80854 ICSAB: STD80855 Int. Std: RGT39300
CCV: STD80850 LLCCV: STD80853 Tuning Sol : STD80856
Stannous : Hydroxylamine :

Workgroups: 606367

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	NI.031517.142101	Blank	Blank		1		03/15/17 14:21
2	NI.031517.142407	WG606470-01	Calibration Point		1		03/15/17 14:24
3	NI.031517.142712	WG606470-02	Calibration Point		1		03/15/17 14:27
4	NI.031517.143017	WG606470-03	Calibration Point		1		03/15/17 14:30
5	NI.031517.143322	WG606470-04	Calibration Point		1		03/15/17 14:33
6	NI.031517.143629	WG606470-05	Initial Calibration Verification		1		03/15/17 14:36
7	NI.031517.143936	WG606470-06	Initial Calib Blank		1		03/15/17 14:39
8	NI.031517.144243	WG606470-07	Low Level Initial Calibration V		1		03/15/17 14:42
9	NI.031517.144549	WG606470-08	Interference Check		1		03/15/17 14:45
10	NI.031517.144854	WG606470-09	Interference Check		1		03/15/17 14:48
11	NI.031517.145201	WG606470-10	CCV		1		03/15/17 14:52
12	NI.031517.145506	WG606470-11	CCB		1		03/15/17 14:55
13	NI.031517.145813	WG606254-02	Method/Prep Blank	20/50	1		03/15/17 14:58
14	NI.031517.150119	WG606254-03	Laboratory Control S	20/50	1		03/15/17 15:01
15	NI.031517.150427	L17030705-01	\#2 LF SUPERNATE	20/50	1		03/15/17 15:04
16	NI.031517.150732	L17030723-01	LH18/24-SP140-7423-GRAB		1	WG606254-01	03/15/17 15:07
17	NI.031517.151037	WG606254-04	Matrix Spike	20/50	1	L17030723-01	03/15/17 15:10
18	NI.031517.151343	WG606254-05	Matrix Spike Duplica	20/50	1	L17030723-01	03/15/17 15:13
19	NI.031517.151648	L17030724-01	LH18/24-SP650-6423-GRAB	20/50	1		03/15/17 15:16
20	NI.031517.151954	WG606367-01	Post Digestion Spike		1	L17030724-01	03/15/17 15:19
21	NI.031517.152300	WG606367-02	Serial Dilution		5	L17030724-01	03/15/17 15:23
22	NI.031517.152604	WG606367-02	Serial Dilution		25	L17030724-01	03/15/17 15:26
23	NI.031517.152912	WG606470-12	CCV		1		03/15/17 15:29
24	NI.031517.153217	WG606470-13	CCB		1		03/15/17 15:32
25	NI.031517.153856	WG606367-03	Post Digestion Spike		1	L17030705-01	03/15/17 15:38
26	NI.031517.154203	WG606367-04	Serial Dilution		5	L17030705-01	03/15/17 15:42
27	NI.031517.154508	WG606367-04	Serial Dilution		25	L17030705-01	03/15/17 15:45
28	NI.031517.154815	WG606470-14	CCV		1		03/15/17 15:48
29	NI.031517.155121	WG606470-15	CCB		1		03/15/17 15:51
30	NI.031517.155428	WG606470-16	Low Level Continuing Calibra		1		03/15/17 15:54

Page: 1 Approved: March 16, 2017



Microbac Laboratories Inc.

Data Checklist

Date: 15-MAR-2017
Analyst: JYH
Analyst: NA
Method: 6020/6020A/200.8
Instrument: ICP-MS2
Curve Workgroup: 606470
Runlog ID: 80997
Analytical Workgroups: 606367

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	723,724
Client Forms	X
Level X	
Level 3	
Level 4	723,724
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	JYH
Secondary Reviewer	KHR
Comments	

Primary Reviewer:

Secondary Reviewer:
16-MAR-2017

CHECKLIST1 - Modified 03/05/2008
Generated: MAR-16-2017 10:33:50

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6020A AAB#: WG606367

Login Number: L17030724

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
LH18/24-SP650-6423-GRAB	01	03/13/17					03/15/2017	1.7	180		03/15/17	2	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5201169
Report generated 03/16/2017 09:53

METHOD BLANK SUMMARY

Login Number:	L17030724	**Work Group:**	WG606367
Blank File ID:	NI.031517.145813	**Blank Sample ID:**	WG606254-02
Prep Date:	03/15/17 08:03	**Instrument ID:**	ICP-MS2
Analyzed Date:	03/15/17 14:58	**Method:**	6020A
Analyst:	JYH		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG606254-03	NI.031517.150119	03/15/17 15:01	01
LH18/24-SP650-6423-GRAB	L17030724-01	NI.031517.151648	03/15/17 15:16	01

Report Name: BLANK_SUMMARY
PDF File ID: 5201170
Report generated 03/16/2017 09:53

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L17030724 Prep Date: 03/15/17 08:03 Sample ID: WG606254-02
Instrument ID: ICP-MS2 Run Date: 03/15/17 14:58 Prep Method: 3015
File ID: NI.031517.145813 Analyst: JYH Method: 6020A
Workgroup (AAB#): WG606367 Matrix: Water Units: mg/L
Contract #: Cal ID: ICP-MS-15-MAR-17

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Barium, Total	0.00150	0.00600	0.00150	1	U
Lead, Total	0.000500	0.00200	0.000500	1	U
Silver, Total	0.000500	0.00200	0.000500	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: 5201171
16-MAR-2017 09:53

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17030724 Run Date: 03/15/2017 Sample ID: WG606254-03
Instrument ID: ICP-MS2 Run Time: 15:01 Prep Method: 3015
File ID: NI.031517.150119 Analyst: JYH Method: 6020A
Workgroup (AAB#): WG606367 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD78216 Cal ID: ICP-MS-15-MAR-17

Analytes	Expected	Found	% Rec	LCS Limits	Q
Barium, Total	0.125	0.122	97.9	80 - 120	
Lead, Total	0.125	0.124	99.2	80 - 120	
Silver, Total	0.125	0.124	99.6	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 5201172
Report generated: 03/16/2017 09:53

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

Loginnum:L17030724 Cal ID:ICP-MS2- Worknum:WG606367
Instrument ID:ICP-MS2 Contract #: Method:6020A
Parent ID:WG606254-01 File ID:NI.031517.150732 Dil:1 Matrix:WATER
Sample ID:WG606254-04 MS File ID:NI.031517.151037 Dil:1 Units:mg/L
Sample ID:WG606254-05 MSD File ID:NI.031517.151343 Dil:1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Barium, Total	0.166	0.125	0.294	103	0.125	0.287	97.0	2.42	80 - 120	20	
Lead, Total	ND	0.125	0.127	101	0.125	0.130	104	2.40	80 - 120	20	
Silver, Total	ND	0.125	0.116	92.7	0.125	0.117	93.5	0.777	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: 5201173
Report generated 03/16/2017 10:54

Microbac Laboratories Inc.
Serial Dilution Report

Login: L17030724 **Worknum:** WG606367
Instrument: ICP-MS2 **Method:** 6020A
Serial Dil: WG606367-02 **File ID:** NI.031517.152300 **Dil:** 5 **Units:** ug/L
Sample: L17030724-01 **File ID:** NI.031517.151648 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Barium	45.5	X	47.3	X	3.96	
Lead	ND	U	ND	U		
Silver	ND	U	ND	U		

U = Result is below MDL.
F = Result is greater than or equal to MDL and less than the RL.
X = Result is greater than or equal to RL and less than 100 times the MDL.
E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 100 times the MDL.

SERIAL_DIL - Modified 09/22/2008
PDF File ID: 5201167
03/16/2017 09:53

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L17030724 **Worknum:** WG606367
Instrument ID: ICP-MS2 **Method:** 6020A
Post Spike ID: WG606367-01 **File ID:** NI.031517.151954 **Dil:** 1 **Units:** ug/L
Sample ID: L17030724-01 **File ID:** NI.031517.151648 **Dil:** 1 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
BARIUM	96.7		45.5		50	102.6	75 - 125	
LEAD	53.2		0	U	50	106.3	75 - 125	
SILVER	48.4		0	U	50	96.8	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: 5201168
Report generated: 03/16/2017 09:53

Microbac Laboratories Inc.
Initial Calibration Summary

Login:	**L17030724**	Workgroup (AAB#):	**WG606367**
Analytical Method:	**6020A**	Instrument ID:	**ICP-MS2**
ICAL Worknum:	**WG606470**	Initial Calibration Date:	**15-MAR-2017 14:33**

	WG606470-01		WG606470-02		WG606470-03		WG606470-04			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
BARIUM	0	43.7	.4	143	50	105000	100	201000	.999883	
LEAD	0	965	.4	1640	50	661000	100	1280000	.999926	
SILVER	0	117	.4	487	50	353000	100	669000	.999784	

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: 5201176
Report generated: 16-MAR-2017 09:53

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L17030724 Run Date: 03/15/2017 Sample ID: WG606470-06
Instrument ID: ICP-MS2 Run Time: 14:39 Method: 6020A
File ID: NI.031517.143936 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG606367 Cal ID: ICP-MS2 - 15-MAR-17
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
SILVER	.2	.8	.2	U
BARIUM	.6	2.4	.6	U
LEAD	.2	.8	.2	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: 5201178
Report generated 03/16/2017 09:53

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L17030724 | Run Date: 03/15/2017 | Sample ID: WG606470-11
Instrument ID: ICP-MS2 | Run Time: 14:55 | Method: 6020A
File ID: NI.031517.145506 | Analyst: JYH | Units: ug/L
Workgroup (AAB#): WG606367 | Cal ID: ICP-MS - 15-MAR-17
Matrix: WATER | QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Barium	0.600	2.40	0.600	U
Lead	0.200	0.800	0.200	U
Silver	0.200	0.800	0.200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 5201181
Report generated 03/16/2017 09:53

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L17030724	**Run Date:**	03/15/2017	**Sample ID:**	WG606470-13
Instrument ID:	ICP-MS2	**Run Time:**	15:32	**Method:**	6020A
File ID:	NI.031517.153217	**Analyst:**	JYH	**Units:**	ug/L
Workgroup (AAB#):	WG606367	**Cal ID:**	ICP-MS - 15-MAR-17		
Matrix:	WATER	**QAPP:**	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Barium	0.600	2.40	0.600	U
Lead	0.200	0.800	0.200	U
Silver	0.200	0.800	0.200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 5201181
Report generated 03/16/2017 09:53

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L17030724 | Run Date: 03/15/2017 | Sample ID: WG606470-15
Instrument ID: ICP-MS2 | Run Time: 15:51 | Method: 6020A
File ID: NI.031517.155121 | Analyst: JYH | Units: ug/L
Workgroup (AAB#): WG606367 | Cal ID: ICP-MS - 15-MAR-17
Matrix: WATER | QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Barium	0.600	2.40	0.600	U
Lead	0.200	0.800	0.200	U
Silver	0.200	0.800	0.200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 5201181
Report generated 03/16/2017 09:53

Microbac Laboratories Inc.

INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L17030724 Run Date: 03/15/2017 Sample ID: WG606470-05
Instrument ID: ICP-MS2 Run Time: 14:36 Method: 6020A
File ID: NI.031517.143629 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG606367 Cal ID: ICP-MS - 15-MAR-17
QC Key: DOD4

Analyte		Expected	Found	%REC	LIMITS	Q
Barium		50	50.0	100	90 - 110	
Lead		50	50.2	100	90 - 110	
Silver		50	49.9	99.8	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 5201177
Report generated 03/16/2017 09:53

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17030724 Run Date: 03/15/2017 Sample ID: WG606470-10
Instrument ID: ICP-MS2 Run Time: 14:52 Method: 6020A
File ID: NI.031517.145201 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG606367 Cal ID: ICP-MS - 15-MAR-17
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Barium		0.0500	0.0495	mg/L	99.0	90 - 110		
Lead		0.0500	0.0500	mg/L	100	90 - 110		
Silver		0.0500	0.0506	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 5201180
Report generated 03/16/2017 09:53

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17030724 Run Date: 03/15/2017 Sample ID: WG606470-12

Instrument ID: ICP-MS2 Run Time: 15:29 Method: 6020A

File ID: NI.031517.152912 Analyst: JYH QC Key: DOD4

Workgroup (AAB#): WG606367 Cal ID: ICP-MS - 15-MAR-17

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Barium		0.0500	0.0509	mg/L	102	90 - 110		
Lead		0.0500	0.0513	mg/L	103	90 - 110		
Silver		0.0500	0.0511	mg/L	102	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 5201180

Report generated 03/16/2017 09:53

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17030724 Run Date: 03/15/2017 Sample ID: WG606470-14

Instrument ID: ICP-MS2 Run Time: 15:48 Method: 6020A

File ID: NI.031517.154815 Analyst: JYH QC Key: DOD4

Workgroup (AAB#): WG606367 Cal ID: ICP-MS - 15-MAR-17

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Barium		0.0500	0.0510	mg/L	102	90 - 110		
Lead		0.0500	0.0509	mg/L	102	90 - 110		
Silver		0.0500	0.0506	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 5201180

Report generated 03/16/2017 09:53

Login Number: L17030724 Run Date: 03/15/2017 Sample ID: WG606470-07
Instrument ID: ICP-MS2 Run Time: 14:42 Method: 6020A
File ID: NI.031517.144243 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG606367 Cal ID: ICP-MS - 15-MAR-17
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Barium		0.750	0.695	ug/L	92.6	70 - 130		
Lead		0.200	0.182	ug/L	90.9	70 - 130		
Silver		0.400	0.377	ug/L	94.4	70 - 130		

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
PDF File ID: 5201182
Report generated 03/16/2017 09:53

Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number:	L17030724	**Run Date:**	03/15/2017	**Sample ID:**	WG606470-16
Instrument ID:	ICP-MS2	**Run Time:**	15:54	**Method:**	6020A
File ID:	NI.031517.155428	**Analyst:**	JYH	**QC Key:**	DOD4
Workgroup (AAB#):	WG606367	**Cal ID:**	ICP-MS - 15-MAR-17		
Matrix:	WATER				

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Barium		0.750	0.683	ug/L	91.1	70 - 130		
Lead		0.200	0.185	ug/L	92.4	70 - 130		
Silver		0.400	0.375	ug/L	93.8	70 - 130		

*** Exceeds LIMITS Criteria**

LLCCV - Modified 1/7/2010
PDF File ID: 5201182
Report generated 03/16/2017 09:53

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L17030724 **Workgroup (AAB#):** WG606367
Instrument ID: ICP-MS2 **Method:** 6020A
Sol. A : WG606470-08 **File ID:** NI.031517.144549 **Units:** ug/L
Sol. AB : WG606470-09 **File ID:** NI.031517.144854 **Matrix:** Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Barium	NS	0.0110	NS	100	97.7	97.7	
Lead	NS	0.0133	NS	100	98.9	98.9	
Silver	NS	0.000400	NS	100	90.0	90.0	

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: 5201179
Report generated 03/16/2017 09:53

Microbac Laboratories Inc.

INTERNAL STANDARD REPORT

Login: L17030724 **Analytical Method:** 6020
Analytical Workgroup: WG606367 **Matrix:** 1
Instrument: ICP-MS2 **Analyst:** JYH
ICAL Date: 15-MAR-2017 14:24

			BISMUTH	GERMANIUM	INDIUM
Sample	Type	Run Date	% Rec	% Rec	% Rec
L17030705-01	SAMP	15-MAR-2017 15:04	106.997	103.477	102.65
L17030724-01	SAMP	15-MAR-2017 15:16	87.458	88.241	85.081
WG606254-02	BLANK	15-MAR-2017 14:58	95.746	91.287	91.06
WG606254-03	LCS	15-MAR-2017 15:01	101.331	97.298	96.806
WG606367-01	PSPK	15-MAR-2017 15:19	88.091	87.937	85.856
WG606367-02	SERIAL	15-MAR-2017 15:23	91.099	89.587	87.016
WG606367-03	PSPK	15-MAR-2017 15:38	104.542	102.274	101.712
WG606367-04	SERIAL	15-MAR-2017 15:42	95.752	91.482	90.073
WG606470-05	ICV	15-MAR-2017 14:36	103.761	100.27	100.51
WG606470-06	ICB	15-MAR-2017 14:39	99.277	95.333	96.734
WG606470-07	LLICV	15-MAR-2017 14:42	97.644	95.389	95.445
WG606470-08	ICS	15-MAR-2017 14:45	103.847	101.473	101.555
WG606470-09	ICS	15-MAR-2017 14:48	106.743	102.544	101.408
WG606470-10	CCV	15-MAR-2017 14:52	107.751	101.191	102.382
WG606470-11	CCB	15-MAR-2017 14:55	99.479	95.839	95.865
WG606470-12	CCV	15-MAR-2017 15:29	101.153	97.241	96.908
WG606470-13	CCB	15-MAR-2017 15:32	95.247	91.026	91.285
WG606470-14	CCV	15-MAR-2017 15:48	100.254	96.878	96.706
WG606470-15	CCB	15-MAR-2017 15:51	94.552	90.261	90.154
WG606470-16	LLCCV	15-MAR-2017 15:54	91.975	87.859	87.447

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: 5201175
Report generated: 03/16/2017 09:53

Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L17030724 **Date:** 01/24/2017
Insturment ID: ICP-MS2 **Method:** 6020A

Analyte	Integration Time (Sec.)	Concentration (ug/L)
Antimony	1.00	100.0
Arsenic	1.00	100.0
Barium	1.00	100.0
Cadmium	1.00	100.0
Chromium	1.00	100.0
Cobalt	1.00	100.0
Copper	1.00	100.0
Lead	1.00	100.0
Manganese	1.00	100.0
Nickel	1.00	100.0
Selenium	1.00	100.0
Silver	1.00	100.0
Thallium	1.00	100.0
Uranium	1.00	100.0
Vanadium	1.00	100.0
Zinc	1.00	100.0

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

LINEAR_RANGE - Modified 03/06/2008
PDF File ID: 5201174
Report generated: 03/16/2017 09:53

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, March 15, 2017 14:00:21

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	1320	2026	0.702	
Mg	23.985	23.975	4506	2021	0.706	
Co	58.933	58.925	11688	2023	0.705	
In	114.904	114.925	22857	2029	0.712	
U	238.050	238.075	47451	2046	0.716	

Relative Std. Dev.

Mass	Meas. Intens. RSD
5.525	11.800
5.575	3.411
5.625	4.112
5.675	2.699
5.725	2.241
5.775	3.394
5.825	2.884
5.875	2.164
5.925	2.035
5.975	1.839
6.025	1.113
6.075	1.725
6.125	3.063
6.175	2.797
6.225	4.557
6.275	3.209
6.325	11.106
6.375	40.745
6.425	67.748
6.475	40.825
6.525	27.082
6.575	15.302
6.625	3.998
6.675	3.960
6.725	3.670
6.775	3.262
6.825	2.094

Report Date/Time: Wednesday, March 15, 2017 14:03:32
Page 1

Approved: March 16, 2017

6.875	2.176
6.925	1.663
6.975	1.810
7.025	3.198
7.075	2.441
7.125	2.607
7.175	2.662
7.225	2.431
7.275	1.914
7.325	2.050
7.375	8.437
7.425	34.468
7.475	39.123
7.525	79.057
7.575	35.355
7.625	99.381
7.675	60.009
7.725	47.507
7.775	25.000
7.825	58.330
7.875	46.771
7.925	45.799
7.975	58.330
8.025	58.330
8.075	143.886
8.125	71.261
8.175	60.111
8.225	77.427
8.275	57.735
8.325	63.191
8.375	40.825
8.425	71.261
8.475	43.853
22.525	0.000
22.575	74.608
22.625	45.799
22.675	38.401
22.725	15.408
22.775	42.492
22.825	50.281
22.875	24.636
22.925	34.401
22.975	45.015
23.025	42.111
23.075	40.000
23.125	47.075
23.175	24.993

Approved: March 16, 2017



23.225	54.735
23.275	36.422
23.325	45.928
23.375	24.549
23.425	11.050
23.475	18.271
23.525	8.752
23.575	4.354
23.625	2.050
23.675	2.593
23.725	1.517
23.775	1.466
23.825	1.248
23.875	1.929
23.925	1.314
23.975	1.696
24.025	2.584
24.075	1.341
24.125	1.308
24.175	1.988
24.225	1.812
24.275	7.636
24.325	25.353
24.375	42.906
24.425	17.801
24.475	11.051
24.525	4.130
24.575	4.242
24.625	1.931
24.675	2.549
24.725	2.010
24.775	2.700
24.825	2.339
24.875	2.467
24.925	1.639
24.975	1.953
25.025	1.863
25.075	1.865
25.125	1.646
25.175	1.771
25.225	3.506
25.275	21.638
25.325	26.352
25.375	51.446
25.425	35.854
25.475	5.477
57.525	9.488

Report Date/Time: Wednesday, March 15, 2017 14:03:32
Page 3

Approved: March 16, 2017

57.575	4.328
57.625	1.153
57.675	3.782
57.725	3.378
57.775	3.251
57.825	1.478
57.875	3.722
57.925	2.243
57.975	2.381
58.025	1.601
58.075	2.732
58.125	3.057
58.175	1.170
58.225	1.207
58.275	12.130
58.325	18.652
58.375	21.626
58.425	34.572
58.475	5.866
58.525	4.577
58.575	3.799
58.625	0.878
58.675	2.172
58.725	2.023
58.775	3.157
58.825	3.023
58.875	1.949
58.925	2.298
58.975	1.753
59.025	2.995
59.075	3.305
59.125	3.278
59.175	3.095
59.225	3.271
59.275	17.331
59.325	39.219
59.375	33.164
59.425	38.452
59.475	16.318
59.525	6.158
59.575	7.603
59.625	6.491
59.675	6.230
59.725	4.692
59.775	3.338
59.825	3.788
59.875	1.728

Report Date/Time: Wednesday, March 15, 2017 14:03:32
Page 4

Approved: March 16, 2017

59.925	1.862
59.975	2.953
60.025	6.607
60.075	4.349
60.125	5.962
60.175	3.586
60.225	5.399
60.275	18.468
60.325	33.333
60.375	52.973
60.425	62.630
60.475	67.823
113.525	5.586
113.575	7.356
113.625	3.588
113.675	2.718
113.725	2.766
113.775	2.729
113.825	3.021
113.875	2.276
113.925	3.641
113.975	3.947
114.025	3.054
114.075	3.402
114.125	2.309
114.175	4.046
114.225	2.382
114.275	8.095
114.325	16.308
114.375	31.126
114.425	26.865
114.475	8.722
114.525	10.363
114.575	2.651
114.625	2.721
114.675	1.403
114.725	2.324
114.775	2.024
114.825	1.709
114.875	2.019
114.925	2.229
114.975	2.290
115.025	2.680
115.075	2.575
115.125	3.026
115.175	1.824
115.225	1.577

Approved: March 16, 2017

115.275	4.674
115.325	5.845
115.375	40.966
115.425	45.644
115.475	25.693
115.525	14.145
115.575	14.380
115.625	6.204
115.675	2.569
115.725	6.614
115.775	7.147
115.825	7.322
115.875	3.889
115.925	4.077
115.975	2.508
116.025	3.021
116.075	5.846
116.125	7.702
116.175	5.834
116.225	2.502
116.275	15.300
116.325	36.060
116.375	77.280
116.425	37.378
116.475	28.085
236.525	
236.575	27.216
236.625	23.077
236.675	26.334
236.725	17.973
236.775	9.182
236.825	13.869
236.875	21.982
236.925	19.264
236.975	14.263
237.025	44.070
237.075	36.094
237.125	10.879
237.175	13.280
237.225	20.067
237.275	22.016
237.325	35.126
237.375	17.489
237.425	16.997
237.475	38.586
237.525	27.591
237.575	22.608

Approved: March 16, 2017

237.625	10.714
237.675	5.451
237.725	2.665
237.775	2.980
237.825	2.543
237.875	1.801
237.925	3.241
237.975	2.012
238.025	1.745
238.075	2.730
238.125	1.378
238.175	2.263
238.225	2.119
238.275	2.746
238.325	2.340
238.375	3.399
238.425	3.510
238.475	3.656
238.525	6.220
238.575	12.284
238.625	17.321
238.675	9.268
238.725	42.181
238.775	13.258
238.825	8.319
238.875	17.040
238.925	10.648
238.975	23.903
239.025	8.712
239.075	17.149
239.125	17.861
239.175	13.245
239.225	20.917
239.275	31.147
239.325	15.267
239.375	11.918
239.425	17.942
239.475	21.613

Approved: March 16, 2017



SmartTune Wizard - Summary

Optimization Summary

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

Start Time: 3/15/2017 2:11:18 PM
End Time: 3/15/2017 2:13:40 PM

Daily Performance Check - [Passed] Optimum value(s): N/A
Obtained Intensity (Be 9.0122): 9685.63
Obtained Intensity (Mg 23.985): 92051.72
Obtained Intensity (In 114.904): 69902.23
Obtained Intensity (U 238.05): 94127.58
Obtained Intensity (Bkgd 220): 0.53
Obtained Formula (CeO 155.9 / Ce 139.905): 0.015 (=2785.99 / 190044.47)
Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.007 (=1334.39 / 190044.47)

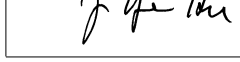
Report Date/Time: Wednesday, March 15, 2017 14:13:40
Page 1

Approved: March 16, 2017

SmartTune Wizard - Details

```
Optimization Details

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

Optimization Status

Start Time: 3/15/2017 2:11:18 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): 9685.63
                Obtained Intensity (Mg 23.985): 92051.72
                Obtained Intensity (In 114.904): 69902.23
                Obtained Intensity (U 238.05): 94127.58
                Obtained Intensity (Bkgd 220): 0.53
                Obtained Formula (CeO 155.9 / Ce 139.905): 0.015 (=2785.99 / 190044.47)
                Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.007 (=1334.39 / 190044.47)
[Passed]  Optimum value(s): N/A

End Time: 3/15/2017 2:13:40 PM
```


Approved: March 16, 2017



Method 6020 - Summary Report

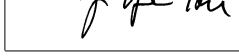
Sample ID: Blank
Sample Date/Time: Wednesday, March 15, 2017 14:21:01
Number of Replicates: 3
Autosampler Position: 1
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	253194.3	26.5				ug/L		Standard
	Be	9	25.0	20.0				ug/L		Standard
	Al	27	868.4	15.2				ug/L		Standard
	Sc	45	47223.9	27.9				ug/L		Standard
	Ti	47	63.3	15.5				ug/L		Standard
	V	51	2189.7	11.2				ug/L		Standard
	Cr	52	8510.8	13.4				ug/L		Standard
	Cr	53	461.7	14.7				ug/L		Standard
	Mn	55	2023.5	15.9				ug/L		Standard
	Co	59	1672.1	24.4				ug/L		Standard
	Ni	60	189.3	21.7				ug/L		Standard
	Cu	65	657.3	22.8				ug/L		Standard
	Zn	66	401.0	23.8				ug/L		Standard
>	Ge	72	826992.0	26.1				ug/L		Standard
	As	75	-72.4	18.4				ug/L		Standard
	Se	82	21.3	24.7				ug/L		Standard
	Se-1	77	111.3	11.2				ug/L		Standard
>	Ga	71	31.7	79.5				mg/L		Standard
	Rb	85	48.3	21.5				ug/L		Standard
	Y	89	561065.6	28.3				ug/L		Standard
>	Rh	103	6.7	43.3				ug/L		Standard
	Mo	98	160.6	34.7				ug/L		Standard
	Ag	107	137.3	16.9				ug/L		Standard
	Cd	111	2.8	131.4				mg/L		Standard
	Cd	114	51.3	49.1				ug/L		Standard
>	In	115	706703.6	26.7				ug/L		Standard
	Sn	118	264.0	8.7				ug/L		Standard
	Sb	123	424.4	10.3				ug/L		Standard
	Ba	135	36.0	14.4				ug/L		Standard
	Ce	140	40.0	50.0				ug/L		Standard
>	Tb	159	1061303.3	24.3				ug/L		Standard
	Ho	165	10.0	100.0				ug/L		Standard
	Tl	203	12.7	24.1				ug/L		Standard
	Tl	205	41.7	45.4				ug/L		Standard
	Pb	206	485.0	18.7				ug/L		Standard
	Pb	207	409.0	30.9				ug/L		Standard
	Pb	208	928.0	25.3				ug/L		Standard
	U	238	7.3	15.7				ug/L		Standard
>	Bi	209	604402.2	25.2				ug/L		Standard

Sample ID: Blank
Report Date/Time: Wednesday, March 15, 2017 14:23:12
Page 1

Approved: March 16, 2017



	Na	23	5.0	173.2	mg/L	Standard
	Mg	24	25.0	52.9	mg/L	Standard
	K	39	26.7	10.8	mg/L	Standard
	Ca	43	58.3	35.7	mg/L	Standard
	Fe	54	37.8	14.6	mg/L	Standard
	Fe	57	205.0	8.8	mg/L	Standard
>	**Sc-1**	45	47223.9	27.9	mg/L	Standard
	Cl	35	1.3	173.2	ug/L	Standard
	Kr	83	5.0	52.9	ug/L	Standard
	Br	81	3213.7	18.1	ug/L	Standard
	P	31	70.0	18.9	ug/L	Standard
	S	34	15.0	33.3	ug/L	Standard
	Sr	88	161.7	17.0	ug/L	Standard
	C	12	16.7	69.3	mg/L	Standard
	N	14	3.3	173.2	mg/L	Standard
	Hg	202	3.3	173.2	mg/L	Standard
	Dy	164	12.5	121.5	mg/L	Standard
	Ho-1	165	10.0	100.0	mg/L	Standard
	Er	166	16.7	34.6	mg/L	Standard
	I	127	7850.4	11.1	mg/L	Standard

QC Calculated Values

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

Sample ID: Blank
Report Date/Time: Wednesday, March 15, 2017 14:23:12
Page 2

Approved: March 16, 2017

⌊	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, March 15, 2017 14:23:12
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: Standard 1
Sample Date/Time: Wednesday, March 15, 2017 14:24:07
Number of Replicates: 3
Autosampler Position: 1
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	260127.6	26.3				ug/L	253194	Standard
	Be	9	23.3	24.7				ug/L	25	Standard
	Al	27	933.4	13.7				ug/L	868	Standard
	Sc	45	48667.2	28.4				ug/L	47224	Standard
	Ti	47	58.0	9.6				ug/L	63	Standard
	V	51	2064.3	14.4				ug/L	2190	Standard
	Cr	52	8257.3	14.3				ug/L	8511	Standard
	Cr	53	478.3	6.1				ug/L	462	Standard
	Mn	55	2035.5	16.5				ug/L	2023	Standard
	Co	59	981.4	20.6				ug/L	1672	Standard
	Ni	60	191.3	17.2				ug/L	189	Standard
	Cu	65	678.3	27.0				ug/L	657	Standard
	Zn	66	463.0	19.1				ug/L	401	Standard
>	Ge	72	836138.6	27.4				ug/L	826992	Standard
	As	75	-113.2	25.5				ug/L	-72	Standard
	Se	82	14.4	10.4				ug/L	21	Standard
	Se-1	77	113.7	10.3				ug/L	111	Standard
>	Ga	71	35.0	37.8				mg/L	32	Standard
	Rb	85	30.0	60.1				ug/L	48	Standard
	Y	89	573178.0	27.6				ug/L	561066	Standard
>	Rh	103	11.7	24.7				ug/L	7	Standard
	Mo	98	79.8	3.5				ug/L	161	Standard
	Ag	107	117.3	29.7				ug/L	137	Standard
	Cd	111	4.2	75.9				mg/L	3	Standard
	Cd	114	49.9	42.7				ug/L	51	Standard
>	In	115	715773.3	29.0				ug/L	706704	Standard
	Sn	118	252.0	34.9				ug/L	264	Standard
	Sb	123	164.9	5.6				ug/L	424	Standard
	Ba	135	43.7	29.9				ug/L	36	Standard
	Ce	140	66.7	33.8				ug/L	40	Standard
>	Tb	159	1094117.6	24.7				ug/L	1061303	Standard
	Ho	165	16.7	105.4				ug/L	10	Standard
	Tl	203	18.0	24.2				ug/L	13	Standard
	Tl	205	51.7	81.2				ug/L	42	Standard
	Pb	206	509.3	24.2				ug/L	485	Standard
	Pb	207	420.7	23.0				ug/L	409	Standard
	Pb	208	964.7	28.5				ug/L	928	Standard
	U	238	5.3	47.2				ug/L	7	Standard
>	Bi	209	622098.6	25.6				ug/L	604402	Standard

Sample ID: Standard 1
Report Date/Time: Wednesday, March 15, 2017 14:26:18
Page 1

Approved: March 16, 2017

Na	23	6.7	43.3	mg/L	5	Standard
Mg	24	30.0	33.3	mg/L	25	Standard
K	39	31.7	48.2	mg/L	27	Standard
Ca	43	60.0	8.3	mg/L	58	Standard
Fe	54	22.9	61.2	mg/L	38	Standard
Fe	57	245.0	7.1	mg/L	205	Standard
Sc-1	45	48667.2	28.4	mg/L	47224	Standard
Cl	35	2.7	114.6	ug/L	1	Standard
Kr	83	6.7	31.2	ug/L	5	Standard
Br	81	3280.4	21.5	ug/L	3214	Standard
P	31	83.3	12.5	ug/L	70	Standard
S	34	11.7	65.5	ug/L	15	Standard
Sr	88	163.3	15.4	ug/L	162	Standard
C	12	30.0	33.3	mg/L	17	Standard
N	14	0.0		mg/L	3	Standard
Hg	202	0.0		mg/L	3	Standard
Dy	164	12.5	45.0	mg/L	13	Standard
Ho-1	165	16.7	105.4	mg/L	10	Standard
Er	166	16.7	34.6	mg/L	17	Standard
I	127	7250.1	9.8	mg/L	7850	Standard

QC Calculated Values

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

Sample ID: Standard 1
Report Date/Time: Wednesday, March 15, 2017 14:26:18
Page 2

Approved: March 16, 2017

⌊	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, March 15, 2017 14:26:18
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: Standard 2
Sample Date/Time: Wednesday, March 15, 2017 14:27:12
Number of Replicates: 3
Autosampler Position: 2
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	250501.0	26.4				ug/L	253194	Standard
	Be	9	121.7	41.2				ug/L	25	Standard
	Al	27	7235.2	29.1				ug/L	868	Standard
	Sc	45	48553.3	27.7				ug/L	47224	Standard
	Ti	47	95.0	13.8				ug/L	63	Standard
	V	51	2408.0	12.1				ug/L	2190	Standard
	Cr	52	8464.1	11.8				ug/L	8511	Standard
	Cr	53	516.7	18.0				ug/L	462	Standard
	Mn	55	2555.2	17.3				ug/L	2023	Standard
	Co	59	1235.4	17.6				ug/L	1672	Standard
	Ni	60	306.7	22.8				ug/L	189	Standard
	Cu	65	755.0	21.9				ug/L	657	Standard
	Zn	66	448.0	30.3				ug/L	401	Standard
>	Ge	72	825373.8	27.0				ug/L	826992	Standard
	As	75	20.9	182.7				ug/L	-72	Standard
	Se	82	30.8	17.6				ug/L	21	Standard
	Se-1	77	114.0	3.2				ug/L	111	Standard
>	Ga	71	51.7	71.3				mg/L	32	Standard
	Rb	85	25.0	34.6				ug/L	48	Standard
	Y	89	565577.2	28.6				ug/L	561066	Standard
>	Rh	103	16.7	17.3				ug/L	7	Standard
	Mo	98	489.4	19.6				ug/L	161	Standard
	Ag	107	486.7	20.7				ug/L	137	Standard
	Cd	111	107.4	20.4				mg/L	3	Standard
	Cd	114	260.5	8.6				ug/L	51	Standard
>	In	115	706728.6	26.6				ug/L	706704	Standard
	Sn	118	292.3	34.6				ug/L	264	Standard
	Sb	123	385.5	20.9				ug/L	424	Standard
	Ba	135	143.3	19.8				ug/L	36	Standard
	Ce	140	25.0	20.0				ug/L	40	Standard
>	Tb	159	1089617.2	25.5				ug/L	1061303	Standard
	Ho	165	18.3	31.5				ug/L	10	Standard
	Tl	203	423.7	22.3				ug/L	13	Standard
	Tl	205	1070.0	24.8				ug/L	42	Standard
	Pb	206	824.7	21.5				ug/L	485	Standard
	Pb	207	711.0	27.7				ug/L	409	Standard
	Pb	208	1641.7	24.4				ug/L	928	Standard
	U	238	257.7	23.0				ug/L	7	Standard
>	Bi	209	609160.7	26.2				ug/L	604402	Standard

Sample ID: Standard 2
Report Date/Time: Wednesday, March 15, 2017 14:29:23
Page 1

Approved: March 16, 2017

Na	23	3.3	86.6	mg/L	5	Standard
Mg	24	35.0	37.8	mg/L	25	Standard
K	39	28.3	20.4	mg/L	27	Standard
Ca	43	63.3	29.9	mg/L	58	Standard
Fe	54	28.0	53.9	mg/L	38	Standard
Fe	57	256.7	10.0	mg/L	205	Standard
Sc-1	45	48553.3	27.7	mg/L	47224	Standard
Cl	35	0.7	173.2	ug/L	1	Standard
Kr	83	3.3	45.8	ug/L	5	Standard
Br	81	3230.3	12.4	ug/L	3214	Standard
P	31	83.3	15.1	ug/L	70	Standard
S	34	15.0	88.2	ug/L	15	Standard
Sr	88	141.7	23.5	ug/L	162	Standard
C	12	33.3	75.5	mg/L	17	Standard
N	14	0.0		mg/L	3	Standard
Hg	202	0.0		mg/L	3	Standard
Dy	164	9.8	99.2	mg/L	13	Standard
Ho-1	165	18.3	31.5	mg/L	10	Standard
Er	166	3.3	173.2	mg/L	17	Standard
I	127	7390.1	10.5	mg/L	7850	Standard

QC Calculated Values

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

Sample ID: Standard 2
Report Date/Time: Wednesday, March 15, 2017 14:29:23
Page 2

Approved: March 16, 2017

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

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: Standard 2
Report Date/Time: Wednesday, March 15, 2017 14:29:23
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: Standard 3
Sample Date/Time: Wednesday, March 15, 2017 14:30:17
Number of Replicates: 3
Autosampler Position: 3
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	262275.0	22.7				ug/L	253194	Standard
	Be	9	114366.0	19.7	50.0000	1.461	2.9	ug/L	25	Standard
	Al	27	7503028.7	20.7	50.0000	1.128	2.3	ug/L	868	Standard
	Sc	45	50381.6	23.0				ug/L	47224	Standard
	Ti	47	28524.1	19.1	100.0000	3.201	3.2	ug/L	63	Standard
	V	51	406556.5	20.0	50.0000	1.282	2.6	ug/L	2190	Standard
	Cr	52	383708.9	20.5	50.0000	1.009	2.0	ug/L	8511	Standard
	Cr	53	47014.6	19.1	50.0000	1.635	3.3	ug/L	462	Standard
	Mn	55	635577.4	20.2	50.0000	1.283	2.6	ug/L	2023	Standard
	Co	59	496890.0	21.2	50.0000	0.770	1.5	ug/L	1672	Standard
	Ni	60	106069.2	21.0	50.0000	1.124	2.2	ug/L	189	Standard
	Cu	65	109725.9	19.5	50.0000	1.363	2.7	ug/L	657	Standard
	Zn	66	65749.0	19.6	50.0000	1.673	3.3	ug/L	401	Standard
>	Ge	72	842593.2	22.4				ug/L	826992	Standard
	As	75	65690.7	19.8	50.0000	1.270	2.5	ug/L	-72	Standard
	Se	82	6079.4	21.0	50.0000	0.672	1.3	ug/L	21	Standard
	Se-1	77	4364.6	18.7	50.0000	1.927	3.9	ug/L	111	Standard
>	Ga	71	56.7	53.9				mg/L	32	Standard
	Rb	85	956.7	23.8				ug/L	48	Standard
	Y	89	585022.9	23.1				ug/L	561066	Standard
>	Rh	103	36.7	15.7				ug/L	7	Standard
	Mo	98	414131.0	21.5	100.0000	1.572	1.6	ug/L	161	Standard
	Ag	107	352962.9	21.2	50.0000	0.891	1.8	ug/L	137	Standard
	Cd	111	99903.1	22.3	50.0000	0.420	0.8	mg/L	3	Standard
	Cd	114	258568.9	21.4	50.0000	0.797	1.6	ug/L	51	Standard
>	In	115	732308.5	23.1				ug/L	706704	Standard
	Sn	118	57272.5	22.9	50.0000	0.339	0.7	ug/L	264	Standard
	Sb	123	262389.4	21.1	50.0000	0.933	1.9	ug/L	424	Standard
	Ba	135	104879.9	20.3	50.0000	1.395	2.8	ug/L	36	Standard
	Ce	140	56.7	51.7				ug/L	40	Standard
>	Tb	159	1140392.3	20.3				ug/L	1061303	Standard
	Ho	165	38.3	45.8				ug/L	10	Standard
	Tl	203	412785.8	19.5	50.0000	0.702	1.4	ug/L	13	Standard
	Tl	205	997292.2	18.4	50.0000	1.199	2.4	ug/L	42	Standard
	Pb	206	329402.2	19.8	50.0000	0.793	1.6	ug/L	485	Standard
	Pb	207	293325.7	19.7	50.0000	0.612	1.2	ug/L	409	Standard
	Pb	208	661432.6	19.1	50.0000	0.961	1.9	ug/L	928	Standard
	U	238	261356.4	18.7	50.0000	1.165	2.3	ug/L	7	Standard
>	Bi	209	635486.8	20.8				ug/L	604402	Standard

Sample ID: Standard 3
Report Date/Time: Wednesday, March 15, 2017 14:32:28
Page 1

Approved: March 16, 2017

	Na	23	8.3	34.6	**5.0000**	3.325	66.5	mg/L	5	Standard
	Mg	24	491.7	24.9	**5.0000**	0.121	2.4	mg/L	25	Standard
	K	39	1131.7	16.9	**5.0000**	0.297	5.9	mg/L	27	Standard
	Ca	43	86.7	33.8	**5.0000**	7.422	148.4	mg/L	58	Standard
	Fe	54	816.0	22.4	**5.0000**	0.193	3.9	mg/L	38	Standard
	Fe	57	498.3	20.9	**5.0000**	0.294	5.9	mg/L	205	Standard
>	**Sc-1**	45	50381.6	23.0				mg/L	47224	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	3.7	68.6				ug/L	5	Standard
	Br	81	3210.4	25.4				ug/L	3214	Standard
	P	31	80.0	39.0				ug/L	70	Standard
	S	34	20.0	25.0				ug/L	15	Standard
	Sr	88	145.0	15.8				ug/L	162	Standard
	C	12	46.7	86.6				mg/L	17	Standard
	N	14	3.3	173.2				mg/L	3	Standard
	Hg	202	6.7	173.2				mg/L	3	Standard
	Dy	164	15.4	74.2				mg/L	13	Standard
	Ho-1	165	38.3	45.8				mg/L	10	Standard
	Er	166	26.7	21.7				mg/L	17	Standard
	I	127	4437.3	18.9				mg/L	7850	Standard

QC Calculated Values

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

Sample ID: Standard 3
Report Date/Time: Wednesday, March 15, 2017 14:32:28
Page 2

Approved: March 16, 2017

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
Report Date/Time: Wednesday, March 15, 2017 14:32:28
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: Standard 4
Sample Date/Time: Wednesday, March 15, 2017 14:33:22
Number of Replicates: 3
Autosampler Position: 4
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	260275.2	18.9				ug/L	253194	Standard
	Be	9	217322.9	18.2	**97.6534**	0.919	0.9	ug/L	25	Standard
	Al	27	14722653.6	20.1	**99.2140**	1.264	1.3	ug/L	868	Standard
	Sc	45	50078.8	22.6				ug/L	47224	Standard
	Ti	47	55259.4	18.1	**197.2566**	5.286	2.7	ug/L	63	Standard
	V	51	782170.2	18.6	**98.3845**	2.766	2.8	ug/L	2190	Standard
	Cr	52	730551.9	18.9	**98.2833**	2.339	2.4	ug/L	8511	Standard
	Cr	53	89512.6	20.4	**97.7900**	3.176	3.2	ug/L	462	Standard
	Mn	55	1228445.0	19.6	**98.5093**	2.055	2.1	ug/L	2023	Standard
	Co	59	959453.0	20.3	**98.4450**	0.579	0.6	ug/L	1672	Standard
	Ni	60	205135.9	20.5	**98.5097**	1.943	2.0	ug/L	189	Standard
	Cu	65	211377.1	19.8	**98.3539**	1.196	1.2	ug/L	657	Standard
	Zn	66	126892.1	19.3	**98.4828**	2.086	2.1	ug/L	401	Standard
>	Ge	72	838709.4	20.6				ug/L	826992	Standard
	As	75	127353.2	19.0	**98.5705**	2.036	2.1	ug/L	-72	Standard
	Se	82	11685.3	19.6	**98.3071**	1.777	1.8	ug/L	21	Standard
	Se-1	77	8320.3	20.0	**98.2442**	1.798	1.8	ug/L	111	Standard
>	Ga	71	140.0	16.4				mg/L	32	Standard
	Rb	85	675.0	15.3				ug/L	48	Standard
	Y	89	568133.9	21.4				ug/L	561066	Standard
>	Rh	103	53.3	19.5				ug/L	7	Standard
	Mo	98	802960.5	19.3	**198.1764**	3.841	1.9	ug/L	161	Standard
	Ag	107	669003.2	19.4	**97.9256**	2.185	2.2	ug/L	137	Standard
	Cd	111	192732.9	20.2	**98.8332**	1.529	1.5	mg/L	3	Standard
	Cd	114	504648.4	19.7	**99.3846**	1.461	1.5	ug/L	51	Standard
>	In	115	723139.3	21.1				ug/L	706704	Standard
	Sn	118	109046.1	21.0	**98.2676**	1.141	1.2	ug/L	264	Standard
	Sb	123	507166.4	19.6	**98.8981**	1.432	1.4	ug/L	424	Standard
	Ba	135	200944.6	18.5	**98.4689**	2.467	2.5	ug/L	36	Standard
	Ce	140	575.0	19.7				ug/L	40	Standard
>	Tb	159	1121117.5	17.7				ug/L	1061303	Standard
	Ho	165	51.7	34.0				ug/L	10	Standard
	Tl	203	795822.2	18.7	**98.5243**	0.359	0.4	ug/L	13	Standard
	Tl	205	2025850.4	27.5	**100.5565**	8.603	8.6	ug/L	42	Standard
	Pb	206	636284.0	18.5	**98.6883**	1.066	1.1	ug/L	485	Standard
	Pb	207	567597.5	18.7	**98.7586**	0.496	0.5	ug/L	409	Standard
	Pb	208	1280527.1	18.0	**98.7861**	0.965	1.0	ug/L	928	Standard
	U	238	515311.7	17.7	**99.6486**	1.512	1.5	ug/L	7	Standard
>	Bi	209	629953.6	18.8				ug/L	604402	Standard

Sample ID: Standard 4
Report Date/Time: Wednesday, March 15, 2017 14:35:33
Page 1

Approved: March 16, 2017

⌈	**Na**	23	15.0	33.3	**10.4023**	1.926	18.5	mg/L	5	Standard
|	**Mg**	24	803.4	25.4	**9.1953**	1.200	13.1	mg/L	25	Standard
|	**K**	39	2055.1	10.5	**9.6544**	1.263	13.1	mg/L	27	Standard
|	**Ca**	43	101.7	17.3	**8.9499**	4.090	45.7	mg/L	58	Standard
|	**Fe**	54	1580.9	17.7	**9.9976**	1.078	10.8	mg/L	38	Standard
|	**Fe**	57	660.0	23.0	**9.2990**	1.308	14.1	mg/L	205	Standard
⌊>	**Sc-1**	45	50078.8	22.6				mg/L	47224	Standard
	Cl	35	1.3	173.2				ug/L	1	Standard
	Kr	83	3.7	83.3				ug/L	5	Standard
	Br	81	2770.3	32.2				ug/L	3214	Standard
	P	31	71.7	20.1				ug/L	70	Standard
	S	34	15.0	57.7				ug/L	15	Standard
	Sr	88	175.0	20.0				ug/L	162	Standard
	C	12	30.0	33.3				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	10.0	100.0				mg/L	3	Standard
	Dy	164	42.2	58.6				mg/L	13	Standard
	Ho-1	165	51.7	34.0				mg/L	10	Standard
	Er	166	23.3	49.5				mg/L	17	Standard
	I	127	6331.3	10.1				mg/L	7850	Standard

QC Calculated Values

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

Sample ID: Standard 4
Report Date/Time: Wednesday, March 15, 2017 14:35:33
Page 2

Approved: March 16, 2017

⌊	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.	Mg	24	Correlation coefficient < 0.998
Corr. Coef.	Ca	43	Correlation coefficient < 0.998
Corr. Coef.	Fe	57	Correlation coefficient < 0.998

Sample ID: Standard 4
Report Date/Time: Wednesday, March 15, 2017 14:35:33
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: QC Std 1
Sample Date/Time: Wednesday, March 15, 2017 14:36:29
Number of Replicates: 3
Autosampler Position: 201
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	259779.7	17.3				ug/L	253194	Standard
	Be	9	108522.2	19.7	**48.6719**	1.368	2.8	ug/L	25	Standard
	Al	27	7260274.6	19.8	**48.9575**	1.357	2.8	ug/L	868	Standard
	Sc	45	48754.2	22.1				ug/L	47224	Standard
	Ti	47	27298.5	18.7	**98.2934**	1.887	1.9	ug/L	63	Standard
	V	51	385741.4	18.3	**48.9341**	0.949	1.9	ug/L	2190	Standard
	Cr	52	364737.0	18.4	**49.0737**	0.893	1.8	ug/L	8511	Standard
	Cr	53	44622.7	22.0	**48.9143**	0.885	1.8	ug/L	462	Standard
	Mn	55	610689.7	20.2	**49.3989**	0.222	0.4	ug/L	2023	Standard
	Co	59	478770.8	20.9	**49.5888**	0.334	0.7	ug/L	1672	Standard
	Ni	60	102126.1	20.4	**49.5488**	0.122	0.2	ug/L	189	Standard
	Cu	65	105831.5	19.4	**49.6554**	0.392	0.8	ug/L	657	Standard
	Zn	66	63858.8	18.8	**49.9904**	0.679	1.4	ug/L	401	Standard
>	Ge	72	829225.3	20.2				ug/L	826992	Standard
	As	75	63641.3	18.5	**49.8539**	0.817	1.6	ug/L	-72	Standard
	Se	82	5864.1	20.4	**49.7184**	0.335	0.7	ug/L	21	Standard
	Se-1	77	4199.6	21.0	**49.3858**	0.403	0.8	ug/L	111	Standard
>	Ga	71	53.3	37.9				mg/L	32	Standard
	Rb	85	875.0	23.1				ug/L	48	Standard
	Y	89	569955.4	22.4				ug/L	561066	Standard
>	Rh	103	28.3	27.0				ug/L	7	Standard
	Mo	98	397959.3	20.0	**99.8172**	1.091	1.1	ug/L	161	Standard
	Ag	107	335242.9	19.8	**49.8905**	0.589	1.2	ug/L	137	Standard
	Cd	111	96809.8	21.2	**50.4326**	0.456	0.9	mg/L	3	Standard
	Cd	114	246965.1	21.5	**49.3623**	0.421	0.9	ug/L	51	Standard
>	In	115	710308.4	20.6				ug/L	706704	Standard
	Sn	118	53833.6	19.9	**49.3206**	0.659	1.3	ug/L	264	Standard
	Sb	123	252466.1	19.3	**50.0870**	0.651	1.3	ug/L	424	Standard
	Ba	135	100419.9	19.0	**50.0183**	0.780	1.6	ug/L	36	Standard
	Ce	140	53.3	37.9				ug/L	40	Standard
>	Tb	159	1102691.3	18.6				ug/L	1061303	Standard
	Ho	165	30.0	44.1				ug/L	10	Standard
	Tl	203	399723.2	18.7	**49.7676**	0.995	2.0	ug/L	13	Standard
	Tl	205	956876.8	18.2	**48.2864**	1.263	2.6	ug/L	42	Standard
	Pb	206	321331.3	19.3	**50.0384**	0.478	1.0	ug/L	485	Standard
	Pb	207	286123.4	19.2	**49.9986**	0.634	1.3	ug/L	409	Standard
	Pb	208	648314.4	19.0	**50.1984**	0.622	1.2	ug/L	928	Standard
	U	238	259874.2	19.0	**50.4664**	0.622	1.2	ug/L	7	Standard
>	Bi	209	627135.1	19.8				ug/L	604402	Standard

Sample ID: QC Std 1
Report Date/Time: Wednesday, March 15, 2017 14:38:40
Page 1

Approved: March 16, 2017

	Na	23	5.0	173.2	**2.8268**	9.797	346.6	mg/L	5	Standard
	Mg	24	438.3	26.5	**4.9561**	0.738	14.9	mg/L	25	Standard
	K	39	1036.7	16.4	**4.8879**	0.321	6.6	mg/L	27	Standard
	Ca	43	76.7	21.0	**4.1105**	7.795	189.6	mg/L	58	Standard
	Fe	54	806.0	30.8	**5.0415**	0.433	8.6	mg/L	38	Standard
	Fe	57	518.3	14.0	**6.4107**	1.904	29.7	mg/L	205	Standard
>	**Sc-1**	45	48754.2	22.1				mg/L	47224	Standard
	Cl	35	4.0	132.3				ug/L	1	Standard
	Kr	83	5.0	52.9				ug/L	5	Standard
	Br	81	3193.7	29.8				ug/L	3214	Standard
	P	31	93.3	34.0				ug/L	70	Standard
	S	34	13.3	108.3				ug/L	15	Standard
	Sr	88	135.0	3.7				ug/L	162	Standard
	C	12	40.0	25.0				mg/L	17	Standard
	N	14	3.3	173.2				mg/L	3	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	22.5	28.7				mg/L	13	Standard
	Ho-1	165	30.0	44.1				mg/L	10	Standard
	Er	166	16.7	91.7				mg/L	17	Standard
	I	127	4777.4	13.6				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9	97.344		
	Al	27	97.915		
	Sc	45			
	Ti	47	98.293		
	V	51	97.868		
	Cr	52	98.147		
	Cr	53			
	Mn	55	98.798		
	Co	59	99.178		
	Ni	60	99.098		
	Cu	65	99.311		
	Zn	66	99.981		
>	Ge	72		100.270	
	As	75	99.708		
	Se	82	99.437		
	Se-1	77			
>	Ga	71			

Sample ID: QC Std 1
Report Date/Time: Wednesday, March 15, 2017 14:38:40
Page 2

Approved: March 16, 2017

⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	99.817	
|	Ag	107	99.781	
|	Cd	111	100.865	
|	Cd	114		
|>	In	115		100.510
|	Sn	118	98.641	
|	Sb	123	100.174	
⌊	Ba	135	100.037	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	99.535	
|	Tl	205		
|	Pb	206	100.077	
|	Pb	207	99.997	
|	Pb	208	100.397	
|	U	238	100.933	
⌊>	Bi	209		103.761
⌈	Na	23	56.537	
|	Mg	24	99.122	
|	K	39	97.758	
|	Ca	43	82.210	
|	Fe	54	100.831	
|	Fe	57	128.214	
⌊>	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	Ca	43	
QC Std 1	Fe	57	

Sample ID: QC Std 1
Report Date/Time: Wednesday, March 15, 2017 14:38:40
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: QC Std 2
Sample Date/Time: Wednesday, March 15, 2017 14:39:36
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	246238.0	26.3				ug/L	253194	Standard
	Be	9	76.7	32.8	**0.0320**	0.013	39.7	ug/L	25	Standard
	Al	27	3292.2	79.2	**0.0216**	0.013	58.9	ug/L	868	Standard
	Sc	45	44958.6	28.6				ug/L	47224	Standard
	Ti	47	60.0	30.4	**-0.0236**	0.033	140.5	ug/L	63	Standard
	V	51	1624.5	21.8	**-0.0455**	0.023	49.9	ug/L	2190	Standard
	Cr	52	6509.1	15.5	**-0.1883**	0.116	61.9	ug/L	8511	Standard
	Cr	53	433.3	26.5	**-0.0359**	0.076	211.8	ug/L	462	Standard
	Mn	55	2100.8	19.0	**0.0206**	0.020	95.2	ug/L	2023	Standard
	Co	59	1000.0	26.4	**0.0288**	0.010	33.0	ug/L	1672	Standard
	Ni	60	197.3	25.6	**0.0011**	0.016	1463.5	ug/L	189	Standard
	Cu	65	693.0	28.6	**0.0321**	0.010	31.3	ug/L	657	Standard
	Zn	66	460.3	32.5	**0.0753**	0.021	27.7	ug/L	401	Standard
>	Ge	72	788399.9	27.5				ug/L	826992	Standard
	As	75	-33.9	59.9	**0.0043**	0.022	502.2	ug/L	-72	Standard
	Se	82	27.0	15.4	**0.0298**	0.037	125.6	ug/L	21	Standard
	Se-1	77	103.7	17.3	**-0.0407**	0.246	604.8	ug/L	111	Standard
>	Ga	71	25.0	0.0				mg/L	32	Standard
	Rb	85	31.7	39.7				ug/L	48	Standard
	Y	89	545408.9	28.0				ug/L	561066	Standard
>	Rh	103	6.7	86.6				ug/L	7	Standard
	Mo	98	463.4	42.2	**0.0934**	0.017	17.9	ug/L	161	Standard
	Ag	107	215.3	38.4	**0.0130**	0.023	173.9	ug/L	137	Standard
	Cd	111	25.7	87.4	**0.0092**	0.018	197.3	mg/L	3	Standard
	Cd	114	77.9	62.8	**0.0146**	0.016	111.0	ug/L	51	Standard
>	In	115	683625.7	28.7				ug/L	706704	Standard
	Sn	118	266.3	22.4	**0.0422**	0.030	72.2	ug/L	264	Standard
	Sb	123	1546.3	7.1	**0.3076**	0.095	30.8	ug/L	424	Standard
	Ba	135	74.0	21.6	**0.0185**	0.018	99.9	ug/L	36	Standard
	Ce	140	26.7	54.1				ug/L	40	Standard
>	Tb	159	1049726.1	26.1				ug/L	1061303	Standard
	Ho	165	5.0	0.0				ug/L	10	Standard
	Tl	203	108.7	74.3	**0.0116**	0.016	134.4	ug/L	13	Standard
	Tl	205	271.7	108.3	**0.0116**	0.022	186.2	ug/L	42	Standard
	Pb	206	635.0	16.5	**0.0225**	0.016	69.3	ug/L	485	Standard
	Pb	207	578.7	21.9	**0.0301**	0.020	65.2	ug/L	409	Standard
	Pb	208	1381.0	34.0	**0.0298**	0.012	41.6	ug/L	928	Standard
	U	238	118.3	58.2	**0.0223**	0.013	56.2	ug/L	7	Standard
>	Bi	209	600031.4	27.3				ug/L	604402	Standard

Sample ID: QC Std 2
Report Date/Time: Wednesday, March 15, 2017 14:41:47
Page 1

Approved: March 16, 2017

	Na	23	3.3	86.6	**1.1628**	3.542	304.6	mg/L	5	Standard
	Mg	24	38.3	15.1	**0.0809**	0.236	291.7	mg/L	25	Standard
	K	39	18.3	15.7	**-0.0330**	0.035	105.5	mg/L	27	Standard
	Ca	43	46.7	27.0	**-2.3024**	5.367	233.1	mg/L	58	Standard
	Fe	54	43.0	59.8	**0.1373**	0.188	136.9	mg/L	38	Standard
	Fe	57	225.0	10.2	**-0.1540**	2.150	1396.1	mg/L	205	Standard
>	**Sc-1**	45	44958.6	28.6				mg/L	47224	Standard
	Cl	35	2.0	100.0				ug/L	1	Standard
	Kr	83	4.3	26.6				ug/L	5	Standard
	Br	81	2903.6	17.1				ug/L	3214	Standard
	P	31	55.0	9.1				ug/L	70	Standard
	S	34	11.7	65.5				ug/L	15	Standard
	Sr	88	145.0	11.9				ug/L	162	Standard
	C	12	56.7	10.2				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	3.3	173.2				mg/L	3	Standard
	Dy	164	13.0	46.5				mg/L	13	Standard
	Ho-1	165	5.0	0.0				mg/L	10	Standard
	Er	166	6.7	86.6				mg/L	17	Standard
	I	127	6741.5	7.9				mg/L	7850	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		95.333	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			

Sample ID: QC Std 2
Report Date/Time: Wednesday, March 15, 2017 14:41:47
Page 2

Approved: March 16, 2017

	Rb	85	
	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	96.734
	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	99.277
	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	Ca	43	

Sample ID: QC Std 2
Report Date/Time: Wednesday, March 15, 2017 14:41:47
Page 3

Approved: March 16, 2017

QC Std 2	Fe	54
QC Std 2	Fe	57

Sample ID: QC Std 2
Report Date/Time: Wednesday, March 15, 2017 14:41:47
Page 4

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: QC Std 3
Sample Date/Time: Wednesday, March 15, 2017 14:42:43
Number of Replicates: 3
Autosampler Position: 202
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	246881.1	29.3				ug/L	253194	Standard
	Be	9	436.7	25.8	**0.2028**	0.020	9.9	ug/L	25	Standard
	Al	27	818.4	37.6	**0.0052**	0.000	9.2	ug/L	868	Standard
	Sc	45	45027.6	30.5				ug/L	47224	Standard
	Ti	47	58.3	17.5	**-0.0129**	0.101	788.4	ug/L	63	Standard
	V	51	4447.5	21.8	**0.3368**	0.041	12.1	ug/L	2190	Standard
	Cr	52	13085.8	22.5	**0.7624**	0.117	15.3	ug/L	8511	Standard
	Cr	53	1270.1	25.0	**0.9461**	0.055	5.8	ug/L	462	Standard
	Mn	55	6986.0	25.2	**0.4380**	0.022	5.1	ug/L	2023	Standard
	Co	59	3898.5	26.5	**0.3464**	0.010	2.9	ug/L	1672	Standard
	Ni	60	3132.3	27.3	**1.5045**	0.024	1.6	ug/L	189	Standard
	Cu	65	2124.2	25.8	**0.7475**	0.037	5.0	ug/L	657	Standard
	Zn	66	7544.6	26.0	**5.9649**	0.189	3.2	ug/L	401	Standard
>	Ge	72	788858.6	28.9				ug/L	826992	Standard
	As	75	383.3	20.3	**0.3556**	0.026	7.4	ug/L	-72	Standard
	Se	82	62.7	17.2	**0.3614**	0.121	33.5	ug/L	21	Standard
	Se-1	77	117.3	8.7	**0.1549**	0.296	191.3	ug/L	111	Standard
>	Ga	71	26.7	96.2				mg/L	32	Standard
	Rb	85	25.0	72.1				ug/L	48	Standard
	Y	89	537870.5	30.6				ug/L	561066	Standard
>	Rh	103	11.7	65.5				ug/L	7	Standard
	Mo	98	147.5	26.3	**0.0145**	0.002	15.0	ug/L	161	Standard
	Ag	107	2540.6	27.5	**0.3774**	0.015	3.9	ug/L	137	Standard
	Cd	111	425.8	28.1	**0.2278**	0.011	5.0	mg/L	3	Standard
	Cd	114	1093.2	36.3	**0.2242**	0.029	13.1	ug/L	51	Standard
>	In	115	674512.6	31.3				ug/L	706704	Standard
	Sn	118	194.0	23.2	**-0.0255**	0.015	58.2	ug/L	264	Standard
	Sb	123	2166.1	22.8	**0.4319**	0.036	8.3	ug/L	424	Standard
	Ba	135	1356.7	26.4	**0.6945**	0.032	4.7	ug/L	36	Standard
	Ce	140	31.7	71.2				ug/L	40	Standard
>	Tb	159	1029757.7	29.1				ug/L	1061303	Standard
	Ho	165	15.0	57.7				ug/L	10	Standard
	Tl	203	589.7	25.6	**0.0738**	0.002	3.1	ug/L	13	Standard
	Tl	205	1375.1	29.1	**0.0679**	0.001	1.9	ug/L	42	Standard
	Pb	206	1650.4	29.6	**0.1896**	0.002	1.2	ug/L	485	Standard
	Pb	207	1362.4	23.2	**0.1778**	0.014	7.8	ug/L	409	Standard
	Pb	208	3187.5	27.5	**0.1817**	0.003	1.8	ug/L	928	Standard
	U	238	1827.4	27.1	**0.3762**	0.007	1.9	ug/L	7	Standard
>	Bi	209	590165.2	28.7				ug/L	604402	Standard

Sample ID: QC Std 3
Report Date/Time: Wednesday, March 15, 2017 14:44:54
Page 1

Approved: March 16, 2017

⌈	**Na**	23	1.7	173.2	**-1.5836**	2.158	136.3	mg/L	5	Standard
|	**Mg**	24	28.3	10.2	**-0.0727**	0.130	178.3	mg/L	25	Standard
|	**K**	39	23.3	75.3	**0.0136**	0.132	971.2	mg/L	27	Standard
|	**Ca**	43	41.7	25.0	**-4.4313**	1.431	32.3	mg/L	58	Standard
|	**Fe**	54	27.4	27.5	**0.0206**	0.020	98.3	mg/L	38	Standard
|	**Fe**	57	258.3	7.3	**0.8371**	2.659	317.6	mg/L	205	Standard
⌊>	**Sc-1**	45	45027.6	30.5				mg/L	47224	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	4.3	35.3				ug/L	5	Standard
	Br	81	2977.0	29.2				ug/L	3214	Standard
	P	31	48.3	11.9				ug/L	70	Standard
	S	34	15.0	88.2				ug/L	15	Standard
	Sr	88	145.0	21.0				ug/L	162	Standard
	C	12	40.0	25.0				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	12.7	122.0				mg/L	13	Standard
	Ho-1	165	15.0	57.7				mg/L	10	Standard
	Er	166	13.3	43.3				mg/L	17	Standard
	I	127	5409.3	13.7				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	101.414		
⌊	Al	27	0.519		
⌈	Sc	45			
|	Ti	47			
|	V	51	84.206		
|	Cr	52	95.294		
|	Cr	53			
|	Mn	55	87.599		
|	Co	59	86.595		
|	Ni	60	94.028		
|	Cu	65	93.437		
|	Zn	66	95.439		
|>	Ge	72		95.389	
|	As	75	88.897		
|	Se	82	90.353		
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: QC Std 3
Report Date/Time: Wednesday, March 15, 2017 14:44:54
Page 2

Approved: March 16, 2017

⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98		
|	Ag	107	94.355	
|	Cd	111	94.910	
|	Cd	114		
|>	In	115		95.445
|	Sn	118		
|	Sb	123	107.983	
⌊	Ba	135	92.604	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	92.221	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	90.860	
|	U	238	94.046	
⌊>	Bi	209		97.644
⌈	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	

Sample ID: QC Std 3
Report Date/Time: Wednesday, March 15, 2017 14:44:54
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Wednesday, March 15, 2017 14:45:49
Number of Replicates: 3
Autosampler Position: 203
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	258219.9	19.9				ug/L	253194	Standard
	Be	9	81.7	102.0	**0.0285**	0.029	101.6	ug/L	25	Standard
	Al	27	6804332.3	20.2	**46.2684**	1.096	2.4	ug/L	868	Standard
	Sc	45	49257.6	22.4				ug/L	47224	Standard
	Ti	47	25828.9	19.7	**91.8297**	0.981	1.1	ug/L	63	Standard
	V	51	1817.9	30.4	**-0.0397**	0.026	64.3	ug/L	2190	Standard
	Cr	52	9073.8	18.5	**0.0860**	0.041	48.0	ug/L	8511	Standard
	Cr	53	753.4	8.7	**0.2927**	0.098	33.4	ug/L	462	Standard
	Mn	55	6496.8	22.2	**0.3582**	0.012	3.4	ug/L	2023	Standard
	Co	59	1180.4	33.5	**0.0383**	0.016	41.8	ug/L	1672	Standard
	Ni	60	685.4	35.3	**0.2219**	0.046	20.7	ug/L	189	Standard
	Cu	65	964.0	24.5	**0.1358**	0.017	12.5	ug/L	657	Standard
	Zn	66	1379.1	22.3	**0.7670**	0.029	3.8	ug/L	401	Standard
>	Ge	72	839172.1	20.6				ug/L	826992	Standard
	As	75	-62.3	85.9	**-0.0189**	0.051	267.6	ug/L	-72	Standard
	Se	82	15.8	19.8	**-0.0850**	0.005	5.9	ug/L	21	Standard
	Se-1	77	106.3	11.4	**-0.1073**	0.117	108.9	ug/L	111	Standard
>	Ga	71	30.0	16.7				mg/L	32	Standard
	Rb	85	900.0	22.2				ug/L	48	Standard
	Y	89	572725.7	21.2				ug/L	561066	Standard
>	Rh	103	11.7	65.5				ug/L	7	Standard
	Mo	98	373493.4	20.1	**92.9016**	2.255	2.4	ug/L	161	Standard
	Ag	107	163.7	39.0	**0.0004**	0.006	1656.9	ug/L	137	Standard
	Cd	111	-161.1	10.9	**-0.0921**	0.012	12.5	mg/L	3	Standard
	Cd	114	675.0	28.2	**0.1288**	0.011	8.4	ug/L	51	Standard
>	In	115	717692.1	22.1				ug/L	706704	Standard
	Sn	118	312.3	18.9	**0.0694**	0.022	31.7	ug/L	264	Standard
	Sb	123	519.6	10.0	**0.0771**	0.022	28.5	ug/L	424	Standard
	Ba	135	66.3	9.7	**0.0110**	0.008	71.4	ug/L	36	Standard
	Ce	140	1056.7	24.4				ug/L	40	Standard
>	Tb	159	1110119.0	17.9				ug/L	1061303	Standard
	Ho	165	11.7	24.7				ug/L	10	Standard
	Tl	203	52.7	59.9	**0.0019**	0.004	195.6	ug/L	13	Standard
	Tl	205	116.7	75.0	**0.0001**	0.004	5523.0	ug/L	42	Standard
	Pb	206	643.3	19.9	**0.0167**	0.001	7.5	ug/L	485	Standard
	Pb	207	535.3	22.1	**0.0155**	0.007	45.6	ug/L	409	Standard
	Pb	208	1222.7	22.3	**0.0133**	0.009	71.3	ug/L	928	Standard
	U	238	23.0	57.5	**0.0028**	0.003	106.5	ug/L	7	Standard
>	Bi	209	627655.9	18.6				ug/L	604402	Standard

Sample ID: QC Std 4
Report Date/Time: Wednesday, March 15, 2017 14:47:59
Page 1

Approved: March 16, 2017

⌈	**Na**	23	13.3	78.1	**8.6118**	6.712	77.9	mg/L	5	Standard
|	**Mg**	24	905.0	11.3	**10.8045**	1.233	11.4	mg/L	25	Standard
|	**K**	39	901.7	17.9	**4.2015**	0.625	14.9	mg/L	27	Standard
|	**Ca**	43	98.3	2.9	**8.9328**	5.234	58.6	mg/L	58	Standard
|	**Fe**	54	1814.6	19.9	**11.6330**	0.303	2.6	mg/L	38	Standard
|	**Fe**	57	740.0	19.8	**11.5553**	0.609	5.3	mg/L	205	Standard
⌊>	**Sc-1**	45	49257.6	22.4				mg/L	47224	Standard
	Cl	35	1.3	86.6				ug/L	1	Standard
	Kr	83	5.3	78.1				ug/L	5	Standard
	Br	81	2953.6	26.4				ug/L	3214	Standard
	P	31	63.3	18.2				ug/L	70	Standard
	S	34	8.3	34.6				ug/L	15	Standard
	Sr	88	153.3	12.3				ug/L	162	Standard
	C	12	43.3	113.8				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	9.8	2.8				mg/L	13	Standard
	Ho-1	165	11.7	24.7				mg/L	10	Standard
	Er	166	3.3	173.2				mg/L	17	Standard
	I	127	3677.1	11.8				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9			
⌊	Al	27	0.925		
⌈	Sc	45			
|	Ti	47	91.830		
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		101.473	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: QC Std 4
Report Date/Time: Wednesday, March 15, 2017 14:47:59
Page 2

Approved: March 16, 2017

Rb	85			
Y	89			
Rh	103			
Mo	98	92.902		
Ag	107			
Cd	111			
Cd	114			
In	115			101.555
Sn	118			
Sb	123			
Ba	135			
Ce	140			
Tb	159			
Ho	165			
Tl	203			
Tl	205			
Pb	206			
Pb	207			
Pb	208			
U	238			
Bi	209			103.847
Na	23	68.894		
Mg	24	216.090		
K	39	84.030		
Ca	43	59.552		
Fe	54	93.064		
Fe	57	92.442		
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	Mn	55	
QC Std 4	Na	23	

Sample ID: QC Std 4
Report Date/Time: Wednesday, March 15, 2017 14:47:59
Page 3

Approved: March 16, 2017

QC Std 4	Mg	24
QC Std 4	Ca	43

Sample ID: QC Std 4
Report Date/Time: Wednesday, March 15, 2017 14:47:59
Page 4

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Wednesday, March 15, 2017 14:48:54
Number of Replicates: 3
Autosampler Position: 204
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	266117.1	21.3				ug/L	253194	Standard
	Be	9	224828.9	18.7	**99.0713**	2.546	2.6	ug/L	25	Standard
	Al	27	6745391.6	21.5	**44.5104**	0.148	0.3	ug/L	868	Standard
	Sc	45	48331.2	22.4				ug/L	47224	Standard
	Ti	47	28100.8	21.5	**98.7822**	0.177	0.2	ug/L	63	Standard
	V	51	755854.0	21.0	**93.8590**	0.709	0.8	ug/L	2190	Standard
	Cr	52	713776.6	21.1	**94.8017**	0.534	0.6	ug/L	8511	Standard
	Cr	53	88664.7	21.2	**95.8414**	0.696	0.7	ug/L	462	Standard
	Mn	55	1202189.6	20.4	**95.3896**	1.451	1.5	ug/L	2023	Standard
	Co	59	938986.7	21.3	**95.3021**	0.501	0.5	ug/L	1672	Standard
	Ni	60	199731.7	20.5	**95.0127**	1.187	1.2	ug/L	189	Standard
	Cu	65	209985.9	19.6	**96.8006**	2.186	2.3	ug/L	657	Standard
	Zn	66	127249.2	19.0	**97.8738**	2.509	2.6	ug/L	401	Standard
>	Ge	72	848031.5	21.7				ug/L	826992	Standard
	As	75	127785.4	19.6	**97.9198**	2.024	2.1	ug/L	-72	Standard
	Se	82	11709.9	20.8	**97.4374**	0.863	0.9	ug/L	21	Standard
	Se-1	77	8692.9	20.2	**101.6978**	1.442	1.4	ug/L	111	Standard
>	Ga	71	170.0	41.7				mg/L	32	Standard
	Rb	85	1185.0	11.0				ug/L	48	Standard
	Y	89	574172.1	21.8				ug/L	561066	Standard
>	Rh	103	35.0	42.9				ug/L	7	Standard
	Mo	98	386490.8	19.9	**96.5049**	3.179	3.3	ug/L	161	Standard
	Ag	107	607439.5	20.0	**89.9857**	2.999	3.3	ug/L	137	Standard
	Cd	111	191335.6	21.3	**99.1875**	1.933	1.9	mg/L	3	Standard
	Cd	114	479536.7	21.7	**95.3452**	1.687	1.8	ug/L	51	Standard
>	In	115	716652.1	23.3				ug/L	706704	Standard
	Sn	118	245.3	17.0	**0.0094**	0.014	151.2	ug/L	264	Standard
	Sb	123	501253.6	20.3	**98.8819**	2.918	3.0	ug/L	424	Standard
	Ba	135	196981.8	19.0	**97.6948**	4.075	4.2	ug/L	36	Standard
	Ce	140	201.7	12.2				ug/L	40	Standard
>	Tb	159	1130643.8	19.9				ug/L	1061303	Standard
	Ho	165	48.3	47.8				ug/L	10	Standard
	Tl	203	811482.9	18.4	**98.3841**	2.176	2.2	ug/L	13	Standard
	Tl	205	2076124.6	28.3	**100.7103**	7.970	7.9	ug/L	42	Standard
	Pb	206	647914.3	18.3	**98.3964**	2.145	2.2	ug/L	485	Standard
	Pb	207	579927.1	18.8	**98.7621**	1.770	1.8	ug/L	409	Standard
	Pb	208	1310057.5	18.3	**98.8994**	2.262	2.3	ug/L	928	Standard
	U	238	537571.6	17.2	**101.8473**	3.460	3.4	ug/L	7	Standard
>	Bi	209	645155.1	20.6				ug/L	604402	Standard

Sample ID: QC Std 5
Report Date/Time: Wednesday, March 15, 2017 14:51:05
Page 1

Approved: March 16, 2017

⌈	**Na**	23	26.7	60.3	**20.6649**	8.965	43.4	mg/L	5	Standard
|	**Mg**	24	923.4	10.1	**11.2806**	1.440	12.8	mg/L	25	Standard
|	**K**	39	910.0	26.9	**4.2527**	0.265	6.2	mg/L	27	Standard
|	**Ca**	43	83.3	28.4	**5.4133**	6.424	118.7	mg/L	58	Standard
|	**Fe**	54	1945.7	20.7	**12.7159**	0.223	1.8	mg/L	38	Standard
|	**Fe**	57	770.0	10.2	**12.9281**	2.383	18.4	mg/L	205	Standard
⌊>	**Sc-1**	45	48331.2	22.4				mg/L	47224	Standard
	Cl	35	2.0	100.0				ug/L	1	Standard
	Kr	83	6.0	57.7				ug/L	5	Standard
	Br	81	3130.3	21.4				ug/L	3214	Standard
	P	31	70.0	37.8				ug/L	70	Standard
	S	34	25.0	52.9				ug/L	15	Standard
	Sr	88	136.7	23.8				ug/L	162	Standard
	C	12	76.7	37.7				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	33.3	62.5				mg/L	3	Standard
	Dy	164	12.7	96.4				mg/L	13	Standard
	Ho-1	165	48.3	47.8				mg/L	10	Standard
	Er	166	13.3	114.6				mg/L	17	Standard
	I	127	3868.8	11.2				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	99.071		
⌊	Al	27	0.890		
⌈	Sc	45			
|	Ti	47	98.782		
|	V	51	93.859		
|	Cr	52	94.802		
|	Cr	53			
|	Mn	55	95.390		
|	Co	59	95.302		
|	Ni	60	95.013		
|	Cu	65	96.801		
|	Zn	66	97.874		
|>	Ge	72		102.544	
|	As	75	97.920		
|	Se	82	97.437		
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: QC Std 5
Report Date/Time: Wednesday, March 15, 2017 14:51:05
Page 2

Approved: March 16, 2017

⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	96.505	
|	Ag	107	89.986	
|	Cd	111	99.187	
|	Cd	114		
|>	In	115		101.408
|	Sn	118		
|	Sb	123	98.882	
⌊	Ba	135	97.695	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	98.384	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	98.899	
|	U	238	101.847	
⌊>	Bi	209		106.743
⌈	Na	23	165.319	
|	Mg	24	225.611	
|	K	39	85.054	
|	Ca	43	36.089	
|	Fe	54	101.727	
|	Fe	57	103.425	
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		
	I	127		

QC Out of Limits

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

Sample ID: QC Std 5
Report Date/Time: Wednesday, March 15, 2017 14:51:05
Page 3

Approved: March 16, 2017

QC Std 5	Ca	43

Sample ID: QC Std 5
Report Date/Time: Wednesday, March 15, 2017 14:51:05
Page 4

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Wednesday, March 15, 2017 14:52:01
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	269655.7	19.2				ug/L	253194	Standard
	Be	9	113347.9	17.8	**49.2049**	0.857	1.7	ug/L	25	Standard
	Al	27	7299449.8	17.8	**47.6418**	0.750	1.6	ug/L	868	Standard
	Sc	45	48909.3	20.4				ug/L	47224	Standard
	Ti	47	27576.9	17.9	**98.3950**	1.639	1.7	ug/L	63	Standard
	V	51	387406.9	17.6	**48.6865**	1.034	2.1	ug/L	2190	Standard
	Cr	52	365664.9	18.8	**48.6557**	0.565	1.2	ug/L	8511	Standard
	Cr	53	45687.1	19.2	**49.7760**	0.584	1.2	ug/L	462	Standard
	Mn	55	614445.4	19.1	**49.2668**	0.295	0.6	ug/L	2023	Standard
	Co	59	478986.0	19.3	**49.2083**	0.338	0.7	ug/L	1672	Standard
	Ni	60	102826.4	19.0	**49.4630**	0.804	1.6	ug/L	189	Standard
	Cu	65	106749.7	18.3	**49.6468**	0.717	1.4	ug/L	657	Standard
	Zn	66	64179.6	18.0	**49.7776**	0.692	1.4	ug/L	401	Standard
>	**Ge**	72	836837.9	19.4				ug/L	826992	Standard
	As	75	64475.0	18.0	**50.0214**	0.737	1.5	ug/L	-72	Standard
	Se	82	6068.6	18.9	**51.0353**	0.961	1.9	ug/L	21	Standard
	Se-1	77	4340.6	18.1	**50.7504**	0.719	1.4	ug/L	111	Standard
>	**Ga**	71	50.0	17.3				mg/L	32	Standard
	Rb	85	940.0	16.6				ug/L	48	Standard
	Y	89	586914.7	21.2				ug/L	561066	Standard
>	**Rh**	103	16.7	17.3				ug/L	7	Standard
	Mo	98	407648.9	20.0	**100.3229**	0.584	0.6	ug/L	161	Standard
	Ag	107	346012.1	19.1	**50.5627**	0.513	1.0	ug/L	137	Standard
	Cd	111	98040.0	19.0	**50.2591**	0.603	1.2	mg/L	3	Standard
	Cd	114	251155.8	19.4	**49.3853**	0.458	0.9	ug/L	51	Standard
>	**In**	115	723536.6	20.0				ug/L	706704	Standard
	Sn	118	55216.9	19.2	**49.6760**	0.487	1.0	ug/L	264	Standard
	Sb	123	254962.5	18.8	**49.6598**	0.695	1.4	ug/L	424	Standard
	Ba	135	101263.2	18.8	**49.4899**	0.592	1.2	ug/L	36	Standard
	Ce	140	75.0	58.1				ug/L	40	Standard
>	**Tb**	159	1120509.7	19.5				ug/L	1061303	Standard
	Ho	165	26.7	109.9				ug/L	10	Standard
	Tl	203	411309.2	18.4	**49.3157**	0.515	1.0	ug/L	13	Standard
	Tl	205	979084.6	19.1	**47.5131**	0.281	0.6	ug/L	42	Standard
	Pb	206	330151.2	18.4	**49.5388**	0.620	1.3	ug/L	485	Standard
	Pb	207	294856.8	18.4	**49.6494**	0.530	1.1	ug/L	409	Standard
	Pb	208	670529.2	18.2	**50.0283**	0.593	1.2	ug/L	928	Standard
	U	238	272533.1	18.4	**50.9865**	0.578	1.1	ug/L	7	Standard
>	**Bi**	209	651249.8	19.4				ug/L	604402	Standard

Sample ID: QC Std 6
Report Date/Time: Wednesday, March 15, 2017 14:54:11
Page 1

Approved: March 16, 2017

	Na	23	11.7	89.2	**7.2131**	9.468	131.3	mg/L	5	Standard
	Mg	24	375.0	26.8	**4.1149**	0.411	10.0	mg/L	25	Standard
	K	39	976.7	12.8	**4.5914**	0.390	8.5	mg/L	27	Standard
	Ca	43	71.7	8.1	**2.5059**	4.795	191.4	mg/L	58	Standard
	Fe	54	791.0	20.0	**4.9921**	0.081	1.6	mg/L	38	Standard
	Fe	57	446.7	13.0	**4.5099**	0.853	18.9	mg/L	205	Standard
>	**Sc-1**	45	48909.3	20.4				mg/L	47224	Standard
	Cl	35	1.3	86.6				ug/L	1	Standard
	Kr	83	3.3	62.4				ug/L	5	Standard
	Br	81	3113.7	18.5				ug/L	3214	Standard
	P	31	68.3	16.9				ug/L	70	Standard
	S	34	8.3	91.7				ug/L	15	Standard
	Sr	88	150.0	27.3				ug/L	162	Standard
	C	12	46.7	12.4				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	3.3	173.2				mg/L	3	Standard
	Dy	164	16.5	34.2				mg/L	13	Standard
	Ho-1	165	26.7	109.9				mg/L	10	Standard
	Er	166	3.3	173.2				mg/L	17	Standard
	I	127	4018.9	13.2				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9	98.410		
	Al	27	95.284		
	Sc	45			
	Ti	47	98.395		
	V	51	97.373		
	Cr	52	97.311		
	Cr	53			
	Mn	55	98.534		
	Co	59	98.417		
	Ni	60	98.926		
	Cu	65	99.294		
	Zn	66	99.555		
>	Ge	72		101.191	
	As	75	100.043		
	Se	82	102.071		
	Se-1	77			
>	Ga	71			

Sample ID: QC Std 6
Report Date/Time: Wednesday, March 15, 2017 14:54:11
Page 2

Approved: March 16, 2017

⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			
⌈	Mo	98	100.323		
|	Ag	107	101.125		
|	Cd	111	100.518		
|	Cd	114			
|>	In	115		102.382	
|	Sn	118	99.352		
|	Sb	123	99.320		
⌊	Ba	135	98.980		
⌈	Ce	140			
⌊>	Tb	159			
⌈	Ho	165			
|	Tl	203	98.631		
|	Tl	205			
|	Pb	206			
|	Pb	207			
|	Pb	208	100.057		
|	U	238	101.973		
⌊>	Bi	209		107.751	
⌈	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

Sample ID: QC Std 6
Report Date/Time: Wednesday, March 15, 2017 14:54:11
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Wednesday, March 15, 2017 14:55:06
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	249876.5	28.2				ug/L	253194	Standard
	Be	9	48.3	6.0	**0.0184**	0.006	33.8	ug/L	25	Standard
	Al	27	1100.0	25.6	**0.0072**	0.000	5.2	ug/L	868	Standard
	Sc	45	45727.9	29.6				ug/L	47224	Standard
	Ti	47	42.7	7.2	**-0.0852**	0.032	37.0	ug/L	63	Standard
	V	51	1633.8	12.4	**-0.0425**	0.032	74.2	ug/L	2190	Standard
	Cr	52	6725.2	12.4	**-0.1569**	0.143	91.1	ug/L	8511	Standard
	Cr	53	458.3	24.3	**-0.0070**	0.106	1522.7	ug/L	462	Standard
	Mn	55	1972.8	17.6	**0.0087**	0.016	188.8	ug/L	2023	Standard
	Co	59	875.0	14.6	**0.0163**	0.012	73.2	ug/L	1672	Standard
	Ni	60	192.7	21.8	**-0.0021**	0.006	278.3	ug/L	189	Standard
	Cu	65	649.0	22.6	**0.0118**	0.019	163.0	ug/L	657	Standard
	Zn	66	469.7	23.4	**0.0877**	0.020	23.0	ug/L	401	Standard
>	Ge	72	792577.0	27.8				ug/L	826992	Standard
	As	75	-54.5	29.2	**-0.0119**	0.024	201.8	ug/L	-72	Standard
	Se	82	16.0	52.3	**-0.0641**	0.092	143.2	ug/L	21	Standard
	Se-1	77	109.7	9.8	**0.0399**	0.259	649.1	ug/L	111	Standard
>	Ga	71	31.7	65.7				mg/L	32	Standard
	Rb	85	21.7	48.0				ug/L	48	Standard
	Y	89	545629.4	29.2				ug/L	561066	Standard
>	Rh	103	11.7	24.7				ug/L	7	Standard
	Mo	98	432.6	45.6	**0.0857**	0.018	20.5	ug/L	161	Standard
	Ag	107	138.7	45.9	**-0.0025**	0.003	140.5	ug/L	137	Standard
	Cd	111	8.1	96.6	**-0.0035**	0.003	78.4	mg/L	3	Standard
	Cd	114	51.5	22.1	**0.0074**	0.004	58.1	ug/L	51	Standard
>	In	115	677483.4	29.0				ug/L	706704	Standard
	Sn	118	256.0	26.7	**0.0314**	0.010	30.3	ug/L	264	Standard
	Sb	123	1515.1	9.9	**0.2996**	0.070	23.3	ug/L	424	Standard
	Ba	135	53.3	25.6	**0.0055**	0.003	61.7	ug/L	36	Standard
	Ce	140	18.3	56.8				ug/L	40	Standard
>	Tb	159	1038503.8	26.7				ug/L	1061303	Standard
	Ho	165	15.0	33.3				ug/L	10	Standard
	Tl	203	72.7	26.2	**0.0049**	0.001	18.8	ug/L	13	Standard
	Tl	205	145.0	59.8	**0.0017**	0.002	140.4	ug/L	42	Standard
	Pb	206	613.3	27.1	**0.0166**	0.002	9.8	ug/L	485	Standard
	Pb	207	509.7	31.2	**0.0150**	0.008	50.1	ug/L	409	Standard
	Pb	208	1141.7	28.6	**0.0110**	0.002	20.8	ug/L	928	Standard
	U	238	28.3	36.7	**0.0039**	0.001	28.6	ug/L	7	Standard
>	Bi	209	601253.7	28.4				ug/L	604402	Standard

Sample ID: QC Std 7
Report Date/Time: Wednesday, March 15, 2017 14:57:17
Page 1

Approved: March 16, 2017

⌈	**Na**	23	0.0		**-2.8296**	0.000	0.0	mg/L	5	Standard
|	**Mg**	24	21.7	58.1	**-0.1582**	0.204	128.9	mg/L	25	Standard
|	**K**	39	25.0	72.1	**-0.0162**	0.053	327.2	mg/L	27	Standard
|	**Ca**	43	75.0	33.3	**3.7890**	2.006	52.9	mg/L	58	Standard
|	**Fe**	54	37.7	14.8	**0.1090**	0.115	105.8	mg/L	38	Standard
|	**Fe**	57	240.0	8.3	**0.0424**	1.626	3830.7	mg/L	205	Standard
⌊>	**Sc-1**	45	45727.9	29.6				mg/L	47224	Standard
	Cl	35	2.0	173.2				ug/L	1	Standard
	Kr	83	4.3	35.3				ug/L	5	Standard
	Br	81	3033.6	22.5				ug/L	3214	Standard
	P	31	56.7	18.4				ug/L	70	Standard
	S	34	21.7	48.0				ug/L	15	Standard
	Sr	88	146.7	2.0				ug/L	162	Standard
	C	12	30.0	0.0				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	16.2	95.4				mg/L	13	Standard
	Ho-1	165	15.0	33.3				mg/L	10	Standard
	Er	166	10.0	100.0				mg/L	17	Standard
	I	127	6739.8	11.5				mg/L	7850	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		95.839	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: QC Std 7
Report Date/Time: Wednesday, March 15, 2017 14:57:17
Page 2

Approved: March 16, 2017

⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	95.865
|	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	99.479
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

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

Sample ID: QC Std 7
Report Date/Time: Wednesday, March 15, 2017 14:57:17
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: PBW 63 WG606254-02
Sample Date/Time: Wednesday, March 15, 2017 14:58:13
Number of Replicates: 3
Autosampler Position: 205
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	236451.8	30.9				ug/L	253194	Standard
	Be	9	43.3	83.5	**0.0143**	0.011	74.1	ug/L	25	Standard
	Al	27	2893.6	31.1	**0.0209**	0.000	1.2	ug/L	868	Standard
	Sc	45	43292.0	29.6				ug/L	47224	Standard
	Ti	47	43.3	11.8	**-0.0739**	0.037	49.8	ug/L	63	Standard
	V	51	1695.9	8.2	**-0.0190**	0.051	266.8	ug/L	2190	Standard
	Cr	52	7112.7	13.7	**-0.0446**	0.162	362.5	ug/L	8511	Standard
	Cr	53	488.3	8.3	**0.0723**	0.122	169.0	ug/L	462	Standard
	Mn	55	2574.9	22.9	**0.0705**	0.015	20.8	ug/L	2023	Standard
	Co	59	451.3	6.8	**-0.0271**	0.012	45.0	ug/L	1672	Standard
	Ni	60	217.3	28.8	**0.0151**	0.006	36.8	ug/L	189	Standard
	Cu	65	799.0	30.0	**0.1022**	0.005	5.2	ug/L	657	Standard
	Zn	66	1238.7	26.2	**0.7742**	0.041	5.3	ug/L	401	Standard
>	Ge	72	754939.3	29.6				ug/L	826992	Standard
	As	75	-101.4	16.6	**-0.0569**	0.036	63.3	ug/L	-72	Standard
	Se	82	9.3	31.2	**-0.1318**	0.003	2.3	ug/L	21	Standard
	Se-1	77	101.3	16.3	**0.0007**	0.319	47512.6	ug/L	111	Standard
>	Ga	71	30.0	50.0				mg/L	32	Standard
	Rb	85	40.0					ug/L	48	Standard
	Y	89	511801.5	31.5				ug/L	561066	Standard
>	Rh	103	6.7	43.3				ug/L	7	Standard
	Mo	98	153.1	38.4	**0.0169**	0.003	18.0	ug/L	161	Standard
	Ag	107	137.7	52.9	**-0.0018**	0.005	253.6	ug/L	137	Standard
	Cd	111	11.1	98.3	**-0.0018**	0.004	217.9	mg/L	3	Standard
	Cd	114	66.5	67.8	**0.0096**	0.005	54.8	ug/L	51	Standard
>	In	115	643522.7	31.1				ug/L	706704	Standard
	Sn	118	254.3	20.7	**0.0477**	0.033	68.3	ug/L	264	Standard
	Sb	123	338.9	4.7	**0.0506**	0.020	39.4	ug/L	424	Standard
	Ba	135	65.0	32.0	**0.0132**	0.004	32.4	ug/L	36	Standard
	Ce	140	35.0	14.3				ug/L	40	Standard
>	Tb	159	997759.1	30.4				ug/L	1061303	Standard
	Ho	165	11.7	65.5				ug/L	10	Standard
	Tl	203	50.0	67.7	**0.0018**	0.002	139.3	ug/L	13	Standard
	Tl	205	125.0	31.2	**0.0012**	0.001	41.3	ug/L	42	Standard
	Pb	206	494.3	29.0	**0.0005**	0.004	854.5	ug/L	485	Standard
	Pb	207	405.3	40.0	**-0.0025**	0.007	298.5	ug/L	409	Standard
	Pb	208	953.3	35.5	**-0.0021**	0.006	284.8	ug/L	928	Standard
	U	238	15.3	62.7	**0.0015**	0.002	128.7	ug/L	7	Standard
>	Bi	209	578691.7	30.2				ug/L	604402	Standard

Sample ID: PBW 63 WG606254-02
Report Date/Time: Wednesday, March 15, 2017 15:00:24
Page 1

Approved: March 16, 2017

⌈	**Na**	23	0.0		**-2.8296**	0.000	0.0	mg/L	5	Standard
|	**Mg**	24	21.7	53.3	**-0.1324**	0.263	198.5	mg/L	25	Standard
|	**K**	39	23.3	32.7	**-0.0050**	0.043	857.1	mg/L	27	Standard
|	**Ca**	43	65.0	40.7	**3.3740**	10.568	313.2	mg/L	58	Standard
|	**Fe**	54	31.3	33.8	**0.0593**	0.075	126.9	mg/L	38	Standard
|	**Fe**	57	220.0	18.0	**-0.3179**	0.980	308.1	mg/L	205	Standard
⌊>	**Sc-1**	45	43292.0	29.6				mg/L	47224	Standard
	Cl	35	2.0	0.0				ug/L	1	Standard
	Kr	83	2.3	107.9				ug/L	5	Standard
	Br	81	3110.3	22.4				ug/L	3214	Standard
	P	31	51.7	27.9				ug/L	70	Standard
	S	34	15.0	66.7				ug/L	15	Standard
	Sr	88	128.3	22.2				ug/L	162	Standard
	C	12	26.7	114.6				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	3.3	173.2				mg/L	3	Standard
	Dy	164	12.5	117.7				mg/L	13	Standard
	Ho-1	165	11.7	65.5				mg/L	10	Standard
	Er	166	16.7	69.3				mg/L	17	Standard
	I	127	6378.0	6.2				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		93.387	
|	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		91.287	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: PBW 63 WG606254-02
Report Date/Time: Wednesday, March 15, 2017 15:00:24
Page 2

Approved: March 16, 2017

	Rb	85	
	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	91.060
	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	95.746
	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: PBW 63 WG606254-02
Report Date/Time: Wednesday, March 15, 2017 15:00:24
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: LCSW 63 WG606254-03
Sample Date/Time: Wednesday, March 15, 2017 15:01:19
Number of Replicates: 3
Autosampler Position: 206
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	249790.9	25.0				ug/L	253194	Standard
	Be	9	107311.4	25.3	**50.1621**	0.473	0.9	ug/L	25	Standard
	Al	27	5130.9	18.0	**0.0359**	0.003	7.3	ug/L	868	Standard
	Sc	45	45484.3	24.7				ug/L	47224	Standard
	Ti	47	46.0	18.8	**-0.0781**	0.029	37.2	ug/L	63	Standard
	V	51	371157.3	26.3	**48.3439**	0.900	1.9	ug/L	2190	Standard
	Cr	52	356378.1	26.7	**49.2084**	0.987	2.0	ug/L	8511	Standard
	Cr	53	42988.7	26.4	**48.6138**	0.679	1.4	ug/L	462	Standard
	Mn	55	586140.3	27.6	**48.7044**	0.954	2.0	ug/L	2023	Standard
	Co	59	459385.2	27.4	**48.9370**	0.853	1.7	ug/L	1672	Standard
	Ni	60	99539.5	28.3	**49.5671**	1.265	2.6	ug/L	189	Standard
	Cu	65	103631.7	26.8	**49.9626**	0.652	1.3	ug/L	657	Standard
	Zn	66	61745.3	25.5	**49.7348**	0.174	0.4	ug/L	401	Standard
>	Ge	72	804650.2	25.7				ug/L	826992	Standard
	As	75	60800.5	25.3	**49.0041**	0.549	1.1	ug/L	-72	Standard
	Se	82	5632.8	28.0	**49.0429**	1.116	2.3	ug/L	21	Standard
	Se-1	77	4122.9	28.5	**49.8028**	1.361	2.7	ug/L	111	Standard
>	Ga	71	33.3	31.2				mg/L	32	Standard
	Rb	85	53.3	28.6				ug/L	48	Standard
	Y	89	553140.3	27.5				ug/L	561066	Standard
>	Rh	103	36.7	75.1				ug/L	7	Standard
	Mo	98	172.7	11.9	**0.0214**	0.008	37.9	ug/L	161	Standard
	Ag	107	323332.7	27.8	**49.7792**	0.825	1.7	ug/L	137	Standard
	Cd	111	93305.1	28.0	**50.3614**	0.954	1.9	mg/L	3	Standard
	Cd	114	233187.7	27.7	**48.3281**	0.721	1.5	ug/L	51	Standard
>	In	115	684131.8	26.3				ug/L	706704	Standard
	Sn	118	298.3	25.6	**0.0687**	0.010	14.9	ug/L	264	Standard
	Sb	123	235005.0	26.2	**48.3242**	0.290	0.6	ug/L	424	Standard
	Ba	135	94884.4	26.3	**48.9516**	0.591	1.2	ug/L	36	Standard
	Ce	140	78.3	79.8				ug/L	40	Standard
>	Tb	159	1051418.9	24.0				ug/L	1061303	Standard
	Ho	165	36.7	39.4				ug/L	10	Standard
	Tl	203	396003.6	25.5	**50.3390**	0.676	1.3	ug/L	13	Standard
	Tl	205	950130.2	26.1	**48.8810**	0.807	1.7	ug/L	42	Standard
	Pb	206	315567.8	25.9	**50.1856**	0.671	1.3	ug/L	485	Standard
	Pb	207	272360.0	26.2	**48.5722**	0.968	2.0	ug/L	409	Standard
	Pb	208	627702.4	26.0	**49.6120**	0.773	1.6	ug/L	928	Standard
	U	238	245508.1	24.9	**48.7421**	0.605	1.2	ug/L	7	Standard
>	Bi	209	612448.1	24.6				ug/L	604402	Standard

Sample ID: LCSW 63 WG606254-03
Report Date/Time: Wednesday, March 15, 2017 15:03:29
Page 1

Approved: March 16, 2017

⌈	**Na**	23	0.0		**-2.8296**	0.000	0.0	mg/L	5	Standard
|	**Mg**	24	23.3	49.5	**-0.1316**	0.211	160.4	mg/L	25	Standard
|	**K**	39	11.7	107.9	**-0.0667**	0.084	125.6	mg/L	27	Standard
|	**Ca**	43	73.3	25.8	**4.5708**	7.355	160.9	mg/L	58	Standard
|	**Fe**	54	37.4	17.2	**0.0906**	0.019	20.9	mg/L	38	Standard
|	**Fe**	57	246.7	6.2	**0.1620**	1.450	894.7	mg/L	205	Standard
⌊>	**Sc-1**	45	45484.3	24.7				mg/L	47224	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	1.3	43.3				ug/L	5	Standard
	Br	81	3233.7	20.3				ug/L	3214	Standard
	P	31	55.0	32.8				ug/L	70	Standard
	S	34	11.7	65.5				ug/L	15	Standard
	Sr	88	113.3	26.6				ug/L	162	Standard
	C	12	46.7	68.9				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	3.3	173.2				mg/L	3	Standard
	Dy	164	5.7	101.5				mg/L	13	Standard
	Ho-1	165	36.7	39.4				mg/L	10	Standard
	Er	166	20.0	50.0				mg/L	17	Standard
	I	127	9526.3	8.3				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		98.656	
|	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		97.298	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: LCSW 63 WG606254-03
Report Date/Time: Wednesday, March 15, 2017 15:03:29
Page 2

Approved: March 16, 2017

⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	96.806
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	101.331
⌈	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

Sample ID: LCSW 63 WG606254-03
Report Date/Time: Wednesday, March 15, 2017 15:03:29
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: L1703070501
Sample Date/Time: Wednesday, March 15, 2017 15:04:27
Number of Replicates: 3
Autosampler Position: 207
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	265791.5	24.0				ug/L	253194	Standard
	Be	9	110.0	41.7	**0.0425**	0.013	30.7	ug/L	25	Standard
	Al	27	4156714.5	23.8	**27.4860**	0.333	1.2	ug/L	868	Standard
	Sc	45	50254.8	24.4				ug/L	47224	Standard
	Ti	47	780.0	17.7	**2.5045**	0.200	8.0	ug/L	63	Standard
	V	51	6066.9	16.1	**0.4929**	0.065	13.3	ug/L	2190	Standard
	Cr	52	22640.6	17.3	**1.9024**	0.237	12.5	ug/L	8511	Standard
	Cr	53	2296.8	12.9	**1.9734**	0.289	14.6	ug/L	462	Standard
	Mn	55	351289.1	23.7	**27.5265**	0.505	1.8	ug/L	2023	Standard
	Co	59	3709.8	28.5	**0.2902**	0.014	4.7	ug/L	1672	Standard
	Ni	60	3679.1	24.2	**1.6347**	0.014	0.9	ug/L	189	Standard
	Cu	65	5425.3	22.3	**2.1801**	0.082	3.8	ug/L	657	Standard
	Zn	66	21083.1	21.9	**15.8355**	0.486	3.1	ug/L	401	Standard
>	Ge	72	855749.6	25.0				ug/L	826992	Standard
	As	75	5594.2	22.9	**4.2847**	0.089	2.1	ug/L	-72	Standard
	Se	82	29.8	22.2	**0.0330**	0.060	181.6	ug/L	21	Standard
	Se-1	77	126.0	12.8	**0.1277**	0.334	261.8	ug/L	111	Standard
>	Ga	71	325.0	20.1				mg/L	32	Standard
	Rb	85	7021.7	29.6				ug/L	48	Standard
	Y	89	586189.6	24.7				ug/L	561066	Standard
>	Rh	103	20.0	66.1				ug/L	7	Standard
	Mo	98	968.4	20.4	**0.2149**	0.011	5.3	ug/L	161	Standard
	Ag	107	174.7	29.7	**0.0018**	0.001	72.3	ug/L	137	Standard
	Cd	111	65.8	42.9	**0.0252**	0.006	23.6	mg/L	3	Standard
	Cd	114	213.4	30.6	**0.0375**	0.002	5.3	ug/L	51	Standard
>	In	115	725427.8	25.5				ug/L	706704	Standard
	Sn	118	370.0	28.9	**0.1152**	0.012	10.6	ug/L	264	Standard
	Sb	123	2028.7	13.9	**0.3741**	0.051	13.8	ug/L	424	Standard
	Ba	135	20212.6	23.3	**9.8556**	0.237	2.4	ug/L	36	Standard
	Ce	140	17261.9	24.5				ug/L	40	Standard
>	Tb	159	1115861.5	22.6				ug/L	1061303	Standard
	Ho	165	445.0	31.0				ug/L	10	Standard
	Tl	203	502.3	47.3	**0.0538**	0.015	28.0	ug/L	13	Standard
	Tl	205	1280.1	48.9	**0.0545**	0.017	31.6	ug/L	42	Standard
	Pb	206	2368.9	25.4	**0.2738**	0.007	2.4	ug/L	485	Standard
	Pb	207	1919.1	23.3	**0.2478**	0.002	0.7	ug/L	409	Standard
	Pb	208	4489.6	23.3	**0.2562**	0.003	1.0	ug/L	928	Standard
	U	238	817.4	20.0	**0.1530**	0.010	6.3	ug/L	7	Standard
>	Bi	209	646693.6	23.5				ug/L	604402	Standard

Sample ID: L1703070501
Report Date/Time: Wednesday, March 15, 2017 15:06:38
Page 1

Approved: March 16, 2017

⌈	**Na**	23	21.7	66.6	**15.6459**	11.803	75.4	mg/L	5	Standard
|	**Mg**	24	436.7	17.6	**4.8339**	0.435	9.0	mg/L	25	Standard
|	**K**	39	173.3	12.0	**0.6905**	0.111	16.1	mg/L	27	Standard
|	**Ca**	43	96.7	41.8	**6.6773**	4.178	62.6	mg/L	58	Standard
|	**Fe**	54	69.4	25.1	**0.2689**	0.085	31.6	mg/L	38	Standard
|	**Fe**	57	271.7	20.3	**0.0767**	1.599	2084.7	mg/L	205	Standard
⌊>	**Sc-1**	45	50254.8	24.4				mg/L	47224	Standard
	Cl	35	3.3	91.7				ug/L	1	Standard
	Kr	83	3.0	88.2				ug/L	5	Standard
	Br	81	5571.1	21.1				ug/L	3214	Standard
	P	31	71.7	24.5				ug/L	70	Standard
	S	34	8.3	69.3				ug/L	15	Standard
	Sr	88	133.3	2.2				ug/L	162	Standard
	C	12	93.3	44.6				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	6.7	86.6				mg/L	3	Standard
	Dy	164	628.2	20.9				mg/L	13	Standard
	Ho-1	165	445.0	31.0				mg/L	10	Standard
	Er	166	316.7	31.2				mg/L	17	Standard
	I	127	19357.5	14.2				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		104.975	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		103.477	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1703070501
Report Date/Time: Wednesday, March 15, 2017 15:06:38
Page 2

Approved: March 16, 2017

⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	102.650
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	106.997
⌈	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: L1703070501
Report Date/Time: Wednesday, March 15, 2017 15:06:38
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: L1703072301 WG606254-01
Sample Date/Time: Wednesday, March 15, 2017 15:07:32
Number of Replicates: 3
Autosampler Position: 208
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	262388.9	17.7				ug/L	253194	Standard
	Be	9	63.3	51.4	**0.0227**	0.014	63.1	ug/L	25	Standard
	Al	27	7998184.3	19.3	**53.4626**	0.978	1.8	ug/L	868	Standard
	Sc	45	45528.3	19.3				ug/L	47224	Standard
	Ti	47	981.7	23.1	**3.5809**	0.194	5.4	ug/L	63	Standard
	V	51	4951.6	3.0	**0.4378**	0.140	32.1	ug/L	2190	Standard
	Cr	52	31559.1	11.3	**3.6146**	0.331	9.2	ug/L	8511	Standard
	Cr	53	14053.2	6.7	**16.7069**	1.993	11.9	ug/L	462	Standard
	Mn	55	548607.6	19.6	**48.2856**	0.721	1.5	ug/L	2023	Standard
	Co	59	18525.6	18.9	**2.0138**	0.014	0.7	ug/L	1672	Standard
	Ni	60	18580.7	19.1	**9.7351**	0.093	1.0	ug/L	189	Standard
	Cu	65	6259.3	16.7	**2.9117**	0.070	2.4	ug/L	657	Standard
	Zn	66	41614.8	16.6	**35.4206**	0.572	1.6	ug/L	401	Standard
>	Ge	72	760885.5	18.3				ug/L	826992	Standard
	As	75	-11336.0	37.6	**-9.3947**	1.795	19.1	ug/L	-72	Standard
	Se	82	-4350.1	36.7	**-39.7235**	7.227	18.2	ug/L	21	Standard
	Se-1	77	3428.1	5.5	**44.5088**	5.616	12.6	ug/L	111	Standard
>	Ga	71	168.3	4.5				mg/L	32	Standard
	Rb	85	64078.4	18.9				ug/L	48	Standard
	Y	89	547169.9	20.7				ug/L	561066	Standard
>	Rh	103	1298.4	20.4				ug/L	7	Standard
	Mo	98	14462.4	18.3	**4.0318**	0.043	1.1	ug/L	161	Standard
	Ag	107	174.0	18.1	**0.0055**	0.002	28.1	ug/L	137	Standard
	Cd	111	139.7	22.8	**0.0736**	0.004	5.2	mg/L	3	Standard
	Cd	114	480.6	25.6	**0.1026**	0.006	6.1	ug/L	51	Standard
>	In	115	635779.8	19.5				ug/L	706704	Standard
	Sn	118	349.0	18.5	**0.1426**	0.006	3.9	ug/L	264	Standard
	Sb	123	3424.3	14.5	**0.7357**	0.045	6.1	ug/L	424	Standard
	Ba	135	118937.3	17.4	**66.2216**	1.317	2.0	ug/L	36	Standard
	Ce	140	1628.4	16.7				ug/L	40	Standard
>	Tb	159	1038697.7	17.3				ug/L	1061303	Standard
	Ho	165	63.3	25.4				ug/L	10	Standard
	Tl	203	2920.3	28.1	**0.3976**	0.045	11.3	ug/L	13	Standard
	Tl	205	6845.0	27.3	**0.3766**	0.040	10.5	ug/L	42	Standard
	Pb	206	1407.7	16.1	**0.1628**	0.009	5.3	ug/L	485	Standard
	Pb	207	1173.0	20.4	**0.1512**	0.012	8.0	ug/L	409	Standard
	Pb	208	2874.4	17.8	**0.1680**	0.005	2.9	ug/L	928	Standard
	U	238	3250.0	15.1	**0.7061**	0.014	2.0	ug/L	7	Standard
>	Bi	209	559431.9	16.4				ug/L	604402	Standard

Sample ID: L1703072301 WG606254-01
Report Date/Time: Wednesday, March 15, 2017 15:09:43
Page 1

Approved: March 16, 2017

	Na	23	20.0	25.0	**16.9215**	3.662	21.6	mg/L	5	Standard
	Mg	24	95940.2	14.2	**1280.4393**	61.171	4.8	mg/L	25	Standard
	K	39	306.7	19.3	**1.4442**	0.056	3.9	mg/L	27	Standard
	Ca	43	58.3	9.9	**0.0650**	3.401	5229.4	mg/L	58	Standard
	Fe	54	62.2	4.6	**0.2690**	0.065	24.1	mg/L	38	Standard
	Fe	57	376.7	6.3	**3.5564**	1.561	43.9	mg/L	205	Standard
>	**Sc-1**	45	45528.3	19.3				mg/L	47224	Standard
	Cl	35	4.7	24.7				ug/L	1	Standard
	Kr	83	2.3	24.7				ug/L	5	Standard
	Br	81	153671.5	13.6				ug/L	3214	Standard
	P	31	115.0	60.2				ug/L	70	Standard
	S	34	11.7	89.2				ug/L	15	Standard
	Sr	88	298.3	21.0				ug/L	162	Standard
	C	12	776.7	15.4				mg/L	17	Standard
	N	14	3.3	173.2				mg/L	3	Standard
	Hg	202	30.0	57.7				mg/L	3	Standard
	Dy	164	88.4	2.3				mg/L	13	Standard
	Ho-1	165	63.3	25.4				mg/L	10	Standard
	Er	166	33.3	124.9				mg/L	17	Standard
	I	127	932702.2	2.4				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		103.631	
	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		92.006	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			

Sample ID: L1703072301 WG606254-01
Report Date/Time: Wednesday, March 15, 2017 15:09:43
Page 2

Approved: March 16, 2017

⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	89.964
|	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	92.560
⌈	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
As 75 Lower	As	75	
Se 82 Lower	Se	82	

Sample ID: L1703072301 WG606254-01
Report Date/Time: Wednesday, March 15, 2017 15:09:43
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: L1703072301S WG606254-04
Sample Date/Time: Wednesday, March 15, 2017 15:10:37
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: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	266281.5	20.2				ug/L	253194	Standard
	Be	9	105003.0	15.0	**46.3831**	2.309	5.0	ug/L	25	Standard
	Al	27	8032643.7	18.6	**53.1074**	0.941	1.8	ug/L	868	Standard
	Sc	45	44976.6	19.2				ug/L	47224	Standard
	Ti	47	1074.4	18.3	**4.1000**	0.074	1.8	ug/L	63	Standard
	V	51	357176.2	16.2	**50.9349**	1.102	2.2	ug/L	2190	Standard
	Cr	52	352325.8	17.1	**53.3242**	0.798	1.5	ug/L	8511	Standard
	Cr	53	56635.2	13.3	**70.5901**	3.513	5.0	ug/L	462	Standard
	Mn	55	1080537.9	16.9	**98.5435**	1.488	1.5	ug/L	2023	Standard
	Co	59	429628.6	17.7	**50.0886**	0.372	0.7	ug/L	1672	Standard
	Ni	60	104965.9	17.3	**57.3249**	0.635	1.1	ug/L	189	Standard
	Cu	65	94223.5	16.2	**49.7514**	1.109	2.2	ug/L	657	Standard
	Zn	66	97643.0	15.6	**86.2428**	2.417	2.8	ug/L	401	Standard
>	Ge	72	738004.9	18.5				ug/L	826992	Standard
	As	75	48331.6	14.0	**42.6769**	1.855	4.3	ug/L	-72	Standard
	Se	82	842.3	26.6	**8.2701**	3.465	41.9	ug/L	21	Standard
	Se-1	77	7440.8	11.9	**100.5957**	6.428	6.4	ug/L	111	Standard
>	Ga	71	145.0	15.8				mg/L	32	Standard
	Rb	85	65526.7	19.7				ug/L	48	Standard
	Y	89	539464.9	20.1				ug/L	561066	Standard
>	Rh	103	1730.1	16.2				ug/L	7	Standard
	Mo	98	14966.7	18.2	**4.2513**	0.036	0.9	ug/L	161	Standard
	Ag	107	273337.5	17.1	**46.3690**	0.944	2.0	ug/L	137	Standard
	Cd	111	82267.8	17.1	**48.9490**	1.015	2.1	mg/L	3	Standard
	Cd	114	207621.3	19.1	**47.2954**	0.088	0.2	ug/L	51	Standard
>	In	115	623987.3	19.1				ug/L	706704	Standard
	Sn	118	332.7	20.7	**0.1312**	0.006	4.7	ug/L	264	Standard
	Sb	123	223763.2	16.8	**50.5911**	1.109	2.2	ug/L	424	Standard
	Ba	135	206969.6	16.3	**117.5321**	3.147	2.7	ug/L	36	Standard
	Ce	140	1615.1	8.6				ug/L	40	Standard
>	Tb	159	1024431.5	18.2				ug/L	1061303	Standard
	Ho	165	68.3	29.6				ug/L	10	Standard
	Tl	203	362684.0	15.0	**51.2653**	1.067	2.1	ug/L	13	Standard
	Tl	205	869636.5	16.5	**49.7116**	0.274	0.6	ug/L	42	Standard
	Pb	206	286788.2	15.7	**50.7041**	0.690	1.4	ug/L	485	Standard
	Pb	207	244822.4	16.4	**48.5251**	0.320	0.7	ug/L	409	Standard
	Pb	208	576037.5	15.7	**50.6222**	0.692	1.4	ug/L	928	Standard
	U	238	254230.9	14.9	**56.0793**	1.175	2.1	ug/L	7	Standard
>	Bi	209	552932.9	17.1				ug/L	604402	Standard

Sample ID: L1703072301S WG606254-04
Report Date/Time: Wednesday, March 15, 2017 15:12:48
Page 1

Approved: March 16, 2017

⌈	**Na**	23	13.3	21.7	**10.7104**	3.690	34.4	mg/L	5	Standard
|	**Mg**	24	99259.3	12.8	**1343.1953**	82.222	6.1	mg/L	25	Standard
|	**K**	39	305.0	19.9	**1.4621**	0.250	17.1	mg/L	27	Standard
|	**Ca**	43	46.7	6.2	**-2.9300**	2.474	84.4	mg/L	58	Standard
|	**Fe**	54	61.5	49.3	**0.2696**	0.245	90.9	mg/L	38	Standard
|	**Fe**	57	341.7	13.2	**2.7096**	1.685	62.2	mg/L	205	Standard
⌊>	**Sc-1**	45	44976.6	19.2				mg/L	47224	Standard
	Cl	35	2.0	100.0				ug/L	1	Standard
	Kr	83	3.3	62.4				ug/L	5	Standard
	Br	81	154521.5	14.5				ug/L	3214	Standard
	P	31	76.7	38.2				ug/L	70	Standard
	S	34	11.7	65.5				ug/L	15	Standard
	Sr	88	306.7	5.0				ug/L	162	Standard
	C	12	786.7	10.8				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	10.0	173.2				mg/L	3	Standard
	Dy	164	68.2	29.0				mg/L	13	Standard
	Ho-1	165	68.3	29.6				mg/L	10	Standard
	Er	166	36.7	56.8				mg/L	17	Standard
	I	127	841374.5	3.2				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		105.169	
|	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		89.240	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1703072301S WG606254-04
Report Date/Time: Wednesday, March 15, 2017 15:12:48
Page 2

Approved: March 16, 2017

⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	88.295
|	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	91.484
⌈	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
Se-1 77 Upper, S, EEE	Se-1	77	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1703072301S WG606254-04
Report Date/Time: Wednesday, March 15, 2017 15:12:48
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: L1703072301SD WG606254-05
Sample Date/Time: Wednesday, March 15, 2017 15:13:43
Number of Replicates: 3
Autosampler Position: 210
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	268210.5	20.4				ug/L	253194	Standard
	Be	9	107532.5	16.9	**47.0530**	1.555	3.3	ug/L	25	Standard
	Al	27	7581150.2	19.2	**49.7281**	0.585	1.2	ug/L	868	Standard
	Sc	45	44298.2	20.6				ug/L	47224	Standard
	Ti	47	1058.0	18.8	**4.0062**	0.153	3.8	ug/L	63	Standard
	V	51	361073.3	17.3	**51.1112**	1.252	2.4	ug/L	2190	Standard
	Cr	52	355802.2	17.2	**53.5116**	1.374	2.6	ug/L	8511	Standard
	Cr	53	57788.3	15.1	**71.4469**	3.232	4.5	ug/L	462	Standard
	Mn	55	1059598.3	18.6	**95.8290**	1.130	1.2	ug/L	2023	Standard
	Co	59	433809.7	18.5	**50.2142**	0.639	1.3	ug/L	1672	Standard
	Ni	60	104835.1	19.0	**56.7778**	0.470	0.8	ug/L	189	Standard
	Cu	65	95018.5	17.2	**49.8050**	1.252	2.5	ug/L	657	Standard
	Zn	66	90852.9	17.1	**79.5782**	2.122	2.7	ug/L	401	Standard
>	Ge	72	743916.8	19.8				ug/L	826992	Standard
	As	75	49966.6	16.3	**43.7287**	1.468	3.4	ug/L	-72	Standard
	Se	82	1330.8	4.4	**12.6640**	1.865	14.7	ug/L	21	Standard
	Se-1	77	7593.9	12.3	**102.0383**	7.343	7.2	ug/L	111	Standard
>	Ga	71	158.3	36.3				mg/L	32	Standard
	Rb	85	60115.6	20.2				ug/L	48	Standard
	Y	89	536564.6	21.6				ug/L	561066	Standard
>	Rh	103	1850.1	14.1				ug/L	7	Standard
	Mo	98	13542.7	18.7	**3.8961**	0.101	2.6	ug/L	161	Standard
	Ag	107	272278.4	18.9	**46.7306**	1.084	2.3	ug/L	137	Standard
	Cd	111	81611.2	19.3	**49.1015**	0.958	2.0	mg/L	3	Standard
	Cd	114	204297.4	18.5	**47.2214**	1.329	2.8	ug/L	51	Standard
>	In	115	617198.0	21.3				ug/L	706704	Standard
	Sn	118	309.3	23.0	**0.1103**	0.018	16.7	ug/L	264	Standard
	Sb	123	224047.3	18.2	**51.2776**	1.511	2.9	ug/L	424	Standard
	Ba	135	199514.5	17.6	**114.7255**	4.018	3.5	ug/L	36	Standard
	Ce	140	1516.7	17.1				ug/L	40	Standard
>	Tb	159	1026324.5	18.2				ug/L	1061303	Standard
	Ho	165	68.3	18.4				ug/L	10	Standard
	Tl	203	365760.7	16.8	**52.5935**	1.070	2.0	ug/L	13	Standard
	Tl	205	872831.3	17.4	**50.8057**	0.723	1.4	ug/L	42	Standard
	Pb	206	286302.2	18.0	**51.4584**	0.324	0.6	ug/L	485	Standard
	Pb	207	244807.6	18.1	**49.3619**	0.441	0.9	ug/L	409	Standard
	Pb	208	579609.2	16.9	**51.8510**	0.890	1.7	ug/L	928	Standard
	U	238	256314.0	16.0	**57.5610**	1.498	2.6	ug/L	7	Standard
>	Bi	209	543490.8	18.7				ug/L	604402	Standard

Sample ID: L1703072301SD WG606254-05
Report Date/Time: Wednesday, March 15, 2017 15:15:53
Page 1

Approved: March 16, 2017

⌈	**Na**	23	23.3	32.7	**20.9208**	7.620	36.4	mg/L	5	Standard
|	**Mg**	24	95224.4	15.1	**1307.7968**	71.752	5.5	mg/L	25	Standard
|	**K**	39	300.0	4.4	**1.4981**	0.338	22.6	mg/L	27	Standard
|	**Ca**	43	68.3	15.2	**2.9639**	2.098	70.8	mg/L	58	Standard
|	**Fe**	54	78.6	18.7	**0.3934**	0.052	13.2	mg/L	38	Standard
|	**Fe**	57	405.0	3.7	**4.6901**	2.045	43.6	mg/L	205	Standard
⌊>	**Sc-1**	45	44298.2	20.6				mg/L	47224	Standard
	Cl	35	2.0	100.0				ug/L	1	Standard
	Kr	83	4.7	44.6				ug/L	5	Standard
	Br	81	142162.3	13.9				ug/L	3214	Standard
	P	31	68.3	18.4				ug/L	70	Standard
	S	34	16.7	45.8				ug/L	15	Standard
	Sr	88	296.7	11.5				ug/L	162	Standard
	C	12	776.7	4.9				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	13.3	86.6				mg/L	3	Standard
	Dy	164	87.3	19.7				mg/L	13	Standard
	Ho-1	165	68.3	18.4				mg/L	10	Standard
	Er	166	56.7	27.0				mg/L	17	Standard
	I	127	729605.6	4.5				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		105.931	
|	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		89.955	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1703072301SD WG606254-05
Report Date/Time: Wednesday, March 15, 2017 15:15:53
Page 2

Approved: March 16, 2017

⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	87.335
|	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	89.922
⌈	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
Se-1 77 Upper, S, EEE	Se-1	77	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1703072301SD WG606254-05
Report Date/Time: Wednesday, March 15, 2017 15:15:53
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: L1703072401
Sample Date/Time: Wednesday, March 15, 2017 15:16:48
Number of Replicates: 3
Autosampler Position: 211
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	265573.6	23.2				ug/L	253194	Standard
	Be	9	103.3	46.5	**0.0386**	0.011	27.9	ug/L	25	Standard
	Al	27	4199957.2	20.5	**27.9035**	0.993	3.6	ug/L	868	Standard
	Sc	45	42912.6	21.7				ug/L	47224	Standard
	Ti	47	1201.4	21.7	**4.6596**	0.124	2.7	ug/L	63	Standard
	V	51	3453.7	3.2	**0.2491**	0.115	46.3	ug/L	2190	Standard
	Cr	52	31415.3	13.7	**3.7984**	0.323	8.5	ug/L	8511	Standard
	Cr	53	20639.1	9.1	**25.9366**	3.326	12.8	ug/L	462	Standard
	Mn	55	72088.3	19.9	**6.4917**	0.047	0.7	ug/L	2023	Standard
	Co	59	17368.6	20.6	**1.9681**	0.009	0.5	ug/L	1672	Standard
	Ni	60	16147.8	19.4	**8.8339**	0.145	1.6	ug/L	189	Standard
	Cu	65	6016.9	16.2	**2.9319**	0.144	4.9	ug/L	657	Standard
	Zn	66	23729.6	17.7	**20.9749**	0.588	2.8	ug/L	401	Standard
>	Ge	72	729742.7	20.6				ug/L	826992	Standard
	As	75	-10773.7	31.2	**-9.3908**	1.008	10.7	ug/L	-72	Standard
	Se	82	-4315.9	32.2	**-41.3420**	5.083	12.3	ug/L	21	Standard
	Se-1	77	4234.9	5.4	**58.0298**	8.589	14.8	ug/L	111	Standard
>	Ga	71	188.3	10.7				mg/L	32	Standard
	Rb	85	61839.6	20.9				ug/L	48	Standard
	Y	89	520660.8	21.3				ug/L	561066	Standard
>	Rh	103	2086.8	16.4				ug/L	7	Standard
	Mo	98	12108.9	19.6	**3.5688**	0.061	1.7	ug/L	161	Standard
	Ag	107	186.0	29.1	**0.0089**	0.003	28.4	ug/L	137	Standard
	Cd	111	159.3	21.4	**0.0908**	0.008	8.7	mg/L	3	Standard
	Cd	114	483.7	31.8	**0.1091**	0.014	12.9	ug/L	51	Standard
>	In	115	601267.2	21.1				ug/L	706704	Standard
	Sn	118	297.3	11.0	**0.1113**	0.035	31.2	ug/L	264	Standard
	Sb	123	2987.8	19.3	**0.6737**	0.020	3.0	ug/L	424	Standard
	Ba	135	77092.1	17.9	**45.4565**	1.367	3.0	ug/L	36	Standard
	Ce	140	430.0	22.6				ug/L	40	Standard
>	Tb	159	999684.5	19.0				ug/L	1061303	Standard
	Ho	165	20.0	25.0				ug/L	10	Standard
	Tl	203	1473.4	26.5	**0.2106**	0.018	8.7	ug/L	13	Standard
	Tl	205	3545.4	23.5	**0.2050**	0.011	5.5	ug/L	42	Standard
	Pb	206	1053.4	22.9	**0.1104**	0.010	9.2	ug/L	485	Standard
	Pb	207	852.4	20.4	**0.0986**	0.004	4.5	ug/L	409	Standard
	Pb	208	2077.1	19.8	**0.1092**	0.005	4.7	ug/L	928	Standard
	U	238	8407.0	17.5	**1.9347**	0.022	1.1	ug/L	7	Standard
>	Bi	209	528596.9	17.9				ug/L	604402	Standard

Sample ID: L1703072401
Report Date/Time: Wednesday, March 15, 2017 15:18:59
Page 1

Approved: March 16, 2017

⌈	**Na**	23	8.3	69.3	**6.1979**	6.462	104.3	mg/L	5	Standard
|	**Mg**	24	108039.6	17.1	**1531.4174**	88.403	5.8	mg/L	25	Standard
|	**K**	39	286.7	16.2	**1.4441**	0.137	9.5	mg/L	27	Standard
|	**Ca**	43	23.3	53.9	**-9.4083**	2.394	25.4	mg/L	58	Standard
|	**Fe**	54	52.0	12.0	**0.2251**	0.098	43.7	mg/L	38	Standard
|	**Fe**	57	348.3	11.6	**3.3211**	1.020	30.7	mg/L	205	Standard
⌊>	**Sc-1**	45	42912.6	21.7				mg/L	47224	Standard
	Cl	35	4.0	86.6				ug/L	1	Standard
	Kr	83	3.0	100.0				ug/L	5	Standard
	Br	81	144603.5	14.9				ug/L	3214	Standard
	P	31	76.7	3.8				ug/L	70	Standard
	S	34	21.7	35.3				ug/L	15	Standard
	Sr	88	261.7	5.8				ug/L	162	Standard
	C	12	820.0	27.5				mg/L	17	Standard
	N	14	3.3	173.2				mg/L	3	Standard
	Hg	202	13.3	114.6				mg/L	3	Standard
	Dy	164	14.6	74.4				mg/L	13	Standard
	Ho-1	165	20.0	25.0				mg/L	10	Standard
	Er	166	43.3	35.3				mg/L	17	Standard
	I	127	1030234.1	3.1				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		104.889	
|	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		88.241	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1703072401
Report Date/Time: Wednesday, March 15, 2017 15:18:59
Page 2

Approved: March 16, 2017

⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	85.081
|	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	87.458
⌈	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
As 75 Lower	As	75	
Se 82 Lower	Se	82	

Sample ID: L1703072401
Report Date/Time: Wednesday, March 15, 2017 15:18:59
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: L1703072401PS WG606367-01
Sample Date/Time: Wednesday, March 15, 2017 15:19:54
Number of Replicates: 3
Autosampler Position: 212
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	264826.1	21.9				ug/L	253194	Standard
	Be	9	106700.4	19.4	**47.2318**	1.764	3.7	ug/L	25	Standard
	Al	27	4184665.9	19.6	**27.8424**	0.627	2.3	ug/L	868	Standard
	Sc	45	44071.0	21.5				ug/L	47224	Standard
	Ti	47	1330.7	18.6	**5.2228**	0.115	2.2	ug/L	63	Standard
	V	51	365108.5	18.0	**52.8167**	0.991	1.9	ug/L	2190	Standard
	Cr	52	361284.1	18.6	**55.5197**	0.746	1.3	ug/L	8511	Standard
	Cr	53	62251.7	17.0	**78.5919**	2.184	2.8	ug/L	462	Standard
	Mn	55	620752.1	18.2	**57.3896**	0.931	1.6	ug/L	2023	Standard
	Co	59	441095.7	18.5	**52.2204**	0.720	1.4	ug/L	1672	Standard
	Ni	60	103907.2	18.2	**57.6242**	0.859	1.5	ug/L	189	Standard
	Cu	65	96466.7	17.1	**51.7361**	1.305	2.5	ug/L	657	Standard
	Zn	66	79161.1	16.8	**70.9128**	2.023	2.9	ug/L	401	Standard
>	Ge	72	727229.6	19.7				ug/L	826992	Standard
	As	75	49522.8	16.8	**44.3048**	1.247	2.8	ug/L	-72	Standard
	Se	82	918.0	9.1	**8.9037**	1.850	20.8	ug/L	21	Standard
	Se-1	77	8121.5	11.6	**111.8455**	8.703	7.8	ug/L	111	Standard
>	Ga	71	201.7	35.9				mg/L	32	Standard
	Rb	85	60525.2	19.1				ug/L	48	Standard
	Y	89	522046.2	20.7				ug/L	561066	Standard
>	Rh	103	2141.8	9.8				ug/L	7	Standard
	Mo	98	12058.1	20.2	**3.5157**	0.010	0.3	ug/L	161	Standard
	Ag	107	277038.9	17.6	**48.3974**	1.339	2.8	ug/L	137	Standard
	Cd	111	81157.8	19.0	**49.6346**	0.697	1.4	mg/L	3	Standard
	Cd	114	201922.3	18.7	**47.4206**	0.976	2.1	ug/L	51	Standard
>	In	115	606749.0	20.5				ug/L	706704	Standard
	Sn	118	311.3	18.3	**0.1202**	0.020	16.2	ug/L	264	Standard
	Sb	123	229650.2	17.1	**53.4903**	1.766	3.3	ug/L	424	Standard
	Ba	135	165532.8	17.3	**96.7395**	2.964	3.1	ug/L	36	Standard
	Ce	140	498.3	19.7				ug/L	40	Standard
>	Tb	159	1011982.6	18.6				ug/L	1061303	Standard
	Ho	165	41.7	13.9				ug/L	10	Standard
	Tl	203	356465.1	16.9	**52.2750**	0.579	1.1	ug/L	13	Standard
	Tl	205	851150.8	18.1	**50.4917**	0.464	0.9	ug/L	42	Standard
	Pb	206	282292.2	17.9	**51.7613**	0.256	0.5	ug/L	485	Standard
	Pb	207	249097.5	17.6	**51.2634**	0.397	0.8	ug/L	409	Standard
	Pb	208	582593.3	16.7	**53.1723**	0.739	1.4	ug/L	928	Standard
	U	238	266553.9	16.1	**61.0448**	1.413	2.3	ug/L	7	Standard
>	Bi	209	532426.4	18.0				ug/L	604402	Standard

Sample ID: L1703072401PS WG606367-01
Report Date/Time: Wednesday, March 15, 2017 15:22:05
Page 1

Approved: March 16, 2017

⌈	**Na**	23	10.0	50.0	**7.3838**	5.294	71.7	mg/L	5	Standard
|	**Mg**	24	108580.7	15.7	**1499.7947**	83.131	5.5	mg/L	25	Standard
|	**K**	39	308.3	22.7	**1.5196**	0.311	20.5	mg/L	27	Standard
|	**Ca**	43	38.3	32.8	**-5.3832**	1.730	32.1	mg/L	58	Standard
|	**Fe**	54	57.3	20.1	**0.2445**	0.073	29.8	mg/L	38	Standard
|	**Fe**	57	375.0	5.8	**3.9540**	2.168	54.8	mg/L	205	Standard
⌊>	**Sc-1**	45	44071.0	21.5				mg/L	47224	Standard
	Cl	35	2.7	43.3				ug/L	1	Standard
	Kr	83	3.7	41.7				ug/L	5	Standard
	Br	81	144829.9	15.6				ug/L	3214	Standard
	P	31	55.0	9.1				ug/L	70	Standard
	S	34	18.3	63.0				ug/L	15	Standard
	Sr	88	258.3	6.8				ug/L	162	Standard
	C	12	723.4	5.2				mg/L	17	Standard
	N	14	13.3	43.3				mg/L	3	Standard
	Hg	202	13.3	86.6				mg/L	3	Standard
	Dy	164	21.9	52.8				mg/L	13	Standard
	Ho-1	165	41.7	13.9				mg/L	10	Standard
	Er	166	30.0	33.3				mg/L	17	Standard
	I	127	1555440.8	4.7				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		104.594	
|	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		87.937	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1703072401PS WG606367-01
Report Date/Time: Wednesday, March 15, 2017 15:22:05
Page 2

Approved: March 16, 2017

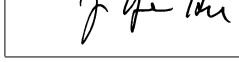
	Rb	85	
	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	85.856
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	88.091
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	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
Se-1 77 Upper, S, EEE	Se-1	77	

Sample ID: L1703072401PS WG606367-01
Report Date/Time: Wednesday, March 15, 2017 15:22:05
Page 3

Approved: March 16, 2017



Method 6020 - Summary Report

Sample ID: L1703072401SDL WG606367-02
Sample Date/Time: Wednesday, March 15, 2017 15:23:00
Number of Replicates: 3
Autosampler Position: 213
Sample Description: 5
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	257356.1	20.9				ug/L	253194	Standard
	Be	9	96.7	79.0	**0.0386**	0.037	94.8	ug/L	25	Standard
	Al	27	754792.2	20.7	**5.1531**	0.011	0.2	ug/L	868	Standard
	Sc	45	44749.6	21.3				ug/L	47224	Standard
	Ti	47	300.0	21.4	**0.9560**	0.053	5.6	ug/L	63	Standard
	V	51	1344.5	27.5	**-0.0697**	0.064	92.0	ug/L	2190	Standard
	Cr	52	12572.9	12.4	**0.8024**	0.141	17.6	ug/L	8511	Standard
	Cr	53	11939.7	10.3	**14.4867**	1.392	9.6	ug/L	462	Standard
	Mn	55	17774.3	18.8	**1.4554**	0.071	4.9	ug/L	2023	Standard
	Co	59	4064.9	17.9	**0.3930**	0.030	7.7	ug/L	1672	Standard
	Ni	60	3344.4	20.9	**1.7168**	0.036	2.1	ug/L	189	Standard
	Cu	65	1844.8	14.8	**0.6693**	0.062	9.2	ug/L	657	Standard
	Zn	66	6747.2	18.8	**5.6445**	0.179	3.2	ug/L	401	Standard
>	Ge	72	740876.6	20.1				ug/L	826992	Standard
	As	75	-393.9	20.3	**-0.3170**	0.104	32.8	ug/L	-72	Standard
	Se	82	-128.9	25.9	**-1.4384**	0.100	7.0	ug/L	21	Standard
	Se-1	77	1599.4	5.9	**20.6801**	3.104	15.0	ug/L	111	Standard
>	Ga	71	96.7	35.2				mg/L	32	Standard
	Rb	85	12385.2	23.0				ug/L	48	Standard
	Y	89	513024.9	21.6				ug/L	561066	Standard
>	Rh	103	458.3	10.3				ug/L	7	Standard
	Mo	98	2464.5	20.6	**0.6886**	0.006	0.9	ug/L	161	Standard
	Ag	107	168.0	21.7	**0.0056**	0.005	94.5	ug/L	137	Standard
	Cd	111	44.8	27.9	**0.0195**	0.006	29.7	mg/L	3	Standard
	Cd	114	154.4	13.8	**0.0322**	0.005	17.0	ug/L	51	Standard
>	In	115	614946.5	20.3				ug/L	706704	Standard
	Sn	118	210.3	16.5	**0.0082**	0.008	100.7	ug/L	264	Standard
	Sb	123	793.5	28.9	**0.1551**	0.050	32.3	ug/L	424	Standard
	Ba	135	16450.1	18.2	**9.4512**	0.260	2.8	ug/L	36	Standard
	Ce	140	145.0	57.6				ug/L	40	Standard
>	Tb	159	1027630.5	19.1				ug/L	1061303	Standard
	Ho	165	15.0	120.2				ug/L	10	Standard
	Tl	203	1524.4	39.6	**0.2148**	0.094	43.8	ug/L	13	Standard
	Tl	205	3818.9	40.6	**0.2177**	0.099	45.5	ug/L	42	Standard
	Pb	206	1450.7	36.7	**0.1783**	0.104	58.3	ug/L	485	Standard
	Pb	207	1204.1	36.5	**0.1658**	0.096	58.1	ug/L	409	Standard
	Pb	208	2716.1	30.8	**0.1620**	0.082	50.4	ug/L	928	Standard
	U	238	1865.8	23.4	**0.4123**	0.082	19.8	ug/L	7	Standard
>	Bi	209	550606.5	19.7				ug/L	604402	Standard

Sample ID: L1703072401SDL WG606367-02
Report Date/Time: Wednesday, March 15, 2017 15:25:10
Page 1

Approved: March 16, 2017

⌈	**Na**	23	3.3	86.6	**0.5558**	3.105	558.7	mg/L	5	Standard
|	**Mg**	24	21979.5	15.2	**298.7166**	17.470	5.8	mg/L	25	Standard
|	**K**	39	115.0	11.5	**0.4761**	0.059	12.5	mg/L	27	Standard
|	**Ca**	43	53.3	19.5	**-0.6399**	5.728	895.1	mg/L	58	Standard
|	**Fe**	54	29.2	17.4	**0.0367**	0.040	108.2	mg/L	38	Standard
|	**Fe**	57	290.0	10.8	**1.5513**	2.408	155.2	mg/L	205	Standard
⌊>	**Sc-1**	45	44749.6	21.3				mg/L	47224	Standard
	Cl	35	2.0	100.0				ug/L	1	Standard
	Kr	83	2.0	0.0				ug/L	5	Standard
	Br	81	29773.2	18.2				ug/L	3214	Standard
	P	31	50.0	10.0				ug/L	70	Standard
	S	34	20.0	90.1				ug/L	15	Standard
	Sr	88	166.7	17.6				ug/L	162	Standard
	C	12	220.0	35.5				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	3.3	173.2				mg/L	3	Standard
	Dy	164	9.4	104.3				mg/L	13	Standard
	Ho-1	165	15.0	120.2				mg/L	10	Standard
	Er	166	13.3	43.3				mg/L	17	Standard
	I	127	306519.2	6.4				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		101.644	
|	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		89.587	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1703072401SDL WG606367-02
Report Date/Time: Wednesday, March 15, 2017 15:25:10
Page 2

Approved: March 16, 2017

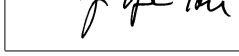
⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	87.016
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	91.099
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	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
Se 82 Lower	Se	82	

Sample ID: L1703072401SDL WG606367-02
Report Date/Time: Wednesday, March 15, 2017 15:25:10
Page 3

Approved: March 16, 2017



Method 6020 - Summary Report

Sample ID: L1703072401SDL WG606367-02
Sample Date/Time: Wednesday, March 15, 2017 15:26:04
Number of Replicates: 3
Autosampler Position: 214
Sample Description: 25
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	250990.8	22.9				ug/L	253194	Standard
	Be	9	86.7	68.8	**0.0397**	0.038	95.6	ug/L	25	Standard
	Al	27	178760.9	20.0	**1.2558**	0.034	2.7	ug/L	868	Standard
	Sc	45	43780.1	21.4				ug/L	47224	Standard
	Ti	47	152.0	9.7	**0.3626**	0.080	22.1	ug/L	63	Standard
	V	51	1537.5	18.3	**-0.0492**	0.013	26.7	ug/L	2190	Standard
	Cr	52	8436.0	11.5	**0.1471**	0.144	98.1	ug/L	8511	Standard
	Cr	53	5831.1	7.7	**6.7380**	1.028	15.3	ug/L	462	Standard
	Mn	55	6189.6	11.2	**0.4026**	0.091	22.6	ug/L	2023	Standard
	Co	59	1378.1	15.5	**0.0828**	0.052	62.6	ug/L	1672	Standard
	Ni	60	985.7	11.2	**0.4364**	0.074	17.0	ug/L	189	Standard
	Cu	65	1216.0	12.5	**0.3296**	0.067	20.3	ug/L	657	Standard
	Zn	66	2648.9	17.9	**2.0057**	0.103	5.1	ug/L	401	Standard
>	Ge	72	753386.7	22.6				ug/L	826992	Standard
	As	75	-88.3	22.4	**-0.0422**	0.022	53.3	ug/L	-72	Standard
	Se	82	-7.3	69.4	**-0.2927**	0.064	22.0	ug/L	21	Standard
	Se-1	77	663.0	9.0	**7.6167**	1.192	15.6	ug/L	111	Standard
>	Ga	71	43.3	37.1				mg/L	32	Standard
	Rb	85	3038.7	26.6				ug/L	48	Standard
	Y	89	515416.7	23.9				ug/L	561066	Standard
>	Rh	103	348.3	9.8				ug/L	7	Standard
	Mo	98	589.1	22.0	**0.1400**	0.005	3.4	ug/L	161	Standard
	Ag	107	149.7	13.1	**0.0021**	0.007	320.1	ug/L	137	Standard
	Cd	111	23.2	45.9	**0.0072**	0.010	132.7	mg/L	3	Standard
	Cd	114	76.4	48.1	**0.0149**	0.012	81.6	ug/L	51	Standard
>	In	115	638348.9	23.5				ug/L	706704	Standard
	Sn	118	195.0	32.4	**-0.0194**	0.027	138.8	ug/L	264	Standard
	Sb	123	206.3	9.2	**0.0199**	0.013	67.4	ug/L	424	Standard
	Ba	135	3900.5	20.6	**2.1459**	0.080	3.7	ug/L	36	Standard
	Ce	140	50.0	26.5				ug/L	40	Standard
>	Tb	159	1020925.5	21.7				ug/L	1061303	Standard
	Ho	165	13.3	78.1				ug/L	10	Standard
	Tl	203	1279.7	14.0	**0.1715**	0.014	8.0	ug/L	13	Standard
	Tl	205	3083.7	16.9	**0.1658**	0.016	9.4	ug/L	42	Standard
	Pb	206	1069.0	14.1	**0.1011**	0.016	15.5	ug/L	485	Standard
	Pb	207	935.4	17.8	**0.1023**	0.007	7.3	ug/L	409	Standard
	Pb	208	2215.4	15.5	**0.1083**	0.012	11.0	ug/L	928	Standard
	U	238	367.0	24.3	**0.0760**	0.004	4.7	ug/L	7	Standard
>	Bi	209	573044.9	22.0				ug/L	604402	Standard

Sample ID: L1703072401SDL WG606367-02
Report Date/Time: Wednesday, March 15, 2017 15:28:15
Page 1

Approved: March 16, 2017

	Na	23	1.7	173.2	**-0.7553**	3.593	475.6	mg/L	5	Standard
	Mg	24	5024.2	17.0	**69.2667**	3.185	4.6	mg/L	25	Standard
	K	39	51.7	29.6	**0.1446**	0.080	55.2	mg/L	27	Standard
	Ca	43	60.0	22.0	**1.6879**	6.752	400.0	mg/L	58	Standard
	Fe	54	16.1	19.4	**-0.0540**	0.035	64.5	mg/L	38	Standard
	Fe	57	291.7	21.4	**1.5111**	1.484	98.2	mg/L	205	Standard
>	**Sc-1**	45	43780.1	21.4				mg/L	47224	Standard
	Cl	35	2.0	0.0				ug/L	1	Standard
	Kr	83	3.3	45.8				ug/L	5	Standard
	Br	81	9456.3	17.7				ug/L	3214	Standard
	P	31	61.7	12.4				ug/L	70	Standard
	S	34	11.7	24.7				ug/L	15	Standard
	Sr	88	158.3	32.4				ug/L	162	Standard
	C	12	50.0	52.9				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	12.7	50.0				mg/L	13	Standard
	Ho-1	165	13.3	78.1				mg/L	10	Standard
	Er	166	13.3	114.6				mg/L	17	Standard
	I	127	85133.4	10.0				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		99.130	
	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		91.100	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			

Sample ID: L1703072401SDL WG606367-02
Report Date/Time: Wednesday, March 15, 2017 15:28:15
Page 2

Approved: March 16, 2017

⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	90.328
|	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	94.812
⌈	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: L1703072401SDL WG606367-02
Report Date/Time: Wednesday, March 15, 2017 15:28:15
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Wednesday, March 15, 2017 15:29:12
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	264336.4	27.0				ug/L	253194	Standard
	Be	9	112235.1	25.3	**49.7383**	0.893	1.8	ug/L	25	Standard
	Al	27	7347306.6	25.0	**48.9861**	1.006	2.1	ug/L	868	Standard
	Sc	45	48657.0	27.9				ug/L	47224	Standard
	Ti	47	27803.5	24.5	**103.4952**	2.744	2.7	ug/L	63	Standard
	V	51	386558.6	24.8	**50.6508**	1.190	2.3	ug/L	2190	Standard
	Cr	52	363873.9	25.2	**50.5568**	1.062	2.1	ug/L	8511	Standard
	Cr	53	45631.2	23.9	**52.0378**	1.969	3.8	ug/L	462	Standard
	Mn	55	607429.6	25.3	**50.8214**	1.089	2.1	ug/L	2023	Standard
	Co	59	470461.7	25.3	**50.4368**	1.032	2.0	ug/L	1672	Standard
	Ni	60	99935.3	25.2	**50.1614**	1.069	2.1	ug/L	189	Standard
	Cu	65	104992.6	24.2	**50.9963**	1.444	2.8	ug/L	657	Standard
	Zn	66	62772.0	23.9	**50.8588**	1.528	3.0	ug/L	401	Standard
>	Ge	72	804171.3	27.1				ug/L	826992	Standard
	As	75	62524.3	23.8	**50.6708**	1.652	3.3	ug/L	-72	Standard
	Se	82	5786.6	26.2	**50.6771**	0.790	1.6	ug/L	21	Standard
	Se-1	77	4280.6	23.6	**52.3476**	1.890	3.6	ug/L	111	Standard
>	Ga	71	66.7	37.0				mg/L	32	Standard
	Rb	85	973.4	21.2				ug/L	48	Standard
	Y	89	553349.6	28.4				ug/L	561066	Standard
>	Rh	103	268.3	7.8				ug/L	7	Standard
	Mo	98	389615.6	26.5	**101.3394**	0.591	0.6	ug/L	161	Standard
	Ag	107	330906.0	25.9	**51.1030**	0.537	1.1	ug/L	137	Standard
	Cd	111	93620.5	26.6	**50.6520**	0.161	0.3	mg/L	3	Standard
	Cd	114	244612.8	25.7	**50.8903**	1.276	2.5	ug/L	51	Standard
>	In	115	684855.0	26.8				ug/L	706704	Standard
	Sn	118	53030.3	23.3	**50.6420**	1.822	3.6	ug/L	264	Standard
	Sb	123	242715.2	23.9	**50.1028**	1.404	2.8	ug/L	424	Standard
	Ba	135	98317.8	23.7	**50.9436**	1.548	3.0	ug/L	36	Standard
	Ce	140	56.7	18.4				ug/L	40	Standard
>	Tb	159	1087088.9	24.4				ug/L	1061303	Standard
	Ho	165	35.0	37.8				ug/L	10	Standard
	Tl	203	394598.0	23.6	**50.4883**	0.933	1.8	ug/L	13	Standard
	Tl	205	941747.2	23.3	**48.8412**	1.144	2.3	ug/L	42	Standard
	Pb	206	315814.3	23.5	**50.5803**	0.970	1.9	ug/L	485	Standard
	Pb	207	281095.7	23.9	**50.4863**	0.775	1.5	ug/L	409	Standard
	Pb	208	644242.0	23.5	**51.2929**	0.984	1.9	ug/L	928	Standard
	U	238	260782.2	24.7	**51.9670**	0.572	1.1	ug/L	7	Standard
>	Bi	209	611373.4	25.5				ug/L	604402	Standard

Sample ID: QC Std 6
Report Date/Time: Wednesday, March 15, 2017 15:31:23
Page 1

Approved: March 16, 2017

⌈	**Na**	23	6.7	43.3	**3.1717**	0.950	29.9	mg/L	5	Standard
|	**Mg**	24	475.0	14.2	**5.5621**	0.773	13.9	mg/L	25	Standard
|	**K**	39	1095.0	16.3	**5.2427**	0.602	11.5	mg/L	27	Standard
|	**Ca**	43	68.3	36.8	**1.1309**	4.087	361.4	mg/L	58	Standard
|	**Fe**	54	827.7	20.2	**5.3371**	0.507	9.5	mg/L	38	Standard
|	**Fe**	57	443.3	18.3	**4.5545**	0.978	21.5	mg/L	205	Standard
⌊>	**Sc-1**	45	48657.0	27.9				mg/L	47224	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	3.0	115.5				ug/L	5	Standard
	Br	81	3537.1	23.6				ug/L	3214	Standard
	P	31	81.7	12.7				ug/L	70	Standard
	S	34	16.7	34.6				ug/L	15	Standard
	Sr	88	155.0	18.0				ug/L	162	Standard
	C	12	63.3	87.0				mg/L	17	Standard
	N	14	6.7	86.6				mg/L	3	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	29.4	90.7				mg/L	13	Standard
	Ho-1	165	35.0	37.8				mg/L	10	Standard
	Er	166	13.3	43.3				mg/L	17	Standard
	I	127	12039.9	15.3				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	99.477		
⌊	Al	27	97.972		
⌈	Sc	45			
|	Ti	47	103.495		
|	V	51	101.302		
|	Cr	52	101.114		
|	Cr	53			
|	Mn	55	101.643		
|	Co	59	100.874		
|	Ni	60	100.323		
|	Cu	65	101.993		
|	Zn	66	101.718		
|>	Ge	72		97.241	
|	As	75	101.342		
|	Se	82	101.354		
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: QC Std 6
Report Date/Time: Wednesday, March 15, 2017 15:31:23
Page 2

Approved: March 16, 2017

⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	101.339	
|	Ag	107	102.206	
|	Cd	111	101.304	
|	Cd	114		
|>	In	115		96.908
|	Sn	118	101.284	
|	Sb	123	100.206	
⌊	Ba	135	101.887	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	100.977	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	102.586	
|	U	238	103.934	
⌊>	Bi	209		101.153
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		
	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 6
Report Date/Time: Wednesday, March 15, 2017 15:31:23
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Wednesday, March 15, 2017 15:32:17
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	247161.6	33.1				ug/L	253194	Standard
	Be	9	66.7	41.3	**0.0264**	0.009	35.8	ug/L	25	Standard
	Al	27	1263.4	45.7	**0.0082**	0.001	15.3	ug/L	868	Standard
	Sc	45	46065.1	33.5				ug/L	47224	Standard
	Ti	47	93.0	10.6	**0.1415**	0.117	82.5	ug/L	63	Standard
	V	51	1488.3	10.5	**-0.0481**	0.042	88.4	ug/L	2190	Standard
	Cr	52	6670.5	14.6	**-0.1040**	0.167	160.5	ug/L	8511	Standard
	Cr	53	1386.7	12.9	**1.2193**	0.331	27.2	ug/L	462	Standard
	Mn	55	2666.2	22.5	**0.0813**	0.022	27.4	ug/L	2023	Standard
	Co	59	1039.4	14.3	**0.0423**	0.020	47.9	ug/L	1672	Standard
	Ni	60	223.0	19.8	**0.0214**	0.014	66.3	ug/L	189	Standard
	Cu	65	979.4	20.6	**0.2097**	0.057	27.3	ug/L	657	Standard
	Zn	66	537.7	22.5	**0.1732**	0.045	26.2	ug/L	401	Standard
>	Ge	72	752776.4	32.7				ug/L	826992	Standard
	As	75	-77.3	33.1	**-0.0389**	0.042	107.8	ug/L	-72	Standard
	Se	82	14.1	2.7	**-0.0783**	0.037	47.0	ug/L	21	Standard
	Se-1	77	185.7	5.3	**1.2162**	0.626	51.5	ug/L	111	Standard
>	Ga	71	40.0	37.5				mg/L	32	Standard
	Rb	85	111.7	24.7				ug/L	48	Standard
	Y	89	513436.3	33.5				ug/L	561066	Standard
>	Rh	103	196.7	7.8				ug/L	7	Standard
	Mo	98	312.1	60.8	**0.0569**	0.023	40.0	ug/L	161	Standard
	Ag	107	158.7	30.3	**0.0026**	0.001	37.8	ug/L	137	Standard
	Cd	111	8.9	84.5	**-0.0028**	0.003	92.2	mg/L	3	Standard
	Cd	114	40.0	52.6	**0.0045**	0.003	58.9	ug/L	51	Standard
>	In	115	645113.2	33.0				ug/L	706704	Standard
	Sn	118	248.7	27.4	**0.0388**	0.025	64.4	ug/L	264	Standard
	Sb	123	1153.4	16.9	**0.2334**	0.050	21.3	ug/L	424	Standard
	Ba	135	48.3	39.9	**0.0035**	0.002	69.0	ug/L	36	Standard
	Ce	140	6.7	114.6				ug/L	40	Standard
>	Tb	159	1013361.9	31.7				ug/L	1061303	Standard
	Ho	165	8.3	91.7				ug/L	10	Standard
	Tl	203	340.7	34.8	**0.0414**	0.006	14.9	ug/L	13	Standard
	Tl	205	813.4	29.8	**0.0392**	0.001	2.3	ug/L	42	Standard
	Pb	206	579.0	38.7	**0.0137**	0.006	45.3	ug/L	485	Standard
	Pb	207	497.3	31.6	**0.0170**	0.001	5.6	ug/L	409	Standard
	Pb	208	1182.0	31.4	**0.0185**	0.001	6.5	ug/L	928	Standard
	U	238	36.7	40.9	**0.0060**	0.002	36.3	ug/L	7	Standard
>	Bi	209	575678.0	31.8				ug/L	604402	Standard

Sample ID: QC Std 7
Report Date/Time: Wednesday, March 15, 2017 15:34:28
Page 1

Approved: March 16, 2017

⌈	**Na**	23	0.0		**-2.8296**	0.000	0.0	mg/L	5	Standard
|	**Mg**	24	63.3	59.3	**0.3195**	0.326	102.0	mg/L	25	Standard
|	**K**	39	26.7	10.8	**0.0119**	0.048	401.1	mg/L	27	Standard
|	**Ca**	43	51.7	29.6	**-0.6318**	7.353	1163.8	mg/L	58	Standard
|	**Fe**	54	34.5	15.3	**0.0859**	0.100	116.3	mg/L	38	Standard
|	**Fe**	57	275.0	15.5	**1.2970**	3.204	247.0	mg/L	205	Standard
⌊>	**Sc-1**	45	46065.1	33.5				mg/L	47224	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	4.3	53.3				ug/L	5	Standard
	Br	81	3330.4	26.9				ug/L	3214	Standard
	P	31	68.3	29.6				ug/L	70	Standard
	S	34	15.0	33.3				ug/L	15	Standard
	Sr	88	155.0	8.5				ug/L	162	Standard
	C	12	40.0	43.3				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	3.3	173.2				mg/L	3	Standard
	Dy	164	6.5	93.0				mg/L	13	Standard
	Ho-1	165	8.3	91.7				mg/L	10	Standard
	Er	166	3.3	173.2				mg/L	17	Standard
	I	127	12124.9	10.1				mg/L	7850	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		91.026	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: QC Std 7
Report Date/Time: Wednesday, March 15, 2017 15:34:28
Page 2

Approved: March 16, 2017

	Rb	85	
	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	91.285
	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	95.247
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 7	Sb	123	
QC Std 7	Tl	203	

Sample ID: QC Std 7
Report Date/Time: Wednesday, March 15, 2017 15:34:28
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: L1703070501PS WG606367-03
Sample Date/Time: Wednesday, March 15, 2017 15:38:56
Number of Replicates: 3
Autosampler Position: 215
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	274639.2	26.6				ug/L	253194	Standard
	Be	9	119187.2	24.5	**50.8777**	1.060	2.1	ug/L	25	Standard
	Al	27	4164747.8	25.6	**26.6781**	0.348	1.3	ug/L	868	Standard
	Sc	45	50627.4	28.6				ug/L	47224	Standard
	Ti	47	827.0	20.8	**2.6963**	0.158	5.8	ug/L	63	Standard
	V	51	412227.0	24.5	**51.3107**	0.869	1.7	ug/L	2190	Standard
	Cr	52	401435.5	25.0	**53.0209**	0.662	1.2	ug/L	8511	Standard
	Cr	53	49868.1	22.8	**54.0900**	1.804	3.3	ug/L	462	Standard
	Mn	55	983580.9	24.9	**78.2668**	0.988	1.3	ug/L	2023	Standard
	Co	59	500198.3	25.5	**50.9050**	0.454	0.9	ug/L	1672	Standard
	Ni	60	109214.7	24.7	**52.0919**	0.763	1.5	ug/L	189	Standard
	Cu	65	115586.7	24.1	**53.3232**	1.136	2.1	ug/L	657	Standard
	Zn	66	87224.4	23.0	**67.2841**	2.109	3.1	ug/L	401	Standard
>	Ge	72	845793.8	26.2				ug/L	826992	Standard
	As	75	71547.4	23.6	**55.0562**	1.370	2.5	ug/L	-72	Standard
	Se	82	6041.7	26.1	**50.2371**	0.681	1.4	ug/L	21	Standard
	Se-1	77	4453.3	23.9	**51.6714**	1.317	2.5	ug/L	111	Standard
>	Ga	71	290.0	17.5				mg/L	32	Standard
	Rb	85	6621.5	25.6				ug/L	48	Standard
	Y	89	572367.2	26.7				ug/L	561066	Standard
>	Rh	103	170.0	30.7				ug/L	7	Standard
	Mo	98	953.9	22.9	**0.2130**	0.009	4.4	ug/L	161	Standard
	Ag	107	344979.1	25.0	**50.8014**	0.857	1.7	ug/L	137	Standard
	Cd	111	97876.8	25.5	**50.5056**	0.545	1.1	mg/L	3	Standard
	Cd	114	246194.0	26.6	**48.6709**	0.084	0.2	ug/L	51	Standard
>	In	115	718804.6	26.5				ug/L	706704	Standard
	Sn	118	467.7	26.1	**0.2091**	0.009	4.4	ug/L	264	Standard
	Sb	123	255376.5	23.4	**50.2358**	1.475	2.9	ug/L	424	Standard
	Ba	135	122386.2	24.1	**60.3580**	1.380	2.3	ug/L	36	Standard
	Ce	140	17123.4	25.4				ug/L	40	Standard
>	Tb	159	1121190.3	23.6				ug/L	1061303	Standard
	Ho	165	370.0	10.2				ug/L	10	Standard
	Tl	203	407879.2	23.9	**50.4099**	0.568	1.1	ug/L	13	Standard
	Tl	205	970520.3	22.9	**48.6632**	0.898	1.8	ug/L	42	Standard
	Pb	206	326729.0	24.1	**50.5258**	0.388	0.8	ug/L	485	Standard
	Pb	207	292774.0	23.8	**50.8286**	0.521	1.0	ug/L	409	Standard
	Pb	208	669067.6	23.3	**51.4961**	0.794	1.5	ug/L	928	Standard
	U	238	268247.7	23.0	**51.7999**	1.038	2.0	ug/L	7	Standard
>	Bi	209	631854.4	24.9				ug/L	604402	Standard

Sample ID: L1703070501PS WG606367-03
Report Date/Time: Wednesday, March 15, 2017 15:41:08
Page 1

Approved: March 16, 2017

⌈	**Na**	23	28.3	27.0	**22.8262**	6.707	29.4	mg/L	5	Standard
|	**Mg**	24	528.3	17.1	**5.9630**	0.735	12.3	mg/L	25	Standard
|	**K**	39	180.0	30.0	**0.6978**	0.118	16.9	mg/L	27	Standard
|	**Ca**	43	85.0	40.8	**6.8357**	12.844	187.9	mg/L	58	Standard
|	**Fe**	54	67.6	19.2	**0.2740**	0.162	59.1	mg/L	38	Standard
|	**Fe**	57	286.7	11.6	**0.5386**	1.925	357.4	mg/L	205	Standard
⌊>	**Sc-1**	45	50627.4	28.6				mg/L	47224	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	3.0	88.2				ug/L	5	Standard
	Br	81	5481.0	22.7				ug/L	3214	Standard
	P	31	83.3	27.7				ug/L	70	Standard
	S	34	23.3	44.6				ug/L	15	Standard
	Sr	88	141.7	37.4				ug/L	162	Standard
	C	12	120.0	14.4				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	6.7	173.2				mg/L	3	Standard
	Dy	164	611.8	15.9				mg/L	13	Standard
	Ho-1	165	370.0	10.2				mg/L	10	Standard
	Er	166	310.0	19.6				mg/L	17	Standard
	I	127	25693.6	9.2				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		108.470	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		102.274	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1703070501PS WG606367-03
Report Date/Time: Wednesday, March 15, 2017 15:41:08
Page 2

Approved: March 16, 2017

	Rb	85	
	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	101.712
	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	104.542
	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: L1703070501PS WG606367-03
Report Date/Time: Wednesday, March 15, 2017 15:41:08
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: L1703070501SDL WG605367-04
Sample Date/Time: Wednesday, March 15, 2017 15:42:03
Number of Replicates: 3
Autosampler Position: 216
Sample Description: 5
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	245583.4	29.7				ug/L	253194	Standard
	Be	9	63.3	57.1	**0.0234**	0.008	32.6	ug/L	25	Standard
	Al	27	648774.5	29.5	**4.6438**	0.076	1.6	ug/L	868	Standard
	Sc	45	44524.3	30.2				ug/L	47224	Standard
	Ti	47	206.0	22.8	**0.5705**	0.046	8.1	ug/L	63	Standard
	V	51	2737.9	18.9	**0.1226**	0.035	28.6	ug/L	2190	Standard
	Cr	52	10094.4	17.0	**0.4020**	0.166	41.3	ug/L	8511	Standard
	Cr	53	1345.1	7.3	**1.1540**	0.332	28.8	ug/L	462	Standard
	Mn	55	64039.3	28.5	**5.5363**	0.023	0.4	ug/L	2023	Standard
	Co	59	949.0	16.1	**0.0295**	0.013	45.0	ug/L	1672	Standard
	Ni	60	838.0	31.1	**0.3437**	0.010	2.8	ug/L	189	Standard
	Cu	65	1599.8	24.6	**0.5220**	0.036	6.8	ug/L	657	Standard
	Zn	66	4896.5	27.0	**3.9309**	0.081	2.1	ug/L	401	Standard
>	Ge	72	756550.3	28.7				ug/L	826992	Standard
	As	75	990.5	27.1	**0.8868**	0.023	2.5	ug/L	-72	Standard
	Se	82	24.5	13.8	**0.0199**	0.056	280.4	ug/L	21	Standard
	Se-1	77	146.7	13.0	**0.6714**	0.719	107.1	ug/L	111	Standard
>	Ga	71	91.7	28.0				mg/L	32	Standard
	Rb	85	1385.1	32.6				ug/L	48	Standard
	Y	89	504650.2	28.6				ug/L	561066	Standard
>	Rh	103	133.3	5.7				ug/L	7	Standard
	Mo	98	191.4	28.3	**0.0288**	0.003	11.6	ug/L	161	Standard
	Ag	107	141.0	37.2	**-0.0004**	0.002	429.7	ug/L	137	Standard
	Cd	111	23.7	55.4	**0.0057**	0.003	58.9	mg/L	3	Standard
	Cd	114	82.2	25.5	**0.0145**	0.001	10.3	ug/L	51	Standard
>	In	115	636548.6	29.2				ug/L	706704	Standard
	Sn	118	230.3	35.3	**0.0179**	0.018	102.0	ug/L	264	Standard
	Sb	123	819.6	11.3	**0.1599**	0.034	21.3	ug/L	424	Standard
	Ba	135	3581.8	25.8	**1.9767**	0.063	3.2	ug/L	36	Standard
	Ce	140	3082.0	30.4				ug/L	40	Standard
>	Tb	159	1015182.1	28.5				ug/L	1061303	Standard
	Ho	165	73.3	63.4				ug/L	10	Standard
	Tl	203	169.3	20.7	**0.0187**	0.004	23.3	ug/L	13	Standard
	Tl	205	378.3	25.1	**0.0152**	0.002	11.8	ug/L	42	Standard
	Pb	206	829.7	38.1	**0.0545**	0.014	24.8	ug/L	485	Standard
	Pb	207	652.0	28.1	**0.0457**	0.000	0.8	ug/L	409	Standard
	Pb	208	1538.4	29.6	**0.0475**	0.003	5.4	ug/L	928	Standard
	U	238	168.0	31.5	**0.0334**	0.002	5.5	ug/L	7	Standard
>	Bi	209	578730.0	28.0				ug/L	604402	Standard

Sample ID: L1703070501SDL WG605367-04
Report Date/Time: Wednesday, March 15, 2017 15:44:13
Page 1

Approved: March 16, 2017

⌈	**Na**	23	1.7	173.2	**-0.6603**	3.757	569.0	mg/L	5	Standard
|	**Mg**	24	120.0	12.5	**1.2327**	0.445	36.1	mg/L	25	Standard
|	**K**	39	81.7	9.4	**0.3238**	0.142	43.8	mg/L	27	Standard
|	**Ca**	43	55.0	9.1	**0.0138**	4.902	35393.2	mg/L	58	Standard
|	**Fe**	54	27.7	52.9	**0.0388**	0.133	343.1	mg/L	38	Standard
|	**Fe**	57	286.7	5.6	**1.6257**	2.327	143.2	mg/L	205	Standard
⌊>	**Sc-1**	45	44524.3	30.2				mg/L	47224	Standard
	Cl	35	2.0	100.0				ug/L	1	Standard
	Kr	83	3.7	15.7				ug/L	5	Standard
	Br	81	3077.0	21.1				ug/L	3214	Standard
	P	31	63.3	24.1				ug/L	70	Standard
	S	34	20.0	0.0				ug/L	15	Standard
	Sr	88	163.3	10.8				ug/L	162	Standard
	C	12	30.0	57.7				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	108.4	8.2				mg/L	13	Standard
	Ho-1	165	73.3	63.4				mg/L	10	Standard
	Er	166	103.3	53.3				mg/L	17	Standard
	I	127	9096.1	12.0				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		96.994	
|	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		91.482	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1703070501SDL WG605367-04
Report Date/Time: Wednesday, March 15, 2017 15:44:13
Page 2

Approved: March 16, 2017

Rb	85	
Y	89	
Rh	103	
Mo	98	
Ag	107	
Cd	111	
Cd	114	
In	115	90.073
Sn	118	
Sb	123	
Ba	135	
Ce	140	
Tb	159	
Ho	165	
Tl	203	
Tl	205	
Pb	206	
Pb	207	
Pb	208	
U	238	
Bi	209	95.752
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: L1703070501SDL WG605367-04
Report Date/Time: Wednesday, March 15, 2017 15:44:13
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: L1703070501SDL WG605367-04
Sample Date/Time: Wednesday, March 15, 2017 15:45:08
Number of Replicates: 3
Autosampler Position: 217
Sample Description: 25
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	228819.2	32.1				ug/L	253194	Standard
	Be	9	55.0	68.6	**0.0219**	0.014	62.8	ug/L	25	Standard
	Al	27	120102.0	33.2	**0.9195**	0.010	1.0	ug/L	868	Standard
	Sc	45	41532.6	32.7				ug/L	47224	Standard
	Ti	47	82.7	12.8	**0.1132**	0.083	73.1	ug/L	63	Standard
	V	51	2083.5	14.3	**0.0559**	0.049	88.1	ug/L	2190	Standard
	Cr	52	7598.9	13.2	**0.1206**	0.211	175.1	ug/L	8511	Standard
	Cr	53	963.4	5.3	**0.7783**	0.328	42.1	ug/L	462	Standard
	Mn	55	12928.9	31.2	**1.0708**	0.019	1.8	ug/L	2023	Standard
	Co	59	509.0	9.2	**-0.0162**	0.013	79.4	ug/L	1672	Standard
	Ni	60	344.0	27.8	**0.0967**	0.012	12.1	ug/L	189	Standard
	Cu	65	822.7	25.6	**0.1495**	0.024	16.1	ug/L	657	Standard
	Zn	66	2008.5	31.6	**1.5521**	0.016	1.0	ug/L	401	Standard
>	Ge	72	705526.6	31.1				ug/L	826992	Standard
	As	75	125.4	29.8	**0.1521**	0.015	10.1	ug/L	-72	Standard
	Se	82	11.5	25.5	**-0.1004**	0.029	28.5	ug/L	21	Standard
	Se-1	77	128.3	16.7	**0.4854**	0.283	58.2	ug/L	111	Standard
>	Ga	71	38.3	19.9				mg/L	32	Standard
	Rb	85	258.3	19.6				ug/L	48	Standard
	Y	89	467054.0	33.6				ug/L	561066	Standard
>	Rh	103	86.7	38.4				ug/L	7	Standard
	Mo	98	70.4	17.4	**-0.0029**	0.004	149.9	ug/L	161	Standard
	Ag	107	119.0	25.5	**-0.0020**	0.002	113.3	ug/L	137	Standard
	Cd	111	7.2	29.0	**-0.0024**	0.002	102.1	mg/L	3	Standard
	Cd	114	38.8	49.7	**0.0052**	0.003	61.5	ug/L	51	Standard
>	In	115	593905.0	32.3				ug/L	706704	Standard
	Sn	118	169.0	22.0	**-0.0260**	0.025	97.0	ug/L	264	Standard
	Sb	123	184.1	7.8	**0.0188**	0.013	71.0	ug/L	424	Standard
	Ba	135	684.3	27.6	**0.3882**	0.018	4.6	ug/L	36	Standard
	Ce	140	626.7	21.6				ug/L	40	Standard
>	Tb	159	939963.4	30.5				ug/L	1061303	Standard
	Ho	165	38.3	32.8				ug/L	10	Standard
	Tl	203	100.3	17.2	**0.0105**	0.004	41.8	ug/L	13	Standard
	Tl	205	273.3	10.1	**0.0109**	0.003	29.6	ug/L	42	Standard
	Pb	206	475.0	26.5	**0.0028**	0.007	262.7	ug/L	485	Standard
	Pb	207	392.7	25.5	**0.0020**	0.004	215.0	ug/L	409	Standard
	Pb	208	933.7	29.3	**0.0022**	0.002	114.2	ug/L	928	Standard
	U	238	33.0	16.0	**0.0061**	0.003	46.6	ug/L	7	Standard
>	Bi	209	545603.2	31.4				ug/L	604402	Standard

Sample ID: L1703070501SDL WG605367-04
Report Date/Time: Wednesday, March 15, 2017 15:47:19
Page 1

Approved: March 16, 2017

⌈	**Na**	23	1.7	173.2	**-0.4312**	4.154	963.3	mg/L	5	Standard
|	**Mg**	24	40.0	57.3	**0.1109**	0.364	327.8	mg/L	25	Standard
|	**K**	39	31.7	55.5	**0.0517**	0.117	226.4	mg/L	27	Standard
|	**Ca**	43	53.3	14.3	**0.7737**	5.889	761.2	mg/L	58	Standard
|	**Fe**	54	22.5	71.9	**-0.0071**	0.128	1797.1	mg/L	38	Standard
|	**Fe**	57	270.0	6.7	**1.6667**	2.051	123.1	mg/L	205	Standard
⌊>	**Sc-1**	45	41532.6	32.7				mg/L	47224	Standard
	Cl	35	2.0	100.0				ug/L	1	Standard
	Kr	83	2.0	0.0				ug/L	5	Standard
	Br	81	2523.6	26.3				ug/L	3214	Standard
	P	31	70.0	39.8				ug/L	70	Standard
	S	34	13.3	57.3				ug/L	15	Standard
	Sr	88	136.7	5.6				ug/L	162	Standard
	C	12	36.7	83.3				mg/L	17	Standard
	N	14	3.3	173.2				mg/L	3	Standard
	Hg	202	3.3	173.2				mg/L	3	Standard
	Dy	164	19.4	102.1				mg/L	13	Standard
	Ho-1	165	38.3	32.8				mg/L	10	Standard
	Er	166	13.3	114.6				mg/L	17	Standard
	I	127	5771.1	10.6				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		90.373	
|	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		85.312	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1703070501SDL WG605367-04
Report Date/Time: Wednesday, March 15, 2017 15:47:19
Page 2

Approved: March 16, 2017

Rb	85	
Y	89	
Rh	103	
Mo	98	
Ag	107	
Cd	111	
Cd	114	
In	115	84.039
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	90.272
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

Sample ID: L1703070501SDL WG605367-04
Report Date/Time: Wednesday, March 15, 2017 15:47:19
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Wednesday, March 15, 2017 15:48:15
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	260458.2	28.0				ug/L	253194	Standard
	Be	9	111498.2	24.4	**50.3134**	2.130	4.2	ug/L	25	Standard
	Al	27	7249966.0	27.2	**48.9513**	0.904	1.8	ug/L	868	Standard
	Sc	45	48229.2	28.7				ug/L	47224	Standard
	Ti	47	27650.2	23.8	**103.0972**	1.341	1.3	ug/L	63	Standard
	V	51	387804.5	24.0	**50.9043**	0.586	1.2	ug/L	2190	Standard
	Cr	52	363441.4	24.7	**50.5547**	0.518	1.0	ug/L	8511	Standard
	Cr	53	45487.8	25.5	**51.7213**	1.321	2.6	ug/L	462	Standard
	Mn	55	606996.4	25.6	**50.7835**	0.373	0.7	ug/L	2023	Standard
	Co	59	469952.3	25.6	**50.3956**	0.185	0.4	ug/L	1672	Standard
	Ni	60	100035.8	25.0	**50.2552**	0.119	0.2	ug/L	189	Standard
	Cu	65	103894.7	24.5	**50.4608**	0.362	0.7	ug/L	657	Standard
	Zn	66	62683.1	23.5	**50.8395**	0.828	1.6	ug/L	401	Standard
>	Ge	72	801173.6	25.2				ug/L	826992	Standard
	As	75	62277.1	24.1	**50.4614**	0.563	1.1	ug/L	-72	Standard
	Se	82	5684.2	26.7	**49.7684**	0.831	1.7	ug/L	21	Standard
	Se-1	77	4290.0	24.8	**52.3805**	0.203	0.4	ug/L	111	Standard
>	Ga	71	63.3	18.2				mg/L	32	Standard
	Rb	85	918.4	33.9				ug/L	48	Standard
	Y	89	544098.2	27.5				ug/L	561066	Standard
>	Rh	103	90.0	19.2				ug/L	7	Standard
	Mo	98	384425.5	25.5	**100.2611**	1.831	1.8	ug/L	161	Standard
	Ag	107	326658.3	25.2	**50.5615**	0.547	1.1	ug/L	137	Standard
	Cd	111	92841.5	25.3	**50.3910**	0.708	1.4	mg/L	3	Standard
	Cd	114	240013.6	24.8	**50.0351**	0.790	1.6	ug/L	51	Standard
>	In	115	683425.6	26.3				ug/L	706704	Standard
	Sn	118	52816.3	24.6	**50.3915**	1.054	2.1	ug/L	264	Standard
	Sb	123	242479.5	24.0	**50.0991**	1.170	2.3	ug/L	424	Standard
	Ba	135	98258.6	23.9	**50.9550**	1.183	2.3	ug/L	36	Standard
	Ce	140	66.7	43.3				ug/L	40	Standard
>	Tb	159	1064811.4	23.1				ug/L	1061303	Standard
	Ho	165	16.7	45.8				ug/L	10	Standard
	Tl	203	391601.6	23.3	**50.5291**	0.849	1.7	ug/L	13	Standard
	Tl	205	935553.4	23.4	**48.8929**	0.845	1.7	ug/L	42	Standard
	Pb	206	313730.8	23.0	**50.6974**	0.989	2.0	ug/L	485	Standard
	Pb	207	279756.0	23.8	**50.6602**	0.633	1.2	ug/L	409	Standard
	Pb	208	634438.4	23.2	**50.9484**	0.901	1.8	ug/L	928	Standard
	U	238	255295.1	23.0	**51.4220**	1.033	2.0	ug/L	7	Standard
>	Bi	209	605940.2	25.1				ug/L	604402	Standard

Sample ID: QC Std 6
Report Date/Time: Wednesday, March 15, 2017 15:50:26
Page 1

Approved: March 16, 2017

	Na	23	13.3	21.7	**9.8510**	2.611	26.5	mg/L	5	Standard
	Mg	24	501.7	16.6	**5.9443**	0.730	12.3	mg/L	25	Standard
	K	39	1141.7	12.9	**5.5679**	0.845	15.2	mg/L	27	Standard
	Ca	43	70.0	12.4	**2.8613**	6.621	231.4	mg/L	58	Standard
	Fe	54	789.5	31.0	**5.0361**	0.184	3.7	mg/L	38	Standard
	Fe	57	460.0	17.4	**5.1245**	1.380	26.9	mg/L	205	Standard
>	**Sc-1**	45	48229.2	28.7				mg/L	47224	Standard
	Cl	35	3.3	34.6				ug/L	1	Standard
	Kr	83	5.3	47.2				ug/L	5	Standard
	Br	81	2953.6	26.0				ug/L	3214	Standard
	P	31	100.0	45.0				ug/L	70	Standard
	S	34	21.7	66.6				ug/L	15	Standard
	Sr	88	155.0	21.2				ug/L	162	Standard
	C	12	53.3	43.3				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	22.7	64.1				mg/L	13	Standard
	Ho-1	165	16.7	45.8				mg/L	10	Standard
	Er	166	13.3	114.6				mg/L	17	Standard
	I	127	6072.9	10.5				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9	100.627		
	Al	27	97.903		
	Sc	45			
	Ti	47	103.097		
	V	51	101.809		
	Cr	52	101.109		
	Cr	53			
	Mn	55	101.567		
	Co	59	100.791		
	Ni	60	100.510		
	Cu	65	100.922		
	Zn	66	101.679		
>	Ge	72		96.878	
	As	75	100.923		
	Se	82	99.537		
	Se-1	77			
>	Ga	71			

Sample ID: QC Std 6
Report Date/Time: Wednesday, March 15, 2017 15:50:26
Page 2

Approved: March 16, 2017

⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	100.261	
|	Ag	107	101.123	
|	Cd	111	100.782	
|	Cd	114		
|>	In	115		96.706
|	Sn	118	100.783	
|	Sb	123	100.198	
⌊	Ba	135	101.910	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	101.058	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	101.897	
|	U	238	102.844	
⌊>	Bi	209		100.254
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		
	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 6
Report Date/Time: Wednesday, March 15, 2017 15:50:26
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Wednesday, March 15, 2017 15:51:21
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	244631.3	31.9				ug/L	253194	Standard
	Be	9	75.0	30.6	**0.0338**	0.018	52.0	ug/L	25	Standard
	Al	27	1236.7	36.1	**0.0083**	0.002	18.1	ug/L	868	Standard
	Sc	45	43079.0	33.2				ug/L	47224	Standard
	Ti	47	65.0	9.6	**0.0280**	0.101	360.8	ug/L	63	Standard
	V	51	1621.4	14.9	**-0.0291**	0.036	124.2	ug/L	2190	Standard
	Cr	52	6812.2	15.2	**-0.0761**	0.161	211.6	ug/L	8511	Standard
	Cr	53	711.7	16.3	**0.3589**	0.141	39.4	ug/L	462	Standard
	Mn	55	2357.2	21.0	**0.0552**	0.022	39.4	ug/L	2023	Standard
	Co	59	1221.4	16.1	**0.0642**	0.021	32.1	ug/L	1672	Standard
	Ni	60	215.7	11.0	**0.0204**	0.025	121.6	ug/L	189	Standard
	Cu	65	745.0	27.5	**0.0831**	0.031	37.3	ug/L	657	Standard
	Zn	66	477.0	29.6	**0.1169**	0.017	14.2	ug/L	401	Standard
>	Ge	72	746448.8	31.6				ug/L	826992	Standard
	As	75	-40.5	143.2	**-0.0027**	0.063	2321.3	ug/L	-72	Standard
	Se	82	21.4	62.1	**-0.0243**	0.109	449.0	ug/L	21	Standard
	Se-1	77	124.0	12.2	**0.3499**	0.416	119.0	ug/L	111	Standard
>	Ga	71	38.3	52.7				mg/L	32	Standard
	Rb	85	61.7	32.8				ug/L	48	Standard
	Y	89	510703.4	34.2				ug/L	561066	Standard
>	Rh	103	68.3	25.7				ug/L	7	Standard
	Mo	98	337.3	59.3	**0.0649**	0.024	36.3	ug/L	161	Standard
	Ag	107	167.7	27.3	**0.0047**	0.002	41.2	ug/L	137	Standard
	Cd	111	15.2	64.1	**0.0011**	0.003	299.0	mg/L	3	Standard
	Cd	114	49.8	63.9	**0.0064**	0.003	51.5	ug/L	51	Standard
>	In	115	637122.9	32.8				ug/L	706704	Standard
	Sn	118	255.0	32.2	**0.0459**	0.012	27.0	ug/L	264	Standard
	Sb	123	1256.3	17.9	**0.2602**	0.055	21.2	ug/L	424	Standard
	Ba	135	53.0	46.9	**0.0059**	0.005	80.0	ug/L	36	Standard
	Ce	140	21.7	66.6				ug/L	40	Standard
>	Tb	159	991656.3	31.0				ug/L	1061303	Standard
	Ho	165	5.0	100.0				ug/L	10	Standard
	Tl	203	98.7	20.7	**0.0093**	0.003	30.1	ug/L	13	Standard
	Tl	205	278.3	44.4	**0.0094**	0.002	26.1	ug/L	42	Standard
	Pb	206	581.3	30.4	**0.0166**	0.005	27.4	ug/L	485	Standard
	Pb	207	483.7	33.2	**0.0150**	0.004	25.5	ug/L	409	Standard
	Pb	208	1138.0	32.9	**0.0155**	0.004	23.2	ug/L	928	Standard
	U	238	27.7	23.2	**0.0047**	0.003	67.8	ug/L	7	Standard
>	Bi	209	571473.9	32.3				ug/L	604402	Standard

Sample ID: QC Std 7
Report Date/Time: Wednesday, March 15, 2017 15:53:32
Page 1

Approved: March 16, 2017

⌈	**Na**	23	0.0		**-2.8296**	0.000	0.0	mg/L	5	Standard
|	**Mg**	24	53.3	14.3	**0.3308**	0.314	94.9	mg/L	25	Standard
|	**K**	39	31.7	39.7	**0.0651**	0.130	200.1	mg/L	27	Standard
|	**Ca**	43	40.0	57.3	**-4.0910**	7.190	175.8	mg/L	58	Standard
|	**Fe**	54	32.8	22.6	**0.0794**	0.080	100.5	mg/L	38	Standard
|	**Fe**	57	261.7	16.3	**1.1389**	2.141	188.0	mg/L	205	Standard
⌊>	**Sc-1**	45	43079.0	33.2				mg/L	47224	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	5.0	52.9				ug/L	5	Standard
	Br	81	2893.6	16.6				ug/L	3214	Standard
	P	31	81.7	18.7				ug/L	70	Standard
	S	34	28.3	27.0				ug/L	15	Standard
	Sr	88	158.3	17.4				ug/L	162	Standard
	C	12	40.0	90.1				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	2.2	229.6				mg/L	13	Standard
	Ho-1	165	5.0	100.0				mg/L	10	Standard
	Er	166	23.3	65.5				mg/L	17	Standard
	I	127	7870.4	9.5				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		90.261	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: QC Std 7
Report Date/Time: Wednesday, March 15, 2017 15:53:32
Page 2

Approved: March 16, 2017

	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	94.552
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

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

Sample ID: QC Std 7
Report Date/Time: Wednesday, March 15, 2017 15:53:32
Page 3

Approved: March 16, 2017

Method 6020 - Summary Report

Sample ID: QC Std 8
Sample Date/Time: Wednesday, March 15, 2017 15:54:28
Number of Replicates: 3
Autosampler Position: 202
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	242207.3	33.0				ug/L	253194	Standard
	Be	9	453.3	34.9	**0.2125**	0.005	2.3	ug/L	25	Standard
	Al	27	786.7	18.6	**0.0053**	0.001	16.7	ug/L	868	Standard
	Sc	45	44006.6	32.2				ug/L	47224	Standard
	Ti	47	49.3	15.3	**-0.0346**	0.073	209.5	ug/L	63	Standard
	V	51	4340.8	19.7	**0.3794**	0.073	19.3	ug/L	2190	Standard
	Cr	52	13123.8	20.8	**0.9522**	0.216	22.7	ug/L	8511	Standard
	Cr	53	1498.4	28.1	**1.3641**	0.079	5.8	ug/L	462	Standard
	Mn	55	6918.7	28.3	**0.4830**	0.020	4.1	ug/L	2023	Standard
	Co	59	3919.5	28.2	**0.3866**	0.016	4.3	ug/L	1672	Standard
	Ni	60	2933.0	30.8	**1.5283**	0.019	1.3	ug/L	189	Standard
	Cu	65	2142.5	29.4	**0.8465**	0.022	2.6	ug/L	657	Standard
	Zn	66	7166.1	30.4	**6.1425**	0.081	1.3	ug/L	401	Standard
>	Ge	72	726588.4	31.5				ug/L	826992	Standard
	As	75	339.0	28.8	**0.3400**	0.013	3.8	ug/L	-72	Standard
	Se	82	56.6	7.8	**0.3598**	0.135	37.6	ug/L	21	Standard
	Se-1	77	156.3	8.3	**0.8645**	0.481	55.6	ug/L	111	Standard
>	Ga	71	38.3	15.1				mg/L	32	Standard
	Rb	85	75.0	17.6				ug/L	48	Standard
	Y	89	493238.7	33.0				ug/L	561066	Standard
>	Rh	103	70.0	32.7				ug/L	7	Standard
	Mo	98	91.5	31.3	**0.0017**	0.002	121.6	ug/L	161	Standard
	Ag	107	2310.5	29.3	**0.3751**	0.016	4.3	ug/L	137	Standard
	Cd	111	367.2	34.9	**0.2122**	0.003	1.3	mg/L	3	Standard
	Cd	114	945.7	32.5	**0.2140**	0.005	2.4	ug/L	51	Standard
>	In	115	617990.4	33.7				ug/L	706704	Standard
	Sn	118	161.3	23.0	**-0.0420**	0.017	40.3	ug/L	264	Standard
	Sb	123	1931.5	23.1	**0.4222**	0.043	10.3	ug/L	424	Standard
	Ba	135	1230.1	31.6	**0.6831**	0.036	5.2	ug/L	36	Standard
	Ce	140	30.0	44.1				ug/L	40	Standard
>	Tb	159	969512.1	31.0				ug/L	1061303	Standard
	Ho	165	10.0	100.0				ug/L	10	Standard
	Tl	203	607.3	32.4	**0.0805**	0.004	5.2	ug/L	13	Standard
	Tl	205	1461.7	35.3	**0.0769**	0.003	3.8	ug/L	42	Standard
	Pb	206	1519.4	32.5	**0.1834**	0.003	1.8	ug/L	485	Standard
	Pb	207	1246.4	32.9	**0.1677**	0.007	4.1	ug/L	409	Standard
	Pb	208	3046.8	32.1	**0.1848**	0.003	1.6	ug/L	928	Standard
	U	238	1743.4	32.1	**0.3794**	0.008	2.1	ug/L	7	Standard
>	Bi	209	555899.5	31.7				ug/L	604402	Standard

Sample ID: QC Std 8
Report Date/Time: Wednesday, March 15, 2017 15:56:39
Page 1

Approved: March 16, 2017

⌈	**Na**	23	1.7	173.2	**-0.5426**	3.961	730.0	mg/L	5	Standard
|	**Mg**	24	43.3	35.3	**0.1777**	0.317	178.6	mg/L	25	Standard
|	**K**	39	30.0	28.9	**0.0288**	0.039	136.6	mg/L	27	Standard
|	**Ca**	43	66.7	24.1	**4.4110**	10.143	229.9	mg/L	58	Standard
|	**Fe**	54	32.8	35.3	**0.0649**	0.072	111.2	mg/L	38	Standard
|	**Fe**	57	348.3	16.0	**3.8264**	4.150	108.4	mg/L	205	Standard
⌊>	**Sc-1**	45	44006.6	32.2				mg/L	47224	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	3.7	31.5				ug/L	5	Standard
	Br	81	2780.3	27.5				ug/L	3214	Standard
	P	31	60.0	8.3				ug/L	70	Standard
	S	34	15.0	33.3				ug/L	15	Standard
	Sr	88	158.3	12.8				ug/L	162	Standard
	C	12	46.7	61.9				mg/L	17	Standard
	N	14	6.7	86.6				mg/L	3	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	5.4	102.4				mg/L	13	Standard
	Ho-1	165	10.0	100.0				mg/L	10	Standard
	Er	166	26.7	43.3				mg/L	17	Standard
	I	127	6563.1	5.6				mg/L	7850	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	106.234		
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51	94.850		
|	Cr	52	119.022		
|	Cr	53			
|	Mn	55	96.605		
|	Co	59	96.660		
|	Ni	60	95.516		
|	Cu	65	105.807		
|	Zn	66	98.279		
|>	Ge	72		87.859	
|	As	75	85.005		
|	Se	82	89.938		
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: QC Std 8
Report Date/Time: Wednesday, March 15, 2017 15:56:39
Page 2

Approved: March 16, 2017

⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98		
|	Ag	107	93.787	
|	Cd	111	88.417	
|	Cd	114		
|>	In	115		87.447
|	Sn	118		
|	Sb	123	105.543	
⌊	Ba	135	91.084	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	100.587	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	92.396	
|	U	238	94.852	
⌊>	Bi	209		91.975
⌈	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
Report Date/Time: Wednesday, March 15, 2017 15:56:39
Page 3

Approved: March 16, 2017

2.4 General Chemistry Data

2.4.1 Hexavalent Chromium Data

2.4.1.1 Summary Data

Microbac

Lab Report #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030724-01	**PrePrep Method:**	N/A	**Instrument:**	UV-2600
Client ID:	LH18/24-SP650-6423-GRAB	**Prep Method:**	7196A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	7196A	**Cal Date:**	03/10/2017 13:59
Workgroup #:	WG606176	**Analyst:**	DLP	**Run Date:**	03/14/2017 14:50
Collect Date:	03/13/2017 15:00	**Dilution:**	1	**File ID:**	00.1703141450-07
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chromium, Hexavalent	18540-29-9	0.0100	U	0.0200	0.0100	0.00500

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

Microbac

Lab Report #: L17030724
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

2.4.1.2 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.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 7196A AAB#: WG606176

Login Number: L17030724

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
LH18/24-SP650-6423-GRAB	01	03/13/17					03/14/2017	1	1		03/14/17	1	1	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5202863
Report generated 03/17/2017 09:17

METHOD BLANK SUMMARY

Login Number:	L17030724	**Work Group:**	WG606176
Blank File ID:	00.1703141450-03	**Blank Sample ID:**	WG606176-01
Prep Date:	03/14/17 14:50	**Instrument ID:**	UV-2600
Analyzed Date:	03/14/17 14:50	**Method:**	7196A
Analyst:	DLP		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG606176-02	00.1703141450-04	03/14/17 14:50	
LCS2	WG606176-03	00.1703141450-05	03/14/17 14:50	
LH18/24-SP650-6423-GRAB	L17030724-01	00.1703141450-07	03/14/17 14:50	
DUP	WG606176-06	00.1703141450-08	03/14/17 14:50	

Report Name: BLANK_SUMMARY
PDF File ID: 5202864
Report generated 03/17/2017 09:17

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L17030724 Prep Date: 03/14/17 14:50 Sample ID: WG606176-01
Instrument ID: UV-2600 Run Date: 03/14/17 14:50 Prep Method: 7196A
File ID: 00.1703141450-03 Analyst: DLP Method: 7196A
Workgroup (AAB#): WG606176 Matrix: Water Units: mg/L
Contract #: Cal ID: UV-260-10-MAR-17

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Chromium, Hexavalent	0.00500	0.0200	0.00500	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: 5202865
17-MAR-2017 09:17

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17030724 **Analyst:** DLP **Prep Method:** 7196A
Instrument ID: UV-2600 **Matrix:** Water **Method:** 7196A
Workgroup (AAB#): WG606176 **Units:** mg/L
QC Key: DOD4 **Lot #:** STD80875

Sample ID: WG606176-02 LCS **File ID:** 00.1703141450-04 **Run Date:** 03/14/2017 14:50
Sample ID: WG606176-03 LCS2 **File ID:** 00.1703141450-05 **Run Date:** 03/14/2017 14:50

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Chromium, Hexavalent	0.100	0.100	100	0.100	0.101	101	0.988	90 - 110	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 5202866
Report generated: 03/17/2017 09:17

2.4.1.3 Raw Data

WG 1105850 00846106

Curves

Parameter: Cole-Low

Spectrophotometer: UV-2600

Calibration (Curve) standard stock: IR 80872, 80873

Concentration: 50mg/L, 5mg/L

Recipe for preparation of curve standards found in:
SOP: K2180 Revision: 22 Page: 12

Second Source Stock: 30875 (concentration: 2mg/L)

Daily Preparation: 10(2)/100

concentration = 0.01

Calibration Standards (mg/L)	Volume (mL)	Cell Size (cm)	Wavelength (nm)	Absorbance
0.2	100	5cm	540	0.808
0.1	100	5cm	540	0.408
0.05	100	5cm	540	0.206
0.02	100	5cm	540	0.084
0.01	100	5cm	540	0.052
0.00	100	5cm	540	0.003
2nd source 0.1	100	5cm	540	0.418

Analyst: Jamie Greene Date/Time: 3/01/17 1355

DCN#124473

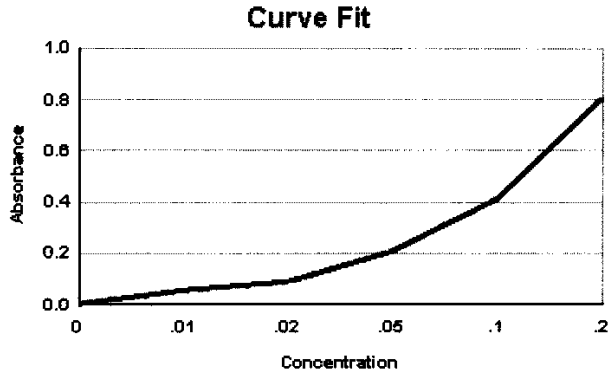
Microbac Laboratories Inc.
INITIAL CALIBRATION

Workgroup:WG605850
Analytical Method:3500CR
Instrument ID:UV-2600

Analyst:ADG
Initial Calibration Date:03/10/2017

Analyte: CHROMIUM, HEXAVALENT
Number of Points: 6
Slope: 4.01048
Y-Intercept: 0.00616935
Coef. Of Correlation (R^2): 0.999893
Coef. Of Correlation (R): 0.999947

Concentration X	Absorbance Y	X^2	X * Y	Y-Fitted (mX^2+B)
0.00	0.00300	0.00	0.00	0.00616935
0.0100	0.0520	0.000100	0.000520	0.0462742
0.0200	0.0840	0.000400	0.00168	0.0863790
0.0500	0.206	0.00250	0.0103	0.206694
0.100	0.408	0.0100	0.0408	0.407218
0.200	0.808	0.0400	0.162	0.808266



WG_ICAL_CAL_WET - Modified 03/06/2008
Report generated 03/10/2017 15:28

[redacted]

Microbac Laboratories Inc.
ALTERNATE SOURCE REPORT

Workgroup #: WG605850
File ID: 00.1703101359-07
CCV ID: WG605850-07
Units: mg/L
Analyte: CHROMIUM, HEXAVALENT

Instrument ID: UV-2600
Run Date: 03/10/2017
Run Time: 13:59
Analyst: ADG
Cal ID: UV-260 - 10-MAR-17 13:59:06

Analyte	Expected	Found	RF	%D	Q
Chromium, Hexavalent	.1	0.103	4.18	3.0	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_SSCV - Modified 03/06/2008
Report generated 03/10/2017 15:29

[redacted]

WORKGROUP: WG606176

CHROMIUM (6)

(cr6)

Standard Methods 3500 Cr-D (18th, 19th), 3500Cr-B(20th) SPEC: UV 2600

SOP K2186 Rev. # 22 SW846 7196A Curve ID: 594062 12-08-16

CCV: 5TD808873 LCS: 5TD808875 Spike: 5TD808874 RGT 39429

Matrix: Liquid (mg/L) Soil (mg/Kg) Daily dilution: 0.1(5)/100 = Daily dilution: 10(2)/200 = Daily dilution 0.2(50)/100 = RGT Lot# 189471

Daily dilution: 0.05 Daily dilution: 0.10 Daily dilution: 0.10

Sample	Volume (mL)	pH adj. to 2 ± 0.5	Dilution	Cell size (cm)	Absorbance @ 540 nm
CCV: mg/L(1 cm)	100				
CCV 0.05 mg/L(5 cm)	100	✓		5cm	0.209
Blank/CCB:	100	✓		5cm	0.002
LCS: 0.1 ppm	100	✓		5cm	0.409
LCSDUP: 0.10 ppm	100	✓		5cm	0.413
03-723-01	100	✓		5cm	0.009
03-724-01	100	✓		5cm	0.009
	100				
	100				
	100				
	100				
	100				
	100				
	100				
CCV: (1 cm)	100				
CCV: (5 cm)	100				
CCB:	100				
	100				
	100				
	100				
	100				
	100				
	100				
	100				
	100				
	100				
	100				
DUP: 03-723-01	100	✓		5cm	0.009
MS: (03-723-01	100	✓		5cm	0.394
MSD: ( )	100				
CCV: (1 cm)	100				
CCV: 0.05 (5 cm)	100	✓		5cm	0.206
CCB: 0.00	100	✓		5cm	0.002

Analyst: Quatley Payne Date / Time: 03-14-17 / 1450

SW846 7196 (Dup and/or MS every 10 samples) **SM3500 Cr (Dup and MS/MSD every 20 samples)**

DCN#124521

Microbac Laboratories Inc.
SAMPLE REPORT

Workgroup: WG606176
Analyte: CHROMIUM, HEXAVALENT

Analyst: DLP
Date: 03/14/2017

Sample ID	I Vol	F Vol	Response	Slope	Y Intercept	Anal. Conc.	Rep. Conc.	Dil	Units
WG606176-01	100	100	0.00200	4.010	0.006169	-0.0010396	-0.0010396	1	mg/L
WG606176-02	100	100	0.409	4.010	0.006169	0.10044	0.10044	1	mg/L
WG606176-03	100	100	0.413	4.010	0.006169	0.10144	0.10144	1	mg/L
L17030723-01	100	100	0.00900	4.010	0.006169	0.00070581	ND	1	mg/L
WG606176-04	100	100	0.00900	4.010	0.006169	0.00070581	0.00070581	1	mg/L
WG606176-05	100	100	0.00900	4.010	0.006169	0.00070581	0.00070581	1	mg/L
L17030724-01	100	100	0.00900	4.010	0.006169	0.00070581	ND	1	mg/L
WG606176-06	100	100	0.00900	4.010	0.006169	0.00070581	0.00070581	1	mg/L
WG606176-07	100	100	0.394	4.010	0.006169	0.096704	0.096704	1	mg/L

UV_SAMPLE_REPORT - Modified 03/06/2008

Report generated 03/16/2017 16:59

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG606573
File ID: 00.1703141450-01
CCV ID: WG606573-01
Units: mg/L
Analyte: CHROMIUM, HEXAVALENT

Instrument ID: UV-2600
Run Date: 03/14/2017
Run Time: 14:50
Analyst: DLP
Cal ID: UV-260 - 10-MAR-17

Analyte	Expected	Found	RF	%D	Q
Chromium, Hexavalent	.05	0.0506	4.18	1.2	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 03/16/2017 16:57

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG606573
File ID: 00.1703141450-10
CCV ID: WG606573-03
Units: mg/L
Analyte: CHROMIUM, HEXAVALENT

Instrument ID: UV-2600
Run Date: 03/14/2017
Run Time: 14:50
Analyst: DLP
Cal ID: UV-260 - 10-MAR-17

Analyte	Expected	Found	RF	%D	Q
Chromium, Hexavalent	.05	0.0498	4.12	0.4	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 03/16/2017 16:57

[redacted]

3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
April 14, 2017

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001 – BIO-CHEM TESTING WVDEP 220	002 – REIC Consultants, Inc. WVDEP 060
003 – Sturm Environmental	004 – MICROBAC PITTSBURGH
005 – ES LABORATORIES	006 – ALCOSAN LABORATORIES
007 – ALS LABORATORIES	008 – BENCHMARK LABORATORIES
010 – MICROBAC CHICAGOLAND	AC – AMBER R. CARMICHAEL
ADC – ANTHONY D. CANTER	ADG – APRIL D. GREENE
ALS – ADRIANE L. STEED	AWE – ANDREW W. ESSIG
AZH – AFTER HOURS	BJO – BRIAN J. OGDEN
BLG – BRENDA L. GREENWALT	BNB – Brandi N. Bentley
BRG – BRENDA R. GREGORY	CAS – Craig A. Smith
CEB – CHAD E. BARNES	CLC – CHRYS L. CRAWFORD
CLS – CARA L. STRICKLER	CPD – CHAD P. DAVIS
CSH – CHRIS S. HILL	CV – Carl Volkman
DAK – DEAN A. KETELSEN	DCM – DAVID C. MERCKLE
DEV – DAVID E. VANDENBERG	DIH – DEANNA I. HESSON
DLB – DAVID L. BUMGARNER	DLP – DOROTHY L. PAYNE
DSM – DAVID S. MOSSOR	DTG – DOMINIC T. GEHRET
ECL – ERIC C. LAWSON	EPT – ETHAN P. TIDD
ERP – ERIN R. PORTER	FJB – FRANCES J. BOLDEN
HRF – HEATHER R. FAIRCHILD	JDH – JUSTIN D. HESSON
JDS – JARED D. SMITH	JKP – JACQUELINE K. PARSONS
JLD – JESSICA L. DELONG	JST – JOSHUA S. TAYLOR
JTP – JOSHUA T. PEMBERTON	JWR – JOHN W. RICHARDS
JWS – JACK W. SHEAVES	JYH – JI Y. HU
KAK – KATHY A. KIRBY	KDD – Katelyn D. Daley
KEB – KATIE E. BARNES	KHR – KIM H. RHODES
KKB – KERRI K. BUCK	KRA – KATHY R. ALBERTSON
KRP – KATHY R. PARSONS	LJH – Lacey J. Hendershot
LLS – LARRY L. STEPHENS	LSB – LESLIE S. BUCINA
LSJ – LAURA S. JONES	MAP – MARLA A. PORTER
MBK – MORGAN B. KNOWLTON	MES – MARY E. SCHILLING
MMB – MAREN M. BEERY	MRT – MICHELLE R. TAYLOR
PDM – PIERCE D. MORRIS	PIT – MICROBAC WARRENDALE
REK – BOB E. KYER	RLB – BOB BUCHANAN
RNP – RICK N. PETTY	SAV – SARAH A. VANDENBERG
SCB – SARAH C. BOGOLIN	SCJ – SUE ELLEN C. JOHNSON
SDC – SHALYN D. CONLEY	TB – TODD BOYLE
TMB – TIFFANY M. BAILEY	TMM – TAMMY M. MORRIS
VC – VICKI COLLIER	WTD – WADE T. DELONG
XXX – UNAVAILABLE OR SUBCONTRACT	

Microbac Laboratories Inc.
List of Valid Qualifiers
April 14, 2017

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
April 14, 2017

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

L17030724 / Revision: 0 / 766 total pages

Page 760

CHAIN OF CUSTODY

Name Of Lab Shipping To: MICROBAC (740) 373-4071 ATTN: STEPHANIE MOSSBURG

Project: AECOM
LONGHORN ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 60256135.GWTPT HRUMAR16

Job: GROUNDWATER TREATMENT PLANT MONTHLY EFFLUENT SAMPLES

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOLATILES	SILVER, SELENIUM, LEAD, BARIUM	HEXAVALENT CHROMIUM	1, 4 - DIOXANE						Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650-6423-Grab	Water	03/13/17 / 15:00		3	X									HCL	
LH18/24-SP650-6423-Grab	Water	03/13/17 / 15:00		3			X	X	X					NONE	
LH18/24-SP650-6423-Grab	Water	03/13/17 / 15:00		1		X								HNO3	
Trip Blank	Water	03/13/17		2	X									HCL	

Additional Remarks: **STANDARD TURN AROUND TIME**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	03/13/17	15:30									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

Microbac OVD
Received: 03/14/2017 09:34
By: CARA STRICKLER
221000098210

Cara Strickler

(Word) S:\1-ces\Forms\Chain of Custody - BiWeekly

Generated: 04/14/2017 11:58

00846117

MICROBAC

COOLER TEMP >6° C LOG

Cooler ID 5221D

SAMPLE ID	Bottle 1 °C	Bottle 2 °C	Bottle 3 °C	Bottle 4 °C	Bottle 5 °C	Bottle 6 °C

MD 3/14/17

pH Exceptions

pH Lot # HC693124

SAMPLE ID	Bottle 1	Bottle 2	Bottle 3	Bottle 4	Bottle 5	Bottle 6

MD 3/14/17

PRESERVATIVE EXCEPTIONS

✓ NONE

__ AS NOTED

MD 3/14/17

Document Control # 1957
Last 10-07-2016

Issued to: Document Master File

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L17030724
Account: 2551
Project: 2551.096
Samples: 2
Due Date: 24-MAR-2017

Samplenum	Container ID	Products
L17030724-01	880068	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-MAR-2017 09:57	CLS		
2	ANALYZ	V1	ORG4	15-MAR-2017 14:48	TMB	BRG	
Comments:Products cancelled.							
3	STORE	ORG4	A1	28-MAR-2017 07:22	CLS	AWE	
Comments:Products cancelled.							

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-MAR-2017 09:57	CLS		
2	ANALYZ	V1	ORG4	15-MAR-2017 14:48	TMB	BRG	
Comments:Products cancelled.							
3	STORE	ORG4	A1	28-MAR-2017 07:22	CLS	AWE	
Comments:Products cancelled.							

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-MAR-2017 09:57	CLS		
2	ANALYZ	V1	ORG4	15-MAR-2017 14:48	TMB	BRG	
Comments:Products cancelled.							
3	STORE	ORG4	A1	28-MAR-2017 07:22	CLS	AWE	
Comments:Products cancelled.							

Samplenum	Container ID	Products
L17030724-01	880069	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-MAR-2017 09:57	CLS		
2	PREP	W1	EXT	16-MAR-2017 14:39	CPD	BRG	
Comments:Products cancelled.							

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-MAR-2017 09:57	CLS		
2	PREP	W1	EXT	22-MAR-2017 10:05	CPD	BRG	
Comments:Products cancelled.							

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L17030724
Account: 2551
Project: 2551.096
Samples: 2
Due Date: 24-MAR-2017

Samplenum	Container ID	Products
L17030724-01	880070	PB-MS SE BA-MS AG-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-MAR-2017 09:57	CLS		
2	ANALYZ	W1	DIG	14-MAR-2017 12:57	ERP	BRG	
3	STORE	DIG	A1	15-MAR-2017 13:32	BRG	ERP	

Samplenum	Container ID	Products
L17030724-01	880071	CR-6 826-SPE 827-DIOXANE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	14-MAR-2017 09:57	CLS		
2	ANALYZ	W1	WET	14-MAR-2017 12:09	DLP	CLS	
3	STORE	WET	A1	15-MAR-2017 08:09	CLS	DLP	

Samplenum	Container ID	Products
L17030724-02	880072	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-MAR-2017 09:57	CLS		
2	ANALYZ	V1	ORG4	15-MAR-2017 14:48	TMB	BRG	
3	STORE	ORG4	A1	28-MAR-2017 07:22	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	14-MAR-2017 09:57	CLS		
2	ANALYZ	V1	ORG4	15-MAR-2017 14:48	TMB	BRG	
3	STORE	ORG4	A1	28-MAR-2017 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

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: L17030851

Linda Raabe
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 March 24 2017

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 #: L17030851
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
No date/time on Orthophosphate container. Will log per information on COC. BRG	Please proceed. ALS

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #	Temp Required?
0018156	I	4.0		1Z4016632210154821	X

Inspection Checklist

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

Microbac

Lab Report #: L17030851
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
LH18/24-SP650-6424-GRAB	L17030851-01	03/15/2017 15:00	03/16/2017 09:31

Microbac Laboratories ● Ohio Valley Division
158 Starlite Drive, Marietta, OH 45750 ● T: (740)373-4071 F: (740)373-4835
www.microbac.com

Microbac REPORT L17030851
PREPARED FOR AECOM Technical Services, Inc.
WORK ID:

1.0 Summary Data 5
1.1 Narratives 6
1.2 Certificate of Analysis 25
2.0 Full Sample Data Package 27
2.1 General Chemistry Data 28
2.1.1 Ammonia Data 29
2.1.1.1 Summary Data 30
2.1.1.2 QC Summary Data 32
2.1.1.3 Raw Data 39
2.1.2 Orthophosphate Data 46
2.1.2.1 Summary Data 47
2.1.2.2 QC Summary Data 49
2.1.2.3 Raw Data 56
2.1.3 Total Organic Carbon Data 64
2.1.3.1 Summary Data 65
2.1.3.2 QC Summary Data 67
2.1.3.3 Raw Data 74
3.0 Attachments 99

1.0 Summary Data

1.1 Narratives

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030851
Project Name:		**Method:**	NH3
Prep Batch Number(s):	606922	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2017-03-24 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
Sarah Vandenberg	Sarah Vandenberg		2017-03-24 16:39:05

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030851
Project Name:		**Method:**	NH3
Prep Batch Number(s):	606922	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2017-03-24 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:**	L17030851
Project Name:		**Method:**	NH3
Prep Batch Number(s):	606922	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2017-03-24 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:**	L17030851
Project Name:		**Method:**	NH3
Prep Batch Number(s):	606922	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2017-03-24 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:**	L17030851
Project Name:		**Method:**	NH3
Prep Batch Number(s):	606922	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2017-03-24 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:**	L17030851
Project Name:		**Method:**	NH3
Prep Batch Number(s):	606922	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2017-03-24 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:**	L17030851
Project Name:		**Method:**	PO4
Prep Batch Number(s):	606462	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2017-03-24 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
Sarah Vandenberg	Sarah Vandenberg		2017-03-24 16:40:35

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030851
Project Name:		**Method:**	PO4
Prep Batch Number(s):	606462	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2017-03-24 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:**	L17030851
Project Name:		**Method:**	PO4
Prep Batch Number(s):	606462	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2017-03-24 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:**	L17030851
Project Name:		**Method:**	PO4
Prep Batch Number(s):	606462	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2017-03-24 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:**	L17030851
Project Name:		**Method:**	PO4
Prep Batch Number(s):	606462	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2017-03-24 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:**	L17030851
Project Name:		**Method:**	PO4
Prep Batch Number(s):	606462	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2017-03-24 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:**	L17030851
Project Name:		**Method:**	TOC
Prep Batch Number(s):	606518	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2017-03-24 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
Sarah Vandenberg	Sarah Vandenberg		2017-03-24 16:42:42

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030851
Project Name:		**Method:**	TOC
Prep Batch Number(s):	606518	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2017-03-24 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:**	L17030851
Project Name:		**Method:**	TOC
Prep Batch Number(s):	606518	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2017-03-24 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:**	L17030851
Project Name:		**Method:**	TOC
Prep Batch Number(s):	606518	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2017-03-24 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:**	L17030851
Project Name:		**Method:**	TOC
Prep Batch Number(s):	606518	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2017-03-24 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;

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Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17030851
Project Name:		**Method:**	TOC
Prep Batch Number(s):	606518	**Reviewer Name:**	Sarah Vandenberg
LRC Date:	2017-03-24 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 #: L17030851
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030851-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	LH18/24-SP650-6424-GRAB	**Prep Method:**	350.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	350.1	**Cal Date:**	03/21/2017 10:15
Workgroup #:	WG606922	**Analyst:**	TB	**Run Date:**	03/21/2017 10:59
Collect Date:	03/15/2017 15:00	**Dilution:**	50	**File ID:**	S2170321001.041
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrogen, Ammonia	7664-41-7	54.9		10.0	5.00	2.50

Certificate of Analysis

Sample #:	L17030851-01	**PrePrep Method:**	N/A	**Instrument:**	UV-2600
Client ID:	LH18/24-SP650-6424-GRAB	**Prep Method:**	365.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	365.2	**Cal Date:**	03/09/2017 11:25
Workgroup #:	WG606462	**Analyst:**	TMM	**Run Date:**	03/16/2017 10:45
Collect Date:	03/15/2017 15:00	**Dilution:**	5	**File ID:**	00.1703161045-08
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Orthophosphate	14265-44-2	3.72		0.500	0.250	0.125

Certificate of Analysis

Sample #:	L17030851-01	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	LH18/24-SP650-6424-GRAB	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	02/10/2017 10:25
Workgroup #:	WG606518	**Analyst:**	DCM	**Run Date:**	03/16/2017 15:03
Collect Date:	03/15/2017 15:00	**Dilution:**	25	**File ID:**	TC03162017.007
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	584		50.0	25.0	12.5

2.0 Full Sample Data Package

2.1 General Chemistry Data

2.1.1 Ammonia Data

2.1.1.1 Summary Data

Microbac

Lab Report #: L17030851
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030851-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	LH18/24-SP650-6424-GRAB	**Prep Method:**	350.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	350.1	**Cal Date:**	03/21/2017 10:15
Workgroup #:	WG606922	**Analyst:**	TB	**Run Date:**	03/21/2017 10:59
Collect Date:	03/15/2017 15:00	**Dilution:**	50	**File ID:**	S2170321001.041
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrogen, Ammonia	7664-41-7	54.9		10.0	5.00	2.50

2.1.1.2 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: 21-MAR-2017
Analyst: TB
Analyst: NA
Method: NH3
Instrument: SC2
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG606922

Calibration/Linearity	03/21/2017
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	TB
Secondary Reviewer	SAV
Comments	

Primary Reviewer:
21-MAR-2017
Todd Boyle

Secondary Reviewer:
21-MAR-2017
Sarah Vandenberg

CHECKLIST1 - Modified 03/05/2008
Generated: MAR-21-2017 12:25:05

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 350.1 AAB#: WG606922

Login Number: L17030851

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
LH18/24-SP650-6424-GRAB	01	03/15/17					03/21/2017	5.8	28		03/21/17	5.8	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5208912
Report generated 03/21/2017 12:19

METHOD BLANK SUMMARY

Login Number: L17030851
Blank File ID: S2170321001.011
Prep Date: 03/21/17 10:18
Analyzed Date: 03/21/17 10:18
Analyst: TB

Work Group: WG606922
Blank Sample ID: WG606922-01
Instrument ID: SMARTCHEM2
Method: 350.1

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG606922-02	S2170321001.012	03/21/17 10:20	01
LCS2	WG606922-03	S2170321001.013	03/21/17 10:20	01
DUP	WG606922-06	S2170321001.034	03/21/17 10:41	01
LH18/24-SP650-6424-GRAB	L17030851-01	S2170321001.041	03/21/17 10:59	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 5208913
Report generated 03/21/2017 12:19

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L17030851 Prep Date: 03/21/17 10:18 Sample ID: WG606922-01
Instrument ID: SMARTCHEM2 Run Date: 03/21/17 10:18 Prep Method: 350.1
File ID: S2170321001.011 Analyst: TB Method: 350.1
Workgroup (AAB#): WG606922 Matrix: Water Units: mg/L
Contract #: Cal ID: SMARTC-21-MAR-17

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Nitrogen, Ammonia	0.0500	0.200	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: 5208914
21-MAR-2017 12:19

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17030851 Analyst: TB Prep Method: 350.1
Instrument ID: SMARTCHEM2 Matrix: Water Method: 350.1
Workgroup (AAB#): WG606922 Units: mg/L
QC Key: DOD4 Lot #: STD80299

Sample ID: WG606922-02 LCS File ID: S2170321001.012 Run Date: 03/21/2017 10:20
Sample ID: WG606922-03 LCS2 File ID: S2170321001.013 Run Date: 03/21/2017 10:20

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Nitrogen, Ammonia	2.00	2.02	101	2.00	2.04	102	1.40	90 - 110	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 5208915
Report generated: 03/21/2017 12:19

2.1.1.3 Raw Data

WORKGROUP: WG606922

SMARTCHEM RUN LOG

(smartchem2, smartchem3)

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 # _____

pH paper 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 ☐ SC2 ☒

	Analyte	1	2	3
		NH_3		
		Dilution		
SC Prepared Curve				
Position				
1-1	ICV			
1-2	B/H			
1-3	LLS			
1-4	LCSNAP			
1-5	3-851-01	1/5 x	Auto 1/5	
1-6	874-01			
1-7	875-01			
1-8	880-01		Auto 1/5	
1-9	885-01			
1-10	02			
1-11	03			
1-12	04			
1-13	886-01	1/5		
1-14	02			
1-15	887-02			
1-16	903-01			
1-17	963-01			
1-18	03			
1-19	981-02			
1-20	1002-02			
1-21	DUP 886-02			
1-22	MS 886-02			
2-1	MS 1002-02			
2-2				
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#124655

WORKGROUP: WG606922

SMARTCHEM RUN LOG

(smartchem2, smartchem3)

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-Cl 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	NH_3		Reagents
SOP & Revision	k350 R24		
Curve Stock (SC made)	SH 80966		38596
NO2 STD			39421
ICV	SH 80868		39214
CCV	SH 80967		
LCS			
MS	See Prep Log Dilution		

Comments: _____

Analyst: _____ Date: 3/21/17

DCN#124655

AMMONIA DISTILLATION LOG

SOP K3501 Revision # 24

LCS: 1d 80299 SPIKE: 80299 ~~WATER (mg/L)~~

DAILY DIL. 5(100)/250 = 2.0 DAILY DIL. 0.4 (100)/40 = 1.0 SOIL (mg/Kg)

RGT 39615

RGT 39399

*** All Distillate are at a Final Volume of 40 mL.**

SAMPLE	VOLUME DISTILLED (mL or g)	CHLORINE PRESENT?	pH ADJUSTED 9.5 ± 0.2	COMMENTS
BLANK	40 mL		✓	
LCS( )	40		✓	
LCS DUP( )	40		✓	
3-874-01	40	No	✓	
875-01	40	No	✓	
880-01	40	No	✓	
886-01	40	Yes	✓	
886-02	40	No	✓	
887-02	40	No	✓	
903-01	40	No	✓	
963-01	40	No	✓	
963-03	40	No	✓	
981-02	40	No	✓	
851-01	40	No	✓	
885-01	40	No	✓	
02	TB 3/20/17 ~~40~~ 40	No	✓	
03	40	No	✓	
04	40	No	✓	
1002-02	40	No	✓	
DUP 886-02	40	No	✓	
MS( ) 886-02	40	No	✓	
MS( ) 1002-01	40	No	✓	

Analyst: Tom Brock / Tammy Morris Date/Time: 1200 3/20/17

*MS required on 10% of samples (EPA 350.1)

*MS/MS required on each set of 20 samples (SM4500)

MICROBAC (OVD)

SMARTCHEM200 INST2 (VER3.1.14)

NH3, TKN, NO3NO2 (MG/L N)

ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WNH3 -Unit [mg/L] - EPA 350.1/SM4500-NH3 AMMONIA

Smp#/[Dil Fact]	Sample ID		Conc	OD	%Recovery/RPD	Flag	Analysis Time
DIL-1	RBL		0.000	0.0475	0.00		10:07:52 AM
DIL-1	RBL		0.000	0.0465	0.00		10:08:10 AM
DIL-1	RBL		0.000	0.0462	0.00		10:09:40 AM
DIL-1	Std-1		0.000	-0.0007	0.00	INV	10:09:58 AM
SR5-1	Std-2		0.030	0.0083	0.00		10:11:28 AM
SR5-2	Std-3		0.094	0.0256	0.00		10:11:46 AM
SR5-3	Std-4		0.600	0.1602	0.00		10:13:16 AM
SR5-4	Std-5		1.050	0.2839	0.00		10:13:34 AM
SR5-5	Std-6		2.100	0.5586	0.00		10:15:04 AM
ST-1	Std-7		3.000	0.8163	0.00		10:15:22 AM
ST-3	1CCV (1.5 mg/L)		1.522	0.4106	101.44		10:16:52 AM
ST-2	2CCB (0 mg/L)		0.003	-0.0004	0.00	INV	10:17:10 AM
1	ICV		1.496	0.4037	0.00		10:18:40 AM
2	WG606922-01 BLK		0.038	0.0092	0.00		10:18:58 AM
3	WG606922-02 LCS		2.015	0.5442	0.00		10:20:29 AM
4	WG606922-03 LCSDUP		2.044	0.5519	0.00		10:20:47 AM
5	L17030851-01 (5)	X	17.377	4.7006	0.00	><,LH	10:22:17 AM
6	L17030874-01		0.281	0.0750	0.00		10:22:35 AM
7	L17030875-01		0.198	0.0524	0.00		10:24:05 AM
8	L17030880-01	X	17.377	4.7007	0.00	><,LH	10:24:23 AM
9	L17030885-01		0.156	0.0412	0.00		10:25:53 AM
10	L17030885-02		0.119	0.0310	0.00		10:26:11 AM
ST-3	1CCV (1.5 mg/L)		1.531	0.4131	102.05		10:27:41 AM
ST-2	2CCB (0 mg/L)		0.008	0.0011	0.00		10:28:35 AM
11	L17030885-03		0.190	0.0504	0.00		10:29:29 AM
12	L17030885-04		0.218	0.0579	0.00		10:30:23 AM
13	L17030886-01 (5)	X	5.897	1.5945	0.00	><,LH	10:31:53 AM
14	L17030886-02		0.166	0.0438	0.00		10:32:11 AM
15	L17030887-02		0.152	0.0399	0.00		10:34:17 AM
16	L17030903-01		0.124	0.0324	0.00		10:34:35 AM
17	L17030963-01		0.153	0.0402	0.00		10:36:05 AM
18	L17030963-03		0.119	0.0311	0.00		10:36:23 AM

Report Date :03/21/2017 **Run Date :3/21/2017** **Operator : SMARTCHEM2** **Plan # :20170321001**

Plan Description : NH3-A2-TB/03/21/2017

MICROBAC (OVD)
SMARTCHEM200 INST2 (VER3.1.14)
NH3, TKN, NO3NO2 (MG/L N)
ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WNH3 -Unit [mg/L] - EPA 350.1/SM4500-NH3 AMMONIA

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
19	L17030981-02	0.689	0.1852	0.00		10:37:53 AM
20	L17031002-02	1.447	0.3905	0.00		10:38:11 AM
ST-3	1CCV (1.5 mg/L)	1.526	0.4119	101.76		10:39:41 AM
ST-2	2CCB (0 mg/L)	0.016	0.0033	0.00		10:39:59 AM
21	WG606922-06 DUP	0.195	0.0517	0.00		10:41:47 AM
22	WG606922-07 MS	1.195	0.3222	0.00		10:42:05 AM
23	WG606922-08 MS	2.553	0.6898	0.00		10:43:35 AM
24	ID 24	-0.003	-0.0019	0.00	INV,><,LL	10:43:53 AM
25	ID 25	-0.003	-0.0020	0.00	INV,><,LL	10:45:23 AM
ST-3	1CCV (1.5 mg/L)	1.569	0.4235	104.62		10:45:41 AM
ST-2	2CCB (0 mg/L)	0.018	0.0038	0.00		10:47:11 AM
5-[1/2]	L17030851-01 (5)	2.195	0.2959	0.00		10:59:21 AM
8-[1/2]	L17030880-01 (5)	3.619	0.4885	0.00	LH	11:01:27 AM
13-[1/2]	L17030886-01 (5)	5.554	0.7503	0.00	LH	11:03:33 AM
ST-3	1CCV (1.5 mg/L)	1.556	0.4199	103.73		11:03:33 AM
ST-2	2CCB (0 mg/L)	0.026	0.0060	0.00		11:05:03 AM

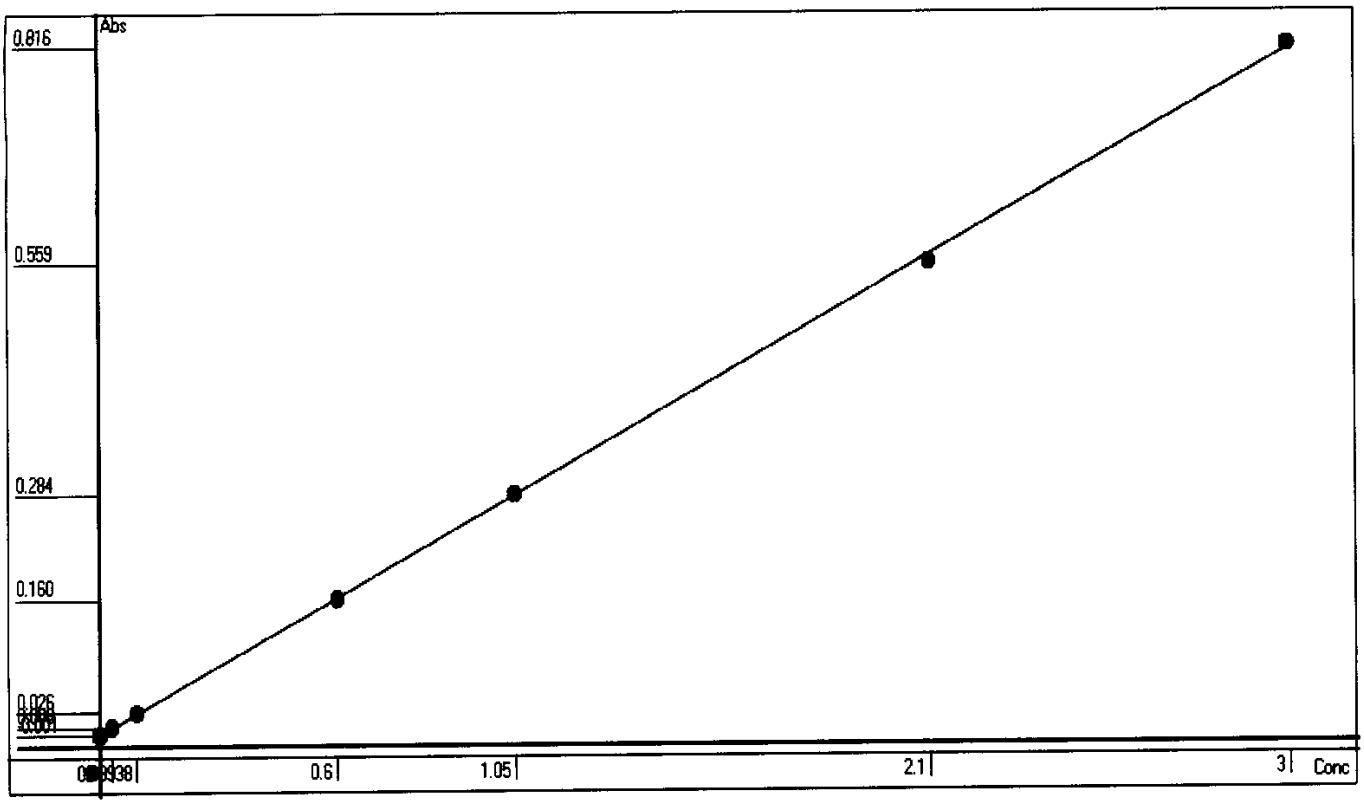
Report Date :03/21/2017 **Run Date :3/21/2017** **Operator : SMARTCHEM2** **Plan # :20170321001**

Plan Description : NH3-A2-TB/03/21/2017

Calibrant Report - WNH3 -

Calib Lot #:010104 Exp Date:6/17/2020 User:Westco Scientific

Plan # : 20170321001 Description : [NH3-A2-TB/03/21/2017] Unit



Point	OD	Conc	Recalc Conc	% Error
1	-0.0007	0	0.0016	0.16
2	0.0083	0.03	0.0349	16.33
3	0.0256	0.0938	0.0988	5.33
4	0.1602	0.6	0.5963	-0.62
5	0.2839	1.05	1.0534	0.32
6	0.5586	2.1	2.0687	-1.49
7	0.8163	3	3.0211	0.70

Conc= +3.6958*Abso +0.0042 **R^2=0.9998**

RBL
0.0463
0

Report Date 3/21/2017 **Run Date 3/21/2017**

2.1.2 Orthophosphate Data

2.1.2.1 Summary Data

Microbac

Lab Report #: L17030851
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030851-01	**PrePrep Method:**	N/A	**Instrument:**	UV-2600
Client ID:	LH18/24-SP650-6424-GRAB	**Prep Method:**	365.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	365.2	**Cal Date:**	03/09/2017 11:25
Workgroup #:	WG606462	**Analyst:**	TMM	**Run Date:**	03/16/2017 10:45
Collect Date:	03/15/2017 15:00	**Dilution:**	5	**File ID:**	00.1703161045-08
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Orthophosphate	14265-44-2	3.72		0.500	0.250	0.125

2.1.2.2 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: 16-MAR-2017
Analyst: TMM
Analyst: NA
Method: PO4
Instrument: UV-2600
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG606462

Calibration/Linearity	3/17
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	X
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:
16-MAR-2017

Secondary Reviewer:
17-MAR-2017

CHECKLIST1 - Modified 03/05/2008
Generated: MAR-17-2017 11:41:17

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 365.2 **AAB#:** WG606462

Login Number: L17030851

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
LH18/24-SP650-6424-GRAB	01	03/15/17					03/16/2017	.8	2		03/16/17	.8	2	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5202048
Report generated 03/16/2017 15:00

METHOD BLANK SUMMARY

Login Number: L17030851
Blank File ID: 00.1703161045-03
Prep Date: 03/16/17 10:45
Analyzed Date: 03/16/17 10:45
Analyst: TMM

Work Group: WG606462
Blank Sample ID: WG606462-01
Instrument ID: UV-2600
Method: 365.2

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG606462-02	00.1703161045-04	03/16/17 10:45	
LCS2	WG606462-03	00.1703161045-05	03/16/17 10:45	
LH18/24-SP650-6424-GRAB	L17030851-01	00.1703161045-08	03/16/17 10:45	
DUP	WG606462-05	00.1703161045-09	03/16/17 10:45	

Report Name: BLANK_SUMMARY
PDF File ID: 5202049
Report generated 03/16/2017 15:00

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L17030851 Prep Date: 03/16/17 10:45 Sample ID: WG606462-01
Instrument ID: UV-2600 Run Date: 03/16/17 10:45 Prep Method: 365.2
File ID: 00.1703161045-03 Analyst: TMM Method: 365.2
Workgroup (AAB#): WG606462 Matrix: Water Units: mg/L
Contract #: Cal ID: UV-260-16-MAR-17

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Orthophosphate	0.0250	0.100	0.0250	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: 5202050
16-MAR-2017 15:00

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17030851 Analyst: TMM Prep Method: 365.2
Instrument ID: UV-2600 Matrix: Water Method: 365.2
Workgroup (AAB#): WG606462 Units: mg/L
QC Key: DOD4 Lot #: STD80857

Sample ID: WG606462-02 LCS File ID: 00.1703161045-04 Run Date: 03/16/2017 10:45
Sample ID: WG606462-03 LCS2 File ID: 00.1703161045-05 Run Date: 03/16/2017 10:45

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Orthophosphate	1.00	0.985	98.5	1.00	0.983	98.3	0.162	90 - 110	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 5202051
Report generated: 03/16/2017 15:00

2.1.2.3 Raw Data

UG 0057657

Curves

Parameter: PO4

Spectrophotometer: UV-2600

Calibration (Curve) standard stock: Std 79640

Concentration: 1000mg/L

Recipe for preparation of curve standards found in:

SOP: 3165 Revision: 17 Page: 69

Second Source Stock: ~~79554~~ Std 80857 Ag 3/9/17 (concentration: ~~1000~~ 100)

Daily Preparation: Std 80857
10(ml) | 100

concentration = =1.0

Calibration Standards (mg/L)	Volume (mL)	Cell Size (cm)	Wavelength (nm)	Absorbance
1.0	50	1cm	880	0.632
0.7				0.438
0.5				0.317
0.2				0.129
0.1				0.067
0.05				0.039
0.00			3/9/17 Ag	~~0.043~~ 0.001
2nd Source 1.0	↓	↓	↓	0.633

Analyst: April Greene Date/Time: 3/9/17 1125

DCN#124440

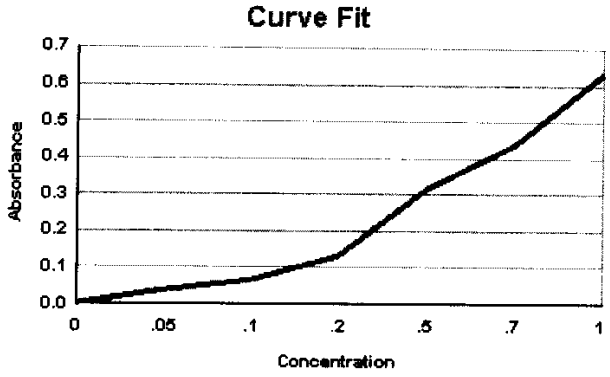
Microbac Laboratories Inc.
INITIAL CALIBRATION

Workgroup:WG605651
Analytical Method:300
Instrument ID:UV-2600

Analyst:ADG
Initial Calibration Date:03/09/2017

Analyte: ORTHOPHOSPHATE
Number of Points: 7
Slope: 0.625674
Y-Intercept: 0.00393300
Coef. Of Correlation (R^2): 0.999869
Coef. Of Correlation (R): 0.999935

Concentration X	Absorbance Y	X^2	X * Y	Y-Fitted (mX^2+B)
0.00	0.00100	0.00	0.00	0.00393300
0.0500	0.0390	0.00250	0.00195	0.0352167
0.100	0.0670	0.0100	0.00670	0.0665004
0.200	0.129	0.0400	0.0258	0.129068
0.500	0.317	0.250	0.159	0.316770
0.700	0.438	0.490	0.307	0.441905
1.00	0.632	1.00	0.632	0.629607



WG_ICAL_CAL_WET - Modified 03/06/2008
Report generated 03/09/2017 11:49

[redacted]

Microbac Laboratories Inc.
ALTERNATE SOURCE REPORT

Workgroup #: WG605651
File ID: 00.1703091125-08
CCV ID: WG605651-08
Units: mg/L
Analyte: ORTHOPHOSPHATE

Instrument ID: UV-2600
Run Date: 03/09/2017
Run Time: 11:25
Analyst: ADG
Cal ID: UV-260 - 09-MAR-17 11:25:07

Analyte	Expected	Found	RF	%D	Q
Orthophosphate	1	1.01	0.633	1.0	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_SSCV - Modified 03/06/2008
Report generated 03/09/2017 11:50

[redacted]

WORKGROUP: WG606462

Orthophosphate

(orthophosphate1)

EPA 365.2 / SM4500-P E
SOP K3653 Rev 17
Color Reagent Chemicals
39475
38726
39094
CoA 17313

CCV: 808558 Daily Dilution: 5/50 Daily Dilution: 0.5
LCS: 808557 Daily Dilution: 10/100 Daily Dilution: = 1.0
Spectrophotometer: UV-2600 Curve ID: 3947
Spike: 808557 Daily Dilution: 2/100 Daily Dilution: = 0.4

SAMPLE	VOLUME	PH < 8.2	DILUTION	ABSORBANCE @ 880 nm
CCV: 0.5 mg/L	50	✓		0.315
BLK/CCB:	50	✓		0.002
LCS: 1.0 ppm	50	✓		3/16/17 ~~0.609~~ 0.620
LCSD: 1.0 ppm	50	✓		0.619
03-815-01	50	✓	1/100	0.253
02	50	✓	1/100	0.612
03-851-01 DC	50	✓	1/5	0.470
	50			
	50			
	50			
	50			
	50			
	50			
	50			
CCV:	50			
CCB:	50			
	50			
	50			
	50			
	50			
	50			
	50			
	50			
	50			
	50			
	50			
DUP: 3-851-01 AC	50	✓		
MS: 643851-01	50	✓	1/5	0.472
MSD: ( )	50		1/5	0.512
CCV: (0.5)	50	✓		0.312
CCB:	50	✓		0.003

Analyst: Jammy Morris Date / Time: 3/16/17 @ 10:45

DCN#124570

Microbac Laboratories Inc.
SAMPLE REPORT

Workgroup: WG606462
Analyte: ORTHOPHOSPHATE

Analyst: TMM
Date: 03/16/2017

Sample ID	I Vol	F Vol	Response	Slope	Y Intercept	Anal. Conc.	Rep. Conc.	Dil	Units
WG606462-01	50	50	0.00200	0.6257	0.003933	-0.0030895	-0.0030895	1	mg/L
WG606462-02	50	50	0.620	0.6257	0.003933	0.98465	0.98465	1	mg/L
WG606462-03	50	50	0.619	0.6257	0.003933	0.98305	0.98305	1	mg/L
L17030815-01	50	50	0.253	0.6257	0.003933	0.39808	39.808	100	mg/L
L17030815-02	50	50	0.612	0.6257	0.003933	0.97186	97.186	100	mg/L
WG606462-04	50	50	0.470	0.6257	0.003933	0.74490	3.7245	5	mg/L
L17030851-01	50	50	0.470	0.6257	0.003933	0.74490	3.7245	5	mg/L
WG606462-05	50	50	0.472	0.6257	0.003933	0.74810	3.7405	5	mg/L
WG606462-06	50	50	0.512	0.6257	0.003933	0.81203	4.0602	5	mg/L

UV_SAMPLE_REPORT - Modified 03/06/2008

Report generated 03/16/2017 13:49

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG606527
File ID: 00.1703161045-11
CCV ID: WG606527-03
Units: mg/L
Analyte: ORTHOPHOSPHATE

Instrument ID: UV-2600
Run Date: 03/16/2017
Run Time: 10:45
Analyst: TMM
Cal ID: UV-260 - 16-MAR-17

Analyte	Expected	Found	RF	%D	Q
Orthophosphate	.5	0.492	0.624	1.6	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 03/16/2017 13:50

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG606527
File ID: 00.1703161045-01
CCV ID: WG606527-01
Units: mg/L
Analyte: ORTHOPHOSPHATE

Instrument ID: UV-2600
Run Date: 03/16/2017
Run Time: 10:45
Analyst: TMM
Cal ID: UV-260 - 16-MAR-17

Analyte	Expected	Found	RF	%D	Q
Orthophosphate	.5	0.497	0.630	0.6	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 03/16/2017 13:50

[redacted]

2.1.3 Total Organic Carbon Data

2.1.3.1 Summary Data

Microbac

Lab Report #: L17030851
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17030851-01	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	LH18/24-SP650-6424-GRAB	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	02/10/2017 10:25
Workgroup #:	WG606518	**Analyst:**	DCM	**Run Date:**	03/16/2017 15:03
Collect Date:	03/15/2017 15:00	**Dilution:**	25	**File ID:**	TC03162017.007
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	584		50.0	25.0	12.5

2.1.3.2 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: 16-MAR-2017
Analyst: DCM
Analyst: NA
Method: TOC
Instrument: TOC-VWP
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG606518

Calibration/Linearity	02-10-2017
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:
17-MAR-2017

Secondary Reviewer:
17-MAR-2017

CHECKLIST1 - Modified 03/05/2008
Generated: MAR-17-2017 14:08:50

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 415.1 AAB#: WG606518

Login Number: L17030851

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
LH18/24-SP650-6424-GRAB	01	03/15/17					03/16/2017	1	28		03/16/17	1	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5204206
Report generated 03/17/2017 13:16

METHOD BLANK SUMMARY

Login Number: L17030851
Work Group: WG606518
Blank File ID: TC03162017.004
Blank Sample ID: WG606518-01
Prep Date: 03/16/17 14:02
Instrument ID: TOC-VWP
Analyzed Date: 03/16/17 14:02
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	WG606518-02	TC03162017.005	03/16/17 14:21	01
LCS2	WG606518-03	TC03162017.006	03/16/17 14:42	01
LH18/24-SP650-6424-GRAB	L17030851-01	TC03162017.007	03/16/17 15:03	DL01
DUP	WG606518-05	TC03162017.009	03/16/17 15:43	01

Report Name: BLANK_SUMMARY
PDF File ID: 5204207
Report generated 03/17/2017 13:16

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L17030851 Prep Date: 03/16/17 14:02 Sample ID: WG606518-01
Instrument ID: TOC-VWP Run Date: 03/16/17 14:02 Prep Method: 415.1
File ID: TC03162017.004 Analyst: DCM Method: 415.1
Workgroup (AAB#): WG606518 Matrix: Water Units: mg/L
Contract #: Cal ID: TOC-VW-10-FEB-17

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: 5204208
17-MAR-2017 13:16

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17030851 Analyst: DCM Prep Method: 415.1
Instrument ID: TOC-VWP Matrix: Water Method: 415.1
Workgroup (AAB#): WG606518 Units: mg/L
QC Key: DOD4 Lot #: STD80787

Sample ID: WG606518-02 LCS File ID: TC03162017.005 Run Date: 03/16/2017 14:21
Sample ID: WG606518-03 LCS2 File ID: TC03162017.006 Run Date: 03/16/2017 14:42

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Total Organic Carbon	25.0	24.5	97.8	25.0	24.3	97.0	0.862	85 - 115	15	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 5204209
Report generated: 03/17/2017 13:16

2.1.3.3 Raw Data

Curve

~~WG602411~~ ~~WG602476~~ dm 1/13/17 WG602481

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: RGT 38944, RGT 37673

☑ SM5310-C : Matrix 2 WG_____

☐ EPA 415.1/9060A(mod): Matrix 1 WG_____ WG_____

SOP: K 4151 Rev. ~~17~~ 18 dm 1/13/17

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	TC ICV	
3	TIC Curve	
4	TIC ICV	
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19	all points analyzed in duplicate	
20		
21		
22		
23		
24		
25		

Position	Sample ID	Dilution
26	TC Curve	
27	Std 79318	
28		
29	TIC Curve	
30	Std 80415	
31		
32		
33	TOC (TC)	
34	ICV	
35	Std 77870	
36		
37	TIC ICV	
38	Std 80416	
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 (100) = 25	
61		
62		
63		
64		
65		
66		
67		
68		
69		
70		
71		
72		
73		
74		
75		

Analyst: David Merkle Date/Time: 2/10/17

DCN#123915

C:\TOC3201\Data\CURVES-02-10-2017.t32

	Analysis	Sample Name	Result	Status	Date / Time	Vial
1	TC	TCCURVE		Complete	2/10/2017 10:29:51 A	0, 1, 2, 3, 4, 5
2	TC	TOC ICV	TC:23.90mg/L	Complete	2/10/2017 10:47:48 A	6
3	IC	TICCURVE		Complete	2/10/2017 3:55:41 PM	0, 1, 2, 3, 4, 5
4	IC	TIC CURVE	IC:24.27mg/L	Complete	2/10/2017 4:12:07 PM	6
5	TC		TC:0.000mg/L	Complete	2/10/2017 4:31:41 PM	7
6	IC	TOC/TIC	IC:8.571mg/L	Complete	2/10/2017 4:42:05 PM	7
7	TC	TOC/TIC	TC:32.10mg/L	Complete	2/10/2017 5:01:02 PM	7

Instr.Information

System	TOCVW ASI
Detector	Wet Chemical

Cal. Curve

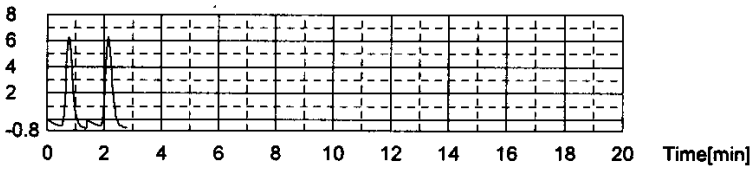
Sample Name:	TCCURVE
Sample ID:	Untitled
Cal. Curve:	TCCURVE-02-10-2017.2017_02_10_09_32_59.cal
Status	Completed

Type	Anal.
Standard	TC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	10.83	500uL	1	*******		2/10/2017 9:36:31 AM
2	10.82	500uL	1	*******		2/10/2017 9:40:05 AM

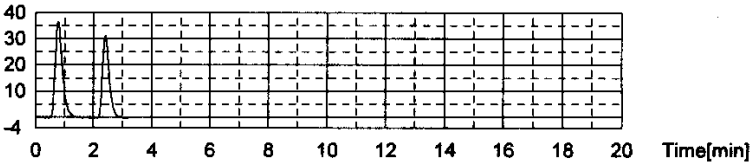
Acid Add. 0.000%
Mean Area 10.82



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	64.31	500uL	1	*******		2/10/2017 9:45:28 AM
2	51.52	500uL	1	*******		2/10/2017 9:49:19 AM

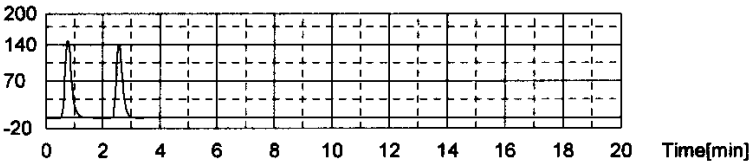
Acid Add. 0.000%
Mean Area 57.92



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	238.4	500uL	1	*******		2/10/2017 9:55:04 AM
2	216.3	500uL	1	*******		2/10/2017 9:58:58 AM

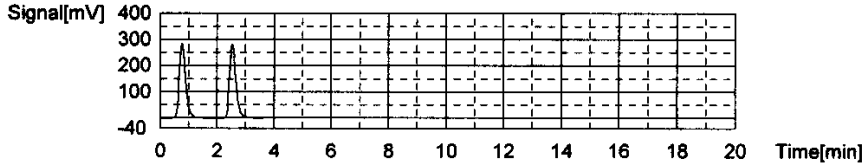
Acid Add. 0.000%
Mean Area 227.4



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	442.5	500uL	1	********		2/10/2017 10:04:41 AM
2	437.9	500uL	1	********		2/10/2017 10:08:48 AM

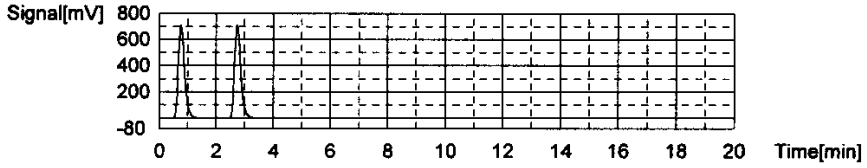
Acid Add. 0.000%
Mean Area 440.2



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1091	500uL	1	********		2/10/2017 10:14:47 AM
2	1092	500uL	1	********		2/10/2017 10:19:05 AM

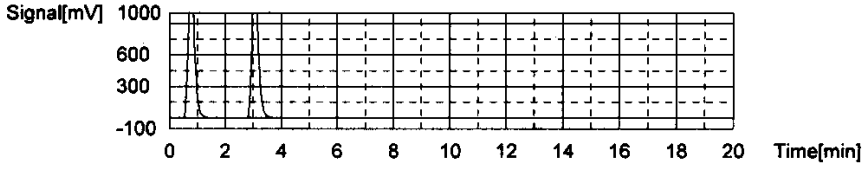
Acid Add. 0.000%
Mean Area 1092



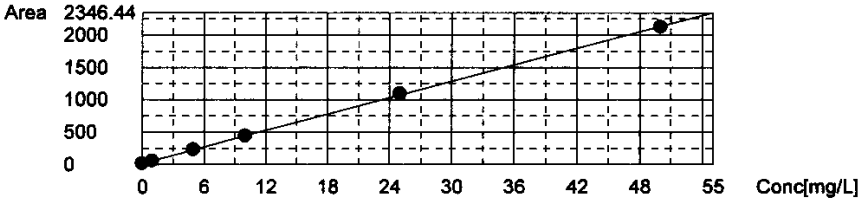
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	2132	500uL	1	*H*****		2/10/2017 10:25:19 AM
2	2118	500uL	1	*H*****		2/10/2017 10:29:51 AM

Acid Add. 0.000%
Mean Area 2125



Slope: 42.33
Intercept 16.87
r^2 0.999887
Zero Shift No



Sample

Sample Name: TOC ICV
Sample ID: Untitled
Origin: TCCURVE-02-10-2017.2017_02_10_09_32_59.cal
Status Completed
Chk. Result

Type	Anal.	Dil.	Result
Unknown	TC	1.000	TC:23.90mg/L

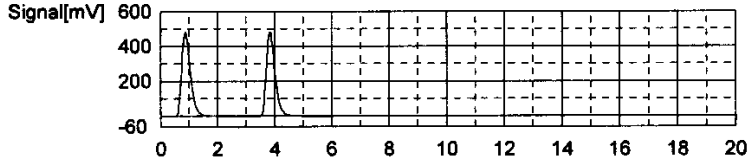
1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1029	23.91mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_52	2/10/2017 10:42:11 AM
2	1028	23.89mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_52	2/10/2017 10:47:48 AM

95.6%

Mean Area 1029
Mean Conc. 23.90mg/L



Cal. Curve

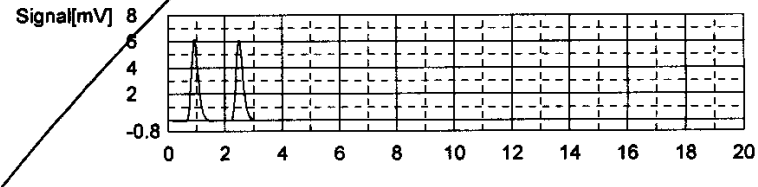
Sample Name: TICCURVE
Sample ID: Untitled
Cal. Curve: TICCURVE-02-10-2017.2017_02_10_14_45_10.cal
Status Completed

Type	Anal.
Standard	IC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	10.59	500uL	1	********		2/10/2017 2:49:09 PM
2	10.43	500uL	1	********		2/10/2017 2:53:06 PM

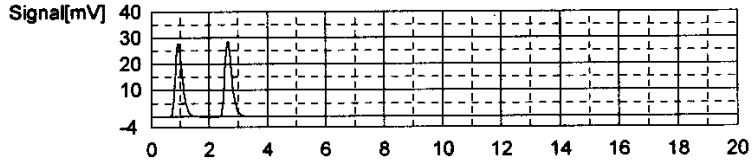
Acid Add. 3.000%
Mean Area 10.51



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	48.13	500uL	1	********		2/10/2017 3:00:24 PM
2	49.13	500uL	1	********		2/10/2017 3:04:41 PM

Acid Add. 3.000%
Mean Area 48.63

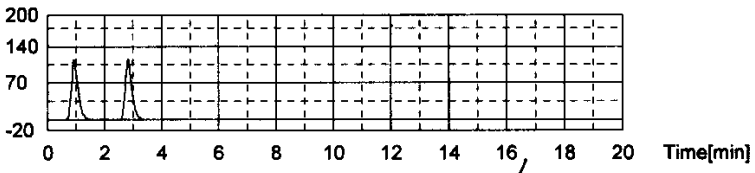


Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	189.0	500uL	1	********		2/10/2017 3:12:24 PM
2	190.1	500uL	1	********		2/10/2017 3:16:55 PM

dcm
3/23/17

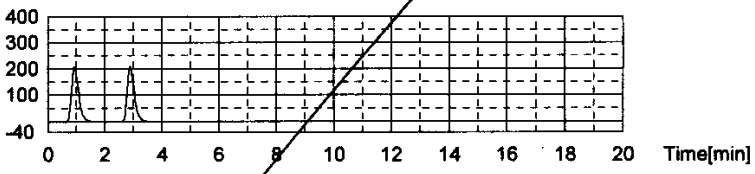
Acid Add. 3.000%
Mean Area 189.6



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	360.6	500uL	1	********		2/10/2017 3:24:47 PM
2	362.2	500uL	1	********		2/10/2017 3:29:24 PM

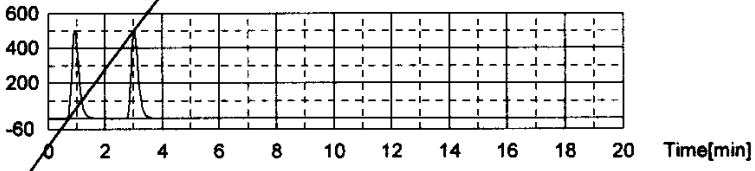
Acid Add. 3.000%
Mean Area 361.4



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	859.3	500uL	1	********		2/10/2017 3:37:23 PM
2	856.9	500uL	1	********		2/10/2017 3:42:16 PM

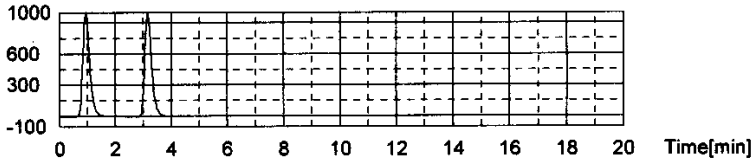
Acid Add. 3.000%
Mean Area 858.1



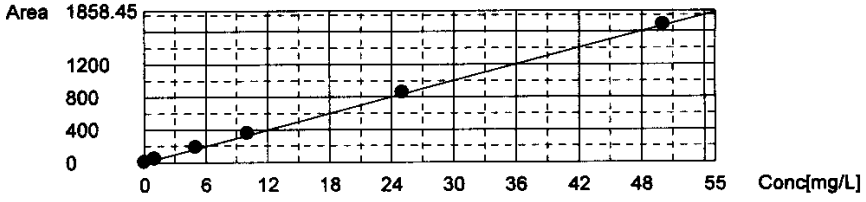
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1690	500uL	1	********		2/10/2017 3:50:31 PM
2	1689	500uL	1	********		2/10/2017 3:55:41 PM

Acid Add. 3.000%
Mean Area 1690



Slope: 33.49
Intercept 0.000
r^2 0.999919
Zero Shift Yes



Sample dcm

See following pages for curve, slope, intercept and zero shift unchecked

TOC-V Cal Curve Information
TICCURVE-02-10-2017.2017_02_10_14_45_10.cal

Date of Creation	2:10:17 PM 2/10/2017
User	
System	TOCVW ASI

Cal. Curve

Sample Name:	TICCURVE
Sample ID:	Untitled
Cal. Curve:	TICCURVE-02-10-2017.2017_02_10_14_45_10.cal
Status	Completed
Comment:	

Type	Anal.
Standard	IC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	10.59	500uL	1	*******		2/10/2017 2:49:09 PM
2	10.43	500uL	1	*******		2/10/2017 2:53:06 PM

Acid Add.	3.000%
Mean Area	10.51
SD Area	0.1131
CV Area	1.08%
Vial	0

Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	48.13	500uL	1	*******		2/10/2017 3:00:24 PM
2	49.13	500uL	1	*******		2/10/2017 3:04:41 PM

Acid Add.	3.000%
Mean Area	48.63
SD Area	0.7071
CV Area	1.45%
Vial	1

Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	189.0	500uL	1	*******		2/10/2017 3:12:24 PM
2	190.1	500uL	1	*******		2/10/2017 3:16:55 PM

Acid Add.	3.000%
Mean Area	189.6
SD Area	0.7778
CV Area	0.41%
Vial	2

Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	360.6	500uL	1	*******		2/10/2017 3:24:47 PM
2	362.2	500uL	1	*******		2/10/2017 3:29:24 PM

Acid Add.	3.000%
Mean Area	361.4
SD Area	1.131
CV Area	0.31%
Vial	3

Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	859.3	500uL	1	*******		2/10/2017 3:37:23 PM
2	856.9	500uL	1	*******		2/10/2017 3:42:16 PM

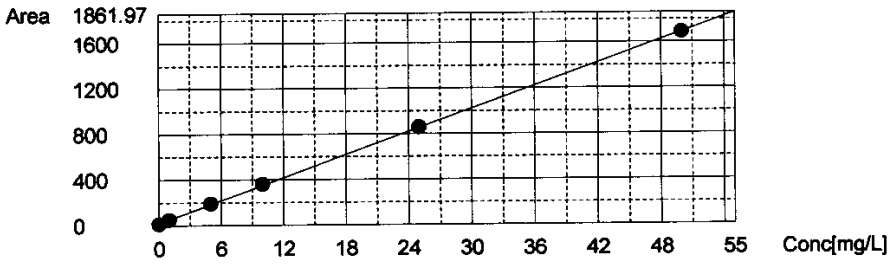
Acid Add.	3.000%
Mean Area	858.1
SD Area	1.697
CV Area	0.20%
Vial	4

Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1690	500uL	1	*******		2/10/2017 3:50:31 PM
2	1689	500uL	1	*******		2/10/2017 3:55:41 PM

Acid Add.	3.000%
Mean Area	1690
SD Area	0.7071
CV Area	0.04%
Vial	5

Slope:	33.49
Intercept	18.41
r^2	0.999919
Zero Shift	No



Sample Name: TIC CURVE
Sample ID: Untitled
Origin: TICCURVE-02-10-2017.2017_02_10_14_45_10.cal
Status Completed
Chk. Result

Type	Anal.	Dil.	Result
Unknown	IC	1.000	IC:24.27mg/L

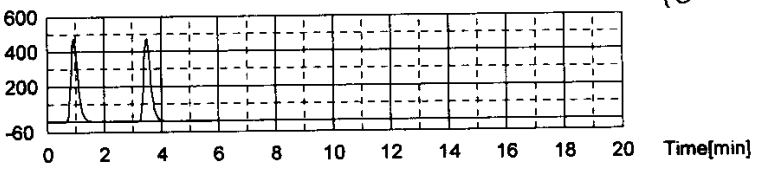
1. Det

Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	810.5	24.20mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	2/10/2017 4:06:15 PM
2	814.6	24.33mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	2/10/2017 4:12:07 PM

96.9%

Mean Area 812.5
Mean Conc. 24.27mg/L



Sample

Sample Name:
Sample ID: Untitled
Origin: TCCURVE-02-10-2017.2017_02_10_14_14_25.cal
Status Completed
Chk. Result

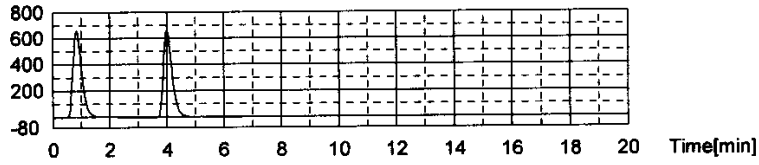
Type	Anal.	Dil.	Result
Unknown	TC	1.000	TC:0.000mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1406	0.000mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_14_14_2	2/10/2017 4:25:42 PM
2	1411	0.000mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_14_14_2	2/10/2017 4:31:41 PM

Mean Area 1409
Mean Conc. 0.000mg/L



Sample

Sample Name: TOC/TIC
Sample ID: Untitled
Origin: TICCURVE-02-10-2017.2017_02_10_14_45_10.cal
Status Completed
Chk. Result

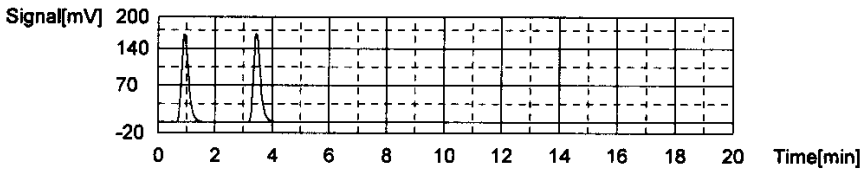
Type	Anal.	Dil.	Result
Unknown	IC	1.000	IC:8.571mg/L

1. Det

Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	286.8	8.565mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	2/10/2017 4:37:09 PM
2	287.2	8.577mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	2/10/2017 4:42:05 PM

Mean Area 287.0
Mean Conc. 8.571mg/L



Sample

Sample Name: TOC/TIC
Sample ID: Untitled
Origin: TCCURVE-02-10-2017.2017_02_10_09_32_59.cal
Status Completed
Chk. Result

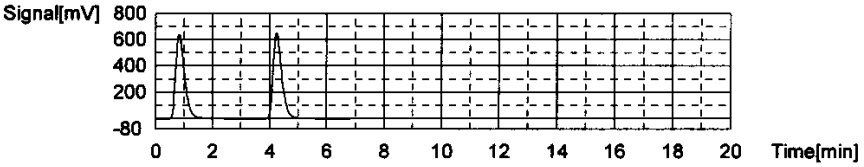
Type	Anal.	Dil.	Result
Unknown	TC	1.000	TC:32.10mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1378	32.16mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_59	2/10/2017 4:55:07 PM
2	1373	32.04mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_59	2/10/2017 5:01:02 PM

Mean Area 1376
Mean Conc. 32.10mg/L



WORKGROUP: WG606518

Total Organic Carbon

MAKE DAILY

CCV (TOC): Std 79581 / (5/200)(1000) = 25mg/L

CCV (TIC): Std 80416 / (5/200)(1000) = 25mg/L

Calibration Curve Date: 2/10/17

LCS (TOC): Std 80787 / (5/200)(1000) = 25mg/L

MS (TOC): Std 80787 / 0.96(100)/40 = 10

Reagent: RGT 39272, RGT 39266

☑ SM5310-C : Matrix 2 WG 606518

☐ EPA 415.1/9060A(mod): Matrix 1 WG _____ WG _____

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	03-851-C1	1/25
8	03-853-C1	
9	Dup 03-853-C1	
10	MS 03-853-C1	
11	03-861-C1	
12	03-862-C1	
13	~~CCV~~ C38830	
14	~~CCB~~ CCV	
15	CCB	
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

Position	Sample ID	Dilution
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		

Position	Sample ID	Dilution
51		
52		
53		
54		
55		
56		
57		
58		
59		
60		
61		
62		
63		
64		
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73		
74		
75		

01 CCV → 7 CCB

dlw 3/16/17

Analyst: David Merchle Date/Time: 3/16/17

DCN#124579

C:\TOC3201\Data\03-16-2017-DCM-TOC.t32

	Analysis	Sample Name	Result	Status	Date / Time	Vial
1	TOC	TIC	TOC:2.160mg/L TC:26.44mg/L IC:24.28mg/L	Complet	3/16/2017 1:31:12 PM	1
2	TOC	TOC/TIC	TOC:25.50mg/L TC:33.58mg/L IC:8.072mg/L	Complet	3/16/2017 1:45:07 PM	2
3	TOC	CCV	!!Error!! TOC:24.57mg/L TC:24.22mg/L IC:-0.3485mg/L	Complet	3/16/2017 1:57:15 PM	3
4	TOC	WG606518-01 BLK	!!Error!! TOC:0.1267mg/L TC:-0.1460mg/L IC:-0.2727mg/L	Complet	3/16/2017 2:13:35 PM	0
5	TOC	WG606518-02 LCS	!!Error!! TOC:24.46mg/L TC:24.08mg/L IC:-0.3843mg/L	Complet	3/16/2017 2:34:22 PM	5
6	TOC	WG606518-03 LCSDUP	!!Error!! TOC:24.25mg/L TC:23.88mg/L IC:-0.3745mg/L	Complet	3/16/2017 2:55:18 PM	6
7	TOC	L17030851-01 (25)	TOC:23.34mg/L TC:24.60mg/L IC:1.263mg/L	Complet	3/16/2017 3:17:09 PM	7
8	TOC	L17030853-01	!!Error!! TOC:0.3594mg/L TC:0.00697mg/L IC:-0.3525mg/	Complet	3/16/2017 3:36:12 PM	8
9	TOC	WG606518-05 DUP	!!Error!! TOC:0.3568mg/L TC:0.00555mg/L IC:-0.3512mg/	Complet	3/16/2017 3:55:14 PM	9
10	TOC	WG606518-06 MS	!!Error!! TOC:11.26mg/L TC:11.00mg/L IC:-0.2591mg/L	Complet	3/16/2017 4:15:25 PM	10
11	TOC	CCV	!!Error!! TOC:25.02mg/L TC:24.76mg/L IC:-0.2590mg/L	Complet	3/17/2017 7:54:57 AM	1
12	TOC	CCB	!!Error!! TOC:0.1192mg/L TC:-0.1249mg/L IC:-0.2441mg/L	Complet	3/17/2017 8:04:05 AM	0
13	TOC	L17030861-01	!!Error!! TOC:0.4348mg/L TC:0.1650mg/L IC:-0.2698mg/L	Complet	3/17/2017 8:23:18 AM	11
14	TOC	L17030862-01	!!Error!! TOC:0.4061mg/L TC:0.1405mg/L IC:-0.2656mg/L	Complet	3/17/2017 8:42:28 AM	12
15	TOC	L17030883-09	TOC:2.304mg/L TC:4.270mg/L IC:1.966mg/L	Complet	3/17/2017 9:02:55 AM	13
16	TOC	CCV	!!Error!! TOC:25.04mg/L TC:24.79mg/L IC:-0.2489mg/L	Complet	3/17/2017 9:15:08 AM	14
17	TOC	CCB	!!Error!! TOC:0.1158mg/L TC:-0.1275mg/L IC:-0.2432mg/L	Complet	3/17/2017 9:24:04 AM	0

3/17/2017 10:56:14 AM

Instr.Information

System TOCVW ASI
Detector Wet Chemical

Sample

Sample Name: TIC
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

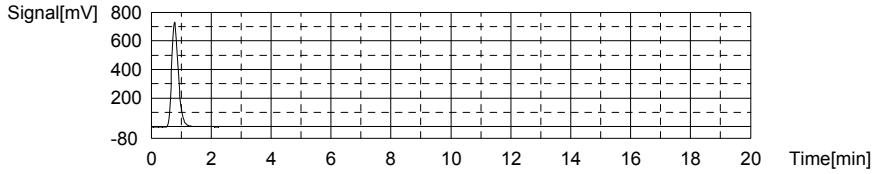
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.160mg/L TC:26.44mg/L IC:24.28mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1136	26.44mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/16/2017 1:26:04 PM

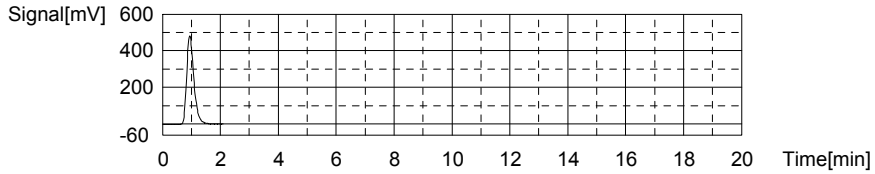
Mean Area 1136
Mean Conc. 26.44mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	831.5	24.28mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/16/2017 1:31:12 PM

Mean Area 831.5
Mean Conc. 24.28mg/L



Sample

Sample Name: TOC/TIC
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

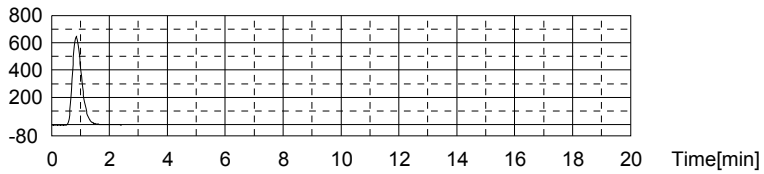
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:25.50mg/L TC:33.58mg/L IC:8.072mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1438	33.58mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/16/2017 1:40:17 PM

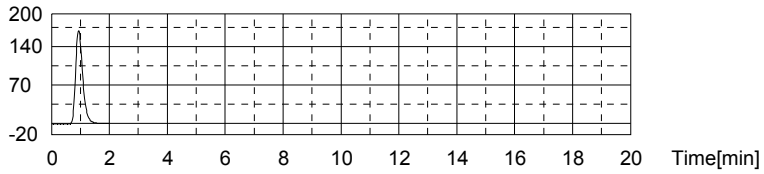
Mean Area 1438
Mean Conc. 33.58mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	288.7	8.072mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/16/2017 1:45:07 PM

Mean Area 288.7
Mean Conc. 8.072mg/L



Sample

Sample Name: CCV
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

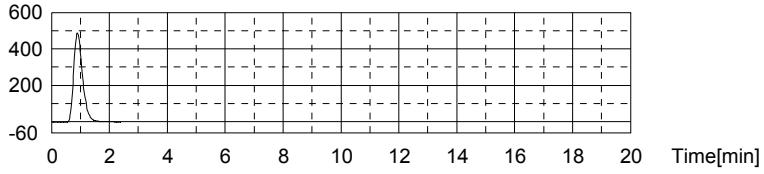
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:24.57mg/L TC:24.22mg/L IC:-0.3485mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1042	24.22mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/16/2017 1:52:56 PM

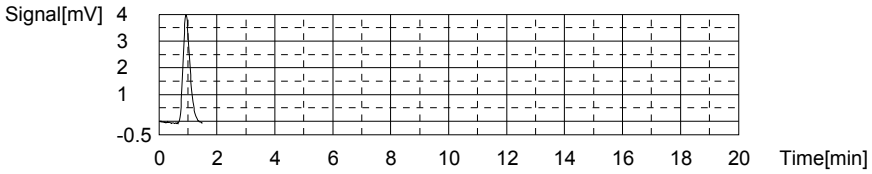
Mean Area 1042
Mean Conc. 24.22mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.746	-0.3485mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/16/2017 1:57:15 PM

Mean Area 6.746
Mean Conc. -0.3485mg/L



Sample

Sample Name: WG606518-01 BLK
Sample ID: <Untitled>
Origin: TOC-02-10-2017A.met
Status Completed
Chk. Result

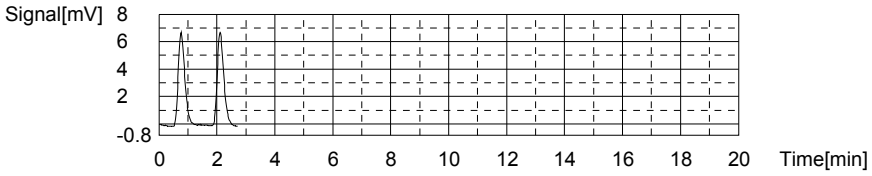
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.1267mg/L TC:-0.1460mg/L IC:-0.2727mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.67	-0.1464mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/16/2017 2:02:15 PM
2	10.70	-0.1457mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/16/2017 2:05:45 PM

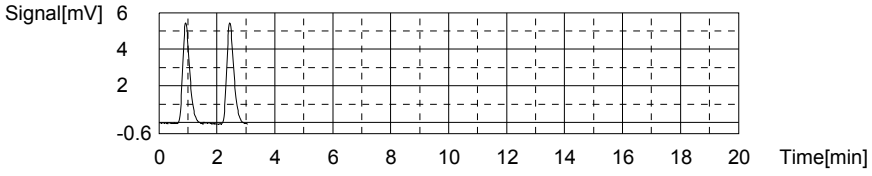
Mean Area 10.69
Mean Conc. -0.1460mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.285	-0.2726mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/16/2017 2:09:40 PM
2	9.282	-0.2727mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/16/2017 2:13:35 PM

Mean Area 9.284
Mean Conc. -0.2727mg/L



Sample

Sample Name: WG606518-02 LCS
Sample ID: <Untitled>
Origin: TOC-02-10-2017A.met
Status Completed
Chk. Result

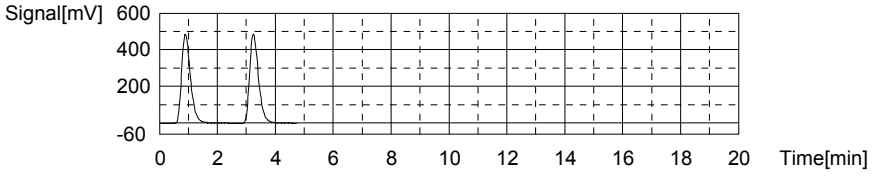
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:24.46mg/L TC:24.08mg/L IC:-0.3843mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1034	24.03mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/16/2017 2:21:23 PM
2	1038	24.13mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/16/2017 2:26:02 PM

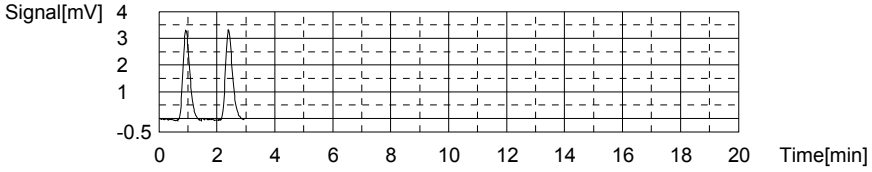
Mean Area 1036
Mean Conc. 24.08mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.535	-0.3846mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_13	3/16/2017 2:30:18 PM
2	5.555	-0.3840mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_13	3/16/2017 2:34:22 PM

Mean Area 5.545
Mean Conc. -0.3843mg/L



Sample

Sample Name: WG606518-03 LCSDUP
Sample ID: <Untitled>
Origin: TOC-02-10-2017A.met
Status Completed
Chk. Result

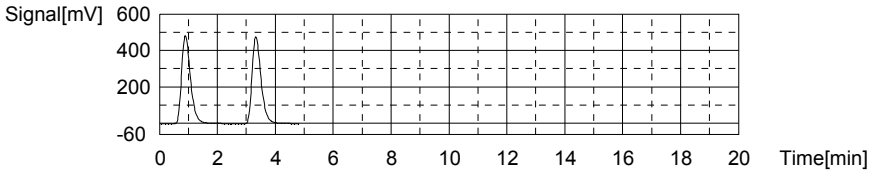
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:24.25mg/L TC:23.88mg/L IC:-0.3745mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1032	23.98mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/16/2017 2:42:15 PM
2	1023	23.77mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/16/2017 2:46:54 PM

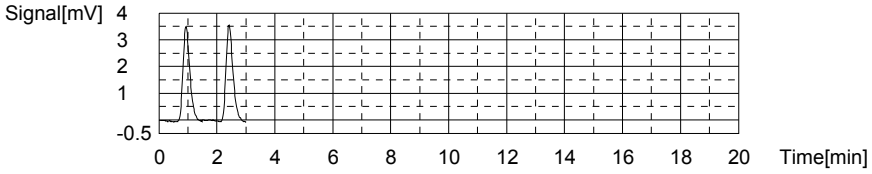
Mean Area 1028
Mean Conc. 23.88mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.791	-0.3770mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/16/2017 2:51:13 PM
2	5.954	-0.3721mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/16/2017 2:55:18 PM

Mean Area 5.873
Mean Conc. -0.3745mg/L



Sample

Sample Name: L17030851-01 (25)
Sample ID: <Untitled>
Origin: TOC-02-10-2017A.met
Status Completed
Chk. Result

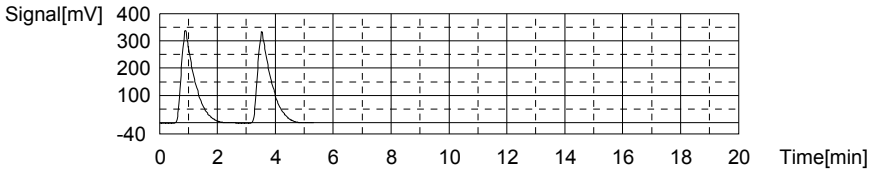
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:23.34mg/L TC:24.60mg/L IC:1.263mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1060	24.65mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/16/2017 3:03:21 PM
2	1056	24.55mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/16/2017 3:08:19 PM

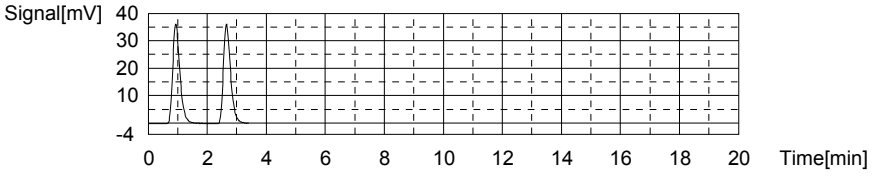
Mean Area 1058
Mean Conc. 24.60mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	60.77	1.265mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/16/2017 3:12:50 PM
2	60.62	1.260mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/16/2017 3:17:09 PM

Mean Area 60.70
Mean Conc. 1.263mg/L



Sample

Sample Name: L17030853-01
Sample ID: <Untitled>
Origin: TOC-02-10-2017A.met
Status Completed
Chk. Result

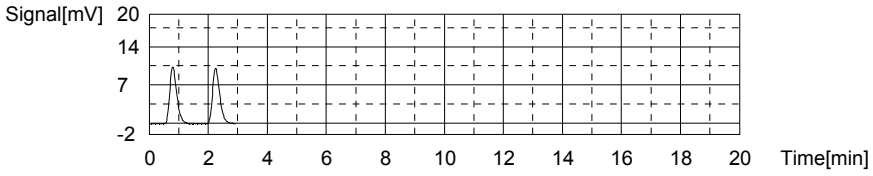
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.3594mg/L TC:0.00697mg/L IC:-0.3525mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	17.30	0.01027mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/16/2017 3:24:02 PM
2	17.02	0.00366mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/16/2017 3:27:47 PM

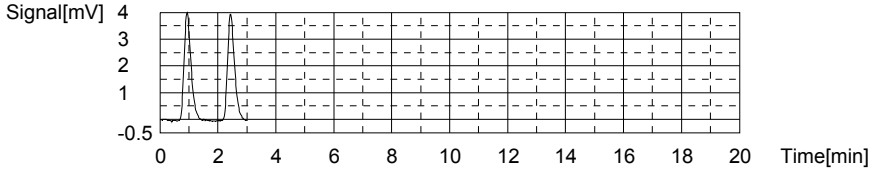
Mean Area 17.16
Mean Conc. 0.00697mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.678	-0.3505mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_13	3/16/2017 3:32:04 PM
2	6.545	-0.3545mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_13	3/16/2017 3:36:12 PM

Mean Area 6.611
Mean Conc. -0.3525mg/L



Sample

Sample Name: WG606518-05 DUP
Sample ID: <Untitled>
Origin: TOC-02-10-2017A.met
Status Completed
Chk. Result

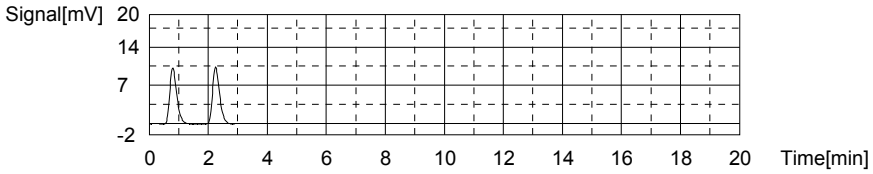
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.3568mg/L TC:0.00555mg/L IC:-0.3512mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	16.93	0.00153mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/16/2017 3:43:06 PM
2	17.27	0.00957mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/16/2017 3:46:48 PM

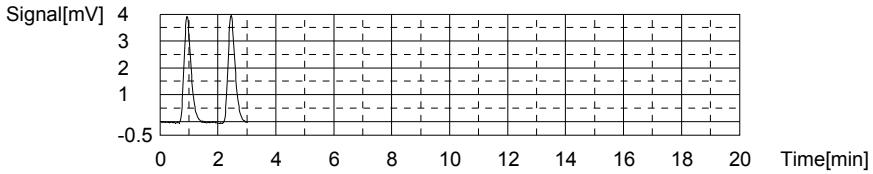
Mean Area 17.10
Mean Conc. 0.00555mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.631	-0.3519mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/16/2017 3:51:07 PM
2	6.677	-0.3505mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/16/2017 3:55:14 PM

Mean Area 6.654
Mean Conc. -0.3512mg/L



Sample

Sample Name: WG606518-06 MS
Sample ID: <Untitled>
Origin: TOC-02-10-2017A.met
Status Completed
Chk. Result

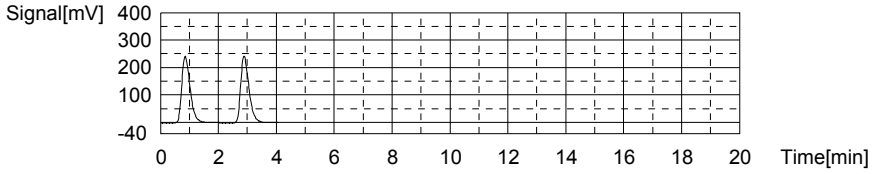
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:11.26mg/L TC:11.00mg/L IC:-0.2591mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	482.0	10.99mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/16/2017 4:02:42 PM
2	482.9	11.01mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/16/2017 4:07:00 PM

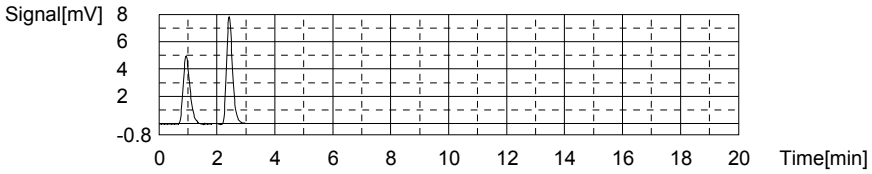
Mean Area 482.5
Mean Conc. 11.00mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.288	-0.3024mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/16/2017 4:11:21 PM
2	11.19	-0.2157mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/16/2017 4:15:25 PM

Mean Area 9.739
Mean Conc. -0.2591mg/L



Sample

Sample Name: CCV
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

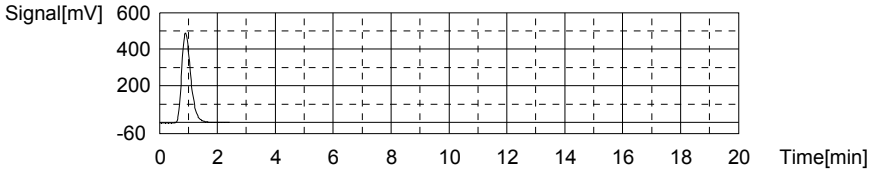
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:25.02mg/L TC:24.76mg/L IC:-0.2590mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1065	24.76mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/17/2017 7:50:36 AM

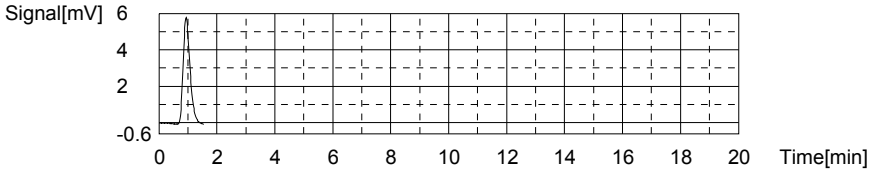
Mean Area 1065
Mean Conc. 24.76mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.741	-0.2590mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/17/2017 7:54:57 AM

Mean Area 9.741
Mean Conc. -0.2590mg/L



Sample

Sample Name: CCB
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

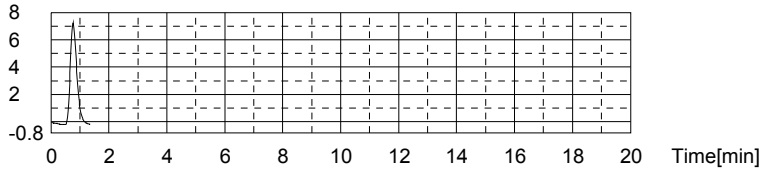
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.1192mg/L TC:-0.1249mg/L IC:-0.2441mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	11.58	-0.1249mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/17/2017 8:00:07 AM

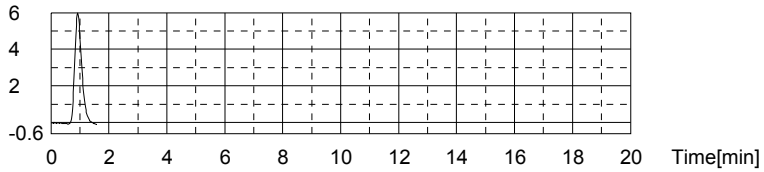
Mean Area 11.58
Mean Conc. -0.1249mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.24	-0.2441mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/17/2017 8:04:05 AM

Mean Area 10.24
Mean Conc. -0.2441mg/L



Sample

Sample Name: L17030861-01
Sample ID: <Untitled>
Origin: TOC-02-10-2017A.met
Status Completed
Chk. Result

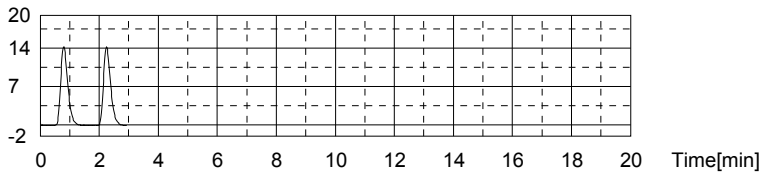
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.4348mg/L TC:0.1650mg/L IC:-0.2698mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	23.80	0.1638mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/17/2017 8:11:05 AM
2	23.90	0.1662mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/17/2017 8:14:49 AM

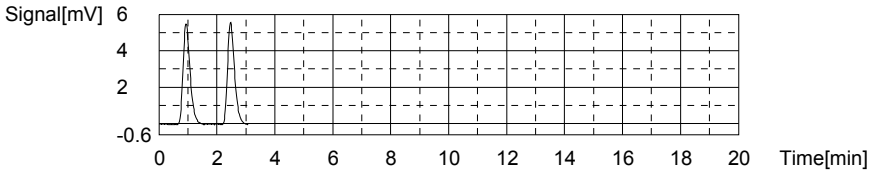
Mean Area 23.85
Mean Conc. 0.1650mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.388	-0.2696mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/17/2017 8:19:10 AM
2	9.372	-0.2700mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/17/2017 8:23:18 AM

Mean Area 9.380
Mean Conc. -0.2698mg/L



Sample

Sample Name: L17030862-01
Sample ID: <Untitled>
Origin: TOC-02-10-2017A.met
Status Completed
Chk. Result

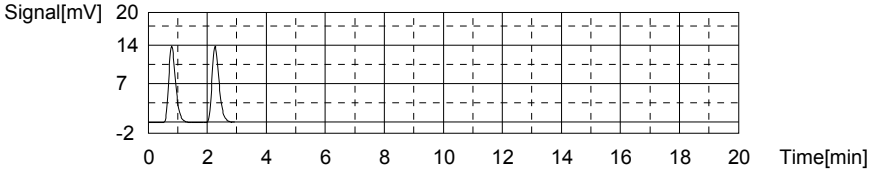
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.4061mg/L TC:0.1405mg/L IC:-0.2656mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	22.67	0.1371mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/17/2017 8:30:13 AM
2	22.95	0.1438mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/17/2017 8:33:56 AM

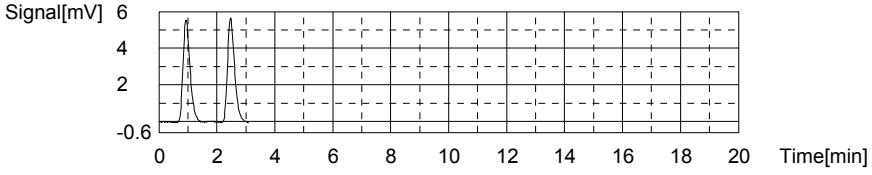
Mean Area 22.81
Mean Conc. 0.1405mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.433	-0.2682mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_13	3/17/2017 8:38:17 AM
2	9.606	-0.2631mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_13	3/17/2017 8:42:28 AM

Mean Area 9.520
Mean Conc. -0.2656mg/L



Sample

Sample Name: L17030883-09
Sample ID: <Untitled>
Origin: TOC-02-10-2017A.met
Status Completed
Chk. Result

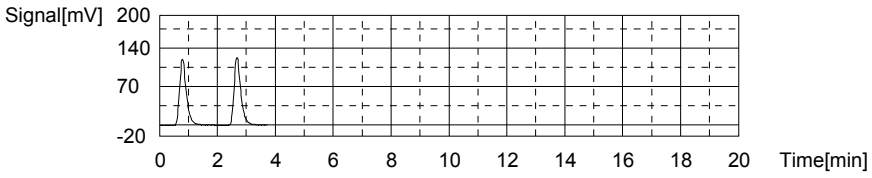
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.304mg/L TC:4.270mg/L IC:1.966mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	194.4	4.195mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/17/2017 8:49:48 AM
2	200.8	4.346mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/17/2017 8:53:54 AM

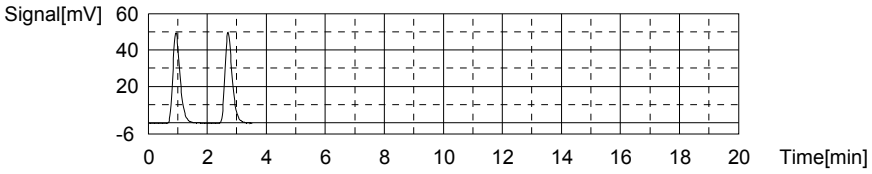
Mean Area 197.6
Mean Conc. 4.270mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	84.12	1.962mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_13	3/17/2017 8:58:31 AM
2	84.38	1.970mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_13	3/17/2017 9:02:55 AM

Mean Area 84.25
Mean Conc. 1.966mg/L



Sample

Sample Name: CCV
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

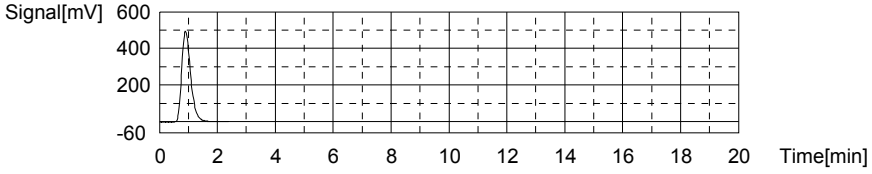
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:25.04mg/L TC:24.79mg/L IC:-0.2489mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1066	24.79mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_53	3/17/2017 9:10:45 AM

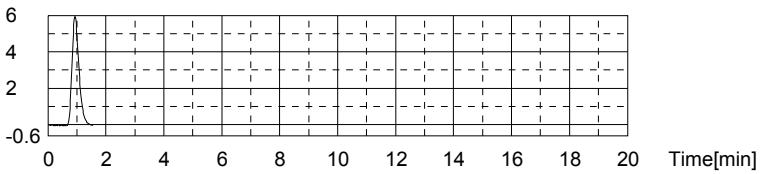
Mean Area 1066
Mean Conc. 24.79mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.08	-0.2489mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/17/2017 9:15:08 AM

Mean Area 10.08
Mean Conc. -0.2489mg/L



Sample

Sample Name: CCB
Sample ID: <Untitled>
Origin: TOC-02-10-2017.met
Status Completed
Chk. Result

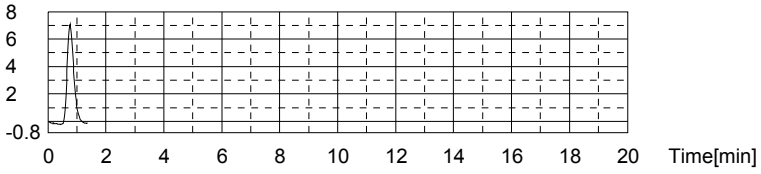
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.1158mg/L TC:-0.1275mg/L IC:-0.2432mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	11.47	-0.1275mg/L	500uL	1		TCCURVE-02-10-2017.2017_02_10_09_32_5	3/17/2017 9:20:08 AM

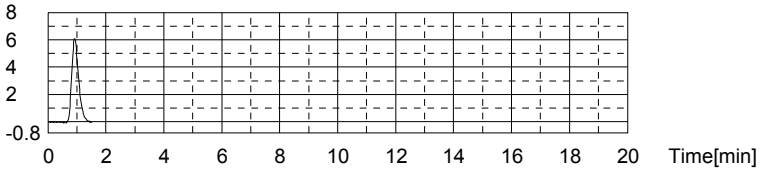
Mean Area 11.47
Mean Conc. -0.1275mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.27	-0.2432mg/L	500uL	1		TICCURVE-02-10-2017.2017_02_10_14_45_1	3/17/2017 9:24:04 AM

Mean Area 10.27
Mean Conc. -0.2432mg/L



3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
March 24, 2017

001 – BIO-CHEM TESTING WVDEP 220	002 – REIC Consultants, Inc. WVDEP 060
003 – Sturm Environmental	004 – MICROBAC PITTSBURGH
005 – ES LABORATORIES	006 – ALCOSAN LABORATORIES
007 – ALS LABORATORIES	008 – BENCHMARK LABORATORIES
010 – MICROBAC CHICAGOLAND	AC – AMBER R. CARMICHAEL
ADC – ANTHONY D. CANTER	ADG – APRIL D. GREENE
ALS – ADRIANE L. STEED	AWE – ANDREW W. ESSIG
AZH – AFTER HOURS	BJO – BRIAN J. OGDEN
BLG – BRENDA L. GREENWALT	BNB – Brandi N. Bentley
BRG – BRENDA R. GREGORY	CAS – Craig A. Smith
CEB – CHAD E. BARNES	CLC – CHRYS L. CRAWFORD
CLS – CARA L. STRICKLER	CPD – CHAD P. DAVIS
CSH – CHRIS S. HILL	CV – Carl Volkman
DAK – DEAN A. KETELSEN	DCM – DAVID C. MERCKLE
DEV – DAVID E. VANDENBERG	DIH – DEANNA I. HESSON
DLB – DAVID L. BUMGARNER	DLP – DOROTHY L. PAYNE
DSM – DAVID S. MOSSOR	DTG – DOMINIC T. GEHRET
ECL – ERIC C. LAWSON	EPT – ETHAN P. TIDD
ERP – ERIN R. PORTER	FJB – FRANCES J. BOLDEN
HRF – HEATHER R. FAIRCHILD	JDH – JUSTIN D. HESSON
JDS – JARED D. SMITH	JKP – JACQUELINE K. PARSONS
JLD – JESSICA L. DELONG	JST – JOSHUA S. TAYLOR
JTP – JOSHUA T. PEMBERTON	JWR – JOHN W. RICHARDS
JWS – JACK W. SHEAVES	JYH – JI Y. HU
KAK – KATHY A. KIRBY	KDD – Katelyn D. Daley
KEB – KATIE E. BARNES	KHR – KIM H. RHODES
KKB – KERRI K. BUCK	KRA – KATHY R. ALBERTSON
KRP – KATHY R. PARSONS	LJH – Lacey J. Hendershot
LLS – LARRY L. STEPHENS	LSB – LESLIE S. BUCINA
LSJ – LAURA S. JONES	MAP – MARLA A. PORTER
MBK – MORGAN B. KNOWLTON	MES – MARY E. SCHILLING
MMB – MAREN M. BEERY	MRT – MICHELLE R. TAYLOR
PDM – PIERCE D. MORRIS	PIT – MICROBAC WARRENDALE
REK – BOB E. KYER	RLB – BOB BUCHANAN
RNP – RICK N. PETTY	SAV – SARAH A. VANDENBERG
SCB – SARAH C. BOGOLIN	SDC – SHALYN D. CONLEY
TB – TODD BOYLE	TMB – TIFFANY M. BAILEY
TMM – TAMMY M. MORRIS	VC – VICKI COLLIER
WTD – WADE T. DELONG	XXX – UNAVAILABLE OR SUBCONTRACT

Microbac Laboratories Inc.
List of Valid Qualifiers
March 24, 2017

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
March 24, 2017

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

L17030851 / Revision: 0 / 108 total pages

CHAIN OF CUSTODY

Name Of Lab Shipping To: MICROBAC (740) 373-4071 ATTN: STEPHANIE MOSSBURG

Project: AECOM
LONGHORN ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No.
60256135.GWTPT
HRUMAR16

Job:
GROUNDWATER TREATMENT PLANT WEEKLY SAMPLES

Prepared By:
Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: AMMONIA-N	ORTHO-PHOSPHATE	TOTAL ORGANIC CARBON	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650-6424-Grab	Water	03/15/17 / 15:00		2	X		X	H2SO4	
LH18/24-SP650-6424-Grab	Water	03/15/17 / 15:00		1		X		NONE	

Additional Remarks: **Standard TAT on all parameters** Send results to Linda Raabe at linda.raabe@aecom.com or call at 210-253-7518

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	03/15/17	15:30									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

Microbac OVD
Received: 03/16/2017 09:31
By: BRENDA GREGORY
221000098301

Brenda Gregory

(Word) S:\1-ces\Forms\Chain of Custody - BiWeekly

Generated: 03/24/2017 14:07

00846226

COOLER TEMP >6° C LOG

Cooler ID 8301

SAMPLE ID	Bottle 1 °C	Bottle 2 °C	Bottle 3 °C	Bottle 4 °C	Bottle 5 °C	Bottle 6 °C

CWD 3/16/17

pH Exceptions

pH Lot # HC693124

SAMPLE ID	Bottle 1	Bottle 2	Bottle 3	Bottle 4	Bottle 5	Bottle 6

CWD 3/16/17

PRESERVATIVE EXCEPTIONS

__X__ NONE

_____ AS NOTED

CWD 3/16/17

Document Control # 1957
Last 10-07-2016

Issued to: Document Master File

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L17030851
Account: 2551
Project: 2551.096
Samples: 1
Due Date: 27-MAR-2017

Samplenum	Container ID	Products
L17030851-01	881159	PO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	16-MAR-2017 12:27	CLS		
2	ANALYZ	W1	WET	16-MAR-2017 13:00	DLP	BRG	
3	STORE	WET	A1	24-MAR-2017 10:24	CLS	TMM	

Samplenum	Container ID	Products
L17030851-01	881160	TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	16-MAR-2017 12:27	CLS		<2
2	STORE	WET	A1	23-MAR-2017 09:55	CLS	DCM	

Samplenum	Container ID	Products
L17030851-01	881161	NH3

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	16-MAR-2017 12:27	CLS		<2
2	ANALYZ	W1	WET	20-MAR-2017 09:28	TB	BRG	
3	STORE	WET	A1	23-MAR-2017 09:55	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

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: L17031141

Linda Raabe
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 March 30 2017

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 #: L17031141
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.

There were no discrepancies.

Discrepancy	Resolution

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #	Temp Required?
00113083	I	2.0		1Z4016632210154812	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
9	Were samples received within EPA hold times?	Yes
10	Were correct preservatives used? (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	Yes
12	Were VOA samples free of headspace (less than 6mm)?	Yes

Microbac

Lab Report #: L17031141
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
LH18/24-SP650-6425	L17031141-01	03/20/2017 15:00	03/21/2017 10:16
TRIP BLANK	L17031141-02	03/20/2017 15:00	03/21/2017 10:16

Microbac Laboratories ● Ohio Valley Division
158 Starlite Drive, Marietta, OH 45750 ● T: (740)373-4071 F: (740)373-4835
www.microbac.com

Microbac REPORT L17031141
PREPARED FOR AECOM Technical Services, Inc.
WORK ID:

1.0 Summary Data 5
1.1 Narratives 6
1.2 Certificate of Analysis 19
2.0 Full Sample Data Package 26
2.1 Volatiles Data 27
2.1.1 Volatiles GCMS Data (8260) 28
2.1.1.1 Summary Data 29
2.1.1.2 QC Summary Data 34
2.1.1.3 Sample Data 84
2.1.1.4 Standards Data 95
2.1.1.5 Raw QC Data 253
2.2 General Chemistry Data 273
2.2.1 Method 9056 274
2.2.1.1 Summary Data 275
2.2.1.2 QC Summary Data 279
2.2.1.3 Sample Data 299
2.2.1.4 Standards Data 302
2.2.1.5 Raw QC Data 323
3.0 Attachments 326

1.0 Summary Data

1.1 Narratives

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17031141
Project Name:		**Method:**	8260
Prep Batch Number(s):	WG607454, WG607572	**Reviewer Name:**	Franci Bolden
LRC Date:	2017-03-30 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	2017-03-30 16:12:49

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17031141
Project Name:		**Method:**	8260
Prep Batch Number(s):	WG607454, WG607572	**Reviewer Name:**	Franci Bolden
LRC Date:	2017-03-30 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:**	L17031141
Project Name:		**Method:**	8260
Prep Batch Number(s):	WG607454, WG607572	**Reviewer Name:**	Franci Bolden
LRC Date:	2017-03-30 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:**	L17031141
Project Name:		**Method:**	8260
Prep Batch Number(s):	WG607454, WG607572	**Reviewer Name:**	Franci Bolden
LRC Date:	2017-03-30 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:**	L17031141
Project Name:		**Method:**	8260
Prep Batch Number(s):	WG607454, WG607572	**Reviewer Name:**	Franci Bolden
LRC Date:	2017-03-30 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:**	L17031141
Project Name:		**Method:**	8260
Prep Batch Number(s):	WG607454, WG607572	**Reviewer Name:**	Franci Bolden
LRC Date:	2017-03-30 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 are no exceptions.

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17031141
Project Name:		**Method:**	9056
Prep Batch Number(s):	WG607290	**Reviewer Name:**	Eric Lawson
LRC Date:	2017-03-23 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
Eric Lawson		Chemist III	2017-03-23 20:24:05

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17031141
Project Name:		**Method:**	9056
Prep Batch Number(s):	WG607290	**Reviewer Name:**	Eric Lawson
LRC Date:	2017-03-23 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:**	L17031141
Project Name:		**Method:**	9056
Prep Batch Number(s):	WG607290	**Reviewer Name:**	Eric Lawson
LRC Date:	2017-03-23 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:**	L17031141
Project Name:		**Method:**	9056
Prep Batch Number(s):	WG607290	**Reviewer Name:**	Eric Lawson
LRC Date:	2017-03-23 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:**	L17031141
Project Name:		**Method:**	9056
Prep Batch Number(s):	WG607290	**Reviewer Name:**	Eric Lawson
LRC Date:	2017-03-23 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:**	L17031141
Project Name:		**Method:**	9056
Prep Batch Number(s):	WG607290	**Reviewer Name:**	Eric Lawson
LRC Date:	2017-03-23 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.

1.2 Certificate of Analysis

Microbac

Lab Report #: L17031141
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031141-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	LH18/24-SP650-6425	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	03/21/2017 20:43
Workgroup #:	WG607572	**Analyst:**	TMB	**Run Date:**	03/24/2017 20:52
Collect Date:	03/20/2017 15:00	**Dilution:**	1	**File ID:**	8M418506
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
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
1,1-Dichloroethane	75-34-3	0.250	U	0.500	0.250	0.125
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
Acetone	67-64-1	7.43	J	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	0.500	0.250	0.125
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chloroform	67-66-3	0.250	U	0.500	0.250	0.125
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
m,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
Styrene	100-42-5	0.250	U	0.500	0.250	0.125
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	2.84		1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	98.0	70	120	
4-Bromofluorobenzene	97.6	75	120	
Dibromofluoromethane	96.4	85	115	
Toluene-d8	102	85	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 #: L17031141
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031141-01	**PrePrep Method:**	N/A	**Instrument:**	IC3
Client ID:	LH18/24-SP650-6425	**Prep Method:**	9056	**Prep Date:**	03/22/2017 15:40
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	12/01/2016 17:22
Workgroup #:	WG607290	**Analyst:**	CAS	**Run Date:**	03/22/2017 19:04
Collect Date:	03/20/2017 15:00	**Dilution:**	50	**File ID:**	I3_032217-13
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfate	14808-79-8	115		100	50.0	25.0

J	Estimated value ; the analyte concentration was greater than the highest standard

Microbac

Lab Report #: L17031141
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031141-01	**PrePrep Method:**	N/A	**Instrument:**	IC3
Client ID:	LH18/24-SP650-6425	**Prep Method:**	9056	**Prep Date:**	03/22/2017 15:40
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	12/01/2016 17:22
Workgroup #:	WG607290	**Analyst:**	CAS	**Run Date:**	03/22/2017 19:24
Collect Date:	03/20/2017 15:00	**Dilution:**	500	**File ID:**	I3_032217-14
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	4270		200	100	50.0

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

Microbac

Lab Report #: L17031141
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031141-02	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	TRIP BLANK	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	02/25/2017 21:24
Workgroup #:	WG607454	**Analyst:**	JDS	**Run Date:**	03/23/2017 17:02
Collect Date:	03/20/2017 15:00	**Dilution:**	1	**File ID:**	11M16981
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
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
1,1-Dichloroethane	75-34-3	0.250	U	0.500	0.250	0.125
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	0.500	0.250	0.125
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chloroform	67-66-3	0.250	U	0.500	0.250	0.125
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
m,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
Styrene	100-42-5	0.250	U	0.500	0.250	0.125
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	105	70	120	
4-Bromofluorobenzene	102	75	120	
Dibromofluoromethane	99.4	85	115	
Toluene-d8	104	85	120	

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

Microbac

Lab Report #: L17031141
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Microbac

Lab Report #: L17031141
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 #: L17031141
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Microbac

Lab Report #: L17031141
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031141-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	LH18/24-SP650-6425	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	03/21/2017 20:43
Workgroup #:	WG607572	**Analyst:**	TMB	**Run Date:**	03/24/2017 20:52
Collect Date:	03/20/2017 15:00	**Dilution:**	1	**File ID:**	8M418506
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
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
1,1-Dichloroethane	75-34-3	0.250	U	0.500	0.250	0.125
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
Acetone	67-64-1	7.43	J	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	0.500	0.250	0.125
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chloroform	67-66-3	0.250	U	0.500	0.250	0.125
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
m,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
Styrene	100-42-5	0.250	U	0.500	0.250	0.125
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	2.84		1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	98.0	70	120	
4-Bromofluorobenzene	97.6	75	120	
Dibromofluoromethane	96.4	85	115	
Toluene-d8	102	85	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 #: L17031141
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031141-02	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	TRIP BLANK	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	02/25/2017 21:24
Workgroup #:	WG607454	**Analyst:**	JDS	**Run Date:**	03/23/2017 17:02
Collect Date:	03/20/2017 15:00	**Dilution:**	1	**File ID:**	11M16981
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
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
1,1-Dichloroethane	75-34-3	0.250	U	0.500	0.250	0.125
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	0.500	0.250	0.125
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chloroform	67-66-3	0.250	U	0.500	0.250	0.125
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
m,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
Styrene	100-42-5	0.250	U	0.500	0.250	0.125
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	105	70	120	
4-Bromofluorobenzene	102	75	120	
Dibromofluoromethane	99.4	85	115	
Toluene-d8	104	85	120	

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

Microbac

Lab Report #: L17031141
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)]

	Example
where:	
Ax = Area of the characteristic ion for the compound being measured:	3399156
Cis = Concentration of the specific internal standard (ug/mL)	25
Ais = Area of the characteristic ion of the specific internal standard	846471
Cx = Concentration of the compound in the standard being measured (ug/mL)	100
RF = Calculated Response Factor	**1.0039**

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

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

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

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

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

	Example
where:	
Ax = Area of the characteristic ion for the compound being measured	**3122498**
Cis = Concentration of the specific internal standard (ug/L)	**25**
D = Dilution factor for sample as a multiplier (10x = 10)	**1**
Ais = Area of the characteristic ion of the specific internal standard	**611048**
RF = Average RF from the ICAL	**1.004**
Ws = Weight of sample purged (g)	**5**
Wn = Nominal purge weight (g) (5.0 g)	**5**
Cx = Concentration of the compound in the sample being measured (ug/L)	**127.2428**
Dry weight correction:	
Percent solids (PCT_S)	**50**
Cd = (Cx) (100)/PCT_S	**254.4856**

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

4.0 Concentration from Linear Regression

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

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

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

m = slope from curve = 0.213

b = intercept from curve = - 0.00642

Step 2: Calculate y from Quantitation Report

y = 86550/593147 = 0.1459

Step 3: Solve for x

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

Step 4: Solve for analyte concentration Cx

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

Example Spreadsheet Calculation:

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

5.0 Concentration from Quadratic Regression

Step 1 - Retrieve Curve Data from Plot, y = Ax^2 + Bx + C
Where:
Ax^2 + Bx + (C - y) = 0
A, B, C = constants from the ICAL quadratic regression
y = Response ratio = Area of analyte/Area of internal standard (IS)
x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

y = Ax/Ais

Step 3: Solve for x using the quadratic formula
Ax^2 + Bx + C - y = 0

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

Step 4: Solve for analyte concentration Cx

Cx = (Cis)(Amount ratio)

Example Spreadsheet Calculation:

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

MICROBAC®

TCLP Volatile

Analyst(s): BNB
Date: 3-22-17
Filter Lot #: 9772550

Agitator Speed 30 ± 2 rpm ☑

Balance ID: BAL020
pH Probe ID: 75
Temp probe ID: ☒ 1025 ☐ 1023

Analyst / Date		Analyst / Date	
BNB 3-22-17		BNB 3-23-17	
Time On	Temp On °C	Time Off	Temp Off °C
15:17	22.1	807	22.5

ZHE	Sample #	Pressure √	PSI ON	PSI OFF	Method	Fluid #	Matrix*	%Solid	Size Reduction Yes	Size Reduction No	Int. Wt. (g)	Fluid Vol. (mL)
A	03-1192-02	✓	BNB 3-22-17 10	10	1311	F-221	S	100		✓	25.00	500
B												
C												
D												
E												
F												
G												
H												
I												
J												
K												
L												
M												
N												
O												
P												
Q												
R												
S												
NA	FB11C	NA	NA	NA	1311	F-221	NA	NA	NA	NA	NA	40

BNB 3-23-17

BNB 3-23-17

*Matrix Code = (S-solid) (SS-sand, soil or sludge) (P-paint) (O-organic) (W-water or waste)

Comments: NA

Peer Review By:

MICROBAC®

TCLP Volatile

Analyst(s): BNB
Date: 3-21-17
Filter Lot #: 9772550

Agitator Speed 30 ± 2 rpm ☑

Balance ID: BAL020
pH Probe ID: T5
Temp probe ID: ☒ 1025 ☐ 1023

Analyst / Date		Analyst / Date	
BNB 3-21-17		BNB 3-22-17	
Time On	Temp On °C	Time Off	Temp Off °C
14:48	22.1	808	22.5

ZHE	Sample #	Pressure √	PSI ON	PSI OFF	Method	Fluid #	Matrix*	%Solid	Size Reduction Yes	Size Reduction No	Int. Wt. (g)	Fluid Vol. (mL)
A												
B												
C												
D												
E												
F												
G	03-1131-02	✓	10	10	1311	F_1-221	S	100		✓	25.00	500
H												
I	03-1133-02	✓	10	10	1311	F_1-221	S	100		✓	25.02	500
J												
K												
L												
M												
N	03-1024-01	✓	10	10	1311	F_1-221	S	100		✓	25.01	500
O												
P												
Q												
R												
S												
NA	FBLK	NA	NA	NA	1311	F_1-221	NA	NA	NA	NA	40	40

BNB 3-22-17

*Matrix Code = (S-solid) (SS-sand, soil or sludge) (P-paint) (O-organic) (W-water or waste)

Comments: NA

Peer Review By:

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 112916
Analyst1: JDS Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 24
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID:

Internal Standard: STD78962 Surrogate Standard: STD78963
CCV: STD79185 LCS: STD79186 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG593075

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M15410	WG593075-01 BFB 50ng 8260	NA	1	1	STD78474	11/29/16 14:38
11M15411	RINSE	NA	1	1		11/29/16 15:02
11M15412	RINSE	NA	1	1		11/29/16 16:35
11M15413	WG593075-02 5ug/L ICAL A9	NA	1	1	STD79185	11/29/16 17:04
11M15414	WG593075-03 20ug/L ICAL A9	NA	1	1	STD79185	11/29/16 17:33
11M15415	WG593075-04 50ug/L ICAL A9	NA	1	1	STD79185	11/29/16 18:02
11M15416	WG593075-05 100ug/L ICAL A9	NA	1	1	STD79185	11/29/16 18:30
11M15417	WG593075-06 200ug/L ICAL A9	NA	1	1	STD79185	11/29/16 19:00
11M15418	WG593075-07 300ug/L ICAL A9	NA	1	1	STD79185	11/29/16 19:29
11M15419	WG593075-08 400ug/L ICAL A9	NA	1	1	STD79185	11/29/16 19:58
11M15420	WG593075-09 500ug/L ICAL A9	NA	1	1	STD79185	11/29/16 20:28
11M15421	RINSE	NA	1	1		11/29/16 20:57
11M15422	WG593075-10 100ug/L ALT SRC A9	NA	1	1	STD79186	11/29/16 21:26
11M15423	RINSE	NA	1	1		11/29/16 21:55
11M15424	RINSE	NA	1	1		11/29/16 22:24

Approved: December 01, 2016

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 120816
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: 53988

Internal Standard: STD78987 Surrogate Standard: STD78987
CCV: STD79185; STD79330 LCS: STD79186; STD78319 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG594051; WG594142

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M416518	WG594051-01 50ng BFB STD A9/FOO	NA	1	1	STD78995	12/08/16 08:55
8M416519	WG594051-02 5ug/L STD A9/FOO	NA	1	1	STD79185	12/08/16 09:19
8M416520	WG594051-03 20ug/L STD A9/FOO	NA	1	1	STD79185	12/08/16 09:48
8M416521	WG594051-04 50ug/L STD A9/FOO	NA	1	1	STD79185	12/08/16 10:17
8M416522	WG594051-05 100ug/L STD A9/FOO	NA	1	1	STD79185	12/08/16 10:47
8M416523	WG594051-06 200ug/L STD A9/FOO	NA	1	1	STD79185	12/08/16 11:16
8M416524	WG594051-07 300ug/L STD A9/FOO	NA	1	1	STD79185	12/08/16 11:46
8M416525	WG594051-08 400ug/L STD A9/FOO	NA	1	1	STD79185	12/08/16 12:16
8M416526	WG594051-09 500ug/L STD A9/FOO	NA	1	1	STD79185	12/08/16 12:45
8M416527	RINSE	NA	1	1		12/08/16 13:14
8M416528	RINSE	NA	1	1		12/08/16 13:43
8M416529	WG594051-10 100ug/L STD A9/FOO	NA	1	1	STD79186	12/08/16 14:12
8M416530	WG594141-01 50ng BFB STD 8260	NA	1	1	STD78995	12/08/16 14:40
8M416531	WG594141-01 50ng BFB STD 8260	NA	1	1	STD78995	12/08/16 14:54
8M416532	WG594141-01 50ng BFB STD 8260	NA	1	1	STD78995	12/08/16 15:17
8M416533	WG594141-02 50ug/L CCV STD 8260	NA	1	1	STD79330	12/08/16 15:44
8M416534	WG594141-02 50ug/L CCV STD 8260	NA	1	1	STD79330	12/08/16 16:15
8M416535	WG000000-01 100ug/L A9 CCV STD 8260	NA	1	1	STD78971	12/08/16 16:45
8M416536	WG594142-01 VBLK1208 BLANK STD 826	NA	1	1		12/08/16 17:16
8M416537	WG594142-02 20ug/L LCS STD 8260	NA	1	1	STD79319	12/08/16 17:45
8M416538	L16120424-04 A MS 826-SPE	<2	1	1	STD79319	12/08/16 18:14
8M416539	L16120424-05 A MSD 826-SPE	<2	1	1	STD79319	12/08/16 18:43
8M416540	L16120315-05 B TB 826-SPE	<2	1	1		12/08/16 19:12
8M416541	L16120315-03 B EB 826-SPE	<2	1	1		12/08/16 19:41
8M416542	L16120424-01 A TB 826-SPE	<2	1	1		12/08/16 20:10
8M416543	L16120424-03 A RS 826-SPE	<2	1	1		12/08/16 20:39
8M416544	L16120424-06 A 826-SPE	<2	1	1		12/08/16 21:09
8M416545	L16120424-02 A 826-SPE	<2	1	1		12/08/16 21:40
8M416546	L16120315-01 B 826-SPE	<2	1	1		12/08/16 22:08
8M416547	L16120315-02 B 826-SPE	<2	1	1		12/08/16 22:37
8M416548	L16120315-04 B 826-SPE	<2	1	1		12/08/16 23:06
8M416549	L16120424-07 A 826-SPE	<2	1	1		12/08/16 23:35
8M416550	WG594142-06 20ug/L LCS2 STD 8260	NA	1	1	STD79319	12/09/16 00:04
8M416551	CCV	NA	1	1		12/09/16 00:33

Approved: December 09, 2016

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 120816
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: 53988

Internal Standard: STD78987 Surrogate Standard: STD78987
CCV: STD79185; STD79330 LCS: STD79186; STD78319 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG594051; WG594142

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M416552	RINSE	NA	1	1		12/09/16 01:01

Comments

Seq.	Rerun	Dil.	Reason	Analytes
13	X			
File ID: 8M416530				
	Tune failed, DNR.			
15	X			
File ID: 8M416531				
	Tune failed, DNR.			
16				
File ID: 8M416532				
	Purged BFB.			
17	X			
File ID: 8M416533				
	DNR. Bromomethane was low.			
19				
File ID: 8M416535				
	Not needed, DNR.			
27	X	10	Over Calibration Range	PCE
File ID: 8M416543				

Approved: December 09, 2016

Page: 2

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 022517
Analyst1: ADC Analyst2: NA
Method: 8260 SOP: MSV01 Rev: 24
Method: 5035/5030B/5030C SOP: PAT01 Rev: 19

Maintenance Log ID:

Internal Standard: STD80490 Surrogate Standard: STD80489
CCV: STD80492 LCS: STD80410 MS/MSD: STD80410

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG601938

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M16435	WG601938-01 50ng BFB	NA	1	1	STD79950	02/25/17 16:09
11M16437	WG601938-02 0.3ug/L STD	NA	1	1	STD80492	02/25/17 17:04
11M16438	WG601938-03 0.4ug/L STD	NA	1	1	STD80492	02/25/17 17:32
11M16439	WG601938-04 1.0ug/L STD	NA	1	1	STD80492	02/25/17 18:01
11M16440	WG601938-05 2.0ug/L STD	NA	1	1	STD80492	02/25/17 18:30
11M16441	WG601938-06 5.0ug/L STD	NA	1	1	STD80492	02/25/17 18:59
11M16442	WG601938-07 20.0ug/L STD	NA	1	1	STD80492	02/25/17 19:28
11M16443	WG601938-08 50.0ug/L STD	NA	1	1	STD80492	02/25/17 19:58
11M16444	WG601938-09 100.0ug/L STD	NA	1	1	STD80492	02/25/17 20:26
11M16445	WG601938-10 200.0ug/L STD	NA	1	1	STD80492	02/25/17 20:55
11M16446	WG601938-11 300.0ug/L STD	NA	1	1	STD80492	02/25/17 21:24
11M16447	RINSE	NA	1	1		02/25/17 21:53
11M16448	WG601938-12 50.0ug/L ALT	NA	1	1	STD80410	02/25/17 22:22

Approved: March 01, 2017

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 032117
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: 54101

Internal Standard: STD80702 Surrogate Standard: STD80702
CCV: STD81040 LCS: STD81038 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG607066

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M418406	WG607066-01 50ng BFB STD 8260	NA	1	1	STD80989	03/21/17 15:10
8M418407	RINSE	NA	1	1		03/21/17 15:39
8M418408	WG607066-02 0.3ug/L STD 8260	NA	1	1	STD810	03/21/17 16:09
8M418409	WG607066-03 0.4ug/L STD 8260	NA	1	1	STD81040	03/21/17 16:39
8M418410	WG607066-04 1ug/L STD 8260	NA	1	1	STD81040	03/21/17 17:09
8M418411	WG607066-05 2ug/L STD 8260	NA	1	1	STD81040	03/21/17 17:40
8M418412	WG607066-06 5ug/L STD 8260	NA	1	1	STD81040	03/21/17 18:10
8M418413	WG607066-07 20ug/L STD 8260	NA	1	1	STD81040	03/21/17 18:41
8M418414	WG607066-08 50ug/L STD 8260	NA	1	1	STD81040	03/21/17 19:11
8M418415	WG607066-09 100ug/L STD 8260	NA	1	1	STD81040	03/21/17 19:42
8M418416	WG607066-10 200ug/L STD 8260	NA	1	1	STD81040	03/21/17 20:12
8M418417	WG607066-11 300ug/L STD 8260	NA	1	1	STD81040	03/21/17 20:43
8M418418	RINSE	NA	1	1		03/21/17 21:13
8M418419	RINSE	NA	1	1		03/21/17 21:44
8M418420	WG607066-12 50ug/L ALT SRC STD 8260	NA	1	1	STD81038	03/21/17 22:14
8M418421	RINSE	NA	1	1		03/21/17 22:45
8M418422	RINSE	NA	1	1		03/21/17 23:15
8M418423	RINSE	NA	1	1		03/21/17 23:45

Approved: March 24, 2017

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 032317
Analyst1: JDS Analyst2: NA
Method: 8260B SOP: MSV01 / OVAP MSV01 Rev: 25 / 0
Method: 624 SOP: MSV10 Rev: 15
Method: 5030B/5030C/5035A SOP: PAT01 / OVAP PAT01 Rev: 18 / 1
Maintenance Log ID: 54102

Internal Standard: STD80956 Surrogate Standard: STD80957
CCV: STD80847 LCS: STD80765 MS/MSD: STD80765

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG607454, WG607519

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M16973	WG607453-01 50ng BFB	NA	1	1	STD80536	03/23/17 13:10
11M16974	WG607453-02 50ug/L CCV	NA	1	1	STD80847	03/23/17 13:34
11M16975	WGXXXXXX-01 A9FOO	NA	1	1	STD80642	03/23/17 14:05
11M16976	WG607454-01 BLK 8260	NA	1	1		03/23/17 14:35
11M16977	WG607454-02 20ug/L LCS 8260	NA	1	1	STD80765	03/23/17 15:05
11M16978	L17031025-01 10X 826-TC	NA	17	10		03/23/17 15:35
11M16979	L17031161-10 A TB 826-LOW	<2	1	1		03/23/17 16:04
11M16980	L17031128-02 A TB 826-SPE	<2	1	1		03/23/17 16:33
11M16981	L17031141-02 A TB 826-SPE	<2	1	1		03/23/17 17:02
11M16982	L17031161-02 A MS 826-LOW	<2	1	1	STD80765	03/23/17 17:32
11M16983	L17031161-03 A MSD 826-LOW	<2	1	1	STD80765	03/23/17 18:01
11M16984	L17030992-02 D1 500X 826-TC	NA	17	500		03/23/17 18:30
11M16985	L17030870-01 A1 10X 826-TC	NA	17	10		03/23/17 19:00
11M16986	L17031161-01 A REF 826-LOW	<2	1	1		03/23/17 19:30
11M16987	L17031161-05 A 826-LOW	<2	1	1		03/23/17 20:00
11M16988	L17031161-06 A 826-LOW	<2	1	1		03/23/17 20:29
11M16989	L17031161-08 A 826-LOW	<2	1	1		03/23/17 20:59
11M16990	L17031161-04 A 826-LOW	<2	1	1		03/23/17 21:28
11M16991	L17031128-01 A 5X 826-SPE	<2	1	5		03/23/17 21:58
11M16992	L17031141-01 A 826-SPE	5	1	5		03/23/17 22:27
11M16993	L17031024-01 10X AF 826-TC	NA	17	10		03/23/17 22:56
11M16994	L17031192-02 10X AF 826-TC	NA	17	10		03/23/17 23:25
11M16995	RINSE	NA	2	1		03/23/17 23:54
11M16996	WG607519-01 20ug/L LCS 624	NA	2	1	STD80765	03/24/17 00:23
11M16997	WG607519-02 20ug/L LCS2 624	NA	2	1	STD80765	03/24/17 00:53
11M16998	RINSE	NA	2	1		03/24/17 01:22
11M16999	WG607519-03 BLANK 624	NA	2	1		03/24/17 01:51
11M17000	L17031228-04 A 624	<2	2	1		03/24/17 02:21
11M17001	L17031228-07 A 624	<2	2	1		03/24/17 02:50
11M17002	L17031282-01 A 624-SPE	6	2	1		03/24/17 03:19
11M17003	L17031283-01 A 624-SPE	7	2	1		03/24/17 03:48
11M17004	L17031285-01 A 624-SPE4	<2	2	1		03/24/17 04:17
11M17005	L17031288-01 A 624-SPE4	<2	2	1		03/24/17 04:46
11M17006	CCV	NA	2	1		03/24/17 05:15

Approved: March 30, 2017

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 032317
Analyst1: JDS Analyst2: NA
Method: 8260B SOP: MSV01 / OVAP MSV01 Rev: 25 / 0
Method: 624 SOP: MSV10 Rev: 15
Method: 5030B/5030C/5035A SOP: PAT01 / OVAP PAT01 Rev: 18 / 1
Maintenance Log ID: 54102

Internal Standard: STD80956 Surrogate Standard: STD80957
CCV: STD80847 LCS: STD80765 MS/MSD: STD80765

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG607454, WG607519

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M17007	RINSE	NA	2	1		03/24/17 05:44
11M17008	RINSE	NA	2	1		03/24/17 06:14
11M17009	WG606999-01 10X AF FBLK 826-TC	NA	17	10		03/24/17 06:43
11M17010	WG607234-01 10X AF FBLK 826-TC	NA	17	10		03/24/17 07:12

Comments

Seq.	Rerun	Dil.	Reason	Analytes
8	X		Internal standard failure	
File ID: 11M16980				
	L17031128-02 int. failed low			
54	X	1	Internal standard failure	
File ID: 11M16982				
	L17031161-02 MS			
55	X	1	Internal standard failure	
File ID: 11M16983				
	L17031161-03 MSD foam sensor activated. purge aborted prematurely. RR DNR			
12	X	500	Internal standard failure	
File ID: 11M16984				
	L17030992-02 foam sensor activated. purge aborted prematurely. RR DNR			
16	X	1	Internal standard failure	
File ID: 11M16988				
	L17031161-06			
17	X	1	Internal standard failure	
File ID: 11M16989				
	L17031161-08			
18	X	1	Internal standard failure	
File ID: 11M16990				
	L17031161-04			
19	X	1	Internal standard failure	
File ID: 11M16991				
	L17031128-01			
20	X	1	Internal standard failure	
File ID: 11M16992				
	L17031141-01			

Approved: March 30, 2017

Page: 2

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 032417
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: 54105

Internal Standard: STD80906 Surrogate Standard: STD80906
CCV: STD81106 LCS: STD81038 MS/MSD: STD81038

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG607572; WG607645

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M418483	WG607571-01 50ng BFB STD 8260	NA	1	1	STD80989	03/24/17 09:24
8M418484	WG607571-02 50ug/L CCV STD 8260	NA	1	1	STD81106	03/24/17 09:47
8M418485	WG607571-02 50ug/L CCV STD 8260	NA	1	1	STD81106	03/24/17 10:21
8M418486	WG000000-01 100ug/L A9 CCV STD 8260	NA	1	1	STD80642	03/24/17 10:50
8M418487	WG607572-01 VBLK0324 BLANK STD 826	NA	1	1		03/24/17 11:21
8M418488	L17030773-05 A RS 826-SPE	<2	1	1		03/24/17 11:52
8M418489	L17030773-06 A MS 826-SPE	<2	1	1	STD81038	03/24/17 12:22
8M418490	L17030773-07 A 826-SPE	<2	1	1		03/24/17 12:52
8M418491	L17030773-08 A 826-SPE	<2	1	1		03/24/17 13:21
8M418492	L17030773-17 A 826-SPE	<2	1	1		03/24/17 13:51
8M418493	WG607572-02 20ug/L LCS STD 8260	NA	1	1	STD81038	03/24/17 14:22
8M418494	L17031161-02 B MS 826-LOW	<2	1	1	STD81038	03/24/17 14:51
8M418495	L17031161-03 B MSD 826-LOW	<2	1	1	STD81038	03/24/17 15:21
8M418496	L17030992-02 B 500X 826-TC D1	6	17	500		03/24/17 15:51
8M418497	L17031131-02 A 10X 826-TC	NA	17	10		03/24/17 16:22
8M418498	L17031133-02 A 10X 826-TC	NA	17	10		03/24/17 16:52
8M418499	L17030997-09 B 1000X 826-SPE D1	<2	1	1000		03/24/17 17:22
8M418500	L17030997-08 B 200X 826-SPE 00	<2	1	200		03/24/17 17:52
8M418501	L17030997-07 B 200X 826-SPE 00	<2	1	200		03/24/17 18:22
8M418502	L17031161-01 B RS 826-LOW	<2	1	1		03/24/17 18:52
8M418503	L17031161-04 B 826-LOW	<2	1	1		03/24/17 19:23
8M418504	L17031161-06 B 826-LOW	<2	1	1		03/24/17 19:52
8M418505	L17031161-08 B 826-LOW	<2	1	1		03/24/17 20:21
8M418506	L17031141-01 B 826-SPE	4	1	1		03/24/17 20:52
8M418507	L17030997-10 B 826-SPE	<2	1	1		03/24/17 21:21
8M418508	WG607645-02 20ug/L LCS STD 624	NA	2	1	STD81038	03/24/17 21:50
8M418509	WG607645-03 20ug/L LCS2 STD 624	NA	2	1	STD81038	03/24/17 22:20
8M418510	RINSE	NA	2	1		03/24/17 22:50
8M418511	WG607645-01 VBLK0324 BLANK STD 624	NA	2	1		03/24/17 23:20
8M418512	L17031331-01 A 624-SPE	7	2	1		03/24/17 23:50
8M418513	L17031332-01 A 624-SPE	7	2	1		03/25/17 00:20
8M418514	L17031333-02 A 624-SPE	7	2	1		03/25/17 00:51
8M418515	L17031334-01 A 624-SPE	<2	2	1		03/25/17 01:22
8M418516	L17031371-01 A 624-SPE	7	2	1		03/25/17 01:52

Approved: March 27, 2017
Sarah Vandenberg

Microbac

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 032417
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: 54105

Internal Standard: STD80906 Surrogate Standard: STD80906
CCV: STD81106 LCS: STD81038 MS/MSD: STD81038

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG607572; WG607645

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M418517	L17031378-01 A 624-SPE	7	2	1		03/25/17 02:22
8M418518	L17031379-01 A 624-SPE	7	2	1		03/25/17 02:52
8M418519	L17031379-03 A 624-SPE	7	2	1		03/25/17 03:22
8M418520	L17031379-05 A 624-SPE	7	2	1		03/25/17 03:53
8M418521	CCV	NA	1	1		03/25/17 04:23
8M418522	RINSE	NA	1	1		03/25/17 04:53
8M418523	RINSE	NA	1	1		03/25/17 05:23

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2	X			
File ID: 8M418484				
1,4-Dioxane was high, DNR.				
4				
File ID: 8M418486				
Not needed, DNR.				
30	X	20	Over Calibration Range	CHLOROFORM
File ID: 8M418512				
32	X	10	Over Calibration Range	CHLOROFORM
File ID: 8M418514				
37	X	25	Over Calibration Range	12-DCA, CB
File ID: 8M418519				
38	X	200	Over Calibration Range	12-DCA, CB
File ID: 8M418520				

Approved: March 27, 2017
Sarah Vandenberg

Page: 2

Microbac Laboratories Inc.

Data Checklist

Date: 29-NOV-2016
Analyst: JDS
Analyst: NA
Method: 8260B/624
Instrument: HPMS11
Curve Workgroup: NA
Runlog ID: 78972
Analytical Workgroups: WG593075

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	NA
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	NA
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	NA
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	NA
TCL Hits	NA
Spectra of TCL Hits	NA
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	NA
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:
30-NOV-2016

Secondary Reviewer:
01-DEC-2016

CHECKLIST1 - Modified 03/05/2008
Generated: DEC-01-2016 16:10:41

Microbac Laboratories Inc.

Data Checklist

Date: 08-DEC-2016
Analyst: TMB
Analyst: NA
Method: 8260B/624
Instrument: HPMS8
Curve Workgroup: NA
Runlog ID: 79117
Analytical Workgroups: WG594051; WG594142

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	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:
08-DEC-2016
Tiffany Bailey

Secondary Reviewer:
09-DEC-2016
Wade D

CHECKLIST1 - Modified 03/05/2008
Generated: DEC-09-2016 15:20:50

Microbac Laboratories Inc.

Data Checklist

Date: 01-MAR-2017
Analyst: ADC
Analyst: NA
Method: 8260
Instrument: HPMS11
Curve Workgroup: NA
Runlog ID: 80704
Analytical Workgroups: WG601938 (ICAL)

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	ADC
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	ADC
Secondary Reviewer	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:
01-MAR-2017

Secondary Reviewer:
01-MAR-2017

CHECKLIST1 - Modified 03/05/2008
Generated: MAR-01-2017 10:34:39

Microbac Laboratories Inc.

Data Checklist

Date: 21-MAR-2017
Analyst: TMB
Analyst: NA
Method: 8260B/624
Instrument: HPMS8
Curve Workgroup: NA
Runlog ID: 81123
Analytical Workgroups: WG607066

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	ADC
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:
23-MAR-2017
Tiffany Bailey

Secondary Reviewer:
24-MAR-2017

CHECKLIST1 - Modified 03/05/2008
Generated: MAR-24-2017 16:23:54

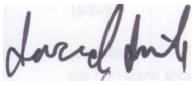
Microbac Laboratories Inc.

Data Checklist

Date: 23-MAR-2017
Analyst: JDS
Analyst: NA
Method: 8260
Instrument: HPMS11
Curve Workgroup: NA
Runlog ID: 81216
Analytical Workgroups: WG607454 WG607519

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	JDS
Surrogates	X
Internal Standards Criteria	X
Library Searches	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 reasonableness of the results	X

Primary Reviewer:
29-MAR-2017



Secondary Reviewer:
30-MAR-2017



CHECKLIST1 - Modified 03/05/2008
Generated: MAR-30-2017 08:43:43

Microbac Laboratories Inc.

Data Checklist

Date: 24-MAR-2017
Analyst: TMB
Analyst: NA
Method: 8260B/624
Instrument: HPMS8
Curve Workgroup: NA
Runlog ID: 81176
Analytical Workgroups: WG607572; WG607645

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
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	X
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	SAV
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-MAR-2017
Tiffany Bailey

Secondary Reviewer:
27-MAR-2017
Sarah Vandenberg

CHECKLIST1 - Modified 03/05/2008
Generated: MAR-27-2017 15:42:47

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B AAB#: WG607454

Login Number: L17031141

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
TRIP BLANK	02	03/20/17					03/23/2017	3.1	14		03/23/17	3.1	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5217365
Report generated 03/30/2017 10:02

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B **AAB#:** WG607572

Login Number: L17031141

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
LH18/24-SP650-6425	01	03/20/17					03/24/2017	4.2	14		03/24/17	4.2	14	

*** = SEE PROJECT QAPP REQUIREMENTS**

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5217365
Report generated 03/30/2017 10:02

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L17031141
Instrument Id: HPMS11
Workgroup (AAB#): WG607454

Method: 8260
CAL ID: HPMS11-25-FEB-17
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L17031141-02	1.00	01	105	99.4	102	104
WG607454-01	1.00	01	108	104	106	106
WG607454-02	1.00	01	103	101	103	105

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: 5217371
Report generated: 03/30/2017 10:02

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L17031141
Instrument Id: HPMS8
Workgroup (AAB#): WG607572

Method: 8260
CAL ID: HPMS8-21-MAR-17
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L17031141-01	1.00	01	98.0	96.4	97.6	102
WG607572-01	1.00	01	94.1	95.7	98.1	100
WG607572-02	1.00	01	93.0	96.5	94.3	101

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: 5217371
Report generated: 03/30/2017 10:02

METHOD BLANK SUMMARY

Login Number:	L17031141	**Work Group:**	WG607454
Blank File ID:	11M16976	**Blank Sample ID:**	WG607454-01
Prep Date:	03/23/17 14:35	**Instrument ID:**	HPMS11
Analyzed Date:	03/23/17 14:35	**Method:**	8260B
Analyst:	JDS		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG607454-02	11M16977	03/23/17 15:05	01
TRIP BLANK	L17031141-02	11M16981	03/23/17 17:02	01

Report Name: BLANK_SUMMARY
PDF File ID: 5218732
Report generated 03/30/2017 10:02

METHOD BLANK SUMMARY

Login Number:	L17031141	**Work Group:**	WG607572
Blank File ID:	8M418487	**Blank Sample ID:**	WG607572-01
Prep Date:	03/24/17 11:21	**Instrument ID:**	HPMS8
Analyzed Date:	03/24/17 11:21	**Method:**	8260B
Analyst:	TMB		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG607572-02	8M418493	03/24/17 14:22	01
LH18/24-SP650-6425	L17031141-01	8M418506	03/24/17 20:52	01

Report Name: BLANK_SUMMARY
PDF File ID: 5218732
Report generated 03/30/2017 10:02

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L17031141 Prep Date: 03/23/17 14:35 Sample ID: WG607454-01
Instrument ID: HPMS11 Run Date: 03/23/17 14:35 Prep Method: 5030B/5030C/503
File ID: 11M16976 Analyst: JDS Method: 8260B
Workgroup (AAB#): WG607454 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS11-25-FEB-17

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	0.500	0.125	1	U
1,1-Dichloroethene	0.500	2.00	0.500	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	0.500	0.125	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chloroform	0.125	0.500	0.125	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
Methylene chloride	0.250	1.00	0.250	1	U
m,p-Xylene	0.500	2.00	0.500	1	U
o-Xylene	0.250	1.00	0.250	1	U
Styrene	0.125	0.500	0.125	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	108	70 - 120	PASS
4-Bromofluorobenzene	106	75 - 120	PASS
Dibromofluoromethane	104	85 - 115	PASS
Toluene-d8	106	85 - 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: 5217366
30-MAR-2017 10:02

Login Number: L17031141 Prep Date: 03/24/17 11:21 Sample ID: WG607572-01
Instrument ID: HPMS8 Run Date: 03/24/17 11:21 Prep Method: 5030B/5030C/503
File ID: 8M418487 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG607572 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS8-21-MAR-17

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	0.500	0.125	1	U
1,1-Dichloroethene	0.500	2.00	0.500	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	0.500	0.125	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chloroform	0.125	0.500	0.125	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
Methylene chloride	0.250	1.00	0.250	1	U
m,p-Xylene	0.500	2.00	0.500	1	U
o-Xylene	0.250	1.00	0.250	1	U
Styrene	0.125	0.500	0.125	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	94.1	70 - 120	PASS
4-Bromofluorobenzene	98.1	75 - 120	PASS
Dibromofluoromethane	95.7	85 - 115	PASS
Toluene-d8	100	85 - 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: 5217366
30-MAR-2017 10:02

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17031141 Run Date: 03/23/2017 Sample ID: WG607454-02
Instrument ID: HPMS11 Run Time: 15:05 Prep Method: 5030B/5030C/503
File ID: 11M16977 Analyst: JDS Method: 8260B
Workgroup (AAB#): WG607454 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD81038 Cal ID: HPMS11-25-FEB-17

Analytes	Expected	Found	% Rec	LCS Limits	Q
1,1,1-Trichloroethane	20.0	21.8	109	65 - 130	
1,1,2-Trichloroethane	20.0	22.8	114	75 - 125	
1,1-Dichloroethane	20.0	22.1	110	70 - 135	
1,1-Dichloroethene	20.0	21.6	108	70 - 130	
1,2-Dichloroethane	20.0	22.9	115	70 - 130	
Acetone	20.0	25.8	129	40 - 140	
Benzene	20.0	22.9	114	80 - 120	
Carbon tetrachloride	20.0	21.5	108	65 - 140	
Chloroform	20.0	22.3	111	65 - 135	
Ethylbenzene	20.0	22.7	113	75 - 125	
Methylene chloride	20.0	21.9	110	55 - 140	
m,p-Xylene	40.0	45.2	113	75 - 130	
o-Xylene	20.0	22.3	112	80 - 120	
Styrene	20.0	22.8	114	65 - 135	
Tetrachloroethene	20.0	21.2	106	45 - 150	
Trichloroethene	20.0	21.0	105	70 - 125	
Toluene	20.0	21.3	106	75 - 120	
Vinyl chloride	20.0	20.4	102	50 - 145	

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	103	70 - 120	PASS
4-Bromofluorobenzene	103	75 - 120	PASS
Dibromofluoromethane	101	85 - 115	PASS
Toluene-d8	105	85 - 120	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 5217367
Report generated: 03/30/2017 10:02

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17031141 Run Date: 03/24/2017 Sample ID: WG607572-02
Instrument ID: HPMS8 Run Time: 14:22 Prep Method: 5030B/5030C/503
File ID: 8M418493 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG607572 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD81038 Cal ID: HPMS8-21-MAR-17

Analytes	Expected	Found	% Rec	LCS Limits	Q
1,1,1-Trichloroethane	20.0	20.1	100	65 - 130	
1,1,2-Trichloroethane	20.0	18.9	94.6	75 - 125	
1,1-Dichloroethane	20.0	19.1	95.3	70 - 135	
1,1-Dichloroethene	20.0	18.8	94.0	70 - 130	
1,2-Dichloroethane	20.0	18.8	93.8	70 - 130	
Acetone	20.0	18.0	89.8	40 - 140	
Benzene	20.0	19.8	99.1	80 - 120	
Carbon tetrachloride	20.0	20.5	102	65 - 140	
Chloroform	20.0	18.5	92.6	65 - 135	
Ethylbenzene	20.0	19.3	96.3	75 - 125	
Methylene chloride	20.0	18.8	93.9	55 - 140	
m,p-Xylene	40.0	39.0	97.4	75 - 130	
o-Xylene	20.0	18.9	94.6	80 - 120	
Styrene	20.0	20.0	99.9	65 - 135	
Tetrachloroethene	20.0	18.9	94.5	45 - 150	
Trichloroethene	20.0	19.3	96.6	70 - 125	
Toluene	20.0	19.8	99.2	75 - 120	
Vinyl chloride	20.0	21.0	105	50 - 145	

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	93.0	70 - 120	PASS
4-Bromofluorobenzene	94.3	75 - 120	PASS
Dibromofluoromethane	96.5	85 - 115	PASS
Toluene-d8	101	85 - 120	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 5217367
Report generated: 03/30/2017 10:02

BFB

Login Number: L17031141
Instrument: HPMS11
Analyst: JDS
Workgroup: WG593075

Tune ID: WG593075-01
Run Date: 11/29/2016
Run Time: 14:38
File ID: 11M15410
Cal ID: HPMS11-29-NOV-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	26.9	10170	PASS
75.0	95.0	30.0	60.0	50.2	18975	PASS
95.0	95.0	100	100	100	37813	PASS
96.0	95.0	5.00	9.00	6.54	2474	PASS
173	174	0	2.00	0.358	114	PASS
174	95.0	50.0	100	84.1	31818	PASS
175	174	5.00	9.00	7.62	2425	PASS
176	174	95.0	101	95.8	30490	PASS
177	176	5.00	9.00	6.21	1892	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG593075-02	STD	01	11/29/2016 17:04	
WG593075-03	STD	01	11/29/2016 17:33	
WG593075-04	STD	01	11/29/2016 18:02	
WG593075-05	STD-CCV	01	11/29/2016 18:30	
WG593075-06	STD	01	11/29/2016 19:00	
WG593075-07	STD	01	11/29/2016 19:29	
WG593075-08	STD	01	11/29/2016 19:58	
WG593075-09	STD	01	11/29/2016 20:28	
WG593075-10	SSCV	01	11/29/2016 21:26	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5217369
Report generated 03/30/2017 10:02

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L17031141
Instrument: HPMS11
Analyst: ADC
Workgroup: WG601938

Tune ID: WG601938-01
Run Date: 02/25/2017
Run Time: 16:09
File ID: 11M16435
Cal ID: HPMS11 - 25-FEB-17

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	23.4	10084	PASS
75.0	95.0	30.0	60.0	49.2	21156	PASS
95.0	95.0	100	100	100	43029	PASS
96.0	95.0	5.00	9.00	6.87	2956	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	72.1	31034	PASS
175	174	5.00	9.00	7.26	2254	PASS
176	174	95.0	101	97.9	30369	PASS
177	176	5.00	9.00	6.79	2061	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG601938-02	STD	01	02/25/2017 17:04	
WG601938-03	STD	01	02/25/2017 17:32	
WG601938-04	STD	01	02/25/2017 18:01	
WG601938-05	STD	01	02/25/2017 18:30	
WG601938-06	STD	01	02/25/2017 18:59	
WG601938-07	STD	01	02/25/2017 19:28	
WG601938-08	STD-CCV	01	02/25/2017 19:58	
WG601938-09	STD	01	02/25/2017 20:26	
WG601938-10	STD	01	02/25/2017 20:55	
WG601938-11	STD	01	02/25/2017 21:24	
WG601938-12	SSCV	01	02/25/2017 22:22	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5217369
Report generated 03/30/2017 10:02

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L17031141
Instrument: HPMS11
Analyst: JDS
Workgroup: WG607453

Tune ID: WG607453-01
Run Date: 03/23/2017
Run Time: 13:10
File ID: 11M16973
Cal ID: HPMS11-25-FEB-17

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	22.3	10218	PASS
75.0	95.0	30.0	60.0	48.7	22306	PASS
95.0	95.0	100	100	100	45805	PASS
96.0	95.0	5.00	9.00	6.69	3063	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	76.6	35101	PASS
175	174	5.00	9.00	7.85	2754	PASS
176	174	95.0	101	97.5	34237	PASS
177	176	5.00	9.00	6.61	2264	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG607453-02	CCV	01	03/23/2017 13:34	
WG607454-01	BLANK	01	03/23/2017 14:35	
WG607454-02	LCS	01	03/23/2017 15:05	
L17031141-02	TRIP BLANK	01	03/23/2017 17:02	
WG606999-01	FBLK1	DL01	03/24/2017 06:43	*
WG607234-01	FBLK1	DL01	03/24/2017 07:12	*

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5217369
Report generated 03/30/2017 10:02

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L17031141
Instrument: HPMS8
Analyst: TMB
Workgroup: WG594051

Tune ID: WG594051-01
Run Date: 12/08/2016
Run Time: 08:55
File ID: 8M416518
Cal ID: HPMS8-08-DEC-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	15.9	3959	PASS
75.0	95.0	30.0	60.0	50.2	12523	PASS
95.0	95.0	100	100	100	24967	PASS
96.0	95.0	5.00	9.00	6.61	1651	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	74.9	18700	PASS
175	174	5.00	9.00	7.25	1355	PASS
176	174	95.0	101	96.0	17959	PASS
177	176	5.00	9.00	6.08	1092	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG594051-02	STD	01	12/08/2016 09:19	
WG594051-03	STD	01	12/08/2016 09:48	
WG594051-04	STD	01	12/08/2016 10:17	
WG594051-05	STD-CCV	01	12/08/2016 10:47	
WG594051-06	STD	01	12/08/2016 11:16	
WG594051-07	STD	01	12/08/2016 11:46	
WG594051-08	STD	01	12/08/2016 12:16	
WG594051-09	STD	01	12/08/2016 12:45	
WG594051-10	SSCV	01	12/08/2016 14:12	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5217369
Report generated 03/30/2017 10:02

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L17031141
Instrument: HPMS8
Analyst: TMB
Workgroup: WG607066

Tune ID: WG607066-01
Run Date: 03/21/2017
Run Time: 15:10
File ID: 8M418406
Cal ID: HPMS8 -

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	17.8	6993	PASS
75.0	95.0	30.0	60.0	52.2	20477	PASS
95.0	95.0	100	100	100	39240	PASS
96.0	95.0	5.00	9.00	6.89	2704	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	80.6	31623	PASS
175	174	5.00	9.00	6.77	2141	PASS
176	174	95.0	101	98.6	31189	PASS
177	176	5.00	9.00	6.60	2060	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG607066-02	STD	01	03/21/2017 16:09	
WG607066-03	STD	01	03/21/2017 16:39	
WG607066-04	STD	01	03/21/2017 17:09	
WG607066-05	STD	01	03/21/2017 17:40	
WG607066-06	STD	01	03/21/2017 18:10	
WG607066-07	STD	01	03/21/2017 18:41	
WG607066-08	STD-CCV	01	03/21/2017 19:11	
WG607066-09	STD	01	03/21/2017 19:42	
WG607066-10	STD	01	03/21/2017 20:12	
WG607066-11	STD	01	03/21/2017 20:43	
WG607066-12	SSCV	01	03/21/2017 22:14	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5217369
Report generated 03/30/2017 10:02

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L17031141
Instrument: HPMS8
Analyst: TMB
Workgroup: WG607571

Tune ID: WG607571-01
Run Date: 03/24/2017
Run Time: 09:24
File ID: 8M418483
Cal ID: HPMS8-21-MAR-17

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	17.9	6077	PASS
75.0	95.0	30.0	60.0	51.3	17371	PASS
95.0	95.0	100	100	100	33877	PASS
96.0	95.0	5.00	9.00	6.57	2226	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	82.8	28050	PASS
175	174	5.00	9.00	7.12	1998	PASS
176	174	95.0	101	99.2	27824	PASS
177	176	5.00	9.00	6.61	1840	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG607571-02	CCV	01	03/24/2017 10:21	
WG607572-01	BLANK	01	03/24/2017 11:21	
WG607572-02	LCS	01	03/24/2017 14:22	
L17031141-01	LH18/24-SP650-6425	01	03/24/2017 20:52	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5217369
Report generated 03/30/2017 10:02

Calibration Table Report
Method: A9FOOW.M
Title: Appendix IX (SOP:OVL MSV01) Water 112916 HPMS11
Last Calibration: Wed Nov 30 09:30:53 2016
Curve: WG593075
Calibration Files

	Compound	5 11M15413.D	20 11M15414.D	50 11M15415.D	100 11M15416.D	200 11M15417.D	300 11M15418.D	400 11M15419.D	500 11M15420.D	Avg	%RSD	Linear	Quadratic
I	Fluorobenzene	ISTD											
T	Acetonitrile	0.050	0.054	0.054	0.054	0.055	0.059	0.057	0.057	0.055	5.040		
T	3-Chloro-1-propene	0.742	0.811	0.773	0.805	0.838	0.841	0.818	0.794	0.803	4.135		
T	2-Chloro-1,3-butadiene	0.561	0.648	0.619	0.662	0.703	0.705	0.685	0.674	0.657	7.309		
T	Methacrylonitrile	0.274	0.298	0.302	0.299	0.312	0.324	0.315	0.310	0.304	5.013		
T	Isobutyl Alcohol		0.013	0.013	0.014	0.014	0.016	0.016	0.016	0.015	8.489		
T	1-Butanol				0.005	0.005	0.006	0.006	0.006	0.006	11.030		
T	Cyclohexanone			0.009	0.010	0.011	0.013	0.013	0.013	0.012	15.277	0.995	
T	2-Nitropropane			0.103	0.104	0.119	0.125	0.124	0.125	0.117	9.019		
T	Ethyl Acetate	0.341	0.384	0.396	0.397	0.421	0.439	0.427	0.422	0.403	7.714		
T	Methyl methacrylate	0.313	0.355	0.374	0.384	0.409	0.425	0.415	0.410	0.386	9.754		
I	Chlorobenzene-d5	ISTD											
I	1,4-Dichlorobenzene-d4	ISTD											

Wed Nov 30 09:43:07 2016

Calibration Table Report
Method: 8260WTR.M
Title: 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Calibration: Tue Feb 28 14:56:34 2017
Curve: WG601938
Calibration Files

		0.3	0.4	1	2	5	20	50	100	200	300			R^2	
		11M16437.D	11M16438.D	11M16439.D	11M16440.D	11M16441.D	11M16442.D	11M16443.D	11M16444.D	11M16445.D	11M16446.D				
Compound												Avg	%RSD	Linear	Quadratic
Fluorobenzene	ISTD														
Dichlorodifluoromethane				0.370	0.378	0.381	0.427	0.449	0.415	0.376	0.330	0.391	9.644		
Chloromethane				0.568	0.604	0.506	0.510	0.509	0.431			0.521	11.367		
Vinyl Chloride			0.518	0.408	0.412	0.418	0.407	0.423	0.392	0.341		0.415	11.827		
1,3-Butadiene				0.345	0.321	0.273	0.227	0.176	0.184	0.170		0.242	29.638	0.994	
Bromomethane				0.314	0.309	0.272	0.239	0.242	0.241	0.249	0.235	0.262	12.304		
Chloroethane				0.248	0.259	0.259	0.260	0.281	0.268	0.268	0.252	0.262	3.916		
Trichlorofluoromethane			0.530	0.465	0.459	0.479	0.466	0.501	0.476	0.464	0.429	0.474	5.930		
Diethyl ether				0.285	0.290	0.292	0.305	0.296	0.287		0.266	0.289	4.100		
Isoprene			0.492	0.455	0.469	0.461	0.506	0.513	0.502	0.481	0.437	0.479	5.369		
Acrolein				0.022	0.023	0.029	0.029	0.029	0.028		0.029	0.027	11.450		
1,1,2-Trichloro-1,2,2-Trifluoroet				0.245	0.261	0.253	0.249	0.274	0.265	0.269	0.260	0.260	3.808		
Acetone					0.081	0.074	0.080	0.072	0.070	0.072	0.069	0.074	6.248		
1,1-Dichloroethene			0.600	0.511	0.533	0.520	0.519	0.565	0.530	0.500	0.450	0.525	7.891		
Tert-Butyl Alcohol				0.014	0.014	0.017	0.020	0.015	0.014		0.015	0.016	14.922		
Dimethyl Sulfide			0.422	0.376	0.404	0.404	0.428	0.432	0.417	0.398	0.362	0.405	5.788		
Iodomethane					0.049	0.126	0.289	0.379	0.373	0.355	0.328	0.271	48.335	0.995	
Methyl acetate					0.239	0.231	0.242	0.234	0.233	0.225	0.217	0.231	3.678		
Methylene Chloride			0.363	0.328	0.311	0.308	0.309	0.329	0.315	0.310	0.289	0.318	6.479		
Carbon Disulfide				0.927	0.934	0.899	0.939	0.926	0.844	0.702		0.881	9.730		
Acrylonitrile				0.108	0.085	0.106	0.118	0.119	0.118		0.124	0.111	11.597		
Methyl Tert Butyl Ether			0.830	0.808	0.816	0.819	0.840	0.864	0.813	0.761	0.675	0.803	6.874		
trans-1,2-Dichloroethene			0.301	0.264	0.295	0.291	0.290	0.312	0.301	0.298	0.276	0.292	4.891		
n-Hexane					0.444	0.452	0.500	0.514	0.509	0.485	0.432	0.477	7.041		
Diisopropyl ether				1.289	1.290	1.261	1.253	1.198	0.999			1.215	9.149		
Vinyl Acetate					0.608	0.605	0.642	0.597	0.539	0.525	0.463	0.568	10.897		
1,1-Dichloroethane			0.740	0.621	0.647	0.645	0.658	0.685	0.638	0.573	0.504	0.634	10.510		
Ethyl-Tert-Butyl ether				1.150	1.166	1.133	1.145	1.095	0.933		0.779	1.057	13.841		
2-Butanone					0.130	0.121	0.131	0.126	0.121	0.122	0.122	0.125	3.396		
Propionitrile				0.035	0.031	0.037	0.040	0.036	0.034		0.035	0.035	7.088		
2,2-Dichloropropane			0.509	0.454	0.491	0.459	0.455	0.473	0.446	0.426	0.393	0.456	7.511		
cis-1,2-Dichloroethene			0.383	0.325	0.343	0.328	0.334	0.359	0.348	0.331	0.309	0.340	6.367		
Chloroform		0.603	0.688	0.580	0.553	0.540	0.543	0.567	0.532	0.487	0.433	0.553	12.246		
1-Bromopropane				0.050	0.059	0.061	0.066	0.069	0.069	0.070	0.067	0.064	10.584		
Bromochloromethane			0.185	0.173	0.169	0.188	0.185	0.199	0.195	0.195	0.185	0.186	5.363		
Tetrahydrofuran				0.098	0.087	0.090	0.098	0.091	0.088		0.084	0.091	5.787		
Dibromofluoromethane						0.279	0.247	0.260	0.261	0.247		0.259	5.106		
1,1,1-Trichloroethane			0.536	0.478	0.483	0.490	0.488	0.525	0.499	0.473	0.430	0.489	6.294		
Cyclohexane			0.740	0.630	0.667	0.653	0.678	0.696	0.664	0.610	0.534	0.652	8.871		
1,1-Dichloropropene			0.434	0.397	0.428	0.419	0.415	0.446	0.425	0.400	0.362	0.414	5.975		
Carbon Tetrachloride			0.417	0.377	0.410	0.418	0.424	0.461	0.436	0.418	0.380	0.416	6.256		
Tert-Amyl-Methyl ether				0.919	0.918	0.902	0.933	0.879	0.761		0.647	0.85125	12.5958		
1,2-Dichloroethane-d4						0.335	0.303	0.321	0.318	0.295		0.31459	4.99364		
1,2-Dichloroethane			0.48	0.424	0.447	0.454	0.456	0.474	0.442	0.409	0.362	0.4385	8.2628		
Benzene			1.36	1.263	1.247	1.292	1.222	1.235	1.067	0.841		1.19091	13.7615		
Trichloroethene			0.318	0.269	0.301	0.299	0.307	0.33	0.318	0.301	0.274	0.30197	6.55196		
Methylcyclohexane			0.558	0.493	0.512	0.507	0.536	0.551	0.532	0.496	0.437	0.51363	7.20246		
1,2-Dichloropropane			0.317	0.337	0.368	0.372	0.373	0.392	0.375	0.357	0.328	0.35749	6.96053		
1,4-Dioxane						0.001	0.001	0.001	0.001		0.001	0.00117	8.85864		
Bromodichloromethane			0.444	0.38	0.399	0.402	0.411	0.443	0.424	0.395	0.357	0.40624	6.97938		
Dibromomethane			0.17	0.162	0.178	0.171	0.173	0.189	0.181	0.182	0.173	0.17535	4.50686		
2-Chloroethyl Vinyl Ether				0.176	0.205	0.195	0.218	0.226	0.222	0.219	0.206	0.20838	8.05089		
4-Methyl-2-Pentanone				0.106	0.093	0.106	0.117	0.118	0.118	0.122	0.119	0.11237	8.88713		
cis-1,3-Dichloropropene			0.579	0.496	0.472	0.496	0.499	0.533	0.496	0.444	0.388	0.48925	10.946		
Dimethyl Disulfide			0.334	0.265	0.273	0.285	0.309	0.327	0.32	0.311	0.284	0.30097	8.29914		
Chlorobenzene-d5	ISTD														
Toluene-d8						1.58	1.388	1.484	1.408	1.171		1.40609	10.7899		
Toluene			2.139	1.906	1.917	1.924	1.827	1.858	1.538			1.87278	9.52462		
Ethyl Methacrylate				0.451	0.46	0.504	0.543	0.551	0.535	0.5	0.434	0.49722	8.97289		
trans-1,3-Dichloropropene				0.61	0.591	0.634	0.633	0.684	0.638	0.562	0.481	0.60405	10.1732		
1,1,2-Trichloroethane			0.37	0.342	0.362	0.365	0.362	0.39	0.371	0.358	0.325	0.36064	5.0695		
2-Hexanone						0.262	0.283	0.286	0.28	0.275	0.254	0.2733	4.63677		
1,3-Dichloropropane			0.685	0.579	0.647	0.653	0.641	0.677	0.624	0.559	0.479	0.6159	10.7344		
Tetrachloroethene			0.351	0.325	0.34	0.346	0.343	0.381	0.363	0.349	0.317	0.34621	5.43752		
Dibromochloromethane			0.393	0.369	0.399	0.413	0.421	0.468	0.449	0.426	0.384	0.41355	7.58206		
1,2-Dibromoethane			0.328	0.313	0.316	0.331	0.339	0.365	0.35	0.338	0.31	0.33224	5.45009		
1-Chlorohexane			0.645	0.529	0.567	0.564	0.609	0.63	0.606	0.551	0.476	0.57514	9.25746		
Chlorobenzene			1.253	1.116	1.168	1.187	1.146	1.196	1.048	0.838		1.11899	11.4913		
1,1,1,2-Tetrachloroethane			0.402	0.402	0.404	0.428	0.427	0.466	0.441	0.42	0.382	0.41909	5.98021		
Ethylbenzene				0.575	0.659	0.648	0.64	0.701	0.657	0.592	0.51	0.62254	9.71902		
m-,p-Xylene			0.831	0.735	0.752	0.79	0.771	0.798	0.674	0.512		0.73286	13.7756		
o-Xylene			0.821	0.712	0.744	0.779	0.772	0.837	0.769	0.673	0.574	0.74231	10.9034		
Styrene			1.279	1.125	1.215	1.247	1.259	1.341	1.187	0.945		1.19969	10.1127		
Bromoform				0.219	0.229	0.244	0.273	0.302	0.295	0.295	0.275	0.26654	12.0327		
Isopropylbenzene			2.181	1.895	1.983	2.002	1.94	1.964	1.606			1.93889	8.8707		
1,4-Dichlorobenzene-d4	ISTD														
1,1,2,2-Tetrachloroethane			0.909	0.825	0.856	0.89	0.907	0.922	0.838	0.821	0.771	0.8597	5.89676		
p-Bromofluorobenzene						1.095	1.014	1.095	1.048	0.983		1.04727	4.7231		
1,2,3-Trichloropropane				0.213	0.248	0.235	0.262	0.263	0.245	0.255	0.253	0.24673	6.56332		
trans-1,4-Dichloro-2-Butene				0.241	0.254	0.3	0.323	0.319	0.317	0.332	0.321	0.30078	11.4103		

n-Propylbenzene		5.475	4.396	4.811	4.962	4.763	4.491	3.415			4.61629	13.7667
Bromobenzene	0.93	0.985	0.964	1.001	1.011	0.996	1.055	0.972	0.915	0.848	0.96776	5.98719
1,3,5-Trimethylbenzene		3.685	3.016	3.263	3.39	3.332	3.288	2.678			3.23586	9.75773
2-Chlorotoluene		3.68	3.057	3.257	3.283	3.198	3.165	2.589			3.17543	10.2165
4-Chlorotoluene		3.139	2.519	2.743	2.759	2.714	2.661	2.137			2.66742	11.2623
a-Methylstyrene		1.806	1.388	1.601	1.67	1.82	1.856	1.667	1.41	1.21	1.60297	13.9202
tert-Butylbenzene		0.677	0.687	0.663	0.699	0.725	0.761	0.716	0.684	0.664	0.69722	4.57901
1,2,4-Trimethylbenzene		3.737	3.176	3.404	3.566	3.43	3.37	2.714			3.34219	9.7727
sec-Butylbenzene			3.817	4.128	4.213	4.214	4.079	3.198			3.94148	9.95962
p-Isopropyltoluene			3.089	3.436	3.492	3.502	3.474	2.789			3.29697	8.91447
1,3-Dichlorobenzene		2.058	1.686	1.775	1.92	1.896	1.953	1.709	1.425		1.80252	11.0178
1,4-Dichlorobenzene		2.272	1.684	1.844	1.895	1.894	1.929	1.689	1.403		1.82613	13.6919
n-Butylbenzene		3.577	2.848	2.987	3.145	3.255	3.298	2.676			3.11217	9.71282
1,2-Dichlorobenzene	1.851	1.969	1.615	1.715	1.84	1.819	1.871	1.637	1.375	1.196	1.68878	14.346
1,2-Dibromo-3-Chloropropane			0.119	0.148	0.174	0.171	0.175	0.163	0.165	0.175	0.16125	11.8162
1,2,4-Trichlorobenzene		1.443	1.119	1.197	1.237	1.278	1.344	1.209	1.109	1.03	1.21837	10.3951
Hexachlorobutadiene		0.605	0.574	0.544	0.6	0.617	0.663	0.647	0.628	0.65	0.61416	6.24307
Naphthalene		2.899	2.589	2.683	2.847	2.884	2.773	2.262	1.801		2.59228	14.7304
1,2,3-Trichlorobenzene	1.266	1.27	1.117	1.16	1.199	1.208	1.243	1.13	1.077	0.993	1.16615	7.63638

Tue Feb 28 15:13:32 2017

Calibration Table Report
Method: A9FOOWTR.M
Title: A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Calibration: Thu Dec 08 13:41:47 2016
Curve: WG594051
Calibration Files

	Compound	5 8M416519.D	20 8M416520.D	50 8M416521.D	100 8M416522.D	200 8M416523.D	300 8M416524.D	400 8M416525.D	500 8M416526.D	Avg	%RSD
I	Fluorobenzene	ISTD									
T	Acetonitrile		0.007	0.007	0.008	0.007	0.007	0.007	0.007	0.007	2.734
T	3-Chloro-1-propene	0.285	0.281	0.282	0.286	0.290	0.298	0.298	0.306	0.291	3.019
T	2-Chloro-1,3-butadiene	0.282	0.298	0.305	0.315	0.325	0.335	0.338	0.343	0.318	6.789
T	Ethyl Acetate		0.065	0.063	0.064	0.066	0.064	0.067	0.066	0.065	2.080
T	Methacrylonitrile	0.032	0.041	0.043	0.043	0.044	0.044	0.046	0.045	0.042	10.556
T	Isobutyl Alcohol			0.002	0.002	0.002	0.002	0.002	0.002	0.002	6.131
T	1-Butanol									0.000	0.000
T	Methyl methacrylate	0.055	0.067	0.068	0.069	0.071	0.070	0.074	0.074	0.068	8.866
T	2-Nitropropane		0.020	0.020	0.021	0.023	0.023	0.024	0.024	0.022	7.043
I	Chlorobenzene-d5	ISTD									
I	1,4-Dichlorobenzene-d4	ISTD									
T	Cyclohexanone			0.007	0.008	0.008	0.008	0.008	0.008	0.008	7.809

Thu Dec 08 15:05:15 2016

Calibration Table Report
Method: 8260WTR.M
Title: Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Calibration: Thu Mar 23 09:07:42 2017
Curve: WG607066
Calibration Files

		0.3	0.4	1	2	5	20	50	100	200	300				
	Compound	8M418408.D	8M418409.D	8M418410.D	8M418411.D	8M418412.D	8M418413.D	8M418414.D	8M418415.D	8M418416.D	8M418417.D	Avg	%RSD	Linear	Quad
I	Fluorobenzene	ISTD													
T	Dichlorodifluoromethane			0.365	0.339	0.354	0.406	0.433	0.432	0.413		0.392	9.845		
P	Chloromethane			0.561	0.481	0.480	0.467	0.465	0.449	0.420		0.475	9.181		
C	Vinyl Chloride		0.522	0.492	0.462	0.450	0.440	0.425	0.399	0.360		0.444	11.541		
T	1,3-Butadiene				0.256	0.253	0.235	0.174	0.111	0.091	0.088	0.173	44.128		0.994
T	Bromomethane			0.220	0.210	0.215	0.212	0.225	0.237	0.254		0.225	6.976		
T	Chloroethane		0.164	0.177	0.169	0.176	0.181	0.186	0.192	0.194		0.180	5.764		
T	Trichlorofluoromethane		0.491	0.482	0.451	0.464	0.469	0.491	0.497	0.497		0.480	3.565		
T	Diethyl ether			0.156	0.146	0.151	0.153	0.159	0.155		0.167	0.155	4.339		
T	Isoprene					0.354	0.350	0.368	0.382	0.374	0.398	0.371	4.814		
T	Acrolein				0.021	0.019	0.020	0.020	0.020		0.020	0.020	3.525		
T	1,1,2-Trichloro-1,2,2-Trifluoroethane			0.254	0.238	0.260	0.252	0.269	0.272	0.264		0.258	4.444		
T	Acetone					0.028	0.031	0.031	0.028	0.032	0.029	0.030	5.215		
C	1,1-Dichloroethene		0.377	0.363	0.325	0.352	0.349	0.366	0.375	0.375		0.360	4.930		
T	Tert-Butyl Alcohol				0.009	0.009	0.010	0.010	0.009		0.010	0.010	5.290		
T	Dimethyl Sulfide					0.242	0.246	0.255	0.258	0.268	0.268	0.256	4.156		
T	Iodomethane			0.227	0.204	0.235	0.261	0.298	0.318	0.317	0.290	0.269	16.181	0.997	
T	Methyl acetate					0.083	0.082	0.084	0.084	0.090	0.089	0.085	4.049		
T	Methylene Chloride			0.290	0.251	0.262	0.267	0.276	0.281	0.294		0.274	5.692		
T	Carbon Disulfide			0.876	0.782	0.819	0.813	0.836	0.848	0.830	0.764	0.821	4.336		
T	Acrylonitrile			0.040	0.040	0.040	0.042	0.046	0.045		0.041	0.042	5.937		
T	Methyl Tert Butyl Ether			0.519	0.484	0.503	0.533	0.556	0.536	0.567		0.528	5.471		
T	trans-1,2-Dichloroethene		0.369	0.352	0.326	0.338	0.338	0.348	0.360	0.365		0.349	4.283		
T	n-Hexane					0.312	0.279	0.293	0.297	0.289	0.307	0.296	4.010		
T	Diisopropyl ether			0.683	0.641	0.674	0.668	0.683	0.670		0.654	0.668	2.316		
T	Vinyl Acetate					0.283	0.262	0.254	0.246	0.280	0.252	0.263	5.853		
P	1,1-Dichloroethane		0.457	0.446	0.429	0.451	0.446	0.464	0.476	0.477		0.456	3.523		
T	Ethyl-Tert-Butyl ether			0.634	0.600	0.636	0.649	0.667	0.645		0.643	0.639	3.163		
T	2-Butanone					0.047	0.048	0.048	0.047	0.050	0.048	0.048	2.346		
T	Propionitrile			0.012	0.015	0.014	0.015	0.015	0.014		0.015	0.014	7.137		
T	2,2-Dichloropropane		0.445	0.414	0.394	0.409	0.385	0.398	0.406	0.403		0.407	4.403		
T	cis-1,2-Dichloroethene		0.294	0.289	0.270	0.290	0.293	0.302	0.314	0.321		0.297	5.370		
C	Chloroform	0.670	0.608	0.515	0.477	0.491	0.484	0.500	0.506	0.504		0.528	12.418		
T	1-Bromopropane			0.050	0.050	0.056	0.056	0.057	0.060	0.061	0.064	0.057	8.723		
T	Bromochloromethane		0.151	0.160	0.150	0.153	0.157	0.166	0.166	0.171		0.159	4.835		
T	Tetrahydrofuran			0.036	0.029	0.029	0.030	0.032	0.029		0.030	0.031	8.295		
S	Dibromofluoromethane				0.277	0.275	0.278	0.277	0.289	0.294	0.295	0.284	3.074		
T	1,1,1-Trichloroethane		0.405	0.426	0.387	0.429	0.422	0.450	0.469	0.488		0.435	7.610		
T	Cyclohexane			0.377	0.348	0.367	0.359	0.378	0.387	0.392	0.396	0.376	4.441		
T	1,1-Dichloropropene			0.377	0.349	0.366	0.363	0.376	0.389	0.392		0.373	4.028		
T	Tert-Amyl-Methyl ether			0.580	0.564	0.592	0.603	0.628	0.607		0.602	0.596	3.411		
T	Carbon Tetrachloride		0.375	0.364	0.334	0.379	0.381	0.41	0.437	0.431		0.3888	9.01028		
S	1,2-Dichloroethane-d4				0.251	0.234	0.245	0.242	0.246	0.252	0.249	0.2457	2.56178		
T	Heptane											0	0		
T	1,2-Dichloroethane		0.299	0.294	0.276	0.286	0.294	0.305	0.308	0.324		0.2982	4.87776		
T	Benzene		1.144	1.082	1.017	1.09	1.066	1.09	1.099	1.022		1.0761	3.85617		
T	Trichloroethene		0.282	0.267	0.261	0.279	0.282	0.297	0.31	0.324		0.2877	7.45091		
T	Methylcyclohexane					0.428	0.409	0.425	0.438	0.433	0.462	0.4323	4.01264		
C	1,2-Dichloropropane		0.227	0.243	0.232	0.245	0.248	0.253	0.261	0.27		0.2474	5.70702		
T	Bromodichloromethane		0.332	0.33	0.314	0.328	0.348	0.371	0.38	0.395		0.3498	8.26577		
T	1,4-Dioxane					0.001	0.001	0.001	0.001		0.001	0.0012	10.0042		
T	Dibromomethane		0.093	0.132	0.126	0.131	0.137	0.144	0.143	0.155		0.1326	13.823		
T	2-Chloroethyl Vinyl Ether				0.101	0.107	0.108	0.112	0.114	0.123	0.122	0.1125	7.11154		
T	4-Methyl-2-Pentanone					0.042	0.046	0.049	0.047	0.053	0.052	0.0481	8.06815		
T	cis-1,3-Dichloropropene		0.393	0.387	0.371	0.388	0.405	0.425	0.432	0.448		0.406	6.45571		

T	Dimethyl Disulfide					0.159	0.196	0.22	0.231	0.257	0.257	0.2197	17.2311	0.998
I	Chlorobenzene-d5	ISTD												
S	Toluene-d8				1.195	1.269	1.261	1.225	1.302	1.283	1.269	1.2576	2.85929	
C	Toluene		1.544	1.543	1.406	1.506	1.485	1.517	1.549	1.346		1.4869	4.94343	
T	Ethyl Methacrylate			0.249	0.239	0.265	0.298	0.304	0.302	0.323	0.32	0.2875	11.2531	
T	Paraldehyde											0	0	
T	trans-1,3-Dichloropropene			0.416	0.378	0.415	0.44	0.463	0.469	0.489		0.4386	8.75675	
T	1,1,2-Trichloroethane		0.223	0.226	0.208	0.232	0.237	0.243	0.244	0.261		0.2342	6.81927	
T	2-Hexanone					0.045	0.055	0.058	0.056	0.062	0.06	0.0562	10.7796	
T	1,3-Dichloropropane		0.421	0.417	0.393	0.405	0.421	0.427	0.427	0.443		0.4194	3.60274	
T	Tetrachloroethene		0.305	0.327	0.287	0.315	0.303	0.321	0.347	0.372		0.3222	8.35255	
T	Dibromochloromethane		0.203	0.251	0.243	0.271	0.296	0.323	0.336	0.366		0.2861	18.8764	1.000
T	1,2-Dibromoethane		0.228	0.236	0.217	0.232	0.244	0.251	0.249	0.267		0.2403	6.53165	
T	1-Chlorohexane		0.543	0.505	0.46	0.498	0.479	0.489	0.52	0.528	0.54	0.5067	5.53864	
P	Chlorobenzene		1.019	1.011	0.957	0.997	0.997	1.074	1.173	1.145		1.0465	7.3529	
T	1,1,1,2-Tetrachloroethane		0.31	0.305	0.304	0.326	0.363	0.413	0.48	0.542		0.3805	23.6944	1.001
C	Ethylbenzene		0.541	0.546	0.515	0.556	0.559	0.628	0.722			0.5808	12.244	
T	m-,p-Xylene		0.677	0.666	0.631	0.672	0.683	0.74	0.8	0.704		0.6966	7.49879	
T	o-Xylene			0.635	0.63	0.648	0.659	0.698	0.763	0.802		0.6907	9.76299	
T	Styrene		1.018	1.033	0.999	1.083	1.118	1.195	1.273	1.201		1.1151	8.93255	
P	Bromoform			0.129	0.136	0.14	0.173	0.197	0.207	0.236		0.1739	23.4918	1.000
T	Isopropylbenzene		1.697	1.683	1.58	1.688	1.672	1.757	1.776	1.517		1.6711	5.13622	
I	1,4-Dichlorobenzene-d4	ISTD												
P	1,1,2,2-Tetrachloroethane		0.449	0.51	0.451	0.492	0.495	0.505	0.483	0.514		0.4873	5.14107	
S	p-Bromofluorobenzene				0.947	0.928	0.921	0.899	0.942	0.956	1.03	0.946	4.39688	
T	1,2,3-Trichloropropane			0.131	0.131	0.135	0.138	0.146	0.14	0.149		0.1387	5.09526	
T	trans-1,4-Dichloro-2-Butene			0.098	0.097	0.117	0.116	0.125	0.125	0.119	0.117	0.1143	9.45734	
T	n-Propylbenzene		4.01	3.885	3.661	3.908	3.753	3.8	3.622	2.819		3.6822	10.0999	
T	Bromobenzene	0.851	0.768	0.757	0.755	0.783	0.79	0.837	0.875	0.919		0.815	7.14151	
T	1,3,5-Trimethylbenzene		2.725	2.624	2.532	2.686	2.662	2.801	2.829	2.417		2.6595	5.12759	
T	2-Chlorotoluene		2.64	2.51	2.341	2.519	2.505	2.539	2.593	2.155		2.4751	6.29617	
T	4-Chlorotoluene		2.183	2.216	2.162	2.151	2.107	2.241	2.221	2.018		2.1623	3.34861	
T	a-Methylstyrene					1.37	1.407	1.493	1.584	1.552	1.514	1.4867	5.5986	
T	tert-Butylbenzene			0.531	0.54	0.556	0.549	0.595	0.646	0.694		0.5873	10.4863	
T	1,2,4-Trimethylbenzene		2.785	2.797	2.613	2.808	2.805	2.92	2.929	2.463		2.7649	5.63985	
T	sec-Butylbenzene			3.451	3.251	3.466	3.33	3.466	3.399	2.744		3.3012	7.81848	
T	p-Isopropyltoluene			2.668	2.562	2.751	2.717	2.871	2.905	2.455		2.7041	5.93081	
T	1,3-Dichlorobenzene		1.611	1.613	1.52	1.6	1.577	1.671	1.734	1.67		1.6245	4.04016	
T	1,4-Dichlorobenzene	1.768	1.634	1.651	1.54	1.572	1.56	1.651	1.703	1.647		1.6362	4.40361	
T	n-Butylbenzene			2.731	2.594	2.706	2.618	2.734	2.719	2.264		2.6236	6.41729	
T	1,2-Dichlorobenzene	1.417	1.362	1.414	1.333	1.376	1.38	1.468	1.496	1.494		1.4155	4.16177	
T	1,2-Dibromo-3-Chloropropane				0.068	0.066	0.077	0.082	0.079	0.085		0.0765	9.84774	
T	1,2,4-Trichlorobenzene		1.096	1.056	0.929	0.997	1.007	1.067	1.129	1.19		1.0587	7.74032	
T	Hexachlorobutadiene		0.539	0.533	0.478	0.493	0.469	0.503	0.544	0.582		0.5176	7.43716	
T	Naphthalene		1.385	1.388	1.295	1.341	1.404	1.5	1.427	1.446		1.3983	4.5068	
T	1,2,3-Trichlorobenzene	0.853	0.929	0.879	0.798	0.801	0.839	0.89	0.91	0.981		0.8755	6.84769	

Thu Mar 23 12:32:39 2017

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L17031141 Run Date: 02/25/2017 Sample ID: WG601938-12
Instrument ID: HPMS11 Run Time: 22:22 Method: 8260B
File ID: 11M16448 Analyst: ADC QC Key: DOD4
ICal Workgroup: WG601938 Cal ID: HPMS11 - 25-FEB-17

Analyte		Expected	Found	Units	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	49.7	ug/L	0.522	0.600	20	
Chloroform	CCC	50.0	50.7	ug/L	0.560	1.40	20	
Ethylbenzene	CCC	50.0	54.2	ug/L	0.675	8.40	20	
Toluene	CCC	50.0	47.2	ug/L	1.77	5.50	20	
Vinyl Chloride	CCC	50.0	47.2	ug/L	0.391	5.60	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	46.7	ug/L	0.804	6.50	20	
Bromoform	SPCC	50.0	52.1	ug/L	0.278	4.30	20	
Chloromethane	SPCC	50.0	43.7	ug/L	0.456	12.5	20	
Chlorobenzene	SPCC	50.0	51.0	ug/L	1.14	2.10	20	
1,1-Dichloroethane	SPCC	50.0	51.4	ug/L	0.652	2.70	20	
1,1,1-Trichloroethane		50.0	53.1	ug/L	0.520	6.20	20	
1,1,2-Trichloroethane		50.0	50.8	ug/L	0.367	1.70	20	
1,2-Dichloroethane		50.0	50.8	ug/L	0.446	1.70	20	
Acetone		50.0	42.3	ug/L	0.0626	15.3	20	
Benzene		50.0	50.4	ug/L	1.20	0.800	20	
Carbon Tetrachloride		50.0	53.4	ug/L	0.444	6.80	20	
Methylene Chloride		50.0	49.9	ug/L	0.318	0.100	20	
m-,p-Xylene		100	105	ug/L	0.768	4.80	20	
o-Xylene		50.0	53.9	ug/L	0.801	7.90	20	
Styrene		50.0	54.4	ug/L	1.30	8.70	20	
Tetrachloroethene		50.0	54.0	ug/L	0.374	8.00	20	
Trichloroethene		50.0	53.4	ug/L	0.323	6.80	20	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5217368
Report generated 03/30/2017 10:02

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L17031141 Run Date: 03/21/2017 Sample ID: WG607066-12
Instrument ID: HPMS8 Run Time: 22:14 Method: 8260B
File ID: 8M418420 Analyst: TMB QC Key: DOD4
ICal Workgroup: WG607066 Cal ID: HPMS8 - 21-MAR-17

Analyte		Expected	Found	Units	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	48.5	ug/L	0.349	3.10	20	
Chloroform	CCC	50.0	46.3	ug/L	0.489	7.40	20	
Ethylbenzene	CCC	50.0	51.7	ug/L	0.601	3.50	20	
Toluene	CCC	50.0	48.4	ug/L	1.44	3.10	20	
Vinyl Chloride	CCC	50.0	42.7	ug/L	0.379	14.7	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	47.5	ug/L	0.462	5.10	20	
Chloromethane	SPCC	50.0	46.2	ug/L	0.439	7.60	20	
Bromoform	SPCC	50.0	48.4	ug/L	0.185	3.10	20	
Chlorobenzene	SPCC	50.0	48.7	ug/L	1.02	2.60	20	
1,1-Dichloroethane	SPCC	50.0	48.4	ug/L	0.441	3.20	20	
1,1,1-Trichloroethane		50.0	51.7	ug/L	0.449	3.30	20	
1,1,2-Trichloroethane		50.0	48.4	ug/L	0.227	3.30	20	
1,2-Dichloroethane		50.0	48.5	ug/L	0.290	2.90	20	
Acetone		50.0	47.4	ug/L	0.0284	5.20	20	
Benzene		50.0	48.8	ug/L	1.05	2.30	20	
Carbon Tetrachloride		50.0	52.7	ug/L	0.409	5.30	20	
Methylene Chloride		50.0	48.9	ug/L	0.269	2.20	20	
m-,p-Xylene		100	103	ug/L	0.716	2.80	20	
o-Xylene		50.0	48.9	ug/L	0.675	2.30	20	
Styrene		50.0	52.3	ug/L	1.17	4.70	20	
Tetrachloroethene		50.0	49.0	ug/L	0.316	2.00	20	
Trichloroethene		50.0	49.8	ug/L	0.286	0.500	20	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5217368
Report generated 03/30/2017 10:02

Login Number: L17031141 Run Date: 03/23/2017 Sample ID: WG607453-02
Instrument ID: HPMS11 Run Time: 13:34 Method: 8260B
File ID: 11M16974 Analyst: JDS QC Key: DOD4
Workgroup (AAB#): WG607454 Cal ID: HPMS11 - 25-FEB-17
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,2-Dichloropropane	CCC	50.0	49.9	ug/L	0.357	0.280	20	
1,1-Dichloroethene	CCC	50.0	49.0	ug/L	0.515	2.00	20	
Chloroform	CCC	50.0	46.2	ug/L	0.511	7.59	20	
Ethylbenzene	CCC	50.0	49.4	ug/L	0.615	1.23	20	
Toluene	CCC	50.0	44.0	ug/L	1.65	12.1	20	
Vinyl Chloride	CCC	50.0	49.9	ug/L	0.414	0.256	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	47.4	ug/L	0.815	5.19	20	
Bromoform	SPCC	50.0	47.4	ug/L	0.253	5.14	20	
Chlorobenzene	SPCC	50.0	47.0	ug/L	1.05	5.93	20	
Chloromethane	SPCC	50.0	40.6	ug/L	0.424	18.7	20	
1,1-Dichloroethane	SPCC	50.0	48.7	ug/L	0.617	2.70	20	
Xylenes		150	144	ug/L	0.709	4.10	20	
1,1,1-Trichloroethane		50.0	46.7	ug/L	0.457	6.51	20	
1,1,2-Trichloroethane		50.0	48.0	ug/L	0.347	3.91	20	
1,2-Dichloroethane		50.0	48.2	ug/L	0.423	3.54	20	
Acetone		50.0	55.8	ug/L	0.0826	11.7	20	
Benzene		50.0	47.1	ug/L	1.12	5.77	20	
Carbon Tetrachloride		50.0	47.7	ug/L	0.397	4.59	20	
Methylene Chloride		50.0	47.6	ug/L	0.303	4.84	20	
m-,p-Xylene		100	95.4	ug/L	0.699	4.61	20	
o-Xylene		50.0	48.5	ug/L	0.720	3.06	20	
Styrene		50.0	49.7	ug/L	1.19	0.527	20	
Tetrachloroethene		50.0	48.2	ug/L	0.334	3.62	20	
Trichloroethene		50.0	47.4	ug/L	0.286	5.26	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 5217370
Report generated 03/30/2017 10:02

Login Number: L17031141 Run Date: 03/24/2017 Sample ID: WG607571-02
Instrument ID: HPMS8 Run Time: 10:21 Method: 8260B
File ID: 8M418485 Analyst: TMB QC Key: DOD4
Workgroup (AAB#): WG607572 Cal ID: HPMS8 - 21-MAR-17
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,2-Dichloropropane	CCC	50.0	49.5	ug/L	0.245	0.932	20	
1,1-Dichloroethene	CCC	50.0	48.4	ug/L	0.349	3.29	20	
Chloroform	CCC	50.0	45.8	ug/L	0.484	8.41	20	
Ethylbenzene	CCC	50.0	50.1	ug/L	0.582	0.234	20	
Toluene	CCC	50.0	48.6	ug/L	1.45	2.79	20	
Vinyl Chloride	CCC	50.0	49.1	ug/L	0.436	1.74	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	51.9	ug/L	0.505	3.73	20	
Bromoform	SPCC	50.0	52.1	ug/L	0.200	4.21	20	
Chlorobenzene	SPCC	50.0	48.6	ug/L	1.02	2.88	20	
Chloromethane	SPCC	50.0	48.4	ug/L	0.459	3.28	20	
1,1-Dichloroethane	SPCC	50.0	49.3	ug/L	0.450	1.36	20	
Xylenes		150	148	ug/L	0.676	1.56	20	
1,1,1-Trichloroethane		50.0	50.1	ug/L	0.435	0.134	20	
1,1,2-Trichloroethane		50.0	49.7	ug/L	0.233	0.697	20	
1,2-Dichloroethane		50.0	49.0	ug/L	0.292	2.05	20	
Acetone		50.0	49.6	ug/L	0.0296	0.855	20	
Benzene		50.0	49.3	ug/L	1.06	1.38	20	
Carbon Tetrachloride		50.0	51.7	ug/L	0.402	3.30	20	
Methylene Chloride		50.0	48.4	ug/L	0.266	3.23	20	
m-,p-Xylene		100	100	ug/L	0.699	0.370	20	
o-Xylene		50.0	47.3	ug/L	0.653	5.42	20	
Styrene		50.0	51.3	ug/L	1.14	2.53	20	
Tetrachloroethene		50.0	46.8	ug/L	0.302	6.39	20	
Trichloroethene		50.0	48.4	ug/L	0.279	3.15	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 5217370
Report generated 03/30/2017 10:02

Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L17031141
Instrument ID: HPMS11
Workgroup (AAB#): WG607454

ICAL CCV Number: WG601938-08
CAL ID: HPMS11-25-FEB-17
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG601938-08	NA	NA	208770	403537	585816
Upper Limit	NA	NA	417540	807074	1171632
Lower Limit	NA	NA	104385	201769	292908
L17031141-02	1.00	01	106971	216834	313161
WG607454-01	1.00	01	123635	249570	354178
WG607454-02	1.00	01	117841	229108	327137

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: 5218733
Report generated 03/30/2017 10:02

Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L17031141
Instrument ID: HPMS8
Workgroup (AAB#): WG607572

ICAL CCV Number: WG607066-08
CAL ID: HPMS8 - 21-MAR-17
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG607066-08	NA	NA	345493	635449	821515
Upper Limit	NA	NA	690986	1270898	1643030
Lower Limit	NA	NA	172747	317725	410758
L17031141-01	1.00	01	234401	449320	582635
WG607572-01	1.00	01	286866	546958	708511
WG607572-02	1.00	01	296683	539518	702130

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: 5218733
Report generated 03/30/2017 10:02

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L17031141
Instrument ID: HPMS11
Workgroup (AAB#): WG607454

ICAL CCV Number: WG601938-08
CAL ID: HPMS11-25-FEB-17
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG601938-08	NA	NA	17	14.19	10.55
Upper Limit	NA	NA	17.5	14.69	11.05
Lower Limit	NA	NA	16.5	13.69	10.05
L17031141-02	1.00	01	16.98	14.17	10.54
WG607454-01	1.00	01	16.98	14.17	10.54
WG607454-02	1.00	01	16.98	14.17	10.54

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: 5218734
Report generated: 03/30/2017 10:02

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L17031141
Instrument ID: HPMS8
Workgroup (AAB#): WG607572

ICAL CCV Number: WG607066-08
CAL ID: HPMS8 - 21-MAR-17
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG607066-08	NA	NA	17.83	14.81	10.94
Upper Limit	NA	NA	18.33	15.31	11.44
Lower Limit	NA	NA	17.33	14.31	10.44
L17031141-01	1.00	01	17.83	14.81	10.94
WG607572-01	1.00	01	17.83	14.8	10.94
WG607572-02	1.00	01	17.83	14.81	10.94

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: 5218734
Report generated: 03/30/2017 10:02

2.1.1.3 Sample Data

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032417\8M418506.D Vial: 24
Acq On : 24 Mar 2017 20:52 Operator: TMB
Sample : L17031141-01 B 826-SPE Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 27 08:24:09 2017 Quant Results File: 8260WTR.RES

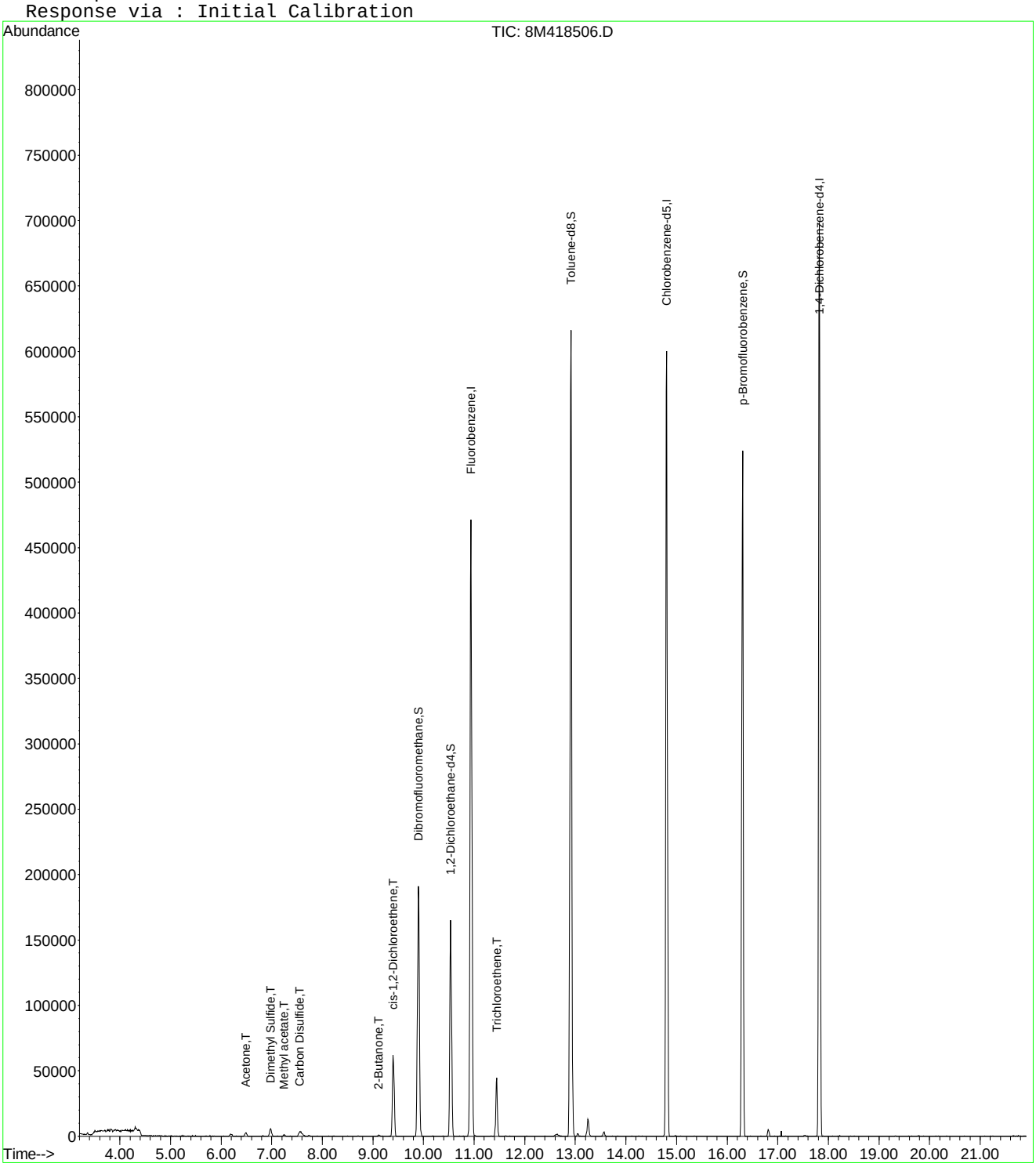
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.94	96	582635	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.81	117	449320	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.83	152	234401	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.90	111	159239	24.0983	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 96.40%			
43) 1,2-Dichloroethane-d4	10.54	65	140227	24.4880	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 97.96%			
58) Toluene-d8	12.91	98	574975	25.4391	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.76%			
80) p-Bromofluorobenzene	16.31	95	216414	24.3984	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 97.60%			
Target Compounds						Qvalue
13) Acetone	6.48	43	5176	7.4286	ug/L	90
16) Dimethyl Sulfide	6.98	62	5445	0.9119	ug/L	97
18) Methyl acetate	7.24	43	2325	1.1669	ug/L #	53
20) Carbon Disulfide	7.55	76	4573	0.2390	ug/L #	74
29) 2-Butanone	9.11	43	2131	1.8982	ug/L #	44
32) cis-1,2-Dichloroethene	9.40	96	37101	5.3670	ug/L	86
47) Trichloroethene	11.45	130	19012	2.8352	ug/L	99

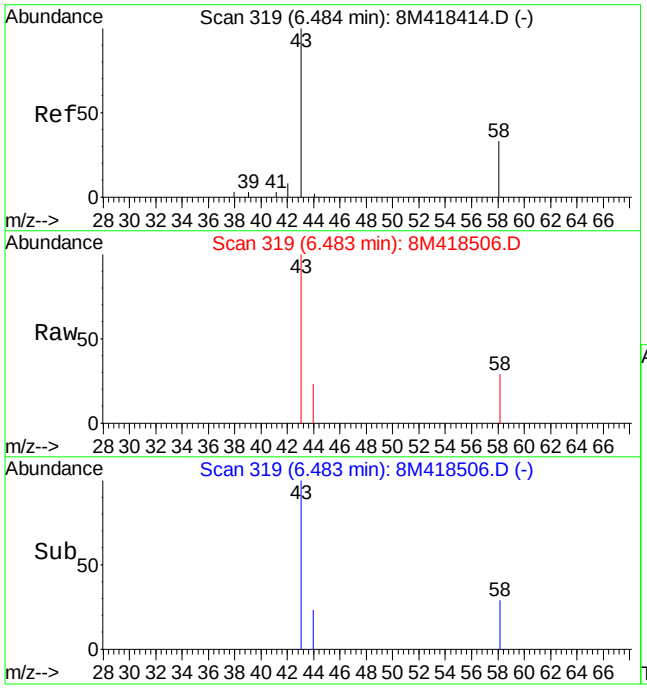
(#) = qualifier out of range (m) = manual integration
8M418506.D 8260WTR.M Mon Mar 27 08:24:11 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032417\8M418506.D Vial: 24
Acq On : 24 Mar 2017 20:52 Operator: TMB
Sample : L17031141-01 B 826-SPE Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 27 8:24 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration



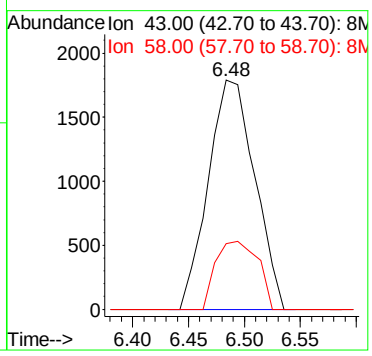
8M418506.D 8260WTR.M Mon Mar 27 08:24:12 2017 Page 2

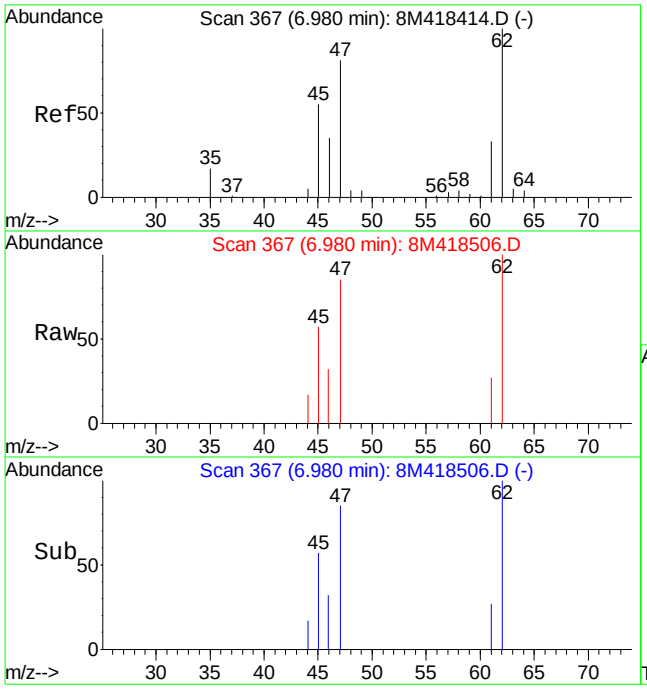


#13
Acetone
Concen: 7.43 ug/L
RT: 6.48 min Scan# 319
Delta R.T. -0.00 min
Lab File: 8M418506.D
Acq: 24 Mar 2017 20:52

Tgt Ion: 43 Resp: 5176

Ion	Ratio	Lower	Upper
43	100		
58	26.9	19.4	45.4

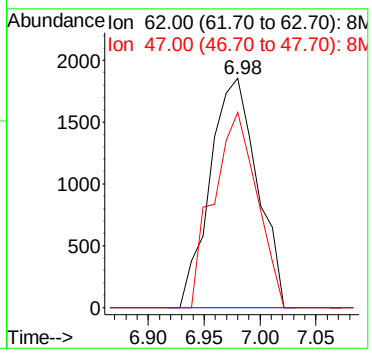


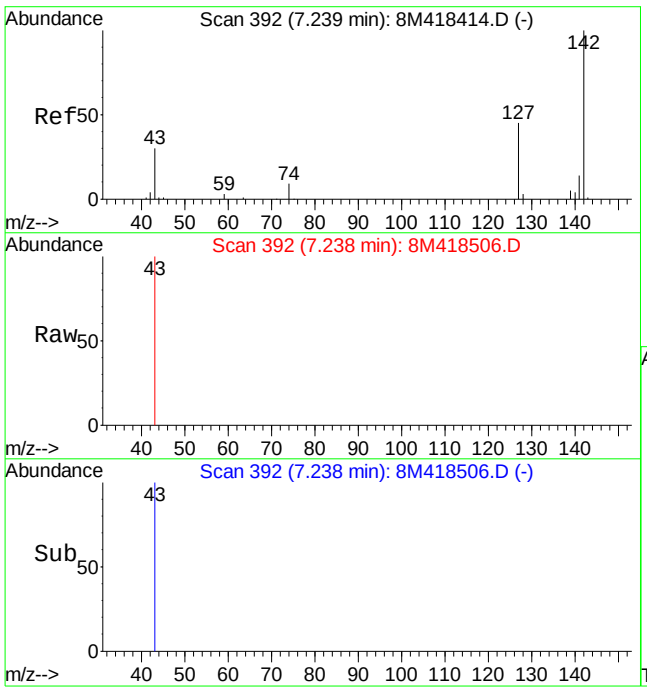


#16
Dimethyl Sulfide
Concen: 0.91 ug/L
RT: 6.98 min Scan# 367
Delta R.T. -0.00 min
Lab File: 8M418506.D
Acq: 24 Mar 2017 20:52

Tgt Ion: 62 Resp: 5445

Ion	Ratio	Lower	Upper
62	100		
47	78.8	49.0	114.4

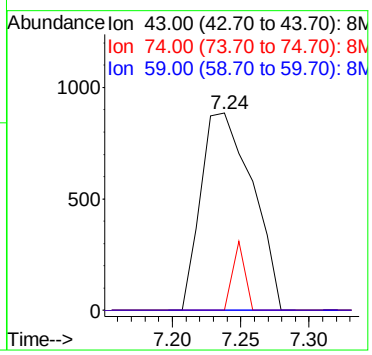


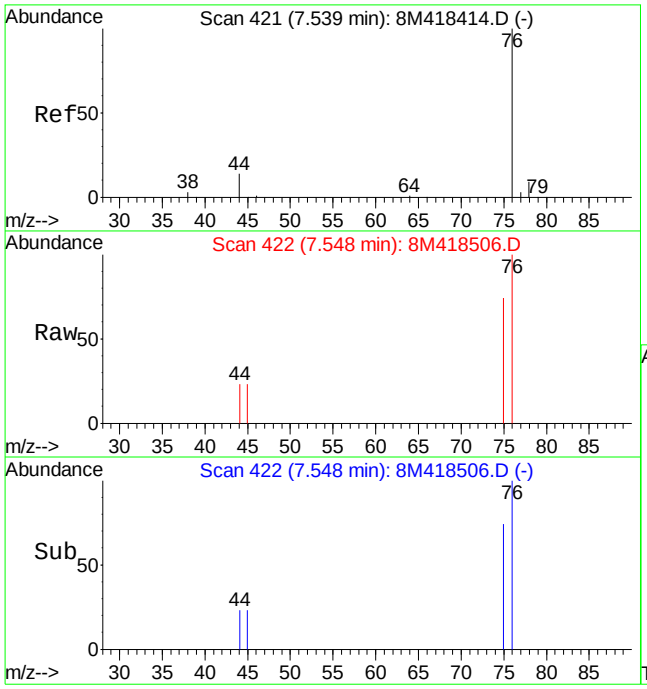


#18
Methyl acetate
Concen: 1.17 ug/L
RT: 7.24 min Scan# 392
Delta R.T. -0.00 min
Lab File: 8M418506.D
Acq: 24 Mar 2017 20:52

Tgt Ion: 43 Resp: 2325

Ion	Ratio	Lower	Upper
43	100		
74	0.0	17.0	39.6#
59	0.0	5.4	12.6#

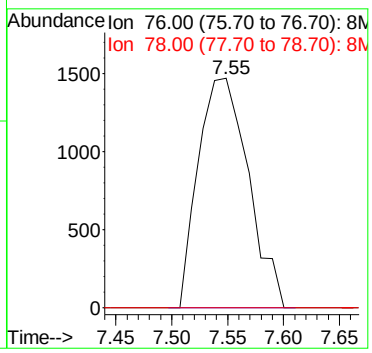


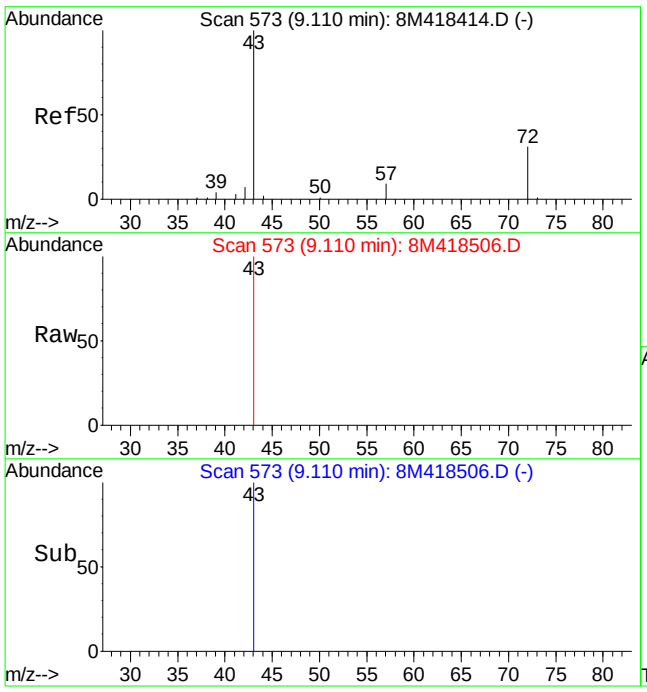


#20
Carbon Disulfide
Concen: 0.24 ug/L
RT: 7.55 min Scan# 422
Delta R.T. 0.01 min
Lab File: 8M418506.D
Acq: 24 Mar 2017 20:52

Tgt Ion: 76 Resp: 4573

Ion	Ratio	Lower	Upper
76	100		
78	0.0	5.6	13.0#

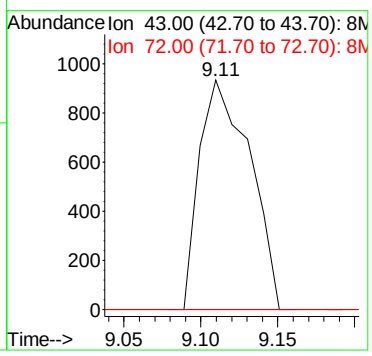


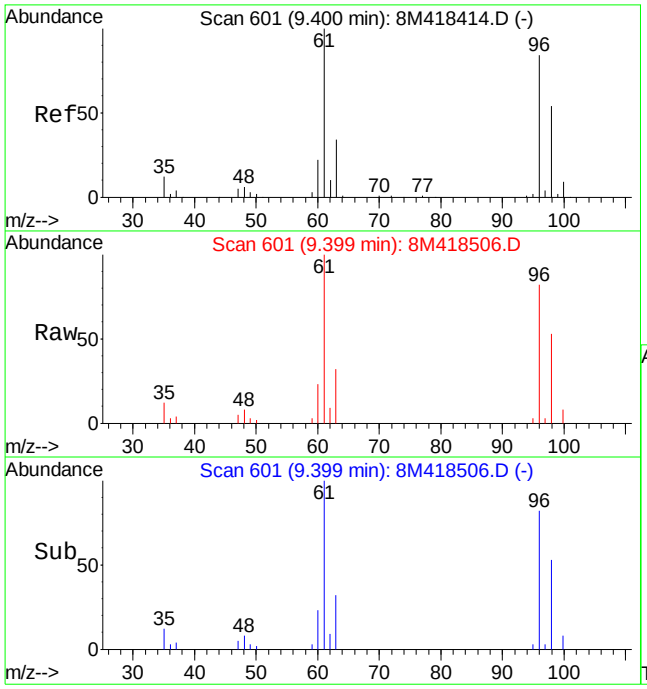


#29
2-Butanone
Concen: 1.90 ug/L
RT: 9.11 min Scan# 573
Delta R.T. -0.00 min
Lab File: 8M418506.D
Acq: 24 Mar 2017 20:52

Tgt Ion: 43 Resp: 2131

Ion	Ratio	Lower	Upper
43	100		
72	0.0	18.4	42.8#

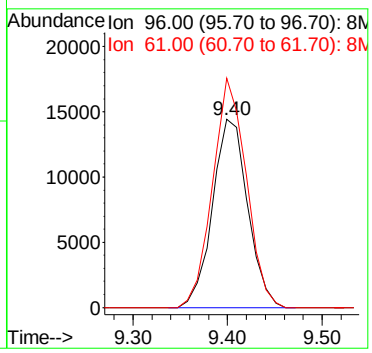


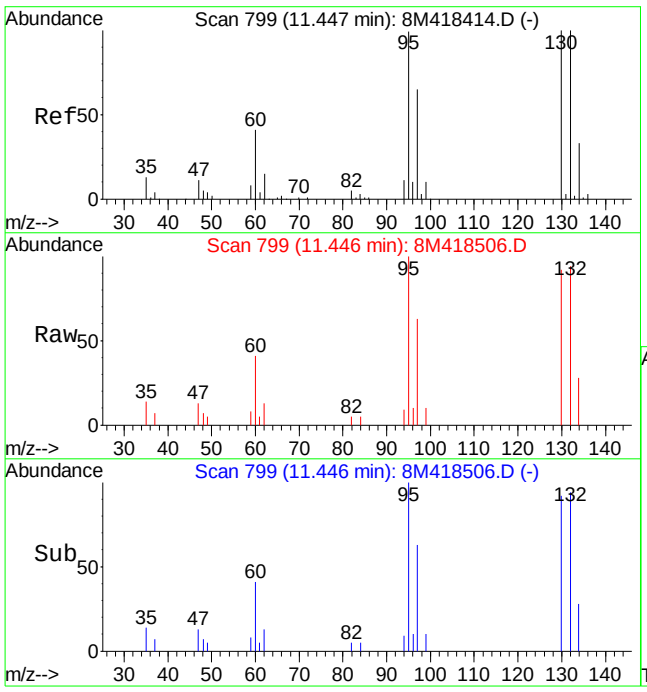


#32
cis-1,2-Dichloroethene
Concen: 5.37 ug/L
RT: 9.40 min Scan# 601
Delta R.T. 0.00 min
Lab File: 8M418506.D
Acq: 24 Mar 2017 20:52

Tgt Ion: 96 Resp: 37101

Ion	Ratio	Lower	Upper
96	100		
61	116.7	80.3	187.3

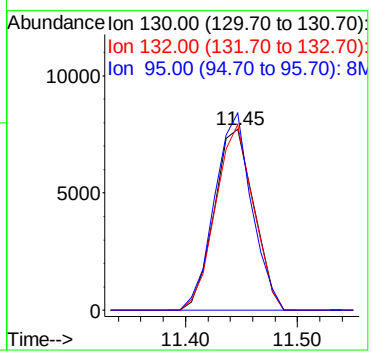




#47
Trichloroethene
Concen: 2.84 ug/L
RT: 11.45 min Scan# 799
Delta R.T. 0.00 min
Lab File: 8M418506.D
Acq: 24 Mar 2017 20:52

Tgt Ion:130 Resp: 19012

Ion	Ratio	Lower	Upper
130	100		
132	98.5	59.4	138.6
95	102.3	60.1	140.3



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\032317\11M16981.D Vial: 8
Acq On : 23 Mar 2017 17:02 Operator: JDS
Sample : L17031141-02 A TB 826-SPE Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 29 18:43:25 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

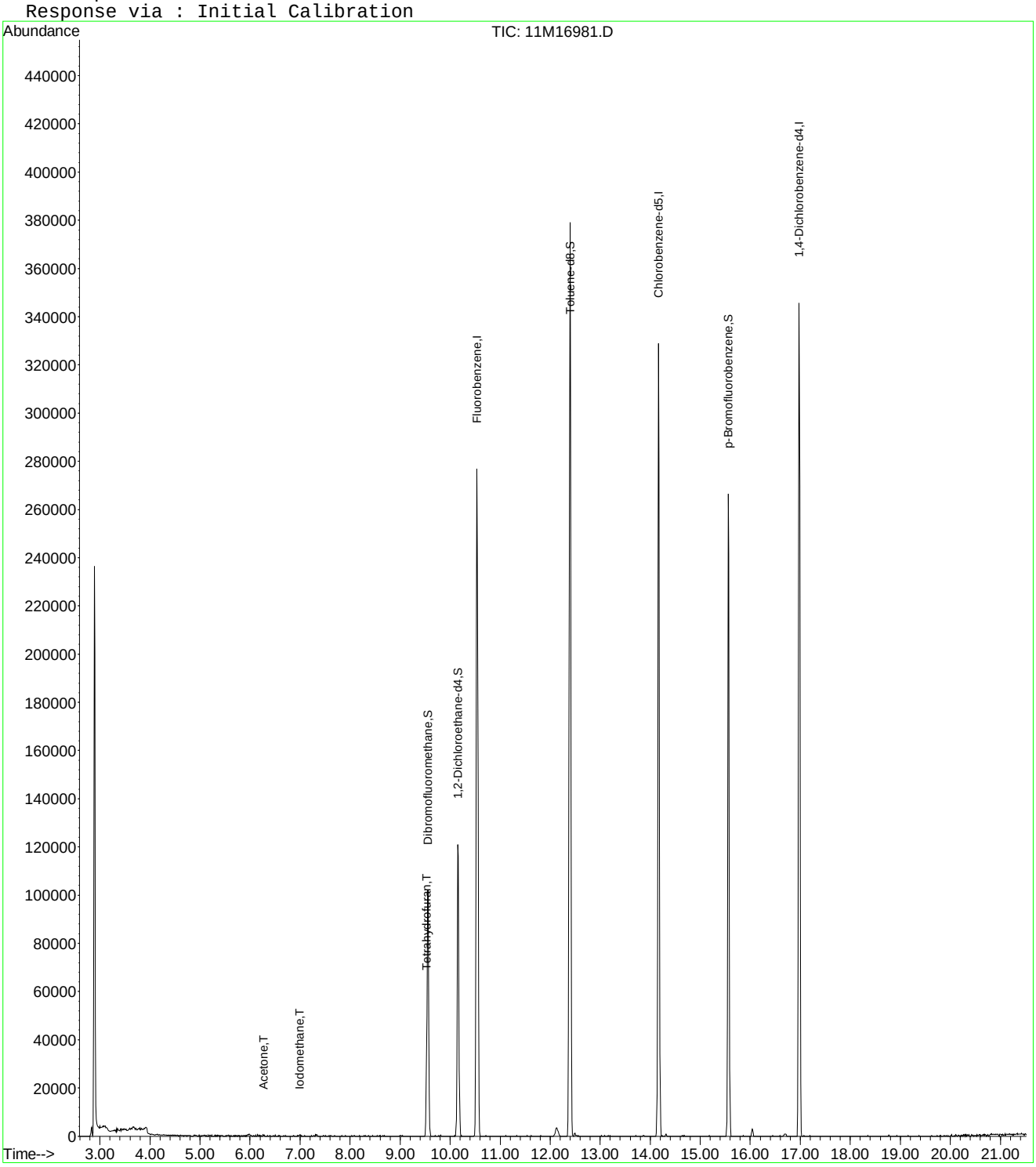
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.54	96	313161	25.00 ug/L	-0.01
56) Chlorobenzene-d5	14.17	117	216834	25.00 ug/L	-0.02
76) 1,4-Dichlorobenzene-d4	16.98	152	106971	25.00 ug/L	-0.02
System Monitoring Compounds					
37) Dibromofluoromethane	9.55	111	80546	24.8387 ug/L	-0.01
Spiked Amount 25.000	Range 86 - 118		Recovery = 99.36%		
43) 1,2-Dichloroethane-d4	10.15	65	103488	26.2616 ug/L	-0.02
Spiked Amount 25.000	Range 80 - 120		Recovery = 105.04%		
57) Toluene-d8	12.40	98	316528	25.9545 ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery = 103.80%		
78) p-Bromofluorobenzene	15.56	95	114160	25.4759 ug/L	-0.02
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.92%		
Target Compounds					Qvalue
13) Acetone	6.27	43	1021	1.1017 ug/L #	46
17) Iodomethane	6.99	142	981	2.2258 ug/L #	32
36) Tetrahydrofuran	9.53	42	2345	2.0602 ug/L #	67

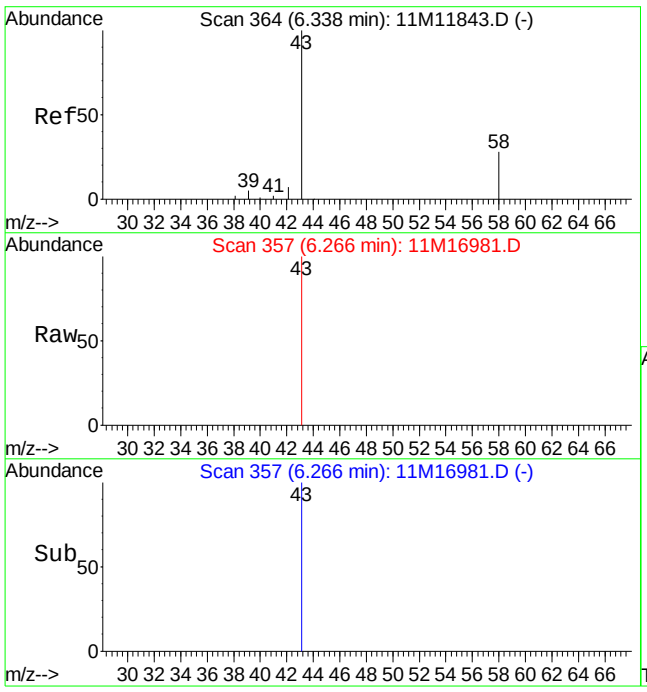
(#) = qualifier out of range (m) = manual integration
11M16981.D 8260WTR.M Wed Mar 29 18:43:26 2017 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\032317\11M16981.D Vial: 8
Acq On : 23 Mar 2017 17:02 Operator: JDS
Sample : L17031141-02 A TB 826-SPE Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 29 18:43 2017 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration

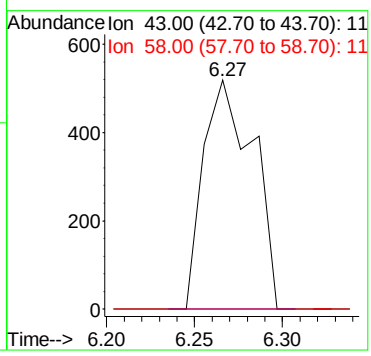


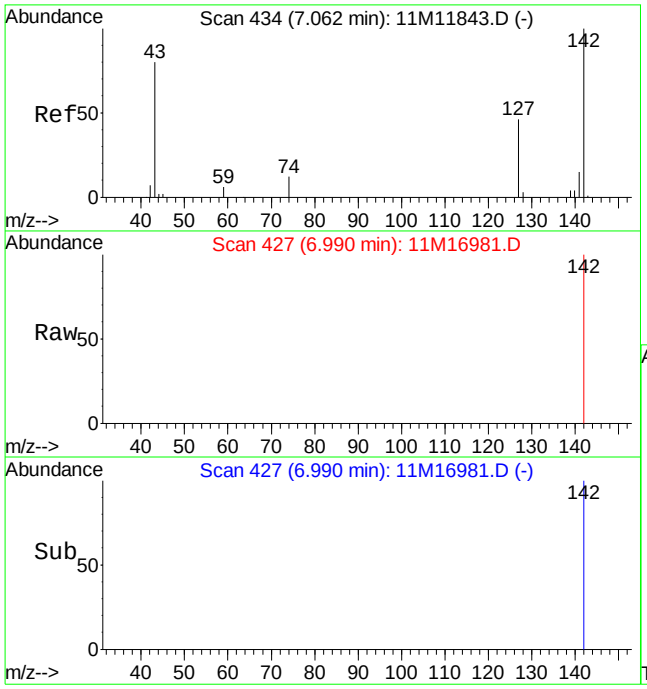


#13
Acetone
Concen: 1.10 ug/L
RT: 6.27 min Scan# 357
Delta R.T. -0.01 min
Lab File: 11M16981.D
Acq: 23 Mar 2017 17:02

Tgt Ion: 43 Resp: 1021

Ion	Ratio	Lower	Upper
43	100		
58	0.0	17.5	40.7#

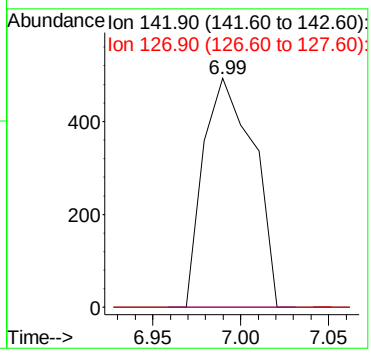


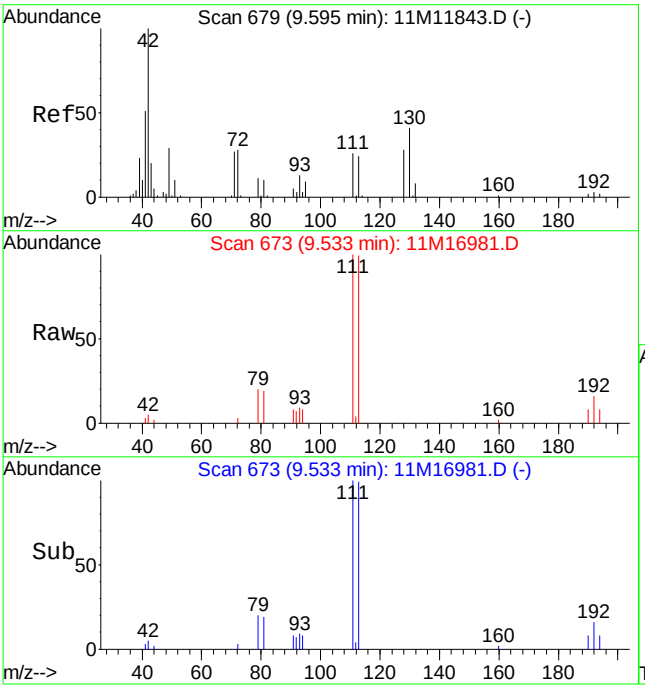


#17
Iodomethane
Concen: 2.23 ug/L
RT: 6.99 min Scan# 427
Delta R.T. -0.01 min
Lab File: 11M16981.D
Acq: 23 Mar 2017 17:02

Tgt Ion:142 Resp: 981

Ion	Ratio	Lower	Upper
142	100		
127	0.0	26.2	61.2#

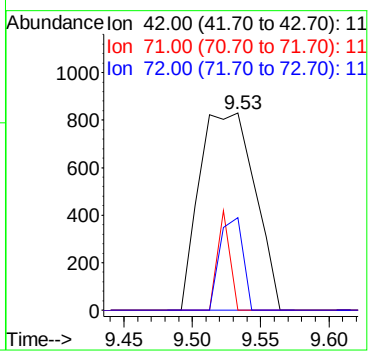




#36
Tetrahydrofuran
Concen: 2.06 ug/L
RT: 9.53 min Scan# 673
Delta R.T. -0.00 min
Lab File: 11M16981.D
Acq: 23 Mar 2017 17:02

Tgt Ion: 42 Resp: 2345

Ion	Ratio	Lower	Upper
42	100		
71	11.1	19.9	46.3#
72	19.5	21.0	49.0#



2.1.1.4 Standards Data

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\112916\11M15413.D Vial: 3
Acq On : 29 Nov 2016 17:04 Operator: JDS
Sample : WG593075-02 5ug/L ICAL A9 Inst : hpms11
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 30 09:34:33 2016 Quant Results File: A9FOOW.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOW.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 112916 HPMS11
Last Update : Wed Nov 30 09:30:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

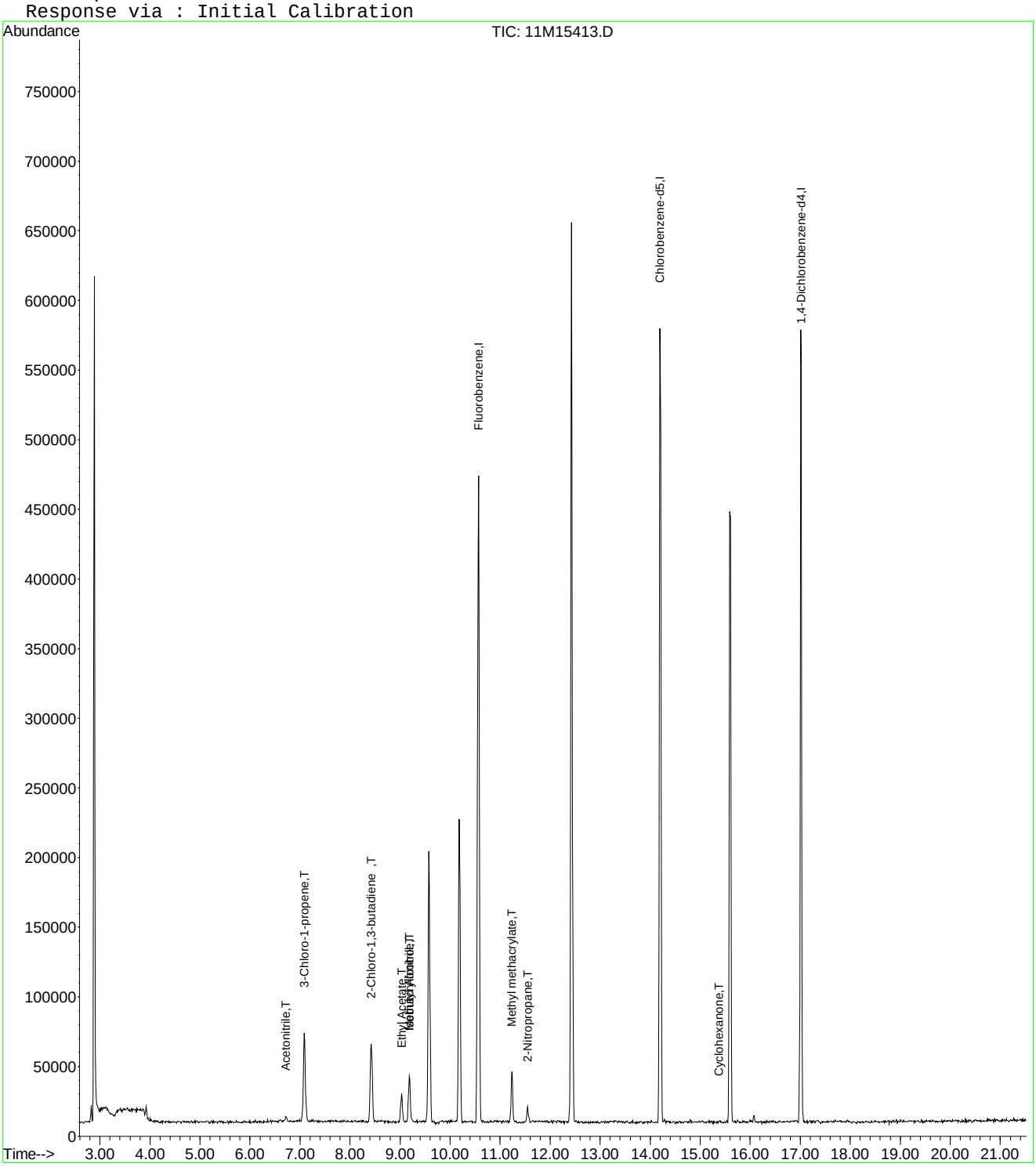
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	508264	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.20	117	375479	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.02	152	182783	25.00	ug/L	0.01
Target Compounds						Qvalue
2) Acetonitrile	6.71	41	5058	4.5315	ug/L	99
3) 3-Chloro-1-propene	7.08	41	75408	4.6204	ug/L	98
4) 2-Chloro-1,3-butadiene	8.43	53	57073	4.2715	ug/L	98
5) Methacrylonitrile	9.18	41	27821	4.4973	ug/L	99
6) Isobutyl Alcohol	9.18	43	1938	6.5106	ug/L	82
8) Cyclohexanone	15.38	55	667	26.9016	ug/L #	19
9) 2-Nitropropane	11.55	43	7814	3.2922	ug/L	86
10) Ethyl Acetate	9.03	43	34683	4.2287	ug/L	99
11) Methyl methacrylate	11.23	41	31845	4.0606	ug/L	99

(#) = qualifier out of range (m) = manual integration
11M15413.D A9FOOW.M Wed Nov 30 09:34:33 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\112916\11M15413.D Vial: 3
Acq On : 29 Nov 2016 17:04 Operator: JDS
Sample : WG593075-02 5ug/L ICAL A9 Inst : hpms11
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 30 9:34 2016 Quant Results File: A9FOOW.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOW.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 112916 HPMS11
Last Update : Wed Nov 30 09:30:53 2016
Response via : Initial Calibration



11M15413.D A9FOOW.M Wed Nov 30 09:34:34 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\112916\11M15414.D Vial: 4
Acq On : 29 Nov 2016 17:33 Operator: JDS
Sample : WG593075-03 20ug/L ICAL A9 Inst : hpms11
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 30 09:34:34 2016 Quant Results File: A9FOOW.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOW.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 112916 HPMS11
Last Update : Wed Nov 30 09:30:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

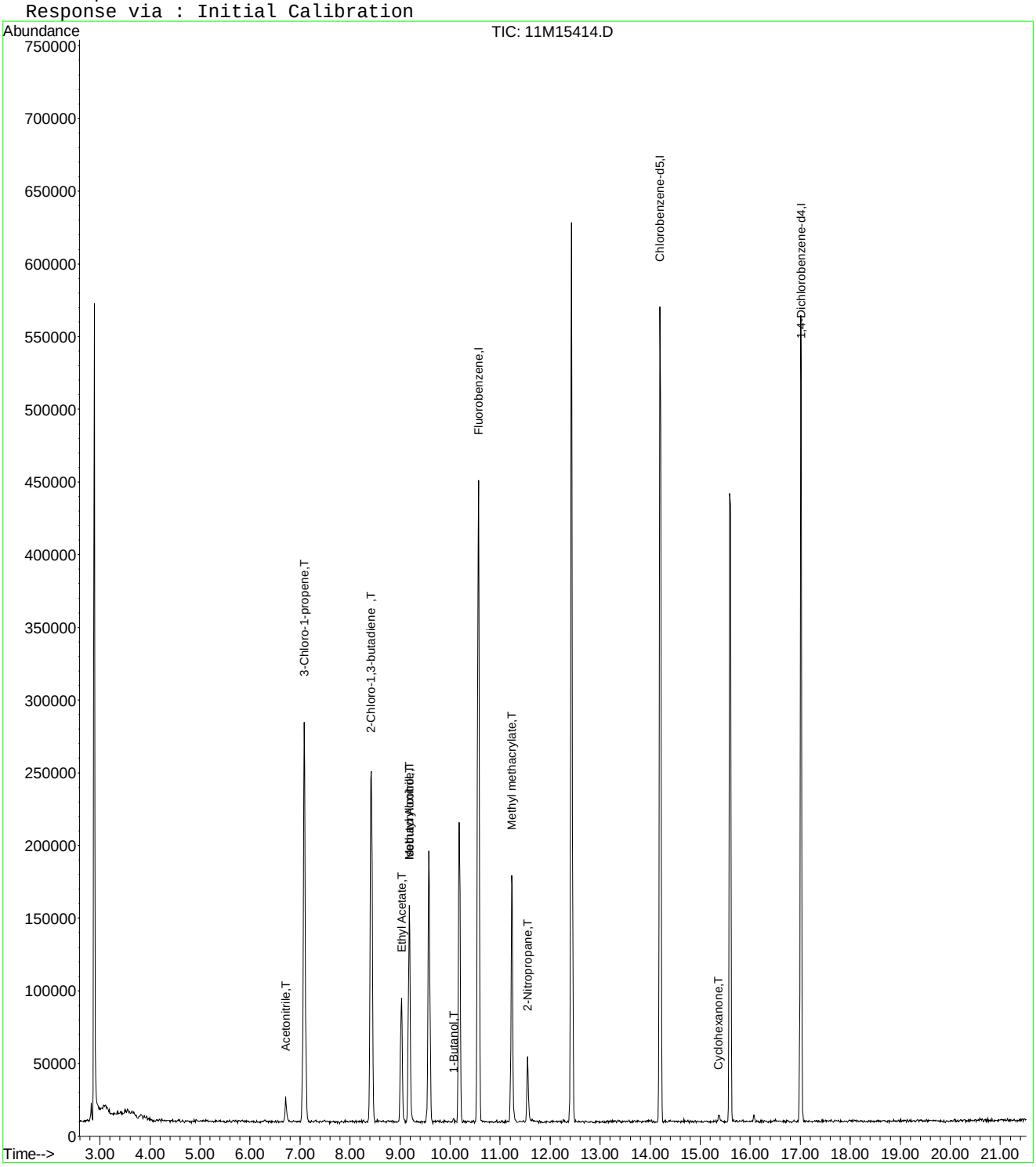
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.57	96	484954	25.00	ug/L		0.00
12) Chlorobenzene-d5	14.20	117	370089	25.00	ug/L		0.00
13) 1,4-Dichlorobenzene-d4	17.02	152	180722	25.00	ug/L		0.01
Target Compounds							Qvalue
2) Acetonitrile	6.71	41	20833	19.5616	ug/L		97
3) 3-Chloro-1-propene	7.08	41	314465	20.1940	ug/L		99
4) 2-Chloro-1,3-butadiene	8.42	53	251294	19.7114	ug/L		99
5) Methacrylonitrile	9.18	41	115470	19.5632	ug/L		100
6) Isobutyl Alcohol	9.18	43	10262	36.1315	ug/L		98
7) 1-Butanol	10.07	56	966	8.6690	ug/L	#	56
8) Cyclohexanone	15.36	55	3155	36.3382	ug/L	#	84
9) 2-Nitropropane	11.55	43	37782	16.6833	ug/L		100
10) Ethyl Acetate	9.03	43	148946	19.0332	ug/L		100
11) Methyl methacrylate	11.23	41	137715	18.4041	ug/L		98

(#) = qualifier out of range (m) = manual integration
11M15414.D A9FOOW.M Wed Nov 30 09:34:35 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\112916\11M15414.D Vial: 4
Acq On : 29 Nov 2016 17:33 Operator: JDS
Sample : WG593075-03 20ug/L ICAL A9 Inst : hpms11
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 30 9:34 2016 Quant Results File: A9FOOW.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOW.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 112916 HPMS11
Last Update : Wed Nov 30 09:30:53 2016
Response via : Initial Calibration



11M15414.D A9FOOW.M Wed Nov 30 09:34:35 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\112916\11M15415.D Vial: 5
Acq On : 29 Nov 2016 18:02 Operator: JDS
Sample : WG593075-04 50ug/L ICAL A9 Inst : hpms11
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 30 09:34:35 2016 Quant Results File: A9FOOW.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOW.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 112916 HPMS11
Last Update : Wed Nov 30 09:30:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

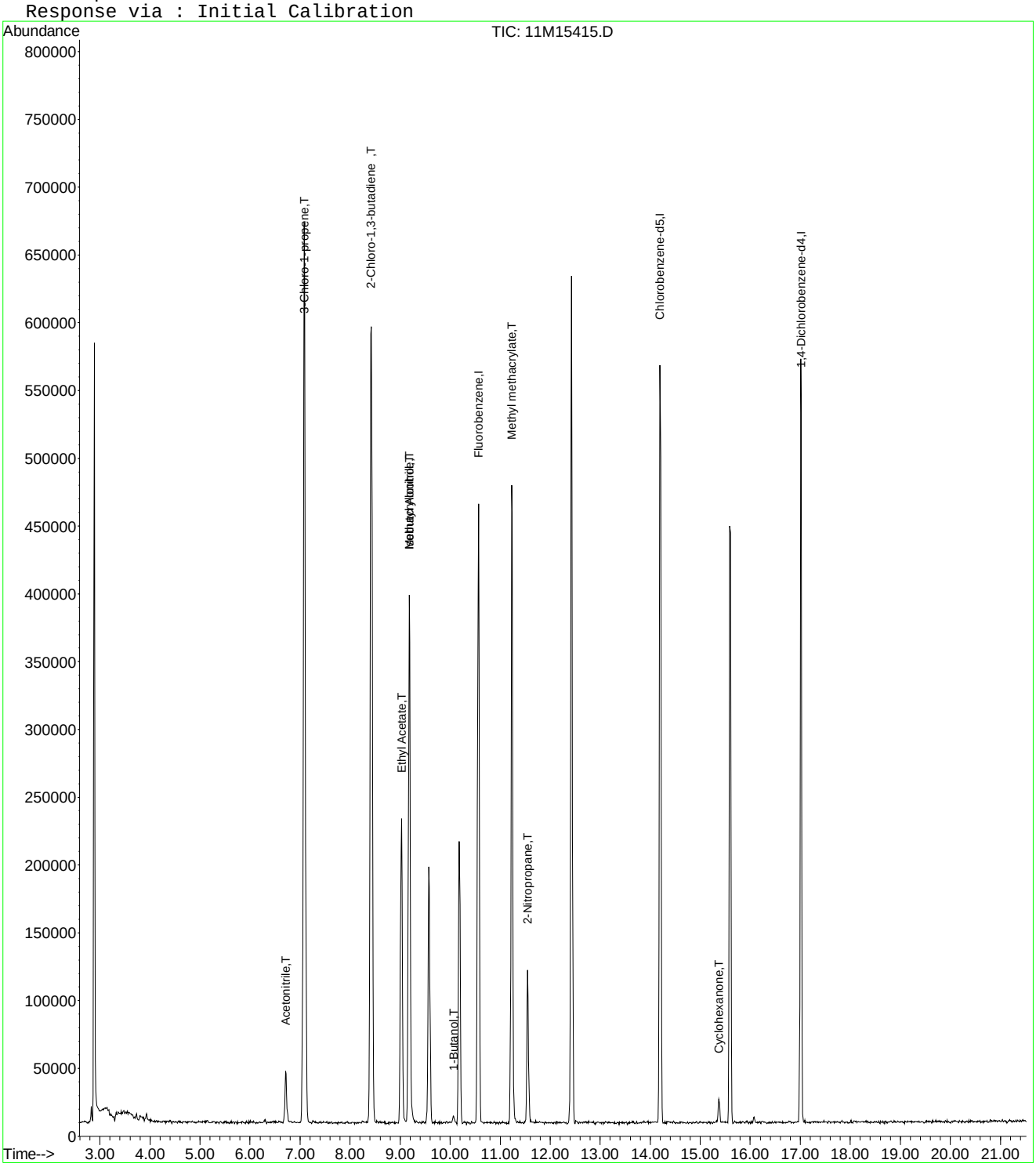
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.57	96	495571	25.00	ug/L		0.00
12) Chlorobenzene-d5	14.20	117	373248	25.00	ug/L		0.00
13) 1,4-Dichlorobenzene-d4	17.02	152	179682	25.00	ug/L		0.01
Target Compounds							Qvalue
2) Acetonitrile	6.71	41	53691	49.3342	ug/L		100
3) 3-Chloro-1-propene	7.08	41	766200	48.1489	ug/L		98
4) 2-Chloro-1,3-butadiene	8.42	53	613583	47.0981	ug/L		100
5) Methacrylonitrile	9.18	41	299019	49.5751	ug/L		100
6) Isobutyl Alcohol	9.18	43	26759	92.1974	ug/L		97
7) 1-Butanol	10.07	56	4000	35.1273	ug/L	#	83
8) Cyclohexanone	15.38	55	9001	57.5193	ug/L	#	93
9) 2-Nitropropane	11.55	43	101680	43.9367	ug/L		99
10) Ethyl Acetate	9.03	43	392821	49.1216	ug/L		100
11) Methyl methacrylate	11.23	41	370524	48.4557	ug/L		99

(#) = qualifier out of range (m) = manual integration
11M15415.D A9FOOW.M Wed Nov 30 09:34:36 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\112916\11M15415.D Vial: 5
Acq On : 29 Nov 2016 18:02 Operator: JDS
Sample : WG593075-04 50ug/L ICAL A9 Inst : hpms11
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 30 9:34 2016 Quant Results File: A9FOOW.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOW.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 112916 HPMS11
Last Update : Wed Nov 30 09:30:53 2016
Response via : Initial Calibration



11M15415.D A9FOOW.M Wed Nov 30 09:34:36 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\112916\11M15416.D Vial: 6
Acq On : 29 Nov 2016 18:30 Operator: JDS
Sample : WG593075-05 100ug/L ICAL A9 Inst : hpms11
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 30 09:34:36 2016 Quant Results File: A9FOOW.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOW.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 112916 HPMS11
Last Update : Wed Nov 30 09:30:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

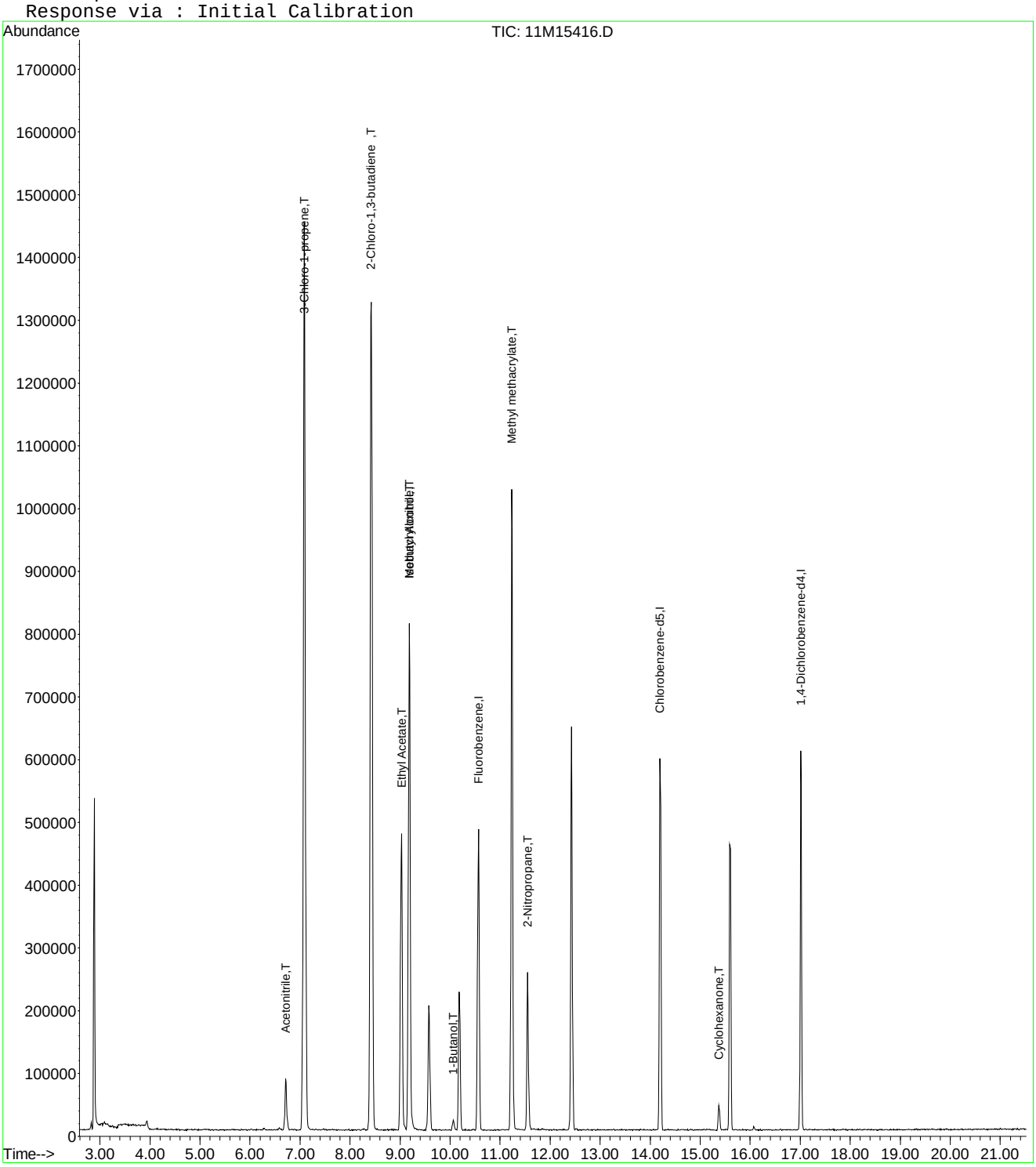
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	517102	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.20	117	388960	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.01	152	191793	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.71	41	111196	97.9186	ug/L	100
3) 3-Chloro-1-propene	7.08	41	1665534	100.3062	ug/L	100
4) 2-Chloro-1,3-butadiene	8.42	53	1369964	100.7788	ug/L	100
5) Methacrylonitrile	9.18	41	619159	98.3777	ug/L	100
6) Isobutyl Alcohol	9.18	43	57155	188.7264	ug/L	100
7) 1-Butanol	10.06	56	10146	85.3904	ug/L	100
8) Cyclohexanone	15.38	55	21531	100.1735	ug/L	100
9) 2-Nitropropane	11.55	43	215849	89.3864	ug/L	100
10) Ethyl Acetate	9.03	43	822119	98.5241	ug/L	100
11) Methyl methacrylate	11.23	41	794951	99.6320	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M15416.D A9FOOW.M Wed Nov 30 09:34:37 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\112916\11M15416.D Vial: 6
Acq On : 29 Nov 2016 18:30 Operator: JDS
Sample : WG593075-05 100ug/L ICAL A9 Inst : hpms11
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 30 9:34 2016 Quant Results File: A9FOOW.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOW.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 112916 HPMS11
Last Update : Wed Nov 30 09:30:53 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\112916\11M15417.D Vial: 7
Acq On : 29 Nov 2016 19:00 Operator: JDS
Sample : WG593075-06 200ug/L ICAL A9 Inst : hpms11
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 30 09:34:37 2016 Quant Results File: A9FOOW.RES

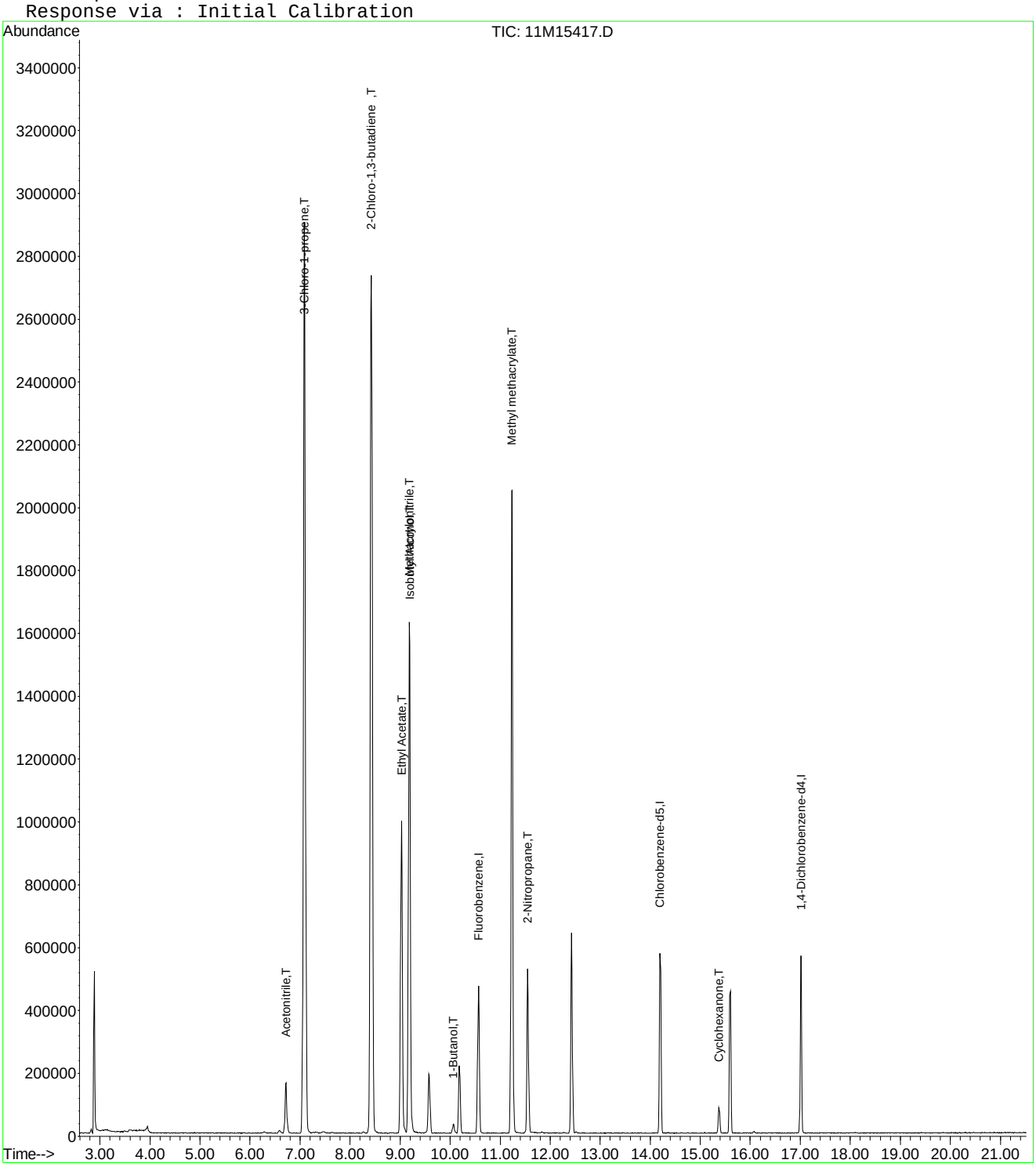
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOW.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 112916 HPMS11
Last Update : Wed Nov 30 09:30:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	501296	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.20	117	384160	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.02	152	189858	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.72	41	221594	201.2872	ug/L	98
3) 3-Chloro-1-propene	7.08	41	3362523	208.8918	ug/L	99
4) 2-Chloro-1,3-butadiene	8.43	53	2817559	213.8036	ug/L	99
5) Methacrylonitrile	9.18	41	1250204	204.9073	ug/L	100
6) Isobutyl Alcohol	9.19	43	113672	387.1809	ug/L	97
7) 1-Butanol	10.06	56	21030	182.5726	ug/L	90
8) Cyclohexanone	15.37	55	42513	178.6109	ug/L	97
9) 2-Nitropropane	11.55	43	478193	204.2710	ug/L	94
10) Ethyl Acetate	9.03	43	1687290	208.5833	ug/L	100
11) Methyl methacrylate	11.23	41	1640102	212.0368	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M15417.D A9FOOW.M Wed Nov 30 09:34:38 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\112916\11M15417.D Vial: 7
Acq On : 29 Nov 2016 19:00 Operator: JDS
Sample : WG593075-06 200ug/L ICAL A9 Inst : hpms11
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 30 9:34 2016 Quant Results File: A9FOOW.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOW.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 112916 HPMS11
Last Update : Wed Nov 30 09:30:53 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\112916\11M15418.D Vial: 8
Acq On : 29 Nov 2016 19:29 Operator: JDS
Sample : WG593075-07 300ug/L ICAL A9 Inst : hpms11
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 30 09:34:39 2016 Quant Results File: A9FOOW.RES

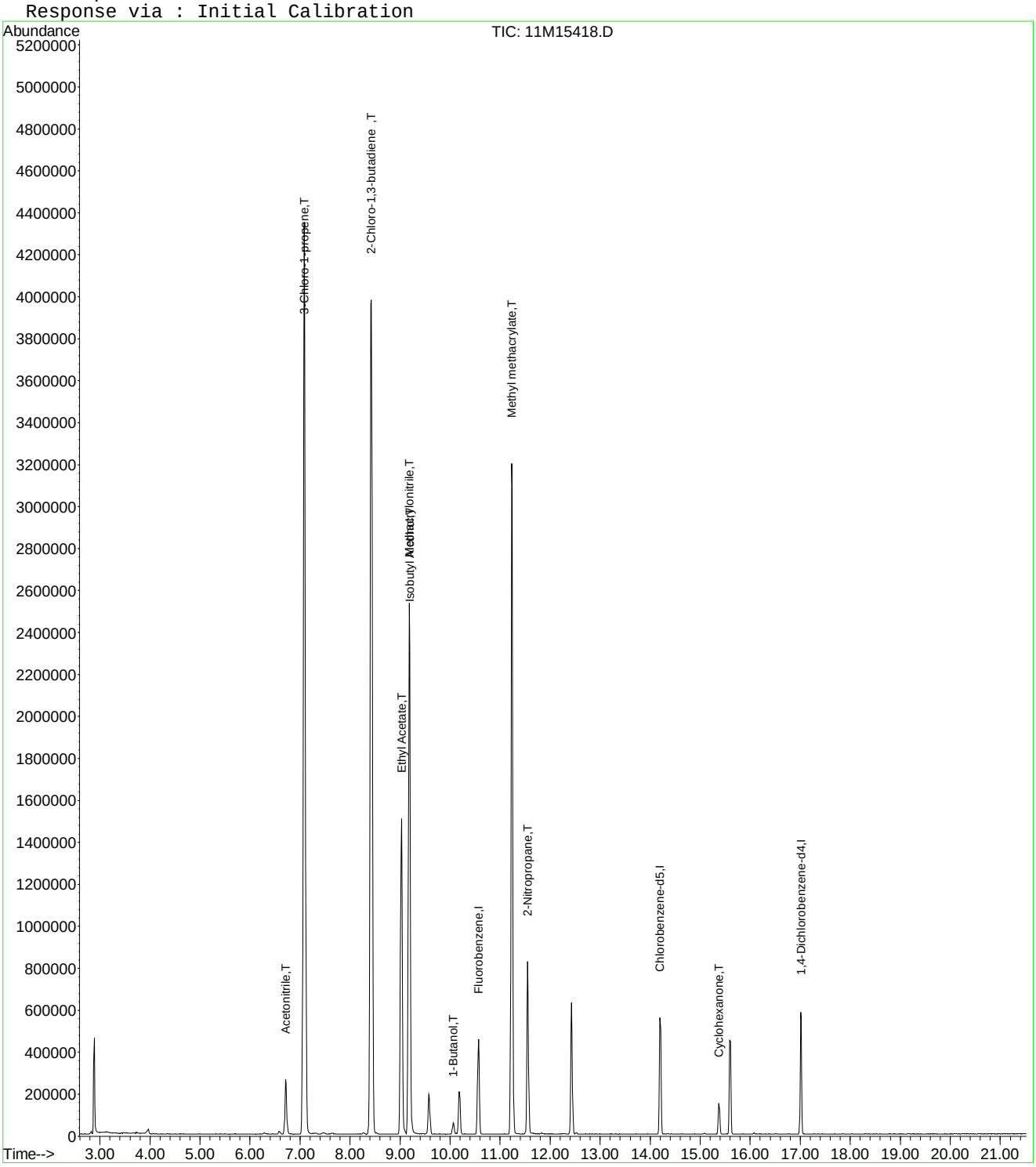
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOW.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 112916 HPMS11
Last Update : Wed Nov 30 09:30:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	493186	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.20	117	372251	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.02	152	188608	25.00	ug/L	0.01
Target Compounds						Qvalue
2) Acetonitrile	6.71	41	348913	322.1504	ug/L	100
3) 3-Chloro-1-propene	7.08	41	4977010	314.2738	ug/L	100
4) 2-Chloro-1,3-butadiene	8.43	53	4171645	321.7606	ug/L	100
5) Methacrylonitrile	9.18	41	1918968	319.6891	ug/L	100
6) Isobutyl Alcohol	9.19	43	190181	658.4322	ug/L	96
7) 1-Butanol	10.06	56	36803	324.7603	ug/L	89
8) Cyclohexanone	15.38	55	79093	315.9140	ug/L	96
9) 2-Nitropropane	11.55	43	740970	321.7271	ug/L	95
10) Ethyl Acetate	9.03	43	2595577	326.1424	ug/L	100
11) Methyl methacrylate	11.23	41	2517881	330.8713	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M15418.D A9FOOW.M Wed Nov 30 09:34:39 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\112916\11M15418.D Vial: 8
Acq On : 29 Nov 2016 19:29 Operator: JDS
Sample : WG593075-07 300ug/L ICAL A9 Inst : hpms11
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 30 9:34 2016 Quant Results File: A9FOOW.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOW.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 112916 HPMS11
Last Update : Wed Nov 30 09:30:53 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\112916\11M15419.D Vial: 9
Acq On : 29 Nov 2016 19:58 Operator: JDS
Sample : WG593075-08 400ug/L ICAL A9 Inst : hpms11
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 30 09:34:40 2016 Quant Results File: A9FOOW.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOW.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 112916 HPMS11
Last Update : Wed Nov 30 09:30:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

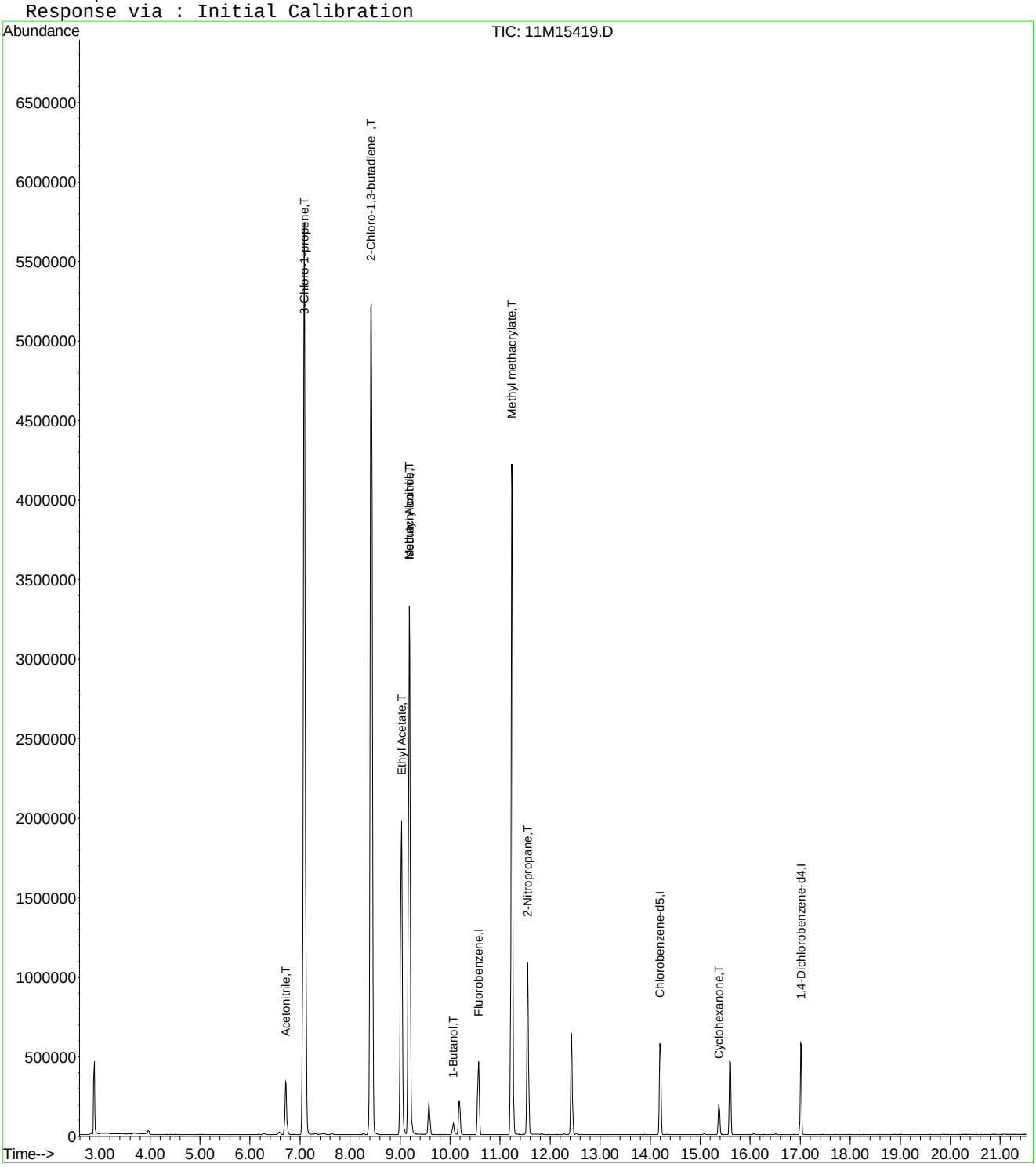
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	498573	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.20	117	381044	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.02	152	190663	25.00	ug/L	0.01
Target Compounds						Qvalue
2) Acetonitrile	6.71	41	452407	413.1929	ug/L	100
3) 3-Chloro-1-propene	7.08	41	6526548	407.6667	ug/L	99
4) 2-Chloro-1,3-butadiene	8.42	53	5466390	417.0692	ug/L	99
5) Methacrylonitrile	9.18	41	2516632	414.7264	ug/L	99
6) Isobutyl Alcohol	9.18	43	249778	855.4214	ug/L	94
7) 1-Butanol	10.06	56	47996	418.9544	ug/L	86
8) Cyclohexanone	15.38	55	102428	397.8081	ug/L	95
9) 2-Nitropropane	11.55	43	988069	424.3814	ug/L	95
10) Ethyl Acetate	9.03	43	3405037	423.2307	ug/L	100
11) Methyl methacrylate	11.23	41	3309181	430.1564	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M15419.D A9FOOW.M Wed Nov 30 09:34:40 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\112916\11M15419.D Vial: 9
Acq On : 29 Nov 2016 19:58 Operator: JDS
Sample : WG593075-08 400ug/L ICAL A9 Inst : hpms11
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 30 9:34 2016 Quant Results File: A9FOOW.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOW.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 112916 HPMS11
Last Update : Wed Nov 30 09:30:53 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\112916\11M15420.D Vial: 10
Acq On : 29 Nov 2016 20:28 Operator: JDS
Sample : WG593075-09 500ug/L ICAL A9 Inst : hpms11
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 30 09:34:41 2016 Quant Results File: A9FOOW.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOW.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 112916 HPMS11
Last Update : Wed Nov 30 09:30:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

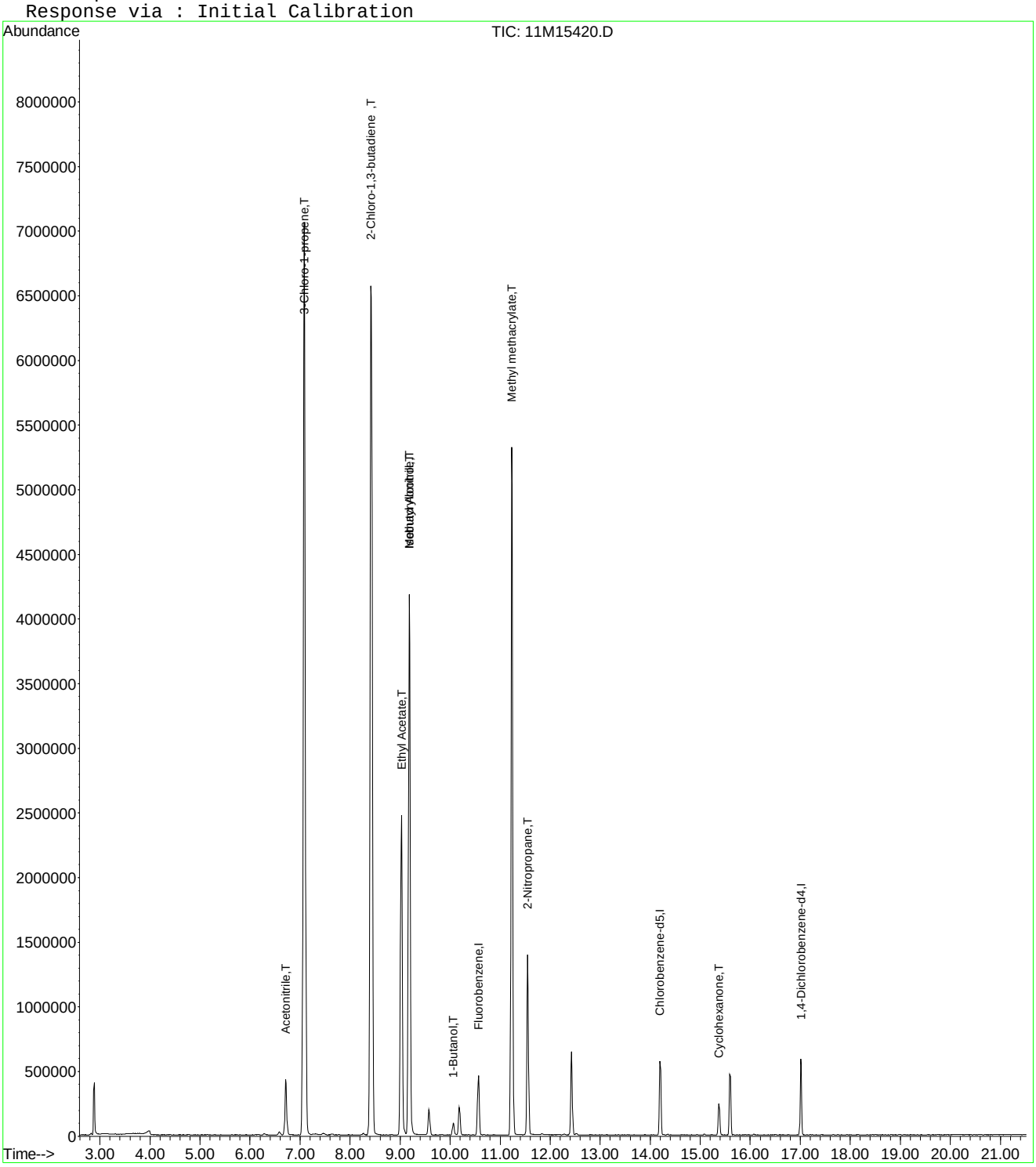
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	505022	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.20	117	379365	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.02	152	188903	25.00	ug/L	0.01
Target Compounds						Qvalue
2) Acetonitrile	6.71	41	574774	518.2498	ug/L	99
3) 3-Chloro-1-propene	7.08	41	8018921	494.4884	ug/L	98
4) 2-Chloro-1,3-butadiene	8.42	53	6811736	513.0785	ug/L	100
5) Methacrylonitrile	9.18	41	3135150	510.0571	ug/L	100
6) Isobutyl Alcohol	9.18	43	324248	1096.2805	ug/L	95
7) 1-Butanol	10.06	56	64016	551.6564	ug/L	89
8) Cyclohexanone	15.38	55	132149	499.9741	ug/L	95
9) 2-Nitropropane	11.55	43	1264877	536.3346	ug/L	95
10) Ethyl Acetate	9.03	43	4265326	523.3907	ug/L	100
11) Methyl methacrylate	11.23	41	4144690	531.8833	ug/L	100

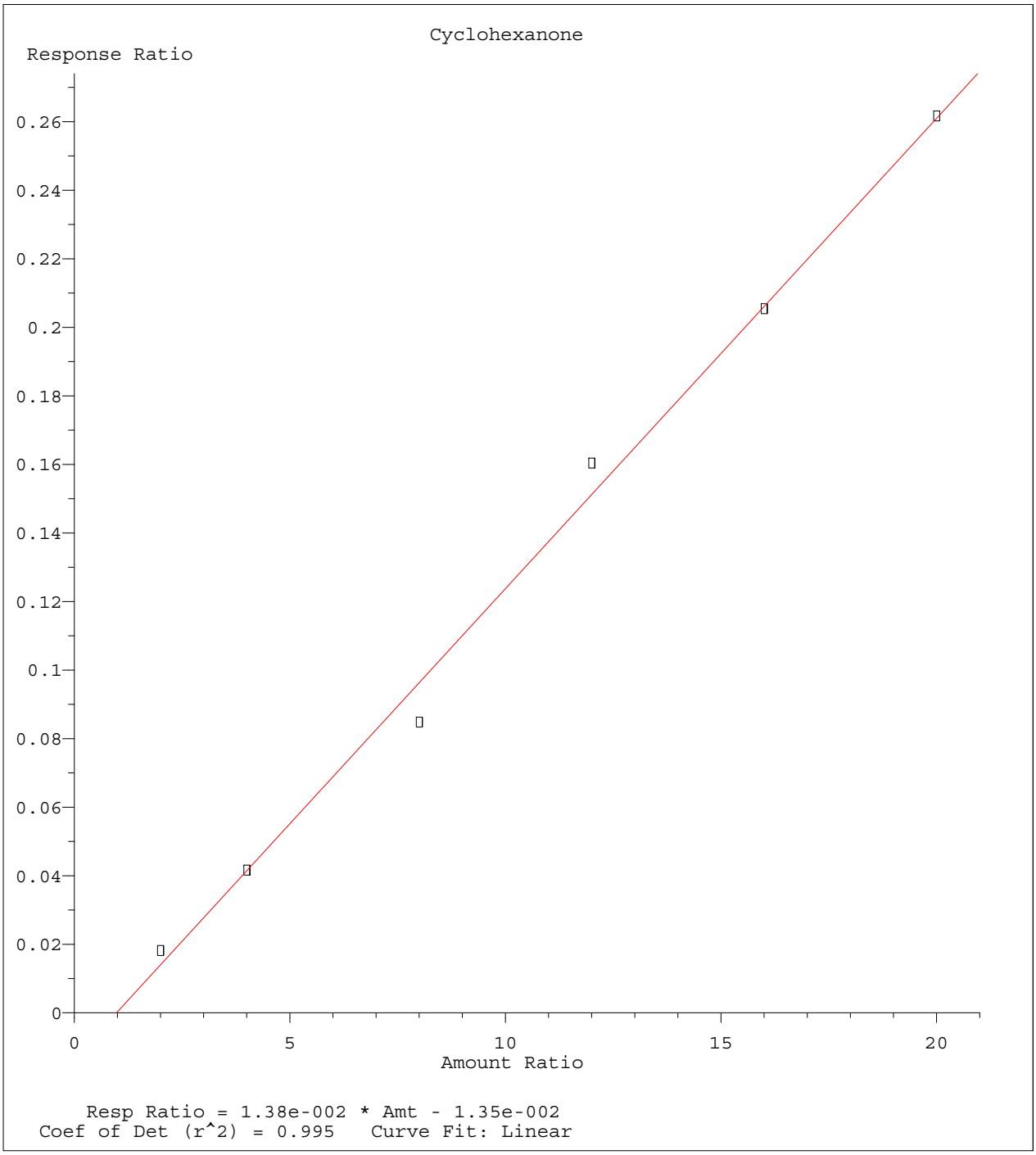
(#) = qualifier out of range (m) = manual integration
11M15420.D A9FOOW.M Wed Nov 30 09:34:41 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\112916\11M15420.D Vial: 10
Acq On : 29 Nov 2016 20:28 Operator: JDS
Sample : WG593075-09 500ug/L ICAL A9 Inst : hpms11
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 30 9:34 2016 Quant Results File: A9FOOW.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOW.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 112916 HPMS11
Last Update : Wed Nov 30 09:30:53 2016
Response via : Initial Calibration





Method Name: C:\MSDCHEM\1\METHODS\A9FOOW.M
Calibration Table Last Updated: Wed Nov 30 09:30:53 2016

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\112916\11M15422.D Vial: 12
Acq On : 29 Nov 2016 21:26 Operator: JDS
Sample : WG593075-10 100ug/L ALT SRC A9 Inst : hpms11
Misc : 1,1 STD79186 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 30 09:34:43 2016 Quant Results File: A9FOOW.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOW.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 112916 HPMS11
Last Update : Wed Nov 30 09:30:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

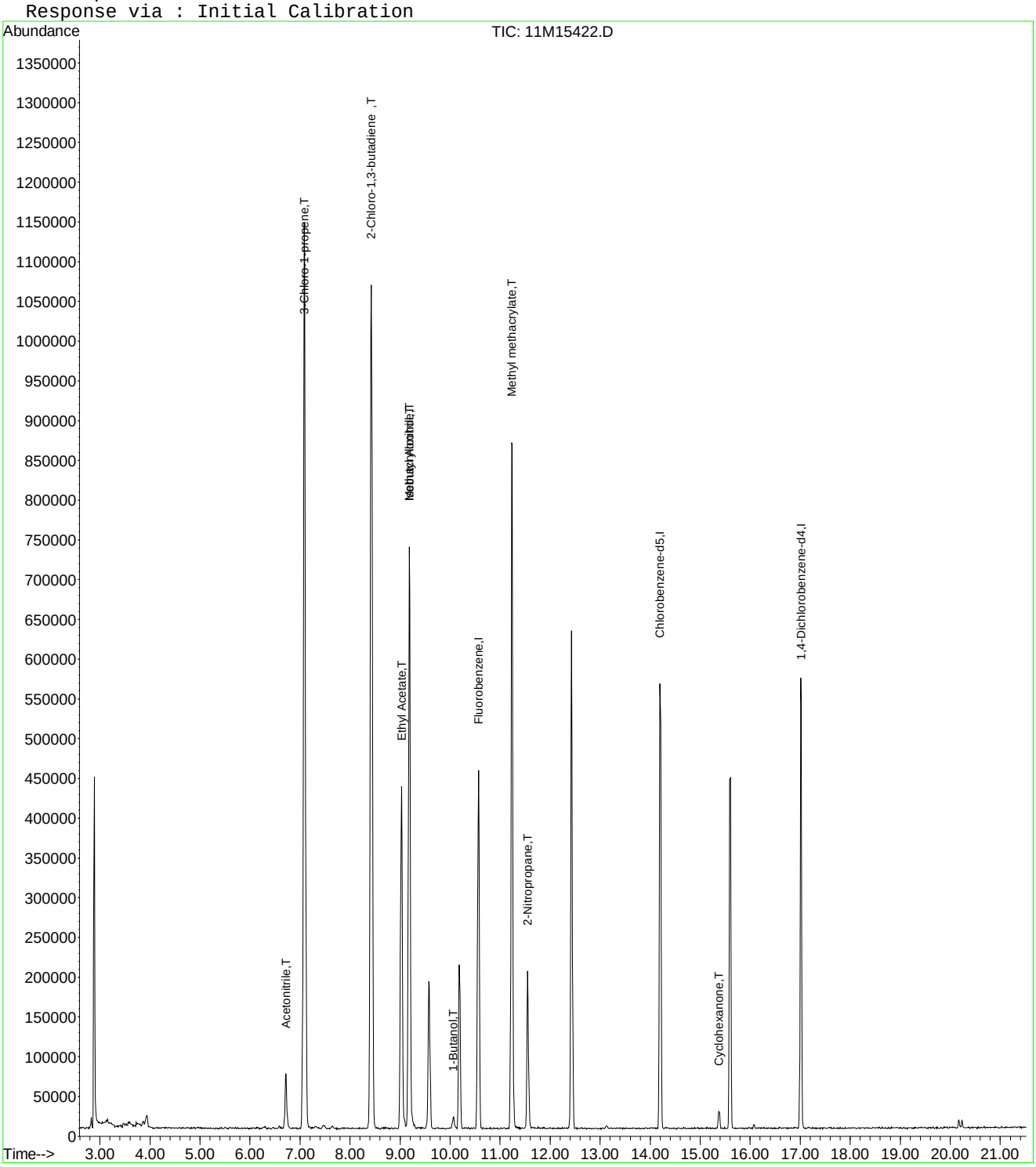
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.57	96	489102	25.00	ug/L		0.00
12) Chlorobenzene-d5	14.20	117	376399	25.00	ug/L		0.00
13) 1,4-Dichlorobenzene-d4	17.02	152	181823	25.00	ug/L		0.01
Target Compounds							Qvalue
2) Acetonitrile	6.72	41	94821	88.2790	ug/L		100
3) 3-Chloro-1-propene	7.08	41	1314710	83.7107	ug/L		99
4) 2-Chloro-1,3-butadiene	8.43	53	1083476	84.2667	ug/L		100
5) Methacrylonitrile	9.18	41	554662	93.1751	ug/L		100
6) Isobutyl Alcohol	9.18	43	51332	179.2022	ug/L		98
7) 1-Butanol	10.06	56	9333	83.0448	ug/L	#	89
8) Cyclohexanone	15.38	55	13104	73.1984	ug/L		98
9) 2-Nitropropane	11.55	43	178328	78.0761	ug/L		95
10) Ethyl Acetate	9.03	43	742706	94.1026	ug/L		99
11) Methyl methacrylate	11.23	41	685111	90.7812	ug/L		99

(#) = qualifier out of range (m) = manual integration
11M15422.D A9FOOW.M Wed Nov 30 09:34:44 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\112916\11M15422.D Vial: 12
Acq On : 29 Nov 2016 21:26 Operator: JDS
Sample : WG593075-10 100ug/L ALT SRC A9 Inst : hpms11
Misc : 1,1 STD79186 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 30 9:34 2016 Quant Results File: A9FOOW.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOW.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 112916 HPMS11
Last Update : Wed Nov 30 09:30:53 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\112916\11M15422.D Vial: 12
Acq On : 29 Nov 2016 21:26 Operator: JDS
Sample : WG593075-10 100ug/L ALT SRC A9 Inst : hpms11
Misc : 1,1 STD79186 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOW.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 112916 HPMS11
Last Update : Wed Nov 30 09:30:53 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	95	0.00
2	T	Acetonitrile	0.0549	0.0485	11.7	85	0.01
3	T	3-Chloro-1-propene	0.8028	0.6720	16.3	79	0.00
4	T	2-Chloro-1,3-butadiene	0.6572	0.5538	15.7	79	0.01
5	T	Methacrylonitrile	0.3043	0.2835	6.8	90	0.00
6	T	Isobutyl Alcohol	0.0146	0.0131	10.4	90	0.00
7	T	1-Butanol	0.0057	0.0048	16.9	92	0.00
8	T	Cyclohexanone	0.0116	0.0067	42.0	61	0.00
9	T	2-Nitropropane	0.1168	0.0911	21.9	83	0.00
10	T	Ethyl Acetate	0.4034	0.3796	5.9	90	0.00
11	T	Methyl methacrylate	0.3857	0.3502	9.2	86	0.00
12	I	Chlorobenzene-d5	1.0000	1.0000	0.0	97	0.00
13	I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	95	0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M15422.D A9FOOW.M Wed Nov 30 09:56:23 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\112916\11M15422.D Vial: 12
Acq On : 29 Nov 2016 21:26 Operator: JDS
Sample : WG593075-10 100ug/L ALT SRC A9 Inst : hpms11
Misc : 1,1 STD79186 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOW.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 112916 HPMS11
Last Update : Wed Nov 30 09:30:53 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	95	0.00
2	T	Acetonitrile	100.0000	88.2790	11.7	85	0.01
3	T	3-Chloro-1-propene	100.0000	83.7107	16.3	79	0.00
4	T	2-Chloro-1,3-butadiene	100.0000	84.2667	15.7	79	0.01
5	T	Methacrylonitrile	100.0000	93.1751	6.8	90	0.00
6	T	Isobutyl Alcohol	200.0000	179.2022	10.4	90	0.00
7	T	1-Butanol	100.0000	83.0448	17.0	92	0.00
8	T	Cyclohexanone	100.0000	73.1984	26.8	61	0.00
9	T	2-Nitropropane	100.0000	78.0761	21.9	83	0.00
10	T	Ethyl Acetate	100.0000	94.1026	5.9	90	0.00
11	T	Methyl methacrylate	100.0000	90.7812	9.2	86	0.00
12	I	Chlorobenzene-d5	25.0000	25.0000	0.0	97	0.00
13	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	95	0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M15422.D A9FOOW.M Wed Nov 30 09:56:21 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\022517\11M16437.D Vial: 2
Acq On : 25 Feb 2017 17:04 Operator: ADC
Sample : WG601938-02 0.3ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 14:52:05 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Mon Feb 27 17:01:15 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	576766	25.00	ug/L	0.01
56) Chlorobenzene-d5	14.19	117	388895	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.00	152	185134	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	10.17	65	187	0.0258	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.12%#		
57) Toluene-d8	12.41	98	1204	0.0550	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.24%#		
78) p-Bromofluorobenzene	15.58	95	484	0.0624	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.24%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.24	85	2598	0.2880	ug/L #	83
3) Chloromethane	3.69	50	5068	0.4214	ug/L	96
4) Vinyl Chloride	3.92	62	3076	0.3215	ug/L	92
5) 1,3-Butadiene	3.97	54	2454	Below Cal	#	1
6) Bromomethane	4.81	94	2014	0.3326	ug/L	84
7) Chloroethane	4.97	64	1790	0.2962	ug/L #	43
8) Trichlorofluoromethane	5.44	101	3125	0.2855	ug/L	91
10) Isoprene	5.99	67	3462	0.3130	ug/L	87
13) Acetone	6.30	43	966	0.5660	ug/L #	46
14) 1,1-Dichloroethene	6.51	61	3425	0.2826	ug/L	77
16) Dimethyl Sulfide	6.75	62	2381	0.2550	ug/L	95
18) Methyl acetate	7.04	43	1481	0.2774	ug/L #	65
19) Methylene Chloride	7.26	84	2546	0.3472	ug/L	97
20) Carbon Disulfide	7.31	76	6533	0.3213	ug/L	93
22) Methyl Tert Butyl Ether	7.47	73	5573	0.3008	ug/L	91
23) trans-1,2-Dichloroethene	7.70	96	1787	0.2654	ug/L	75
24) n-Hexane	7.78	57	3278	0.2982	ug/L #	71
26) Vinyl Acetate	8.26	43	3929	0.2997	ug/L #	77
27) 1,1-Dichloroethane	8.29	63	4487	0.3065	ug/L #	89
29) 2-Butanone	8.82	43	994	0.3457	ug/L #	55
31) 2,2-Dichloropropane	9.04	77	3220	0.3060	ug/L #	58
32) cis-1,2-Dichloroethene	9.09	96	2080	0.2651	ug/L	85
33) Chloroform	9.30	83	4173	0.3274	ug/L	93
35) Bromochloromethane	9.51	130	717	0.1672	ug/L	65
36) Tetrahydrofuran	9.55	42	1335	0.6368	ug/L #	41
38) 1,1,1-Trichloroethane	9.79	97	2940	0.2605	ug/L #	71
39) Cyclohexane	9.83	56	4662	0.3097	ug/L	87
40) 1,1-Dichloropropene	9.98	75	2617	0.2740	ug/L	87
41) Carbon Tetrachloride	10.12	117	2318	0.2418	ug/L #	82
44) 1,2-Dichloroethane	10.29	62	2533	0.2504	ug/L #	71
45) Benzene	10.33	78	8302	0.3022	ug/L	97
46) Trichloroethene	11.03	130	1914	0.2747	ug/L	97
47) Methylcyclohexane	11.12	83	3521	0.2971	ug/L	89
48) 1,2-Dichloropropane	11.23	63	2084	0.2527	ug/L #	73
50) Bromodichloromethane	11.52	83	2110	0.2251	ug/L #	69
51) Dibromomethane	11.60	93	1057	0.2613	ug/L #	66
52) 2-Chloroethyl Vinyl Ether	11.79	63	1073	0.2247	ug/L #	53
54) cis-1,3-Dichloropropene	12.12	75	2991	0.2650	ug/L	98
55) Dimethyl Disulfide	12.36	79	1491	0.2147	ug/L	82
58) Toluene	12.50	91	8897	0.3054	ug/L	98

(#) = qualifier out of range (m) = manual integration
11M16437.D 8260WTR.M Tue Feb 28 14:52:57 2017 Page 1

Data File : C:\MSDCHEM\1\DATA\022517\11M16437.D Vial: 2
Acq On : 25 Feb 2017 17:04 Operator: ADC
Sample : WG601938-02 0.3ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 14:52:05 2017 Quant Results File: 8260WTR.RES

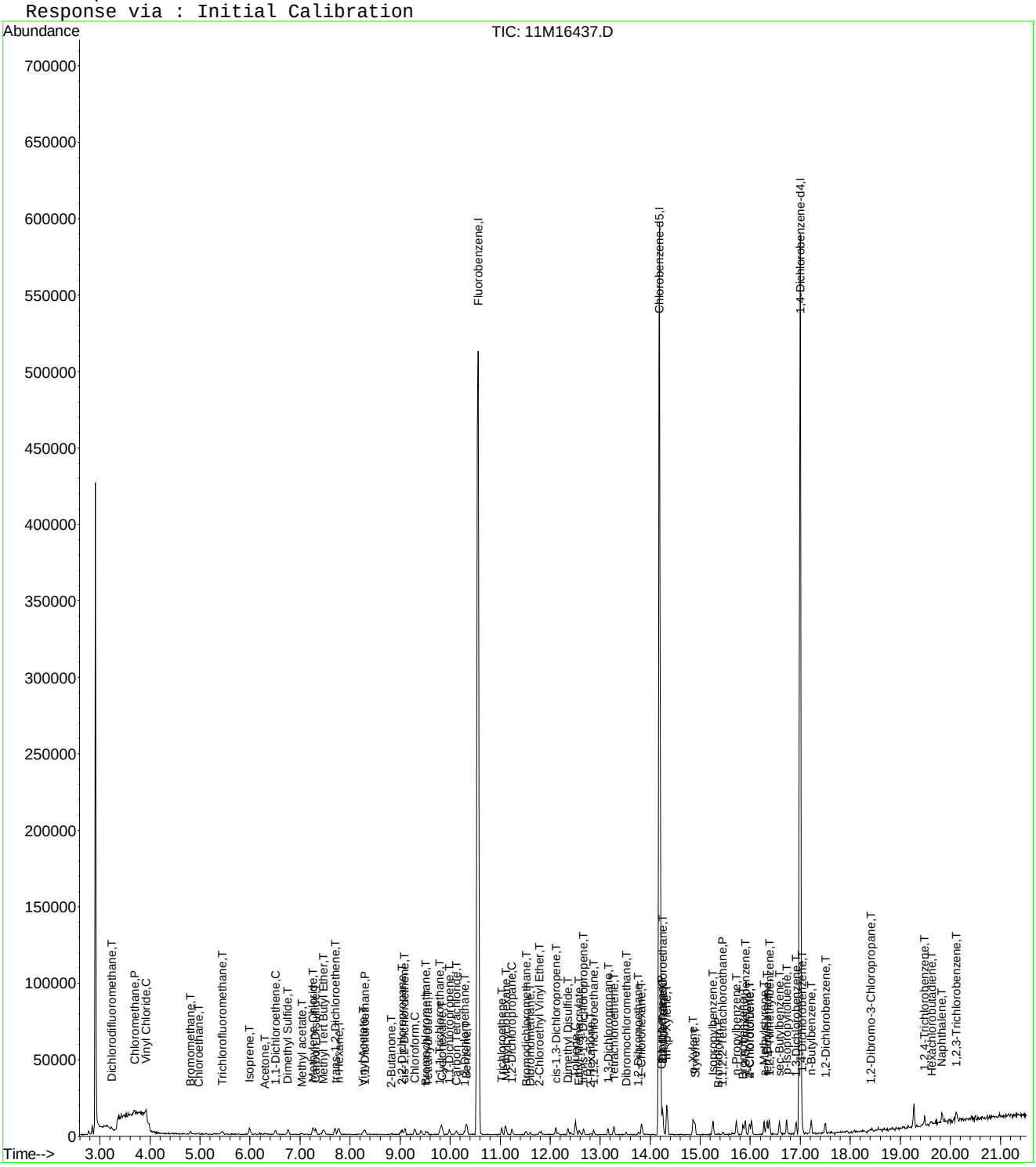
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Mon Feb 27 17:01:15 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
59)	Ethyl Methacrylate	12.57	69	2135	0.2760 ug/L		94
60)	trans-1,3-Dichloropropene	12.67	75	2684	0.2856 ug/L		86
61)	1,1,2-Trichloroethane	12.87	97	1368	0.2438 ug/L		93
62)	2-Hexanone	12.81	43	1007	0.2369 ug/L	#	11
63)	1,3-Dichloropropane	13.16	76	2644	0.2760 ug/L		99
64)	Tetrachloroethene	13.28	164	1434	0.2663 ug/L		89
65)	Dibromochloromethane	13.52	129	1553	0.2414 ug/L		87
66)	1,2-Dibromoethane	13.76	107	1369	0.2649 ug/L		88
67)	1-Chlorohexane	13.82	91	2920	0.3264 ug/L		95
68)	Chlorobenzene	14.23	112	4936	0.2836 ug/L		96
69)	1,1,1,2-Tetrachloroethane	14.25	131	1644	0.2522 ug/L		83
70)	Ethylbenzene	14.25	106	2831	0.2923 ug/L		74
71)	m-,p-Xylene	14.33	106	7176	0.6295 ug/L		69
72)	o-Xylene	14.86	106	3239	0.2805 ug/L		77
73)	Styrene	14.90	104	5304	0.2842 ug/L		97
74)	Bromoform	15.36	173	617	0.1488 ug/L	#	28
75)	Isopropylbenzene	15.25	105	8642	0.2865 ug/L		91
77)	1,1,2,2-Tetrachloroethane	15.45	83	1416	0.2224 ug/L		85
81)	n-Propylbenzene	15.73	91	10861	0.3177 ug/L		92
82)	Bromobenzene	15.85	156	2066	0.2883 ug/L		81
83)	1,3,5-Trimethylbenzene	15.90	105	7550	0.3151 ug/L		96
84)	2-Chlorotoluene	15.99	91	7578	0.3223 ug/L		98
85)	4-Chlorotoluene	15.99	91	7577	0.3836 ug/L		95
86)	a-Methylstyrene	16.27	118	3384	0.2851 ug/L		95
87)	tert-Butylbenzene	16.34	134	1204	0.2332 ug/L	#	22
88)	1,2,4-Trimethylbenzene	16.39	105	8000	0.3232 ug/L		81
89)	sec-Butylbenzene	16.58	105	9391	0.3217 ug/L		89
90)	p-Isopropyltoluene	16.73	119	8673	0.3552 ug/L		88
91)	1,3-Dichlorobenzene	16.92	146	4501	0.3372 ug/L		89
92)	1,4-Dichlorobenzene	17.04	146	4750	0.3512 ug/L	#	20
93)	n-Butylbenzene	17.22	91	7653	0.3321 ug/L		90
94)	1,2-Dichlorobenzene	17.51	146	4112	0.3288 ug/L		82
95)	1,2-Dibromo-3-Chloropropan	18.41	75	204	0.1708 ug/L	#	1
96)	1,2,4-Trichlorobenzene	19.48	180	3019	0.3346 ug/L		94
97)	Hexachlorobutadiene	19.62	225	1338	0.2942 ug/L	#	58
98)	Naphthalene	19.83	128	6932	0.3611 ug/L		99
99)	1,2,3-Trichlorobenzene	20.12	180	2813	0.3257 ug/L		95

(#) = qualifier out of range (m) = manual integration
11M16437.D 8260WTR.M Tue Feb 28 14:52:57 2017 Page 2

Data File : C:\MSDCHEM\1\DATA\022517\11M16437.D Vial: 2
Acq On : 25 Feb 2017 17:04 Operator: ADC
Sample : WG601938-02 0.3ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 14:52 2017 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Mon Feb 27 17:01:15 2017
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\022517\11M16437.D Vial: 2
Acq On : 25 Feb 2017 17:04 Operator: ADC
Sample : WG601938-02 0.3ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Mon Feb 27 17:01:15 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.01
2	T	Dichlorodifluoromethane	-1.0000	0.2880	0.0	0	0.02
3	P	Chloromethane	-1.0000	0.4214	0.0	0	0.02
4	C	Vinyl Chloride	-1.0000	0.3215	0.0	0	0.02
5	T	1,3-Butadiene	-1.0000	-0.8969	0.0	0	0.03
6	T	Bromomethane	-1.0000	0.3326	0.0	100	0.01
7	T	Chloroethane	-1.0000	0.2962	0.0	100	0.02
8	T	Trichlorofluoromethane	-1.0000	0.2855	0.0	100	0.01
9	T	Diethyl ether	-1.0000	0.0000	0.0	0	-5.95#
10	T	Isoprene	-1.0000	0.3130	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	0.1161	0.0	100	0.01
13	T	Acetone	-1.0000	0.5660	0.0	100	0.02
14	C	1,1-Dichloroethene	-1.0000	0.2826	0.0	100	0.02
15	T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.60#
16	T	Dimethyl Sulfide	-1.0000	0.2550	0.0	100	0.00
17	T	Iodomethane	-1.0000	0.0000	0.0	0	-7.00#
18	T	Methyl acetate	-1.0000	0.2774	0.0	100	0.03
19	T	Methylene Chloride	-1.0000	0.3472	0.0	0	0.00
20	T	Carbon Disulfide	-1.0000	0.3213	0.0	0	0.01
21	T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.42#
22	T	Methyl Tert Butyl Ether	-1.0000	0.3008	0.0	0	0.01
23	T	trans-1,2-Dichloroethene	-1.0000	0.2654	0.0	100	0.01
24	T	n-Hexane	-1.0000	0.2982	0.0	100	0.01
25	T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-8.09#
26	T	Vinyl Acetate	-1.0000	0.2997	0.0	100	0.01
27	P	1,1-Dichloroethane	-1.0000	0.3065	0.0	0	0.01
28	T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.63#
29	T	2-Butanone	-1.0000	0.3457	0.0	100	0.00
30	T	Propionitrile	-1.0000	0.0000	0.0	0	-8.91#
31	T	2,2-Dichloropropane	-1.0000	0.3060	0.0	0	0.01
32	T	cis-1,2-Dichloroethene	-1.0000	0.2651	0.0	100	0.00
33	C	Chloroform	0.3000	0.3274	-9.1	100	0.00
34	T	1-Bromopropane	-1.0000	0.0000	0.0	0	-9.42#
35	T	Bromochloromethane	-1.0000	0.1672	0.0	100	0.00
36	T	Tetrahydrofuran	-1.0000	0.6368	0.0	100	0.02
37	S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-9.56#
38	T	1,1,1-Trichloroethane	-1.0000	0.2605	0.0	100	0.00
39	T	Cyclohexane	-1.0000	0.3097	0.0	0	0.01
40	T	1,1-Dichloropropene	-1.0000	0.2740	0.0	100	0.00
41	T	Carbon Tetrachloride	-1.0000	0.2418	0.0	100	0.00
42	T	Tert-Amyl-Methyl ether	-1.0000	0.0000	0.0	0	-10.07#
43	S	1,2-Dichloroethane-d4	-1.0000	0.0258	0.0	100	0.00
44	T	1,2-Dichloroethane	-1.0000	0.2504	0.0	100	0.00
45	T	Benzene	-1.0000	0.3022	0.0	0	0.01
46	T	Trichloroethene	-1.0000	0.2747	0.0	100	0.00
47	T	Methylcyclohexane	-1.0000	0.2971	0.0	0	0.01
48	C	1,2-Dichloropropane	-1.0000	0.2527	0.0	100	0.00
49	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.50#
50	T	Bromodichloromethane	-1.0000	0.2251	0.0	100	0.00
51	T	Dibromomethane	-1.0000	0.2613	0.0	100	0.00
52	T	2-Chloroethyl Vinyl Ether	-1.0000	0.2247	0.0	100	0.00
53	T	4-Methyl-2-Pentanone	-1.0000	0.0818	0.0	100	0.01
54	T	cis-1,3-Dichloropropene	-1.0000	0.2650	0.0	0	0.01

(#) = Out of Range
11M16437.D 8260WTR.M Tue Feb 28 14:52:54 2017 Page 1

Data File : C:\MSDCHEM\1\DATA\022517\11M16437.D Vial: 2
Acq On : 25 Feb 2017 17:04 Operator: ADC
Sample : WG601938-02 0.3ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Mon Feb 27 17:01:15 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	Dimethyl Disulfide	-1.0000	0.2147	0.0	100	0.00
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57	S	Toluene-d8	-1.0000	0.0550	0.0	100	0.00
58	C	Toluene	-1.0000	0.3054	0.0	0	0.00
59	T	Ethyl Methacrylate	-1.0000	0.2760	0.0	100	-0.01
60	T	trans-1,3-Dichloropropene	-1.0000	0.2856	0.0	100	0.00
61	T	1,1,2-Trichloroethane	-1.0000	0.2438	0.0	100	0.00
62	T	2-Hexanone	-1.0000	0.2369	0.0	100	0.01
63	T	1,3-Dichloropropane	-1.0000	0.2760	0.0	100	0.01
64	T	Tetrachloroethene	-1.0000	0.2663	0.0	100	0.00
65	T	Dibromochloromethane	-1.0000	0.2414	0.0	100	0.00
66	T	1,2-Dibromoethane	-1.0000	0.2649	0.0	100	0.00
67	T	1-Chlorohexane	-1.0000	0.3264	0.0	100	-0.01
68	P	Chlorobenzene	-1.0000	0.2836	0.0	0	0.00
69	T	1,1,1,2-Tetrachloroethane	-1.0000	0.2522	0.0	100	-0.01
70	C	Ethylbenzene	-1.0000	0.2923	0.0	100	0.00
71	T	m-,p-Xylene	-1.0000	0.6295	0.0	0	0.00
72	T	o-Xylene	-1.0000	0.2805	0.0	100	0.00
73	T	Styrene	-1.0000	0.2842	0.0	0	0.00
74	P	Bromoform	-1.0000	0.1488	0.0	100	0.00
75	T	Isopropylbenzene	-1.0000	0.2865	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	0.2224	0.0	100	-0.01
78	S	p-Bromofluorobenzene	-1.0000	0.0624	0.0	100	0.00
79	T	1,2,3-Trichloropropane	-1.0000	0.0000	0.0	0	-15.63#
80	T	trans-1,4-Dichloro-2-Butene	-1.0000	0.0979	0.0	100	0.01
81	T	n-Propylbenzene	-1.0000	0.3177	0.0	0	0.00
82	T	Bromobenzene	0.3000	0.2883	3.9	100	-0.01
83	T	1,3,5-Trimethylbenzene	-1.0000	0.3151	0.0	0	0.00
84	T	2-Chlorotoluene	-1.0000	0.3223	0.0	0	0.00
85	T	4-Chlorotoluene	-1.0000	0.3836	0.0	0	-0.04
86	T	a-Methylstyrene	-1.0000	0.2851	0.0	100	0.00
87	T	tert-Butylbenzene	-1.0000	0.2332	0.0	100	0.00
88	T	1,2,4-Trimethylbenzene	-1.0000	0.3232	0.0	0	0.01
89	T	sec-Butylbenzene	-1.0000	0.3217	0.0	0	0.00
90	T	p-Isopropyltoluene	-1.0000	0.3552	0.0	0	0.00
91	T	1,3-Dichlorobenzene	-1.0000	0.3372	0.0	0	0.00
92	T	1,4-Dichlorobenzene	-1.0000	0.3512	0.0	0	0.00
93	T	n-Butylbenzene	-1.0000	0.3321	0.0	0	0.00
94	T	1,2-Dichlorobenzene	0.3000	0.3288	-9.6	100	0.00
95	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.1708	0.0	100	-0.01
96	T	1,2,4-Trichlorobenzene	-1.0000	0.3346	0.0	100	0.00
97	T	Hexachlorobutadiene	-1.0000	0.2942	0.0	100	0.00
98	T	Naphthalene	-1.0000	0.3611	0.0	0	0.00
99	T	1,2,3-Trichlorobenzene	0.3000	0.3257	-8.6	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M16437.D 8260WTR.M Tue Feb 28 14:52:54 2017 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\022517\11M16438.D Vial: 3
Acq On : 25 Feb 2017 17:32 Operator: ADC
Sample : WG601938-03 0.4ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 14:52:05 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Mon Feb 27 17:01:15 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	558347	25.00	ug/L	0.01
56) Chlorobenzene-d5	14.19	117	379540	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.00	152	183151	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%#		
57) Toluene-d8	12.41	98	1090	0.0511	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.20%#		
78) 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	3.22	85	3672	0.4205	ug/L #	65
3) Chloromethane	3.67	50	6039	0.5187	ug/L #	23
4) Vinyl Chloride	3.91	62	4629	0.4997	ug/L	89
5) 1,3-Butadiene	3.96	54	3378	Below Cal	#	61
6) Bromomethane	4.80	94	2589	0.4417	ug/L	79
7) Chloroethane	4.96	64	2765	0.4726	ug/L #	55
8) Trichlorofluoromethane	5.44	101	4733	0.4467	ug/L	84
10) Isoprene	5.99	67	4392	0.4102	ug/L	93
12) 1,1,2-Trichloro-1,2,2-Trif	6.18	101	1953	0.3369	ug/L	92
13) Acetone	6.28	43	1139	0.6893	ug/L #	46
14) 1,1-Dichloroethene	6.50	61	5360	0.4569	ug/L	95
16) Dimethyl Sulfide	6.76	62	3770	0.4171	ug/L	89
18) Methyl acetate	7.01	43	2083	0.4031	ug/L #	65
19) Methylene Chloride	7.25	84	3243	0.4568	ug/L	90
20) Carbon Disulfide	7.30	76	9861	0.5009	ug/L	92
22) Methyl Tert Butyl Ether	7.47	73	7416	0.4135	ug/L #	71
23) trans-1,2-Dichloroethene	7.69	96	2692	0.4130	ug/L	89
24) n-Hexane	7.78	57	4313	0.4053	ug/L #	71
26) Vinyl Acetate	8.26	43	4825	0.3802	ug/L #	77
27) 1,1-Dichloroethane	8.28	63	6611	0.4665	ug/L	97
29) 2-Butanone	8.81	43	514	0.1847	ug/L #	55
31) 2,2-Dichloropropane	9.04	77	4551	0.4467	ug/L	79
32) cis-1,2-Dichloroethene	9.10	96	3424	0.4508	ug/L	84
33) Chloroform	9.30	83	6147	0.4982	ug/L	94
34) 1-Bromopropane	9.41	122	189	0.1323	ug/L #	2
35) Bromochloromethane	9.51	130	1656	0.3988	ug/L	96
36) Tetrahydrofuran	9.54	42	1329	0.6549	ug/L #	41
38) 1,1,1-Trichloroethane	9.79	97	4790	0.4385	ug/L #	83
39) Cyclohexane	9.82	56	6609	0.4535	ug/L	92
40) 1,1-Dichloropropene	9.99	75	3875	0.4191	ug/L	87
41) Carbon Tetrachloride	10.11	117	3721	0.4009	ug/L #	87
44) 1,2-Dichloroethane	10.29	62	4285	0.4375	ug/L	86
45) Benzene	10.32	78	12146	0.4567	ug/L	99
46) Trichloroethene	11.03	130	2839	0.4210	ug/L	99
47) Methylcyclohexane	11.10	83	4986	0.4347	ug/L	89
48) 1,2-Dichloropropane	11.24	63	2833	0.3548	ug/L	95
50) Bromodichloromethane	11.52	83	3966	0.4371	ug/L #	82
51) Dibromomethane	11.60	93	1518	0.3876	ug/L	93
52) 2-Chloroethyl Vinyl Ether	11.79	63	1748	0.3782	ug/L #	53
53) 4-Methyl-2-Pentanone	11.81	58	663	0.2745	ug/L #	40

(#) = qualifier out of range (m) = manual integration

Data File : C:\MSDCHEM\1\DATA\022517\11M16438.D Vial: 3
Acq On : 25 Feb 2017 17:32 Operator: ADC
Sample : WG601938-03 0.4ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 14:52:05 2017 Quant Results File: 8260WTR.RES

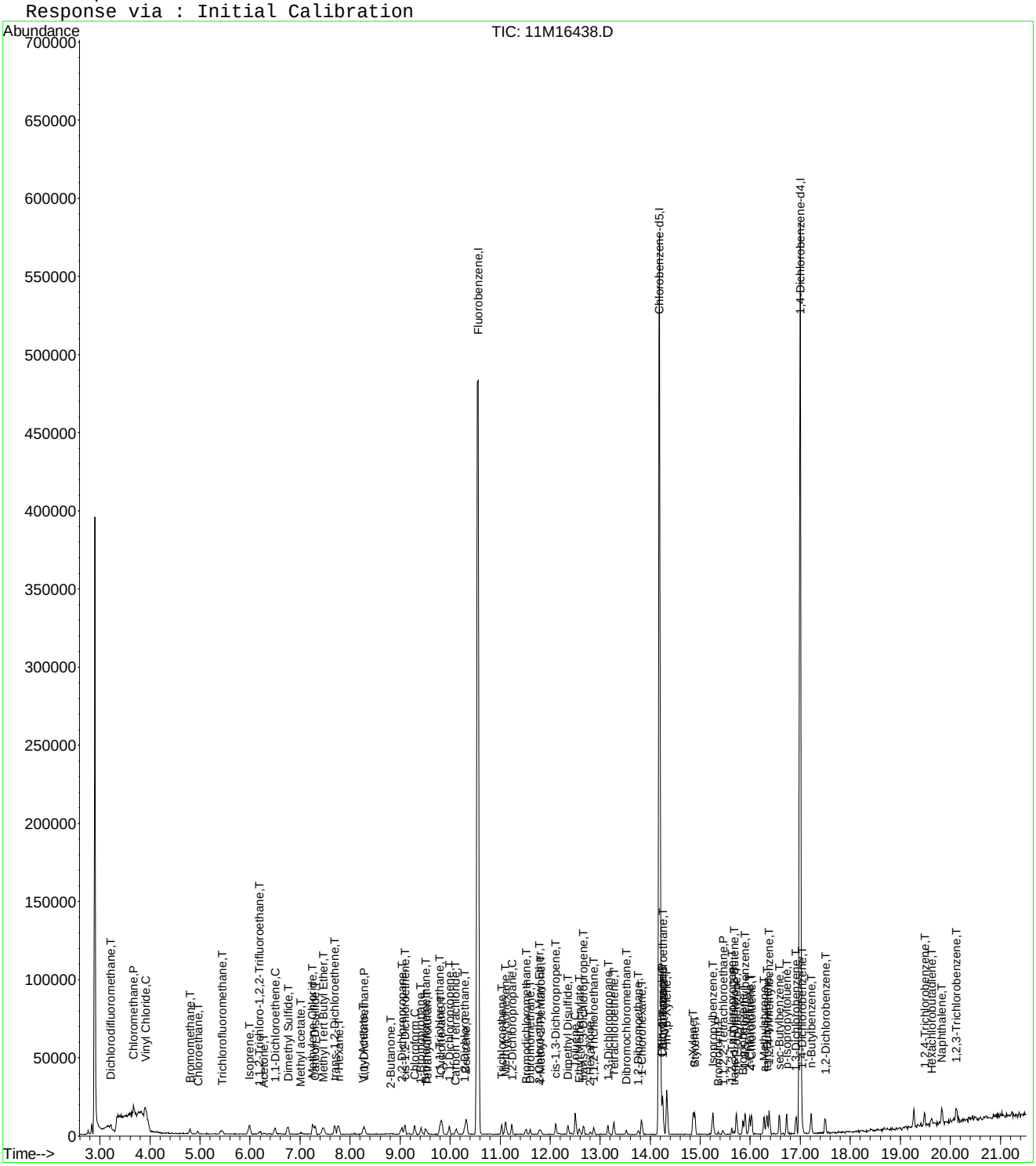
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Mon Feb 27 17:01:15 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
54)	cis-1,3-Dichloropropene	12.11	75	5175	0.4736 ug/L		90
55)	Dimethyl Disulfide	12.36	79	2988	0.4445 ug/L		74
58)	Toluene	12.50	91	12988	0.4568 ug/L		98
59)	Ethyl Methacrylate	12.58	69	2969	0.3933 ug/L		90
60)	trans-1,3-Dichloropropene	12.67	75	3905	0.4258 ug/L		86
61)	1,1,2-Trichloroethane	12.87	97	2249	0.4108 ug/L		88
62)	2-Hexanone	12.80	43	1531	0.3690 ug/L	#	44
63)	1,3-Dichloropropane	13.16	76	4157	0.4446 ug/L		86
64)	Tetrachloroethene	13.28	164	2133	0.4058 ug/L		88
65)	Dibromochloromethane	13.52	129	2387	0.3802 ug/L		95
66)	1,2-Dibromoethane	13.76	107	1992	0.3949 ug/L		98
67)	1-Chlorohexane	13.83	91	3914	0.4483 ug/L		99
68)	Chlorobenzene	14.24	112	7611	0.4480 ug/L		93
69)	1,1,1,2-Tetrachloroethane	14.26	131	2442	0.3838 ug/L		92
70)	Ethylbenzene	14.25	106	3833	0.4056 ug/L		57
71)	m-,p-Xylene	14.33	106	10094	0.9072 ug/L		74
72)	o-Xylene	14.86	106	4987	0.4425 ug/L		83
73)	Styrene	14.89	104	7767	0.4264 ug/L		90
74)	Bromoform	15.36	173	1122	0.2773 ug/L	#	28
75)	Isopropylbenzene	15.25	105	13242	0.4499 ug/L		88
77)	1,1,2,2-Tetrachloroethane	15.46	83	2663	0.4228 ug/L		92
79)	1,2,3-Trichloropropane	15.63	110	574	0.3176 ug/L	#	49
80)	trans-1,4-Dichloro-2-Buten	15.67	53	542	0.2460 ug/L	#	1
81)	n-Propylbenzene	15.73	91	16044	0.4744 ug/L		87
82)	Bromobenzene	15.85	156	2887	0.4072 ug/L		77
83)	1,3,5-Trimethylbenzene	15.89	105	10799	0.4555 ug/L		91
84)	2-Chlorotoluene	15.98	91	10783	0.4635 ug/L		98
85)	4-Chlorotoluene	16.03	91	9198	0.4707 ug/L		95
86)	a-Methylstyrene	16.27	118	5291	0.4506 ug/L		91
87)	tert-Butylbenzene	16.34	134	1984	0.3884 ug/L		61
88)	1,2,4-Trimethylbenzene	16.38	105	10950	0.4472 ug/L		100
89)	sec-Butylbenzene	16.58	105	12437	0.4307 ug/L		96
90)	p-Isopropyltoluene	16.73	119	10553	0.4369 ug/L		97
91)	1,3-Dichlorobenzene	16.92	146	6030	0.4566 ug/L		85
92)	1,4-Dichlorobenzene	17.04	146	6659	0.4977 ug/L		99
93)	n-Butylbenzene	17.22	91	10481	0.4597 ug/L		92
94)	1,2-Dichlorobenzene	17.50	146	5771	0.4665 ug/L		85
96)	1,2,4-Trichlorobenzene	19.49	180	4228	0.4737 ug/L		90
97)	Hexachlorobutadiene	19.62	225	1774	0.3943 ug/L	#	61
98)	Naphthalene	19.83	128	8496	0.4474 ug/L		98
99)	1,2,3-Trichlorobenzene	20.12	180	3723	0.4358 ug/L		85

(#) = qualifier out of range (m) = manual integration
11M16438.D 8260WTR.M Tue Feb 28 14:53:27 2017 Page 2

Data File : C:\MSDCHEM\1\DATA\022517\11M16438.D Vial: 3
Acq On : 25 Feb 2017 17:32 Operator: ADC
Sample : WG601938-03 0.4ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 14:52 2017 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Mon Feb 27 17:01:15 2017
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\022517\11M16438.D Vial: 3
Acq On : 25 Feb 2017 17:32 Operator: ADC
Sample : WG601938-03 0.4ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Mon Feb 27 17:01:15 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.01
2	T	Dichlorodifluoromethane	-1.0000	0.4205	0.0	0	0.00
3	P	Chloromethane	-1.0000	0.5187	0.0	0	0.00
4	C	Vinyl Chloride	0.4000	0.4997	-24.9#	100	0.01
5	T	1,3-Butadiene	-1.0000	-0.6405	0.0	0	0.02
6	T	Bromomethane	-1.0000	0.4417	0.0	100	0.00
7	T	Chloroethane	-1.0000	0.4726	0.0	100	0.01
8	T	Trichlorofluoromethane	0.4000	0.4467	-11.7	100	0.01
9	T	Diethyl ether	-1.0000	0.0000	0.0	0	-5.95#
10	T	Isoprene	0.4000	0.4102	-2.5	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	0.3369	0.0	100	-0.01
13	T	Acetone	-1.0000	0.6893	0.0	100	0.00
14	C	1,1-Dichloroethene	0.4000	0.4569	-14.2	100	0.01
15	T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.60#
16	T	Dimethyl Sulfide	0.4000	0.4171	-4.3	100	0.01
17	T	Iodomethane	-1.0000	0.0000	0.0	0	-7.00#
18	T	Methyl acetate	-1.0000	0.4031	0.0	100	0.00
19	T	Methylene Chloride	0.4000	0.4568	-14.2	100	-0.01
20	T	Carbon Disulfide	-1.0000	0.5009	0.0	0	0.00
21	T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.42#
22	T	Methyl Tert Butyl Ether	0.4000	0.4135	-3.4	100	0.01
23	T	trans-1,2-Dichloroethene	0.4000	0.4130	-3.2	100	0.00
24	T	n-Hexane	-1.0000	0.4053	0.0	100	0.01
25	T	Diisopropyl ether	-1.0000	0.0084	0.0	0	0.00
26	T	Vinyl Acetate	-1.0000	0.3802	0.0	100	0.01
27	P	1,1-Dichloroethane	0.4000	0.4665	-16.6	100	0.00
28	T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.63#
29	T	2-Butanone	-1.0000	0.1847	0.0	100	-0.01
30	T	Propionitrile	-1.0000	0.0000	0.0	0	-8.91#
31	T	2,2-Dichloropropane	0.4000	0.4467	-11.7	100	0.01
32	T	cis-1,2-Dichloroethene	0.4000	0.4508	-12.7	100	0.01
33	C	Chloroform	0.4000	0.4981	-24.5#	100	0.00
34	T	1-Bromopropane	-1.0000	0.1323	0.0	100	-0.01
35	T	Bromochloromethane	0.4000	0.3988	0.3	100	0.00
36	T	Tetrahydrofuran	-1.0000	0.6549	0.0	100	0.01
37	S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-9.56#
38	T	1,1,1-Trichloroethane	0.4000	0.4385	-9.6	100	0.00
39	T	Cyclohexane	0.4000	0.4535	-13.4	100	0.00
40	T	1,1-Dichloropropene	0.4000	0.4191	-4.8	100	0.01
41	T	Carbon Tetrachloride	0.4000	0.4009	-0.2	100	-0.01
42	T	Tert-Amyl-Methyl ether	-1.0000	0.0138	0.0	0	-0.08
43	S	1,2-Dichloroethane-d4	-1.0000	0.0000	0.0	0	-10.17#
44	T	1,2-Dichloroethane	0.4000	0.4375	-9.4	100	0.00
45	T	Benzene	0.4000	0.4567	-14.2	100	0.00
46	T	Trichloroethene	0.4000	0.4210	-5.2	100	0.00
47	T	Methylcyclohexane	0.4000	0.4346	-8.7	100	0.00
48	C	1,2-Dichloropropane	0.4000	0.3548	11.3	100	0.01
49	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.50#
50	T	Bromodichloromethane	0.4000	0.4371	-9.3	100	0.00
51	T	Dibromomethane	0.4000	0.3876	3.1	100	0.00
52	T	2-Chloroethyl Vinyl Ether	0.4000	0.3782	5.5	100	0.00
53	T	4-Methyl-2-Pentanone	0.4000	0.2745	31.4#	100	0.00
54	T	cis-1,3-Dichloropropene	0.4000	0.4736	-18.4	100	0.00

(#) = Out of Range
11M16438.D 8260WTR.M Tue Feb 28 14:53:07 2017 Page 1

Data File : C:\MSDCHEM\1\DATA\022517\11M16438.D Vial: 3
Acq On : 25 Feb 2017 17:32 Operator: ADC
Sample : WG601938-03 0.4ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Mon Feb 27 17:01:15 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	Dimethyl Disulfide	0.4000	0.4445	-11.1	100	0.00
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57	S	Toluene-d8	-1.0000	0.0511	0.0	100	0.00
58	C	Toluene	0.4000	0.4568	-14.2	100	0.00
59	T	Ethyl Methacrylate	-1.0000	0.3933	0.0	100	0.00
60	T	trans-1,3-Dichloropropene	-1.0000	0.4258	0.0	100	0.00
61	T	1,1,2-Trichloroethane	0.4000	0.4108	-2.7	100	0.00
62	T	2-Hexanone	-1.0000	0.3690	0.0	100	0.00
63	T	1,3-Dichloropropane	0.4000	0.4446	-11.1	100	0.01
64	T	Tetrachloroethene	0.4000	0.4058	-1.5	100	0.00
65	T	Dibromochloromethane	0.4000	0.3802	5.0	100	0.00
66	T	1,2-Dibromoethane	0.4000	0.3949	1.3	100	0.00
67	T	1-Chlorohexane	0.4000	0.4483	-12.1	100	0.00
68	P	Chlorobenzene	0.4000	0.4480	-12.0	100	0.01
69	T	1,1,1,2-Tetrachloroethane	0.4000	0.3838	4.0	100	0.00
70	C	Ethylbenzene	-1.0000	0.4056	0.0	100	0.00
71	T	m-,p-Xylene	0.8000	0.9072	-13.4	100	0.00
72	T	o-Xylene	0.4000	0.4425	-10.6	100	0.00
73	T	Styrene	0.4000	0.4265	-6.6	100	-0.01
74	P	Bromoform	-1.0000	0.2773	0.0	100	0.00
75	T	Isopropylbenzene	0.4000	0.4499	-12.5	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	0.4000	0.4228	-5.7	100	0.00
78	S	p-Bromofluorobenzene	-1.0000	0.0000	0.0	0	-15.58#
79	T	1,2,3-Trichloropropane	-1.0000	0.3176	0.0	100	0.00
80	T	trans-1,4-Dichloro-2-Butene	-1.0000	0.2460	0.0	100	0.00
81	T	n-Propylbenzene	0.4000	0.4744	-18.6	100	0.00
82	T	Bromobenzene	0.4000	0.4072	-1.8	100	-0.01
83	T	1,3,5-Trimethylbenzene	0.4000	0.4555	-13.9	100	-0.01
84	T	2-Chlorotoluene	0.4000	0.4635	-15.9	100	0.00
85	T	4-Chlorotoluene	0.4000	0.4707	-17.7	100	0.00
86	T	a-Methylstyrene	0.4000	0.4506	-12.6	100	0.00
87	T	tert-Butylbenzene	0.4000	0.3884	2.9	100	0.00
88	T	1,2,4-Trimethylbenzene	0.4000	0.4472	-11.8	100	0.00
89	T	sec-Butylbenzene	-1.0000	0.4307	0.0	0	0.00
90	T	p-Isopropyltoluene	-1.0000	0.4369	0.0	0	0.00
91	T	1,3-Dichlorobenzene	0.4000	0.4566	-14.2	100	0.00
92	T	1,4-Dichlorobenzene	0.4000	0.4978	-24.4	100	0.00
93	T	n-Butylbenzene	0.4000	0.4597	-14.9	100	0.00
94	T	1,2-Dichlorobenzene	0.4000	0.4664	-16.6	100	0.00
95	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-18.43#
96	T	1,2,4-Trichlorobenzene	0.4000	0.4737	-18.4	100	0.01
97	T	Hexachlorobutadiene	0.4000	0.3943	1.4	100	0.00
98	T	Naphthalene	0.4000	0.4474	-11.8	100	0.00
99	T	1,2,3-Trichlorobenzene	0.4000	0.4358	-8.9	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 2
11M16438.D 8260WTR.M Tue Feb 28 14:53:07 2017 Page 2

Data File : C:\MSDCHEM\1\DATA\022517\11M16439.D Vial: 4
Acq On : 25 Feb 2017 18:01 Operator: ADC
Sample : WG601938-04 1.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 14:57:04 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.56	96	560268	25.00	ug/L		0.01
56) Chlorobenzene-d5	14.19	117	388239	25.00	ug/L		0.00
76) 1,4-Dichlorobenzene-d4	17.00	152	194363	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	10.17	65	203	0.0288	ug/L		0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.12%#			
57) Toluene-d8	12.42	98	1025	0.0469	ug/L		0.01
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.20%#			
78) 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	3.22	85	8292	0.9464	ug/L		98
3) Chloromethane	3.67	50	12720	1.0887	ug/L		78
4) Vinyl Chloride	3.91	62	9139	0.9832	ug/L		99
5) 1,3-Butadiene	3.96	54	7721	0.4638	ug/L	#	74
6) Bromomethane	4.80	94	7040	1.1969	ug/L		96
7) Chloroethane	4.95	64	5559	0.9470	ug/L		98
8) Trichlorofluoromethane	5.44	101	10427	0.9806	ug/L		97
9) Diethyl ether	5.96	59	31902	4.9312	ug/L		98
10) Isoprene	5.98	67	10192	0.9486	ug/L		96
11) Acrolein	6.18	56	1223	2.0271	ug/L		94
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	5493	0.9443	ug/L		98
13) Acetone	6.28	43	2118	1.2774	ug/L	#	46
14) 1,1-Dichloroethene	6.49	61	11445	0.9722	ug/L		99
15) Tert-Butyl Alcohol	6.62	59	3210	9.1683	ug/L	#	71
16) Dimethyl Sulfide	6.76	62	8428	0.9292	ug/L		98
17) Iodomethane	7.00	142	218	2.0301	ug/L	#	32
18) Methyl acetate	7.01	43	4541	0.8757	ug/L	#	80
19) Methylene Chloride	7.26	84	7342	1.0307	ug/L		97
20) Carbon Disulfide	7.30	76	20773	1.0516	ug/L		99
21) Acrylonitrile	7.44	53	6048	2.4314	ug/L		93
22) Methyl Tert Butyl Ether	7.47	73	18102	1.0060	ug/L		96
23) trans-1,2-Dichloroethene	7.69	96	5913	0.9040	ug/L		93
24) n-Hexane	7.77	57	9894	0.9265	ug/L	#	90
25) Diisopropyl ether	8.10	45	144402	5.3036	ug/L		93
26) Vinyl Acetate	8.26	43	13226	1.0386	ug/L		96
27) 1,1-Dichloroethane	8.29	63	13914	0.9785	ug/L		96
28) Ethyl-Tert-Butyl ether	8.64	59	128866	5.4395	ug/L		95
29) 2-Butanone	8.83	43	2660	0.9523	ug/L	#	55
30) Propionitrile	8.92	54	3888	4.8951	ug/L	#	71
31) 2,2-Dichloropropane	9.04	77	10182	0.9959	ug/L		99
32) cis-1,2-Dichloroethene	9.10	96	7281	0.9554	ug/L		88
33) Chloroform	9.29	83	13000	1.0499	ug/L		99
34) 1-Bromopropane	9.43	122	1130	0.7881	ug/L		86
35) Bromochloromethane	9.51	130	3870	0.9289	ug/L		99
36) Tetrahydrofuran	9.54	42	10984	5.3939	ug/L		97
38) 1,1,1-Trichloroethane	9.80	97	10705	0.9766	ug/L	#	94
39) Cyclohexane	9.83	56	14126	0.9660	ug/L		98
40) 1,1-Dichloropropene	9.98	75	8899	0.9591	ug/L		100
41) Carbon Tetrachloride	10.11	117	8439	0.9061	ug/L		97
42) Tert-Amyl-Methyl ether	10.08	73	102978	5.3980	ug/L		97

(#) = qualifier out of range (m) = manual integration
11M16439.D 8260WTR.M Tue Feb 28 14:57:27 2017 Page 1

Data File : C:\MSDCHEM\1\DATA\022517\11M16439.D Vial: 4
Acq On : 25 Feb 2017 18:01 Operator: ADC
Sample : WG601938-04 1.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 14:57:04 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

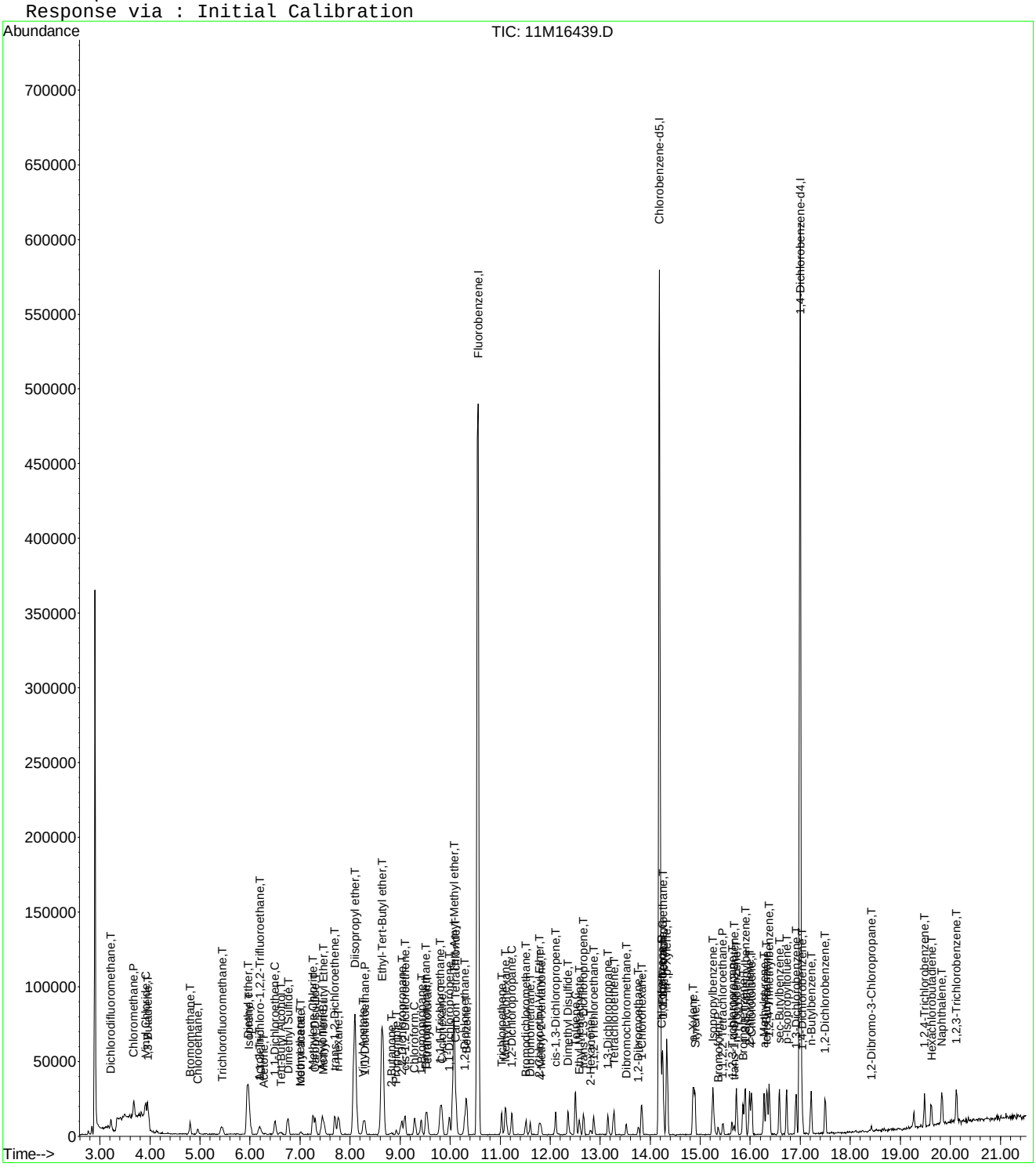
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
44)	1,2-Dichloroethane	10.29	62	9498	0.9665 ug/L		98
45)	Benzene	10.33	78	28312	1.0608 ug/L		97
46)	Trichloroethene	11.03	130	6036	0.8919 ug/L		99
47)	Methylcyclohexane	11.10	83	11043	0.9594 ug/L		95
48)	1,2-Dichloropropane	11.23	63	7544	0.9416 ug/L		94
50)	Bromodichloromethane	11.51	83	8508	0.9345 ug/L	#	96
51)	Dibromomethane	11.60	93	3635	0.9250 ug/L		92
52)	2-Chloroethyl Vinyl Ether	11.79	63	3937	0.8431 ug/L		98
53)	4-Methyl-2-Pentanone	11.82	58	2377	0.9439 ug/L	#	66
54)	cis-1,3-Dichloropropene	12.11	75	11124	1.0145 ug/L		91
55)	Dimethyl Disulfide	12.36	79	5936	0.8801 ug/L		96
58)	Toluene	12.51	91	29601	1.0178 ug/L		88
59)	Ethyl Methacrylate	12.58	69	7007	0.9075 ug/L		91
60)	trans-1,3-Dichloropropene	12.67	75	9473	1.0098 ug/L		93
61)	1,1,2-Trichloroethane	12.87	97	5310	0.9481 ug/L		90
62)	2-Hexanone	12.81	43	3742	0.8817 ug/L	#	67
63)	1,3-Dichloropropane	13.15	76	8984	0.9393 ug/L		89
64)	Tetrachloroethene	13.28	164	5045	0.9384 ug/L		96
65)	Dibromochloromethane	13.52	129	5731	0.8924 ug/L		95
66)	1,2-Dibromoethane	13.76	107	4865	0.9429 ug/L		97
67)	1-Chlorohexane	13.83	91	8208	0.9190 ug/L		93
68)	Chlorobenzene	14.23	112	17328	0.9972 ug/L		98
69)	1,1,1,2-Tetrachloroethane	14.26	131	6240	0.9588 ug/L		99
70)	Ethylbenzene	14.25	106	8925	0.9232 ug/L		61
71)	m-,p-Xylene	14.33	106	22830	2.0060 ug/L		77
72)	o-Xylene	14.86	106	11051	0.9586 ug/L		89
73)	Styrene	14.90	104	17466	0.9375 ug/L		98
74)	Bromoform	15.36	173	3399	0.8212 ug/L		79
75)	Isopropylbenzene	15.25	105	29436	0.9776 ug/L		93
77)	1,1,2,2-Tetrachloroethane	15.45	83	6412	0.9593 ug/L		96
79)	1,2,3-Trichloropropane	15.64	110	1658	0.8644 ug/L		92
80)	trans-1,4-Dichloro-2-Buten	15.67	53	1873	0.8010 ug/L		71
81)	n-Propylbenzene	15.73	91	34174	0.9522 ug/L		94
82)	Bromobenzene	15.86	156	7494	0.9960 ug/L		98
83)	1,3,5-Trimethylbenzene	15.90	105	23447	0.9320 ug/L		97
84)	2-Chlorotoluene	15.99	91	23769	0.9628 ug/L		92
85)	4-Chlorotoluene	16.03	91	19583	0.9443 ug/L		91
86)	a-Methylstyrene	16.27	118	10791	0.8659 ug/L		98
87)	tert-Butylbenzene	16.33	134	5344	0.9859 ug/L		93
88)	1,2,4-Trimethylbenzene	16.38	105	24688	0.9501 ug/L		91
89)	sec-Butylbenzene	16.58	105	29679	0.9685 ug/L		92
90)	p-Isopropyltoluene	16.73	119	24018	0.9370 ug/L		93
91)	1,3-Dichlorobenzene	16.92	146	13104	0.9351 ug/L		92
92)	1,4-Dichlorobenzene	17.04	146	13094	0.9223 ug/L	#	65
93)	n-Butylbenzene	17.22	91	22139	0.9150 ug/L		93
94)	1,2-Dichlorobenzene	17.49	146	12559	0.9566 ug/L		99
95)	1,2-Dibromo-3-Chloropropan	18.43	75	929	0.7411 ug/L		87
96)	1,2,4-Trichlorobenzene	19.48	180	8699	0.9184 ug/L		91
97)	Hexachlorobutadiene	19.62	225	4463	0.9347 ug/L		91
98)	Naphthalene	19.83	128	20129	0.9988 ug/L		99
99)	1,2,3-Trichlorobenzene	20.12	180	8682	0.9576 ug/L		93

(#) = qualifier out of range (m) = manual integration
11M16439.D 8260WTR.M Tue Feb 28 14:57:27 2017 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\022517\11M16439.D Vial: 4
Acq On : 25 Feb 2017 18:01 Operator: ADC
Sample : WG601938-04 1.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 14:57 2017 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\022517\11M16439.D Vial: 4
Acq On : 25 Feb 2017 18:01 Operator: ADC
Sample : WG601938-04 1.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.01
2	T	Dichlorodifluoromethane	1.0000	0.9464	5.4	100	0.00
3	P	Chloromethane	1.0000	1.0887	-8.9	100	0.00
4	C	Vinyl Chloride	1.0000	0.9832	1.7	100	0.01
5	T	1,3-Butadiene	1.0000	0.4638	53.6#	100	0.02
6	T	Bromomethane	1.0000	1.1969	-19.7	100	0.00
7	T	Chloroethane	1.0000	0.9470	5.3	100	0.00
8	T	Trichlorofluoromethane	1.0000	0.9806	1.9	100	0.01
9	T	Diethyl ether	5.0000	4.9312	1.4	100	0.01
10	T	Isoprene	1.0000	0.9486	5.1	100	-0.01
11	T	Acrolein	2.5000	2.0271	18.9	100	0.01
12	T	1,1,2-Trichloro-1,2,2-Trifl	1.0000	0.9443	5.6	100	0.00
13	T	Acetone	-1.0000	1.2774	0.0	100	0.00
14	C	1,1-Dichloroethene	1.0000	0.9722	2.8	100	0.00
15	T	Tert-Butyl Alcohol	10.0000	9.1683	8.3	100	0.02
16	T	Dimethyl Sulfide	1.0000	0.9292	7.1	100	0.01
17	T	Iodomethane	-1.0000	2.0301	0.0	0	0.00
18	T	Methyl acetate	-1.0000	0.8757	0.0	100	0.00
19	T	Methylene Chloride	1.0000	1.0307	-3.1	100	0.00
20	T	Carbon Disulfide	1.0000	1.0516	-5.2	100	0.00
21	T	Acrylonitrile	2.5000	2.4314	2.7	100	0.02
22	T	Methyl Tert Butyl Ether	1.0000	1.0060	-0.6	100	0.01
23	T	trans-1,2-Dichloroethene	1.0000	0.9040	9.6	100	0.00
24	T	n-Hexane	-1.0000	0.9265	0.0	100	0.00
25	T	Diisopropyl ether	5.0000	5.3036	-6.1	100	0.01
26	T	Vinyl Acetate	-1.0000	1.0386	0.0	100	0.01
27	P	1,1-Dichloroethane	1.0000	0.9785	2.1	100	0.01
28	T	Ethyl-Tert-Butyl ether	5.0000	5.4395	-8.8	100	0.01
29	T	2-Butanone	-1.0000	0.9523	0.0	100	0.01
30	T	Propionitrile	5.0000	4.8951	2.1	100	0.01
31	T	2,2-Dichloropropane	1.0000	0.9960	0.4	100	0.01
32	T	cis-1,2-Dichloroethene	1.0000	0.9554	4.5	100	0.01
33	C	Chloroform	1.0000	1.0499	-5.0	100	-0.01
34	T	1-Bromopropane	1.0000	0.7881	21.2	100	0.01
35	T	Bromochloromethane	1.0000	0.9289	7.1	100	0.00
36	T	Tetrahydrofuran	5.0000	5.3939	-7.9	100	0.01
37	S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-9.56#
38	T	1,1,1-Trichloroethane	1.0000	0.9766	2.3	100	0.01
39	T	Cyclohexane	1.0000	0.9660	3.4	100	0.01
40	T	1,1-Dichloropropene	1.0000	0.9591	4.1	100	0.00
41	T	Carbon Tetrachloride	1.0000	0.9061	9.4	100	-0.01
42	T	Tert-Amyl-Methyl ether	5.0000	5.3980	-8.0	100	0.01
43	S	1,2-Dichloroethane-d4	-1.0000	0.0288	0.0	100	0.00
44	T	1,2-Dichloroethane	1.0000	0.9665	3.3	100	0.00
45	T	Benzene	1.0000	1.0608	-6.1	100	0.01
46	T	Trichloroethene	1.0000	0.8919	10.8	100	0.00
47	T	Methylcyclohexane	1.0000	0.9594	4.1	100	0.00
48	C	1,2-Dichloropropane	1.0000	0.9416	5.8	100	0.00
49	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.50#
50	T	Bromodichloromethane	1.0000	0.9345	6.5	100	-0.01
51	T	Dibromomethane	1.0000	0.9250	7.5	100	0.00
52	T	2-Chloroethyl Vinyl Ether	1.0000	0.8431	15.7	100	0.00
53	T	4-Methyl-2-Pentanone	1.0000	0.9439	5.6	100	0.01
54	T	cis-1,3-Dichloropropene	1.0000	1.0145	-1.5	100	0.00

(#) = Out of Range
11M16439.D 8260WTR.M Tue Feb 28 14:57:24 2017 Page 1

Data File : C:\MSDCHEM\1\DATA\022517\11M16439.D Vial: 4
Acq On : 25 Feb 2017 18:01 Operator: ADC
Sample : WG601938-04 1.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	Dimethyl Disulfide	1.0000	0.8801	12.0	100	0.00
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57	S	Toluene-d8	-1.0000	0.0469	0.0	100	0.01
58	C	Toluene	1.0000	1.0178	-1.8	100	0.01
59	T	Ethyl Methacrylate	1.0000	0.9075	9.3	100	0.00
60	T	trans-1,3-Dichloropropene	1.0000	1.0098	-1.0	100	0.00
61	T	1,1,2-Trichloroethane	1.0000	0.9481	5.2	100	0.00
62	T	2-Hexanone	-1.0000	0.8817	0.0	100	0.01
63	T	1,3-Dichloropropane	1.0000	0.9393	6.1	100	0.00
64	T	Tetrachloroethene	1.0000	0.9384	6.2	100	0.00
65	T	Dibromochloromethane	1.0000	0.8924	10.8	100	0.00
66	T	1,2-Dibromoethane	1.0000	0.9429	5.7	100	0.00
67	T	1-Chlorohexane	1.0000	0.9190	8.1	100	0.00
68	P	Chlorobenzene	1.0000	0.9971	0.3	100	0.00
69	T	1,1,1,2-Tetrachloroethane	1.0000	0.9588	4.1	100	0.00
70	C	Ethylbenzene	1.0000	0.9232	7.7	100	0.00
71	T	m-,p-Xylene	2.0000	2.0060	-0.3	100	0.00
72	T	o-Xylene	1.0000	0.9586	4.1	100	0.00
73	T	Styrene	1.0000	0.9375	6.3	100	0.00
74	P	Bromoform	1.0000	0.8212	17.9	100	0.00
75	T	Isopropylbenzene	1.0000	0.9776	2.2	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	0.9593	4.1	100	-0.01
78	S	p-Bromofluorobenzene	-1.0000	0.0000	0.0	0	-15.58#
79	T	1,2,3-Trichloropropane	1.0000	0.8644	13.6	100	0.01
80	T	trans-1,4-Dichloro-2-Butene	1.0000	0.8010	19.9	100	0.00
81	T	n-Propylbenzene	1.0000	0.9522	4.8	100	0.00
82	T	Bromobenzene	1.0000	0.9960	0.4	100	0.00
83	T	1,3,5-Trimethylbenzene	1.0000	0.9320	6.8	100	0.00
84	T	2-Chlorotoluene	1.0000	0.9628	3.7	100	0.00
85	T	4-Chlorotoluene	1.0000	0.9443	5.6	100	0.00
86	T	a-Methylstyrene	1.0000	0.8659	13.4	100	0.00
87	T	tert-Butylbenzene	1.0000	0.9859	1.4	100	-0.01
88	T	1,2,4-Trimethylbenzene	1.0000	0.9501	5.0	100	0.00
89	T	sec-Butylbenzene	1.0000	0.9685	3.1	100	0.00
90	T	p-Isopropyltoluene	1.0000	0.9370	6.3	100	0.00
91	T	1,3-Dichlorobenzene	1.0000	0.9351	6.5	100	0.00
92	T	1,4-Dichlorobenzene	1.0000	0.9223	7.8	100	0.00
93	T	n-Butylbenzene	1.0000	0.9150	8.5	100	0.00
94	T	1,2-Dichlorobenzene	1.0000	0.9566	4.3	100	-0.01
95	T	1,2-Dibromo-3-Chloropropane	1.0000	0.7410	25.9#	100	0.00
96	T	1,2,4-Trichlorobenzene	1.0000	0.9184	8.2	100	0.00
97	T	Hexachlorobutadiene	1.0000	0.9347	6.5	100	0.00
98	T	Naphthalene	1.0000	0.9988	0.1	100	0.00
99	T	1,2,3-Trichlorobenzene	1.0000	0.9576	4.2	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M16439.D 8260WTR.M Tue Feb 28 14:57:24 2017 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\022517\11M16440.D Vial: 5
Acq On : 25 Feb 2017 18:30 Operator: ADC
Sample : WG601938-05 2.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 15:10:33 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.56	96	556844	25.00	ug/L		0.01
56) Chlorobenzene-d5	14.19	117	379576	25.00	ug/L		0.00
76) 1,4-Dichlorobenzene-d4	17.00	152	186775	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%#			
57) Toluene-d8	12.42	98	819	0.0384	ug/L		0.01
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.16%#			
78) 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	3.24	85	16841	1.9339	ug/L		99
3) Chloromethane	3.68	50	26901	2.3166	ug/L		92
4) Vinyl Chloride	3.92	62	18356	1.9869	ug/L		97
5) 1,3-Butadiene	3.97	54	14301	2.1637	ug/L	#	76
6) Bromomethane	4.81	94	13743	2.3508	ug/L		98
7) Chloroethane	4.96	64	11530	1.9763	ug/L		97
8) Trichlorofluoromethane	5.45	101	20436	1.9338	ug/L		99
9) Diethyl ether	5.96	59	161311	25.0879	ug/L		98
10) Isoprene	6.00	67	20897	1.9568	ug/L		99
11) Acrolein	6.18	56	6437	10.7349	ug/L		90
12) 1,1,2-Trichloro-1,2,2-Trif	6.20	101	11618	2.0095	ug/L		99
13) Acetone	6.29	43	3595	2.1816	ug/L	#	56
14) 1,1-Dichloroethene	6.50	61	23760	2.0306	ug/L		99
15) Tert-Butyl Alcohol	6.61	59	15709	45.1436	ug/L	#	85
16) Dimethyl Sulfide	6.76	62	17975	1.9940	ug/L		99
17) Iodomethane	7.00	142	2171	2.2805	ug/L		86
18) Methyl acetate	7.02	43	10626	2.0617	ug/L	#	78
19) Methylene Chloride	7.27	84	13856	1.9570	ug/L		93
20) Carbon Disulfide	7.31	76	41588	2.1182	ug/L		99
21) Acrylonitrile	7.43	53	23797	9.6255	ug/L		94
22) Methyl Tert Butyl Ether	7.47	73	36338	2.0318	ug/L		100
23) trans-1,2-Dichloroethene	7.69	96	13127	2.0192	ug/L		99
24) n-Hexane	7.77	57	19776	1.8632	ug/L	#	93
25) Diisopropyl ether	8.10	45	718449	26.5493	ug/L		95
26) Vinyl Acetate	8.26	43	27089	2.1402	ug/L		96
27) 1,1-Dichloroethane	8.29	63	28840	2.0407	ug/L		98
28) Ethyl-Tert-Butyl ether	8.64	59	649383	27.5794	ug/L		95
29) 2-Butanone	8.82	43	5794	2.0871	ug/L	#	80
30) Propionitrile	8.92	54	17536	22.2141	ug/L		98
31) 2,2-Dichloropropane	9.04	77	21864	2.1518	ug/L		98
32) cis-1,2-Dichloroethene	9.10	96	15300	2.0200	ug/L		100
33) Chloroform	9.30	83	24640	2.0022	ug/L		99
34) 1-Bromopropane	9.43	122	2631	1.8461	ug/L		99
35) Bromochloromethane	9.52	130	7526	1.8175	ug/L		91
36) Tetrahydrofuran	9.54	42	48306	23.8675	ug/L		99
38) 1,1,1-Trichloroethane	9.80	97	21538	1.9770	ug/L		98
39) Cyclohexane	9.83	56	29724	2.0452	ug/L		98
40) 1,1-Dichloropropene	9.99	75	19062	2.0670	ug/L		97
41) Carbon Tetrachloride	10.12	117	18246	1.9710	ug/L		98
42) Tert-Amyl-Methyl ether	10.08	73	511122	26.9572	ug/L		97

(#) = qualifier out of range (m) = manual integration

Data File : C:\MSDCHEM\1\DATA\022517\11M16440.D Vial: 5
Acq On : 25 Feb 2017 18:30 Operator: ADC
Sample : WG601938-05 2.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 15:10:33 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

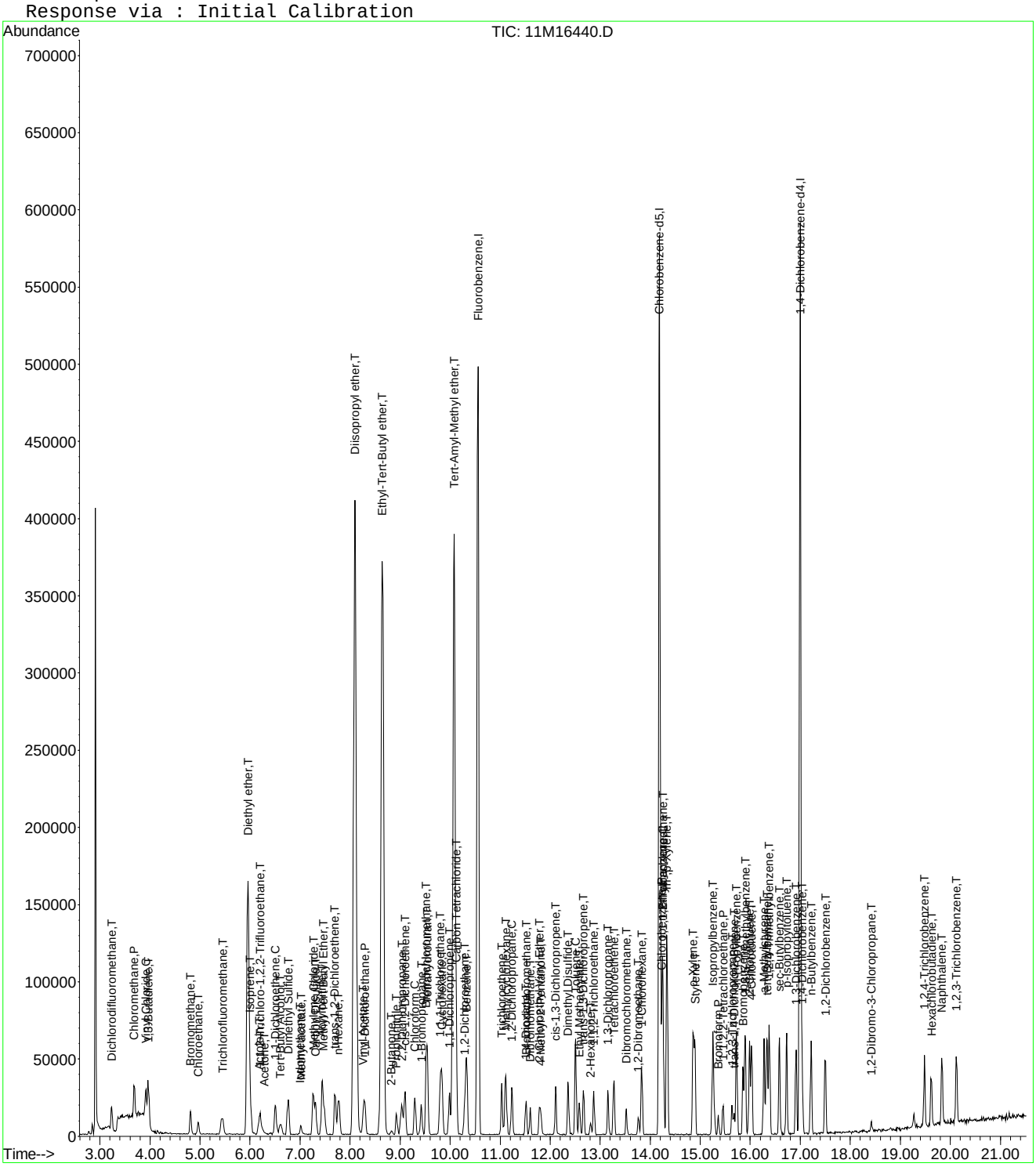
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	1,2-Dichloroethane	10.29	62	19899	2.0374	ug/L		95
45)	Benzene	10.33	78	55569	2.0949	ug/L		96
46)	Trichloroethene	11.03	130	13425	1.9960	ug/L		99
47)	Methylcyclohexane	11.12	83	22799	1.9928	ug/L		99
48)	1,2-Dichloropropane	11.23	63	16379	2.0570	ug/L		95
49)	1,4-Dioxane	11.51	88	316	12.0759	ug/L	#	20
50)	Bromodichloromethane	11.52	83	17781	1.9651	ug/L		98
51)	Dibromomethane	11.60	93	7930	2.0304	ug/L		92
52)	2-Chloroethyl Vinyl Ether	11.79	63	9116	1.9641	ug/L		96
53)	4-Methyl-2-Pentanone	11.81	58	4124	1.6477	ug/L		91
54)	cis-1,3-Dichloropropene	12.11	75	21041	1.9308	ug/L		98
55)	Dimethyl Disulfide	12.36	79	12149	1.8123	ug/L		99
58)	Toluene	12.51	91	58213	2.0473	ug/L		94
59)	Ethyl Methacrylate	12.58	69	13960	1.8492	ug/L		99
60)	trans-1,3-Dichloropropene	12.67	75	17959	1.9582	ug/L		98
61)	1,1,2-Trichloroethane	12.87	97	10986	2.0063	ug/L		99
62)	2-Hexanone	12.81	43	6997	1.6862	ug/L	#	71
63)	1,3-Dichloropropane	13.15	76	19658	2.1022	ug/L		96
64)	Tetrachloroethene	13.28	164	10336	1.9663	ug/L		94
65)	Dibromochloromethane	13.52	129	12123	1.9307	ug/L		94
66)	1,2-Dibromoethane	13.76	107	9588	1.9007	ug/L		93
67)	1-Chlorohexane	13.83	91	17231	1.9732	ug/L		99
68)	Chlorobenzene	14.23	112	35455	2.0869	ug/L		97
69)	1,1,1,2-Tetrachloroethane	14.26	131	12276	1.9293	ug/L		99
70)	Ethylbenzene	14.25	106	20008	2.1168	ug/L		86
71)	m-,p-Xylene	14.33	106	45681	4.1054	ug/L		75
72)	o-Xylene	14.86	106	22607	2.0059	ug/L		88
73)	Styrene	14.90	104	36886	2.0250	ug/L		94
74)	Bromoform	15.36	173	6942	1.7154	ug/L		94
75)	Isopropylbenzene	15.25	105	60231	2.0460	ug/L		93
77)	1,1,2,2-Tetrachloroethane	15.46	83	12792	1.9916	ug/L		97
79)	1,2,3-Trichloropropane	15.64	110	3710	2.0127	ug/L		97
80)	trans-1,4-Dichloro-2-Buten	15.67	53	3790	1.6866	ug/L		77
81)	n-Propylbenzene	15.73	91	71888	2.0844	ug/L		91
82)	Bromobenzene	15.86	156	14957	2.0687	ug/L		100
83)	1,3,5-Trimethylbenzene	15.90	105	48750	2.0165	ug/L		93
84)	2-Chlorotoluene	15.99	91	48665	2.0513	ug/L		92
85)	4-Chlorotoluene	16.03	91	40991	2.0569	ug/L		91
86)	a-Methylstyrene	16.27	118	23916	1.9970	ug/L		98
87)	tert-Butylbenzene	16.34	134	9904	1.9013	ug/L		76
88)	1,2,4-Trimethylbenzene	16.38	105	50864	2.0370	ug/L		94
89)	sec-Butylbenzene	16.58	105	61676	2.0945	ug/L		95
90)	p-Isopropyltoluene	16.73	119	51345	2.0845	ug/L		95
91)	1,3-Dichlorobenzene	16.92	146	26528	1.9699	ug/L		96
92)	1,4-Dichlorobenzene	17.04	146	27551	2.0194	ug/L		92
93)	n-Butylbenzene	17.22	91	44632	1.9196	ug/L		94
94)	1,2-Dichlorobenzene	17.51	146	25621	2.0307	ug/L		98
95)	1,2-Dibromo-3-Chloropropan	18.43	75	2214	1.8378	ug/L		90
96)	1,2,4-Trichlorobenzene	19.48	180	17879	1.9642	ug/L		94
97)	Hexachlorobutadiene	19.62	225	8124	1.7706	ug/L		98
98)	Naphthalene	19.83	128	40083	2.0697	ug/L		100
99)	1,2,3-Trichlorobenzene	20.12	180	17327	1.9888	ug/L		98

(#) = qualifier out of range (m) = manual integration
11M16440.D 8260WTR.M Tue Feb 28 15:10:49 2017 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\022517\11M16440.D Vial: 5
Acq On : 25 Feb 2017 18:30 Operator: ADC
Sample : WG601938-05 2.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 15:10 2017 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\022517\11M16440.D Vial: 5
Acq On : 25 Feb 2017 18:30 Operator: ADC
Sample : WG601938-05 2.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.01
2	T	Dichlorodifluoromethane	2.0000	1.9339	3.3	100	0.02
3	P	Chloromethane	2.0000	2.3166	-15.8	100	0.01
4	C	Vinyl Chloride	2.0000	1.9869	0.7	100	0.02
5	T	1,3-Butadiene	2.0000	2.1637	-8.2	100	0.03
6	T	Bromomethane	2.0000	2.3508	-17.5	100	0.01
7	T	Chloroethane	2.0000	1.9763	1.2	100	0.01
8	T	Trichlorofluoromethane	2.0000	1.9338	3.3	100	0.02
9	T	Diethyl ether	25.0000	25.0879	-0.4	100	0.01
10	T	Isoprene	2.0000	1.9568	2.2	100	0.01
11	T	Acrolein	12.5000	10.7349	14.1	100	0.01
12	T	1,1,2-Trichloro-1,2,2-Trifl	2.0000	2.0095	-0.5	100	0.01
13	T	Acetone	2.0000	2.1816	-9.1	100	0.01
14	C	1,1-Dichloroethene	2.0000	2.0307	-1.5	100	0.01
15	T	Tert-Butyl Alcohol	50.0000	45.1436	9.7	100	0.01
16	T	Dimethyl Sulfide	2.0000	1.9940	0.3	100	0.01
17	T	Iodomethane	2.0000	2.2805	-14.0	100	0.00
18	T	Methyl acetate	2.0000	2.0617	-3.1	100	0.01
19	T	Methylene Chloride	2.0000	1.9570	2.1	100	0.01
20	T	Carbon Disulfide	2.0000	2.1182	-5.9	100	0.01
21	T	Acrylonitrile	12.5000	9.6255	23.0	100	0.01
22	T	Methyl Tert Butyl Ether	2.0000	2.0318	-1.6	100	0.01
23	T	trans-1,2-Dichloroethene	2.0000	2.0192	-1.0	100	0.00
24	T	n-Hexane	2.0000	1.8632	6.8	100	0.00
25	T	Diisopropyl ether	25.0000	26.5493	-6.2	100	0.01
26	T	Vinyl Acetate	2.0000	2.1402	-7.0	100	0.01
27	P	1,1-Dichloroethane	2.0000	2.0407	-2.0	100	0.01
28	T	Ethyl-Tert-Butyl ether	25.0000	27.5794	-10.3	100	0.01
29	T	2-Butanone	2.0000	2.0871	-4.4	100	0.00
30	T	Propionitrile	25.0000	22.2141	11.1	100	0.01
31	T	2,2-Dichloropropane	2.0000	2.1518	-7.6	100	0.01
32	T	cis-1,2-Dichloroethene	2.0000	2.0200	-1.0	100	0.01
33	C	Chloroform	2.0000	2.0022	-0.1	100	0.00
34	T	1-Bromopropane	2.0000	1.8461	7.7	100	0.01
35	T	Bromochloromethane	2.0000	1.8175	9.1	100	0.01
36	T	Tetrahydrofuran	25.0000	23.8675	4.5	100	0.01
37	S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-9.56#
38	T	1,1,1-Trichloroethane	2.0000	1.9770	1.1	100	0.01
39	T	Cyclohexane	2.0000	2.0452	-2.3	100	0.01
40	T	1,1-Dichloropropene	2.0000	2.0670	-3.4	100	0.01
41	T	Carbon Tetrachloride	2.0000	1.9711	1.4	100	0.00
42	T	Tert-Amyl-Methyl ether	25.0000	26.9572	-7.8	100	0.01
43	S	1,2-Dichloroethane-d4	-1.0000	0.0000	0.0	0	-10.17#
44	T	1,2-Dichloroethane	2.0000	2.0374	-1.9	100	0.00
45	T	Benzene	2.0000	2.0949	-4.7	100	0.01
46	T	Trichloroethene	2.0000	1.9960	0.2	100	0.00
47	T	Methylcyclohexane	2.0000	1.9929	0.4	100	0.01
48	C	1,2-Dichloropropane	2.0000	2.0570	-2.9	100	0.00
49	T	1,4-Dioxane	-1.0000	12.0759	0.0	0	0.01
50	T	Bromodichloromethane	2.0000	1.9651	1.7	100	0.00
51	T	Dibromomethane	2.0000	2.0304	-1.5	100	0.00
52	T	2-Chloroethyl Vinyl Ether	2.0000	1.9641	1.8	100	0.00
53	T	4-Methyl-2-Pentanone	2.0000	1.6477	17.6	100	0.00
54	T	cis-1,3-Dichloropropene	2.0000	1.9308	3.5	100	0.00

(#) = Out of Range
11M16440.D 8260WTR.M Tue Feb 28 15:10:46 2017 Page 1

Data File : C:\MSDCHEM\1\DATA\022517\11M16440.D Vial: 5
Acq On : 25 Feb 2017 18:30 Operator: ADC
Sample : WG601938-05 2.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	Dimethyl Disulfide	2.0000	1.8123	9.4	100	0.00
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57	S	Toluene-d8	-1.0000	0.0384	0.0	100	0.01
58	C	Toluene	2.0000	2.0473	-2.4	100	0.01
59	T	Ethyl Methacrylate	2.0000	1.8492	7.5	100	0.00
60	T	trans-1,3-Dichloropropene	2.0000	1.9582	2.1	100	0.00
61	T	1,1,2-Trichloroethane	2.0000	2.0063	-0.3	100	0.00
62	T	2-Hexanone	-1.0000	1.6862	0.0	100	0.01
63	T	1,3-Dichloropropane	2.0000	2.1022	-5.1	100	0.00
64	T	Tetrachloroethene	2.0000	1.9663	1.7	100	0.00
65	T	Dibromochloromethane	2.0000	1.9307	3.5	100	0.00
66	T	1,2-Dibromoethane	2.0000	1.9007	5.0	100	0.00
67	T	1-Chlorohexane	2.0000	1.9732	1.3	100	0.00
68	P	Chlorobenzene	2.0000	2.0869	-4.3	100	0.00
69	T	1,1,1,2-Tetrachloroethane	2.0000	1.9293	3.5	100	0.00
70	C	Ethylbenzene	2.0000	2.1168	-5.8	100	0.00
71	T	m-,p-Xylene	4.0000	4.1054	-2.6	100	0.00
72	T	o-Xylene	2.0000	2.0059	-0.3	100	0.00
73	T	Styrene	2.0000	2.0250	-1.3	100	0.00
74	P	Bromoform	2.0000	1.7154	14.2	100	0.00
75	T	Isopropylbenzene	2.0000	2.0460	-2.3	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	1.9916	0.4	100	0.00
78	S	p-Bromofluorobenzene	-1.0000	0.0000	0.0	0	-15.58#
79	T	1,2,3-Trichloropropane	2.0000	2.0127	-0.6	100	0.01
80	T	trans-1,4-Dichloro-2-Butene	2.0000	1.6866	15.7	100	0.00
81	T	n-Propylbenzene	2.0000	2.0844	-4.2	100	0.00
82	T	Bromobenzene	2.0000	2.0687	-3.4	100	0.00
83	T	1,3,5-Trimethylbenzene	2.0000	2.0165	-0.8	100	0.00
84	T	2-Chlorotoluene	2.0000	2.0513	-2.6	100	0.00
85	T	4-Chlorotoluene	2.0000	2.0569	-2.8	100	0.00
86	T	a-Methylstyrene	2.0000	1.9970	0.1	100	0.00
87	T	tert-Butylbenzene	2.0000	1.9013	4.9	100	0.00
88	T	1,2,4-Trimethylbenzene	2.0000	2.0370	-1.9	100	0.00
89	T	sec-Butylbenzene	2.0000	2.0945	-4.7	100	0.00
90	T	p-Isopropyltoluene	2.0000	2.0845	-4.2	100	0.00
91	T	1,3-Dichlorobenzene	2.0000	1.9699	1.5	100	0.00
92	T	1,4-Dichlorobenzene	2.0000	2.0194	-1.0	100	0.00
93	T	n-Butylbenzene	2.0000	1.9196	4.0	100	0.00
94	T	1,2-Dichlorobenzene	2.0000	2.0307	-1.5	100	0.00
95	T	1,2-Dibromo-3-Chloropropane	2.0000	1.8378	8.1	100	0.00
96	T	1,2,4-Trichlorobenzene	2.0000	1.9642	1.8	100	0.00
97	T	Hexachlorobutadiene	2.0000	1.7706	11.5	100	0.00
98	T	Naphthalene	2.0000	2.0697	-3.5	100	0.00
99	T	1,2,3-Trichlorobenzene	2.0000	1.9888	0.6	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M16440.D 8260WTR.M Tue Feb 28 15:10:46 2017 Page 2

Data File : C:\MSDCHEM\1\DATA\022517\11M16441.D Vial: 6
Acq On : 25 Feb 2017 18:59 Operator: ADC
Sample : WG601938-06 5.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 15:11:28 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	578309	25.00	ug/L	0.01
56) Chlorobenzene-d5	14.19	117	391607	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.00	152	192798	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.56	111	32285	5.3913	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 21.56%#			
43) 1,2-Dichloroethane-d4	10.17	65	38779	5.3289	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 21.32%#			
57) Toluene-d8	12.41	98	123763	5.6191	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 22.48%#			
78) p-Bromofluorobenzene	15.58	95	42235	5.2294	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 20.92%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.23	85	44115	4.8777	ug/L	99
3) Chloromethane	3.68	50	58510	4.8517	ug/L	99
4) Vinyl Chloride	3.91	62	48312	5.0353	ug/L	99
5) 1,3-Butadiene	3.96	54	31574	6.2937	ug/L	92
6) Bromomethane	4.81	94	31493	5.1871	ug/L	99
7) Chloroethane	4.95	64	29958	4.9443	ug/L	97
8) Trichlorofluoromethane	5.44	101	55452	5.0524	ug/L	96
9) Diethyl ether	5.96	59	338178	50.6431	ug/L	100
10) Isoprene	5.99	67	53265	4.8027	ug/L	98
11) Acrolein	6.18	56	16752	26.9002	ug/L	93
12) 1,1,2-Trichloro-1,2,2-Trif	6.20	101	29291	4.8783	ug/L	98
13) Acetone	6.29	43	8513	4.9742	ug/L	94
14) 1,1-Dichloroethene	6.50	61	60159	4.9507	ug/L	99
15) Tert-Butyl Alcohol	6.60	59	39419	109.0755	ug/L	98
16) Dimethyl Sulfide	6.75	62	46714	4.9897	ug/L	99
17) Iodomethane	7.00	142	14601	3.8037	ug/L	95
18) Methyl acetate	7.01	43	26664	4.9814	ug/L	95
19) Methylene Chloride	7.26	84	35590	4.8402	ug/L	96
20) Carbon Disulfide	7.30	76	104018	5.1013	ug/L	99
21) Acrylonitrile	7.43	53	61252	23.8559	ug/L	95
22) Methyl Tert Butyl Ether	7.46	73	94733	5.1003	ug/L	98
23) trans-1,2-Dichloroethene	7.69	96	33622	4.9799	ug/L	98
24) n-Hexane	7.77	57	52231	4.7383	ug/L	97
25) Diisopropyl ether	8.10	45	1459050	51.9159	ug/L	96
26) Vinyl Acetate	8.26	43	69928	5.3197	ug/L	99
27) 1,1-Dichloroethane	8.29	63	74558	5.0799	ug/L	99
28) Ethyl-Tert-Butyl ether	8.64	59	1310563	53.5939	ug/L	97
29) 2-Butanone	8.82	43	13951	4.8388	ug/L	99
30) Propionitrile	8.92	54	42888	52.3128	ug/L	96
31) 2,2-Dichloropropane	9.03	77	53038	5.0261	ug/L	99
32) cis-1,2-Dichloroethene	9.10	96	37974	4.8274	ug/L	92
33) Chloroform	9.30	83	62404	4.8826	ug/L	99
34) 1-Bromopropane	9.43	122	7037	4.7544	ug/L	98
35) Bromochloromethane	9.51	130	21721	5.0508	ug/L	98
36) Tetrahydrofuran	9.53	42	104082	49.5172	ug/L	100
38) 1,1,1-Trichloroethane	9.80	97	56644	5.0065	ug/L	100
39) Cyclohexane	9.82	56	75472	5.0002	ug/L	100
40) 1,1-Dichloropropene	9.98	75	48475	5.0614	ug/L	96
41) Carbon Tetrachloride	10.12	117	48396	5.0340	ug/L	98
42) Tert-Amyl-Methyl ether	10.08	73	1042766	52.9554	ug/L	97

(#) = qualifier out of range (m) = manual integration
11M16441.D 8260WTR.M Tue Feb 28 15:11:29 2017 Page 1

Data File : C:\MSDCHEM\1\DATA\022517\11M16441.D Vial: 6
Acq On : 25 Feb 2017 18:59 Operator: ADC
Sample : WG601938-06 5.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 15:11:28 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

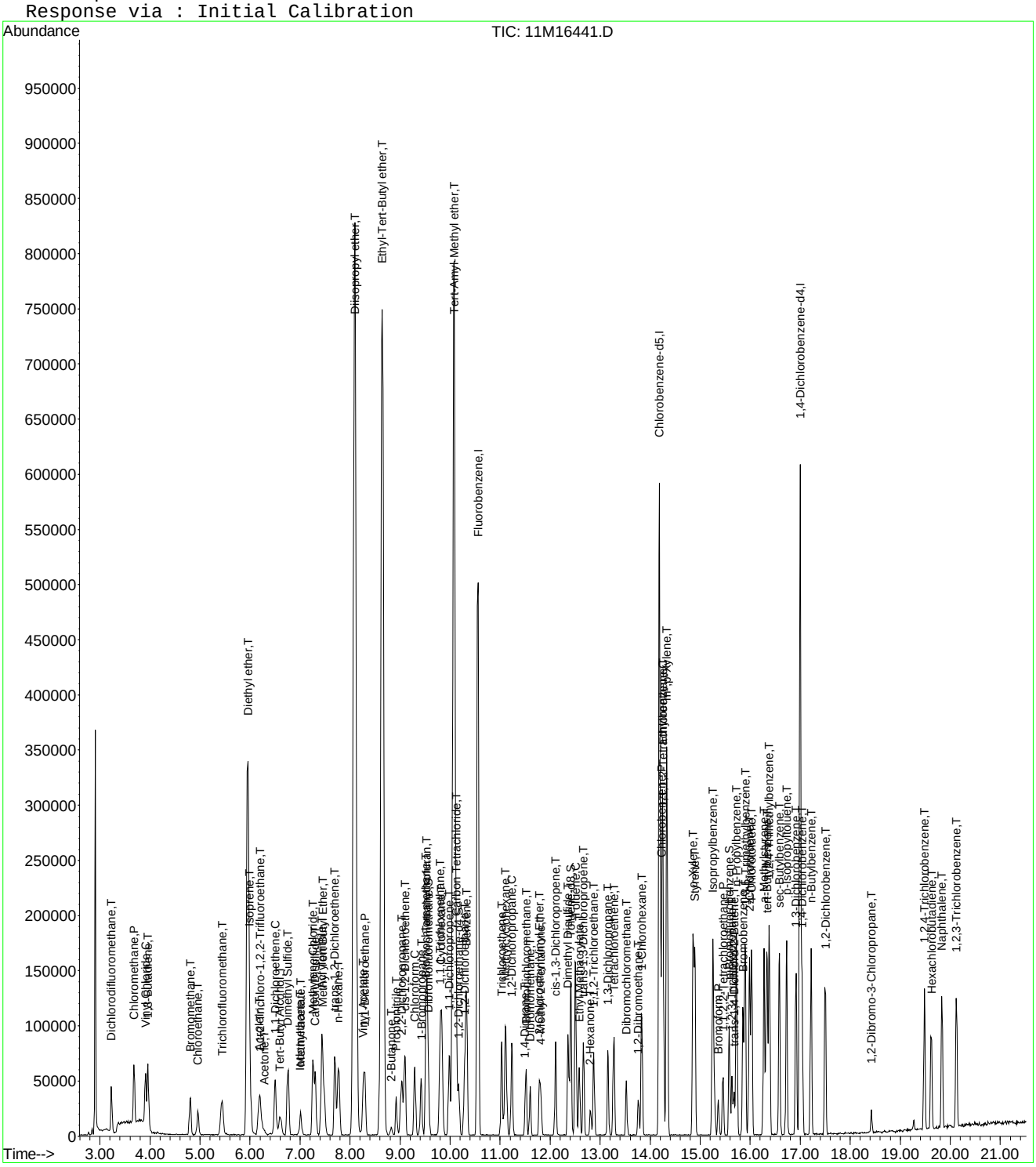
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
44)	1,2-Dichloroethane	10.29	62	52501	5.1758 ug/L	99
45)	Benzene	10.33	78	149389	5.4227 ug/L	94
46)	Trichloroethene	11.03	130	34569	4.9489 ug/L	99
47)	Methylcyclohexane	11.11	83	58664	4.9375 ug/L	99
48)	1,2-Dichloropropane	11.23	63	43039	5.2046 ug/L	95
49)	1,4-Dioxane	11.50	88	2576	94.7876 ug/L	85
50)	Bromodichloromethane	11.52	83	46529	4.9513 ug/L	99
51)	Dibromomethane	11.60	93	19721	4.8620 ug/L	99
52)	2-Chloroethyl Vinyl Ether	11.79	63	22589	4.6863 ug/L	96
53)	4-Methyl-2-Pentanone	11.81	58	12263	4.7177 ug/L	92
54)	cis-1,3-Dichloropropene	12.11	75	57350	5.0673 ug/L	97
55)	Dimethyl Disulfide	12.36	79	32978	4.7368 ug/L	94
58)	Toluene	12.51	91	150695	5.1369 ug/L	95
59)	Ethyl Methacrylate	12.58	69	39448	5.0649 ug/L	99
60)	trans-1,3-Dichloropropene	12.67	75	49684	5.2509 ug/L	97
61)	1,1,2-Trichloroethane	12.87	97	28600	5.0626 ug/L	99
62)	2-Hexanone	12.80	43	20501	4.7888 ug/L	96
63)	1,3-Dichloropropane	13.15	76	51148	5.3016 ug/L	99
64)	Tetrachloroethene	13.28	164	27130	5.0027 ug/L	96
65)	Dibromochloromethane	13.52	129	32318	4.9889 ug/L	99
66)	1,2-Dibromoethane	13.76	107	25925	4.9815 ug/L	98
67)	1-Chlorohexane	13.83	91	44205	4.9067 ug/L	97
68)	Chlorobenzene	14.23	112	92988	5.3050 ug/L	97
69)	1,1,1,2-Tetrachloroethane	14.26	131	33549	5.1105 ug/L	99
70)	Ethylbenzene	14.25	106	50723	5.2014 ug/L	80
71)	m-,p-Xylene	14.33	106	123822	10.7861 ug/L	77
72)	o-Xylene	14.86	106	61007	5.2467 ug/L	88
73)	Styrene	14.89	104	97644	5.1960 ug/L	95
74)	Bromoform	15.36	173	19140	4.5843 ug/L	98
75)	Isopropylbenzene	15.25	105	156790	5.1624 ug/L	94
77)	1,1,2,2-Tetrachloroethane	15.46	83	34317	5.1761 ug/L	99
79)	1,2,3-Trichloropropane	15.63	110	9065	4.7642 ug/L	92
80)	trans-1,4-Dichloro-2-Buten	15.68	53	11581	4.9927 ug/L	96
81)	n-Propylbenzene	15.73	91	191345	5.3748 ug/L	92
82)	Bromobenzene	15.86	156	38985	5.2236 ug/L	96
83)	1,3,5-Trimethylbenzene	15.90	105	130729	5.2386 ug/L	97
84)	2-Chlorotoluene	15.99	91	126591	5.1694 ug/L	96
85)	4-Chlorotoluene	16.03	91	106368	5.1708 ug/L	95
86)	a-Methylstyrene	16.27	118	64397	5.2093 ug/L	99
87)	tert-Butylbenzene	16.34	134	26949	5.0120 ug/L	84
88)	1,2,4-Trimethylbenzene	16.38	105	137485	5.3341 ug/L	95
89)	sec-Butylbenzene	16.58	105	162458	5.3446 ug/L	94
90)	p-Isopropyltoluene	16.73	119	134637	5.2952 ug/L	95
91)	1,3-Dichlorobenzene	16.92	146	74016	5.3245 ug/L	97
92)	1,4-Dichlorobenzene	17.04	146	73058	5.1877 ug/L	98
93)	n-Butylbenzene	17.22	91	121259	5.0523 ug/L	95
94)	1,2-Dichlorobenzene	17.51	146	70936	5.4467 ug/L	97
95)	1,2-Dibromo-3-Chloropropan	18.43	75	6693	5.3823 ug/L	91
96)	1,2,4-Trichlorobenzene	19.48	180	47702	5.0769 ug/L	98
97)	Hexachlorobutadiene	19.62	225	23128	4.8831 ug/L	99
98)	Naphthalene	19.83	128	109786	5.4917 ug/L	97
99)	1,2,3-Trichlorobenzene	20.12	180	46215	5.1389 ug/L	97

(#) = qualifier out of range (m) = manual integration
11M16441.D 8260WTR.M Tue Feb 28 15:11:29 2017 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\022517\11M16441.D Vial: 6
Acq On : 25 Feb 2017 18:59 Operator: ADC
Sample : WG601938-06 5.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 15:11 2017 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\022517\11M16441.D Vial: 6
Acq On : 25 Feb 2017 18:59 Operator: ADC
Sample : WG601938-06 5.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.01
2	T	Dichlorodifluoromethane	5.0000	4.8777	2.4	100	0.01
3	P	Chloromethane	5.0000	4.8517	3.0	100	0.01
4	C	Vinyl Chloride	5.0000	5.0353	-0.7	100	0.01
5	T	1,3-Butadiene	5.0000	6.2938	-25.9#	100	0.02
6	T	Bromomethane	5.0000	5.1871	-3.7	100	0.01
7	T	Chloroethane	5.0000	4.9443	1.1	100	0.00
8	T	Trichlorofluoromethane	5.0000	5.0524	-1.0	100	0.01
9	T	Diethyl ether	50.0000	50.6431	-1.3	100	0.01
10	T	Isoprene	5.0000	4.8027	3.9	100	0.00
11	T	Acrolein	25.0000	26.9002	-7.6	100	0.01
12	T	1,1,2-Trichloro-1,2,2-Trifl	5.0000	4.8783	2.4	100	0.01
13	T	Acetone	5.0000	4.9742	0.5	100	0.01
14	C	1,1-Dichloroethene	5.0000	4.9507	1.0	100	0.01
15	T	Tert-Butyl Alcohol	100.0000	109.0755	-9.1	100	0.00
16	T	Dimethyl Sulfide	5.0000	4.9897	0.2	100	0.00
17	T	Iodomethane	5.0000	3.8037	23.9	100	0.00
18	T	Methyl acetate	5.0000	4.9814	0.4	100	0.00
19	T	Methylene Chloride	5.0000	4.8402	3.2	100	0.00
20	T	Carbon Disulfide	5.0000	5.1013	-2.0	100	0.00
21	T	Acrylonitrile	25.0000	23.8559	4.6	100	0.01
22	T	Methyl Tert Butyl Ether	5.0000	5.1003	-2.0	100	0.00
23	T	trans-1,2-Dichloroethene	5.0000	4.9799	0.4	100	0.00
24	T	n-Hexane	5.0000	4.7383	5.2	100	0.00
25	T	Diisopropyl ether	50.0000	51.9159	-3.8	100	0.01
26	T	Vinyl Acetate	5.0000	5.3197	-6.4	100	0.01
27	P	1,1-Dichloroethane	5.0000	5.0799	-1.6	100	0.01
28	T	Ethyl-Tert-Butyl ether	50.0000	53.5939	-7.2	100	0.01
29	T	2-Butanone	5.0000	4.8388	3.2	100	0.00
30	T	Propionitrile	50.0000	52.3128	-4.6	100	0.01
31	T	2,2-Dichloropropane	5.0000	5.0261	-0.5	100	0.00
32	T	cis-1,2-Dichloroethene	5.0000	4.8274	3.5	100	0.01
33	C	Chloroform	5.0000	4.8826	2.3	100	0.00
34	T	1-Bromopropane	5.0000	4.7545	4.9	100	0.01
35	T	Bromochloromethane	5.0000	5.0507	-1.0	100	0.00
36	T	Tetrahydrofuran	50.0000	49.5172	1.0	100	0.00
37	S	Dibromofluoromethane	5.0000	5.3913	-7.8	100	0.00
38	T	1,1,1-Trichloroethane	5.0000	5.0065	-0.1	100	0.01
39	T	Cyclohexane	5.0000	5.0002	-0.0	100	0.00
40	T	1,1-Dichloropropene	5.0000	5.0614	-1.2	100	0.00
41	T	Carbon Tetrachloride	5.0000	5.0340	-0.7	100	0.00
42	T	Tert-Amyl-Methyl ether	50.0000	52.9554	-5.9	100	0.01
43	S	1,2-Dichloroethane-d4	5.0000	5.3289	-6.6	100	0.00
44	T	1,2-Dichloroethane	5.0000	5.1758	-3.5	100	0.00
45	T	Benzene	5.0000	5.4227	-8.5	100	0.01
46	T	Trichloroethene	5.0000	4.9489	1.0	100	0.00
47	T	Methylcyclohexane	5.0000	4.9375	1.3	100	0.00
48	C	1,2-Dichloropropane	5.0000	5.2046	-4.1	100	0.00
49	T	1,4-Dioxane	100.0000	94.7876	5.2	100	0.00
50	T	Bromodichloromethane	5.0000	4.9513	1.0	100	0.00
51	T	Dibromomethane	5.0000	4.8620	2.8	100	0.00
52	T	2-Chloroethyl Vinyl Ether	5.0000	4.6863	6.3	100	0.00
53	T	4-Methyl-2-Pentanone	5.0000	4.7176	5.6	100	0.00
54	T	cis-1,3-Dichloropropene	5.0000	5.0673	-1.3	100	0.00

(#) = Out of Range
11M16441.D 8260WTR.M Tue Feb 28 15:11:12 2017 Page 1

Data File : C:\MSDCHEM\1\DATA\022517\11M16441.D Vial: 6
Acq On : 25 Feb 2017 18:59 Operator: ADC
Sample : WG601938-06 5.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	Dimethyl Disulfide	5.0000	4.7368	5.3	100	0.00
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57	S	Toluene-d8	5.0000	5.6191	-12.4	100	0.00
58	C	Toluene	5.0000	5.1369	-2.7	100	0.01
59	T	Ethyl Methacrylate	5.0000	5.0649	-1.3	100	0.00
60	T	trans-1,3-Dichloropropene	5.0000	5.2509	-5.0	100	0.00
61	T	1,1,2-Trichloroethane	5.0000	5.0626	-1.3	100	0.00
62	T	2-Hexanone	5.0000	4.7889	4.2	100	0.00
63	T	1,3-Dichloropropane	5.0000	5.3016	-6.0	100	0.00
64	T	Tetrachloroethene	5.0000	5.0027	-0.1	100	0.00
65	T	Dibromochloromethane	5.0000	4.9889	0.2	100	0.00
66	T	1,2-Dibromoethane	5.0000	4.9815	0.4	100	0.00
67	T	1-Chlorohexane	5.0000	4.9067	1.9	100	0.00
68	P	Chlorobenzene	5.0000	5.3050	-6.1	100	0.00
69	T	1,1,1,2-Tetrachloroethane	5.0000	5.1105	-2.2	100	0.00
70	C	Ethylbenzene	5.0000	5.2015	-4.0	100	0.00
71	T	m-,p-Xylene	10.0000	10.7861	-7.9	100	0.00
72	T	o-Xylene	5.0000	5.2467	-4.9	100	0.00
73	T	Styrene	5.0000	5.1960	-3.9	100	0.00
74	P	Bromoform	5.0000	4.5843	8.3	100	0.00
75	T	Isopropylbenzene	5.0000	5.1624	-3.2	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	5.1761	-3.5	100	0.00
78	S	p-Bromofluorobenzene	5.0000	5.2294	-4.6	100	0.00
79	T	1,2,3-Trichloropropane	5.0000	4.7642	4.7	100	0.00
80	T	trans-1,4-Dichloro-2-Butene	5.0000	4.9927	0.1	100	0.00
81	T	n-Propylbenzene	5.0000	5.3748	-7.5	100	0.00
82	T	Bromobenzene	5.0000	5.2236	-4.5	100	0.00
83	T	1,3,5-Trimethylbenzene	5.0000	5.2386	-4.8	100	0.00
84	T	2-Chlorotoluene	5.0000	5.1694	-3.4	100	0.00
85	T	4-Chlorotoluene	5.0000	5.1708	-3.4	100	0.00
86	T	a-Methylstyrene	5.0000	5.2093	-4.2	100	0.00
87	T	tert-Butylbenzene	5.0000	5.0120	-0.2	100	0.00
88	T	1,2,4-Trimethylbenzene	5.0000	5.3341	-6.7	100	0.00
89	T	sec-Butylbenzene	5.0000	5.3446	-6.9	100	0.00
90	T	p-Isopropyltoluene	5.0000	5.2953	-5.9	100	0.00
91	T	1,3-Dichlorobenzene	5.0000	5.3246	-6.5	100	0.00
92	T	1,4-Dichlorobenzene	5.0000	5.1877	-3.8	100	0.00
93	T	n-Butylbenzene	5.0000	5.0523	-1.0	100	0.00
94	T	1,2-Dichlorobenzene	5.0000	5.4467	-8.9	100	0.00
95	T	1,2-Dibromo-3-Chloropropane	5.0000	5.3823	-7.6	100	0.00
96	T	1,2,4-Trichlorobenzene	5.0000	5.0769	-1.5	100	0.00
97	T	Hexachlorobutadiene	5.0000	4.8831	2.3	100	0.00
98	T	Naphthalene	5.0000	5.4916	-9.8	100	0.00
99	T	1,2,3-Trichlorobenzene	5.0000	5.1388	-2.8	100	0.00

Data File : C:\MSDCHEM\1\DATA\022517\11M16442.D Vial: 7
Acq On : 25 Feb 2017 19:28 Operator: ADC
Sample : WG601938-07 20.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 15:11:30 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	561841	25.00	ug/L	0.01
56) Chlorobenzene-d5	14.19	117	393692	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.00	152	194210	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.56	111	55436	9.5286	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 38.12%#			
43) 1,2-Dichloroethane-d4	10.17	65	68160	9.6409	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 38.56%#			
57) Toluene-d8	12.41	98	218532	9.8693	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 39.48%#			
78) p-Bromofluorobenzene	15.58	95	78777	9.6830	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 38.72%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.23	85	192089	21.8615	ug/L	99
3) Chloromethane	3.68	50	229275	19.5688	ug/L	98
4) Vinyl Chloride	3.91	62	182737	19.6038	ug/L	99
5) 1,3-Butadiene	3.96	54	102160	24.4671	ug/L	98
6) Bromomethane	4.81	94	107242	18.1811	ug/L	99
7) Chloroethane	4.96	64	117076	19.8885	ug/L	99
8) Trichlorofluoromethane	5.44	101	209555	19.6529	ug/L	99
9) Diethyl ether	5.96	59	548034	84.4751	ug/L	99
10) Isoprene	5.99	67	227285	21.0941	ug/L	98
11) Acrolein	6.18	56	25928	42.8554	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.20	101	112047	19.2078	ug/L	100
13) Acetone	6.29	43	36047	21.6799	ug/L	99
14) 1,1-Dichloroethene	6.50	61	233488	19.7776	ug/L	99
15) Tert-Butyl Alcohol	6.61	59	73002	207.9231	ug/L	98
16) Dimethyl Sulfide	6.76	62	192215	21.1331	ug/L	100
17) Iodomethane	7.00	142	129704	18.4737	ug/L	100
18) Methyl acetate	7.01	43	108865	20.9344	ug/L	100
19) Methylene Chloride	7.26	84	139039	19.4634	ug/L	98
20) Carbon Disulfide	7.31	76	421954	21.3004	ug/L	98
21) Acrylonitrile	7.43	53	105864	42.4395	ug/L	96
22) Methyl Tert Butyl Ether	7.47	73	377499	20.9196	ug/L	99
23) trans-1,2-Dichloroethene	7.69	96	130203	19.8502	ug/L	100
24) n-Hexane	7.77	57	224741	20.9859	ug/L	99
25) Diisopropyl ether	8.10	45	2252065	82.4818	ug/L	98
26) Vinyl Acetate	8.26	43	288543	22.5941	ug/L	99
27) 1,1-Dichloroethane	8.29	63	295702	20.7377	ug/L	99
28) Ethyl-Tert-Butyl ether	8.64	59	2057827	86.6190	ug/L	98
29) 2-Butanone	8.82	43	58724	20.9651	ug/L	100
30) Propionitrile	8.92	54	71112	89.2815	ug/L	97
31) 2,2-Dichloropropane	9.04	77	204694	19.9660	ug/L	98
32) cis-1,2-Dichloroethene	9.10	96	150088	19.6389	ug/L	99
33) Chloroform	9.30	83	243844	19.6382	ug/L	99
34) 1-Bromopropane	9.42	122	29728	20.6740	ug/L	97
35) Bromochloromethane	9.51	130	82930	19.8488	ug/L	99
36) Tetrahydrofuran	9.53	42	175753	86.0656	ug/L	100
38) 1,1,1-Trichloroethane	9.80	97	219355	19.9562	ug/L	100
39) Cyclohexane	9.83	56	304857	20.7894	ug/L	100
40) 1,1-Dichloropropene	9.99	75	186476	20.0410	ug/L	98
41) Carbon Tetrachloride	10.12	117	190475	20.3933	ug/L	99
42) Tert-Amyl-Methyl ether	10.08	73	1677511	87.6871	ug/L	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\MSDCHEM\1\DATA\022517\11M16442.D Vial: 7
Acq On : 25 Feb 2017 19:28 Operator: ADC
Sample : WG601938-07 20.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 15:11:30 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

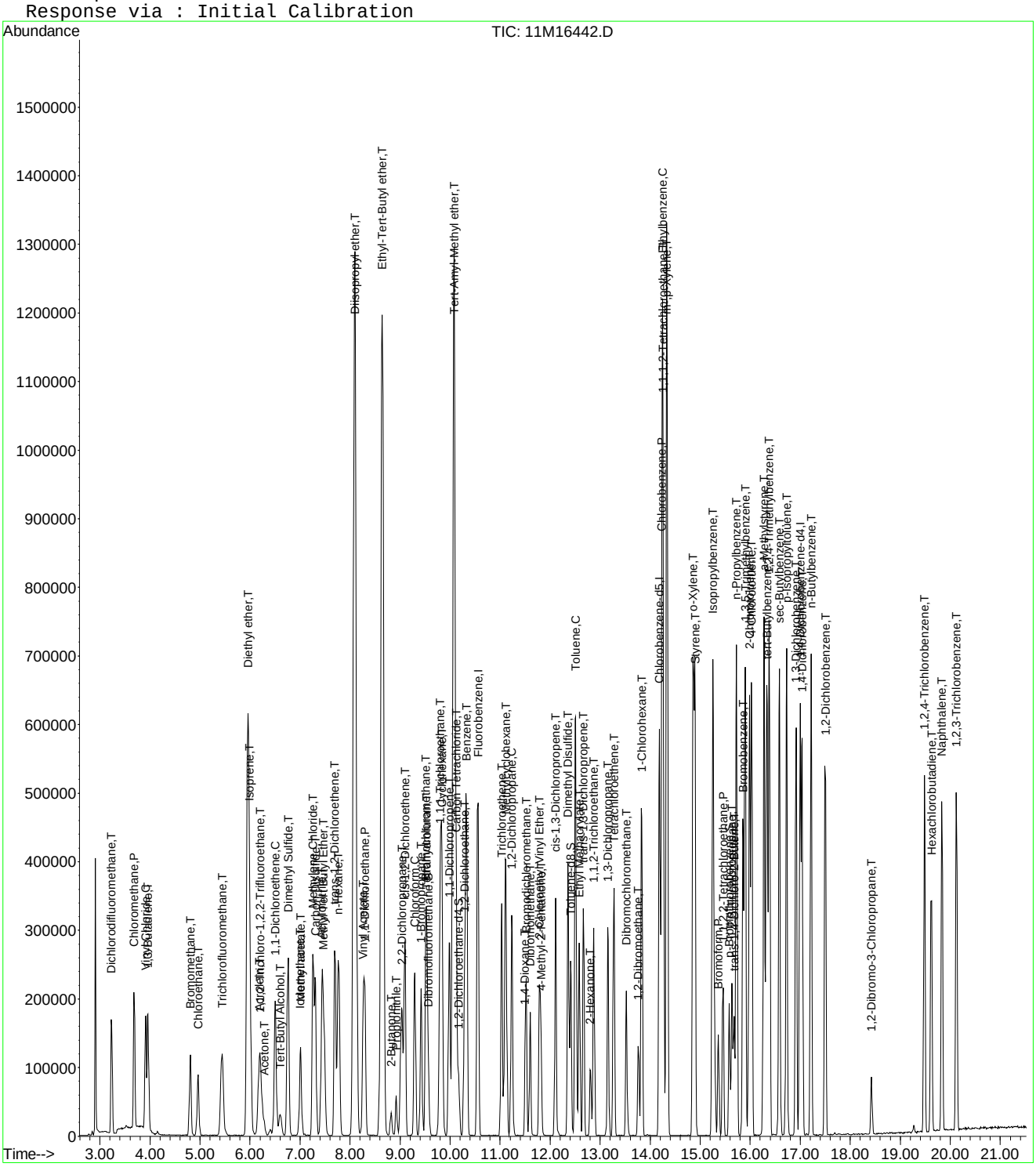
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44)	1,2-Dichloroethane	10.29	62	204926	20.7947	ug/L	99
45)	Benzene	10.33	78	549353	20.5257	ug/L	97
46)	Trichloroethene	11.03	130	138006	20.3361	ug/L	99
47)	Methylcyclohexane	11.12	83	241133	20.8899	ug/L	98
48)	1,2-Dichloropropane	11.23	63	167454	20.8432	ug/L	98
49)	1,4-Dioxane	11.50	88	4341	164.4152	ug/L	88
50)	Bromodichloromethane	11.52	83	184907	20.2532	ug/L	100
51)	Dibromomethane	11.60	93	77800	19.7428	ug/L	98
52)	2-Chloroethyl Vinyl Ether	11.79	63	98171	20.9632	ug/L	100
53)	4-Methyl-2-Pentanone	11.82	58	52650	20.8485	ug/L	98
54)	cis-1,3-Dichloropropene	12.11	75	224108	20.3821	ug/L	99
55)	Dimethyl Disulfide	12.36	79	138874	20.5317	ug/L	94
58)	Toluene	12.51	91	575547	19.5154	ug/L	96
59)	Ethyl Methacrylate	12.58	69	170966	21.8346	ug/L	99
60)	trans-1,3-Dichloropropene	12.67	75	199292	20.9507	ug/L	99
61)	1,1,2-Trichloroethane	12.87	97	114145	20.0984	ug/L	99
62)	2-Hexanone	12.80	43	89052	20.6916	ug/L	97
63)	1,3-Dichloropropane	13.15	76	201833	20.8097	ug/L	99
64)	Tetrachloroethene	13.28	164	108112	19.8300	ug/L	98
65)	Dibromochloromethane	13.52	129	132589	20.3593	ug/L	99
66)	1,2-Dibromoethane	13.76	107	106674	20.3889	ug/L	98
67)	1-Chlorohexane	13.83	91	191715	21.1673	ug/L	98
68)	Chlorobenzene	14.23	112	360960	20.4840	ug/L	97
69)	1,1,1,2-Tetrachloroethane	14.26	131	134445	20.3715	ug/L	99
70)	Ethylbenzene	14.25	106	201660	20.5699	ug/L	87
71)	m-,p-Xylene	14.33	106	485397	42.0588	ug/L	86
72)	o-Xylene	14.86	106	243218	20.8062	ug/L	92
73)	Styrene	14.90	104	396632	20.9943	ug/L	97
74)	Bromoform	15.36	173	86129	20.5200	ug/L	98
75)	Isopropylbenzene	15.25	105	611073	20.0135	ug/L	96
77)	1,1,2,2-Tetrachloroethane	15.46	83	140917	21.1001	ug/L	99
79)	1,2,3-Trichloropropane	15.63	110	40629	21.1978	ug/L	100
80)	trans-1,4-Dichloro-2-Buten	15.68	53	50171	21.4722	ug/L	95
81)	n-Propylbenzene	15.73	91	740081	20.6374	ug/L	94
82)	Bromobenzene	15.86	156	154708	20.5784	ug/L	98
83)	1,3,5-Trimethylbenzene	15.90	105	517622	20.5916	ug/L	96
84)	2-Chlorotoluene	15.99	91	496800	20.1394	ug/L	97
85)	4-Chlorotoluene	16.03	91	421722	20.3518	ug/L	95
86)	a-Methylstyrene	16.27	118	282756	22.7068	ug/L	99
87)	tert-Butylbenzene	16.34	134	112690	20.8057	ug/L	96
88)	1,2,4-Trimethylbenzene	16.38	105	532874	20.5240	ug/L	96
89)	sec-Butylbenzene	16.58	105	654763	21.3842	ug/L	96
90)	p-Isopropyltoluene	16.73	119	544112	21.2442	ug/L	96
91)	1,3-Dichlorobenzene	16.92	146	294527	21.0336	ug/L	98
92)	1,4-Dichlorobenzene	17.04	146	294236	20.7411	ug/L	98
93)	n-Butylbenzene	17.22	91	505782	20.9204	ug/L	96
94)	1,2-Dichlorobenzene	17.51	146	282679	21.5471	ug/L	99
95)	1,2-Dibromo-3-Chloropropan	18.43	75	26510	21.1634	ug/L	99
96)	1,2,4-Trichlorobenzene	19.48	180	198609	20.9840	ug/L	98
97)	Hexachlorobutadiene	19.62	225	95902	20.1010	ug/L	99
98)	Naphthalene	19.83	128	448153	22.2543	ug/L	98
99)	1,2,3-Trichlorobenzene	20.12	180	187660	20.7151	ug/L	98

(#) = qualifier out of range (m) = manual integration
11M16442.D 8260WTR.M Tue Feb 28 15:11:31 2017 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\022517\11M16442.D Vial: 7
Acq On : 25 Feb 2017 19:28 Operator: ADC
Sample : WG601938-07 20.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 15:11 2017 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\022517\11M16443.D Vial: 8
Acq On : 25 Feb 2017 19:58 Operator: ADC
Sample : WG601938-08 50.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 15:11:34 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.55	96	585816	25.00 ug/L	0.00
56) Chlorobenzene-d5	14.19	117	403537	25.00 ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.00	152	208770	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.56	111	152229	25.0951 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 100.40%		
43) 1,2-Dichloroethane-d4	10.17	65	188220	25.5331 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 102.12%		
57) Toluene-d8	12.41	98	598763	26.3815 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 105.52%		
78) p-Bromofluorobenzene	15.58	95	228669	26.1470 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 104.60%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.22	85	526541	57.4727 ug/L	100
3) Chloromethane	3.67	50	596642	48.8398 ug/L	100
4) Vinyl Chloride	3.90	62	495171	50.9474 ug/L	100
5) 1,3-Butadiene	3.94	54	206164	48.7627 ug/L	100
6) Bromomethane	4.80	94	283305	46.0639 ug/L	100
7) Chloroethane	4.95	64	329163	53.6287 ug/L	100
8) Trichlorofluoromethane	5.43	101	586704	52.7715 ug/L	100
9) Diethyl ether	5.95	59	693508	102.5238 ug/L	100
10) Isoprene	5.99	67	600639	53.4634 ug/L	100
11) Acrolein	6.17	56	34146	54.1288 ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	321234	52.8143 ug/L	100
13) Acetone	6.28	43	84549	48.7697 ug/L	100
14) 1,1-Dichloroethene	6.49	61	661544	53.7427 ug/L	100
15) Tert-Butyl Alcohol	6.60	59	71355	194.9147 ug/L	100
16) Dimethyl Sulfide	6.75	62	506028	53.3583 ug/L	100
17) Iodomethane	7.00	142	444580	56.1500 ug/L	100
18) Methyl acetate	7.01	43	274000	50.5329 ug/L	100
19) Methylene Chloride	7.26	84	385118	51.7044 ug/L	100
20) Carbon Disulfide	7.30	76	1084937	52.5265 ug/L	100
21) Acrylonitrile	7.42	53	139112	53.4858 ug/L	100
22) Methyl Tert Butyl Ether	7.46	73	1012504	53.8129 ug/L	100
23) trans-1,2-Dichloroethene	7.69	96	365122	53.3868 ug/L	100
24) n-Hexane	7.77	57	602191	53.9301 ug/L	100
25) Diisopropyl ether	8.09	45	2807117	98.6029 ug/L	100
26) Vinyl Acetate	8.25	43	699142	52.5051 ug/L	100
27) 1,1-Dichloroethane	8.28	63	802631	53.9853 ug/L	100
28) Ethyl-Tert-Butyl ether	8.63	59	2565097	103.5524 ug/L	100
29) 2-Butanone	8.82	43	147295	50.4339 ug/L	100
30) Propionitrile	8.91	54	84716	102.0085 ug/L	100
31) 2,2-Dichloropropane	9.03	77	553841	51.8112 ug/L	100
32) cis-1,2-Dichloroethene	9.09	96	420323	52.7480 ug/L	100
33) Chloroform	9.30	83	664172	51.3005 ug/L	100
34) 1-Bromopropane	9.42	122	81025	54.0418 ug/L	100
35) Bromochloromethane	9.51	130	233178	53.5257 ug/L	100
36) Tetrahydrofuran	9.53	42	213292	100.1736 ug/L	100
38) 1,1,1-Trichloroethane	9.79	97	615422	53.6976 ug/L	100
39) Cyclohexane	9.82	56	815874	53.3607 ug/L	100
40) 1,1-Dichloropropene	9.98	75	522046	53.8094 ug/L	100
41) Carbon Tetrachloride	10.12	117	540316	55.4817 ug/L	100
42) Tert-Amyl-Methyl ether	10.07	73	2060118	103.2796 ug/L	100

(#) = qualifier out of range (m) = manual integration
11M16443.D 8260WTR.M Tue Feb 28 15:11:35 2017 Page 1

Data File : C:\MSDCHEM\1\DATA\022517\11M16443.D Vial: 8
Acq On : 25 Feb 2017 19:58 Operator: ADC
Sample : WG601938-08 50.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 15:11:34 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

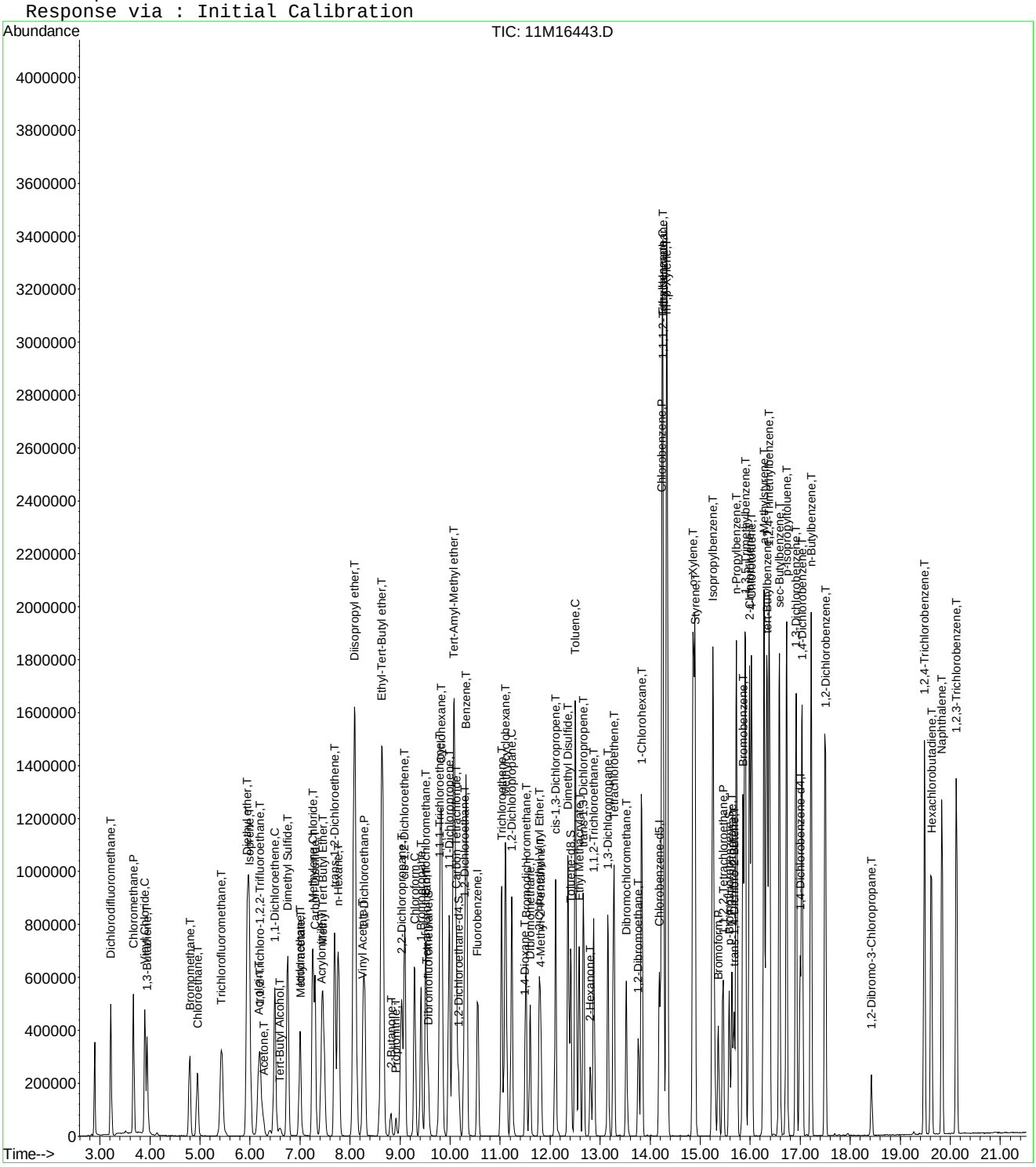
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
44)	1,2-Dichloroethane	10.29	62	555105	54.0236 ug/L	100
45)	Benzene	10.32	78	1447426	51.8675 ug/L	100
46)	Trichloroethene	11.03	130	386068	54.5613 ug/L	100
47)	Methylcyclohexane	11.11	83	645712	53.6500 ug/L	100
48)	1,2-Dichloropropane	11.23	63	458749	54.7641 ug/L	100
49)	1,4-Dioxane	11.50	88	5288	192.0861 ug/L	100
50)	Bromodichloromethane	11.52	83	519089	54.5300 ug/L	100
51)	Dibromomethane	11.60	93	221346	53.8707 ug/L	100
52)	2-Chloroethyl Vinyl Ether	11.79	63	264428	54.1545 ug/L	100
53)	4-Methyl-2-Pentanone	11.81	58	138319	52.5303 ug/L	100
54)	cis-1,3-Dichloropropene	12.11	75	625047	54.5202 ug/L	100
55)	Dimethyl Disulfide	12.36	79	383359	54.3577 ug/L	100
58)	Toluene	12.50	91	1499740	49.6119 ug/L	100
59)	Ethyl Methacrylate	12.58	69	444424	55.3742 ug/L	100
60)	trans-1,3-Dichloropropene	12.67	75	551686	56.5814 ug/L	100
61)	1,1,2-Trichloroethane	12.87	97	314496	54.0249 ug/L	100
62)	2-Hexanone	12.80	43	231181	52.4053 ug/L	100
63)	1,3-Dichloropropane	13.15	76	546360	54.9573 ug/L	100
64)	Tetrachloroethene	13.28	164	307102	54.9546 ug/L	100
65)	Dibromochloromethane	13.52	129	377524	56.5552 ug/L	100
66)	1,2-Dibromoethane	13.76	107	294491	54.9138 ug/L	100
67)	1-Chlorohexane	13.83	91	508547	54.7790 ug/L	100
68)	Chlorobenzene	14.23	112	965076	53.4307 ug/L	100
69)	1,1,1,2-Tetrachloroethane	14.26	131	376361	55.6360 ug/L	100
70)	Ethylbenzene	14.25	106	565900	56.3152 ug/L	100
71)	m-,p-Xylene	14.33	106	1288133	108.8915 ug/L	100
72)	o-Xylene	14.86	106	675747	56.3969 ug/L	100
73)	Styrene	14.90	104	1082558	55.9034 ug/L	100
74)	Bromoform	15.36	173	243470	56.5910 ug/L	100
75)	Isopropylbenzene	15.25	105	1585272	50.6532 ug/L	100
77)	1,1,2,2-Tetrachloroethane	15.46	83	384805	53.6000 ug/L	100
79)	1,2,3-Trichloropropane	15.63	110	109633	53.2108 ug/L	100
80)	trans-1,4-Dichloro-2-Buten	15.68	53	133162	53.0160 ug/L	100
81)	n-Propylbenzene	15.73	91	1875240	48.6447 ug/L	100
82)	Bromobenzene	15.86	156	440518	54.5088 ug/L	100
83)	1,3,5-Trimethylbenzene	15.90	105	1372777	50.8021 ug/L	100
84)	2-Chlorotoluene	15.99	91	1321526	49.8362 ug/L	100
85)	4-Chlorotoluene	16.03	91	1110928	49.8731 ug/L	100
86)	a-Methylstyrene	16.27	118	774842	57.8842 ug/L	100
87)	tert-Butylbenzene	16.34	134	317622	54.5520 ug/L	100
88)	1,2,4-Trimethylbenzene	16.38	105	1407011	50.4124 ug/L	100
89)	sec-Butylbenzene	16.58	105	1703029	51.7409 ug/L	100
90)	p-Isopropyltoluene	16.73	119	1450387	52.6793 ug/L	100
91)	1,3-Dichlorobenzene	16.92	146	815468	54.1749 ug/L	100
92)	1,4-Dichlorobenzene	17.04	146	805339	52.8102 ug/L	100
93)	n-Butylbenzene	17.22	91	1377162	52.9900 ug/L	100
94)	1,2-Dichlorobenzene	17.51	146	781061	55.3840 ug/L	100
95)	1,2-Dibromo-3-Chloropropan	18.43	75	73028	54.2335 ug/L	100
96)	1,2,4-Trichlorobenzene	19.48	180	561357	55.1738 ug/L	100
97)	Hexachlorobutadiene	19.62	225	276700	53.9514 ug/L	100
98)	Naphthalene	19.83	128	1157681	53.4785 ug/L	100
99)	1,2,3-Trichlorobenzene	20.12	180	518829	53.2773 ug/L	100

(#) = qualifier out of range (m) = manual integration
11M16443.D 8260WTR.M Tue Feb 28 15:11:35 2017 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\022517\11M16443.D Vial: 8
Acq On : 25 Feb 2017 19:58 Operator: ADC
Sample : WG601938-08 50.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 15:11 2017 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\022517\11M16444.D Vial: 9
Acq On : 25 Feb 2017 20:26 Operator: ADC
Sample : WG601938-09 100.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 15:11:36 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	598047	25.00	ug/L	0.01
56) Chlorobenzene-d5	14.19	117	417526	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.00	152	223666	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.56	111	312593	50.4774	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 201.92%#			
43) 1,2-Dichloroethane-d4	10.17	65	380194	50.5207	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 202.08%#			
57) Toluene-d8	12.41	98	1175739	50.0674	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 200.28%#			
78) p-Bromofluorobenzene	15.58	95	468864	50.0414	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 200.16%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.23	85	993220	106.1942	ug/L	99
3) Chloromethane	3.68	50	1031891	82.7408	ug/L	97
4) Vinyl Chloride	3.91	62	938756	94.6118	ug/L	98
5) 1,3-Butadiene	3.95	54	439886	103.5558	ug/L	100
6) Bromomethane	4.80	94	575944	91.7302	ug/L	99
7) Chloroethane	4.95	64	640945	102.2900	ug/L	100
8) Trichlorofluoromethane	5.44	101	1139477	100.3950	ug/L	100
9) Diethyl ether	5.96	59	1371496	198.6066	ug/L	99
10) Isoprene	5.99	67	1200749	104.6939	ug/L	100
11) Acrolein	6.18	56	66965	103.9829	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	633708	102.0575	ug/L	100
13) Acetone	6.28	43	168498	95.2055	ug/L	98
14) 1,1-Dichloroethene	6.50	61	1266709	100.8007	ug/L	97
15) Tert-Butyl Alcohol	6.61	59	131437	351.6931	ug/L	97
16) Dimethyl Sulfide	6.76	62	998220	103.1050	ug/L	100
17) Iodomethane	7.00	142	893348	108.5825	ug/L	98
18) Methyl acetate	7.01	43	557692	100.7498	ug/L	99
19) Methylene Chloride	7.26	84	753027	99.0308	ug/L	97
20) Carbon Disulfide	7.30	76	2019300	95.7636	ug/L	98
21) Acrylonitrile	7.43	53	281117	105.8734	ug/L	100
22) Methyl Tert Butyl Ether	7.47	73	1944751	101.2463	ug/L	99
23) trans-1,2-Dichloroethene	7.69	96	719434	103.0416	ug/L	96
24) n-Hexane	7.77	57	1217812	106.8325	ug/L	99
25) Diisopropyl ether	8.10	45	4777694	164.3893	ug/L	92
26) Vinyl Acetate	8.26	43	1288460	94.7836	ug/L	99
27) 1,1-Dichloroethane	8.29	63	1525302	100.4942	ug/L	98
28) Ethyl-Tert-Butyl ether	8.64	59	4462248	176.4558	ug/L	92
29) 2-Butanone	8.82	43	290625	97.4750	ug/L	99
30) Propionitrile	8.92	54	164620	194.1688	ug/L	99
31) 2,2-Dichloropropane	9.03	77	1067000	97.7753	ug/L	99
32) cis-1,2-Dichloroethene	9.10	96	832223	102.3031	ug/L	96
33) Chloroform	9.30	83	1272633	96.2876	ug/L	98
34) 1-Bromopropane	9.42	122	165924	108.4042	ug/L	99
35) Bromochloromethane	9.51	130	465654	104.7043	ug/L	97
36) Tetrahydrofuran	9.53	42	421672	193.9901	ug/L	99
38) 1,1,1-Trichloroethane	9.80	97	1193457	102.0033	ug/L	99
39) Cyclohexane	9.83	56	1587530	101.7060	ug/L	97
40) 1,1-Dichloropropene	9.98	75	1017541	102.7371	ug/L	98
41) Carbon Tetrachloride	10.12	117	1043334	104.9424	ug/L	99
42) Tert-Amyl-Methyl ether	10.07	73	3643211	178.9092	ug/L	94

(#) = qualifier out of range (m) = manual integration
11M16444.D 8260WTR.M Tue Feb 28 15:11:36 2017 Page 1

Data File : C:\MSDCHEM\1\DATA\022517\11M16444.D Vial: 9
Acq On : 25 Feb 2017 20:26 Operator: ADC
Sample : WG601938-09 100.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 15:11:36 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

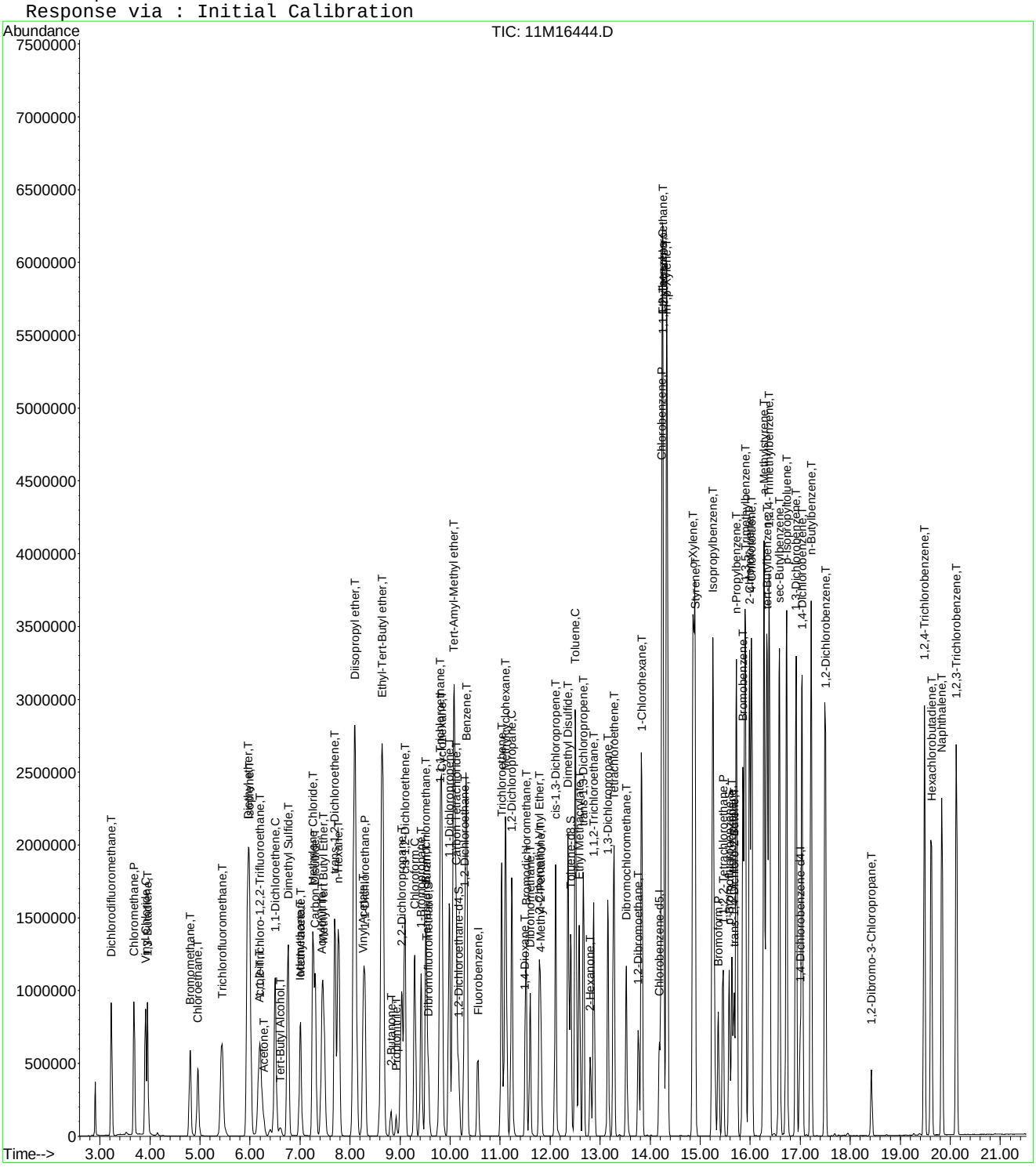
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	1,2-Dichloroethane	10.29	62	1056909	100.7562	ug/L		98
45)	Benzene	10.33	78	2552818	89.6076	ug/L		94
46)	Trichloroethene	11.03	130	761260	105.3853	ug/L		100
47)	Methylcyclohexane	11.10	83	1273203	103.6226	ug/L		99
48)	1,2-Dichloropropane	11.23	63	896853	104.8741	ug/L		99
49)	1,4-Dioxane	11.50	88	10363	368.7363	ug/L		98
50)	Bromodichloromethane	11.52	83	1014793	104.4231	ug/L		99
51)	Dibromomethane	11.60	93	432782	103.1754	ug/L		99
52)	2-Chloroethyl Vinyl Ether	11.79	63	531400	106.6043	ug/L		99
53)	4-Methyl-2-Pentanone	11.81	58	281496	104.7191	ug/L		100
54)	cis-1,3-Dichloropropene	12.11	75	1185792	101.3162	ug/L		97
55)	Dimethyl Disulfide	12.36	79	766190	106.4187	ug/L		96
58)	Toluene	12.50	91	2568354	82.1154	ug/L		95
59)	Ethyl Methacrylate	12.58	69	894322	107.6969	ug/L		100
60)	trans-1,3-Dichloropropene	12.67	75	1065461	105.6134	ug/L		99
61)	1,1,2-Trichloroethane	12.87	97	619751	102.8953	ug/L		100
62)	2-Hexanone	12.80	43	466865	102.2855	ug/L		100
63)	1,3-Dichloropropane	13.15	76	1042408	101.3408	ug/L		100
64)	Tetrachloroethene	13.28	164	606249	104.8509	ug/L		100
65)	Dibromochloromethane	13.52	129	749319	108.4912	ug/L		100
66)	1,2-Dibromoethane	13.76	107	584884	105.4093	ug/L		100
67)	1-Chlorohexane	13.83	91	1011594	105.3148	ug/L		99
68)	Chlorobenzene	14.23	112	1750695	93.6784	ug/L		95
69)	1,1,1,2-Tetrachloroethane	14.26	131	735749	105.1189	ug/L		100
70)	Ethylbenzene	14.25	106	1096529	105.4645	ug/L		80
71)	m-,p-Xylene	14.33	106	2249873	183.8193	ug/L		85
72)	o-Xylene	14.86	106	1283740	103.5495	ug/L		88
73)	Styrene	14.90	104	1982035	98.9233	ug/L		95
74)	Bromoform	15.36	173	493492	110.8618	ug/L		98
75)	Isopropylbenzene	15.25	105	2682776	82.8491	ug/L		92
77)	1,1,2,2-Tetrachloroethane	15.46	83	749648	97.4653	ug/L		98
79)	1,2,3-Trichloropropane	15.63	110	219397	99.3933	ug/L		99
80)	trans-1,4-Dichloro-2-Buten	15.68	53	283283	105.2725	ug/L		93
81)	n-Propylbenzene	15.73	91	3055619	73.9854	ug/L		89
82)	Bromobenzene	15.85	156	869820	100.4618	ug/L		96
83)	1,3,5-Trimethylbenzene	15.90	105	2395676	82.7519	ug/L		93
84)	2-Chlorotoluene	15.99	91	2315870	81.5176	ug/L		93
85)	4-Chlorotoluene	16.03	91	1912269	80.1304	ug/L		92
86)	a-Methylstyrene	16.27	118	1491193	103.9797	ug/L		96
87)	tert-Butylbenzene	16.34	134	640180	102.6290	ug/L		87
88)	1,2,4-Trimethylbenzene	16.38	105	2428164	81.2057	ug/L		90
89)	sec-Butylbenzene	16.58	105	2860760	81.1263	ug/L		92
90)	p-Isopropyltoluene	16.73	119	2495079	84.5880	ug/L		91
91)	1,3-Dichlorobenzene	16.92	146	1528552	94.7850	ug/L		96
92)	1,4-Dichlorobenzene	17.04	146	1510816	92.4739	ug/L		96
93)	n-Butylbenzene	17.22	91	2393683	85.9694	ug/L		93
94)	1,2-Dichlorobenzene	17.51	146	1464754	96.9465	ug/L		96
95)	1,2-Dibromo-3-Chloropropan	18.43	75	146075	101.2564	ug/L		99
96)	1,2,4-Trichlorobenzene	19.48	180	1081586	99.2254	ug/L		98
97)	Hexachlorobutadiene	19.62	225	578718	105.3243	ug/L		100
98)	Naphthalene	19.83	128	2023999	87.2708	ug/L	#	95
99)	1,2,3-Trichlorobenzene	20.12	180	1010863	96.8898	ug/L		99

(#) = qualifier out of range (m) = manual integration
11M16444.D 8260WTR.M Tue Feb 28 15:11:36 2017 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\022517\11M16444.D Vial: 9
Acq On : 25 Feb 2017 20:26 Operator: ADC
Sample : WG601938-09 100.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 15:11 2017 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\022517\11M16445.D Vial: 10
Acq On : 25 Feb 2017 20:55 Operator: ADC
Sample : WG601938-10 200.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 15:11:37 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.56	96	603913	25.00 ug/L	0.01
56) Chlorobenzene-d5	14.19	117	432074	25.00 ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.00	152	226104	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.56	111	597534	95.5523 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 382.20%#		
43) 1,2-Dichloroethane-d4	10.17	65	713118	93.8397 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 375.36%#		
57) Toluene-d8	12.41	98	2023424	83.2639 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 333.04%#		
78) p-Bromofluorobenzene	15.58	95	889493	93.9111 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 375.64%#		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.23	85	1818194	192.5114 ug/L	94
3) Chloromethane	3.68	50	1813022	143.9626 ug/L	88
4) Vinyl Chloride	3.91	62	1646840	164.3633 ug/L	91
5) 1,3-Butadiene	3.95	54	819387	192.2932 ug/L	99
6) Bromomethane	4.80	94	1201555	189.5121 ug/L	99
7) Chloroethane	4.95	64	1294062	204.5166 ug/L	97
8) Trichlorofluoromethane	5.43	101	2243593	195.7543 ug/L	97
9) Diethyl ether	5.95	59	986	0.1414 ug/L #	1
10) Isoprene	5.99	67	2325844	200.8216 ug/L	99
11) Acrolein	6.17	56	210	0.3229 ug/L #	13
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	1298666	207.1162 ug/L	99
13) Acetone	6.28	43	345639	193.3975 ug/L	97
14) 1,1-Dichloroethene	6.50	61	2413506	190.1936 ug/L	93
15) Tert-Butyl Alcohol	6.60	59	19762	52.3646 ug/L	93
16) Dimethyl Sulfide	6.75	62	1922150	196.6081 ug/L	100
17) Iodomethane	7.00	142	1713760	204.4751 ug/L	96
18) Methyl acetate	7.01	43	1085328	194.1653 ug/L	97
19) Methylene Chloride	7.26	84	1496806	194.9333 ug/L	89
20) Carbon Disulfide	7.30	76	3389319	159.1744 ug/L	91
21) Acrylonitrile	7.45	53	44632	16.6459 ug/L #	31
22) Methyl Tert Butyl Ether	7.45	73	3678810	189.6634 ug/L	93
23) trans-1,2-Dichloroethene	7.69	96	1438394	204.0141 ug/L	88
24) n-Hexane	7.77	57	2343503	203.5868 ug/L	97
26) Vinyl Acetate	8.25	43	2535891	184.7370 ug/L	95
27) 1,1-Dichloroethane	8.29	63	2769398	180.6890 ug/L	91
29) 2-Butanone	8.82	43	590954	196.2795 ug/L	98
30) Propionitrile	8.92	54	2026	2.3664 ug/L #	58
31) 2,2-Dichloropropane	9.03	77	2057384	186.6986 ug/L	95
32) cis-1,2-Dichloroethene	9.09	96	1600306	194.8108 ug/L	92
33) Chloroform	9.30	83	2354326	176.3984 ug/L	94
34) 1-Bromopropane	9.42	122	336476	217.6968 ug/L	98
35) Bromochloromethane	9.51	130	940897	209.5097 ug/L	93
36) Tetrahydrofuran	9.54	42	4816	2.1941 ug/L	89
38) 1,1,1-Trichloroethane	9.80	97	2285254	193.4207 ug/L	95
39) Cyclohexane	9.82	56	2947190	186.9794 ug/L	93
40) 1,1-Dichloropropene	9.98	75	1934720	193.4436 ug/L	93
41) Carbon Tetrachloride	10.12	117	2020577	201.2631 ug/L	99
44) 1,2-Dichloroethane	10.29	62	1975527	186.4997 ug/L	92
45) Benzene	10.33	78	4061261	141.1714 ug/L	81
46) Trichloroethene	11.03	130	1454622	199.4151 ug/L	100

(#) = qualifier out of range (m) = manual integration
11M16445.D 8260WTR.M Tue Feb 28 15:11:38 2017 Page 1

Data File : C:\MSDCHEM\1\DATA\022517\11M16445.D Vial: 10
Acq On : 25 Feb 2017 20:55 Operator: ADC
Sample : WG601938-10 200.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 15:11:37 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

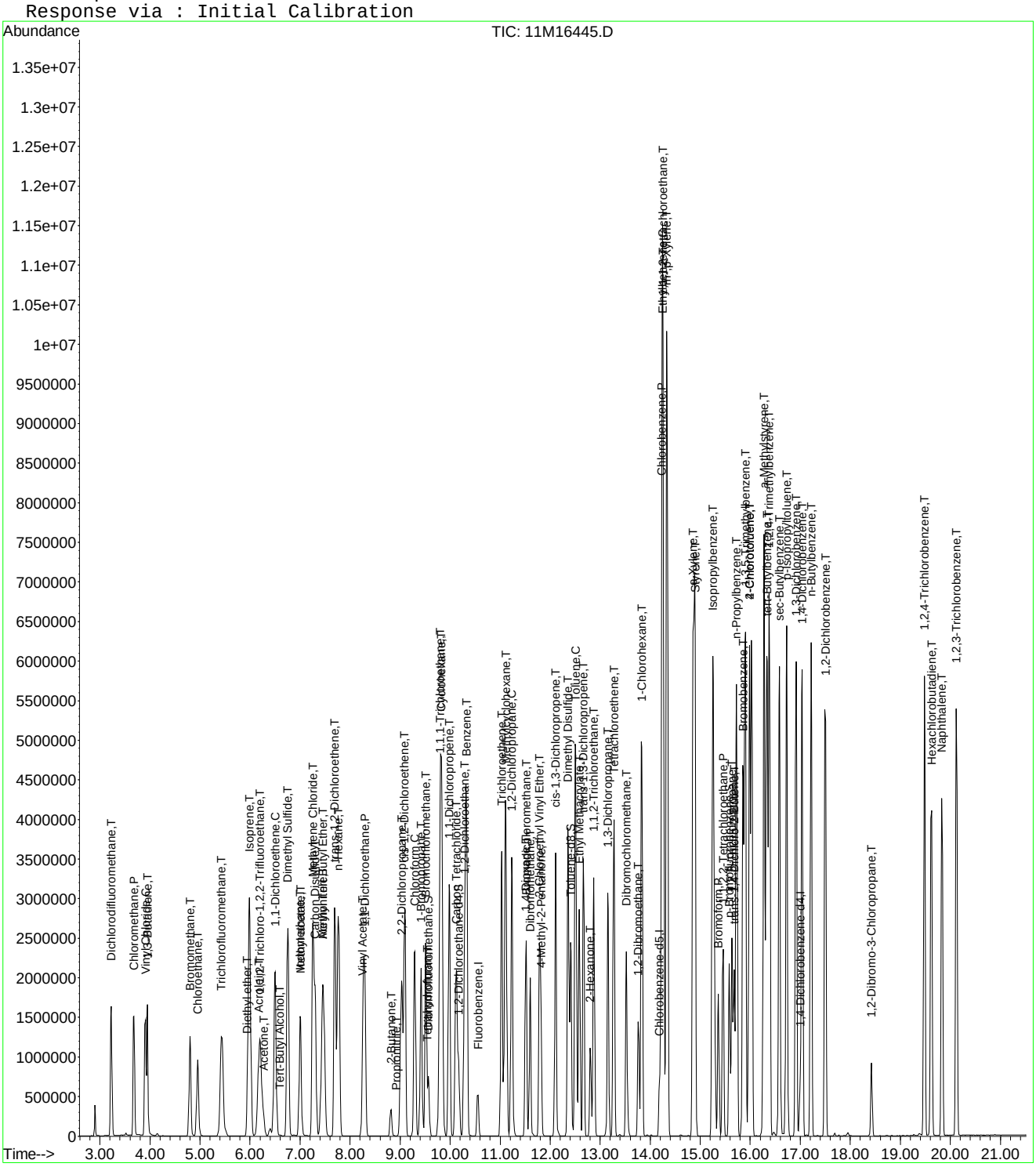
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
47)	Methylcyclohexane	11.12	83	2397233	193.2093	ug/L		98
48)	1,2-Dichloropropane	11.23	63	1724769	199.7279	ug/L		96
49)	1,4-Dioxane	11.51	88	4960	174.7725	ug/L		73
50)	Bromodichloromethane	11.52	83	1910407	194.6732	ug/L		95
51)	Dibromomethane	11.60	93	877808	207.2371	ug/L		99
52)	2-Chloroethyl Vinyl Ether	11.79	63	1059530	210.4880	ug/L		96
53)	4-Methyl-2-Pentanone	11.82	58	589884	217.3108	ug/L		100
54)	cis-1,3-Dichloropropene	12.11	75	2145572	181.5409	ug/L		88
55)	Dimethyl Disulfide	12.36	79	1503050	206.7359	ug/L		85
58)	Toluene	12.51	91	3924208	121.2403	ug/L		85
59)	Ethyl Methacrylate	12.58	69	1727898	201.0726	ug/L		100
60)	trans-1,3-Dichloropropene	12.67	75	1941666	185.9865	ug/L		91
61)	1,1,2-Trichloroethane	12.87	97	1237616	198.5591	ug/L		99
62)	2-Hexanone	12.80	43	950929	201.3244	ug/L		97
63)	1,3-Dichloropropane	13.15	76	1932170	181.5171	ug/L		97
64)	Tetrachloroethene	13.28	164	1206524	201.6427	ug/L		99
65)	Dibromochloromethane	13.52	129	1473987	206.2277	ug/L		98
66)	1,2-Dibromoethane	13.76	107	1169925	203.7477	ug/L		100
67)	1-Chlorohexane	13.83	91	1904259	191.5731	ug/L		97
68)	Chlorobenzene	14.23	112	2896158	149.7534	ug/L		83
69)	1,1,1,2-Tetrachloroethane	14.26	131	1450262	200.2271	ug/L		100
70)	Ethylbenzene	14.25	106	2044857	190.0529	ug/L		53
71)	m-,p-Xylene	14.33	106	3539050	279.4121	ug/L		71
72)	o-Xylene	14.86	106	2325205	181.2414	ug/L		72
73)	Styrene	14.90	104	3266317	157.5328	ug/L		81
74)	Bromoform	15.36	173	1019684	221.3567	ug/L		97
75)	Isopropylbenzene	15.25	105	4074212	121.5828	ug/L	#	75
77)	1,1,2,2-Tetrachloroethane	15.46	83	1484320	190.9026	ug/L		95
79)	1,2,3-Trichloropropane	15.63	110	461332	206.7435	ug/L		99
80)	trans-1,4-Dichloro-2-Buten	15.67	53	599822	220.5001	ug/L		86
81)	n-Propylbenzene	15.73	91	4446679	106.5061	ug/L	#	72
82)	Bromobenzene	15.86	156	1655980	189.1987	ug/L		91
83)	1,3,5-Trimethylbenzene	15.90	105	3679672	125.7334	ug/L		82
84)	2-Chlorotoluene	15.99	91	3462411	120.5611	ug/L		77
85)	4-Chlorotoluene	15.99	91	3389578	140.5030	ug/L		80
86)	a-Methylstyrene	16.27	118	2550317	175.9142	ug/L		87
87)	tert-Butylbenzene	16.34	134	1236592	196.1039	ug/L		69
88)	1,2,4-Trimethylbenzene	16.38	105	3698351	122.3512	ug/L		75
89)	sec-Butylbenzene	16.58	105	4212312	118.1660	ug/L	#	75
90)	p-Isopropyltoluene	16.73	119	3734369	125.2372	ug/L	#	75
91)	1,3-Dichlorobenzene	16.92	146	2577217	158.0892	ug/L		86
92)	1,4-Dichlorobenzene	17.04	146	2537183	153.6212	ug/L		86
93)	n-Butylbenzene	17.22	91	3597747	127.8202	ug/L	#	79
94)	1,2-Dichlorobenzene	17.50	146	2486576	162.8025	ug/L		87
95)	1,2-Dibromo-3-Chloropropan	18.43	75	298941	204.9857	ug/L		99
96)	1,2,4-Trichlorobenzene	19.48	180	2005230	181.9775	ug/L		90
97)	Hexachlorobutadiene	19.62	225	1135176	204.3698	ug/L		98
98)	Naphthalene	19.83	128	3257233	138.9310	ug/L	#	83
99)	1,2,3-Trichlorobenzene	20.12	180	1948066	184.7061	ug/L		91

(#) = qualifier out of range (m) = manual integration
11M16445.D 8260WTR.M Tue Feb 28 15:11:38 2017 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\022517\11M16445.D Vial: 10
Acq On : 25 Feb 2017 20:55 Operator: ADC
Sample : WG601938-10 200.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 15:11 2017 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\022517\11M16446.D Vial: 11
Acq On : 25 Feb 2017 21:24 Operator: ADC
Sample : WG601938-11 300.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 15:11:39 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	597604	25.00	ug/L	0.01
56) Chlorobenzene-d5	14.19	117	438653	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.00	152	220397	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.55	111	187	0.0302	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.12%#		
43) 1,2-Dichloroethane-d4	10.17	65	1230	0.1636	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.64%#		
57) Toluene-d8	12.36	98	12449	0.5046	ug/L	-0.05
Spiked Amount 25.000	Range 88 - 110		Recovery =	2.00%#		
78) p-Bromofluorobenzene	15.58	95	4995	0.5410	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	2.16%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.23	85	2366798	253.2435	ug/L	90
3) Chloromethane	3.68	50	2449768	196.5769	ug/L	81
4) Vinyl Chloride	3.91	62	2019531	203.6878	ug/L	85
5) 1,3-Butadiene	3.95	54	944983	224.3582	ug/L	99
6) Bromomethane	4.80	94	1684821	268.5393	ug/L	100
7) Chloroethane	4.95	64	1809910	289.0622	ug/L	95
8) Trichlorofluoromethane	5.43	101	3077750	271.3698	ug/L	96
9) Diethyl ether	5.95	59	1911079	276.9489	ug/L	98
10) Isoprene	5.99	67	3135737	273.6090	ug/L	97
11) Acrolein	6.18	56	102374	159.0837	ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	1866025	300.7426	ug/L	99
13) Acetone	6.28	43	496570	280.7822	ug/L	93
14) 1,1-Dichloroethene	6.49	61	3230405	257.2559	ug/L	89
15) Tert-Butyl Alcohol	6.61	59	209777	561.7277	ug/L	98
16) Dimethyl Sulfide	6.75	62	2598215	268.5655	ug/L	99
17) Iodomethane	7.00	142	2355524	283.2345	ug/L	94
18) Methyl acetate	7.01	43	1555152	281.1541	ug/L	96
19) Methylene Chloride	7.26	84	2070982	272.5573	ug/L	84
20) Carbon Disulfide	7.30	76	4171672	197.9848	ug/L #	85
21) Acrylonitrile	7.43	53	443254	167.0607	ug/L	96
22) Methyl Tert Butyl Ether	7.46	73	4843956	252.3697	ug/L	88
23) trans-1,2-Dichloroethene	7.69	96	1982575	284.1665	ug/L	83
24) n-Hexane	7.77	57	3097958	271.9697	ug/L	94
25) Diisopropyl ether	8.10	45	5917767	203.7674	ug/L	85
26) Vinyl Acetate	8.25	43	3319649	244.3860	ug/L	91
27) 1,1-Dichloroethane	8.29	63	3611863	238.1433	ug/L	85
28) Ethyl-Tert-Butyl ether	8.64	59	5583310	220.9509	ug/L	85
29) 2-Butanone	8.82	43	871995	292.6821	ug/L	97
30) Propionitrile	8.92	54	248873	293.7626	ug/L	98
31) 2,2-Dichloropropane	9.03	77	2814930	258.1394	ug/L	92
32) cis-1,2-Dichloroethene	9.09	96	2214524	272.4277	ug/L	88
33) Chloroform	9.30	83	3102491	234.9089	ug/L	90
34) 1-Bromopropane	9.42	122	482213	315.2809	ug/L	98
35) Bromochloromethane	9.51	130	1330036	299.2859	ug/L	90
36) Tetrahydrofuran	9.53	42	605137	278.5994	ug/L	99
38) 1,1,1-Trichloroethane	9.80	97	3080883	263.5145	ug/L #	92
39) Cyclohexane	9.82	56	3831930	245.6768	ug/L	90
40) 1,1-Dichloropropene	9.98	75	2596917	262.3947	ug/L	89
41) Carbon Tetrachloride	10.12	117	2725161	274.3101	ug/L	97
42) Tert-Amyl-Methyl ether	10.08	73	4636827	227.8721	ug/L	88

(#) = qualifier out of range (m) = manual integration
11M16446.D 8260WTR.M Tue Feb 28 15:11:40 2017 Page 1

Data File : C:\MSDCHEM\1\DATA\022517\11M16446.D Vial: 11
Acq On : 25 Feb 2017 21:24 Operator: ADC
Sample : WG601938-11 300.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 15:11:39 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

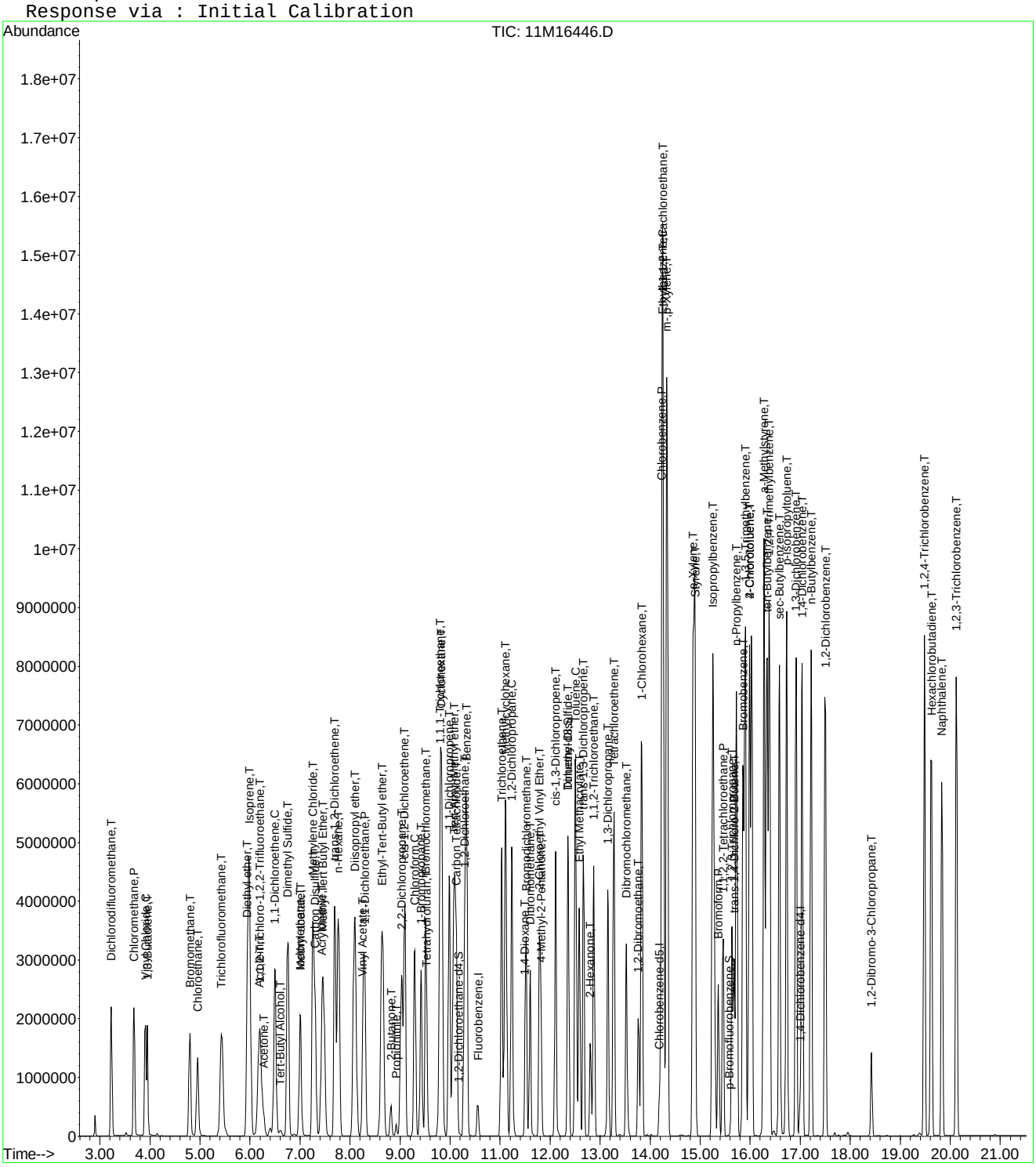
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
44)	1,2-Dichloroethane	10.29	62	2595986	247.6614 ug/L		86
45)	Benzene	10.33	78	4905352	172.3125 ug/L	#	70
46)	Trichloroethene	11.03	130	1968217	272.6728 ug/L		99
47)	Methylcyclohexane	11.10	83	3132050	255.0982 ug/L		97
48)	1,2-Dichloropropane	11.23	63	2350912	275.1092 ug/L		91
49)	1,4-Dioxane	11.50	88	19247	685.3545 ug/L		97
50)	Bromodichloromethane	11.52	83	2560848	263.7089 ug/L		92
51)	Dibromomethane	11.60	93	1239644	295.7507 ug/L		98
52)	2-Chloroethyl Vinyl Ether	11.79	63	1476271	296.3747 ug/L		94
53)	4-Methyl-2-Pentanone	11.82	58	855764	318.5882 ug/L		99
54)	cis-1,3-Dichloropropene	12.11	75	2779517	237.6630 ug/L	#	82
55)	Dimethyl Disulfide	12.36	79	2036458	283.0603 ug/L		75
58)	Toluene	12.51	91	4649436	141.4921 ug/L		80
59)	Ethyl Methacrylate	12.58	69	2286013	262.0297 ug/L		98
60)	trans-1,3-Dichloropropene	12.67	75	2529962	238.7030 ug/L		84
61)	1,1,2-Trichloroethane	12.87	97	1712547	270.6347 ug/L		98
62)	2-Hexanone	12.80	43	1337985	279.0208 ug/L		95
63)	1,3-Dichloropropane	13.15	76	2519707	233.1627 ug/L		94
64)	Tetrachloroethene	13.28	164	1669410	274.8189 ug/L		99
65)	Dibromochloromethane	13.52	129	2022040	278.6635 ug/L		96
66)	1,2-Dibromoethane	13.76	107	1630819	279.7547 ug/L		99
67)	1-Chlorohexane	13.83	91	2505090	248.2383 ug/L		97
68)	Chlorobenzene	14.23	112	3581251	182.4006 ug/L	#	74
69)	1,1,1,2-Tetrachloroethane	14.26	131	2010398	273.3981 ug/L		99
70)	Ethylbenzene	14.25	106	2682034	245.5347 ug/L		42
71)	m-,p-Xylene	14.33	106	4223645	328.4604 ug/L		66
72)	o-Xylene	14.86	106	3019792	231.8517 ug/L		64
73)	Styrene	14.90	104	4002220	190.1299 ug/L		72
74)	Bromoform	15.36	173	1446521	309.3063 ug/L		94
75)	Isopropylbenzene	15.25	105	4791831	140.8533 ug/L	#	63
77)	1,1,2,2-Tetrachloroethane	15.46	83	2038169	268.9224 ug/L		92
79)	1,2,3-Trichloropropane	15.63	110	668633	307.4034 ug/L		99
80)	trans-1,4-Dichloro-2-Buten	15.68	53	849595	320.4061 ug/L		85
81)	n-Propylbenzene	15.73	91	5172732	127.1046 ug/L	#	59
82)	Bromobenzene	15.86	156	2242800	262.8792 ug/L		88
83)	1,3,5-Trimethylbenzene	15.90	105	4411548	154.6447 ug/L		75
84)	2-Chlorotoluene	15.99	91	4029346	143.9348 ug/L	#	64
85)	4-Chlorotoluene	15.99	91	3936625	167.4043 ug/L	#	68
86)	a-Methylstyrene	16.27	118	3200684	226.4915 ug/L		81
87)	tert-Butylbenzene	16.34	134	1755265	285.5650 ug/L		56
88)	1,2,4-Trimethylbenzene	16.38	105	4377060	148.5543 ug/L	#	63
89)	sec-Butylbenzene	16.58	105	4928155	141.8270 ug/L	#	62
90)	p-Isopropyltoluene	16.73	119	4424052	152.2085 ug/L	#	64
91)	1,3-Dichlorobenzene	16.92	146	3251423	204.6102 ug/L		78
92)	1,4-Dichlorobenzene	17.04	146	3193001	198.3357 ug/L		77
93)	n-Butylbenzene	17.22	91	4309841	157.0843 ug/L	#	67
94)	1,2-Dichlorobenzene	17.51	146	3162697	212.4318 ug/L		79
95)	1,2-Dibromo-3-Chloropropan	18.43	75	461966	324.9755 ug/L		100
96)	1,2,4-Trichlorobenzene	19.48	180	2723254	253.5387 ug/L		82
97)	Hexachlorobutadiene	19.62	225	1719338	317.5538 ug/L		95
98)	Naphthalene	19.83	128	3959154	173.2428 ug/L	#	70
99)	1,2,3-Trichlorobenzene	20.12	180	2625366	255.3701 ug/L		84

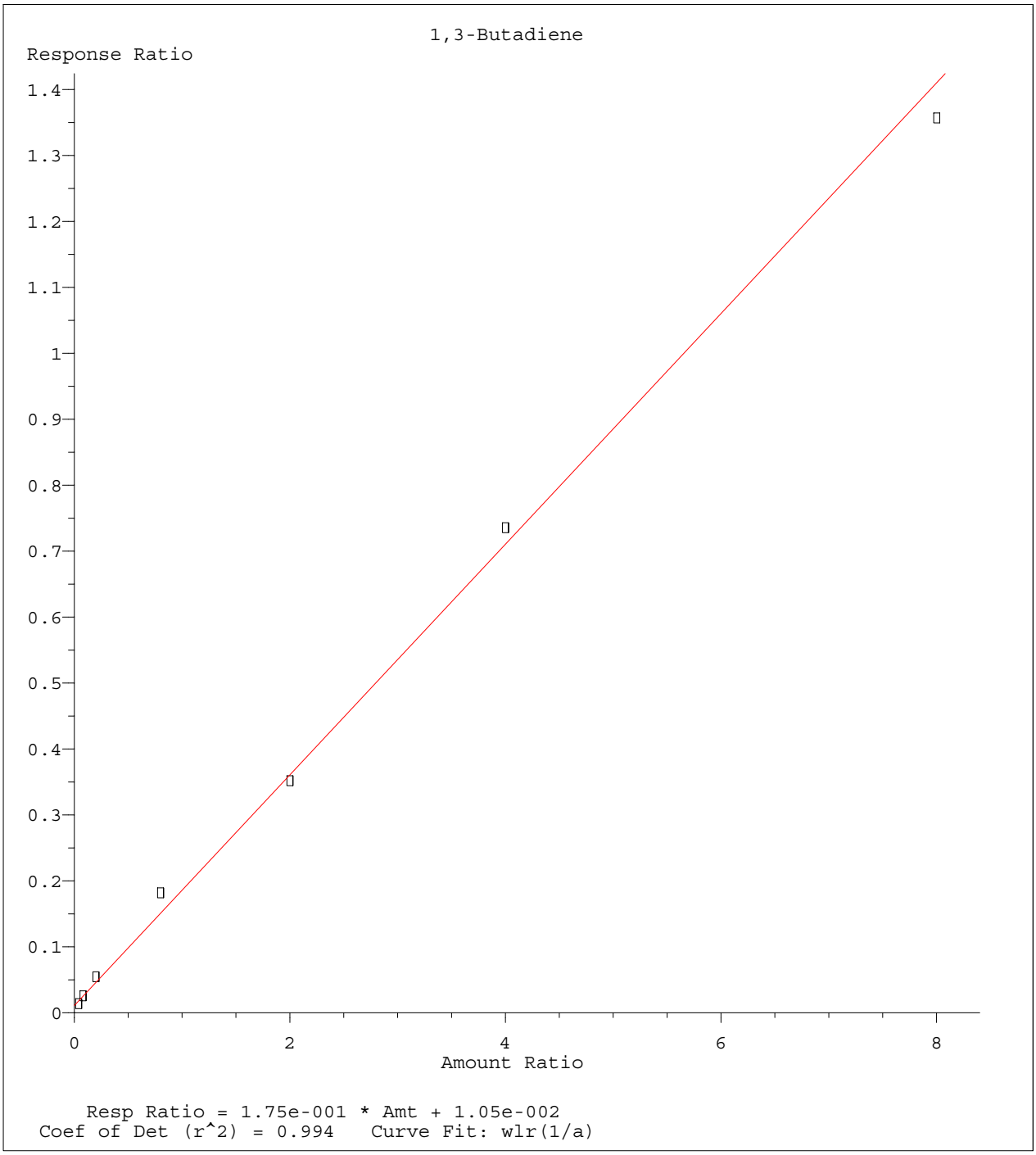
(#) = qualifier out of range (m) = manual integration
11M16446.D 8260WTR.M Tue Feb 28 15:11:40 2017 Page 2

Quantitation Report (Not Reviewed)

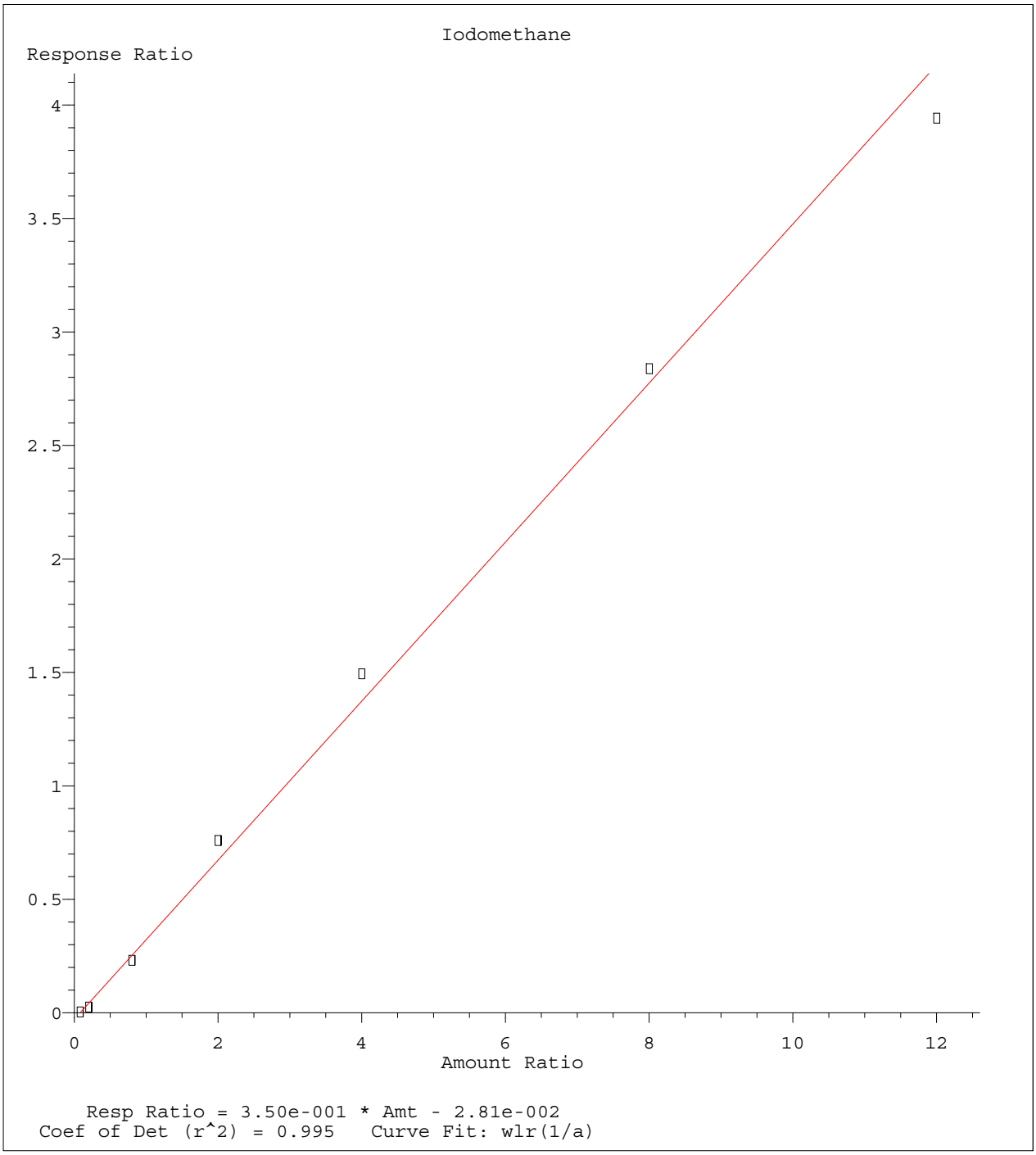
Data File : C:\MSDCHEM\1\DATA\022517\11M16446.D Vial: 11
Acq On : 25 Feb 2017 21:24 Operator: ADC
Sample : WG601938-11 300.0ug/L STD Inst : hpms11
Misc : 1,1 STD80492 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 15:11 2017 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration





Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Tue Feb 28 14:56:34 2017



Method Name: C:\MSDCHEM\1\METHODS\8260WTR.M
Calibration Table Last Updated: Tue Feb 28 14:56:34 2017

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\022817\11M16448.D Vial: 1
Acq On : 28 Feb 2017 16:15 Operator: ADC
Sample : WG604519-02 50.0ug/L CCV Inst : hpms11
Misc : 1,1 STD80410 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 17:00:03 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.56	96	705948	25.00	ug/L	0.01
56) Chlorobenzene-d5	14.19	117	495795	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.00	152	261509	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	188782	25.8250	ug/L	0.01
Spiked Amount 25.000	Range 86 - 118		Recovery = 103.32%			
43) 1,2-Dichloroethane-d4	10.17	65	232268	26.1467	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 104.60%			
57) Toluene-d8	12.42	98	730820	26.2081	ug/L	0.01
Spiked Amount 25.000	Range 88 - 110		Recovery = 104.84%			
78) p-Bromofluorobenzene	15.58	95	274902	25.0942	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.36%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.23	85	583319	52.8353	ug/L	99
3) Chloromethane	3.68	50	611220	41.5189	ug/L	99
4) Vinyl Chloride	3.91	62	520371	44.4292	ug/L	100
5) 1,3-Butadiene	3.95	54	237445	46.5378	ug/L	100
6) Bromomethane	4.80	94	325388	43.9032	ug/L	99
7) Chloroethane	4.95	64	369224	49.9189	ug/L	99
8) Trichlorofluoromethane	5.44	101	637935	47.6152	ug/L	99
9) Diethyl ether	5.96	59	824578	101.1564	ug/L	98
10) Isoprene	5.99	67	671743	49.6175	ug/L	100
11) Acrolein	6.18	56	59412	78.1540	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	360075	49.1260	ug/L	98
13) Acetone	6.29	43	113382	54.2718	ug/L	93
14) 1,1-Dichloroethene	6.50	61	720802	48.5920	ug/L	98
15) Tert-Butyl Alcohol	6.61	59	182996	414.8111	ug/L	99
16) Dimethyl Sulfide	6.75	62	561590	49.1400	ug/L	98
17) Iodomethane	7.01	142	421651	44.6182	ug/L	100
18) Methyl acetate	7.01	43	336424	51.4872	ug/L	99
19) Methylene Chloride	7.26	84	413340	46.0500	ug/L	96
20) Carbon Disulfide	7.31	76	1184219	47.5767	ug/L	99
21) Acrylonitrile	7.43	53	174889	55.7988	ug/L	97
22) Methyl Tert Butyl Ether	7.47	73	1101417	48.5769	ug/L	99
23) trans-1,2-Dichloroethene	7.69	96	393690	47.7681	ug/L	99
24) n-Hexane	7.77	57	753361	55.9872	ug/L	100
25) Diisopropyl ether	8.10	45	3096168	90.2490	ug/L	99
26) Vinyl Acetate	8.26	43	921052	57.3996	ug/L	100
27) 1,1-Dichloroethane	8.29	63	866062	48.3389	ug/L	100
28) Ethyl-Tert-Butyl ether	8.64	59	2807051	94.0362	ug/L	99
29) 2-Butanone	8.82	43	197848	56.2153	ug/L	98
30) Propionitrile	8.92	54	124002	123.9048	ug/L	99
31) 2,2-Dichloropropane	9.04	77	669589	51.9799	ug/L	100
32) cis-1,2-Dichloroethene	9.10	96	447855	46.6390	ug/L	97
33) Chloroform	9.30	83	702921	45.0543	ug/L	100
34) 1-Bromopropane	9.43	122	85476	47.3090	ug/L	99
35) Bromochloromethane	9.51	130	246432	46.9419	ug/L	96
36) Tetrahydrofuran	9.53	42	270932	105.5912	ug/L	99
38) 1,1,1-Trichloroethane	9.80	97	647065	46.8509	ug/L	99
39) Cyclohexane	9.83	56	902704	48.9928	ug/L	100
40) 1,1-Dichloropropene	9.99	75	570221	48.7732	ug/L	99
41) Carbon Tetrachloride	10.12	117	574709	48.9709	ug/L	100
42) Tert-Amyl-Methyl ether	10.08	73	2234659	92.9656	ug/L	99

(#) = qualifier out of range (m) = manual integration
11M16448.D 8260WTR.M Tue Feb 28 17:00:04 2017 Page 1

Data File : C:\MSDCHEM\1\DATA\022817\11M16448.D Vial: 1
Acq On : 28 Feb 2017 16:15 Operator: ADC
Sample : WG604519-02 50.0ug/L CCV Inst : hpms11
Misc : 1,1 STD80410 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 17:00:03 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

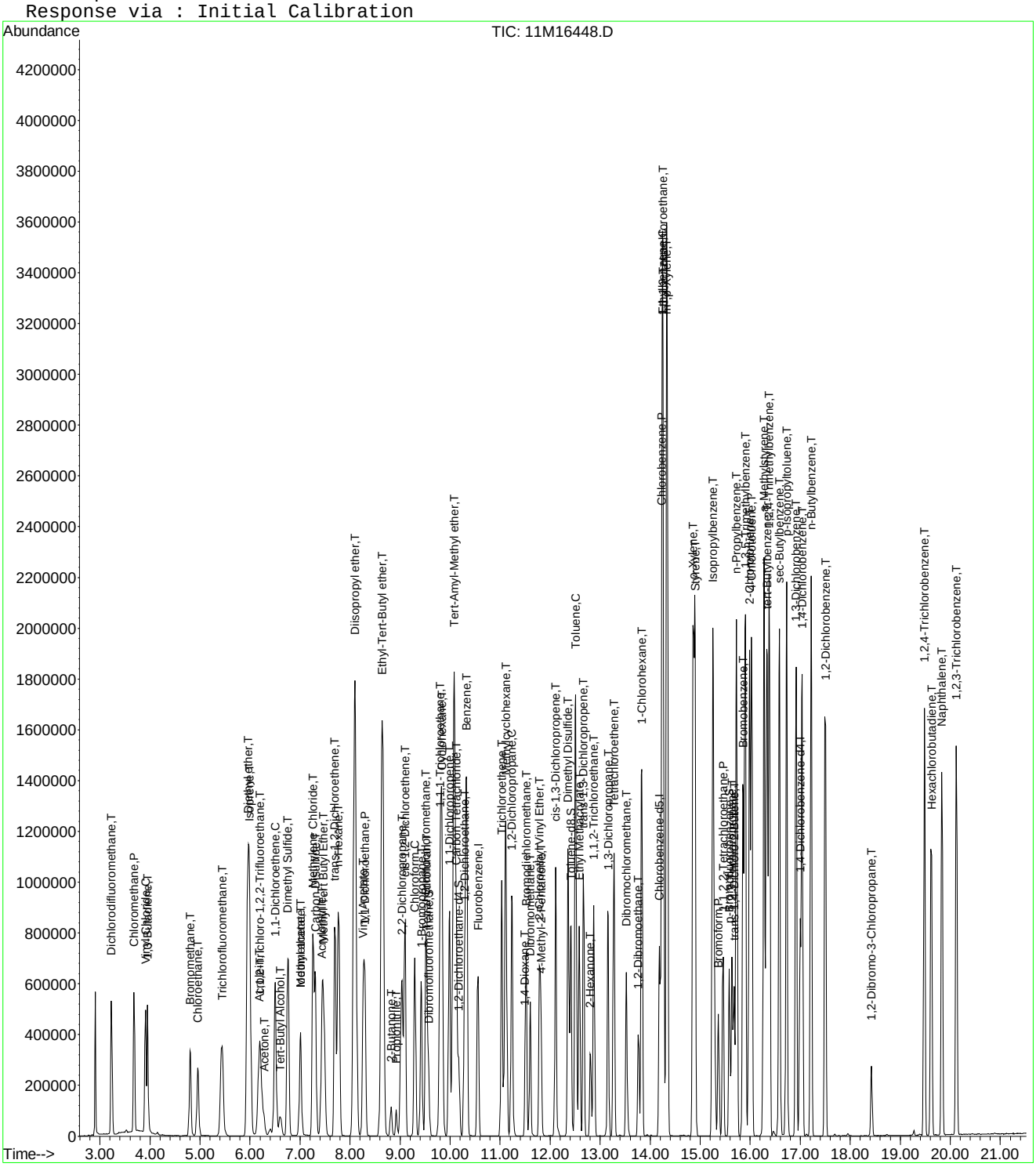
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44)	1,2-Dichloroethane	10.29	62	593702	47.9474	ug/L	99
45)	Benzene	10.33	78	1530200	45.5025	ug/L	100
46)	Trichloroethene	11.03	130	397585	46.6272	ug/L	99
47)	Methylcyclohexane	11.12	83	729912	50.3257	ug/L	99
48)	1,2-Dichloropropane	11.23	63	500513	49.5821	ug/L	98
49)	1,4-Dioxane	11.50	88	17187	518.0755	ug/L	92
50)	Bromodichloromethane	11.52	83	557153	48.5687	ug/L	100
51)	Dibromomethane	11.60	93	235657	47.5938	ug/L	99
52)	2-Chloroethyl Vinyl Ether	11.79	63	297097	50.4910	ug/L	98
53)	4-Methyl-2-Pentanone	11.82	58	165951	52.2993	ug/L	99
54)	cis-1,3-Dichloropropene	12.11	75	689611	49.9157	ug/L	99
55)	Dimethyl Disulfide	12.36	79	413635	48.6700	ug/L	99
58)	Toluene	12.51	91	1572743	42.3456	ug/L	100
59)	Ethyl Methacrylate	12.58	69	506255	51.3405	ug/L	99
60)	trans-1,3-Dichloropropene	12.67	75	619672	51.7279	ug/L	99
61)	1,1,2-Trichloroethane	12.87	97	347239	48.5499	ug/L	99
62)	2-Hexanone	12.80	43	292516	53.9702	ug/L	99
63)	1,3-Dichloropropane	13.16	76	598257	48.9797	ug/L	99
64)	Tetrachloroethene	13.28	164	331687	48.3093	ug/L	99
65)	Dibromochloromethane	13.52	129	416691	50.8070	ug/L	100
66)	1,2-Dibromoethane	13.76	107	324583	49.2625	ug/L	100
67)	1-Chlorohexane	13.83	91	569869	49.9620	ug/L	100
68)	Chlorobenzene	14.23	112	1029520	46.3922	ug/L	100
69)	1,1,1,2-Tetrachloroethane	14.26	131	403875	48.5936	ug/L	100
70)	Ethylbenzene	14.25	106	602594	48.8081	ug/L	99
71)	m-,p-Xylene	14.33	106	1368878	94.1845	ug/L	99
72)	o-Xylene	14.86	106	715992	48.6363	ug/L	99
73)	Styrene	14.90	104	1171404	49.2351	ug/L	100
74)	Bromoform	15.36	173	278126	52.6168	ug/L	100
75)	Isopropylbenzene	15.25	105	1683290	43.7768	ug/L	99
77)	1,1,2,2-Tetrachloroethane	15.46	83	456088	50.7171	ug/L	99
79)	1,2,3-Trichloropropane	15.63	110	126647	49.0721	ug/L	98
80)	trans-1,4-Dichloro-2-Buten	15.68	53	165460	52.5897	ug/L	94
81)	n-Propylbenzene	15.73	91	2010417	41.6338	ug/L	99
82)	Bromobenzene	15.86	156	477572	47.1763	ug/L	100
83)	1,3,5-Trimethylbenzene	15.90	105	1483114	43.8165	ug/L	99
84)	2-Chlorotoluene	15.99	91	1399422	42.1307	ug/L	99
85)	4-Chlorotoluene	16.03	91	1222013	43.7963	ug/L	100
86)	a-Methylstyrene	16.27	118	849111	50.6399	ug/L	99
87)	tert-Butylbenzene	16.34	134	338857	46.4620	ug/L	99
88)	1,2,4-Trimethylbenzene	16.38	105	1514505	43.3204	ug/L	99
89)	sec-Butylbenzene	16.58	105	1832786	44.4534	ug/L	99
90)	p-Isopropyltoluene	16.73	119	1574276	45.6477	ug/L	99
91)	1,3-Dichlorobenzene	16.92	146	902888	47.8858	ug/L	100
92)	1,4-Dichlorobenzene	17.04	146	890379	46.6118	ug/L	99
93)	n-Butylbenzene	17.22	91	1530362	47.0094	ug/L	99
94)	1,2-Dichlorobenzene	17.51	146	855144	48.4083	ug/L	99
95)	1,2-Dibromo-3-Chloropropan	18.43	75	87976	52.1584	ug/L	99
96)	1,2,4-Trichlorobenzene	19.48	180	635018	49.8266	ug/L	100
97)	Hexachlorobutadiene	19.62	225	318066	49.5099	ug/L	100
98)	Naphthalene	19.83	128	1297170	47.8375	ug/L	99
99)	1,2,3-Trichlorobenzene	20.12	180	581642	47.6821	ug/L	99

(#) = qualifier out of range (m) = manual integration
11M16448.D 8260WTR.M Tue Feb 28 17:00:04 2017 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\022817\11M16448.D Vial: 1
Acq On : 28 Feb 2017 16:15 Operator: ADC
Sample : WG604519-02 50.0ug/L CCV Inst : hpms11
Misc : 1,1 STD80410 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 28 17:00 2017 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\022517\11M16448.D Vial: 13
Acq On : 25 Feb 2017 22:22 Operator: ADC
Sample : WG601938-12 50.0ug/L ALT Inst : hpms11
Misc : 1,1 STD80410 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	98	0.01
2	T	Dichlorodifluoromethane	50.0000	47.8272	4.3	81	0.01
3	P	Chloromethane	50.0000	43.7333	12.5	88	0.01
4	C	Vinyl Chloride	50.0000	47.1806	5.6	91	0.01
5	T	1,3-Butadiene	50.0000	66.4586	-32.9#	132	0.01
6	T	Bromomethane	50.0000	46.6865	6.6	99	0.01
7	T	Chloroethane	50.0000	51.3345	-2.7	94	0.00
8	T	Trichlorofluoromethane	50.0000	48.0003	4.0	89	0.01
9	T	Diethyl ether	100.0000	96.8148	3.2	92	0.01
10	T	Isoprene	50.0000	50.5121	-1.0	92	0.00
11	T	Acrolein	50.0000	95.2213	-90.4#	172	0.01
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	51.4425	-2.9	95	0.01
13	T	Acetone	50.0000	42.3265	15.3	85	0.01
14	C	1,1-Dichloroethene	50.0000	49.6862	0.6	90	0.01
15	T	Tert-Butyl Alcohol	200.0000	179.8717	10.1	90	0.01
16	T	Dimethyl Sulfide	50.0000	49.2426	1.5	90	0.01
17	T	Iodomethane	50.0000	45.6392	8.7	79	0.00
18	T	Methyl acetate	50.0000	49.8686	0.3	96	0.00
19	T	Methylene Chloride	50.0000	49.9492	0.1	94	0.00
20	T	Carbon Disulfide	50.0000	41.1940	17.6	77	0.00
21	T	Acrylonitrile	50.0000	47.7823	4.4	87	0.01
22	T	Methyl Tert Butyl Ether	50.0000	48.7960	2.4	89	0.01
23	T	trans-1,2-Dichloroethene	50.0000	52.4064	-4.8	96	0.00
24	T	n-Hexane	50.0000	47.8698	4.3	87	0.00
25	T	Diisopropyl ether	100.0000	94.4095	5.6	94	0.01
26	T	Vinyl Acetate	50.0000	39.1088	21.8	73	0.01
27	P	1,1-Dichloroethane	50.0000	51.3642	-2.7	93	0.01
28	T	Ethyl-Tert-Butyl ether	100.0000	95.3720	4.6	90	0.01
29	T	2-Butanone	50.0000	42.9208	14.2	83	0.00
30	T	Propionitrile	100.0000	91.4465	8.6	88	0.01
31	T	2,2-Dichloropropane	50.0000	47.2375	5.5	89	0.00
32	T	cis-1,2-Dichloroethene	50.0000	51.0214	-2.0	95	0.01
33	C	Chloroform	50.0000	50.7127	-1.4	97	0.00
34	T	1-Bromopropane	50.0000	65.3864	-30.8#	118	0.00
35	T	Bromochloromethane	50.0000	52.6814	-5.4	96	0.00
36	T	Tetrahydrofuran	100.0000	88.8927	11.1	87	0.00
37	S	Dibromofluoromethane	25.0000	25.4298	-1.7	99	0.00
38	T	1,1,1-Trichloroethane	50.0000	53.1039	-6.2	97	0.00
39	T	Cyclohexane	50.0000	43.9164	12.2	80	0.01
40	T	1,1-Dichloropropene	50.0000	51.9209	-3.8	94	0.00
41	T	Carbon Tetrachloride	50.0000	53.3782	-6.8	94	0.00
42	T	Tert-Amyl-Methyl ether	100.0000	97.7081	2.3	92	0.01
43	S	1,2-Dichloroethane-d4	25.0000	25.1801	-0.7	96	0.00
44	T	1,2-Dichloroethane	50.0000	50.8489	-1.7	92	0.00
45	T	Benzene	50.0000	50.3914	-0.8	95	0.01
46	T	Trichloroethene	50.0000	53.3940	-6.8	96	0.00
47	T	Methylcyclohexane	50.0000	47.3037	5.4	86	0.00
48	C	1,2-Dichloropropane	50.0000	51.9806	-4.0	93	0.00
49	T	1,4-Dioxane	200.0000	186.7208	6.6	95	0.01
50	T	Bromodichloromethane	50.0000	51.2006	-2.4	92	0.00
51	T	Dibromomethane	50.0000	51.0126	-2.0	93	0.00
52	T	2-Chloroethyl Vinyl Ether	50.0000	49.9085	0.2	90	0.00
53	T	4-Methyl-2-Pentanone	50.0000	47.8702	4.3	89	0.00
54	T	cis-1,3-Dichloropropene	50.0000	53.6648	-7.3	96	0.00

(#) = Out of Range
11M16448.D 8260WTR.M Tue Feb 28 15:11:56 2017 Page 1

Data File : C:\MSDCHEM\1\DATA\022517\11M16448.D Vial: 13
Acq On : 25 Feb 2017 22:22 Operator: ADC
Sample : WG601938-12 50.0ug/L ALT Inst : hpms11
Misc : 1,1 STD80410 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	Dimethyl Disulfide	50.0000	50.6621	-1.3	91	0.00
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	98	0.00
57	S	Toluene-d8	25.0000	26.8140	-7.3	100	0.00
58	C	Toluene	50.0000	47.2266	5.5	94	0.01
59	T	Ethyl Methacrylate	50.0000	53.0155	-6.0	94	0.00
60	T	trans-1,3-Dichloropropene	50.0000	52.4376	-4.9	91	0.00
61	T	1,1,2-Trichloroethane	50.0000	50.8257	-1.7	93	0.00
62	T	2-Hexanone	50.0000	47.4795	5.0	89	0.00
63	T	1,3-Dichloropropane	50.0000	52.7324	-5.5	94	0.00
64	T	Tetrachloroethene	50.0000	54.0043	-8.0	97	0.00
65	T	Dibromochloromethane	50.0000	52.2507	-4.5	91	0.00
66	T	1,2-Dibromoethane	50.0000	51.6279	-3.3	92	0.00
67	T	1-Chlorohexane	50.0000	51.6322	-3.3	93	0.00
68	P	Chlorobenzene	50.0000	51.0438	-2.1	94	0.00
69	T	1,1,1,2-Tetrachloroethane	50.0000	52.1303	-4.3	92	0.00
70	C	Ethylbenzene	50.0000	54.1927	-8.4	95	0.00
71	T	m-,p-Xylene	100.0000	104.7912	-4.8	95	0.00
72	T	o-Xylene	50.0000	53.9391	-7.9	94	0.00
73	T	Styrene	50.0000	54.3747	-8.7	96	0.00
74	P	Bromoform	50.0000	52.1340	-4.3	91	0.00
75	T	Isopropylbenzene	50.0000	47.9963	4.0	93	0.00
76	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	103	0.00
77	P	1,1,2,2-Tetrachloroethane	50.0000	46.7494	6.5	90	0.00
78	S	p-Bromofluorobenzene	25.0000	25.1390	-0.6	99	0.00
79	T	1,2,3-Trichloropropane	50.0000	48.5692	2.9	94	0.00
80	T	trans-1,4-Dichloro-2-Butene	50.0000	38.1035	23.8	74	0.00
81	T	n-Propylbenzene	50.0000	43.6474	12.7	92	0.00
82	T	Bromobenzene	50.0000	50.2607	-0.5	95	-0.01
83	T	1,3,5-Trimethylbenzene	50.0000	46.8976	6.2	95	0.00
84	T	2-Chlorotoluene	50.0000	45.0420	9.9	93	0.00
85	T	4-Chlorotoluene	50.0000	46.1976	7.6	95	0.00
86	T	a-Methylstyrene	50.0000	53.9700	-7.9	96	0.00
87	T	tert-Butylbenzene	50.0000	50.7195	-1.4	95	-0.01
88	T	1,2,4-Trimethylbenzene	50.0000	46.3792	7.2	94	0.00
89	T	sec-Butylbenzene	50.0000	47.1205	5.8	93	0.00
90	T	p-Isopropyltoluene	50.0000	48.8404	2.3	95	0.00
91	T	1,3-Dichlorobenzene	50.0000	49.0941	1.8	93	0.00
92	T	1,4-Dichlorobenzene	50.0000	49.5331	0.9	96	0.00
93	T	n-Butylbenzene	50.0000	48.9656	2.1	95	0.00
94	T	1,2-Dichlorobenzene	50.0000	51.1519	-2.3	95	0.00
95	T	1,2-Dibromo-3-Chloropropane	50.0000	47.6034	4.8	90	0.00
96	T	1,2,4-Trichlorobenzene	50.0000	52.0732	-4.1	97	0.00
97	T	Hexachlorobutadiene	50.0000	50.5477	-1.1	96	0.00
98	T	Naphthalene	50.0000	49.1131	1.8	94	0.00
99	T	1,2,3-Trichlorobenzene	50.0000	49.8606	0.3	96	0.00

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416519.D Vial: 2
Acq On : 8 Dec 2016 9:19 Operator: TMB
Sample : WG594051-02 5ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 08 14:33:51 2016 Quant Results File: A9FOOWTR.RES

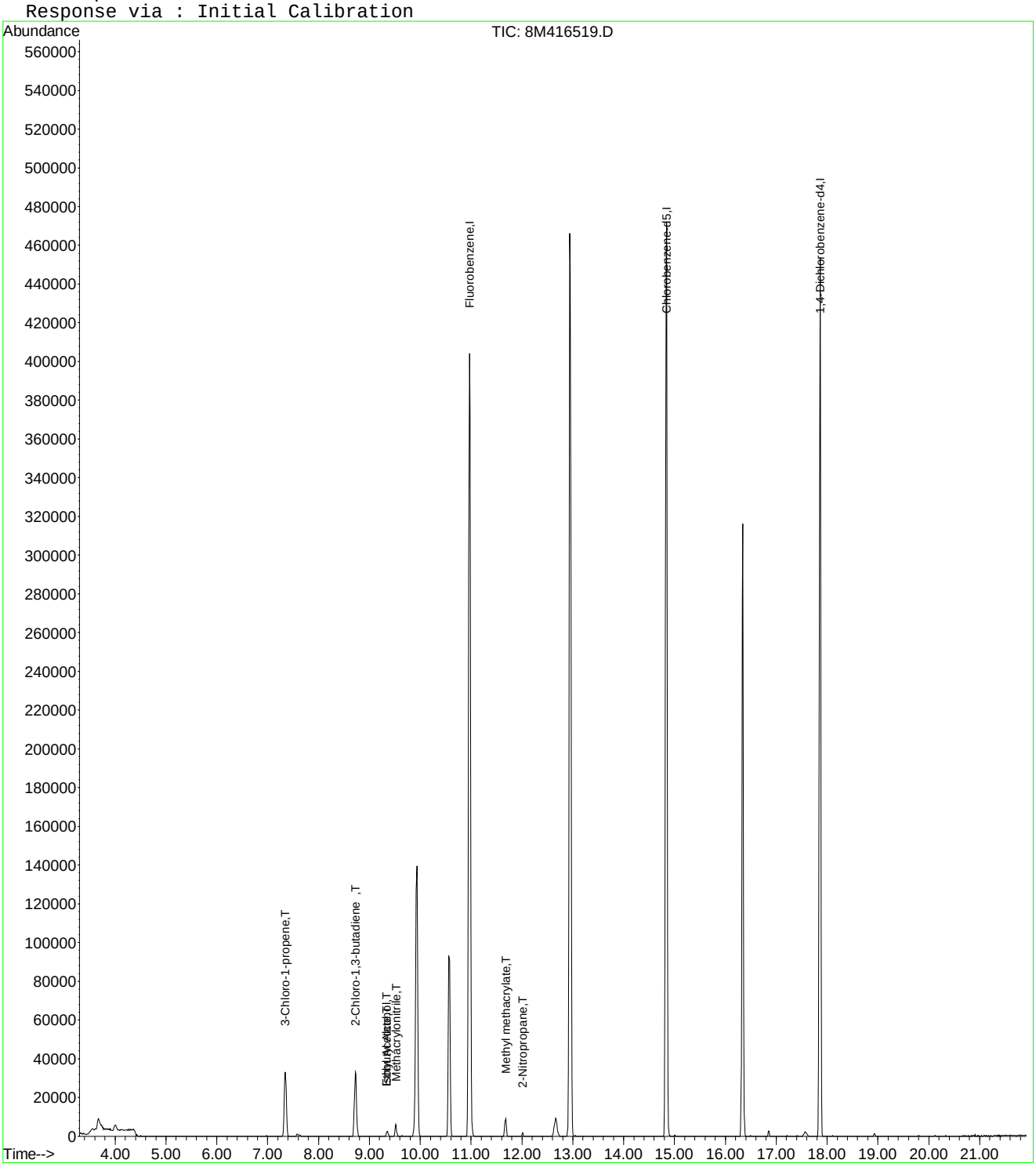
Quant Method : K:\ORGANICS\V...\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.97	96	524008	25.00	ug/L		0.00
11) Chlorobenzene-d5	14.84	117	364349	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	17.86	152	144698	25.00	ug/L		0.00
Target Compounds							Qvalue
3) 3-Chloro-1-propene	7.35	41	29881	4.9041	ug/L		96
4) 2-Chloro-1,3-butadiene	8.72	53	29557	4.4384	ug/L		94
5) Ethyl Acetate	9.34	43	5291	3.8864	ug/L	#	59
6) Methacrylonitrile	9.53	67	3339	3.7723	ug/L		88
7) Isobutyl Alcohol	9.34	43	5291	117.7955	ug/L	#	10
9) Methyl methacrylate	11.68	41	5754	4.0085	ug/L		90
10) 2-Nitropropane	12.01	43	1384	2.9662	ug/L		98

(#) = qualifier out of range (m) = manual integration
8M416519.D A9FOOWTR.M Thu Dec 08 14:33:52 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416519.D Vial: 2
Acq On : 8 Dec 2016 9:19 Operator: TMB
Sample : WG594051-02 5ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 8 14:33 2016 Quant Results File: A9FOOWTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416519.D Vial: 2
Acq On : 8 Dec 2016 9:19 Operator: TMB
Sample : WG594051-02 5ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 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	-1.0000	0.0000	0.0	0	-6.97#
3	T	3-Chloro-1-propene	5.0000	4.9041	1.9	100	0.00
4	T	2-Chloro-1,3-butadiene	5.0000	4.4384	11.2	100	0.00
5	T	Ethyl Acetate	-1.0000	3.8864	0.0	0	0.00
6	T	Methacrylonitrile	5.0000	3.7723	24.6	100	0.00
7	T	Isobutyl Alcohol	-1.0000	117.7955	0.0	0	-0.18
8	T	1-Butanol	-1.0000	0.0000	0.0	0	-10.45#
9	T	Methyl methacrylate	5.0000	4.0085	19.8	100	0.00
10	T	2-Nitropropane	-1.0000	2.9662	0.0	0	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	0.0000	0.0	0	-16.11#

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M416519.D A9FOOWTR.M Thu Dec 08 14:40:29 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416520.D Vial: 3
Acq On : 8 Dec 2016 9:48 Operator: TMB
Sample : WG594051-03 20ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 08 14:33:53 2016 Quant Results File: A9FOOWTR.RES

Quant Method : K:\ORGANICS\V...\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

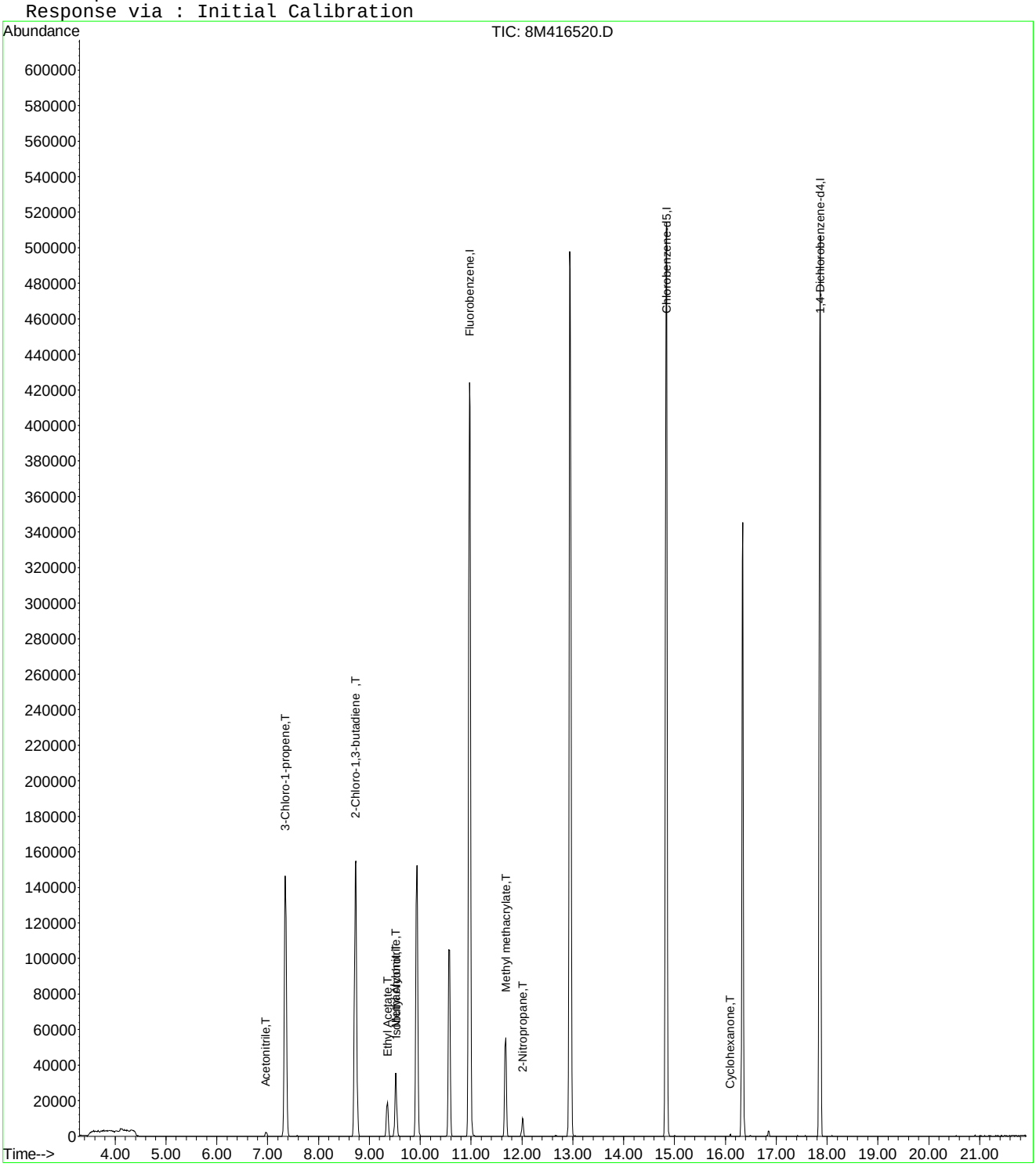
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.97	96	562112	25.00	ug/L		0.00
11) Chlorobenzene-d5	14.84	117	401339	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	17.86	152	163574	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.96	41	3251	20.0530	ug/L		86
3) 3-Chloro-1-propene	7.35	41	126513	19.3558	ug/L		94
4) 2-Chloro-1,3-butadiene	8.72	53	133862	18.7385	ug/L		93
5) Ethyl Acetate	9.35	43	29216	20.0054	ug/L		96
6) Methacrylonitrile	9.52	67	18458	19.4399	ug/L		89
7) Isobutyl Alcohol	9.53	43	1383	28.7031	ug/L	#	86
9) Methyl methacrylate	11.68	41	30029	19.5014	ug/L		97
10) 2-Nitropropane	12.01	43	9171	18.3231	ug/L		92
13) Cyclohexanone	16.09	55	573	11.3348	ug/L	#	22

(#) = qualifier out of range (m) = manual integration
8M416520.D A9FOOWTR.M Thu Dec 08 14:33:55 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416520.D Vial: 3
Acq On : 8 Dec 2016 9:48 Operator: TMB
Sample : WG594051-03 20ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 8 14:33 2016 Quant Results File: A9FOOWTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416520.D Vial: 3
Acq On : 8 Dec 2016 9:48 Operator: TMB
Sample : WG594051-03 20ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 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	20.0530	-0.3	100	0.00
3	T	3-Chloro-1-propene	20.0000	19.3558	3.2	100	0.00
4	T	2-Chloro-1,3-butadiene	20.0000	18.7385	6.3	100	0.00
5	T	Ethyl Acetate	20.0000	20.0054	-0.0	100	0.00
6	T	Methacrylonitrile	20.0000	19.4399	2.8	100	0.00
7	T	Isobutyl Alcohol	-1.0000	28.7031	0.0	0	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	-10.45#
9	T	Methyl methacrylate	20.0000	19.5014	2.5	100	0.00
10	T	2-Nitropropane	20.0000	18.3231	8.4	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	11.3348	0.0	0	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M416520.D A9FOOWTR.M Thu Dec 08 14:40:47 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416521.D Vial: 4
Acq On : 8 Dec 2016 10:17 Operator: TMB
Sample : WG594051-04 50ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 08 14:33:56 2016 Quant Results File: A9FOOWTR.RES

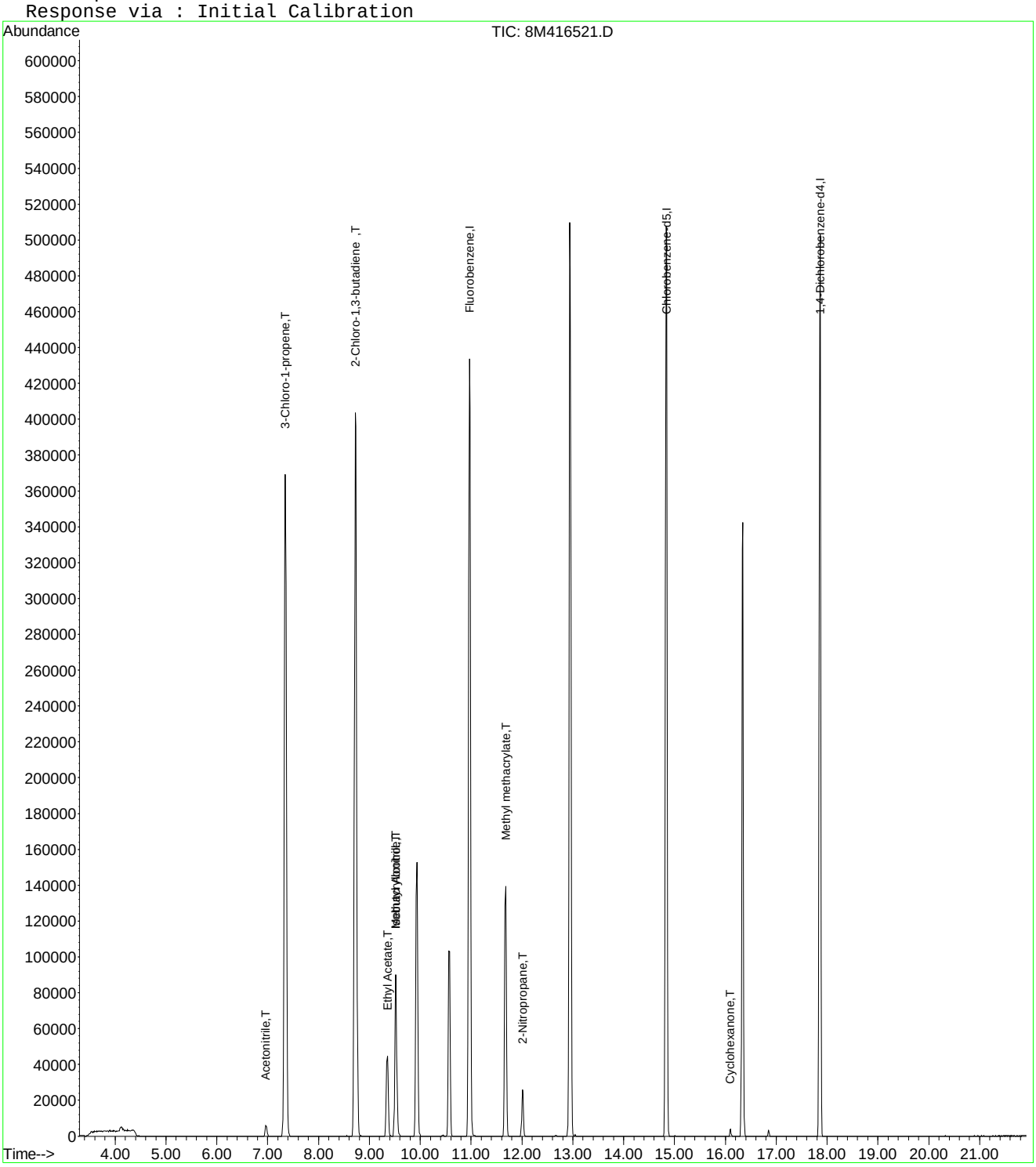
Quant Method : K:\ORGANICS\V...\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.97	96	564001	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.84	117	394560	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.86	152	164538	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.96	41	7864	48.3447	ug/L	100
3) 3-Chloro-1-propene	7.35	41	318087	48.5026	ug/L	96
4) 2-Chloro-1,3-butadiene	8.72	53	344272	48.0312	ug/L	93
5) Ethyl Acetate	9.35	43	70890	48.3788	ug/L	100
6) Methacrylonitrile	9.52	67	48404	50.8082	ug/L	93
7) Isobutyl Alcohol	9.52	43	4449	92.0262	ug/L #	94
9) Methyl methacrylate	11.68	41	76637	49.6027	ug/L	97
10) 2-Nitropropane	12.01	43	23103	46.0039	ug/L	95
13) Cyclohexanone	16.09	55	2163	42.5368	ug/L	98

(#) = qualifier out of range (m) = manual integration
8M416521.D A9FOOWTR.M Thu Dec 08 14:33:58 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416521.D Vial: 4
Acq On : 8 Dec 2016 10:17 Operator: TMB
Sample : WG594051-04 50ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 8 14:33 2016 Quant Results File: A9FOOWTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416521.D Vial: 4
Acq On : 8 Dec 2016 10:17 Operator: TMB
Sample : WG594051-04 50ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 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	48.3447	3.3	100	0.00
3	T	3-Chloro-1-propene	50.0000	48.5026	3.0	100	0.00
4	T	2-Chloro-1,3-butadiene	50.0000	48.0312	3.9	100	0.00
5	T	Ethyl Acetate	50.0000	48.3788	3.2	100	0.00
6	T	Methacrylonitrile	50.0000	50.8082	-1.6	100	0.00
7	T	Isobutyl Alcohol	100.0000	92.0262	8.0	100	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	-0.01
9	T	Methyl methacrylate	50.0000	49.6027	0.8	100	0.00
10	T	2-Nitropropane	50.0000	46.0039	8.0	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	50.0000	42.5368	14.9	100	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M416521.D A9FOOWTR.M Thu Dec 08 14:41:01 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416522.D Vial: 5
Acq On : 8 Dec 2016 10:47 Operator: TMB
Sample : WG594051-05 100ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 08 14:33:59 2016 Quant Results File: A9FOOWTR.RES

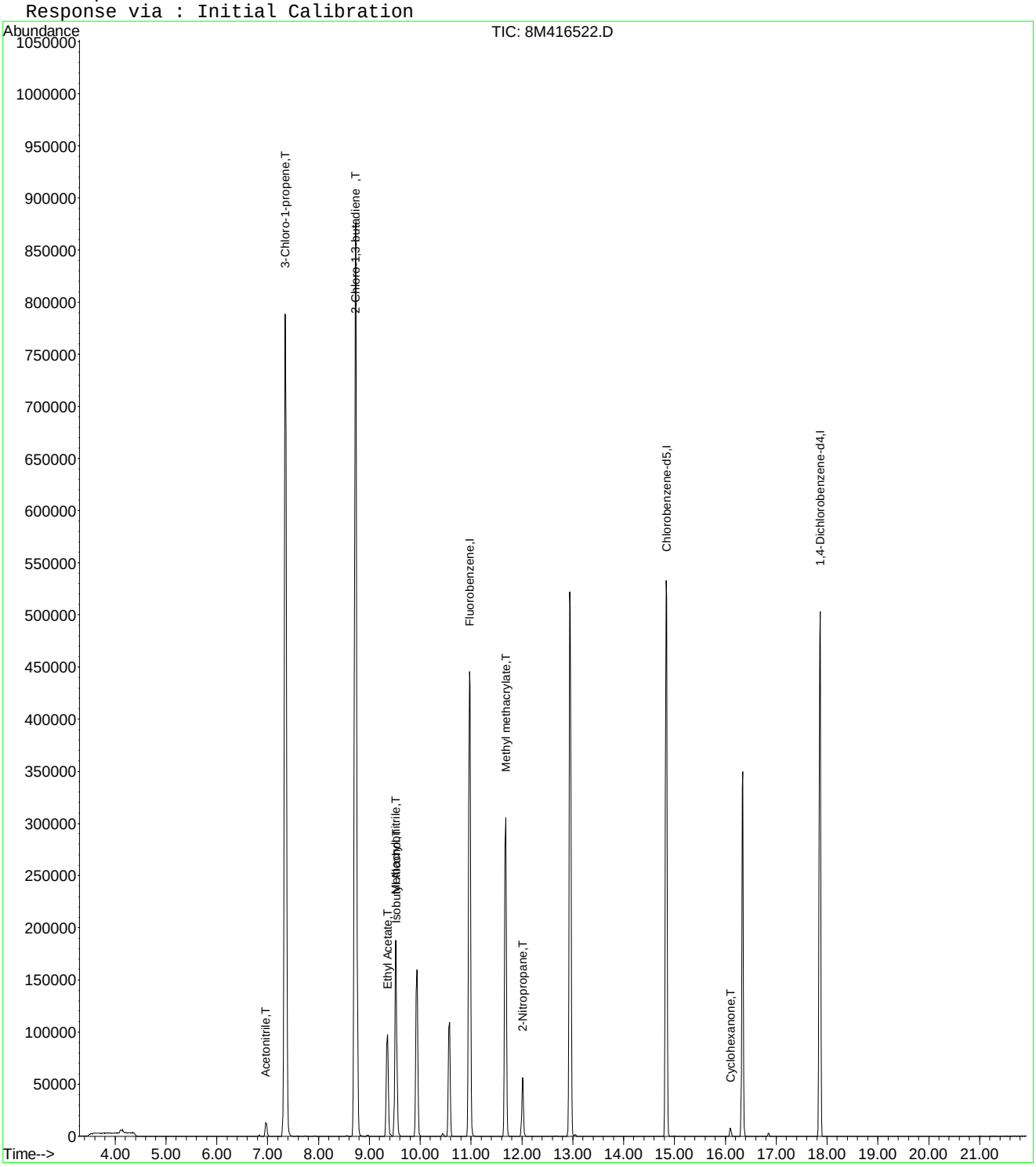
Quant Method : K:\ORGANICS\V...\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.97	96	591526	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.84	117	415270	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.86	152	167978	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.97	41	17844	104.5933	ug/L	96
3) 3-Chloro-1-propene	7.35	41	676105	98.2967	ug/L	97
4) 2-Chloro-1,3-butadiene	8.72	53	745903	99.2224	ug/L	94
5) Ethyl Acetate	9.35	43	151658	98.6828	ug/L	100
6) Methacrylonitrile	9.52	67	101361	101.4448	ug/L	99
7) Isobutyl Alcohol	9.53	43	10092	199.0363	ug/L	96
9) Methyl methacrylate	11.68	41	163688	101.0159	ug/L	97
10) 2-Nitropropane	12.01	43	50322	95.5410	ug/L	95
13) Cyclohexanone	16.11	55	5170	99.5894	ug/L	97

(#) = qualifier out of range (m) = manual integration
8M416522.D A9FOOWTR.M Thu Dec 08 14:34:01 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416522.D Vial: 5
Acq On : 8 Dec 2016 10:47 Operator: TMB
Sample : WG594051-05 100ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 8 14:33 2016 Quant Results File: A9FOOWTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416522.D Vial: 5
Acq On : 8 Dec 2016 10:47 Operator: TMB
Sample : WG594051-05 100ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 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	100.0000	104.5933	-4.6	100	0.00
3	T	3-Chloro-1-propene	100.0000	98.2967	1.7	100	0.00
4	T	2-Chloro-1,3-butadiene	100.0000	99.2224	0.8	100	0.00
5	T	Ethyl Acetate	100.0000	98.6828	1.3	100	0.00
6	T	Methacrylonitrile	100.0000	101.4448	-1.4	100	0.00
7	T	Isobutyl Alcohol	200.0000	199.0363	0.5	100	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	0.00
9	T	Methyl methacrylate	100.0000	101.0159	-1.0	100	0.00
10	T	2-Nitropropane	100.0000	95.5410	4.5	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	100.0000	99.5894	0.4	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M416522.D A9FOOWTR.M Thu Dec 08 14:41:12 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416523.D Vial: 6
Acq On : 8 Dec 2016 11:16 Operator: TMB
Sample : WG594051-06 200ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 08 14:34:02 2016 Quant Results File: A9FOOWTR.RES

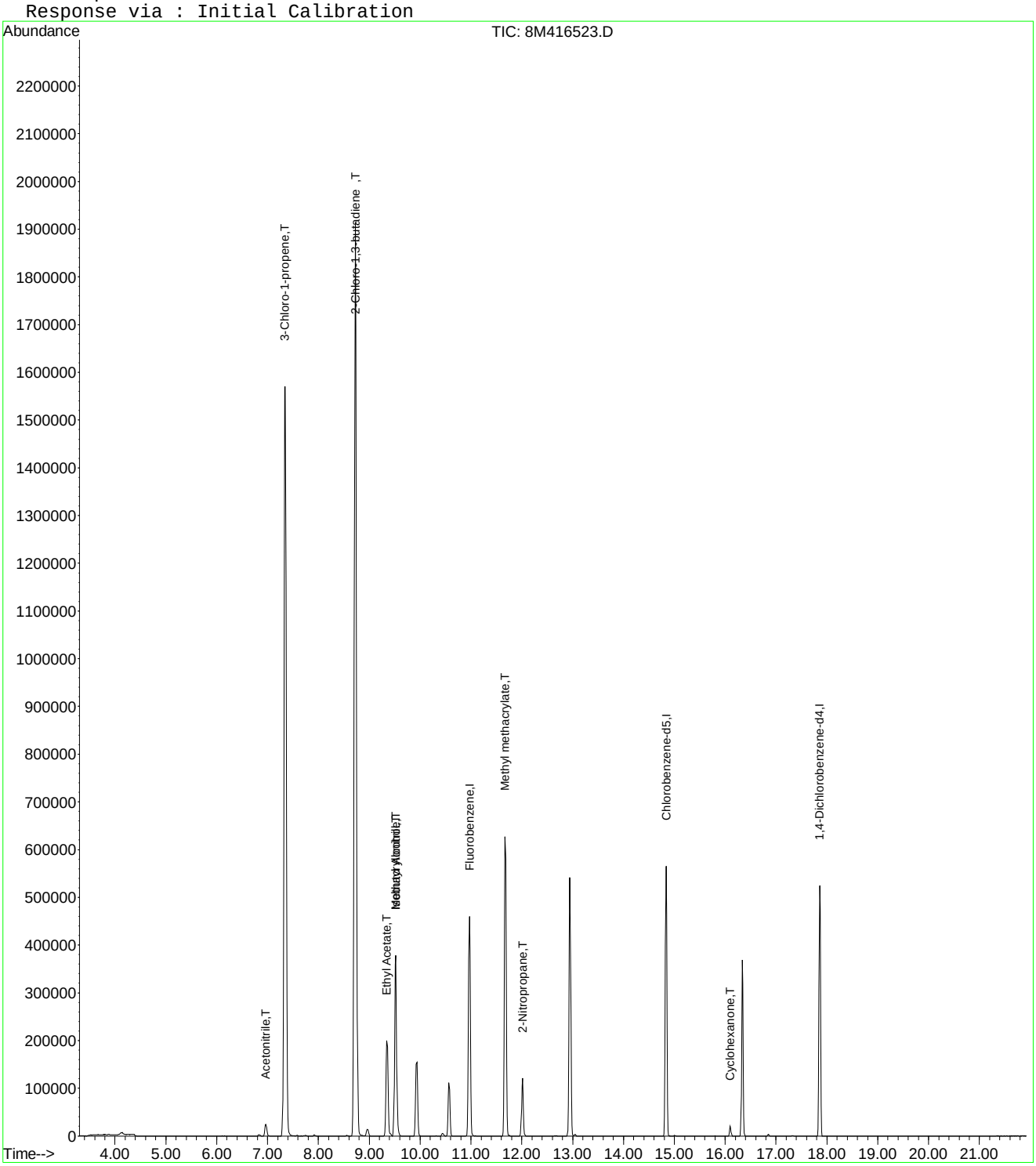
Quant Method : K:\ORGANICS\V...\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.97	96	594977	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.84	117	420464	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.85	152	172604	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.97	41	34536	201.2600	ug/L	98
3) 3-Chloro-1-propene	7.34	41	1382110	199.7750	ug/L	97
4) 2-Chloro-1,3-butadiene	8.73	53	1548323	204.7683	ug/L	96
5) Ethyl Acetate	9.35	43	311769	201.6892	ug/L	100
6) Methacrylonitrile	9.52	67	209671	208.6271	ug/L	99
7) Isobutyl Alcohol	9.52	43	19754	387.3323	ug/L	94
9) Methyl methacrylate	11.67	41	335849	206.0586	ug/L	99
10) 2-Nitropropane	12.01	43	108018	203.8928	ug/L	98
13) Cyclohexanone	16.10	55	10760	201.7141	ug/L	97

(#) = qualifier out of range (m) = manual integration
8M416523.D A9FOOWTR.M Thu Dec 08 14:34:03 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416523.D Vial: 6
Acq On : 8 Dec 2016 11:16 Operator: TMB
Sample : WG594051-06 200ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 8 14:34 2016 Quant Results File: A9FOOWTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416524.D Vial: 7
Acq On : 8 Dec 2016 11:46 Operator: TMB
Sample : WG594051-07 300ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 08 14:34:05 2016 Quant Results File: A9FOOWTR.RES

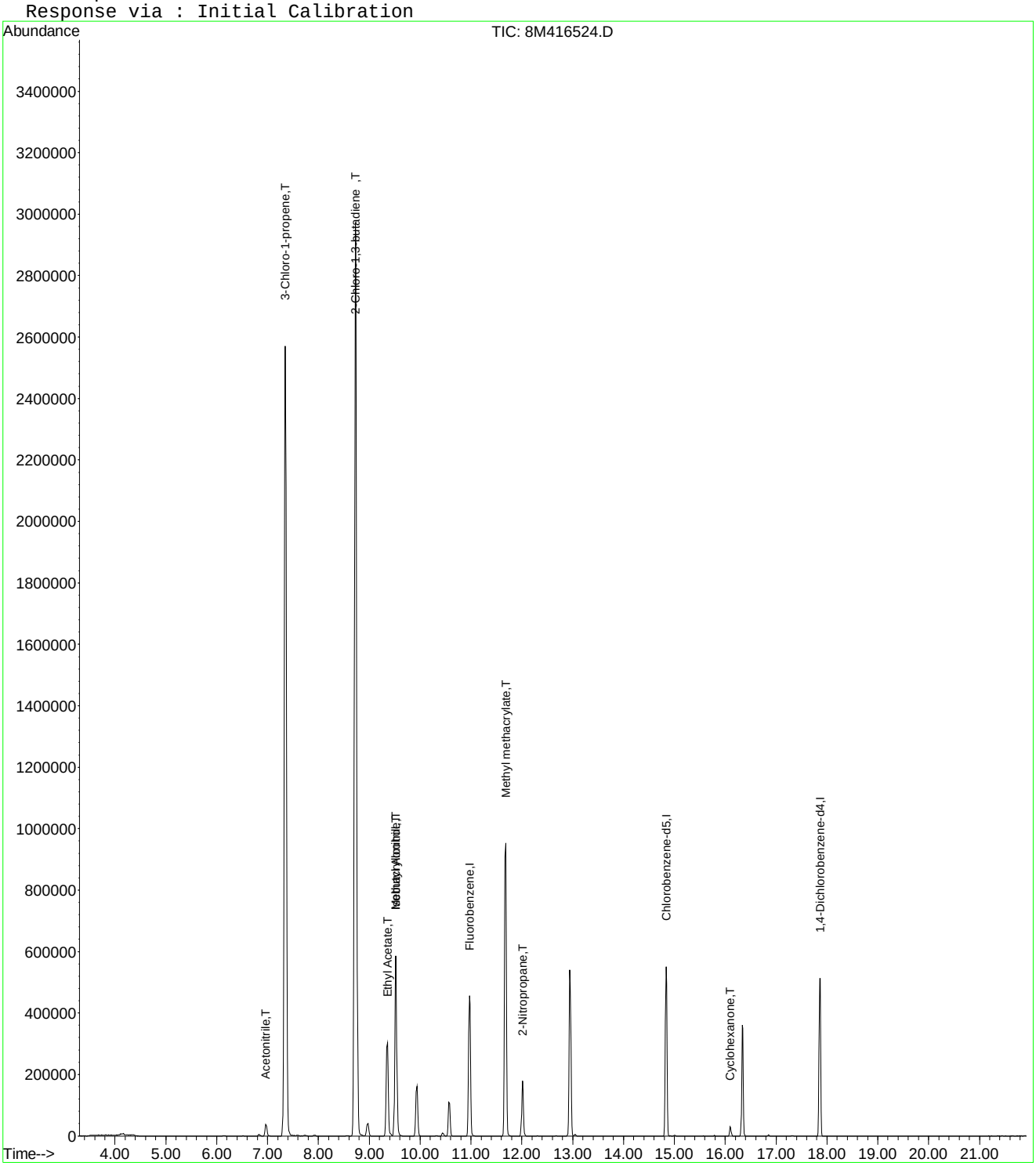
Quant Method : K:\ORGANICS\V...\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.97	96	603930	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.84	117	427693	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.86	152	174680	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.97	41	50936	292.4312	ug/L	98
3) 3-Chloro-1-propene	7.35	41	2157997	307.3002	ug/L	98
4) 2-Chloro-1,3-butadiene	8.72	53	2431028	316.7413	ug/L	97
5) Ethyl Acetate	9.36	43	465757	296.8402	ug/L	100
6) Methacrylonitrile	9.52	67	317606	311.3398	ug/L	99
7) Isobutyl Alcohol	9.52	43	31446	607.4460	ug/L	97
9) Methyl methacrylate	11.68	41	510372	308.4942	ug/L	99
10) 2-Nitropropane	12.01	43	166198	309.0616	ug/L	100
13) Cyclohexanone	16.10	55	16564	306.8294	ug/L	99

(#) = qualifier out of range (m) = manual integration
8M416524.D A9FOOWTR.M Thu Dec 08 14:34:06 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416524.D Vial: 7
Acq On : 8 Dec 2016 11:46 Operator: TMB
Sample : WG594051-07 300ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 8 14:34 2016 Quant Results File: A9FOOWTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416525.D Vial: 8
Acq On : 8 Dec 2016 12:16 Operator: TMB
Sample : WG594051-08 400ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 08 14:34:08 2016 Quant Results File: A9FOOWTR.RES

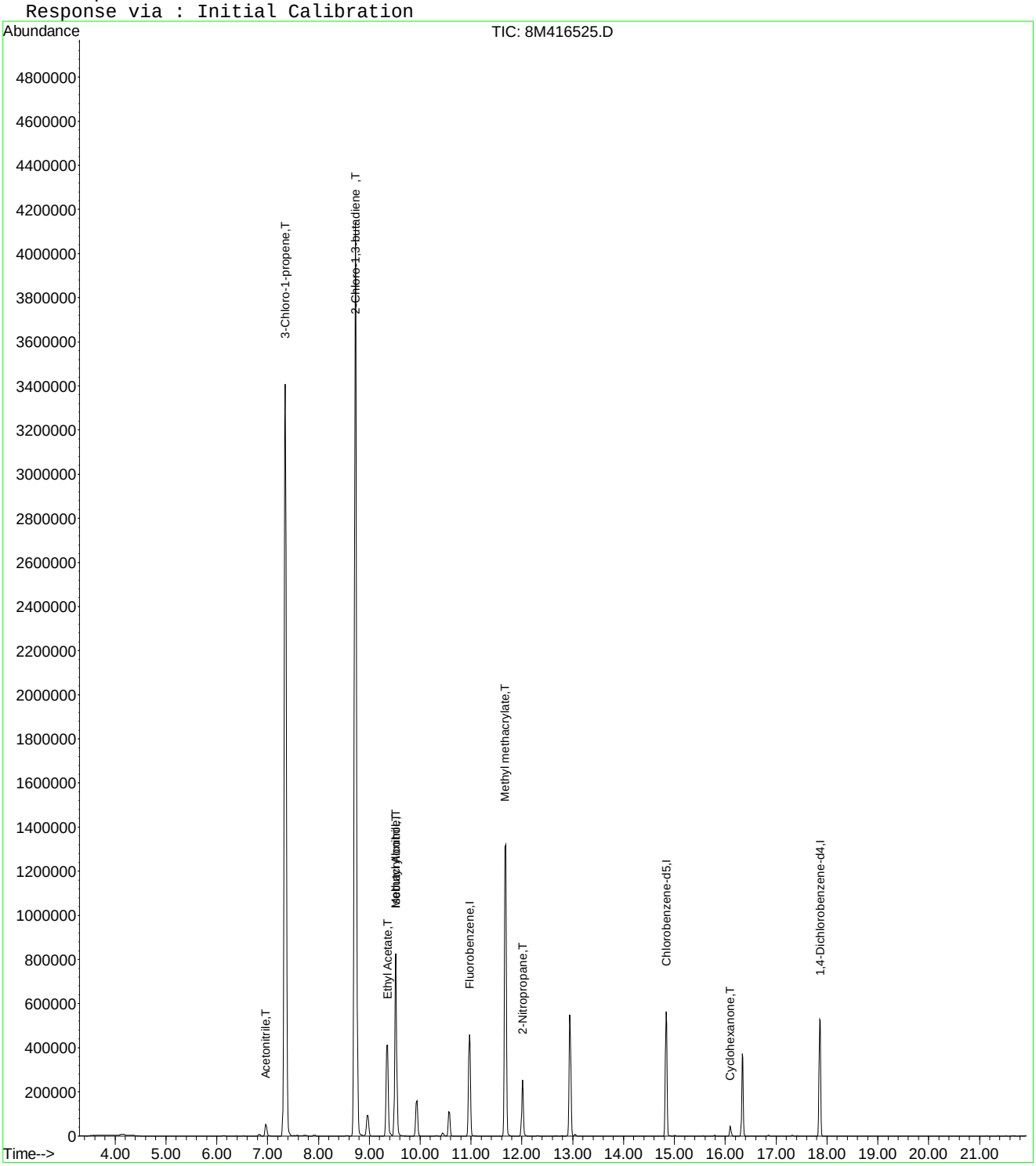
Quant Method : K:\ORGANICS\V...\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.97	96	605694	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.83	117	430760	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.86	152	180284	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.97	41	71198	407.5680	ug/L	99
3) 3-Chloro-1-propene	7.35	41	2884846	409.6076	ug/L	99
4) 2-Chloro-1,3-butadiene	8.72	53	3270965	424.9364	ug/L	98
5) Ethyl Acetate	9.35	43	647926	411.7391	ug/L	100
6) Methacrylonitrile	9.52	67	444486	434.4476	ug/L	100
7) Isobutyl Alcohol	9.52	43	45941	884.8630	ug/L	99
9) Methyl methacrylate	11.67	41	717453	432.4013	ug/L	100
10) 2-Nitropropane	12.01	43	236171	437.9042	ug/L	98
13) Cyclohexanone	16.10	55	23842	427.9179	ug/L	97

(#) = qualifier out of range (m) = manual integration
8M416525.D A9FOOWTR.M Thu Dec 08 14:34:09 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416525.D Vial: 8
Acq On : 8 Dec 2016 12:16 Operator: TMB
Sample : WG594051-08 400ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 8 14:34 2016 Quant Results File: A9FOOWTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416526.D Vial: 9
Acq On : 8 Dec 2016 12:45 Operator: TMB
Sample : WG594051-09 500ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 08 14:34:10 2016 Quant Results File: A9FOOWTR.RES

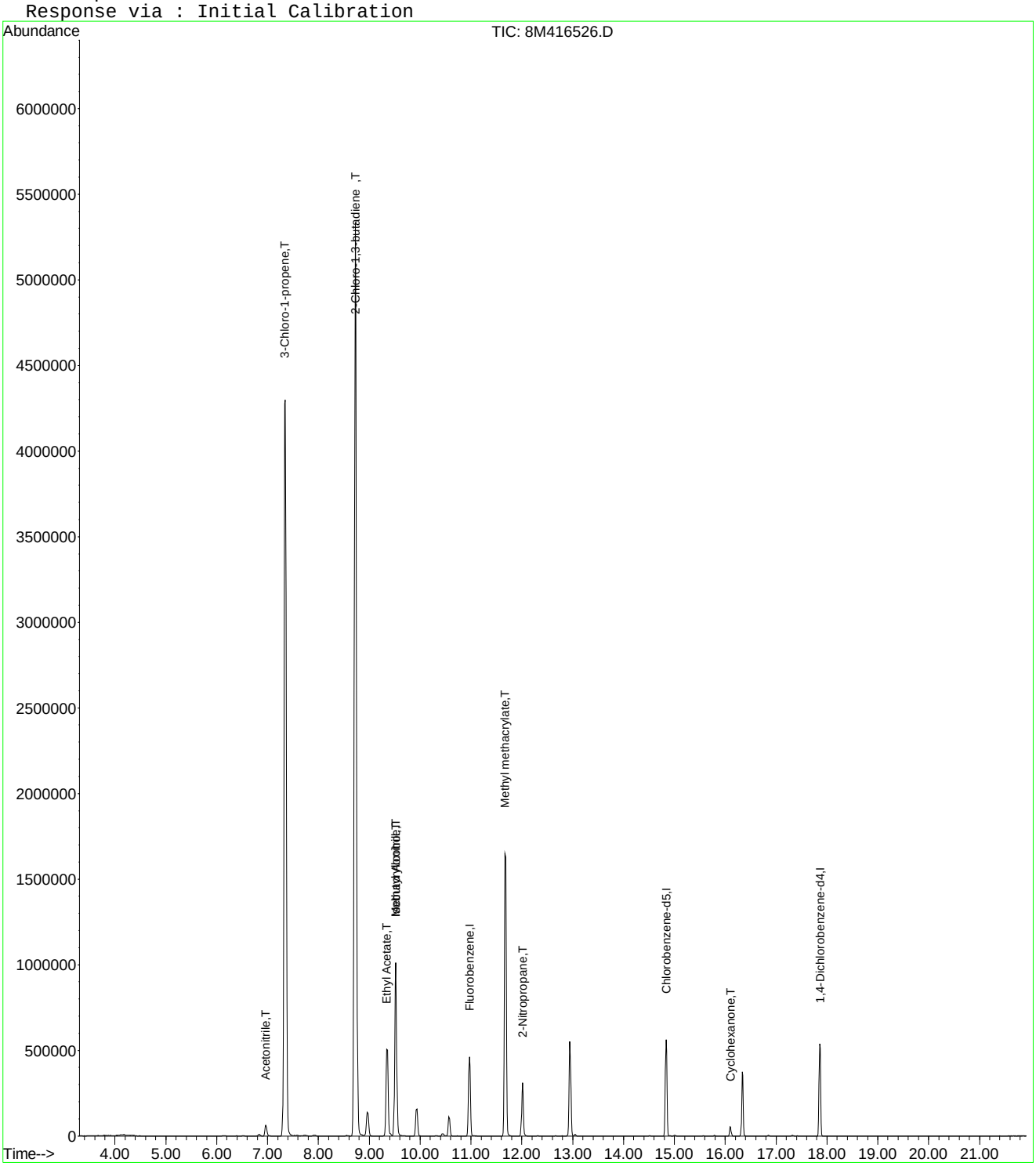
Quant Method : K:\ORGANICS\V...\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.97	96	602709	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.84	117	431889	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.86	152	183338	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.97	41	85570	492.2655	ug/L	100
3) 3-Chloro-1-propene	7.34	41	3683366	525.5763	ug/L	100
4) 2-Chloro-1,3-butadiene	8.72	53	4138456	540.2962	ug/L	100
5) Ethyl Acetate	9.35	43	797081	509.0316	ug/L	100
6) Methacrylonitrile	9.52	67	547652	537.9348	ug/L	100
7) Isobutyl Alcohol	9.52	43	51546	997.7372	ug/L	100
9) Methyl methacrylate	11.67	41	892736	540.7072	ug/L	100
10) 2-Nitropropane	12.01	43	285485	531.9631	ug/L	100
13) Cyclohexanone	16.11	55	29810	526.1195	ug/L	100

(#) = qualifier out of range (m) = manual integration
8M416526.D A9FOOWTR.M Thu Dec 08 14:34:12 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416526.D Vial: 9
Acq On : 8 Dec 2016 12:45 Operator: TMB
Sample : WG594051-09 500ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79185 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 8 14:34 2016 Quant Results File: A9FOOWTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416529.D Vial: 12
Acq On : 8 Dec 2016 14:12 Operator: TMB
Sample : WG594051-09 100ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79186 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 08 15:03:45 2016 Quant Results File: A9FOOWTR.RES

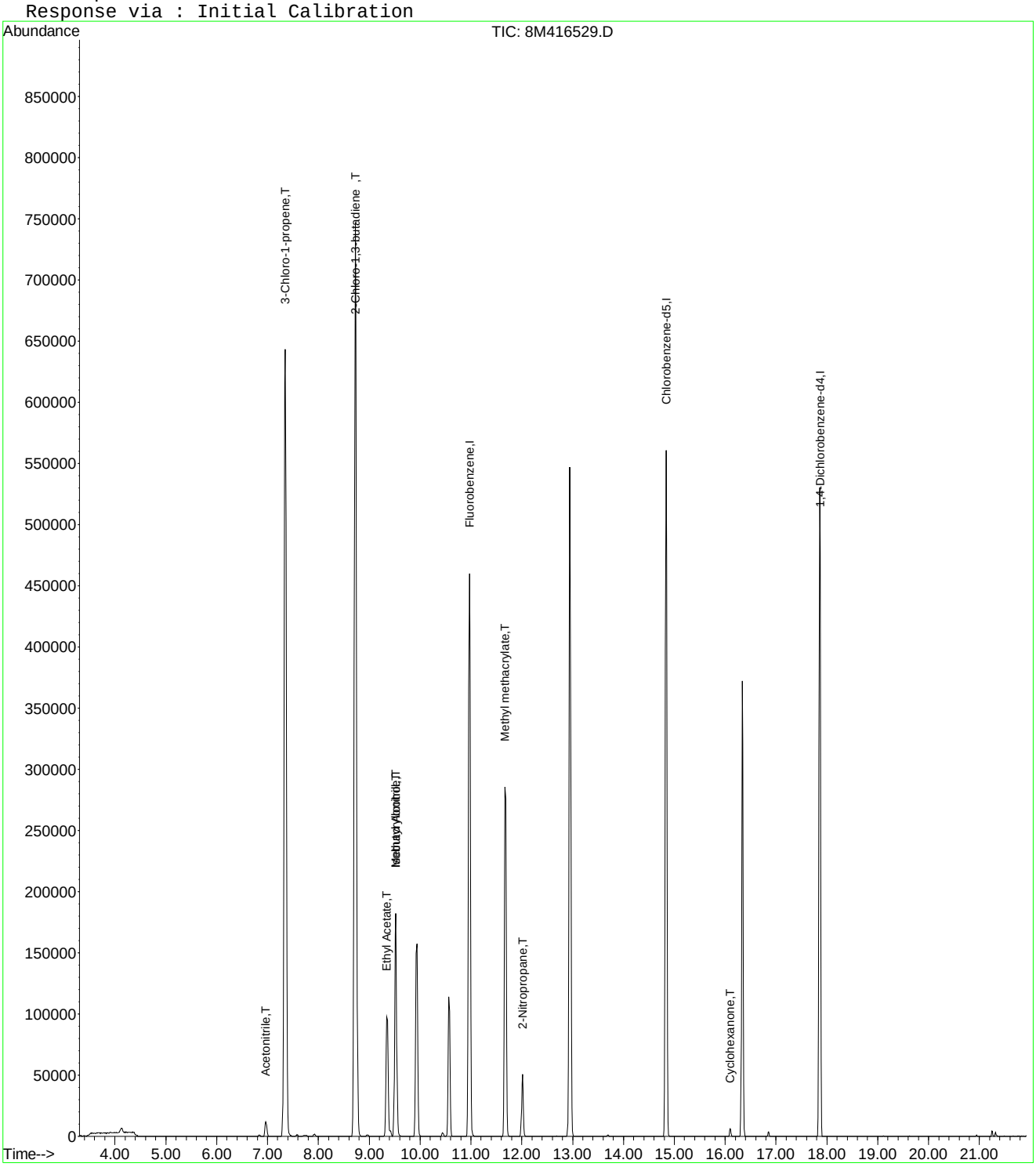
Quant Method : K:\ORGANICS\V...\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.97	96	587664	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.84	117	419667	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.87	152	172171	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.97	41	16063	94.7727	ug/L	97
3) 3-Chloro-1-propene	7.35	41	567885	83.1055	ug/L	96
4) 2-Chloro-1,3-butadiene	8.73	53	618003	82.7490	ug/L	94
5) Ethyl Acetate	9.35	43	154055	100.9013	ug/L	99
6) Methacrylonitrile	9.52	67	99886	100.6255	ug/L	98
7) Isobutyl Alcohol	9.52	43	9727	193.0984	ug/L	95
9) Methyl methacrylate	11.67	41	157038	97.5489	ug/L	98
10) 2-Nitropropane	12.01	43	46163	88.2208	ug/L	98
13) Cyclohexanone	16.10	55	3773	70.9091	ug/L	99

(#) = qualifier out of range (m) = manual integration
8M416529.D A9FOOWTR.M Thu Dec 08 15:03:47 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416529.D Vial: 12
Acq On : 8 Dec 2016 14:12 Operator: TMB
Sample : WG594051-09 100ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79186 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 8 15:03 2016 Quant Results File: A9FOOWTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416529.D Vial: 12
Acq On : 8 Dec 2016 14:12 Operator: TMB
Sample : WG594051-09 100ug/L STD A9/FOO Inst : HPMS8
Misc : 1,1 STD79186 Multiplr: 1.00
MS Integration Params: rteint.p

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
Last Update : Thu Dec 08 13:41:47 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	99	0.00
2	T	Acetonitrile	100.0000	94.7727	5.2	90	0.00
3	T	3-Chloro-1-propene	100.0000	83.1055	16.9	84	0.01
4	T	2-Chloro-1,3-butadiene	100.0000	82.7490	17.3	83	0.00
5	T	Ethyl Acetate	100.0000	100.9013	-0.9	102	0.00
6	T	Methacrylonitrile	100.0000	100.6255	-0.6	99	0.00
7	T	Isobutyl Alcohol	200.0000	193.0984	3.5	96	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	0.00
9	T	Methyl methacrylate	100.0000	97.5489	2.5	96	0.00
10	T	2-Nitropropane	100.0000	88.2208	11.8	92	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	102	0.00
13	T	Cyclohexanone	100.0000	70.9091	29.1	73	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M416529.D A9FOOWTR.M Thu Dec 08 15:03:52 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418408.D Vial: 3
Acq On : 21 Mar 2017 16:09 Operator: TMB
Sample : WG607066-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:05 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.94	96	839335	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.81	117	637381	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.83	152	339393	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	12.92	98	210	0.0065	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.04%#		
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	3.35	85	3754	0.2855	ug/L	89
3) Chloromethane	3.83	50	6806	0.4271	ug/L #	26
4) Vinyl Chloride	4.06	62	5557	0.3730	ug/L	99
5) 1,3-Butadiene	4.13	54	2886	Below Cal	#	48
6) Bromomethane	4.97	94	2181	0.2890	ug/L	94
7) Chloroethane	5.14	64	1796	0.2972	ug/L #	45
8) Trichlorofluoromethane	5.63	101	5090	0.3157	ug/L #	87
10) Isoprene	6.19	67	4072	0.3269	ug/L	89
12) 1,1,2-Trichloro-1,2,2-Trif	6.40	101	2781	0.3207	ug/L	85
13) Acetone	6.48	43	491	0.4892	ug/L #	42
14) 1,1-Dichloroethene	6.72	61	3959	0.3272	ug/L	89
16) Dimethyl Sulfide	6.97	62	2517	0.2926	ug/L	91
17) Iodomethane	7.23	142	2421	0.7424	ug/L	74
18) Methyl acetate	7.23	43	850	0.2961	ug/L #	53
19) Methylene Chloride	7.50	84	2705	0.2936	ug/L	77
20) Carbon Disulfide	7.54	76	12389	0.4495	ug/L	96
22) Methyl Tert Butyl Ether	7.71	73	5150	0.2904	ug/L #	58
23) trans-1,2-Dichloroethene	7.94	61	3684	0.3140	ug/L	100
24) n-Hexane	8.01	57	4586	0.4614	ug/L	89
26) Vinyl Acetate	8.52	43	3265	0.3702	ug/L #	69
27) 1,1-Dichloroethane	8.56	63	4491	0.2935	ug/L #	82
31) 2,2-Dichloropropane	9.35	77	4238	0.3105	ug/L	90
32) cis-1,2-Dichloroethene	9.40	96	3073	0.3086	ug/L	83
33) Chloroform	9.61	83	6746	0.3804	ug/L	99
35) Bromochloromethane	9.84	130	1638	0.3062	ug/L	92
36) Tetrahydrofuran	9.86	42	645	0.6267	ug/L #	24
38) 1,1,1-Trichloroethane	10.14	97	4212	0.2887	ug/L	86
39) Cyclohexane	10.18	56	4399	0.3489	ug/L	89
40) 1,1-Dichloropropene	10.34	75	4137	0.3302	ug/L #	73
42) Carbon Tetrachloride	10.49	117	3640	0.2789	ug/L #	94
45) 1,2-Dichloroethane	10.65	62	2524	0.2521	ug/L #	70
46) Benzene	10.69	78	11345	0.3140	ug/L	93
47) Trichloroethene	11.45	130	3222	0.3335	ug/L	86
48) Methylcyclohexane	11.53	83	5548	0.3822	ug/L	94
49) 1,2-Dichloropropane	11.65	63	2682	0.3229	ug/L	84
50) Bromodichloromethane	11.95	83	3450	0.2938	ug/L #	80
52) Dibromomethane	12.04	93	1279	0.2873	ug/L	95
53) 2-Chloroethyl Vinyl Ether	12.24	63	836	0.2213	ug/L #	45
55) cis-1,3-Dichloropropene	12.58	75	4094	0.3004	ug/L	92
56) Dimethyl Disulfide	12.85	79	1292	2.9561	ug/L	93

(#) = qualifier out of range (m) = manual integration
8M418408.D 8260WTR.M Thu Mar 23 10:19:08 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418408.D Vial: 3
Acq On : 21 Mar 2017 16:09 Operator: TMB
Sample : WG607066-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:05 2017 Quant Results File: 8260WTR.RES

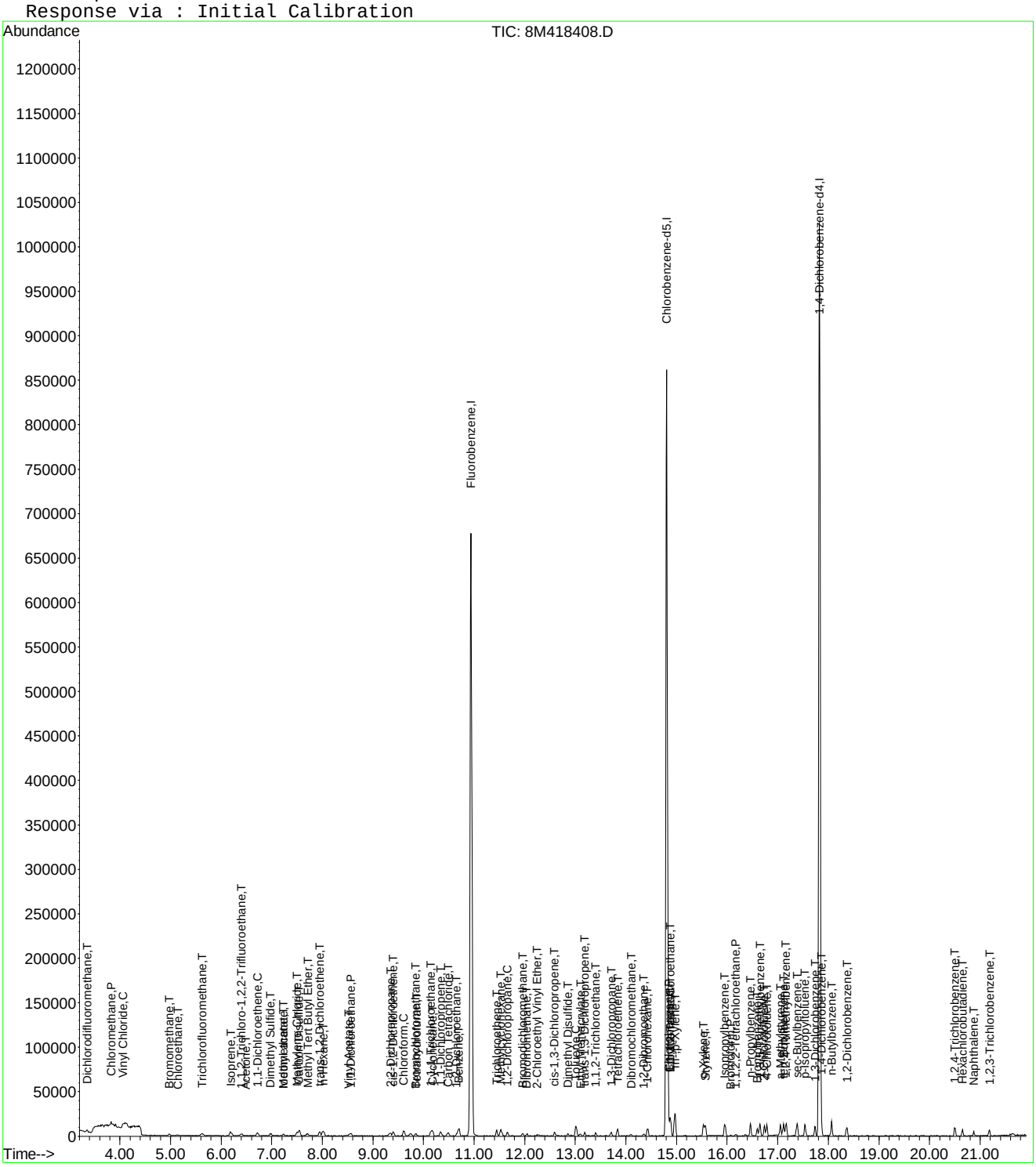
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
59)	Toluene	13.01	91	12509	0.3300	ug/L		95
60)	Ethyl Methacrylate	13.10	69	1898	0.2589	ug/L		95
62)	trans-1,3-Dichloropropene	13.18	75	3150	0.2817	ug/L		86
63)	1,1,2-Trichloroethane	13.40	97	1490	0.2495	ug/L		95
65)	1,3-Dichloropropane	13.71	76	3289	0.3076	ug/L		94
66)	Tetrachloroethene	13.84	164	2607	0.3174	ug/L		94
67)	Dibromochloromethane	14.10	129	1621	0.4036	ug/L		99
68)	1,2-Dibromoethane	14.35	107	1533	0.2502	ug/L		95
69)	1-Chlorohexane	14.42	91	4321	0.3345	ug/L		95
70)	Chlorobenzene	14.85	112	7738	0.2900	ug/L		88
71)	1,1,1,2-Tetrachloroethane	14.88	131	1976	0.3884	ug/L		89
72)	Ethylbenzene	14.88	106	4159	0.2809	ug/L		76
73)	m-,p-Xylene	14.97	106	10522	0.5925	ug/L		83
74)	o-Xylene	15.53	106	4933	0.2801	ug/L		87
75)	Styrene	15.57	104	8095	0.2847	ug/L		91
76)	Bromoform	16.07	173	707	0.5972	ug/L	#	48
77)	Isopropylbenzene	15.95	105	13374	0.3139	ug/L		99
79)	1,1,2,2-Tetrachloroethane	16.16	83	1865	0.2819	ug/L	#	94
83)	n-Propylbenzene	16.46	91	17462	0.3493	ug/L		93
84)	Bromobenzene	16.60	156	3464	0.3131	ug/L		92
85)	1,3,5-Trimethylbenzene	16.65	105	12093	0.3349	ug/L		94
86)	2-Chlorotoluene	16.73	91	11551	0.3438	ug/L		98
87)	4-Chlorotoluene	16.78	91	9912	0.3377	ug/L		94
88)	a-Methylstyrene	17.05	118	5215	0.2584	ug/L		93
89)	tert-Butylbenzene	17.11	134	2174	0.2726	ug/L		80
90)	1,2,4-Trimethylbenzene	17.16	105	12145	0.3236	ug/L		90
91)	sec-Butylbenzene	17.38	105	15378	0.3431	ug/L		93
92)	p-Isopropyltoluene	17.54	119	12332	0.3359	ug/L		99
93)	1,3-Dichlorobenzene	17.74	146	7017	0.3182	ug/L		97
94)	1,4-Dichlorobenzene	17.87	146	7200	0.3241	ug/L	#	54
95)	n-Butylbenzene	18.06	91	13446	0.3775	ug/L		95
96)	1,2-Dichlorobenzene	18.36	146	5770	0.3003	ug/L		92
98)	1,2,4-Trichlorobenzene	20.50	180	4813	0.3349	ug/L		91
99)	Hexachlorobutadiene	20.65	225	2723	0.3875	ug/L		98
100)	Naphthalene	20.88	128	5734	0.3021	ug/L		89
101)	1,2,3-Trichlorobenzene	21.19	180	3474	0.2923	ug/L		96

(#) = qualifier out of range (m) = manual integration
8M418408.D 8260WTR.M Thu Mar 23 10:19:08 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418408.D Vial: 3
Acq On : 21 Mar 2017 16:09 Operator: TMB
Sample : WG607066-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD810 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418408.D Vial: 3
Acq On : 21 Mar 2017 16:09 Operator: TMB
Sample : WG607066-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD810 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	-1.0000	0.2855	0.0	0	0.01
3	P	Chloromethane	-1.0000	0.4271	0.0	0	0.00
4	C	Vinyl Chloride	-1.0000	0.3730	0.0	0	0.01
5	T	1,3-Butadiene	-1.0000	-1.0000	0.0	0	0.02
6	T	Bromomethane	-1.0000	0.2890	0.0	0	0.00
7	T	Chloroethane	-1.0000	0.2972	0.0	0	0.01
8	T	Trichlorofluoromethane	-1.0000	0.3157	0.0	0	0.01
9	T	Diethyl ether	-1.0000	0.0000	0.0	0	-6.14#
10	T	Isoprene	-1.0000	0.3269	0.0	100	0.01
11	T	Acrolein	-1.0000	0.0000	0.0	0	-6.39#
12	T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.3207	0.0	0	0.00
13	T	Acetone	-1.0000	0.4892	0.0	100	0.00
14	C	1,1-Dichloroethene	-1.0000	0.3272	0.0	0	0.01
15	T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.81#
16	T	Dimethyl Sulfide	-1.0000	0.2926	0.0	100	-0.01
17	T	Iodomethane	-1.0000	0.7424	0.0	100	0.00
18	T	Methyl acetate	-1.0000	0.2961	0.0	100	-0.01
19	T	Methylene Chloride	-1.0000	0.2936	0.0	0	0.00
20	T	Carbon Disulfide	-1.0000	0.4495	0.0	100	0.00
21	T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.67#
22	T	Methyl Tert Butyl Ether	-1.0000	0.2904	0.0	0	0.01
23	T	trans-1,2-Dichloroethene	-1.0000	0.3140	0.0	0	0.00
24	T	n-Hexane	-1.0000	0.4614	0.0	100	-0.01
25	T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-8.36#
26	T	Vinyl Acetate	-1.0000	0.3702	0.0	100	-0.01
27	P	1,1-Dichloroethane	-1.0000	0.2935	0.0	0	0.00
28	T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.93#
29	T	2-Butanone	-1.0000	0.0000	0.0	0	-9.11#
30	T	Propionitrile	-1.0000	0.0000	0.0	0	-9.22#
31	T	2,2-Dichloropropane	-1.0000	0.3105	0.0	0	0.01
32	T	cis-1,2-Dichloroethene	-1.0000	0.3086	0.0	0	0.00
33	C	Chloroform	0.3000	0.3804	-26.8#	100	0.00
34		1-Bromopropane	-1.0000	0.0000	0.0	0	-9.75#
35	T	Bromochloromethane	-1.0000	0.3062	0.0	0	0.00
36	T	Tetrahydrofuran	-1.0000	0.6267	0.0	100	0.00
37	S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-9.90#
38	T	1,1,1-Trichloroethane	-1.0000	0.2887	0.0	0	0.00
39	T	Cyclohexane	-1.0000	0.3489	0.0	100	0.00
40	T	1,1-Dichloropropene	-1.0000	0.3302	0.0	0	0.00
41	T	Tert-Amyl-Methyl ether	-1.0000	0.0000	0.0	0	-10.43#
42	T	Carbon Tetrachloride	-1.0000	0.2789	0.0	0	0.00
43	S	1,2-Dichloroethane-d4	-1.0000	0.0000	0.0	0	-10.54#
44		Heptane	-1.0000	0.0000	0.0	0	-2.61#
45	T	1,2-Dichloroethane	-1.0000	0.2521	0.0	0	-0.01
46	T	Benzene	-1.0000	0.3140	0.0	0	0.00
47	T	Trichloroethene	-1.0000	0.3335	0.0	0	0.00
48	T	Methylcyclohexane	-1.0000	0.3822	0.0	100	0.00
49	C	1,2-Dichloropropane	-1.0000	0.3229	0.0	0	0.00
50	T	Bromodichloromethane	-1.0000	0.2938	0.0	0	0.00
51	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.94#
52	T	Dibromomethane	-1.0000	0.2873	0.0	0	0.00
53	T	2-Chloroethyl Vinyl Ether	-1.0000	0.2213	0.0	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	0.0000	0.0	0	-12.27#

(#) = Out of Range
8M418408.D 8260WTR.M Thu Mar 23 10:21:13 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418408.D Vial: 3
Acq On : 21 Mar 2017 16:09 Operator: TMB
Sample : WG607066-02 0.3ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD810 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	-1.0000	0.3004	0.0	0	0.00
56	T	Dimethyl Disulfide	-1.0000	2.9561	0.0	0	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	-1.0000	0.0065	0.0	100	0.00
59	C	Toluene	-1.0000	0.3300	0.0	0	0.00
60	T	Ethyl Methacrylate	-1.0000	0.2589	0.0	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.40#
62	T	trans-1,3-Dichloropropene	-1.0000	0.2817	0.0	0	0.00
63	T	1,1,2-Trichloroethane	-1.0000	0.2495	0.0	0	0.00
64	T	2-Hexanone	-1.0000	0.0000	0.0	0	-13.34#
65	T	1,3-Dichloropropane	-1.0000	0.3076	0.0	0	0.00
66	T	Tetrachloroethene	-1.0000	0.3174	0.0	0	0.00
67	T	Dibromochloromethane	-1.0000	0.4036	0.0	0	0.01
68	T	1,2-Dibromoethane	-1.0000	0.2502	0.0	0	0.00
69	T	1-Chlorohexane	-1.0000	0.3345	0.0	100	-0.01
70	P	Chlorobenzene	-1.0000	0.2900	0.0	0	0.00
71	T	1,1,1,2-Tetrachloroethane	-1.0000	0.3884	0.0	0	0.00
72	C	Ethylbenzene	-1.0000	0.2809	0.0	0	0.00
73	T	m-,p-Xylene	-1.0000	0.5925	0.0	0	0.00
74	T	o-Xylene	-1.0000	0.2801	0.0	0	0.00
75	T	Styrene	-1.0000	0.2847	0.0	0	0.00
76	P	Bromoform	-1.0000	0.5972	0.0	0	0.00
77	T	Isopropylbenzene	-1.0000	0.3139	0.0	0	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	0.2819	0.0	0	-0.01
80	S	p-Bromofluorobenzene	-1.0000	0.0000	0.0	0	-16.31#
81	T	1,2,3-Trichloropropane	-1.0000	0.0000	0.0	0	-16.37#
82	T	trans-1,4-Dichloro-2-Butene	-1.0000	0.0000	0.0	0	-16.41#
83	T	n-Propylbenzene	-1.0000	0.3493	0.0	0	0.00
84	T	Bromobenzene	0.3000	0.3131	-4.4	100	0.00
85	T	1,3,5-Trimethylbenzene	-1.0000	0.3349	0.0	0	0.00
86	T	2-Chlorotoluene	-1.0000	0.3438	0.0	0	0.00
87	T	4-Chlorotoluene	-1.0000	0.3377	0.0	0	0.00
88	T	a-Methylstyrene	-1.0000	0.2584	0.0	100	0.00
89	T	tert-Butylbenzene	-1.0000	0.2726	0.0	0	0.00
90	T	1,2,4-Trimethylbenzene	-1.0000	0.3236	0.0	0	0.00
91	T	sec-Butylbenzene	-1.0000	0.3431	0.0	0	0.00
92	T	p-Isopropyltoluene	-1.0000	0.3359	0.0	0	0.00
93	T	1,3-Dichlorobenzene	-1.0000	0.3182	0.0	0	0.00
94	T	1,4-Dichlorobenzene	0.3000	0.3241	-8.0	100	0.00
95	T	n-Butylbenzene	-1.0000	0.3775	0.0	0	0.00
96	T	1,2-Dichlorobenzene	0.3000	0.3003	-0.1	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-19.36#
98	T	1,2,4-Trichlorobenzene	-1.0000	0.3349	0.0	0	0.00
99	T	Hexachlorobutadiene	-1.0000	0.3875	0.0	0	0.00
100	T	Naphthalene	-1.0000	0.3021	0.0	0	0.00
101	T	1,2,3-Trichlorobenzene	0.3000	0.2923	2.6	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 1
8M418408.D 8260WTR.M Thu Mar 23 10:21:14 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418409.D Vial: 4
Acq On : 21 Mar 2017 16:39 Operator: TMB
Sample : WG607066-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:09 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.94	96	820770	25.00	ug/L		0.00
57) Chlorobenzene-d5	14.81	117	630289	25.00	ug/L		0.00
78) 1,4-Dichlorobenzene-d4	17.83	152	333801	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	12.92	98	206	0.0065	ug/L		0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.04%#			
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	3.34	85	5012	0.3898	ug/L		88
3) Chloromethane	3.83	50	7999	0.5134	ug/L	#	51
4) Vinyl Chloride	4.07	62	6861	0.4709	ug/L		94
5) 1,3-Butadiene	4.12	54	4284	Below Cal			86
6) Bromomethane	4.98	94	2762	0.3743	ug/L		95
7) Chloroethane	5.13	64	2158	0.3652	ug/L	#	45
8) Trichlorofluoromethane	5.62	101	6443	0.4087	ug/L	#	87
10) Isoprene	6.19	67	4531	0.3720	ug/L		95
12) 1,1,2-Trichloro-1,2,2-Trif	6.40	101	3337	0.3935	ug/L		92
13) Acetone	6.50	43	400	0.4075	ug/L	#	42
14) 1,1-Dichloroethene	6.71	61	4956	0.4188	ug/L		92
16) Dimethyl Sulfide	6.98	62	3060	0.3638	ug/L		96
17) Iodomethane	7.24	142	2705	0.7764	ug/L		87
18) Methyl acetate	7.25	43	669	0.2383	ug/L	#	53
19) Methylene Chloride	7.49	84	4174	0.4632	ug/L		89
20) Carbon Disulfide	7.54	76	13082	0.4854	ug/L		93
22) Methyl Tert Butyl Ether	7.71	73	7110	0.4099	ug/L	#	72
23) trans-1,2-Dichloroethene	7.94	61	4851	0.4228	ug/L		98
24) n-Hexane	8.03	57	4861	0.5002	ug/L		94
26) Vinyl Acetate	8.53	43	4150	0.4812	ug/L	#	69
27) 1,1-Dichloroethane	8.56	63	6002	0.4011	ug/L	#	83
29) 2-Butanone	9.11	43	634	0.4009	ug/L	#	44
31) 2,2-Dichloropropane	9.33	77	5842	0.4376	ug/L		96
32) cis-1,2-Dichloroethene	9.41	96	3859	0.3963	ug/L		87
33) Chloroform	9.62	83	7984	0.4603	ug/L		95
35) Bromochloromethane	9.85	130	1987	0.3798	ug/L		88
38) 1,1,1-Trichloroethane	10.15	97	5320	0.3729	ug/L		90
39) Cyclohexane	10.19	56	5291	0.4292	ug/L		92
40) 1,1-Dichloropropene	10.34	75	4961	0.4049	ug/L		86
42) Carbon Tetrachloride	10.48	117	4928	0.3861	ug/L		93
45) 1,2-Dichloroethane	10.65	62	3926	0.4010	ug/L	#	87
46) Benzene	10.69	78	15023	0.4252	ug/L		97
47) Trichloroethene	11.45	130	3700	0.3917	ug/L		97
48) Methylcyclohexane	11.53	83	5981	0.4214	ug/L		96
49) 1,2-Dichloropropane	11.65	63	2986	0.3676	ug/L		99
50) Bromodichloromethane	11.95	83	4361	0.3798	ug/L	#	91
52) Dibromomethane	12.04	93	1225	0.2814	ug/L		81
53) 2-Chloroethyl Vinyl Ether	12.24	63	1105	0.2992	ug/L		81
55) cis-1,3-Dichloropropene	12.59	75	5159	0.3871	ug/L		94
56) Dimethyl Disulfide	12.85	79	1713	3.0100	ug/L		99

(#) = qualifier out of range (m) = manual integration
8M418409.D 8260WTR.M Thu Mar 23 10:19:12 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418409.D Vial: 4
Acq On : 21 Mar 2017 16:39 Operator: TMB
Sample : WG607066-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:09 2017 Quant Results File: 8260WTR.RES

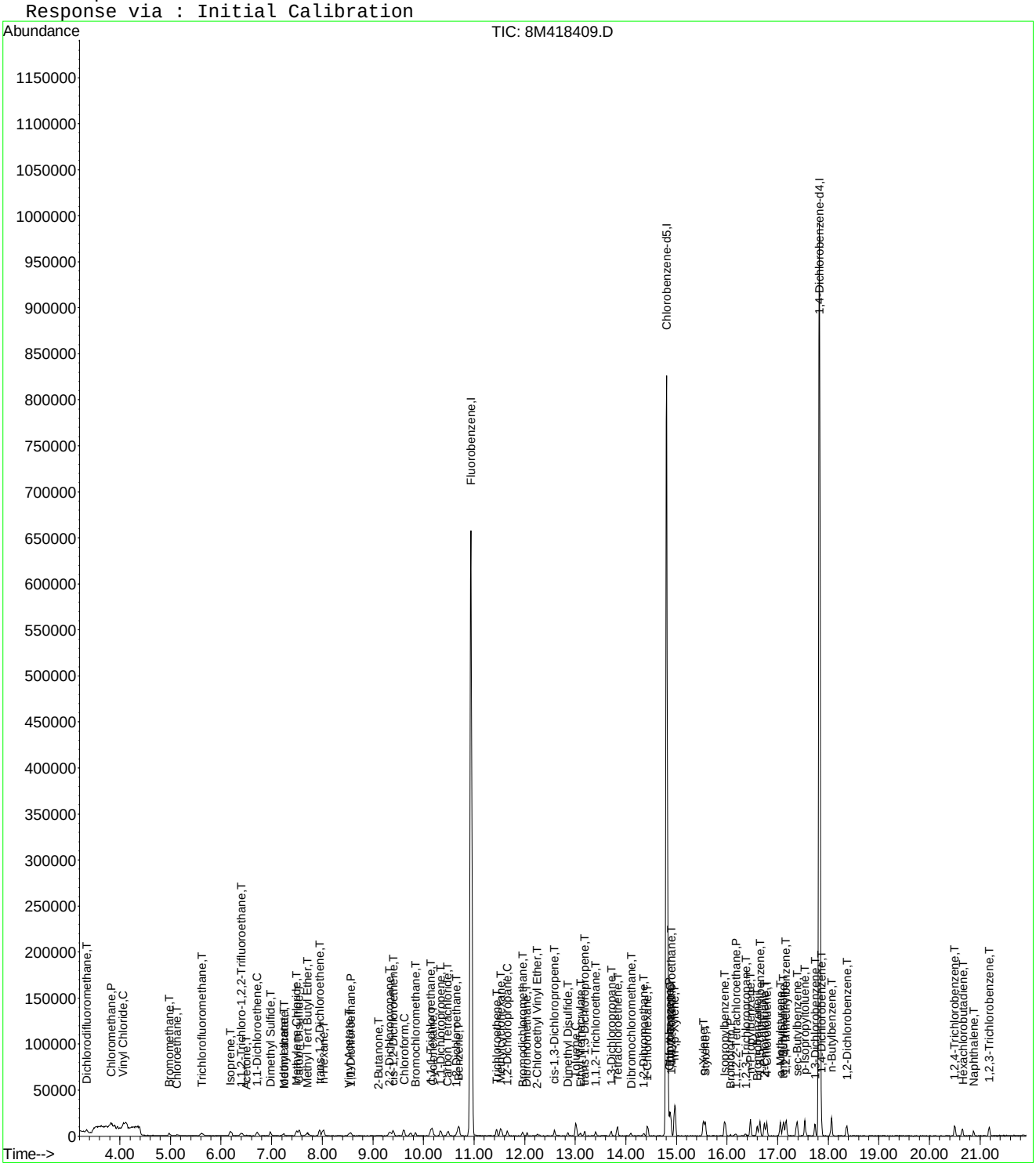
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
59)	Toluene	13.01	91	15569	0.4153	ug/L		94
60)	Ethyl Methacrylate	13.10	69	2480	0.3421	ug/L		88
62)	trans-1,3-Dichloropropene	13.19	75	4268	0.3860	ug/L		85
63)	1,1,2-Trichloroethane	13.40	97	2245	0.3802	ug/L		92
65)	1,3-Dichloropropane	13.71	76	4246	0.4016	ug/L		91
66)	Tetrachloroethene	13.84	164	3076	0.3787	ug/L		96
67)	Dibromochloromethane	14.11	129	2045	0.4616	ug/L		84
68)	1,2-Dibromoethane	14.35	107	2295	0.3788	ug/L		98
69)	1-Chlorohexane	14.43	91	5474	0.4285	ug/L		98
70)	Chlorobenzene	14.86	112	10272	0.3893	ug/L		95
71)	1,1,1,2-Tetrachloroethane	14.89	131	3131	0.5117	ug/L		100
72)	Ethylbenzene	14.88	106	5452	0.3723	ug/L		94
73)	m-,p-Xylene	14.96	106	13646	0.7770	ug/L		85
74)	o-Xylene	15.53	106	6537	0.3754	ug/L		97
75)	Styrene	15.56	104	10271	0.3653	ug/L		92
76)	Bromoform	16.07	173	1215	0.7117	ug/L	#	41
77)	Isopropylbenzene	15.96	105	17113	0.4062	ug/L		97
79)	1,1,2,2-Tetrachloroethane	16.17	83	2398	0.3686	ug/L	#	93
81)	1,2,3-Trichloropropane	16.37	110	554	0.2991	ug/L	#	84
83)	n-Propylbenzene	16.46	91	21418	0.4356	ug/L		95
84)	Bromobenzene	16.60	156	4101	0.3769	ug/L		89
85)	1,3,5-Trimethylbenzene	16.65	105	14553	0.4098	ug/L		97
86)	2-Chlorotoluene	16.74	91	14102	0.4267	ug/L		96
87)	4-Chlorotoluene	16.78	91	11659	0.4038	ug/L		96
88)	a-Methylstyrene	17.05	118	6251	0.3149	ug/L		98
89)	tert-Butylbenzene	17.10	134	2749	0.3505	ug/L		85
90)	1,2,4-Trimethylbenzene	17.17	105	14872	0.4028	ug/L		96
91)	sec-Butylbenzene	17.38	105	18440	0.4184	ug/L		95
92)	p-Isopropyltoluene	17.54	119	14467	0.4007	ug/L		99
93)	1,3-Dichlorobenzene	17.74	146	8606	0.3968	ug/L		95
94)	1,4-Dichlorobenzene	17.87	146	8728	0.3995	ug/L		79
95)	n-Butylbenzene	18.07	91	16096	0.4595	ug/L		95
96)	1,2-Dichlorobenzene	18.37	146	7275	0.3849	ug/L		99
98)	1,2,4-Trichlorobenzene	20.50	180	5853	0.4140	ug/L		97
99)	Hexachlorobutadiene	20.66	225	2881	0.4168	ug/L		91
100)	Naphthalene	20.88	128	7399	0.3963	ug/L		87
101)	1,2,3-Trichlorobenzene	21.18	180	4960	0.4243	ug/L		93

(#) = qualifier out of range (m) = manual integration
8M418409.D 8260WTR.M Thu Mar 23 10:19:12 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418409.D Vial: 4
Acq On : 21 Mar 2017 16:39 Operator: TMB
Sample : WG607066-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418409.D Vial: 4
Acq On : 21 Mar 2017 16:39 Operator: TMB
Sample : WG607066-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	-1.0000	0.3898	0.0	0	0.00
3	P	Chloromethane	-1.0000	0.5134	0.0	0	0.00
4	C	Vinyl Chloride	0.4000	0.4709	-17.7	100	0.01
5	T	1,3-Butadiene	-1.0000	-1.0000	0.0	0	0.01
6	T	Bromomethane	-1.0000	0.3743	0.0	0	0.00
7	T	Chloroethane	0.4000	0.3652	8.7	100	0.00
8	T	Trichlorofluoromethane	0.4000	0.4087	-2.2	100	0.00
9	T	Diethyl ether	-1.0000	0.0000	0.0	0	-6.14#
10	T	Isoprene	-1.0000	0.3720	0.0	100	0.00
11	T	Acrolein	-1.0000	0.0000	0.0	0	-6.39#
12	T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.3935	0.0	0	0.00
13	T	Acetone	-1.0000	0.4075	0.0	100	0.01
14	C	1,1-Dichloroethene	0.4000	0.4188	-4.7	100	0.00
15	T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.81#
16	T	Dimethyl Sulfide	-1.0000	0.3638	0.0	100	0.00
17	T	Iodomethane	-1.0000	0.7764	0.0	100	0.00
18	T	Methyl acetate	-1.0000	0.2383	0.0	100	0.01
19	T	Methylene Chloride	-1.0000	0.4632	0.0	0	0.00
20	T	Carbon Disulfide	-1.0000	0.4854	0.0	100	0.00
21	T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.67#
22	T	Methyl Tert Butyl Ether	-1.0000	0.4099	0.0	0	0.00
23	T	trans-1,2-Dichloroethene	0.4000	0.4228	-5.7	100	0.00
24	T	n-Hexane	-1.0000	0.5002	0.0	100	0.00
25	T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-8.36#
26	T	Vinyl Acetate	-1.0000	0.4812	0.0	100	0.00
27	P	1,1-Dichloroethane	0.4000	0.4011	-0.3	100	0.00
28	T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.93#
29	T	2-Butanone	-1.0000	0.4009	0.0	100	0.00
30	T	Propionitrile	-1.0000	0.0000	0.0	0	-9.22#
31	T	2,2-Dichloropropane	0.4000	0.4376	-9.4	100	0.00
32	T	cis-1,2-Dichloroethene	0.4000	0.3963	0.9	100	0.01
33	C	Chloroform	0.4000	0.4603	-15.1	100	0.01
34		1-Bromopropane	-1.0000	0.0000	0.0	0	-9.75#
35	T	Bromochloromethane	0.4000	0.3798	5.0	100	0.00
36	T	Tetrahydrofuran	-1.0000	0.0000	0.0	0	-9.86#
37	S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-9.90#
38	T	1,1,1-Trichloroethane	0.4000	0.3729	6.8	100	0.00
39	T	Cyclohexane	-1.0000	0.4292	0.0	100	0.01
40	T	1,1-Dichloropropene	-1.0000	0.4049	0.0	0	0.00
41	T	Tert-Amyl-Methyl ether	-1.0000	0.0000	0.0	0	-10.43#
42	T	Carbon Tetrachloride	0.4000	0.3861	3.5	100	0.00
43	S	1,2-Dichloroethane-d4	-1.0000	0.0000	0.0	0	-10.54#
44		Heptane	-1.0000	0.0000	0.0	0	-2.61#
45	T	1,2-Dichloroethane	0.4000	0.4009	-0.2	100	0.00
46	T	Benzene	0.4000	0.4253	-6.3	100	0.00
47	T	Trichloroethene	0.4000	0.3917	2.1	100	0.00
48	T	Methylcyclohexane	-1.0000	0.4214	0.0	100	0.00
49	C	1,2-Dichloropropane	0.4000	0.3676	8.1	100	0.00
50	T	Bromodichloromethane	0.4000	0.3798	5.1	100	0.00
51	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.94#
52	T	Dibromomethane	0.4000	0.2814	29.6#	100	0.00
53	T	2-Chloroethyl Vinyl Ether	-1.0000	0.2992	0.0	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	0.0000	0.0	0	-12.27#

(#) = Out of Range
8M418409.D 8260WTR.M Thu Mar 23 10:21:26 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418409.D Vial: 4
Acq On : 21 Mar 2017 16:39 Operator: TMB
Sample : WG607066-03 0.4ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	0.4000	0.3871	3.2	100	0.00
56	T	Dimethyl Disulfide	-1.0000	3.0100	0.0	0	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	-1.0000	0.0065	0.0	100	0.00
59	C	Toluene	0.4000	0.4153	-3.8	100	0.00
60	T	Ethyl Methacrylate	-1.0000	0.3421	0.0	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.40#
62	T	trans-1,3-Dichloropropene	-1.0000	0.3860	0.0	0	0.00
63	T	1,1,2-Trichloroethane	0.4000	0.3802	5.0	100	0.00
64	T	2-Hexanone	-1.0000	0.0000	0.0	0	-13.34#
65	T	1,3-Dichloropropane	0.4000	0.4016	-0.4	100	0.00
66	T	Tetrachloroethene	0.4000	0.3787	5.3	100	0.00
67	T	Dibromochloromethane	0.4000	0.4616	-15.4	100	0.01
68	T	1,2-Dibromoethane	0.4000	0.3788	5.3	100	0.00
69	T	1-Chlorohexane	0.4000	0.4285	-7.1	100	0.00
70	P	Chlorobenzene	0.4000	0.3893	2.7	100	0.00
71	T	1,1,1,2-Tetrachloroethane	0.4000	0.5117	-27.9#	100	0.01
72	C	Ethylbenzene	0.4000	0.3723	6.9	100	0.00
73	T	m-,p-Xylene	0.8000	0.7770	2.9	100	0.00
74	T	o-Xylene	-1.0000	0.3754	0.0	0	0.00
75	T	Styrene	0.4000	0.3654	8.7	100	0.00
76	P	Bromoform	-1.0000	0.7117	0.0	0	0.00
77	T	Isopropylbenzene	0.4000	0.4062	-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	0.3686	7.9	100	0.00
80	S	p-Bromofluorobenzene	-1.0000	0.0000	0.0	0	-16.31#
81	T	1,2,3-Trichloropropane	-1.0000	0.2991	0.0	0	0.00
82	T	trans-1,4-Dichloro-2-Butene	-1.0000	0.0000	0.0	0	-16.41#
83	T	n-Propylbenzene	0.4000	0.4356	-8.9	100	0.00
84	T	Bromobenzene	0.4000	0.3769	5.8	100	0.00
85	T	1,3,5-Trimethylbenzene	0.4000	0.4098	-2.5	100	0.00
86	T	2-Chlorotoluene	0.4000	0.4267	-6.7	100	0.00
87	T	4-Chlorotoluene	0.4000	0.4038	-1.0	100	0.00
88	T	a-Methylstyrene	-1.0000	0.3149	0.0	100	0.00
89	T	tert-Butylbenzene	-1.0000	0.3505	0.0	0	0.00
90	T	1,2,4-Trimethylbenzene	0.4000	0.4028	-0.7	100	0.00
91	T	sec-Butylbenzene	-1.0000	0.4184	0.0	0	0.00
92	T	p-Isopropyltoluene	-1.0000	0.4007	0.0	0	0.00
93	T	1,3-Dichlorobenzene	0.4000	0.3968	0.8	100	0.00
94	T	1,4-Dichlorobenzene	0.4000	0.3995	0.1	100	0.00
95	T	n-Butylbenzene	-1.0000	0.4595	0.0	0	0.00
96	T	1,2-Dichlorobenzene	0.4000	0.3849	3.8	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-19.36#
98	T	1,2,4-Trichlorobenzene	0.4000	0.4140	-3.5	100	0.00
99	T	Hexachlorobutadiene	0.4000	0.4169	-4.2	100	0.01
100	T	Naphthalene	0.4000	0.3963	0.9	100	0.00
101	T	1,2,3-Trichlorobenzene	0.4000	0.4243	-6.1	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M418409.D 8260WTR.M Thu Mar 23 10:21:26 2017 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418410.D Vial: 5
Acq On : 21 Mar 2017 17:09 Operator: TMB
Sample : WG607066-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:13 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.94	96	807132	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.81	117	611741	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.82	152	324322	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.89	111	4045	0.4419	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	1.76%#		
43) 1,2-Dichloroethane-d4	10.54	65	3910	0.4929	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	1.96%#		
58) Toluene-d8	12.91	98	15493	0.5035	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	2.00%#		
80) p-Bromofluorobenzene	16.30	95	6131	0.4996	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	2.00%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.34	85	11775	0.9313	ug/L	95
3) Chloromethane	3.83	50	18119	1.1825	ug/L	89
4) Vinyl Chloride	4.06	62	15890	1.1091	ug/L	99
5) 1,3-Butadiene	4.11	54	9126	Below Cal		81
6) Bromomethane	4.97	94	7100	0.9784	ug/L	96
7) Chloroethane	5.14	64	5724	0.9850	ug/L	96
8) Trichlorofluoromethane	5.62	101	15570	1.0043	ug/L	96
9) Diethyl ether	6.15	59	25161	5.0179	ug/L	99
10) Isoprene	6.18	67	11515	0.9613	ug/L	99
11) Acrolein	6.39	56	1211	1.8888	ug/L	90
12) 1,1,2-Trichloro-1,2,2-Trif	6.40	101	8196	0.9828	ug/L	97
13) Acetone	6.48	43	961	0.9956	ug/L #	42
14) 1,1-Dichloroethene	6.71	61	11722	1.0073	ug/L	92
15) Tert-Butyl Alcohol	6.81	59	2565	8.3492	ug/L #	59
16) Dimethyl Sulfide	6.97	62	7853	0.9494	ug/L	99
17) Iodomethane	7.23	142	7328	1.2539	ug/L	93
18) Methyl acetate	7.24	43	2638	0.9557	ug/L #	66
19) Methylene Chloride	7.50	84	9378	1.0584	ug/L	95
20) Carbon Disulfide	7.54	76	28271	1.0667	ug/L	98
21) Acrylonitrile	7.67	53	3247	2.4051	ug/L	94
22) Methyl Tert Butyl Ether	7.70	73	16755	0.9824	ug/L	95
23) trans-1,2-Dichloroethene	7.94	61	11380	1.0086	ug/L	99
24) n-Hexane	8.02	57	10394	1.0875	ug/L	98
25) Diisopropyl ether	8.35	45	110210	5.1139	ug/L	98
26) Vinyl Acetate	8.53	43	10059	1.1860	ug/L #	87
27) 1,1-Dichloroethane	8.56	63	14397	0.9784	ug/L	94
28) Ethyl-Tert-Butyl ether	8.93	59	102308	4.9580	ug/L	99
29) 2-Butanone	9.12	43	1387	0.8919	ug/L #	44
30) Propionitrile	9.22	54	1959	4.2552	ug/L #	56
31) 2,2-Dichloropropane	9.34	77	13363	1.0179	ug/L	95
32) cis-1,2-Dichloroethene	9.41	96	9337	0.9750	ug/L	98
33) Chloroform	9.62	83	16620	0.9745	ug/L	98
34) 1-Bromopropane	9.75	122	1620	0.8855	ug/L	100
35) Bromochloromethane	9.84	130	5172	1.0054	ug/L	96
36) Tetrahydrofuran	9.87	42	5802	5.8622	ug/L	90
38) 1,1,1-Trichloroethane	10.14	97	13761	0.9810	ug/L	97
39) Cyclohexane	10.18	56	12156	1.0027	ug/L	99
40) 1,1-Dichloropropene	10.34	75	12179	1.0109	ug/L	94
41) Tert-Amyl-Methyl ether	10.44	73	93699	4.8658	ug/L	97
42) Carbon Tetrachloride	10.48	117	11739	0.9353	ug/L	95

(#) = qualifier out of range (m) = manual integration
8M418410.D 8260WTR.M Thu Mar 23 10:19:16 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418410.D Vial: 5
Acq On : 21 Mar 2017 17:09 Operator: TMB
Sample : WG607066-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:13 2017 Quant Results File: 8260WTR.RES

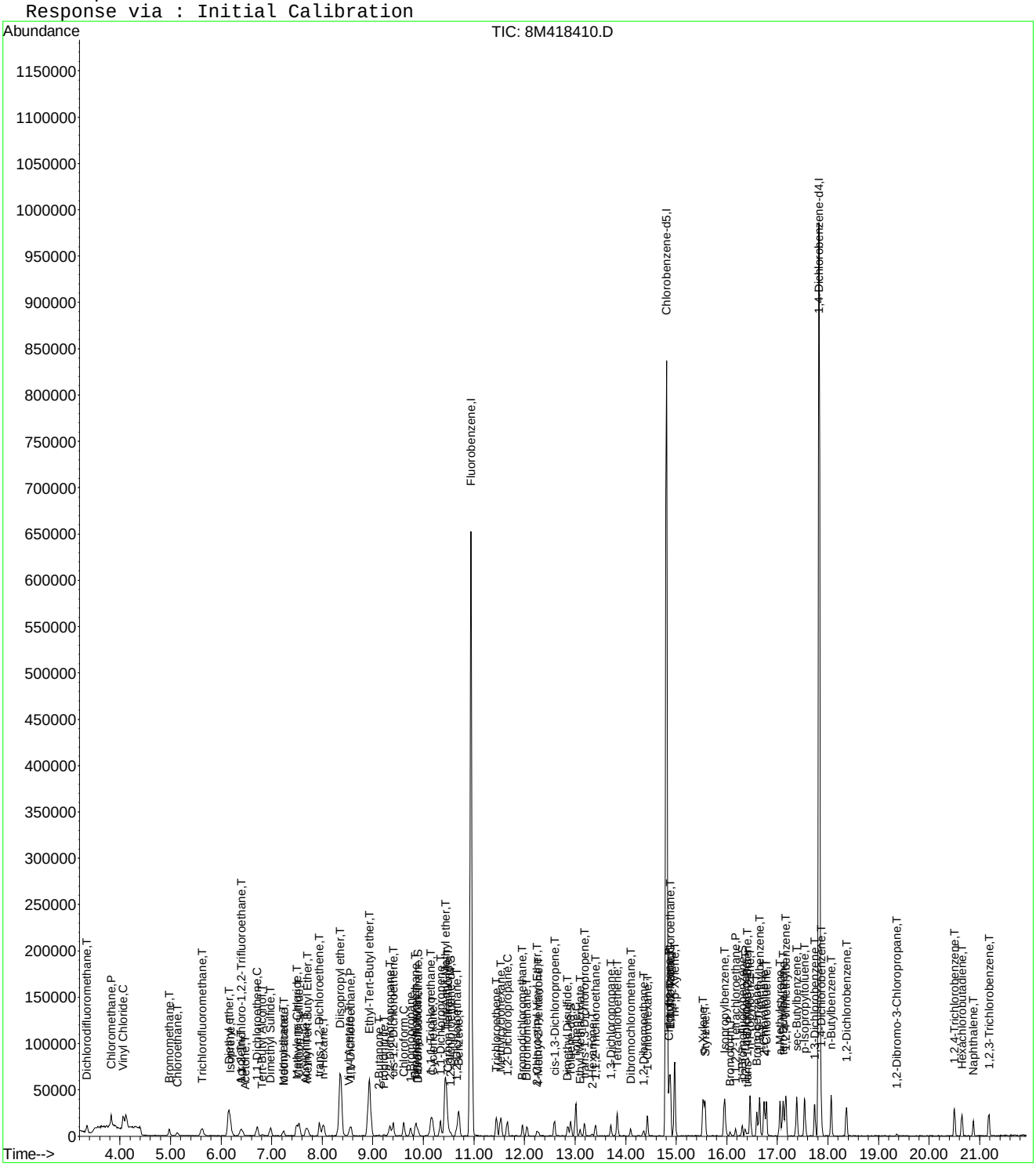
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.66	62	9506	0.9872	ug/L		95
46)	Benzene	10.70	78	34927	1.0054	ug/L		99
47)	Trichloroethene	11.45	130	8619	0.9278	ug/L		95
48)	Methylcyclohexane	11.53	83	14165	1.0148	ug/L		97
49)	1,2-Dichloropropane	11.66	63	7854	0.9833	ug/L		99
50)	Bromodichloromethane	11.95	83	10647	0.9428	ug/L		94
52)	Dibromomethane	12.05	93	4249	0.9926	ug/L		97
53)	2-Chloroethyl Vinyl Ether	12.25	63	3225	0.8879	ug/L		90
54)	4-Methyl-2-Pentanone	12.27	58	910	0.5854	ug/L	#	33
55)	cis-1,3-Dichloropropene	12.59	75	12482	0.9523	ug/L		96
56)	Dimethyl Disulfide	12.85	79	4366	3.3371	ug/L		98
59)	Toluene	13.02	91	37749	1.0375	ug/L		98
60)	Ethyl Methacrylate	13.10	69	6089	0.8655	ug/L		94
62)	trans-1,3-Dichloropropene	13.19	75	10170	0.9476	ug/L		98
63)	1,1,2-Trichloroethane	13.40	97	5520	0.9631	ug/L		99
64)	2-Hexanone	13.34	58	781	0.5684	ug/L	#	1
65)	1,3-Dichloropropane	13.71	76	10201	0.9940	ug/L		96
66)	Tetrachloroethene	13.83	164	7996	1.0142	ug/L		98
67)	Dibromochloromethane	14.10	129	6149	1.0240	ug/L		100
68)	1,2-Dibromoethane	14.35	107	5764	0.9802	ug/L		97
69)	1-Chlorohexane	14.43	91	12348	0.9958	ug/L		99
70)	Chlorobenzene	14.86	112	24749	0.9665	ug/L		93
71)	1,1,1,2-Tetrachloroethane	14.88	131	7452	0.9876	ug/L		100
72)	Ethylbenzene	14.88	106	13352	0.9395	ug/L		92
73)	m-,p-Xylene	14.97	106	32582	1.9116	ug/L		90
74)	o-Xylene	15.53	106	15550	0.9200	ug/L		94
75)	Styrene	15.57	104	25281	0.9265	ug/L		98
76)	Bromoform	16.07	173	3165	1.1654	ug/L		87
77)	Isopropylbenzene	15.95	105	41185	1.0072	ug/L		95
79)	1,1,2,2-Tetrachloroethane	16.17	83	6618	1.0470	ug/L	#	87
81)	1,2,3-Trichloropropane	16.37	110	1699	0.9441	ug/L		97
82)	trans-1,4-Dichloro-2-Buten	16.41	53	1275	0.8599	ug/L		78
83)	n-Propylbenzene	16.46	91	50394	1.0550	ug/L		96
84)	Bromobenzene	16.59	156	9822	0.9290	ug/L		89
85)	1,3,5-Trimethylbenzene	16.65	105	34036	0.9865	ug/L		98
86)	2-Chlorotoluene	16.74	91	32556	1.0139	ug/L		97
87)	4-Chlorotoluene	16.78	91	28745	1.0247	ug/L		97
88)	a-Methylstyrene	17.05	118	16432	0.8520	ug/L		100
89)	tert-Butylbenzene	17.11	134	6891	0.9044	ug/L		91
90)	1,2,4-Trimethylbenzene	17.16	105	36289	1.0117	ug/L		96
91)	sec-Butylbenzene	17.38	105	44768	1.0454	ug/L		96
92)	p-Isopropyltoluene	17.54	119	34608	0.9866	ug/L		98
93)	1,3-Dichlorobenzene	17.74	146	20930	0.9932	ug/L		96
94)	1,4-Dichlorobenzene	17.87	146	21416	1.0089	ug/L	#	73
95)	n-Butylbenzene	18.06	91	35423	1.0408	ug/L		95
96)	1,2-Dichlorobenzene	18.36	146	18350	0.9993	ug/L		99
97)	1,2-Dibromo-3-Chloropropan	19.37	75	633	0.6381	ug/L		78
98)	1,2,4-Trichlorobenzene	20.50	180	13698	0.9973	ug/L		95
99)	Hexachlorobutadiene	20.65	225	6917	1.0301	ug/L		96
100)	Naphthalene	20.87	128	18000	0.9923	ug/L		97
101)	1,2,3-Trichlorobenzene	21.19	180	11397	1.0034	ug/L		95

(#) = qualifier out of range (m) = manual integration
8M418410.D 8260WTR.M Thu Mar 23 10:19:16 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418410.D Vial: 5
Acq On : 21 Mar 2017 17:09 Operator: TMB
Sample : WG607066-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418410.D Vial: 5
Acq On : 21 Mar 2017 17:09 Operator: TMB
Sample : WG607066-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	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	1.1825	-18.3	100	0.00
4	C	Vinyl Chloride	1.0000	1.1091	-10.9	100	0.00
5	T	1,3-Butadiene	-1.0000	-1.0000	0.0	0	0.00
6	T	Bromomethane	1.0000	0.9784	2.2	100	0.00
7	T	Chloroethane	1.0000	0.9850	1.5	100	0.00
8	T	Trichlorofluoromethane	1.0000	1.0043	-0.4	100	0.00
9	T	Diethyl ether	5.0000	5.0179	-0.4	100	0.00
10	T	Isoprene	-1.0000	0.9613	0.0	100	0.00
11	T	Acrolein	-1.0000	1.8888	0.0	100	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	1.0000	0.9828	1.7	100	0.00
13	T	Acetone	-1.0000	0.9956	0.0	100	0.00
14	C	1,1-Dichloroethene	1.0000	1.0073	-0.7	100	0.00
15	T	Tert-Butyl Alcohol	-1.0000	8.3492	0.0	100	0.00
16	T	Dimethyl Sulfide	-1.0000	0.9494	0.0	100	-0.01
17	T	Iodomethane	1.0000	1.2539	-25.4#	100	-0.01
18	T	Methyl acetate	-1.0000	0.9557	0.0	100	0.00
19	T	Methylene Chloride	1.0000	1.0583	-5.8	100	0.00
20	T	Carbon Disulfide	1.0000	1.0667	-6.7	100	0.00
21	T	Acrylonitrile	2.5000	2.4051	3.8	100	0.00
22	T	Methyl Tert Butyl Ether	1.0000	0.9823	1.8	100	0.00
23	T	trans-1,2-Dichloroethene	1.0000	1.0086	-0.9	100	0.00
24	T	n-Hexane	-1.0000	1.0875	0.0	100	0.00
25	T	Diisopropyl ether	5.0000	5.1139	-2.3	100	0.00
26	T	Vinyl Acetate	-1.0000	1.1860	0.0	100	0.00
27	P	1,1-Dichloroethane	1.0000	0.9784	2.2	100	0.00
28	T	Ethyl-Tert-Butyl ether	5.0000	4.9580	0.8	100	0.00
29	T	2-Butanone	-1.0000	0.8919	0.0	100	0.00
30	T	Propionitrile	5.0000	4.2552	14.9	100	0.00
31	T	2,2-Dichloropropane	1.0000	1.0179	-1.8	100	0.00
32	T	cis-1,2-Dichloroethene	1.0000	0.9750	2.5	100	0.00
33	C	Chloroform	1.0000	0.9745	2.6	100	0.00
34		1-Bromopropane	1.0000	0.8855	11.5	100	0.00
35	T	Bromochloromethane	1.0000	1.0054	-0.5	100	0.00
36	T	Tetrahydrofuran	5.0000	5.8622	-17.2	100	0.00
37	S	Dibromofluoromethane	-1.0000	0.4419	0.0	100	0.00
38	T	1,1,1-Trichloroethane	1.0000	0.9809	1.9	100	0.00
39	T	Cyclohexane	1.0000	1.0027	-0.3	100	0.00
40	T	1,1-Dichloropropene	1.0000	1.0109	-1.1	100	0.00
41	T	Tert-Amyl-Methyl ether	5.0000	4.8658	2.7	100	0.00
42	T	Carbon Tetrachloride	1.0000	0.9353	6.5	100	0.00
43	S	1,2-Dichloroethane-d4	-1.0000	0.4929	0.0	100	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.61#
45	T	1,2-Dichloroethane	1.0000	0.9872	1.3	100	0.00
46	T	Benzene	1.0000	1.0054	-0.5	100	0.00
47	T	Trichloroethene	1.0000	0.9278	7.2	100	0.00
48	T	Methylcyclohexane	-1.0000	1.0148	0.0	100	0.00
49	C	1,2-Dichloropropane	1.0000	0.9833	1.7	100	0.00
50	T	Bromodichloromethane	1.0000	0.9428	5.7	100	-0.01
51	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.94#
52	T	Dibromomethane	1.0000	0.9926	0.7	100	0.00
53	T	2-Chloroethyl Vinyl Ether	-1.0000	0.8879	0.0	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	0.5854	0.0	100	0.00

(#) = Out of Range
8M418410.D 8260WTR.M Thu Mar 23 10:21:37 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418410.D Vial: 5
Acq On : 21 Mar 2017 17:09 Operator: TMB
Sample : WG607066-04 1ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	1.0000	0.9523	4.8	100	0.00
56	T	Dimethyl Disulfide	-1.0000	3.3371	0.0	0	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	-1.0000	0.5035	0.0	100	0.00
59	C	Toluene	1.0000	1.0375	-3.7	100	0.00
60	T	Ethyl Methacrylate	1.0000	0.8655	13.5	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.40#
62	T	trans-1,3-Dichloropropene	1.0000	0.9476	5.2	100	0.00
63	T	1,1,2-Trichloroethane	1.0000	0.9631	3.7	100	0.00
64	T	2-Hexanone	-1.0000	0.5684	0.0	100	0.00
65	T	1,3-Dichloropropane	1.0000	0.9940	0.6	100	0.00
66	T	Tetrachloroethene	1.0000	1.0142	-1.4	100	0.00
67	T	Dibromochloromethane	1.0000	1.0240	-2.4	100	0.00
68	T	1,2-Dibromoethane	1.0000	0.9802	2.0	100	0.00
69	T	1-Chlorohexane	1.0000	0.9958	0.4	100	0.00
70	P	Chlorobenzene	1.0000	0.9665	3.4	100	0.00
71	T	1,1,1,2-Tetrachloroethane	1.0000	0.9876	1.2	100	0.00
72	C	Ethylbenzene	1.0000	0.9395	6.0	100	0.00
73	T	m-,p-Xylene	2.0000	1.9116	4.4	100	0.00
74	T	o-Xylene	1.0000	0.9200	8.0	100	0.00
75	T	Styrene	1.0000	0.9265	7.3	100	0.00
76	P	Bromoform	1.0000	1.1654	-16.5	100	0.00
77	T	Isopropylbenzene	1.0000	1.0072	-0.7	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	1.0470	-4.7	100	0.00
80	S	p-Bromofluorobenzene	-1.0000	0.4996	0.0	100	0.00
81	T	1,2,3-Trichloropropane	1.0000	0.9441	5.6	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	1.0000	0.8599	14.0	100	0.00
83	T	n-Propylbenzene	1.0000	1.0550	-5.5	100	0.00
84	T	Bromobenzene	1.0000	0.9290	7.1	100	0.00
85	T	1,3,5-Trimethylbenzene	1.0000	0.9865	1.3	100	0.00
86	T	2-Chlorotoluene	1.0000	1.0139	-1.4	100	0.00
87	T	4-Chlorotoluene	1.0000	1.0247	-2.5	100	0.00
88	T	a-Methylstyrene	-1.0000	0.8520	0.0	100	0.00
89	T	tert-Butylbenzene	1.0000	0.9044	9.6	100	0.00
90	T	1,2,4-Trimethylbenzene	1.0000	1.0117	-1.2	100	0.00
91	T	sec-Butylbenzene	1.0000	1.0454	-4.5	100	0.00
92	T	p-Isopropyltoluene	1.0000	0.9866	1.3	100	0.00
93	T	1,3-Dichlorobenzene	1.0000	0.9931	0.7	100	0.00
94	T	1,4-Dichlorobenzene	1.0000	1.0090	-0.9	100	0.00
95	T	n-Butylbenzene	1.0000	1.0408	-4.1	100	0.00
96	T	1,2-Dichlorobenzene	1.0000	0.9993	0.1	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.6381	0.0	0	0.00
98	T	1,2,4-Trichlorobenzene	1.0000	0.9973	0.3	100	0.00
99	T	Hexachlorobutadiene	1.0000	1.0301	-3.0	100	0.00
100	T	Naphthalene	1.0000	0.9923	0.8	100	0.00
101	T	1,2,3-Trichlorobenzene	1.0000	1.0034	-0.3	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M418410.D 8260WTR.M Thu Mar 23 10:21:37 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418411.D Vial: 6
Acq On : 21 Mar 2017 17:40 Operator: TMB
Sample : WG607066-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:17 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.94	96	806453	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.81	117	613590	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.82	152	323797	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.90	111	8948	0.9783	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	3.92%#		
43) 1,2-Dichloroethane-d4	10.54	65	8112	1.0234	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	4.08%#		
58) Toluene-d8	12.91	98	29338	0.9505	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	3.80%#		
80) p-Bromofluorobenzene	16.31	95	12269	1.0013	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	4.00%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.34	85	21878	1.7318	ug/L	99
3) Chloromethane	3.83	50	31055	2.0285	ug/L	96
4) Vinyl Chloride	4.06	62	29775	2.0800	ug/L	97
5) 1,3-Butadiene	4.11	54	16496	0.7791	ug/L	96
6) Bromomethane	4.97	94	13569	1.8713	ug/L	99
7) Chloroethane	5.14	64	10934	1.8832	ug/L	94
8) Trichlorofluoromethane	5.62	101	29078	1.8771	ug/L	98
9) Diethyl ether	6.15	59	117459	23.4449	ug/L	99
10) Isoprene	6.19	67	22062	1.8433	ug/L	96
11) Acrolein	6.39	56	8387	13.0924	ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	6.40	101	15360	1.8434	ug/L	97
13) Acetone	6.50	43	2257	2.3403	ug/L #	42
14) 1,1-Dichloroethene	6.71	61	20970	1.8036	ug/L	98
15) Tert-Butyl Alcohol	6.80	59	14767	48.1076	ug/L	95
16) Dimethyl Sulfide	6.98	62	14593	1.7657	ug/L	98
17) Iodomethane	7.24	142	13138	1.8493	ug/L	98
18) Methyl acetate	7.23	43	5277	1.9134	ug/L #	82
19) Methylene Chloride	7.50	84	16184	1.8280	ug/L	96
20) Carbon Disulfide	7.55	76	50438	1.9046	ug/L	100
21) Acrylonitrile	7.67	53	15987	11.8516	ug/L	97
22) Methyl Tert Butyl Ether	7.70	73	31235	1.8329	ug/L	99
23) trans-1,2-Dichloroethene	7.94	61	21040	1.8663	ug/L	98
24) n-Hexane	8.01	57	19614	2.0540	ug/L	97
25) Diisopropyl ether	8.35	45	516674	23.9944	ug/L	99
26) Vinyl Acetate	8.53	43	18265	2.1553	ug/L	95
27) 1,1-Dichloroethane	8.56	63	27702	1.8841	ug/L	97
28) Ethyl-Tert-Butyl ether	8.93	59	484054	23.4779	ug/L	100
29) 2-Butanone	9.12	43	3328	2.1418	ug/L #	67
30) Propionitrile	9.22	54	11779	25.6068	ug/L	98
31) 2,2-Dichloropropane	9.34	77	25398	1.9364	ug/L	97
32) cis-1,2-Dichloroethene	9.41	96	17398	1.8183	ug/L	96
33) Chloroform	9.62	83	30803	1.8076	ug/L	98
34) 1-Bromopropane	9.75	122	3199	1.7500	ug/L	88
35) Bromochloromethane	9.84	130	9699	1.8870	ug/L	99
36) Tetrahydrofuran	9.86	42	23391	23.6536	ug/L	96
38) 1,1,1-Trichloroethane	10.14	97	24958	1.7806	ug/L	99
39) Cyclohexane	10.17	56	22456	1.8539	ug/L	98
40) 1,1-Dichloropropene	10.34	75	22537	1.8722	ug/L	96
41) Tert-Amyl-Methyl ether	10.43	73	454781	23.6366	ug/L	99
42) Carbon Tetrachloride	10.48	117	21530	1.7168	ug/L	99

(#) = qualifier out of range (m) = manual integration
8M418411.D 8260WTR.M Thu Mar 23 10:19:20 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418411.D Vial: 6
Acq On : 21 Mar 2017 17:40 Operator: TMB
Sample : WG607066-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:17 2017 Quant Results File: 8260WTR.RES

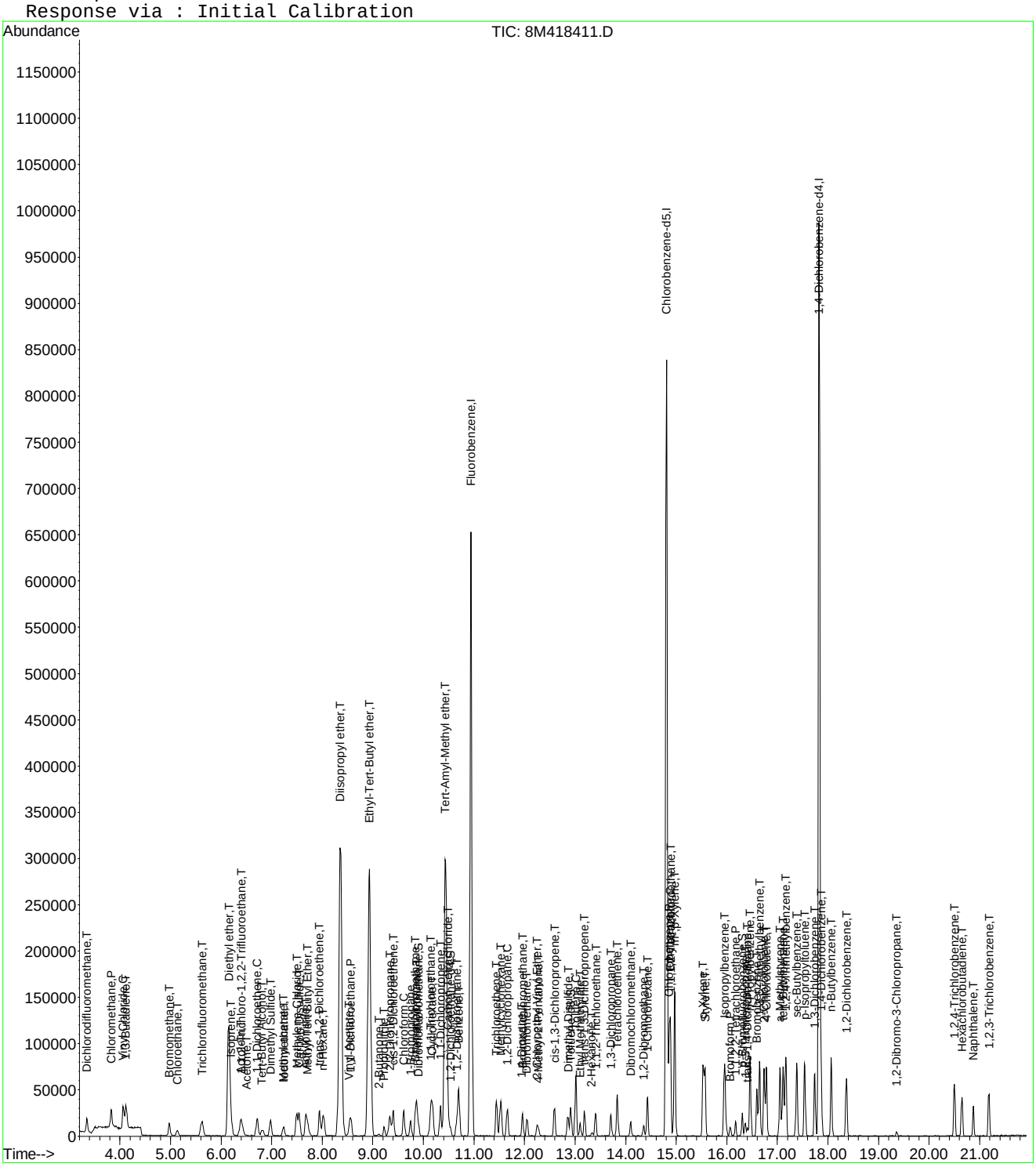
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.66	62	17821	1.8523	ug/L		99
46)	Benzene	10.70	78	65616	1.8903	ug/L		100
47)	Trichloroethene	11.45	130	16820	1.8122	ug/L		99
48)	Methylcyclohexane	11.53	83	25932	1.8594	ug/L		99
49)	1,2-Dichloropropane	11.65	63	14941	1.8721	ug/L		99
50)	Bromodichloromethane	11.96	83	20252	1.7949	ug/L		99
51)	1,4-Dioxane	11.94	88	1517	39.5549	ug/L		100
52)	Dibromomethane	12.05	93	8117	1.8978	ug/L		97
53)	2-Chloroethyl Vinyl Ether	12.25	63	6517	1.7957	ug/L		97
54)	4-Methyl-2-Pentanone	12.27	58	2133	1.3733	ug/L		93
55)	cis-1,3-Dichloropropene	12.59	75	23959	1.8295	ug/L		97
56)	Dimethyl Disulfide	12.86	79	9095	3.9150	ug/L		99
59)	Toluene	13.02	91	69007	1.8909	ug/L		97
60)	Ethyl Methacrylate	13.10	69	11717	1.6604	ug/L		99
62)	trans-1,3-Dichloropropene	13.18	75	18538	1.7221	ug/L		96
63)	1,1,2-Trichloroethane	13.41	97	10232	1.7799	ug/L		96
64)	2-Hexanone	13.33	58	2014	1.4614	ug/L	#	20
65)	1,3-Dichloropropane	13.71	76	19307	1.8757	ug/L		99
66)	Tetrachloroethene	13.83	164	14088	1.7816	ug/L		99
67)	Dibromochloromethane	14.10	129	11941	1.8003	ug/L		98
68)	1,2-Dibromoethane	14.35	107	10646	1.8049	ug/L		96
69)	1-Chlorohexane	14.43	91	22602	1.8173	ug/L		97
70)	Chlorobenzene	14.86	112	46971	1.8287	ug/L		87
71)	1,1,1,2-Tetrachloroethane	14.89	131	14902	1.7838	ug/L		94
72)	Ethylbenzene	14.88	106	25266	1.7725	ug/L		89
73)	m-,p-Xylene	14.97	106	61972	3.6249	ug/L		91
74)	o-Xylene	15.53	106	30925	1.8242	ug/L		99
75)	Styrene	15.57	104	49014	1.7909	ug/L		99
76)	Bromoform	16.07	173	6654	1.9563	ug/L		91
77)	Isopropylbenzene	15.95	105	77538	1.8905	ug/L		99
79)	1,1,2,2-Tetrachloroethane	16.17	83	11686	1.8517	ug/L		96
81)	1,2,3-Trichloropropane	16.37	110	3387	1.8852	ug/L		90
82)	trans-1,4-Dichloro-2-Buten	16.41	53	2517	1.7004	ug/L		86
83)	n-Propylbenzene	16.46	91	94833	1.9885	ug/L		97
84)	Bromobenzene	16.59	156	19552	1.8524	ug/L		91
85)	1,3,5-Trimethylbenzene	16.65	105	65580	1.9039	ug/L		100
86)	2-Chlorotoluene	16.74	91	60631	1.8914	ug/L		98
87)	4-Chlorotoluene	16.78	91	55993	1.9993	ug/L		96
88)	a-Methylstyrene	17.05	118	31365	1.6288	ug/L		98
89)	tert-Butylbenzene	17.11	134	13978	1.8375	ug/L		99
90)	1,2,4-Trimethylbenzene	17.16	105	67699	1.8905	ug/L		99
91)	sec-Butylbenzene	17.38	105	84222	1.9698	ug/L		98
92)	p-Isopropyltoluene	17.55	119	66367	1.8950	ug/L		98
93)	1,3-Dichlorobenzene	17.74	146	39368	1.8711	ug/L		98
94)	1,4-Dichlorobenzene	17.87	146	39901	1.8829	ug/L		82
95)	n-Butylbenzene	18.06	91	67203	1.9777	ug/L		98
96)	1,2-Dichlorobenzene	18.36	146	34521	1.8830	ug/L		100
97)	1,2-Dibromo-3-Chloropropan	19.36	75	1770	1.7871	ug/L		90
98)	1,2,4-Trichlorobenzene	20.50	180	24058	1.7544	ug/L		97
99)	Hexachlorobutadiene	20.65	225	12372	1.8454	ug/L		98
100)	Naphthalene	20.88	128	33545	1.8522	ug/L		99
101)	1,2,3-Trichlorobenzene	21.19	180	20663	1.8222	ug/L		99

(#) = qualifier out of range (m) = manual integration
8M418411.D 8260WTR.M Thu Mar 23 10:19:20 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418411.D Vial: 6
Acq On : 21 Mar 2017 17:40 Operator: TMB
Sample : WG607066-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418411.D Vial: 6
Acq On : 21 Mar 2017 17:40 Operator: TMB
Sample : WG607066-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	2.0000	1.7318	13.4	100	0.00
3	P	Chloromethane	2.0000	2.0285	-1.4	100	0.00
4	C	Vinyl Chloride	2.0000	2.0800	-4.0	100	0.00
5	T	1,3-Butadiene	2.0000	0.7791	61.0#	100	0.00
6	T	Bromomethane	2.0000	1.8714	6.4	100	0.00
7	T	Chloroethane	2.0000	1.8832	5.8	100	0.00
8	T	Trichlorofluoromethane	2.0000	1.8771	6.1	100	0.00
9	T	Diethyl ether	25.0000	23.4449	6.2	100	0.00
10	T	Isoprene	-1.0000	1.8433	0.0	100	0.00
11	T	Acrolein	12.5000	13.0924	-4.7	100	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	2.0000	1.8434	7.8	100	0.00
13	T	Acetone	-1.0000	2.3403	0.0	100	0.02
14	C	1,1-Dichloroethene	2.0000	1.8036	9.8	100	0.00
15	T	Tert-Butyl Alcohol	50.0000	48.1076	3.8	100	-0.01
16	T	Dimethyl Sulfide	-1.0000	1.7657	0.0	100	0.00
17	T	Iodomethane	2.0000	1.8493	7.5	100	0.00
18	T	Methyl acetate	-1.0000	1.9134	0.0	100	-0.01
19	T	Methylene Chloride	2.0000	1.8280	8.6	100	0.00
20	T	Carbon Disulfide	2.0000	1.9046	4.8	100	0.00
21	T	Acrylonitrile	12.5000	11.8516	5.2	100	0.00
22	T	Methyl Tert Butyl Ether	2.0000	1.8329	8.4	100	0.00
23	T	trans-1,2-Dichloroethene	2.0000	1.8663	6.7	100	0.00
24	T	n-Hexane	-1.0000	2.0540	0.0	100	-0.01
25	T	Diisopropyl ether	25.0000	23.9944	4.0	100	0.00
26	T	Vinyl Acetate	-1.0000	2.1553	0.0	100	0.00
27	P	1,1-Dichloroethane	2.0000	1.8841	5.8	100	0.00
28	T	Ethyl-Tert-Butyl ether	25.0000	23.4779	6.1	100	0.00
29	T	2-Butanone	-1.0000	2.1418	0.0	100	0.00
30	T	Propionitrile	25.0000	25.6068	-2.4	100	0.00
31	T	2,2-Dichloropropane	2.0000	1.9364	3.2	100	0.00
32	T	cis-1,2-Dichloroethene	2.0000	1.8183	9.1	100	0.00
33	C	Chloroform	2.0000	1.8076	9.6	100	0.00
34		1-Bromopropane	2.0000	1.7500	12.5	100	0.00
35	T	Bromochloromethane	2.0000	1.8870	5.6	100	0.00
36	T	Tetrahydrofuran	25.0000	23.6536	5.4	100	0.00
37	S	Dibromofluoromethane	1.0000	0.9783	2.2	100	0.00
38	T	1,1,1-Trichloroethane	2.0000	1.7806	11.0	100	0.00
39	T	Cyclohexane	2.0000	1.8539	7.3	100	0.00
40	T	1,1-Dichloropropene	2.0000	1.8723	6.4	100	0.00
41	T	Tert-Amyl-Methyl ether	25.0000	23.6366	5.5	100	0.00
42	T	Carbon Tetrachloride	2.0000	1.7168	14.2	100	0.00
43	S	1,2-Dichloroethane-d4	1.0000	1.0235	-2.3	100	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.61#
45	T	1,2-Dichloroethane	2.0000	1.8523	7.4	100	0.00
46	T	Benzene	2.0000	1.8903	5.5	100	0.00
47	T	Trichloroethene	2.0000	1.8122	9.4	100	0.00
48	T	Methylcyclohexane	-1.0000	1.8594	0.0	100	0.00
49	C	1,2-Dichloropropane	2.0000	1.8721	6.4	100	0.00
50	T	Bromodichloromethane	2.0000	1.7949	10.3	100	0.00
51	T	1,4-Dioxane	-1.0000	39.5549	0.0	100	0.00
52	T	Dibromomethane	2.0000	1.8978	5.1	100	0.00
53	T	2-Chloroethyl Vinyl Ether	2.0000	1.7957	10.2	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	1.3733	0.0	100	0.00

(#) = Out of Range
8M418411.D 8260WTR.M Thu Mar 23 10:21:56 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418411.D Vial: 6
Acq On : 21 Mar 2017 17:40 Operator: TMB
Sample : WG607066-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	2.0000	1.8295	8.5	100	0.00
56	T	Dimethyl Disulfide	-1.0000	3.9150	0.0	0	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	1.0000	0.9505	4.9	100	0.00
59	C	Toluene	2.0000	1.8909	5.5	100	0.00
60	T	Ethyl Methacrylate	2.0000	1.6604	17.0	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.40#
62	T	trans-1,3-Dichloropropene	2.0000	1.7221	13.9	100	0.00
63	T	1,1,2-Trichloroethane	2.0000	1.7799	11.0	100	0.00
64	T	2-Hexanone	-1.0000	1.4614	0.0	100	-0.01
65	T	1,3-Dichloropropane	2.0000	1.8757	6.2	100	0.00
66	T	Tetrachloroethene	2.0000	1.7816	10.9	100	0.00
67	T	Dibromochloromethane	2.0000	1.8003	10.0	100	0.00
68	T	1,2-Dibromoethane	2.0000	1.8049	9.8	100	0.00
69	T	1-Chlorohexane	2.0000	1.8173	9.1	100	0.00
70	P	Chlorobenzene	2.0000	1.8287	8.6	100	0.00
71	T	1,1,1,2-Tetrachloroethane	2.0000	1.7838	10.8	100	0.00
72	C	Ethylbenzene	2.0000	1.7725	11.4	100	0.00
73	T	m-,p-Xylene	4.0000	3.6249	9.4	100	0.00
74	T	o-Xylene	2.0000	1.8242	8.8	100	0.00
75	T	Styrene	2.0000	1.7909	10.5	100	0.00
76	P	Bromoform	2.0000	1.9563	2.2	100	0.00
77	T	Isopropylbenzene	2.0000	1.8905	5.5	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	2.0000	1.8517	7.4	100	0.00
80	S	p-Bromofluorobenzene	1.0000	1.0013	-0.1	100	0.00
81	T	1,2,3-Trichloropropane	2.0000	1.8852	5.7	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	2.0000	1.7004	15.0	100	0.00
83	T	n-Propylbenzene	2.0000	1.9885	0.6	100	0.00
84	T	Bromobenzene	2.0000	1.8524	7.4	100	0.00
85	T	1,3,5-Trimethylbenzene	2.0000	1.9039	4.8	100	0.00
86	T	2-Chlorotoluene	2.0000	1.8914	5.4	100	0.00
87	T	4-Chlorotoluene	2.0000	1.9993	0.0	100	0.00
88	T	a-Methylstyrene	-1.0000	1.6288	0.0	100	0.00
89	T	tert-Butylbenzene	2.0000	1.8375	8.1	100	0.00
90	T	1,2,4-Trimethylbenzene	2.0000	1.8905	5.5	100	0.00
91	T	sec-Butylbenzene	2.0000	1.9698	1.5	100	0.00
92	T	p-Isopropyltoluene	2.0000	1.8950	5.3	100	0.00
93	T	1,3-Dichlorobenzene	2.0000	1.8711	6.4	100	0.00
94	T	1,4-Dichlorobenzene	2.0000	1.8829	5.9	100	0.00
95	T	n-Butylbenzene	2.0000	1.9777	1.1	100	0.00
96	T	1,2-Dichlorobenzene	2.0000	1.8830	5.9	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	2.0000	1.7871	10.6	100	0.00
98	T	1,2,4-Trichlorobenzene	2.0000	1.7545	12.3	100	0.00
99	T	Hexachlorobutadiene	2.0000	1.8454	7.7	100	0.00
100	T	Naphthalene	2.0000	1.8522	7.4	100	0.00
101	T	1,2,3-Trichlorobenzene	2.0000	1.8222	8.9	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M418411.D 8260WTR.M Thu Mar 23 10:21:57 2017 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418412.D Vial: 7
Acq On : 21 Mar 2017 18:10 Operator: TMB
Sample : WG607066-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:21 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.94	96	815035	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.81	117	615657	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.83	152	327108	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.90	111	22395	2.4228	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	9.68%#		
43) 1,2-Dichloroethane-d4	10.54	65	19064	2.3799	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	9.52%#		
58) Toluene-d8	12.92	98	78100	2.5219	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	10.08%#		
80) p-Bromofluorobenzene	16.31	95	30346	2.4516	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	9.80%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.34	85	57648	4.5151	ug/L	100
3) Chloromethane	3.83	50	78191	5.0536	ug/L	97
4) Vinyl Chloride	4.06	62	73384	5.0724	ug/L	99
5) 1,3-Butadiene	4.12	54	41269	5.8119	ug/L	96
6) Bromomethane	4.97	94	35005	4.7768	ug/L	98
7) Chloroethane	5.13	64	28649	4.8823	ug/L	98
8) Trichlorofluoromethane	5.62	101	75703	4.8355	ug/L	99
9) Diethyl ether	6.14	59	246013	48.5872	ug/L	99
10) Isoprene	6.18	67	57716	4.7714	ug/L	99
11) Acrolein	6.38	56	15359	23.7235	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.40	101	42364	5.0307	ug/L	99
13) Acetone	6.48	43	4624	4.7441	ug/L	84
14) 1,1-Dichloroethene	6.71	61	57417	4.8863	ug/L	100
15) Tert-Butyl Alcohol	6.82	59	29560	95.2859	ug/L	97
16) Dimethyl Sulfide	6.98	62	39521	4.7315	ug/L	100
17) Iodomethane	7.24	142	38342	4.3883	ug/L	99
18) Methyl acetate	7.24	43	13546	4.8600	ug/L #	89
19) Methylene Chloride	7.50	84	42736	4.7762	ug/L	99
20) Carbon Disulfide	7.54	76	133568	4.9906	ug/L	100
21) Acrylonitrile	7.67	53	32246	23.6530	ug/L	99
22) Methyl Tert Butyl Ether	7.70	73	81973	4.7595	ug/L	100
23) trans-1,2-Dichloroethene	7.94	61	55034	4.8304	ug/L	98
24) n-Hexane	8.01	57	50816	5.2654	ug/L	99
25) Diisopropyl ether	8.36	45	1098144	50.4609	ug/L	98
26) Vinyl Acetate	8.53	43	46164	5.3902	ug/L	99
27) 1,1-Dichloroethane	8.56	63	73534	4.9487	ug/L	99
28) Ethyl-Tert-Butyl ether	8.92	59	1037371	49.7855	ug/L	100
29) 2-Butanone	9.12	43	7736	4.9261	ug/L	87
30) Propionitrile	9.22	54	22643	48.7062	ug/L	99
31) 2,2-Dichloropropane	9.34	77	66646	5.0276	ug/L	98
32) cis-1,2-Dichloroethene	9.41	96	47223	4.8834	ug/L	98
33) Chloroform	9.61	83	79976	4.6438	ug/L	98
34) 1-Bromopropane	9.74	122	9164	4.9603	ug/L	99
35) Bromochloromethane	9.84	130	24923	4.7979	ug/L	97
36) Tetrahydrofuran	9.87	42	46575	46.6019	ug/L	99
38) 1,1,1-Trichloroethane	10.14	97	69902	4.9346	ug/L	99
39) Cyclohexane	10.18	56	59815	4.8861	ug/L	99
40) 1,1-Dichloropropene	10.34	75	59701	4.9074	ug/L	97
41) Tert-Amyl-Methyl ether	10.43	73	964872	49.6198	ug/L	100
42) Carbon Tetrachloride	10.49	117	61702	4.8682	ug/L	99

(#) = qualifier out of range (m) = manual integration
8M418412.D 8260WTR.M Thu Mar 23 10:19:24 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418412.D Vial: 7
Acq On : 21 Mar 2017 18:10 Operator: TMB
Sample : WG607066-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:21 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

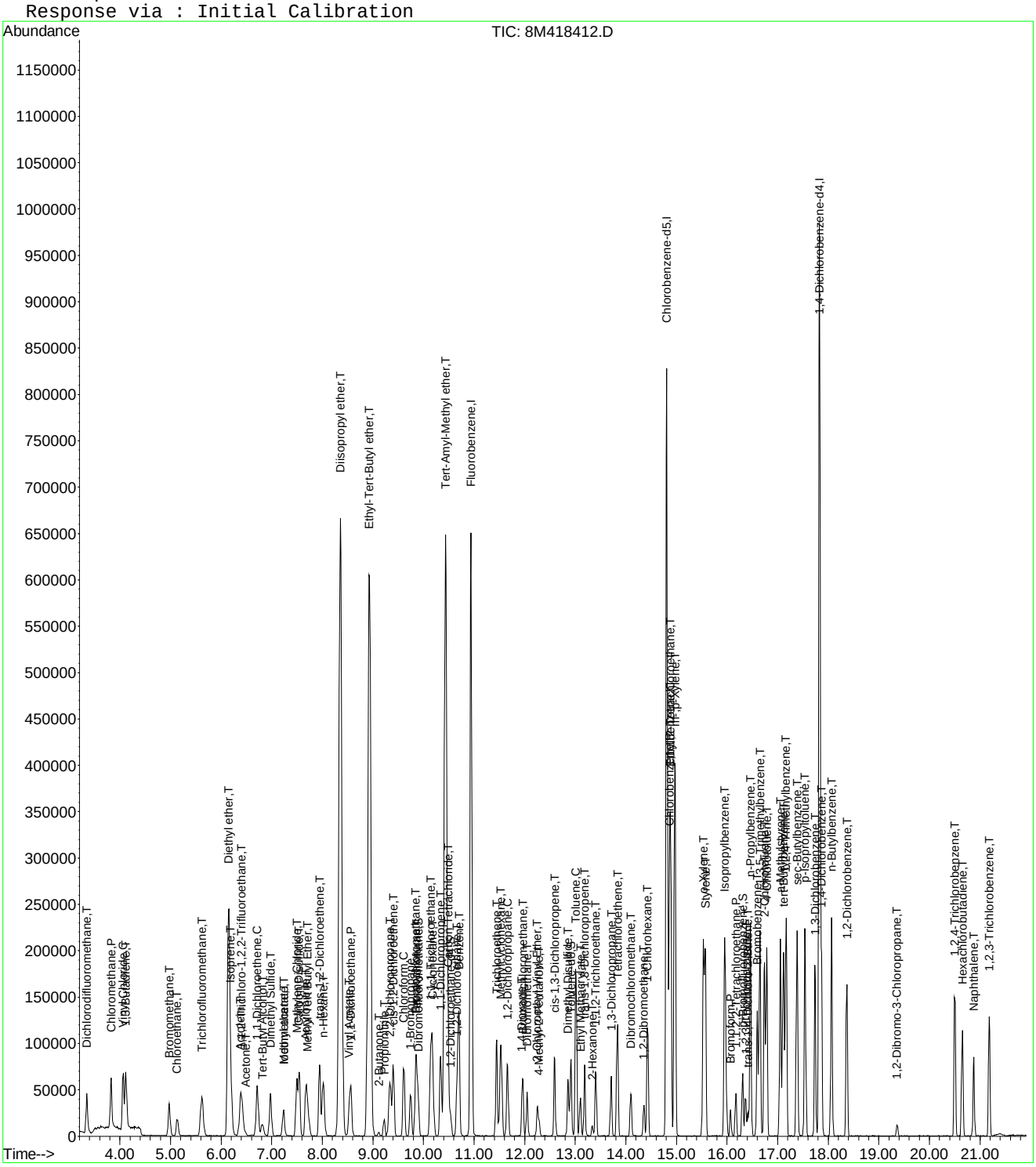
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.66	62	46572	4.7897	ug/L		98
46)	Benzene	10.70	78	177629	5.0634	ug/L		98
47)	Trichloroethene	11.45	130	45447	4.8449	ug/L		98
48)	Methylcyclohexane	11.53	83	69686	4.9440	ug/L		100
49)	1,2-Dichloropropane	11.66	63	39996	4.9586	ug/L		98
50)	Bromodichloromethane	11.96	83	53542	4.6955	ug/L		98
51)	1,4-Dioxane	11.94	88	3437	88.6741	ug/L		97
52)	Dibromomethane	12.05	93	21357	4.9409	ug/L		99
53)	2-Chloroethyl Vinyl Ether	12.24	63	17523	4.7776	ug/L		98
54)	4-Methyl-2-Pentanone	12.28	58	6871	4.3772	ug/L		97
55)	cis-1,3-Dichloropropene	12.60	75	63284	4.7814	ug/L		100
56)	Dimethyl Disulfide	12.85	79	25856	5.9282	ug/L		98
59)	Toluene	13.01	91	185488	5.0655	ug/L		99
60)	Ethyl Methacrylate	13.10	69	32628	4.6082	ug/L		99
62)	trans-1,3-Dichloropropene	13.18	75	51141	4.7349	ug/L		99
63)	1,1,2-Trichloroethane	13.40	97	28565	4.9523	ug/L		99
64)	2-Hexanone	13.34	58	5536	4.0035	ug/L	#	28
65)	1,3-Dichloropropane	13.71	76	49887	4.8302	ug/L		100
66)	Tetrachloroethene	13.84	164	38803	4.8906	ug/L		100
67)	Dibromochloromethane	14.09	129	33422	4.6625	ug/L		98
68)	1,2-Dibromoethane	14.35	107	28526	4.8200	ug/L		99
69)	1-Chlorohexane	14.43	91	61333	4.9148	ug/L		100
70)	Chlorobenzene	14.86	112	122717	4.7617	ug/L		96
71)	1,1,1,2-Tetrachloroethane	14.88	131	40183	4.4589	ug/L		99
72)	Ethylbenzene	14.88	106	68410	4.7831	ug/L		91
73)	m-,p-Xylene	14.97	106	165390	9.6416	ug/L		91
74)	o-Xylene	15.53	106	79805	4.6916	ug/L		95
75)	Styrene	15.57	104	133331	4.8554	ug/L		99
76)	Bromoform	16.07	173	17246	4.3386	ug/L		95
77)	Isopropylbenzene	15.96	105	207808	5.0495	ug/L		98
79)	1,1,2,2-Tetrachloroethane	16.17	83	32166	5.0454	ug/L		97
81)	1,2,3-Trichloropropane	16.37	110	8855	4.8787	ug/L		97
82)	trans-1,4-Dichloro-2-Buten	16.41	53	7680	5.1357	ug/L		94
83)	n-Propylbenzene	16.46	91	255678	5.3068	ug/L		97
84)	Bromobenzene	16.60	156	51241	4.8055	ug/L		97
85)	1,3,5-Trimethylbenzene	16.65	105	175753	5.0506	ug/L		99
86)	2-Chlorotoluene	16.74	91	164765	5.0877	ug/L		98
87)	4-Chlorotoluene	16.78	91	140714	4.9736	ug/L		97
88)	a-Methylstyrene	17.05	118	89621	4.6071	ug/L		99
89)	tert-Butylbenzene	17.11	134	36401	4.7366	ug/L		94
90)	1,2,4-Trimethylbenzene	17.17	105	183680	5.0772	ug/L		98
91)	sec-Butylbenzene	17.38	105	226755	5.2498	ug/L		97
92)	p-Isopropyltoluene	17.54	119	179958	5.0863	ug/L		98
93)	1,3-Dichlorobenzene	17.74	146	104685	4.9251	ug/L		97
94)	1,4-Dichlorobenzene	17.87	146	102822	4.8029	ug/L		93
95)	n-Butylbenzene	18.06	91	177005	5.1563	ug/L		98
96)	1,2-Dichlorobenzene	18.36	146	90038	4.8615	ug/L		99
97)	1,2-Dibromo-3-Chloropropan	19.36	75	4350	4.3476	ug/L		93
98)	1,2,4-Trichlorobenzene	20.50	180	65218	4.7079	ug/L		100
99)	Hexachlorobutadiene	20.65	225	32260	4.7632	ug/L		97
100)	Naphthalene	20.88	128	87714	4.7941	ug/L		98
101)	1,2,3-Trichlorobenzene	21.18	180	52406	4.5747	ug/L		99

(#) = qualifier out of range (m) = manual integration
8M418412.D 8260WTR.M Thu Mar 23 10:19:24 2017 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418412.D Vial: 7
Acq On : 21 Mar 2017 18:10 Operator: TMB
Sample : WG607066-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration



8M418412.D 8260WTR.M Thu Mar 23 10:19:25 2017 Page 3

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418412.D Vial: 7
Acq On : 21 Mar 2017 18:10 Operator: TMB
Sample : WG607066-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	5.0000	4.5152	9.7	100	0.00
3	P	Chloromethane	5.0000	5.0536	-1.1	100	0.00
4	C	Vinyl Chloride	5.0000	5.0724	-1.4	100	0.01
5	T	1,3-Butadiene	5.0000	5.8119	-16.2	100	0.01
6	T	Bromomethane	5.0000	4.7768	4.5	100	0.00
7	T	Chloroethane	5.0000	4.8823	2.4	100	0.00
8	T	Trichlorofluoromethane	5.0000	4.8355	3.3	100	0.00
9	T	Diethyl ether	50.0000	48.5872	2.8	100	0.00
10	T	Isoprene	5.0000	4.7714	4.6	100	0.00
11	T	Acrolein	25.0000	23.7235	5.1	100	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	5.0000	5.0307	-0.6	100	0.00
13	T	Acetone	5.0000	4.7441	5.1	100	0.00
14	C	1,1-Dichloroethene	5.0000	4.8863	2.3	100	0.00
15	T	Tert-Butyl Alcohol	100.0000	95.2859	4.7	100	0.00
16	T	Dimethyl Sulfide	5.0000	4.7315	5.4	100	0.00
17	T	Iodomethane	5.0000	4.3883	12.2	100	0.00
18	T	Methyl acetate	5.0000	4.8600	2.8	100	0.00
19	T	Methylene Chloride	5.0000	4.7762	4.5	100	0.00
20	T	Carbon Disulfide	5.0000	4.9906	0.2	100	0.00
21	T	Acrylonitrile	25.0000	23.6530	5.4	100	0.00
22	T	Methyl Tert Butyl Ether	5.0000	4.7595	4.8	100	0.00
23	T	trans-1,2-Dichloroethene	5.0000	4.8304	3.4	100	0.00
24	T	n-Hexane	5.0000	5.2654	-5.3	100	0.00
25	T	Diisopropyl ether	50.0000	50.4609	-0.9	100	0.00
26	T	Vinyl Acetate	5.0000	5.3902	-7.8	100	0.00
27	P	1,1-Dichloroethane	5.0000	4.9487	1.0	100	0.00
28	T	Ethyl-Tert-Butyl ether	50.0000	49.7855	0.4	100	0.00
29	T	2-Butanone	5.0000	4.9261	1.5	100	0.01
30	T	Propionitrile	50.0000	48.7062	2.6	100	0.00
31	T	2,2-Dichloropropane	5.0000	5.0277	-0.6	100	0.00
32	T	cis-1,2-Dichloroethene	5.0000	4.8834	2.3	100	0.01
33	C	Chloroform	5.0000	4.6437	7.1	100	0.00
34		1-Bromopropane	5.0000	4.9603	0.8	100	0.00
35	T	Bromochloromethane	5.0000	4.7979	4.0	100	0.00
36	T	Tetrahydrofuran	50.0000	46.6019	6.8	100	0.00
37	S	Dibromofluoromethane	2.5000	2.4228	3.1	100	0.00
38	T	1,1,1-Trichloroethane	5.0000	4.9346	1.3	100	0.00
39	T	Cyclohexane	5.0000	4.8861	2.3	100	0.00
40	T	1,1-Dichloropropene	5.0000	4.9074	1.9	100	0.00
41	T	Tert-Amyl-Methyl ether	50.0000	49.6198	0.8	100	0.00
42	T	Carbon Tetrachloride	5.0000	4.8682	2.6	100	0.00
43	S	1,2-Dichloroethane-d4	2.5000	2.3799	4.8	100	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.61#
45	T	1,2-Dichloroethane	5.0000	4.7897	4.2	100	0.00
46	T	Benzene	5.0000	5.0634	-1.3	100	0.00
47	T	Trichloroethene	5.0000	4.8449	3.1	100	0.00
48	T	Methylcyclohexane	5.0000	4.9440	1.1	100	0.00
49	C	1,2-Dichloropropane	5.0000	4.9586	0.8	100	0.01
50	T	Bromodichloromethane	5.0000	4.6955	6.1	100	0.00
51	T	1,4-Dioxane	100.0000	88.6741	11.3	100	0.00
52	T	Dibromomethane	5.0000	4.9409	1.2	100	0.00
53	T	2-Chloroethyl Vinyl Ether	5.0000	4.7776	4.4	100	0.00
54	T	4-Methyl-2-Pentanone	5.0000	4.3772	12.5	100	0.01

(#) = Out of Range
8M418412.D 8260WTR.M Thu Mar 23 10:22:11 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418412.D Vial: 7
Acq On : 21 Mar 2017 18:10 Operator: TMB
Sample : WG607066-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	5.0000	4.7814	4.4	100	0.00
56	T	Dimethyl Disulfide	5.0000	5.9282	-18.6	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	2.5000	2.5219	-0.9	100	0.00
59	C	Toluene	5.0000	5.0655	-1.3	100	0.00
60	T	Ethyl Methacrylate	5.0000	4.6082	7.8	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.40#
62	T	trans-1,3-Dichloropropene	5.0000	4.7349	5.3	100	0.00
63	T	1,1,2-Trichloroethane	5.0000	4.9523	1.0	100	0.00
64	T	2-Hexanone	5.0000	4.0035	19.9	100	0.00
65	T	1,3-Dichloropropane	5.0000	4.8302	3.4	100	0.00
66	T	Tetrachloroethene	5.0000	4.8906	2.2	100	0.00
67	T	Dibromochloromethane	5.0000	4.6625	6.8	100	0.00
68	T	1,2-Dibromoethane	5.0000	4.8200	3.6	100	0.00
69	T	1-Chlorohexane	5.0000	4.9148	1.7	100	0.00
70	P	Chlorobenzene	5.0000	4.7617	4.8	100	0.00
71	T	1,1,1,2-Tetrachloroethane	5.0000	4.4589	10.8	100	0.00
72	C	Ethylbenzene	5.0000	4.7831	4.3	100	0.00
73	T	m-,p-Xylene	10.0000	9.6416	3.6	100	0.00
74	T	o-Xylene	5.0000	4.6916	6.2	100	0.00
75	T	Styrene	5.0000	4.8554	2.9	100	0.00
76	P	Bromoform	5.0000	4.3386	13.2	100	0.00
77	T	Isopropylbenzene	5.0000	5.0496	-1.0	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	5.0454	-0.9	100	0.00
80	S	p-Bromofluorobenzene	2.5000	2.4516	1.9	100	0.00
81	T	1,2,3-Trichloropropane	5.0000	4.8787	2.4	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	5.0000	5.1357	-2.7	100	0.00
83	T	n-Propylbenzene	5.0000	5.3068	-6.1	100	0.00
84	T	Bromobenzene	5.0000	4.8055	3.9	100	0.00
85	T	1,3,5-Trimethylbenzene	5.0000	5.0506	-1.0	100	0.00
86	T	2-Chlorotoluene	5.0000	5.0877	-1.8	100	0.00
87	T	4-Chlorotoluene	5.0000	4.9736	0.5	100	0.00
88	T	a-Methylstyrene	5.0000	4.6071	7.9	100	0.00
89	T	tert-Butylbenzene	5.0000	4.7366	5.3	100	0.00
90	T	1,2,4-Trimethylbenzene	5.0000	5.0772	-1.5	100	0.00
91	T	sec-Butylbenzene	5.0000	5.2498	-5.0	100	0.00
92	T	p-Isopropyltoluene	5.0000	5.0863	-1.7	100	0.00
93	T	1,3-Dichlorobenzene	5.0000	4.9251	1.5	100	0.00
94	T	1,4-Dichlorobenzene	5.0000	4.8029	3.9	100	0.00
95	T	n-Butylbenzene	5.0000	5.1563	-3.1	100	0.00
96	T	1,2-Dichlorobenzene	5.0000	4.8614	2.8	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	5.0000	4.3476	13.0	100	0.00
98	T	1,2,4-Trichlorobenzene	5.0000	4.7079	5.8	100	0.00
99	T	Hexachlorobutadiene	5.0000	4.7632	4.7	100	0.00
100	T	Naphthalene	5.0000	4.7941	4.1	100	0.00
101	T	1,2,3-Trichlorobenzene	5.0000	4.5747	8.5	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M418412.D 8260WTR.M Thu Mar 23 10:22:11 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418413.D Vial: 8
Acq On : 21 Mar 2017 18:41 Operator: TMB
Sample : WG607066-07 20ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:25 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.94	96	821672	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.81	117	625798	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.83	152	337574	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.90	111	91435	9.8118	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 39.24%#			
43) 1,2-Dichloroethane-d4	10.54	65	80586	9.9788	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 39.92%#			
58) Toluene-d8	12.92	98	315631	10.0266	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 40.12%#			
80) p-Bromofluorobenzene	16.31	95	124358	9.7351	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 38.96%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.34	85	267112	20.7520	ug/L	100
3) Chloromethane	3.83	50	306801	19.6689	ug/L	100
4) Vinyl Chloride	4.05	62	289525	19.8509	ug/L	99
5) 1,3-Butadiene	4.12	54	154484	29.8378	ug/L	99
6) Bromomethane	4.98	94	139620	18.8988	ug/L	100
7) Chloroethane	5.13	64	119263	20.1604	ug/L	98
8) Trichlorofluoromethane	5.63	101	307979	19.5132	ug/L	99
9) Diethyl ether	6.14	59	402822	78.9142	ug/L	100
10) Isoprene	6.18	67	230105	18.8691	ug/L	100
11) Acrolein	6.38	56	26074	39.9486	ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	6.40	101	165526	19.4975	ug/L	100
13) Acetone	6.48	43	20120	20.4758	ug/L	95
14) 1,1-Dichloroethene	6.71	61	229545	19.3768	ug/L	100
15) Tert-Butyl Alcohol	6.82	59	51093	163.3666	ug/L	99
16) Dimethyl Sulfide	6.98	62	161581	19.1886	ug/L	100
17) Iodomethane	7.23	142	171474	17.7339	ug/L	99
18) Methyl acetate	7.24	43	53968	19.2063	ug/L	97
19) Methylene Chloride	7.50	84	175217	19.4242	ug/L	99
20) Carbon Disulfide	7.54	76	534567	19.8121	ug/L	100
21) Acrylonitrile	7.67	53	54994	40.0133	ug/L	98
22) Methyl Tert Butyl Ether	7.70	73	350631	20.1938	ug/L	100
23) trans-1,2-Dichloroethene	7.94	61	222172	19.3426	ug/L	100
24) n-Hexane	8.02	57	183626	18.8729	ug/L	100
25) Diisopropyl ether	8.36	45	1757668	80.1144	ug/L	100
26) Vinyl Acetate	8.53	43	171984	19.9188	ug/L	99
27) 1,1-Dichloroethane	8.56	63	293490	19.5918	ug/L	99
28) Ethyl-Tert-Butyl ether	8.92	59	1705294	81.1794	ug/L	100
29) 2-Butanone	9.11	43	31385	19.8239	ug/L	97
30) Propionitrile	9.22	54	38828	82.8463	ug/L	99
31) 2,2-Dichloropropane	9.34	77	253094	18.9387	ug/L	99
32) cis-1,2-Dichloroethene	9.40	96	192736	19.7700	ug/L	99
33) Chloroform	9.61	83	317903	18.3097	ug/L	99
34) 1-Bromopropane	9.75	122	36849	19.7847	ug/L	96
35) Bromochloromethane	9.85	130	103131	19.6934	ug/L	99
36) Tetrahydrofuran	9.87	42	78080	77.4941	ug/L	99
38) 1,1,1-Trichloroethane	10.14	97	277573	19.4366	ug/L	100
39) Cyclohexane	10.18	56	236003	19.1226	ug/L	99
40) 1,1-Dichloropropene	10.34	75	238442	19.4415	ug/L	99
41) Tert-Amyl-Methyl ether	10.43	73	1584333	80.8183	ug/L	100
42) Carbon Tetrachloride	10.49	117	250269	19.5864	ug/L	99

(#) = qualifier out of range (m) = manual integration
8M418413.D 8260WTR.M Thu Mar 23 10:19:28 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418413.D Vial: 8
Acq On : 21 Mar 2017 18:41 Operator: TMB
Sample : WG607066-07 20ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:25 2017 Quant Results File: 8260WTR.RES

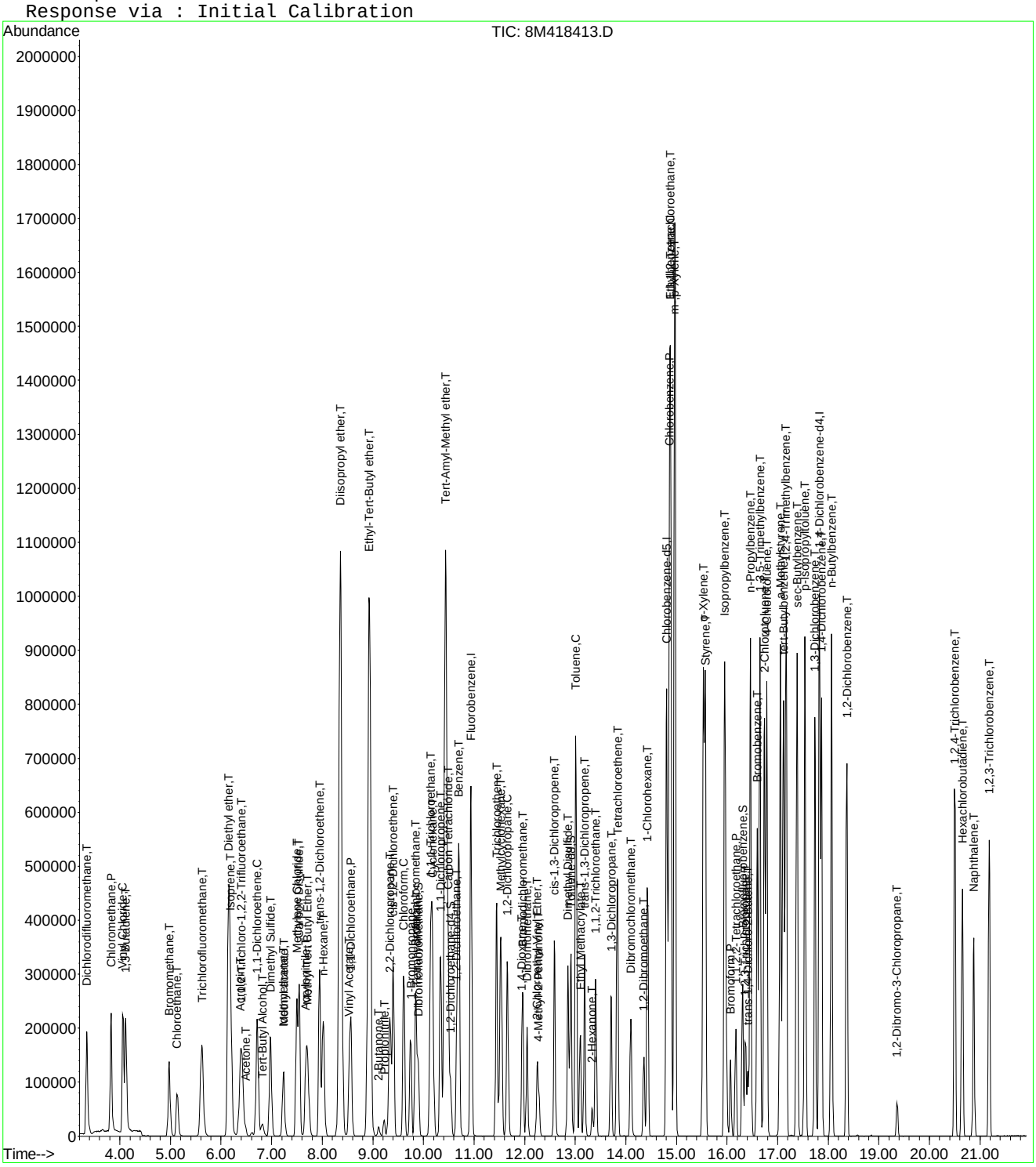
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.65	62	193166	19.7059	ug/L	99
46)	Benzene	10.69	78	700569	19.8088	ug/L	99
47)	Trichloroethene	11.45	130	185531	19.6190	ug/L	99
48)	Methylcyclohexane	11.53	83	268976	18.9287	ug/L	99
49)	1,2-Dichloropropane	11.65	63	162712	20.0097	ug/L	100
50)	Bromodichloromethane	11.95	83	228854	19.9076	ug/L	99
51)	1,4-Dioxane	11.94	88	6022	154.1117	ug/L	94
52)	Dibromomethane	12.05	93	90005	20.6543	ug/L	99
53)	2-Chloroethyl Vinyl Ether	12.24	63	71072	19.2210	ug/L	98
54)	4-Methyl-2-Pentanone	12.27	58	30339	19.1714	ug/L	98
55)	cis-1,3-Dichloropropene	12.59	75	265979	19.9337	ug/L	99
56)	Dimethyl Disulfide	12.85	79	128604	18.2156	ug/L	97
59)	Toluene	13.01	91	743388	19.9724	ug/L	98
60)	Ethyl Methacrylate	13.10	69	149186	20.7286	ug/L	98
62)	trans-1,3-Dichloropropene	13.18	75	220503	20.0843	ug/L	100
63)	1,1,2-Trichloroethane	13.40	97	118566	20.2227	ug/L	100
64)	2-Hexanone	13.33	58	27656	19.6759	ug/L	99
65)	1,3-Dichloropropane	13.71	76	210564	20.0570	ug/L	99
66)	Tetrachloroethene	13.84	164	151933	18.8389	ug/L	99
67)	Dibromochloromethane	14.09	129	148062	19.3718	ug/L	100
68)	1,2-Dibromoethane	14.35	107	122091	20.2951	ug/L	98
69)	1-Chlorohexane	14.43	91	239557	18.8853	ug/L	99
70)	Chlorobenzene	14.86	112	498962	19.0471	ug/L	100
71)	1,1,1,2-Tetrachloroethane	14.88	131	181926	18.6479	ug/L	100
72)	Ethylbenzene	14.88	106	280076	19.2650	ug/L	94
73)	m-,p-Xylene	14.96	106	683565	39.2036	ug/L	93
74)	o-Xylene	15.53	106	329733	19.0703	ug/L	99
75)	Styrene	15.57	104	559745	20.0535	ug/L	99
76)	Bromoform	16.07	173	86579	19.2358	ug/L	100
77)	Isopropylbenzene	15.96	105	836820	20.0045	ug/L	99
79)	1,1,2,2-Tetrachloroethane	16.17	83	133568	20.3011	ug/L	99
81)	1,2,3-Trichloropropane	16.36	110	37383	19.9577	ug/L	98
82)	trans-1,4-Dichloro-2-Buten	16.41	53	31257	20.2539	ug/L	95
83)	n-Propylbenzene	16.46	91	1013480	20.3834	ug/L	98
84)	Bromobenzene	16.60	156	213250	19.3788	ug/L	98
85)	1,3,5-Trimethylbenzene	16.65	105	719028	20.0222	ug/L	99
86)	2-Chlorotoluene	16.74	91	676467	20.2408	ug/L	96
87)	4-Chlorotoluene	16.78	91	569123	19.4922	ug/L	98
88)	a-Methylstyrene	17.05	118	379902	18.9239	ug/L	100
89)	tert-Butylbenzene	17.11	134	148294	18.6981	ug/L	96
90)	1,2,4-Trimethylbenzene	17.17	105	757423	20.2873	ug/L	98
91)	sec-Butylbenzene	17.38	105	899287	20.1745	ug/L	98
92)	p-Isopropyltoluene	17.54	119	733704	20.0943	ug/L	99
93)	1,3-Dichlorobenzene	17.73	146	425958	19.4188	ug/L	100
94)	1,4-Dichlorobenzene	17.87	146	421228	19.0658	ug/L	100
95)	n-Butylbenzene	18.06	91	706936	19.9553	ug/L	99
96)	1,2-Dichlorobenzene	18.36	146	372725	19.5007	ug/L	99
97)	1,2-Dibromo-3-Chloropropan	19.36	75	20816	20.1597	ug/L	99
98)	1,2,4-Trichlorobenzene	20.51	180	271888	19.0185	ug/L	99
99)	Hexachlorobutadiene	20.65	225	126611	18.1144	ug/L	100
100)	Naphthalene	20.88	128	379245	20.0854	ug/L	100
101)	1,2,3-Trichlorobenzene	21.18	180	226688	19.1747	ug/L	100

(#) = qualifier out of range (m) = manual integration
8M418413.D 8260WTR.M Thu Mar 23 10:19:28 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418413.D Vial: 8
Acq On : 21 Mar 2017 18:41 Operator: TMB
Sample : WG607066-07 20ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418414.D Vial: 9
Acq On : 21 Mar 2017 19:11 Operator: TMB
Sample : WG607066-08 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:30 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.94	96	821515	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.81	117	635449	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.83	152	345493	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.90	111	227256	24.3913	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 97.56%			
43) 1,2-Dichloroethane-d4	10.54	65	199083	24.6568	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 98.64%			
58) Toluene-d8	12.92	98	778520	24.3556	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.44%			
80) p-Bromofluorobenzene	16.31	95	310492	23.7490	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 95.00%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.34	85	711345	55.2750	ug/L	100
3) Chloromethane	3.83	50	763262	48.9417	ug/L	100
4) Vinyl Chloride	4.05	62	698218	47.8815	ug/L	100
5) 1,3-Butadiene	4.11	54	285922	60.6615	ug/L	100
6) Bromomethane	4.97	94	369809	50.0666	ug/L	100
7) Chloroethane	5.13	64	305358	51.6280	ug/L	100
8) Trichlorofluoromethane	5.62	101	807170	51.1512	ug/L	100
9) Diethyl ether	6.14	59	522978	102.4728	ug/L	100
10) Isoprene	6.18	67	604725	49.5983	ug/L	100
11) Acrolein	6.39	56	33661	51.5827	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.40	101	441268	51.9873	ug/L	100
13) Acetone	6.48	43	50200	51.0974	ug/L	100
14) 1,1-Dichloroethene	6.71	61	601562	50.7899	ug/L	100
15) Tert-Butyl Alcohol	6.81	59	66306	212.0497	ug/L	100
16) Dimethyl Sulfide	6.98	62	419461	49.8226	ug/L	100
17) Iodomethane	7.24	142	489213	49.6697	ug/L	100
18) Methyl acetate	7.24	43	138467	49.2874	ug/L	100
19) Methylene Chloride	7.50	84	452948	50.2224	ug/L	100
20) Carbon Disulfide	7.54	76	1373384	50.9099	ug/L	100
21) Acrylonitrile	7.67	53	75054	54.6193	ug/L	100
22) Methyl Tert Butyl Ether	7.70	73	913126	52.5996	ug/L	100
23) trans-1,2-Dichloroethene	7.94	61	570982	49.7200	ug/L	100
24) n-Hexane	8.02	57	481335	49.4807	ug/L	100
25) Diisopropyl ether	8.36	45	2245729	102.3798	ug/L	100
26) Vinyl Acetate	8.53	43	417757	48.3930	ug/L	100
27) 1,1-Dichloroethane	8.56	63	762261	50.8941	ug/L	100
28) Ethyl-Tert-Butyl ether	8.93	59	2190954	104.3189	ug/L	100
29) 2-Butanone	9.11	43	79673	50.3339	ug/L	100
30) Propionitrile	9.22	54	48849	104.2478	ug/L	100
31) 2,2-Dichloropropane	9.34	77	653825	48.9342	ug/L	100
32) cis-1,2-Dichloroethene	9.40	96	496971	50.9868	ug/L	100
33) Chloroform	9.61	83	821445	47.3204	ug/L	100
34) 1-Bromopropane	9.75	122	93829	50.3875	ug/L	100
35) Bromochloromethane	9.84	130	273070	52.1540	ug/L	100
36) Tetrahydrofuran	9.86	42	103949	103.1887	ug/L	100
38) 1,1,1-Trichloroethane	10.14	97	739127	51.7661	ug/L	100
39) Cyclohexane	10.18	56	620901	50.3193	ug/L	100
40) 1,1-Dichloropropene	10.34	75	617108	50.3259	ug/L	100
41) Tert-Amyl-Methyl ether	10.43	73	2062326	105.2213	ug/L	100
42) Carbon Tetrachloride	10.49	117	674327	52.7838	ug/L	100

(#) = qualifier out of range (m) = manual integration
8M418414.D 8260WTR.M Thu Mar 23 10:19:32 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418414.D Vial: 9
Acq On : 21 Mar 2017 19:11 Operator: TMB
Sample : WG607066-08 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:30 2017 Quant Results File: 8260WTR.RES

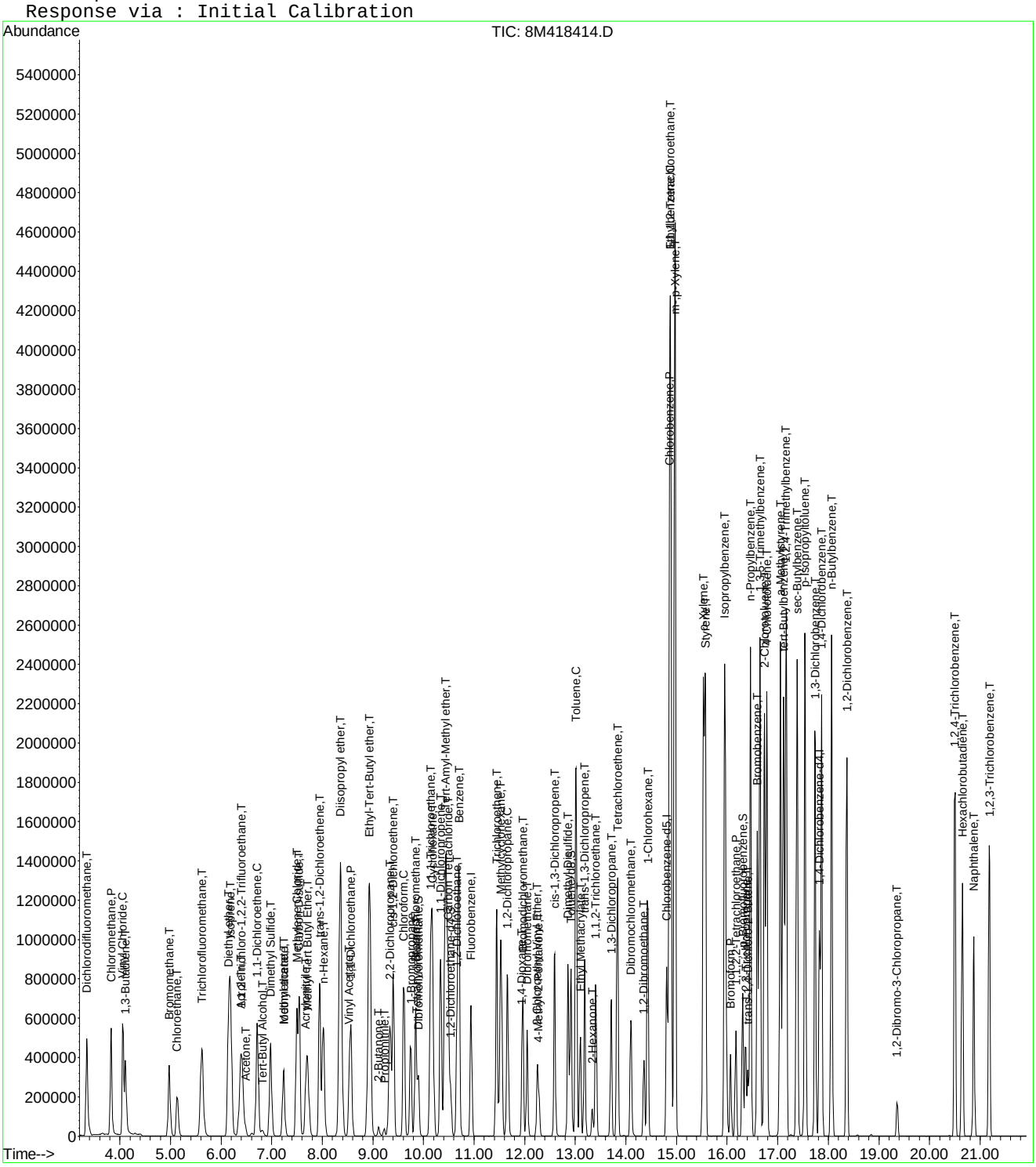
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.66	62	501055	51.1250	ug/L	100
46)	Benzene	10.70	78	1790432	50.6347	ug/L	100
47)	Trichloroethene	11.45	130	488370	51.6527	ug/L	100
48)	Methylcyclohexane	11.53	83	698948	49.1967	ug/L	100
49)	1,2-Dichloropropane	11.65	63	416176	51.1896	ug/L	100
50)	Bromodichloromethane	11.96	83	609341	53.0157	ug/L	100
51)	1,4-Dioxane	11.94	88	9021	230.9046	ug/L	100
52)	Dibromomethane	12.05	93	236195	54.2122	ug/L	100
53)	2-Chloroethyl Vinyl Ether	12.24	63	183414	49.6127	ug/L	100
54)	4-Methyl-2-Pentanone	12.27	58	80365	50.7929	ug/L	100
55)	cis-1,3-Dichloropropene	12.59	75	698063	52.3260	ug/L	100
56)	Dimethyl Disulfide	12.85	79	361297	46.1084	ug/L	100
59)	Toluene	13.02	91	1927822	51.0075	ug/L	100
60)	Ethyl Methacrylate	13.10	69	386095	52.8311	ug/L	100
62)	trans-1,3-Dichloropropene	13.18	75	588220	52.7638	ug/L	100
63)	1,1,2-Trichloroethane	13.40	97	309196	51.9358	ug/L	100
64)	2-Hexanone	13.34	58	73718	51.6504	ug/L	100
65)	1,3-Dichloropropane	13.71	76	543270	50.9625	ug/L	100
66)	Tetrachloroethene	13.84	164	407543	49.7657	ug/L	100
67)	Dibromochloromethane	14.09	129	410127	50.8448	ug/L	100
68)	1,2-Dibromoethane	14.35	107	319221	52.2580	ug/L	100
69)	1-Chlorohexane	14.43	91	621898	48.2822	ug/L	100
70)	Chlorobenzene	14.86	112	1364943	51.3131	ug/L	100
71)	1,1,1,2-Tetrachloroethane	14.88	131	525452	49.4524	ug/L	100
72)	Ethylbenzene	14.88	106	797976	54.0551	ug/L	100
73)	m-,p-Xylene	14.97	106	1881723	106.2810	ug/L	100
74)	o-Xylene	15.53	106	886598	50.4983	ug/L	100
75)	Styrene	15.57	104	1519235	53.6017	ug/L	100
76)	Bromoform	16.07	173	249977	51.3122	ug/L	100
77)	Isopropylbenzene	15.95	105	2232698	52.5628	ug/L	100
79)	1,1,2,2-Tetrachloroethane	16.17	83	348801	51.7995	ug/L	100
81)	1,2,3-Trichloropropane	16.37	110	101098	52.7363	ug/L	100
82)	trans-1,4-Dichloro-2-Buten	16.41	53	86606	54.8326	ug/L	100
83)	n-Propylbenzene	16.46	91	2625785	51.6001	ug/L	100
84)	Bromobenzene	16.60	156	578228	51.3414	ug/L	100
85)	1,3,5-Trimethylbenzene	16.65	105	1935141	52.6512	ug/L	100
86)	2-Chlorotoluene	16.74	91	1754686	51.2992	ug/L	95
87)	4-Chlorotoluene	16.78	91	1548177	51.8089	ug/L	100
88)	a-Methylstyrene	17.05	118	1031651	50.2113	ug/L	100
89)	tert-Butylbenzene	17.11	134	411067	50.6427	ug/L	100
90)	1,2,4-Trimethylbenzene	17.16	105	2017757	52.8063	ug/L	100
91)	sec-Butylbenzene	17.38	105	2394949	52.4965	ug/L	100
92)	p-Isopropyltoluene	17.54	119	1983917	53.0891	ug/L	100
93)	1,3-Dichlorobenzene	17.74	146	1154353	51.4190	ug/L	100
94)	1,4-Dichlorobenzene	17.87	146	1141058	50.4632	ug/L	100
95)	n-Butylbenzene	18.06	91	1889430	52.1122	ug/L	100
96)	1,2-Dichlorobenzene	18.36	146	1014031	51.8374	ug/L	100
97)	1,2-Dibromo-3-Chloropropan	19.36	75	56970	53.9093	ug/L	100
98)	1,2,4-Trichlorobenzene	20.50	180	737197	50.3847	ug/L	100
99)	Hexachlorobutadiene	20.65	225	347382	48.5613	ug/L	100
100)	Naphthalene	20.88	128	1036443	53.6334	ug/L	100
101)	1,2,3-Trichlorobenzene	21.19	180	615291	50.8522	ug/L	100

(#) = qualifier out of range (m) = manual integration
8M418414.D 8260WTR.M Thu Mar 23 10:19:32 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418414.D Vial: 9
Acq On : 21 Mar 2017 19:11 Operator: TMB
Sample : WG607066-08 50ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418415.D Vial: 10
Acq On : 21 Mar 2017 19:42 Operator: TMB
Sample : WG607066-09 100ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:34 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.94	96	832390	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.81	117	638020	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.83	152	354988	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.90	111	481200	50.9722	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 203.88%#			
43) 1,2-Dichloroethane-d4	10.54	65	409278	50.0275	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 200.12%#			
58) Toluene-d8	12.92	98	1661154	51.7589	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 207.04%#			
80) p-Bromofluorobenzene	16.31	95	668613	49.7732	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 199.08%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.34	85	1438401	110.3106	ug/L	99
3) Chloromethane	3.82	50	1493609	94.5216	ug/L	100
4) Vinyl Chloride	4.06	62	1327339	89.8354	ug/L	100
5) 1,3-Butadiene	4.10	54	368240	80.7190	ug/L	99
6) Bromomethane	4.98	94	790524	105.6268	ug/L	100
7) Chloroethane	5.13	64	638148	106.4844	ug/L	100
8) Trichlorofluoromethane	5.62	101	1655417	103.5349	ug/L	100
9) Diethyl ether	6.14	59	1033643	199.8868	ug/L	100
10) Isoprene	6.19	67	1271534	102.9262	ug/L	100
11) Acrolein	6.38	56	65234	98.6597	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.40	101	904035	105.1160	ug/L	99
13) Acetone	6.49	43	94542	94.9748	ug/L	95
14) 1,1-Dichloroethene	6.71	61	1249890	104.1496	ug/L	100
15) Tert-Butyl Alcohol	6.82	59	119878	378.3668	ug/L	98
16) Dimethyl Sulfide	6.98	62	859884	100.8007	ug/L	100
17) Iodomethane	7.23	142	1058142	105.4571	ug/L	100
18) Methyl acetate	7.23	43	279053	98.0313	ug/L	100
19) Methylene Chloride	7.50	84	936574	102.4897	ug/L	99
20) Carbon Disulfide	7.54	76	2823847	103.3095	ug/L	99
21) Acrylonitrile	7.67	53	149222	107.1750	ug/L	96
22) Methyl Tert Butyl Ether	7.71	73	1784580	101.4557	ug/L	99
23) trans-1,2-Dichloroethene	7.94	61	1199201	103.0598	ug/L	100
24) n-Hexane	8.02	57	988698	100.3091	ug/L	100
25) Diisopropyl ether	8.36	45	4460377	200.6860	ug/L	99
26) Vinyl Acetate	8.53	43	818543	93.5812	ug/L	100
27) 1,1-Dichloroethane	8.56	63	1584158	104.3880	ug/L	99
28) Ethyl-Tert-Butyl ether	8.93	59	4294780	201.8178	ug/L	98
29) 2-Butanone	9.11	43	156066	97.3075	ug/L	98
30) Propionitrile	9.23	54	95879	201.9404	ug/L	98
31) 2,2-Dichloropropane	9.34	77	1350638	99.7652	ug/L	99
32) cis-1,2-Dichloroethene	9.40	96	1044402	105.7506	ug/L	99
33) Chloroform	9.61	83	1686208	95.8671	ug/L	99
34) 1-Bromopropane	9.75	122	198630	105.2735	ug/L	100
35) Bromochloromethane	9.85	130	553621	104.3553	ug/L	100
36) Tetrahydrofuran	9.87	42	195050	191.0937	ug/L	99
38) 1,1,1-Trichloroethane	10.15	97	1562658	108.0137	ug/L	100
39) Cyclohexane	10.18	56	1289341	103.1261	ug/L	99
40) 1,1-Dichloropropene	10.33	75	1293628	104.1186	ug/L	100
41) Tert-Amyl-Methyl ether	10.44	73	4043547	203.6092	ug/L	99
42) Carbon Tetrachloride	10.49	117	1455182	112.4180	ug/L	99

(#) = qualifier out of range (m) = manual integration
8M418415.D 8260WTR.M Thu Mar 23 10:19:36 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418415.D Vial: 10
Acq On : 21 Mar 2017 19:42 Operator: TMB
Sample : WG607066-09 100ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:34 2017 Quant Results File: 8260WTR.RES

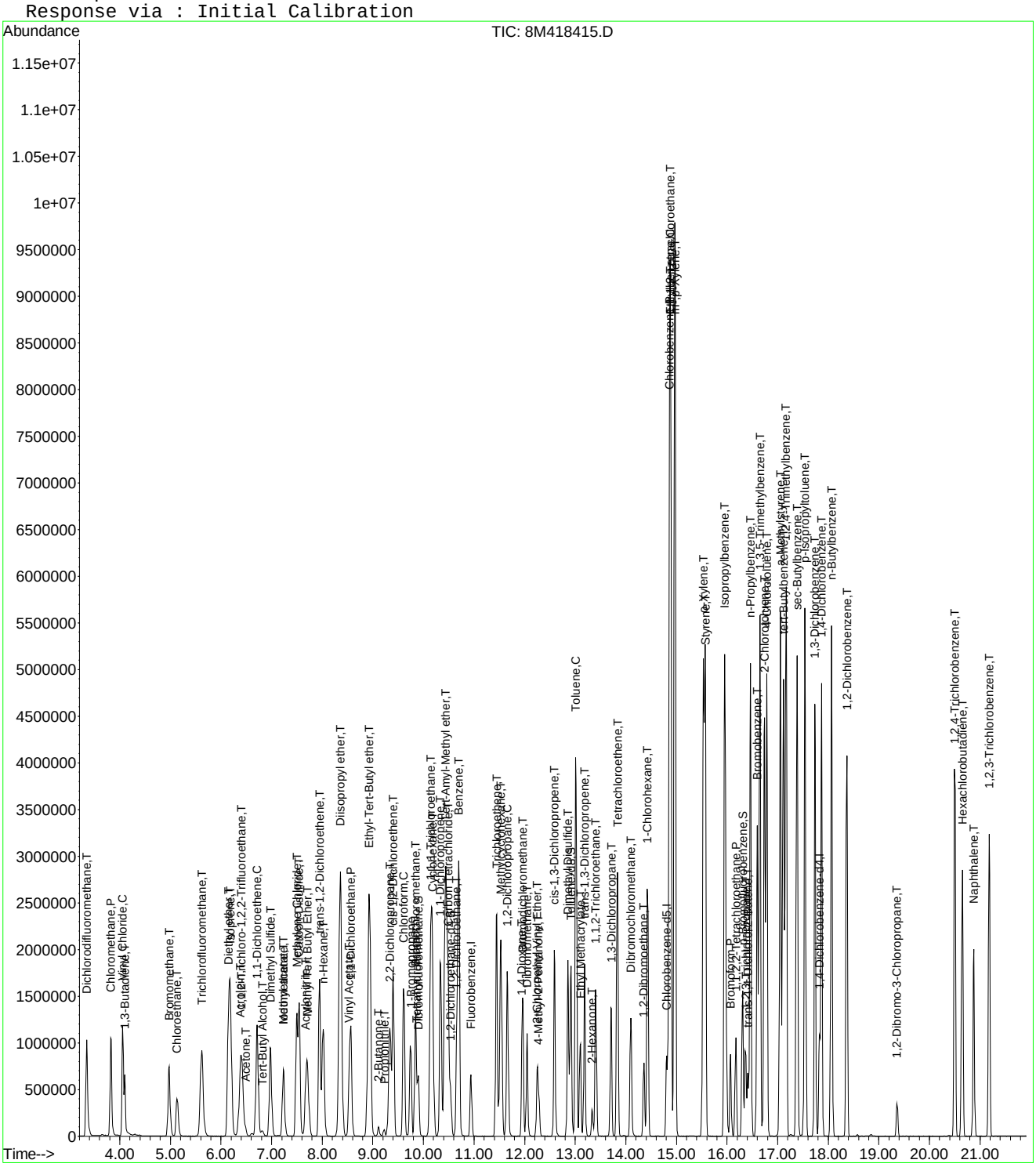
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
45)	1,2-Dichloroethane	10.65	62	1024462	103.1650 ug/L		100
46)	Benzene	10.69	78	3657733	102.0919 ug/L		99
47)	Trichloroethene	11.45	130	1032071	107.7314 ug/L		99
48)	Methylcyclohexane	11.53	83	1456841	101.2027 ug/L		100
49)	1,2-Dichloropropane	11.66	63	869234	105.5188 ug/L		99
50)	Bromodichloromethane	11.96	83	1265209	108.6413 ug/L		100
51)	1,4-Dioxane	11.94	88	16295	411.6432 ug/L		97
52)	Dibromomethane	12.05	93	477573	108.1820 ug/L		99
53)	2-Chloroethyl Vinyl Ether	12.24	63	379879	101.4131 ug/L		100
54)	4-Methyl-2-Pentanone	12.28	58	157212	98.0641 ug/L		97
55)	cis-1,3-Dichloropropene	12.59	75	1437589	106.3521 ug/L		99
56)	Dimethyl Disulfide	12.85	79	767570	93.6011 ug/L		100
59)	Toluene	13.01	91	3952448	104.1549 ug/L		97
60)	Ethyl Methacrylate	13.10	69	771683	105.1673 ug/L		99
62)	trans-1,3-Dichloropropene	13.19	75	1197950	107.0240 ug/L		98
63)	1,1,2-Trichloroethane	13.40	97	622377	104.1196 ug/L		100
64)	2-Hexanone	13.33	58	143458	100.1085 ug/L		99
65)	1,3-Dichloropropane	13.71	76	1090473	101.8817 ug/L		100
66)	Tetrachloroethene	13.84	164	886718	107.8422 ug/L		100
67)	Dibromochloromethane	14.10	129	856887	100.5484 ug/L		99
68)	1,2-Dibromoethane	14.35	107	635116	103.5526 ug/L		100
69)	1-Chlorohexane	14.43	91	1326608	102.5786 ug/L		100
70)	Chlorobenzene	14.86	112	2992950	112.0624 ug/L		99
71)	1,1,1,2-Tetrachloroethane	14.88	131	1225221	103.4096 ug/L		99
72)	Ethylbenzene	14.88	106	1841497	124.2407 ug/L		86
73)	m-,p-Xylene	14.97	106	4083197	229.6924 ug/L		83
74)	o-Xylene	15.53	106	1947638	110.4853 ug/L		94
75)	Styrene	15.57	104	3248166	114.1402 ug/L		98
76)	Bromoform	16.07	173	528122	100.1789 ug/L		99
77)	Isopropylbenzene	15.96	105	4533231	106.2925 ug/L		95
79)	1,1,2,2-Tetrachloroethane	16.17	83	685787	99.1203 ug/L		99
81)	1,2,3-Trichloropropane	16.37	110	199174	101.1173 ug/L	#	27
82)	trans-1,4-Dichloro-2-Buten	16.41	53	176944	109.0316 ug/L	#	21
83)	n-Propylbenzene	16.46	91	5143376	98.3706 ug/L		94
84)	Bromobenzene	16.60	156	1242819	107.3995 ug/L		99
85)	1,3,5-Trimethylbenzene	16.65	105	4017731	106.3903 ug/L		96
86)	2-Chlorotoluene	16.74	91	3681380	104.7484 ug/L		92
87)	4-Chlorotoluene	16.78	91	3153568	102.7097 ug/L		97
88)	a-Methylstyrene	17.05	118	2249454	106.5543 ug/L		98
89)	tert-Butylbenzene	17.11	134	917437	110.0035 ug/L		95
90)	1,2,4-Trimethylbenzene	17.17	105	4159162	105.9371 ug/L		94
91)	sec-Butylbenzene	17.38	105	4827054	102.9774 ug/L		96
92)	p-Isopropyltoluene	17.54	119	4125265	107.4383 ug/L		96
93)	1,3-Dichlorobenzene	17.73	146	2461540	106.7129 ug/L		98
94)	1,4-Dichlorobenzene	17.87	146	2417995	104.0753 ug/L		98
95)	n-Butylbenzene	18.07	91	3860674	103.6328 ug/L		96
96)	1,2-Dichlorobenzene	18.37	146	2124165	105.6832 ug/L		99
97)	1,2-Dibromo-3-Chloropropan	19.36	75	112849	103.9299 ug/L		97
98)	1,2,4-Trichlorobenzene	20.51	180	1602855	106.6190 ug/L		100
99)	Hexachlorobutadiene	20.65	225	772520	105.1038 ug/L		99
100)	Naphthalene	20.88	128	2026731	102.0733 ug/L		99
101)	1,2,3-Trichlorobenzene	21.18	180	1292463	103.9616 ug/L		99

(#) = qualifier out of range (m) = manual integration
8M418415.D 8260WTR.M Thu Mar 23 10:19:36 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418415.D Vial: 10
Acq On : 21 Mar 2017 19:42 Operator: TMB
Sample : WG607066-09 100ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418416.D Vial: 11
Acq On : 21 Mar 2017 20:12 Operator: TMB
Sample : WG607066-10 200ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:38 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.94	96	835227	25.00	ug/L		0.00
57) Chlorobenzene-d5	14.80	117	656093	25.00	ug/L		0.00
78) 1,4-Dichlorobenzene-d4	17.82	152	375170	25.00	ug/L		0.00
System Monitoring Compounds							
37) Dibromofluoromethane	9.89	111	981585	103.6234	ug/L		0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 414.48%#				
43) 1,2-Dichloroethane-d4	10.53	65	842777	102.6658	ug/L		0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 410.68%#				
58) Toluene-d8	12.91	98	3365801	101.9841	ug/L		0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 407.92%#				
80) p-Bromofluorobenzene	16.30	95	1434304	101.0294	ug/L		0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 404.12%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.34	85	2757052	210.7194	ug/L		97
3) Chloromethane	3.82	50	2806488	177.0026	ug/L		98
4) Vinyl Chloride	4.05	62	2403355	162.1085	ug/L		98
5) 1,3-Butadiene	4.09	54	611042	157.2872	ug/L		98
6) Bromomethane	4.97	94	1694257	225.6112	ug/L		99
7) Chloroethane	5.13	64	1297095	215.7043	ug/L		100
8) Trichlorofluoromethane	5.61	101	3318936	206.8715	ug/L		99
10) Isoprene	6.18	67	2499442	201.6338	ug/L		100
12) 1,1,2-Trichloro-1,2,2-Trif	6.40	101	1766595	204.7119	ug/L		99
13) Acetone	6.48	43	216138	216.3900	ug/L		98
14) 1,1-Dichloroethene	6.71	61	2505821	208.0933	ug/L		98
15) Tert-Butyl Alcohol	6.82	59	3327	10.4652	ug/L	#	68
16) Dimethyl Sulfide	6.98	62	1788428	208.9380	ug/L		100
17) Iodomethane	7.24	142	2121411	210.2036	ug/L		100
18) Methyl acetate	7.24	43	603988	211.4603	ug/L		99
19) Methylene Chloride	7.49	84	1965657	214.3721	ug/L		97
20) Carbon Disulfide	7.55	76	5542579	202.0846	ug/L		97
21) Acrylonitrile	7.70	53	33221	23.7791	ug/L	#	32
22) Methyl Tert Butyl Ether	7.70	73	3787888	214.6149	ug/L		99
23) trans-1,2-Dichloroethene	7.94	61	2435593	208.6049	ug/L		99
24) n-Hexane	8.02	57	1927946	194.9369	ug/L		100
26) Vinyl Acetate	8.53	43	1867991	212.8355	ug/L		98
27) 1,1-Dichloroethane	8.56	63	3184705	209.1432	ug/L		98
29) 2-Butanone	9.11	43	335050	208.1948	ug/L		98
31) 2,2-Dichloropropane	9.34	77	2692388	198.1983	ug/L		98
32) cis-1,2-Dichloroethene	9.41	96	2145970	216.5515	ug/L		98
33) Chloroform	9.61	83	3366279	190.7353	ug/L		97
34) 1-Bromopropane	9.75	122	404263	213.5309	ug/L		100
35) Bromochloromethane	9.84	130	1139795	214.1170	ug/L		98
36) Tetrahydrofuran	9.86	42	1357	1.3250	ug/L	#	24
38) 1,1,1-Trichloroethane	10.14	97	3258039	224.4366	ug/L		99
39) Cyclohexane	10.17	56	2619353	208.7937	ug/L		98
40) 1,1-Dichloropropene	10.34	75	2622304	210.3412	ug/L		98
42) Carbon Tetrachloride	10.48	117	2879058	221.6619	ug/L		100
45) 1,2-Dichloroethane	10.66	62	2165891	217.3680	ug/L		99
46) Benzene	10.70	78	6827744	189.9236	ug/L		94
47) Trichloroethene	11.44	130	2165800	225.3064	ug/L		99
48) Methylcyclohexane	11.53	83	2890589	200.1191	ug/L		99
49) 1,2-Dichloropropane	11.66	63	1802764	218.0994	ug/L		97
50) Bromodichloromethane	11.96	83	2638686	225.8098	ug/L		99

(#) = qualifier out of range (m) = manual integration
8M418416.D 8260WTR.M Thu Mar 23 10:19:40 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418416.D Vial: 11
Acq On : 21 Mar 2017 20:12 Operator: TMB
Sample : WG607066-10 200ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:38 2017 Quant Results File: 8260WTR.RES

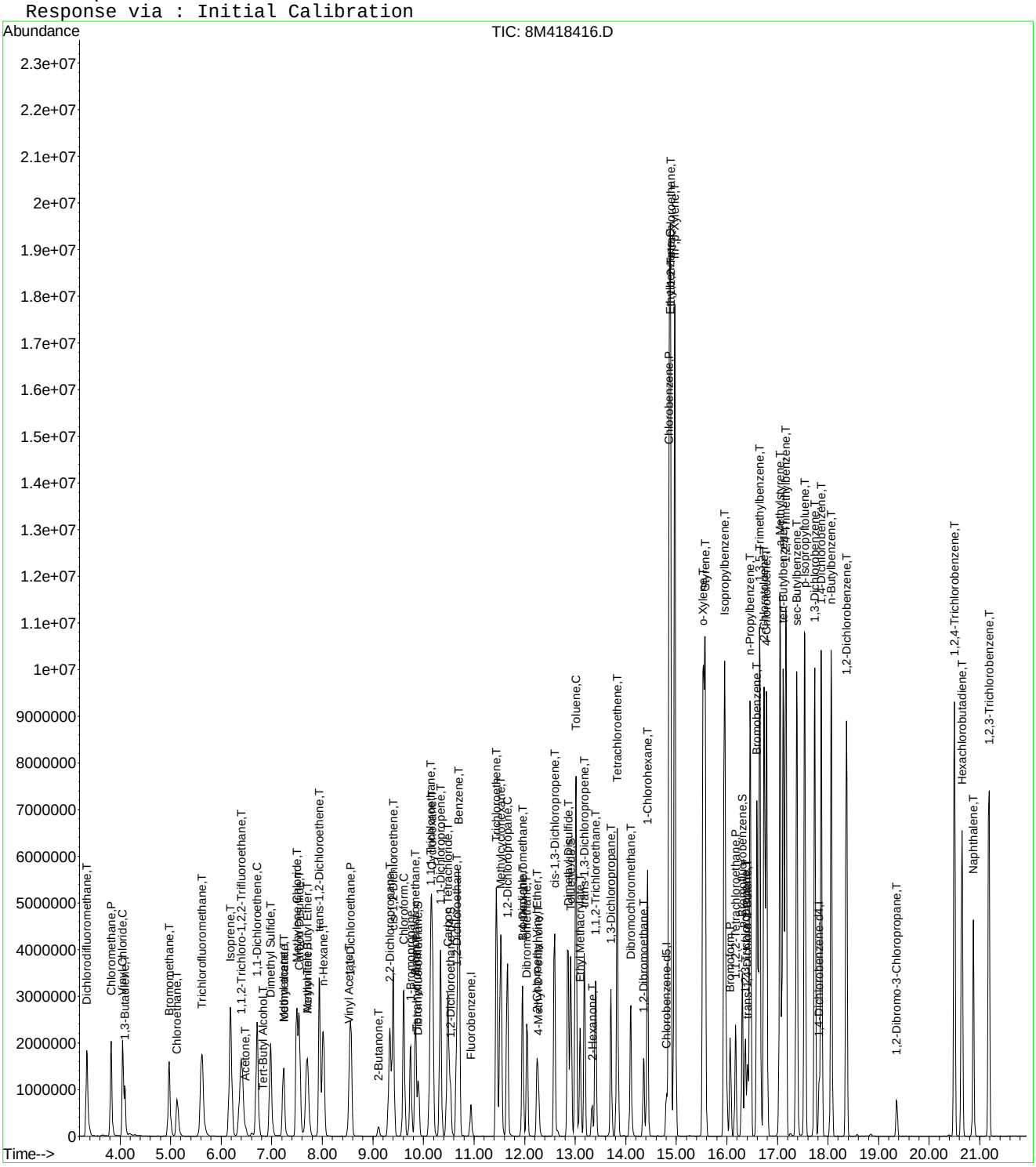
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
51)	1,4-Dioxane	11.96	88	5894	148.3881 ug/L	#	56
52)	Dibromomethane	12.04	93	1034705	233.5899 ug/L		98
53)	2-Chloroethyl Vinyl Ether	12.25	63	824539	219.3725 ug/L		99
54)	4-Methyl-2-Pentanone	12.27	58	353091	219.4995 ug/L		97
55)	cis-1,3-Dichloropropene	12.59	75	2990134	220.4572 ug/L		98
56)	Dimethyl Disulfide	12.86	79	1714692	204.9480 ug/L		97
59)	Toluene	13.02	91	7066077	181.0760 ug/L		87
60)	Ethyl Methacrylate	13.10	69	1696639	224.8538 ug/L		99
62)	trans-1,3-Dichloropropene	13.18	75	2565952	222.9256 ug/L		97
63)	1,1,2-Trichloroethane	13.40	97	1370694	222.9916 ug/L		99
64)	2-Hexanone	13.34	58	326430	221.5160 ug/L		98
65)	1,3-Dichloropropane	13.71	76	2327428	211.4592 ug/L		99
66)	Tetrachloroethene	13.83	164	1952203	230.8857 ug/L		99
67)	Dibromochloromethane	14.10	129	1918537	199.6557 ug/L		99
68)	1,2-Dibromoethane	14.35	107	1401426	222.2016 ug/L		100
69)	1-Chlorohexane	14.43	91	2769087	208.2186 ug/L		99
70)	Chlorobenzene	14.86	112	6010850	218.8594 ug/L		94
71)	1,1,1,2-Tetrachloroethane	14.89	131	2844669	198.8633 ug/L		98
72)	Ethylbenzene	14.88	106	4070062	267.0317 ug/L		54
73)	m-,p-Xylene	14.97	106	7393699	404.4612 ug/L		64
74)	o-Xylene	15.53	106	4210098	232.2508 ug/L		76
75)	Styrene	15.57	104	6305974	215.4872 ug/L		89
76)	Bromoform	16.07	173	1236171	199.7557 ug/L		99
77)	Isopropylbenzene	15.95	105	7963074	181.5702 ug/L		80
79)	1,1,2,2-Tetrachloroethane	16.17	83	1541888	210.8685 ug/L		99
81)	1,2,3-Trichloropropane	16.37	110	447062	214.7564 ug/L	#	27
82)	trans-1,4-Dichloro-2-Buten	16.41	53	356888	208.0817 ug/L	#	27
83)	n-Propylbenzene	16.46	91	8459955	153.0984 ug/L	#	75
84)	Bromobenzene	16.59	156	2759165	225.6095 ug/L		93
85)	1,3,5-Trimethylbenzene	16.65	105	7254610	181.7693 ug/L		82
86)	2-Chlorotoluene	16.74	91	6466926	174.1086 ug/L		80
87)	4-Chlorotoluene	16.78	91	6057890	186.6879 ug/L		82
88)	a-Methylstyrene	17.05	118	4659021	208.8210 ug/L		95
89)	tert-Butylbenzene	17.11	134	2083296	236.3561 ug/L	#	57
90)	1,2,4-Trimethylbenzene	17.16	105	7391093	178.1297 ug/L		77
91)	sec-Butylbenzene	17.38	105	8237032	166.2708 ug/L	#	80
92)	p-Isopropyltoluene	17.54	119	7367846	181.5655 ug/L		81
93)	1,3-Dichlorobenzene	17.74	146	5011738	205.5815 ug/L		91
94)	1,4-Dichlorobenzene	17.87	146	4942655	201.2974 ug/L		91
95)	n-Butylbenzene	18.06	91	6793595	172.5518 ug/L	#	83
96)	1,2-Dichlorobenzene	18.36	146	4482617	211.0254 ug/L		93
97)	1,2-Dibromo-3-Chloropropan	19.35	75	255085	222.2866 ug/L		95
98)	1,2,4-Trichlorobenzene	20.50	180	3571512	224.7906 ug/L		98
99)	Hexachlorobutadiene	20.65	225	1747005	224.8995 ug/L		98
100)	Naphthalene	20.87	128	4341381	206.8852 ug/L		96
101)	1,2,3-Trichlorobenzene	21.18	180	2943616	224.0379 ug/L		98

(#) = qualifier out of range (m) = manual integration
8M418416.D 8260WTR.M Thu Mar 23 10:19:40 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418416.D Vial: 11
Acq On : 21 Mar 2017 20:12 Operator: TMB
Sample : WG607066-10 200ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration



8M418416.D 8260WTR.M Thu Mar 23 10:19:41 2017 Page 3

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418417.D Vial: 12
Acq On : 21 Mar 2017 20:43 Operator: TMB
Sample : WG607066-11 300ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:42 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.94	96	854626	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.81	117	660685	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.83	152	353320	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.90	111	1512153	156.0106 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 624.04%#		
43) 1,2-Dichloroethane-d4	10.54	65	1276620	151.9858 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 607.96%#		
58) Toluene-d8	12.91	98	5029150	151.3246 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 605.28%#		
80) p-Bromofluorobenzene	16.31	95	2183654	163.3241 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 653.28%#		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.34	85	3041	0.2271 ug/L	83
3) Chloromethane	3.82	50	63366	3.9057 ug/L	100
4) Vinyl Chloride	4.05	62	2778	0.1831 ug/L	95
5) 1,3-Butadiene	4.09	54	906476	Below Cal	99
6) Bromomethane	4.96	94	161588	21.0290 ug/L	100
8) Trichlorofluoromethane	5.61	101	2263	0.1379 ug/L #	90
9) Diethyl ether	6.14	59	1714293	322.8862 ug/L	99
10) Isoprene	6.18	67	4082432	321.8604 ug/L	99
11) Acrolein	6.38	56	100475	148.0044 ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	6.38	101	2544	0.2881 ug/L	94
13) Acetone	6.48	43	298562	292.1251 ug/L	99
14) 1,1-Dichloroethene	6.71	61	1663	0.1350 ug/L	76
15) Tert-Butyl Alcohol	6.82	59	206454	634.6694 ug/L	97
16) Dimethyl Sulfide	6.98	62	2746064	313.5344 ug/L	100
17) Iodomethane	7.23	142	2970232	287.4443 ug/L	100
18) Methyl acetate	7.24	43	915640	313.2951 ug/L	98
19) Methylene Chloride	7.49	84	2632	0.2805 ug/L	89
20) Carbon Disulfide	7.54	76	7835015	279.1833 ug/L	93
21) Acrylonitrile	7.67	53	209981	146.8897 ug/L	95
22) Methyl Tert Butyl Ether	7.70	73	2842	0.1574 ug/L #	58
23) trans-1,2-Dichloroethene	7.94	61	3557	0.2977 ug/L	98
24) n-Hexane	8.01	57	3144914	310.7680 ug/L	100
25) Diisopropyl ether	8.35	45	6705988	293.8725 ug/L	96
26) Vinyl Acetate	8.53	43	2581492	287.4541 ug/L	99
28) Ethyl-Tert-Butyl ether	8.93	59	6597567	301.9625 ug/L	96
29) 2-Butanone	9.11	43	495417	300.8567 ug/L	99
30) Propionitrile	9.22	54	155427	318.8431 ug/L	100
32) cis-1,2-Dichloroethene	9.40	96	1359	0.1340 ug/L	96
33) Chloroform	9.61	83	3175	0.1758 ug/L	92
34) 1-Bromopropane	9.75	122	656770	339.0302 ug/L	99
35) Bromochloromethane	9.85	130	717	0.1316 ug/L #	46
36) Tetrahydrofuran	9.86	42	312299	298.0038 ug/L	98
39) Cyclohexane	10.17	56	4064272	316.6172 ug/L	99
40) 1,1-Dichloropropene	10.34	75	2189	0.1716 ug/L #	73
41) Tert-Amyl-Methyl ether	10.43	73	6168941	302.5493 ug/L	98
45) 1,2-Dichloroethane	10.65	62	1377	0.1351 ug/L #	42
46) Benzene	10.69	78	5861	0.1593 ug/L #	84
47) Trichloroethene	11.45	130	1789	0.1819 ug/L	85
48) Methylcyclohexane	11.53	83	4736401	320.4638 ug/L	98
51) 1,4-Dioxane	11.94	88	23567	579.8580 ug/L	92

(#) = qualifier out of range (m) = manual integration
8M418417.D 8260WTR.M Thu Mar 23 10:19:44 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418417.D Vial: 12
Acq On : 21 Mar 2017 20:43 Operator: TMB
Sample : WG607066-11 300ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:42 2017 Quant Results File: 8260WTR.RES

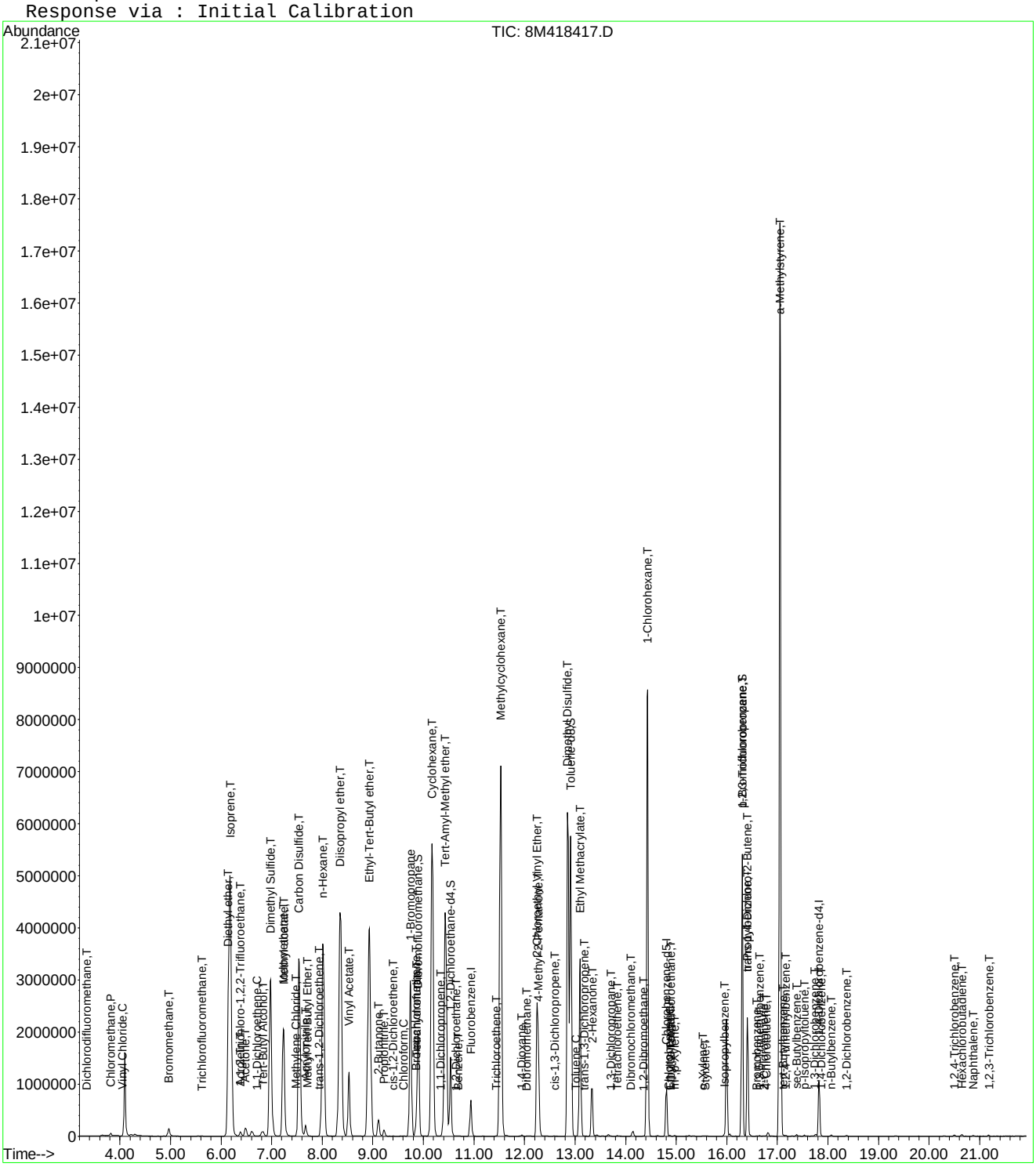
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

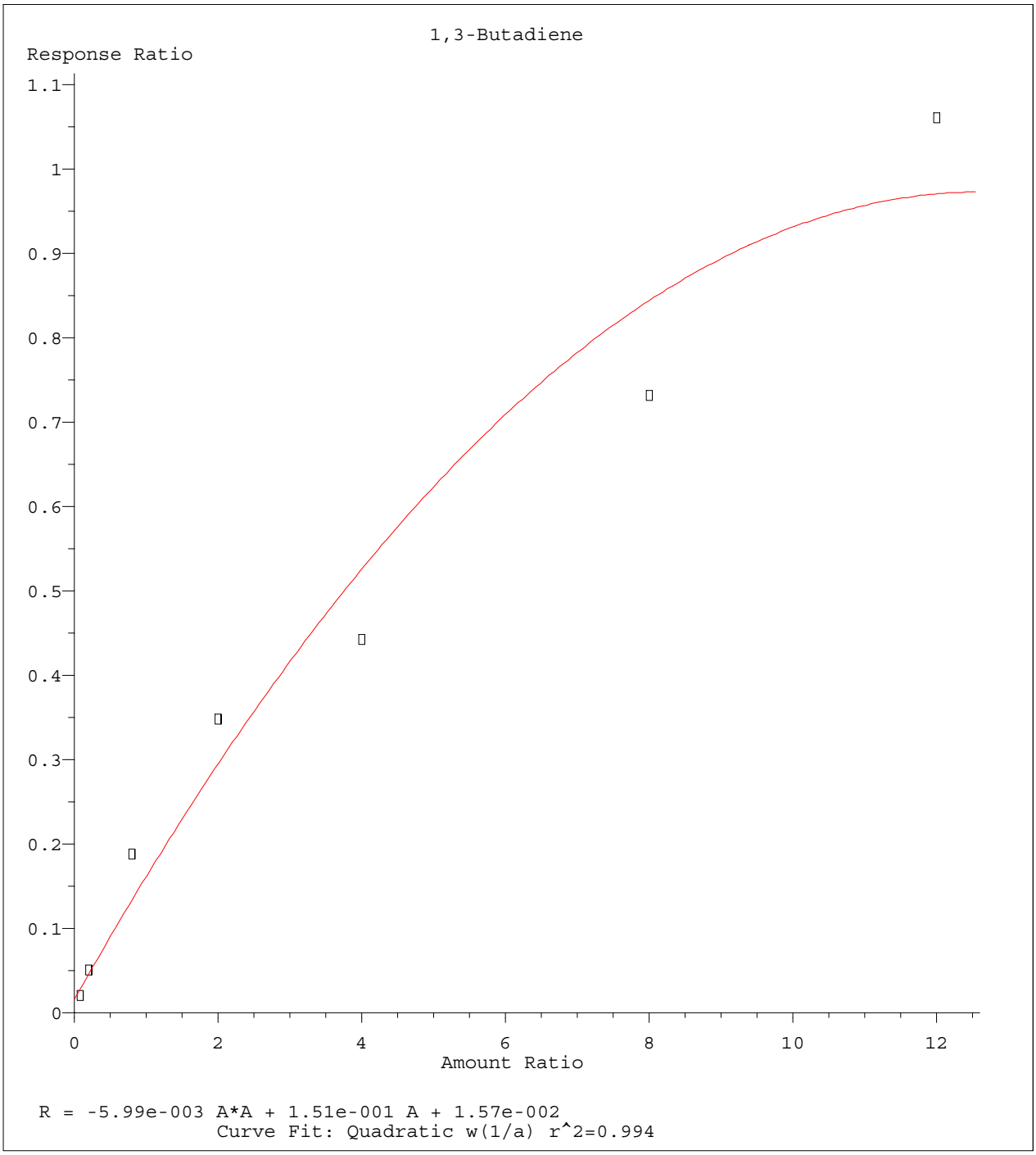
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
52)	Dibromomethane	12.05	93	756	0.1668 ug/L	#	58
53)	2-Chloroethyl Vinyl Ether	12.25	63	1248752	324.6950 ug/L		98
54)	4-Methyl-2-Pentanone	12.27	58	529345	321.5986 ug/L		95
55)	cis-1,3-Dichloropropene	12.59	75	1919	0.1383 ug/L		99
56)	Dimethyl Disulfide	12.85	79	2633329	306.1987 ug/L		95
59)	Toluene	13.02	91	8233	0.2095 ug/L		94
60)	Ethyl Methacrylate	13.10	69	2538669	334.1087 ug/L		99
62)	trans-1,3-Dichloropropene	13.18	75	2586	0.2231 ug/L		90
64)	2-Hexanone	13.34	58	478049	322.1502 ug/L		97
65)	1,3-Dichloropropane	13.71	76	1415	0.1277 ug/L	#	1
66)	Tetrachloroethene	13.83	164	2216	0.2603 ug/L		96
67)	Dibromochloromethane	14.10	129	712	0.2824 ug/L		81
68)	1,2-Dibromoethane	14.35	107	991	0.1560 ug/L		96
69)	1-Chlorohexane	14.43	91	4277378	319.3976 ug/L		98
70)	Chlorobenzene	14.86	112	4861	0.1758 ug/L		86
71)	1,1,1,2-Tetrachloroethane	14.89	131	496	0.2331 ug/L		95
72)	Ethylbenzene	14.88	106	2477	0.1614 ug/L		79
73)	m-,p-Xylene	14.97	106	6515	0.3539 ug/L		87
74)	o-Xylene	15.53	106	2539	0.1391 ug/L		89
75)	Styrene	15.57	104	4497	0.1526 ug/L		99
77)	Isopropylbenzene	15.95	105	29050	0.6578 ug/L		94
81)	1,2,3-Trichloropropane	16.31	110	1108	0.5652 ug/L	#	1
82)	trans-1,4-Dichloro-2-Buten	16.41	53	495562	306.8032 ug/L	#	1
83)	n-Propylbenzene	16.41	91	145385	2.7937 ug/L	#	62
84)	Bromobenzene	16.60	156	1961	0.1703 ug/L		82
85)	1,3,5-Trimethylbenzene	16.65	105	9752	0.2595 ug/L		100
86)	2-Chlorotoluene	16.74	91	7859	0.2247 ug/L		97
87)	4-Chlorotoluene	16.78	91	8039	0.2631 ug/L		98
88)	a-Methylstyrene	17.05	118	6420210	305.5545 ug/L		87
89)	tert-Butylbenzene	17.11	134	3601	0.4338 ug/L	#	1
90)	1,2,4-Trimethylbenzene	17.16	105	11113	0.2844 ug/L		88
91)	sec-Butylbenzene	17.38	105	34899	0.7480 ug/L		94
92)	p-Isopropyltoluene	17.54	119	17616	0.4610 ug/L		95
93)	1,3-Dichlorobenzene	17.74	146	6996	0.3047 ug/L		99
94)	1,4-Dichlorobenzene	17.87	146	7409	0.3204 ug/L	#	1
95)	n-Butylbenzene	18.06	91	21425	0.5778 ug/L		96
96)	1,2-Dichlorobenzene	18.36	146	4970	0.2484 ug/L		90
98)	1,2,4-Trichlorobenzene	20.50	180	10325	0.6900 ug/L		96
99)	Hexachlorobutadiene	20.65	225	9984	1.3648 ug/L		97
100)	Naphthalene	20.88	128	13994	0.7081 ug/L		91
101)	1,2,3-Trichlorobenzene	21.19	180	9502	0.7679 ug/L		97

(#) = qualifier out of range (m) = manual integration
8M418417.D 8260WTR.M Thu Mar 23 10:19:44 2017 Page 2

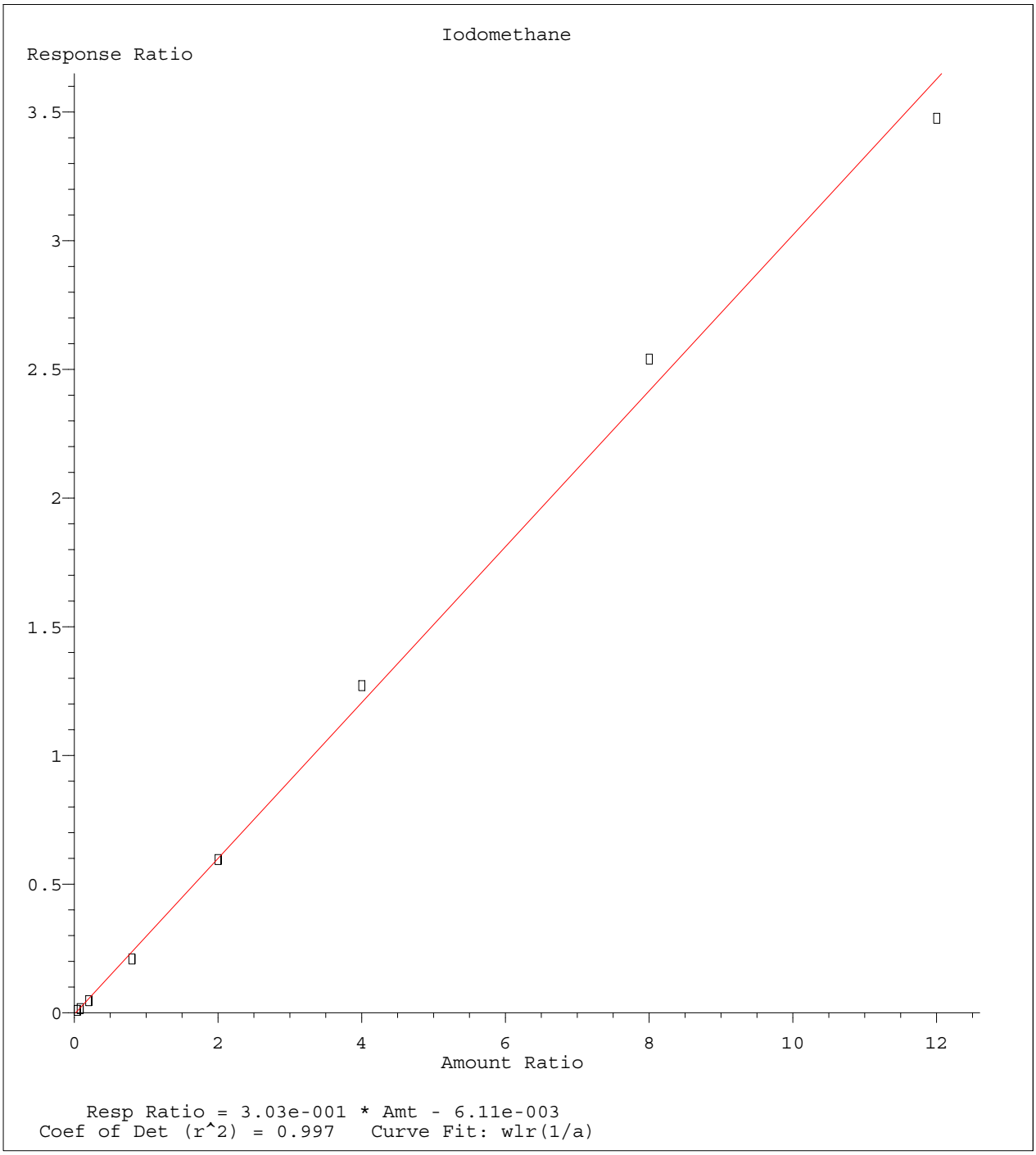
Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418417.D Vial: 12
Acq On : 21 Mar 2017 20:43 Operator: TMB
Sample : WG607066-11 300ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD81040 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration

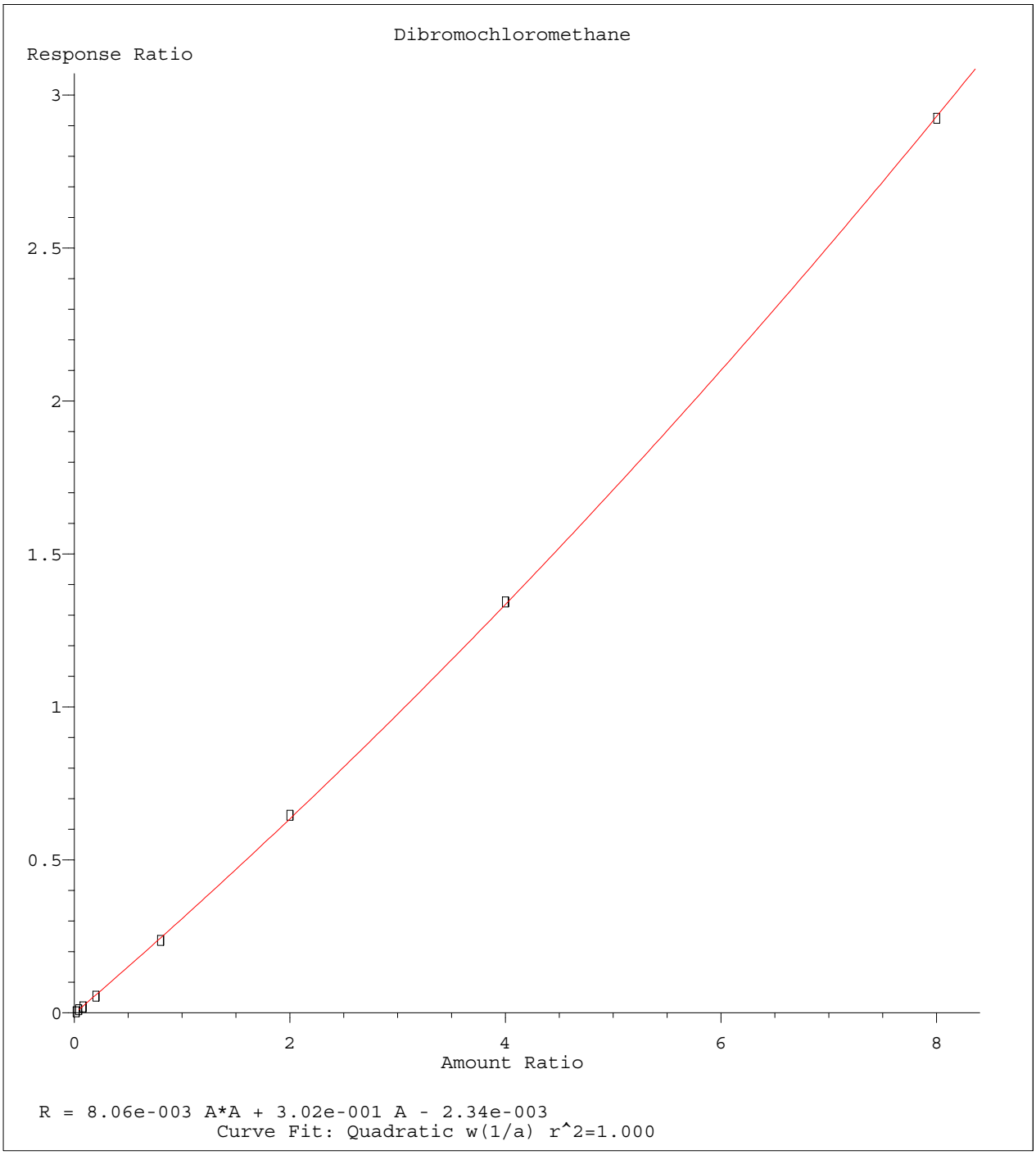




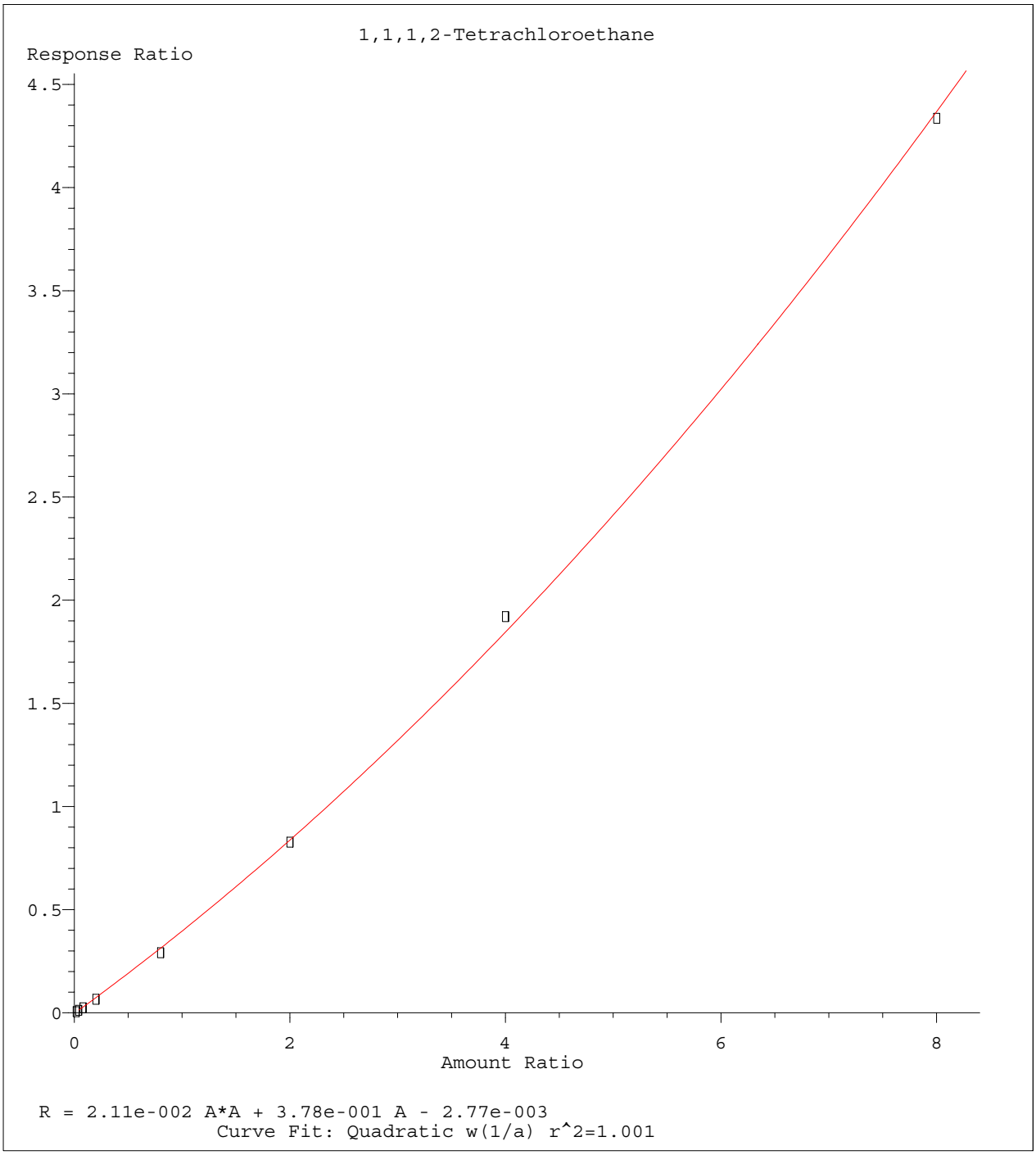
Method Name: K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M
Calibration Table Last Updated: Thu Mar 23 10:18:22 2017



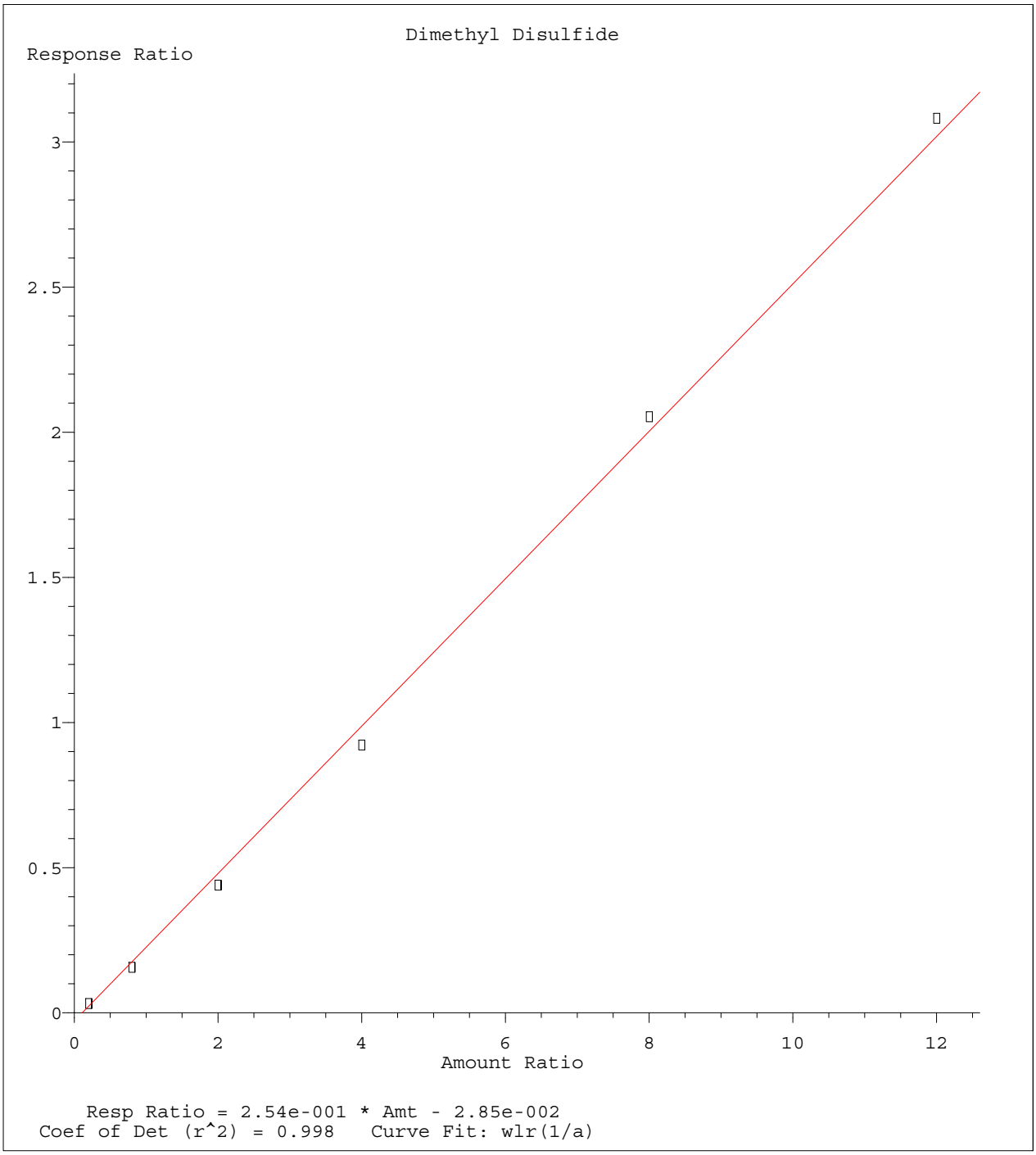
Method Name: K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M
Calibration Table Last Updated: Thu Mar 23 10:18:22 2017



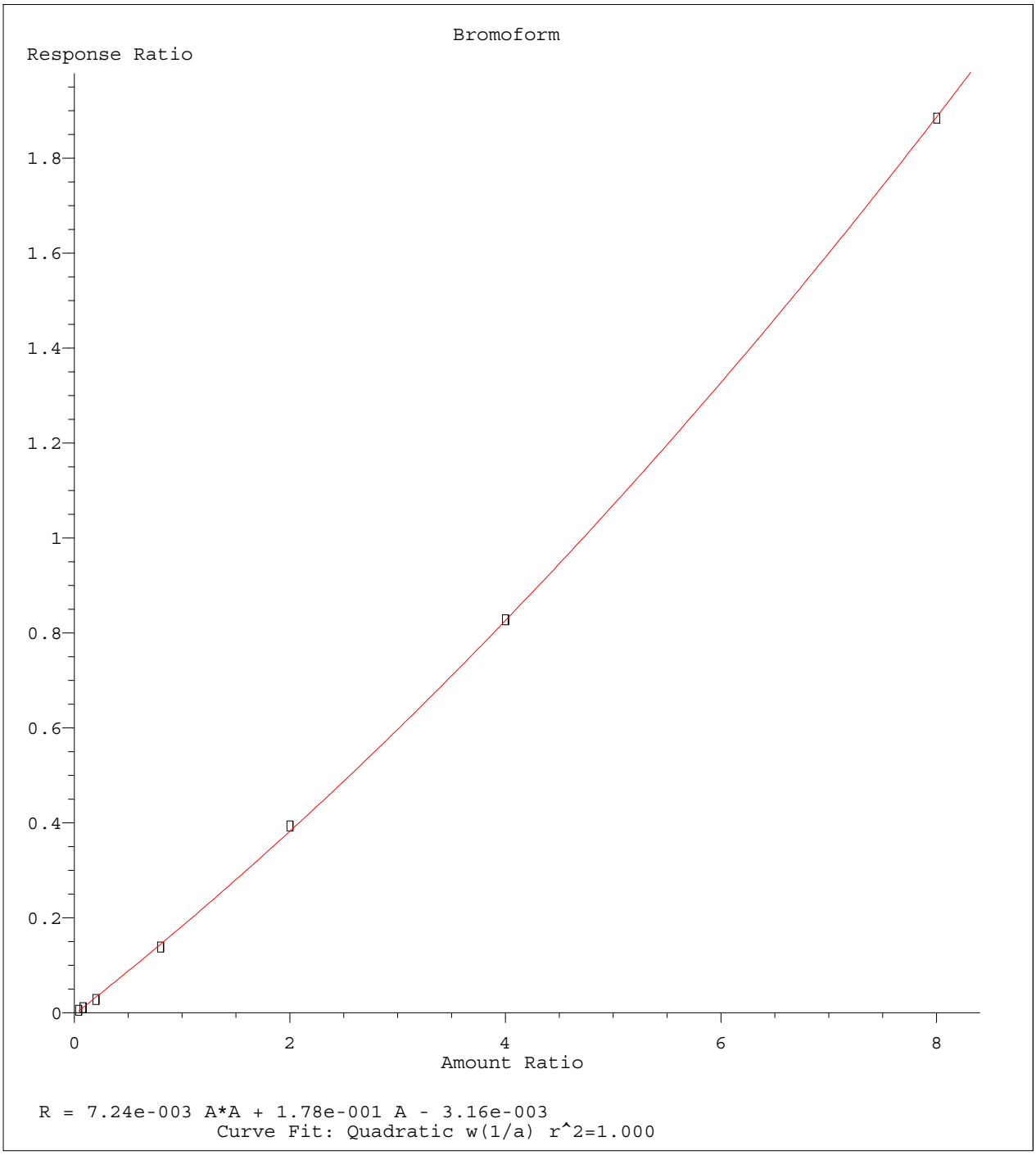
Method Name: K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M
Calibration Table Last Updated: Thu Mar 23 10:18:22 2017



Method Name: K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M
Calibration Table Last Updated: Thu Mar 23 10:18:22 2017



Method Name: K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M
Calibration Table Last Updated: Thu Mar 23 10:18:22 2017



Method Name: K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M
Calibration Table Last Updated: Thu Mar 23 10:18:22 2017

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418420.D Vial: 15
Acq On : 21 Mar 2017 22:14 Operator: TMB
Sample : WG607066-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD81038 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:53 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.94	96	801802	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.81	117	627951	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.83	152	347482	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.90	111	212466	23.3645	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 93.44%			
43) 1,2-Dichloroethane-d4	10.54	65	184451	23.4062	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 93.64%			
58) Toluene-d8	12.92	98	737309	23.3417	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 93.36%			
80) p-Bromofluorobenzene	16.31	95	296744	22.5675	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 90.28%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.34	85	653232	52.0073	ug/L	100
3) Chloromethane	3.82	50	703462	46.2162	ug/L	99
4) Vinyl Chloride	4.05	62	607302	42.6707	ug/L	99
5) 1,3-Butadiene	4.10	54	226310	47.5605	ug/L	99
6) Bromomethane	4.96	94	275374	38.1981	ug/L	99
7) Chloroethane	5.13	64	299125	51.8176	ug/L	100
8) Trichlorofluoromethane	5.62	101	754061	48.9605	ug/L	100
9) Diethyl ether	6.14	59	468990	94.1536	ug/L	99
10) Isoprene	6.18	67	627437	52.7263	ug/L	100
11) Acrolein	6.38	56	42345	66.4856	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.40	101	442568	53.4224	ug/L	99
13) Acetone	6.48	43	45473	47.4239	ug/L	99
14) 1,1-Dichloroethene	6.71	61	560269	48.4665	ug/L	100
15) Tert-Butyl Alcohol	6.83	59	58214	190.7483	ug/L	99
16) Dimethyl Sulfide	6.97	62	422983	51.4762	ug/L	99
17) Iodomethane	7.23	142	833211	86.2998	ug/L	99
18) Methyl acetate	7.24	43	147060	53.6330	ug/L	99
19) Methylene Chloride	7.50	84	430498	48.9068	ug/L	98
20) Carbon Disulfide	7.54	76	1154395	43.8443	ug/L	100
21) Acrylonitrile	7.67	53	69546	51.8552	ug/L	98
22) Methyl Tert Butyl Ether	7.70	73	832099	49.1106	ug/L	98
23) trans-1,2-Dichloroethene	7.94	61	541199	48.2852	ug/L	100
24) n-Hexane	8.01	57	470751	49.5824	ug/L	99
25) Diisopropyl ether	8.36	45	2105023	98.3246	ug/L	100
26) Vinyl Acetate	8.53	43	357461	42.4263	ug/L	100
27) 1,1-Dichloroethane	8.56	63	707513	48.4001	ug/L	99
28) Ethyl-Tert-Butyl ether	8.92	59	1928091	94.0602	ug/L	100
29) 2-Butanone	9.11	43	70687	45.7549	ug/L	98
30) Propionitrile	9.22	54	47069	102.9187	ug/L	100
31) 2,2-Dichloropropane	9.34	77	597247	45.7988	ug/L	99
32) cis-1,2-Dichloroethene	9.40	96	470265	49.4331	ug/L	98
33) Chloroform	9.61	83	784684	46.3141	ug/L	100
34) 1-Bromopropane	9.75	122	118573	65.2409	ug/L	99
35) Bromochloromethane	9.84	130	252702	49.4505	ug/L	99
36) Tetrahydrofuran	9.87	42	94102	95.7104	ug/L	98
38) 1,1,1-Trichloroethane	10.14	97	720111	51.6743	ug/L	100
39) Cyclohexane	10.18	56	539887	44.8295	ug/L	99
40) 1,1-Dichloropropene	10.34	75	585530	48.9247	ug/L	99
41) Tert-Amyl-Methyl ether	10.43	73	1896188	99.1233	ug/L	100
42) Carbon Tetrachloride	10.49	117	656573	52.6576	ug/L	98

(#) = qualifier out of range (m) = manual integration
8M418420.D 8260WTR.M Thu Mar 23 10:19:56 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418420.D Vial: 15
Acq On : 21 Mar 2017 22:14 Operator: TMB
Sample : WG607066-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD81038 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19:53 2017 Quant Results File: 8260WTR.RES

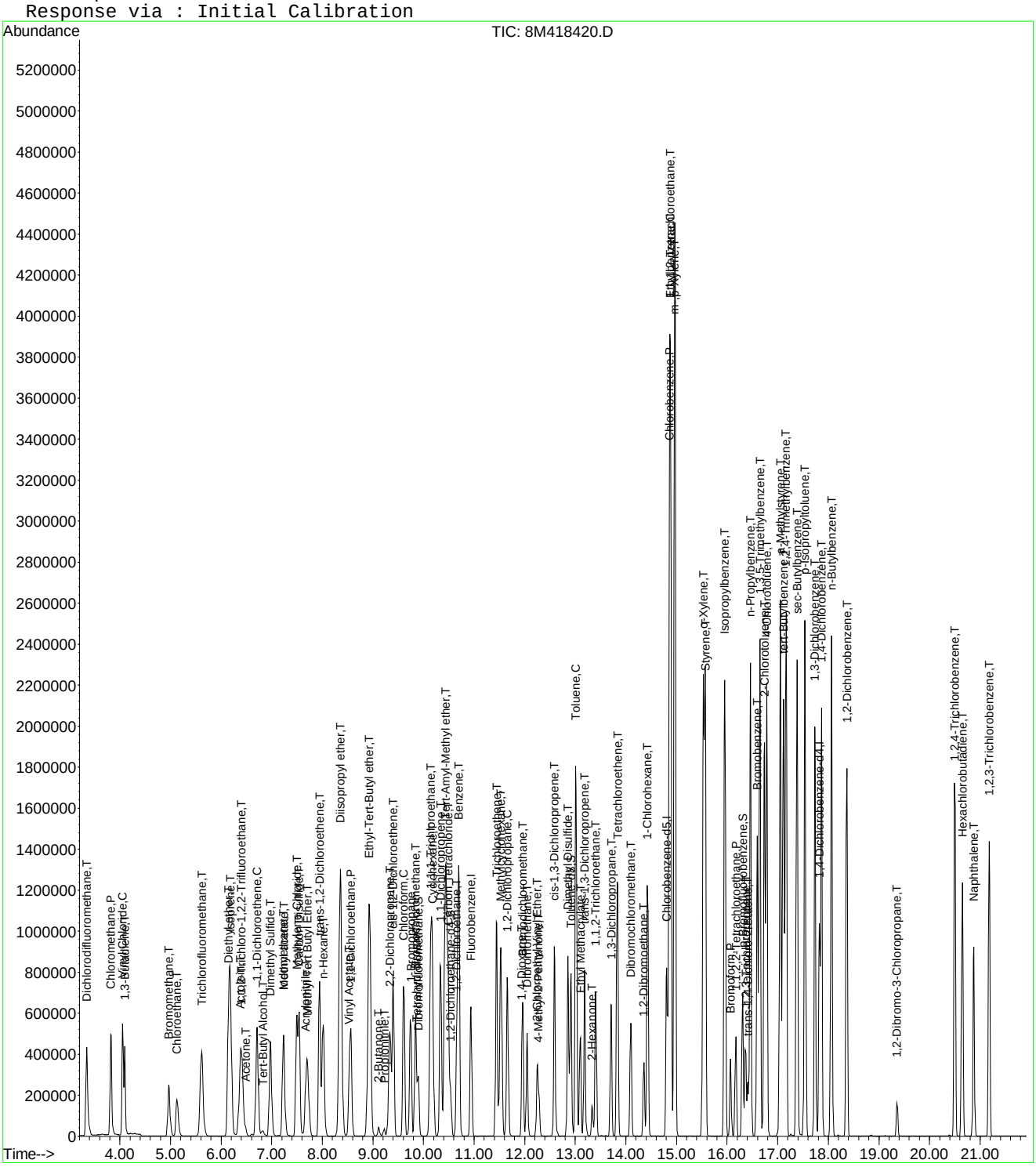
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.65	62	464175	48.5264	ug/L	100
46)	Benzene	10.69	78	1685447	48.8376	ug/L	100
47)	Trichloroethene	11.45	130	459220	49.7638	ug/L	100
48)	Methylcyclohexane	11.53	83	657678	47.4300	ug/L	99
49)	1,2-Dichloropropane	11.65	63	387925	48.8878	ug/L	100
50)	Bromodichloromethane	11.95	83	556771	49.6328	ug/L	99
51)	1,4-Dioxane	11.94	88	6615	173.4827	ug/L	89
52)	Dibromomethane	12.05	93	222923	52.4239	ug/L	99
53)	2-Chloroethyl Vinyl Ether	12.24	63	181816	50.3896	ug/L	99
54)	4-Methyl-2-Pentanone	12.27	58	75335	48.7844	ug/L	97
55)	cis-1,3-Dichloropropene	12.58	75	673080	51.6937	ug/L	99
56)	Dimethyl Disulfide	12.85	79	354985	46.3980	ug/L	98
59)	Toluene	13.01	91	1808929	48.4332	ug/L	100
60)	Ethyl Methacrylate	13.10	69	385866	53.4302	ug/L	98
62)	trans-1,3-Dichloropropene	13.18	75	531028	48.2024	ug/L	100
63)	1,1,2-Trichloroethane	13.40	97	284561	48.3685	ug/L	100
64)	2-Hexanone	13.33	58	69958	49.6012	ug/L	99
65)	1,3-Dichloropropane	13.71	76	516975	49.0749	ug/L	100
66)	Tetrachloroethene	13.84	164	396503	48.9957	ug/L	100
67)	Dibromochloromethane	14.09	129	376425	47.4020	ug/L	99
68)	1,2-Dibromoethane	14.35	107	294235	48.7428	ug/L	98
69)	1-Chlorohexane	14.42	91	625773	49.1631	ug/L	100
70)	Chlorobenzene	14.86	112	1280001	48.6944	ug/L	100
71)	1,1,1,2-Tetrachloroethane	14.88	131	483396	46.3390	ug/L	100
72)	Ethylbenzene	14.88	106	754815	51.7418	ug/L	99
73)	m-,p-Xylene	14.96	106	1798995	102.8217	ug/L	100
74)	o-Xylene	15.53	106	847920	48.8719	ug/L	100
75)	Styrene	15.57	104	1465666	52.3292	ug/L	98
76)	Bromoform	16.07	173	232001	48.4254	ug/L	99
77)	Isopropylbenzene	15.95	105	2098312	49.9889	ug/L	100
79)	1,1,2,2-Tetrachloroethane	16.17	83	321369	47.4525	ug/L	99
81)	1,2,3-Trichloropropane	16.37	110	96471	50.0346	ug/L	90
82)	trans-1,4-Dichloro-2-Buten	16.41	53	61346	38.6175	ug/L	58
83)	n-Propylbenzene	16.46	91	2448771	47.8461	ug/L	100
84)	Bromobenzene	16.60	156	551938	48.7266	ug/L	100
85)	1,3,5-Trimethylbenzene	16.65	105	1853525	50.1419	ug/L	100
86)	2-Chlorotoluene	16.74	91	1666013	48.4280	ug/L	95
87)	4-Chlorotoluene	16.78	91	1456305	48.4555	ug/L	100
88)	a-Methylstyrene	17.05	118	1084857	52.4986	ug/L	99
89)	tert-Butylbenzene	17.11	134	395877	48.4922	ug/L	98
90)	1,2,4-Trimethylbenzene	17.16	105	1927292	50.1500	ug/L	100
91)	sec-Butylbenzene	17.38	105	2279854	49.6876	ug/L	100
92)	p-Isopropyltoluene	17.54	119	1923816	51.1861	ug/L	100
93)	1,3-Dichlorobenzene	17.73	146	1091346	48.3341	ug/L	99
94)	1,4-Dichlorobenzene	17.87	146	1091510	47.9956	ug/L	100
95)	n-Butylbenzene	18.06	91	1817919	49.8529	ug/L	100
96)	1,2-Dichlorobenzene	18.36	146	960441	48.8168	ug/L	100
97)	1,2-Dibromo-3-Chloropropan	19.36	75	52166	49.0808	ug/L	97
98)	1,2,4-Trichlorobenzene	20.50	180	704275	47.8591	ug/L	100
99)	Hexachlorobutadiene	20.65	225	337004	46.8409	ug/L	99
100)	Naphthalene	20.88	128	957287	49.2538	ug/L	100
101)	1,2,3-Trichlorobenzene	21.18	180	585339	48.0998	ug/L	100

(#) = qualifier out of range (m) = manual integration
8M418420.D 8260WTR.M Thu Mar 23 10:19:56 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418420.D Vial: 15
Acq On : 21 Mar 2017 22:14 Operator: TMB
Sample : WG607066-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD81038 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 23 10:19 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418420.D Vial: 15
Acq On : 21 Mar 2017 22:14 Operator: TMB
Sample : WG607066-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD81038 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	98	0.00
2	T	Dichlorodifluoromethane	50.0000	52.0073	-4.0	92	0.00
3	P	Chloromethane	50.0000	46.2162	7.6	92	-0.01
4	C	Vinyl Chloride	50.0000	42.6707	14.7	87	0.00
5	T	1,3-Butadiene	50.0000	47.5605	4.9	79	0.00
6	T	Bromomethane	50.0000	38.1981	23.6	74	-0.01
7	T	Chloroethane	50.0000	51.8176	-3.6	98	0.00
8	T	Trichlorofluoromethane	50.0000	48.9605	2.1	93	0.00
9	T	Diethyl ether	100.0000	94.1536	5.8	90	0.00
10	T	Isoprene	50.0000	52.7263	-5.5	104	0.00
11	T	Acrolein	50.0000	66.4856	-33.0#	126	-0.01
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	53.4224	-6.8	100	0.00
13	T	Acetone	50.0000	47.4239	5.2	91	0.00
14	C	1,1-Dichloroethene	50.0000	48.4665	3.1	93	0.00
15	T	Tert-Butyl Alcohol	200.0000	190.7483	4.6	88	0.01
16	T	Dimethyl Sulfide	50.0000	51.4762	-3.0	101	-0.01
17	T	Iodomethane	50.0000	86.2998	-72.6#	170	0.00
18	T	Methyl acetate	50.0000	53.6330	-7.3	106	0.00
19	T	Methylene Chloride	50.0000	48.9068	2.2	95	0.00
20	T	Carbon Disulfide	50.0000	43.8443	12.3	84	0.00
21	T	Acrylonitrile	50.0000	51.8552	-3.7	93	0.00
22	T	Methyl Tert Butyl Ether	50.0000	49.1106	1.8	91	0.00
23	T	trans-1,2-Dichloroethene	50.0000	48.2852	3.4	95	0.00
24	T	n-Hexane	50.0000	49.5824	0.8	98	-0.01
25	T	Diisopropyl ether	100.0000	98.3246	1.7	94	0.00
26	T	Vinyl Acetate	50.0000	42.4263	15.1	86	0.00
27	P	1,1-Dichloroethane	50.0000	48.4001	3.2	93	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	94.0602	5.9	88	-0.01
29	T	2-Butanone	50.0000	45.7549	8.5	89	0.00
30	T	Propionitrile	100.0000	102.9187	-2.9	96	0.00
31	T	2,2-Dichloropropane	50.0000	45.7988	8.4	91	0.00
32	T	cis-1,2-Dichloroethene	50.0000	49.4331	1.1	95	0.00
33	C	Chloroform	50.0000	46.3141	7.4	96	0.00
34		1-Bromopropane	50.0000	65.2409	-30.5#	126	0.00
35	T	Bromochloromethane	50.0000	49.4505	1.1	93	0.00
36	T	Tetrahydrofuran	100.0000	95.7104	4.3	91	0.00
37	S	Dibromofluoromethane	25.0000	23.3645	6.5	93	0.00
38	T	1,1,1-Trichloroethane	50.0000	51.6743	-3.3	97	0.00
39	T	Cyclohexane	50.0000	44.8295	10.3	87	0.00
40	T	1,1-Dichloropropene	50.0000	48.9247	2.2	95	0.00
41	T	Tert-Amyl-Methyl ether	100.0000	99.1233	0.9	92	0.00
42	T	Carbon Tetrachloride	50.0000	52.6576	-5.3	97	0.00
43	S	1,2-Dichloroethane-d4	25.0000	23.4062	6.4	93	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.61#
45	T	1,2-Dichloroethane	50.0000	48.5264	2.9	93	-0.01
46	T	Benzene	50.0000	48.8376	2.3	94	0.00
47	T	Trichloroethene	50.0000	49.7638	0.5	94	0.00
48	T	Methylcyclohexane	50.0000	47.4300	5.1	94	0.00
49	C	1,2-Dichloropropane	50.0000	48.8878	2.2	93	0.00
50	T	Bromodichloromethane	50.0000	49.6328	0.7	91	0.00
51	T	1,4-Dioxane	200.0000	173.4827	13.3	73	0.00
52	T	Dibromomethane	50.0000	52.4239	-4.8	94	0.00
53	T	2-Chloroethyl Vinyl Ether	50.0000	50.3896	-0.8	99	0.00
54	T	4-Methyl-2-Pentanone	50.0000	48.7844	2.4	94	0.00

(#) = Out of Range
8M418420.D 8260WTR.M Thu Mar 23 10:23:04 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418420.D Vial: 15
Acq On : 21 Mar 2017 22:14 Operator: TMB
Sample : WG607066-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
Misc : 1,1 STD81038 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	50.0000	51.6937	-3.4	96	0.00
56	T	Dimethyl Disulfide	50.0000	46.3980	7.2	98	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	99	0.00
58	S	Toluene-d8	25.0000	23.3417	6.6	95	0.00
59	C	Toluene	50.0000	48.4333	3.1	94	0.00
60	T	Ethyl Methacrylate	50.0000	53.4302	-6.9	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.40#
62	T	trans-1,3-Dichloropropene	50.0000	48.2024	3.6	90	0.00
63	T	1,1,2-Trichloroethane	50.0000	48.3685	3.3	92	0.00
64	T	2-Hexanone	50.0000	49.6012	0.8	95	-0.01
65	T	1,3-Dichloropropane	50.0000	49.0749	1.9	95	0.00
66	T	Tetrachloroethene	50.0000	48.9957	2.0	97	0.00
67	T	Dibromochloromethane	50.0000	47.4020	5.2	92	0.00
68	T	1,2-Dibromoethane	50.0000	48.7428	2.5	92	0.00
69	T	1-Chlorohexane	50.0000	49.1631	1.7	101	-0.01
70	P	Chlorobenzene	50.0000	48.6944	2.6	94	0.00
71	T	1,1,1,2-Tetrachloroethane	50.0000	46.3390	7.3	92	0.00
72	C	Ethylbenzene	50.0000	51.7418	-3.5	95	0.00
73	T	m-,p-Xylene	100.0000	102.8217	-2.8	96	0.00
74	T	o-Xylene	50.0000	48.8719	2.3	96	0.00
75	T	Styrene	50.0000	52.3292	-4.7	96	0.00
76	P	Bromoform	50.0000	48.4254	3.1	93	0.00
77	T	Isopropylbenzene	50.0000	49.9889	0.0	94	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	101	0.00
79	P	1,1,2,2-Tetrachloroethane	50.0000	47.4525	5.1	92	0.00
80	S	p-Bromofluorobenzene	25.0000	22.5675	9.7	96	0.00
81	T	1,2,3-Trichloropropane	50.0000	50.0346	-0.1	95	0.00
82	T	trans-1,4-Dichloro-2-Butene	50.0000	38.6175	22.8	71	0.00
83	T	n-Propylbenzene	50.0000	47.8461	4.3	93	0.00
84	T	Bromobenzene	50.0000	48.7266	2.5	95	0.00
85	T	1,3,5-Trimethylbenzene	50.0000	50.1419	-0.3	96	0.00
86	T	2-Chlorotoluene	50.0000	48.4280	3.1	95	0.00
87	T	4-Chlorotoluene	50.0000	48.4555	3.1	94	0.00
88	T	a-Methylstyrene	50.0000	52.4986	-5.0	105	0.00
89	T	tert-Butylbenzene	50.0000	48.4922	3.0	96	0.00
90	T	1,2,4-Trimethylbenzene	50.0000	50.1500	-0.3	96	0.00
91	T	sec-Butylbenzene	50.0000	49.6876	0.6	95	0.00
92	T	p-Isopropyltoluene	50.0000	51.1861	-2.4	97	0.00
93	T	1,3-Dichlorobenzene	50.0000	48.3341	3.3	95	0.00
94	T	1,4-Dichlorobenzene	50.0000	47.9956	4.0	96	0.00
95	T	n-Butylbenzene	50.0000	49.8529	0.3	96	0.00
96	T	1,2-Dichlorobenzene	50.0000	48.8168	2.4	95	0.00
97	T	1,2-Dibromo-3-Chloropropane	50.0000	49.0808	1.8	92	0.00
98	T	1,2,4-Trichlorobenzene	50.0000	47.8591	4.3	96	0.00
99	T	Hexachlorobutadiene	50.0000	46.8409	6.3	97	0.00
100	T	Naphthalene	50.0000	49.2538	1.5	92	0.00
101	T	1,2,3-Trichlorobenzene	50.0000	48.0998	3.8	95	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M418420.D 8260WTR.M Thu Mar 23 10:23:04 2017 Page 2

Data File : C:\MSDCHEM\1\DATA\032317\11M16974.D Vial: 1
Acq On : 23 Mar 2017 13:34 Operator: JDS
Sample : WG607453-02 50ug/L CCV Inst : hpms11
Misc : 1,1 STD80847 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 29 18:36:19 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.54	96	411909	25.00 ug/L	-0.01
56) Chlorobenzene-d5	14.17	117	291172	25.00 ug/L	-0.02
76) 1,4-Dichlorobenzene-d4	16.98	152	156031	25.00 ug/L	-0.02
System Monitoring Compounds					
37) Dibromofluoromethane	9.54	111	109645	25.7063 ug/L	-0.02
Spiked Amount 25.000	Range 86 - 118		Recovery = 102.84%		
43) 1,2-Dichloroethane-d4	10.15	65	134033	25.8589 ug/L	-0.02
Spiked Amount 25.000	Range 80 - 120		Recovery = 103.44%		
57) Toluene-d8	12.40	98	420153	25.6558 ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.64%		
78) p-Bromofluorobenzene	15.56	95	160970	24.6273 ug/L	-0.02
Spiked Amount 25.000	Range 86 - 115		Recovery = 98.52%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.21	85	357667	55.5224 ug/L	99
3) Chloromethane	3.66	50	349117	40.6435 ug/L	98
4) Vinyl Chloride	3.89	62	340823	49.8719 ug/L	100
5) 1,3-Butadiene	3.93	54	154832	52.1854 ug/L	99
6) Bromomethane	4.78	94	175222	40.5186 ug/L	98
7) Chloroethane	4.93	64	212503	49.2393 ug/L	100
8) Trichlorofluoromethane	5.41	101	378709	48.4447 ug/L	100
9) Diethyl ether	5.92	59	467759	98.3457 ug/L	99
10) Isoprene	5.97	67	356801	45.1678 ug/L	100
11) Acrolein	6.16	56	42860	96.6274 ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	6.17	101	211477	49.4485 ug/L	99
13) Acetone	6.26	43	68074	55.8448 ug/L	98
14) 1,1-Dichloroethene	6.48	61	424128	49.0024 ug/L	99
15) Tert-Butyl Alcohol	6.58	59	95630	371.5133 ug/L	98
16) Dimethyl Sulfide	6.73	62	298339	44.7401 ug/L	99
17) Iodomethane	6.98	142	292163	52.6098 ug/L	100
18) Methyl acetate	6.99	43	179720	47.1390 ug/L	99
19) Methylene Chloride	7.24	84	249186	47.5792 ug/L	99
20) Carbon Disulfide	7.28	76	655349	45.1239 ug/L	99
21) Acrylonitrile	7.41	53	96986	53.0326 ug/L	97
22) Methyl Tert Butyl Ether	7.44	73	638510	48.2633 ug/L	100
23) trans-1,2-Dichloroethene	7.67	96	239662	49.8373 ug/L	99
24) n-Hexane	7.74	57	410215	52.2479 ug/L	99
25) Diisopropyl ether	8.08	45	1817457	90.7932 ug/L	98
26) Vinyl Acetate	8.24	43	525517	56.1285 ug/L	100
27) 1,1-Dichloroethane	8.27	63	508586	48.6501 ug/L	99
28) Ethyl-Tert-Butyl ether	8.62	59	1646874	94.5533 ug/L	99
29) 2-Butanone	8.80	43	106244	51.7367 ug/L	100
30) Propionitrile	8.90	54	67982	116.4193 ug/L	97
31) 2,2-Dichloropropane	9.02	77	383808	51.0638 ug/L	99
32) cis-1,2-Dichloroethene	9.08	96	267026	47.6581 ug/L	99
33) Chloroform	9.27	83	420609	46.2040 ug/L	99
34) 1-Bromopropane	9.41	122	46699	44.2974 ug/L	97
35) Bromochloromethane	9.49	130	148482	48.4740 ug/L	98
36) Tetrahydrofuran	9.51	42	147658	98.6270 ug/L	99
38) 1,1,1-Trichloroethane	9.78	97	376717	46.7473 ug/L	99
39) Cyclohexane	9.81	56	490623	45.6359 ug/L	99
40) 1,1-Dichloropropene	9.97	75	336662	49.3518 ug/L	100
41) Carbon Tetrachloride	10.10	117	326649	47.7027 ug/L	99
42) Tert-Amyl-Methyl ether	10.06	73	1285782	91.6748 ug/L	100

(#) = qualifier out of range (m) = manual integration
11M16974.D 8260WTR.M Wed Mar 29 18:36:19 2017 Page 1

Data File : C:\MSDCHEM\1\DATA\032317\11M16974.D Vial: 1
Acq On : 23 Mar 2017 13:34 Operator: JDS
Sample : WG607453-02 50ug/L CCV Inst : hpms11
Misc : 1,1 STD80847 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 29 18:36:19 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

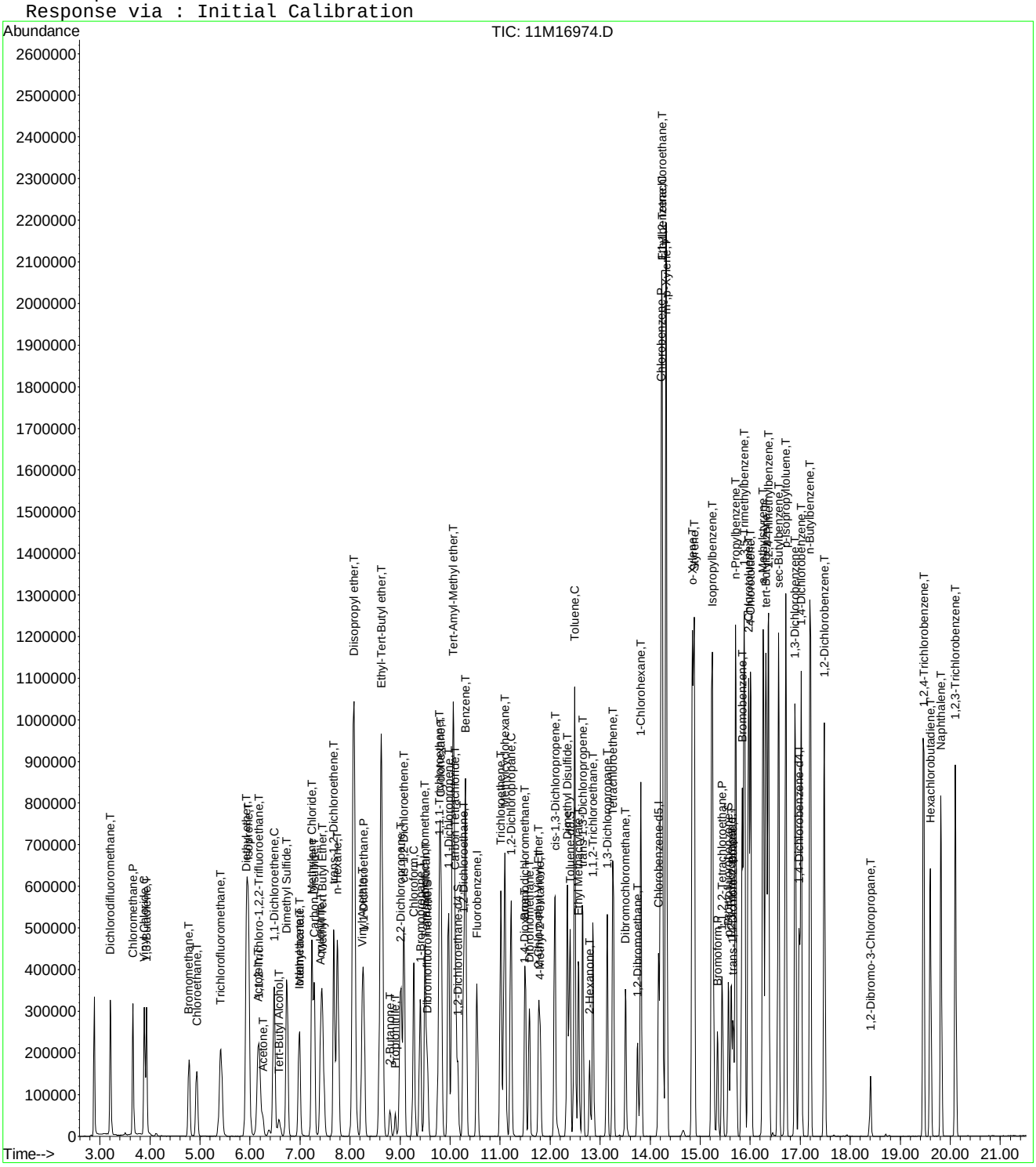
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44)	1,2-Dichloroethane	10.27	62	348449	48.2289	ug/L	99
45)	Benzene	10.31	78	924480	47.1147	ug/L	100
46)	Trichloroethene	11.01	130	235674	47.3688	ug/L	99
47)	Methylcyclohexane	11.09	83	392703	46.4040	ug/L	100
48)	1,2-Dichloropropane	11.22	63	293679	49.8602	ug/L	98
49)	1,4-Dioxane	11.49	88	9513	491.4529	ug/L	88
50)	Bromodichloromethane	11.50	83	323702	48.3614	ug/L	99
51)	Dibromomethane	11.58	93	139148	48.1635	ug/L	99
52)	2-Chloroethyl Vinyl Ether	11.77	63	141761	41.2899	ug/L	98
53)	4-Methyl-2-Pentanone	11.80	58	88621	47.8657	ug/L	100
54)	cis-1,3-Dichloropropene	12.10	75	394022	48.8793	ug/L	99
55)	Dimethyl Disulfide	12.35	79	216033	43.5648	ug/L	99
58)	Toluene	12.49	91	958823	43.9584	ug/L	99
59)	Ethyl Methacrylate	12.56	69	275792	47.6239	ug/L	98
60)	trans-1,3-Dichloropropene	12.66	75	351375	49.9443	ug/L	99
61)	1,1,2-Trichloroethane	12.85	97	201797	48.0427	ug/L	99
62)	2-Hexanone	12.79	43	153276	48.1538	ug/L	98
63)	1,3-Dichloropropane	13.14	76	345941	48.2262	ug/L	97
64)	Tetrachloroethene	13.26	164	194320	48.1917	ug/L	98
65)	Dibromochloromethane	13.50	129	235232	48.8380	ug/L	98
66)	1,2-Dibromoethane	13.75	107	185142	47.8463	ug/L	100
67)	1-Chlorohexane	13.81	91	319075	47.6332	ug/L	100
68)	Chlorobenzene	14.22	112	612998	47.0351	ug/L	99
69)	1,1,1,2-Tetrachloroethane	14.24	131	229936	47.1077	ug/L	99
70)	Ethylbenzene	14.24	106	358084	49.3861	ug/L	95
71)	m-,p-Xylene	14.32	106	814176	95.3862	ug/L	95
72)	o-Xylene	14.85	106	419048	48.4695	ug/L	98
73)	Styrene	14.88	104	694949	49.7364	ug/L	97
74)	Bromoform	15.34	173	147239	47.4306	ug/L	100
75)	Isopropylbenzene	15.24	105	1011688	44.8006	ug/L	99
77)	1,1,2,2-Tetrachloroethane	15.44	83	254355	47.4047	ug/L	100
79)	1,2,3-Trichloropropane	15.62	110	69426	45.0856	ug/L	99
80)	trans-1,4-Dichloro-2-Buten	15.65	53	81797	43.5734	ug/L	96
81)	n-Propylbenzene	15.71	91	1245165	43.2178	ug/L	98
82)	Bromobenzene	15.84	156	276492	45.7765	ug/L	98
83)	1,3,5-Trimethylbenzene	15.88	105	876480	43.3991	ug/L	99
84)	2-Chlorotoluene	15.96	91	781956	39.4556	ug/L	99
85)	4-Chlorotoluene	16.01	91	789588	47.4283	ug/L	87
86)	a-Methylstyrene	16.25	118	466493	46.6282	ug/L	100
87)	tert-Butylbenzene	16.32	134	193227	44.4043	ug/L	95
88)	1,2,4-Trimethylbenzene	16.37	105	896076	42.9578	ug/L	99
89)	sec-Butylbenzene	16.56	105	1100023	44.7168	ug/L	99
90)	p-Isopropyltoluene	16.71	119	942108	45.7841	ug/L	99
91)	1,3-Dichlorobenzene	16.90	146	524642	46.6350	ug/L	99
92)	1,4-Dichlorobenzene	17.02	146	524412	46.0118	ug/L	99
93)	n-Butylbenzene	17.19	91	936646	48.2216	ug/L	99
94)	1,2-Dichlorobenzene	17.48	146	495584	47.0191	ug/L	99
95)	1,2-Dibromo-3-Chloropropan	18.40	75	46377	46.0827	ug/L	99
96)	1,2,4-Trichlorobenzene	19.47	180	375143	49.3342	ug/L	99
97)	Hexachlorobutadiene	19.60	225	172857	45.0960	ug/L	98
98)	Naphthalene	19.81	128	761132	47.0444	ug/L	99
99)	1,2,3-Trichlorobenzene	20.10	180	339420	46.6350	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M16974.D 8260WTR.M Wed Mar 29 18:36:19 2017 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\032317\11M16974.D Vial: 1
Acq On : 23 Mar 2017 13:34 Operator: JDS
Sample : WG607453-02 50ug/L CCV Inst : hpms11
Misc : 1,1 STD80847 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 29 18:36 2017 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\032317\11M16974.D Vial: 1
Acq On : 23 Mar 2017 13:34 Operator: JDS
Sample : WG607453-02 50ug/L CCV Inst : hpms11
Misc : 1,1 STD80847 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.0000	1.0000	0.0	70	-0.01
2	T	Dichlorodifluoromethane	0.3910	0.4342	-11.0	68	-0.01
3	P	Chloromethane	0.5213	0.4238	18.7	59	0.00
4	C	Vinyl Chloride	0.4148	0.4137	0.3	69	-0.01
5	T	1,3-Butadiene	0.2422	0.1879	22.4	75	0.00
6	T	Bromomethane	0.2625	0.2127	19.0	62	-0.02
7	T	Chloroethane	0.2619	0.2580	1.5	65	-0.02
8	T	Trichlorofluoromethane	0.4745	0.4597	3.1	65	-0.02
9	T	Diethyl ether	0.2887	0.2839	1.7	67	-0.02
10	T	Isoprene	0.4794	0.4331	9.7	59	-0.02
11	T	Acrolein	0.0269	0.0520	-93.3#	126	-0.01
12	T	1,1,2-Trichloro-1,2,2-Trifl	0.2596	0.2567	1.1	66	-0.02
13	T	Acetone	0.0740	0.0826	-11.7	81	-0.02
14	C	1,1-Dichloroethene	0.5253	0.5148	2.0	64	-0.01
15	T	Tert-Butyl Alcohol	0.0156	0.0290	-85.8#	134	-0.02
16	T	Dimethyl Sulfide	0.4047	0.3621	10.5	59	-0.02
17	T	Iodomethane	0.2714	0.3547	-30.7#	66	-0.02
18	T	Methyl acetate	0.2314	0.2182	5.7	66	-0.02
19	T	Methylene Chloride	0.3179	0.3025	4.8	65	-0.02
20	T	Carbon Disulfide	0.8815	0.7955	9.8	60	-0.02
21	T	Acrylonitrile	0.1110	0.1177	-6.1	70	-0.01
22	T	Methyl Tert Butyl Ether	0.8030	0.7751	3.5	63	-0.01
23	T	trans-1,2-Dichloroethene	0.2919	0.2909	0.3	66	-0.02
24	T	n-Hexane	0.4765	0.4979	-4.5	68	-0.02
25	T	Diisopropyl ether	1.2149	1.1031	9.2	65	0.00
26	T	Vinyl Acetate	0.5683	0.6379	-12.3	75	-0.01
27	P	1,1-Dichloroethane	0.6345	0.6173	2.7	63	-0.01
28	T	Ethyl-Tert-Butyl ether	1.0571	0.9995	5.4	64	-0.01
29	T	2-Butanone	0.1246	0.1290	-3.5	72	-0.02
30	T	Propionitrile	0.0354	0.0413	-16.4	80	-0.01
31	T	2,2-Dichloropropane	0.4562	0.4659	-2.1	69	-0.01
32	T	cis-1,2-Dichloroethene	0.3401	0.3241	4.7	64	-0.01
33	C	Chloroform	0.5525	0.5106	7.6	63	-0.02
34	T	1-Bromopropane	0.0640	0.0567	11.4	58	-0.01
35	T	Bromochloromethane	0.1859	0.1802	3.0	64	-0.02
36	T	Tetrahydrofuran	0.0909	0.0896	1.4	69	-0.02
37	S	Dibromofluoromethane	0.2589	0.2662	-2.8	72	-0.02
38	T	1,1,1-Trichloroethane	0.4891	0.4573	6.5	61	-0.01
39	T	Cyclohexane	0.6525	0.5956	8.7	60	-0.01
40	T	1,1-Dichloropropene	0.4140	0.4087	1.3	64	-0.01
41	T	Carbon Tetrachloride	0.4156	0.3965	4.6	60	-0.02
42	T	Tert-Amyl-Methyl ether	0.8512	0.7804	8.3	62	-0.01
43	S	1,2-Dichloroethane-d4	0.3146	0.3254	-3.4	71	-0.02
44	T	1,2-Dichloroethane	0.4385	0.4230	3.5	63	-0.02
45	T	Benzene	1.1909	1.1222	5.8	64	-0.01
46	T	Trichloroethene	0.3020	0.2861	5.3	61	-0.02
47	T	Methylcyclohexane	0.5136	0.4767	7.2	61	-0.01
48	C	1,2-Dichloropropane	0.3575	0.3565	0.3	64	-0.01
49	T	1,4-Dioxane	0.0012	0.0029	-147.0#	180#	0.00
50	T	Bromodichloromethane	0.4062	0.3929	3.3	62	-0.02
51	T	Dibromomethane	0.1754	0.1689	3.7	63	-0.02
52	T	2-Chloroethyl Vinyl Ether	0.2084	0.1721	17.4	54	-0.02
53	T	4-Methyl-2-Pentanone	0.1124	0.1076	4.3	64	-0.01
54	T	cis-1,3-Dichloropropene	0.4893	0.4783	2.2	63	-0.01

(#) = Out of Range
11M16974.D 8260WTR.M Thu Mar 23 13:58:31 2017 Page 1

Data File : C:\MSDCHEM\1\DATA\032317\11M16974.D Vial: 1
Acq On : 23 Mar 2017 13:34 Operator: JDS
Sample : WG607453-02 50ug/L CCV Inst : hpms11
Misc : 1,1 STD80847 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55	T	Dimethyl Disulfide	0.3010	0.2622	12.9	56	-0.01
56	I	Chlorobenzene-d5	1.0000	1.0000	0.0	72	-0.02
57	S	Toluene-d8	1.4061	1.4430	-2.6	70	-0.01
58	C	Toluene	1.8728	1.6465	12.1	64	0.00
59	T	Ethyl Methacrylate	0.4972	0.4736	4.8	62	-0.02
60	T	trans-1,3-Dichloropropene	0.6040	0.6034	0.1	64	-0.01
61	T	1,1,2-Trichloroethane	0.3606	0.3465	3.9	64	-0.02
62	T	2-Hexanone	0.2733	0.2632	3.7	66	-0.01
63	T	1,3-Dichloropropane	0.6159	0.5940	3.5	63	-0.01
64	T	Tetrachloroethene	0.3462	0.3337	3.6	63	-0.02
65	T	Dibromochloromethane	0.4135	0.4039	2.3	62	-0.02
66	T	1,2-Dibromoethane	0.3322	0.3179	4.3	63	-0.01
67	T	1-Chlorohexane	0.5751	0.5479	4.7	63	-0.02
68	P	Chlorobenzene	1.1190	1.0526	5.9	64	0.00
69	T	1,1,1,2-Tetrachloroethane	0.4191	0.3948	5.8	61	-0.02
70	C	Ethylbenzene	0.6225	0.6149	1.2	63	-0.01
71	T	m-,p-Xylene	0.7329	0.6990	4.6	63	0.00
72	T	o-Xylene	0.7423	0.7196	3.1	62	-0.01
73	T	Styrene	1.1997	1.1934	0.5	64	-0.02
74	P	Bromoform	0.2665	0.2528	5.1	60	-0.02
75	T	Isopropylbenzene	1.9389	1.7373	10.4	64	-0.01
76	I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	75	-0.02
77	P	1,1,2,2-Tetrachloroethane	0.8597	0.8151	5.2	66	-0.02
78	S	p-Bromofluorobenzene	1.0473	1.0317	1.5	70	-0.02
79	T	1,2,3-Trichloropropane	0.2467	0.2225	9.8	63	-0.01
80	T	trans-1,4-Dichloro-2-Butene	0.3008	0.2621	12.9	61	-0.02
81	T	n-Propylbenzene	4.6163	3.9901	13.6	66	-0.02
82	T	Bromobenzene	0.9678	0.8860	8.4	63	-0.02
83	T	1,3,5-Trimethylbenzene	3.2359	2.8087	13.2	64	-0.02
84	T	2-Chlorotoluene	3.1754	2.5058	21.1	59	-0.02
85	T	4-Chlorotoluene	2.6674	2.5302	5.1	71	-0.02
86	T	a-Methylstyrene	1.6030	1.4949	6.7	60	-0.02
87	T	tert-Butylbenzene	0.6972	0.6192	11.2	61	-0.02
88	T	1,2,4-Trimethylbenzene	3.3422	2.8715	14.1	64	-0.01
89	T	sec-Butylbenzene	3.9415	3.5250	10.6	65	-0.02
90	T	p-Isopropyltoluene	3.2970	3.0190	8.4	65	-0.02
91	T	1,3-Dichlorobenzene	1.8025	1.6812	6.7	64	-0.02
92	T	1,4-Dichlorobenzene	1.8261	1.6805	8.0	65	-0.02
93	T	n-Butylbenzene	3.1122	3.0015	3.6	68	-0.02
94	T	1,2-Dichlorobenzene	1.6888	1.5881	6.0	63	-0.02
95	T	1,2-Dibromo-3-Chloropropane	0.1613	0.1486	7.8	64	-0.02
96	T	1,2,4-Trichlorobenzene	1.2184	1.2021	1.3	67	-0.01
97	T	Hexachlorobutadiene	0.6142	0.5539	9.8	62	-0.02
98	T	Naphthalene	2.5923	2.4390	5.9	66	-0.02
99	T	1,2,3-Trichlorobenzene	1.1662	1.0877	6.7	65	-0.02

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M16974.D 8260WTR.M Thu Mar 23 13:58:31 2017 Page 2

Data File : C:\MSDCHEM\1\DATA\032317\11M16974.D Vial: 1
Acq On : 23 Mar 2017 13:34 Operator: JDS
Sample : WG607453-02 50ug/L CCV Inst : hpms11
Misc : 1,1 STD80847 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	70	-0.01
2	T	Dichlorodifluoromethane	50.0000	55.5224	-11.0	68	-0.01
3	P	Chloromethane	50.0000	40.6435	18.7	59	0.00
4	C	Vinyl Chloride	50.0000	49.8719	0.3	69	-0.01
5	T	1,3-Butadiene	50.0000	52.1854	-4.4	75	0.00
6	T	Bromomethane	50.0000	40.5187	19.0	62	-0.02
7	T	Chloroethane	50.0000	49.2393	1.5	65	-0.02
8	T	Trichlorofluoromethane	50.0000	48.4447	3.1	65	-0.02
9	T	Diethyl ether	100.0000	98.3457	1.7	67	-0.02
10	T	Isoprene	50.0000	45.1678	9.7	59	-0.02
11	T	Acrolein	50.0000	96.6274	-93.3#	126	-0.01
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	49.4485	1.1	66	-0.02
13	T	Acetone	50.0000	55.8448	-11.7	81	-0.02
14	C	1,1-Dichloroethene	50.0000	49.0024	2.0	64	-0.01
15	T	Tert-Butyl Alcohol	200.0000	371.5133	-85.8#	134	-0.02
16	T	Dimethyl Sulfide	50.0000	44.7401	10.5	59	-0.02
17	T	Iodomethane	50.0000	52.6098	-5.2	66	-0.02
18	T	Methyl acetate	50.0000	47.1390	5.7	66	-0.02
19	T	Methylene Chloride	50.0000	47.5792	4.8	65	-0.02
20	T	Carbon Disulfide	50.0000	45.1239	9.8	60	-0.02
21	T	Acrylonitrile	50.0000	53.0326	-6.1	70	-0.01
22	T	Methyl Tert Butyl Ether	50.0000	48.2633	3.5	63	-0.01
23	T	trans-1,2-Dichloroethene	50.0000	49.8373	0.3	66	-0.02
24	T	n-Hexane	50.0000	52.2479	-4.5	68	-0.02
25	T	Diisopropyl ether	100.0000	90.7932	9.2	65	0.00
26	T	Vinyl Acetate	50.0000	56.1285	-12.3	75	-0.01
27	P	1,1-Dichloroethane	50.0000	48.6501	2.7	63	-0.01
28	T	Ethyl-Tert-Butyl ether	100.0000	94.5533	5.4	64	-0.01
29	T	2-Butanone	50.0000	51.7367	-3.5	72	-0.02
30	T	Propionitrile	100.0000	116.4193	-16.4	80	-0.01
31	T	2,2-Dichloropropane	50.0000	51.0638	-2.1	69	-0.01
32	T	cis-1,2-Dichloroethene	50.0000	47.6581	4.7	64	-0.01
33	C	Chloroform	50.0000	46.2040	7.6	63	-0.02
34	T	1-Bromopropane	50.0000	44.2974	11.4	58	-0.01
35	T	Bromochloromethane	50.0000	48.4740	3.1	64	-0.02
36	T	Tetrahydrofuran	100.0000	98.6270	1.4	69	-0.02
37	S	Dibromofluoromethane	25.0000	25.7064	-2.8	72	-0.02
38	T	1,1,1-Trichloroethane	50.0000	46.7473	6.5	61	-0.01
39	T	Cyclohexane	50.0000	45.6359	8.7	60	-0.01
40	T	1,1-Dichloropropene	50.0000	49.3518	1.3	64	-0.01
41	T	Carbon Tetrachloride	50.0000	47.7027	4.6	60	-0.02
42	T	Tert-Amyl-Methyl ether	100.0000	91.6748	8.3	62	-0.01
43	S	1,2-Dichloroethane-d4	25.0000	25.8589	-3.4	71	-0.02
44	T	1,2-Dichloroethane	50.0000	48.2289	3.5	63	-0.02
45	T	Benzene	50.0000	47.1147	5.8	64	-0.01
46	T	Trichloroethene	50.0000	47.3688	5.3	61	-0.02
47	T	Methylcyclohexane	50.0000	46.4040	7.2	61	-0.01
48	C	1,2-Dichloropropane	50.0000	49.8602	0.3	64	-0.01
49	T	1,4-Dioxane	200.0000	491.4529	-145.7#	180	0.00
50	T	Bromodichloromethane	50.0000	48.3614	3.3	62	-0.02
51	T	Dibromomethane	50.0000	48.1635	3.7	63	-0.02
52	T	2-Chloroethyl Vinyl Ether	50.0000	41.2899	17.4	54	-0.02
53	T	4-Methyl-2-Pentanone	50.0000	47.8657	4.3	64	-0.01
54	T	cis-1,3-Dichloropropene	50.0000	48.8793	2.2	63	-0.01

(#) = Out of Range
11M16974.D 8260WTR.M Wed Mar 29 18:49:17 2017 Page 1

Data File : C:\MSDCHEM\1\DATA\032317\11M16974.D Vial: 1
Acq On : 23 Mar 2017 13:34 Operator: JDS
Sample : WG607453-02 50ug/L CCV Inst : hpms11
Misc : 1,1 STD80847 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	Dimethyl Disulfide	50.0000	43.5648	12.9	56	-0.01
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	72	-0.02
57	S	Toluene-d8	25.0000	25.6558	-2.6	70	-0.01
58	C	Toluene	50.0000	43.9584	12.1	64	0.00
59	T	Ethyl Methacrylate	50.0000	47.6239	4.8	62	-0.02
60	T	trans-1,3-Dichloropropene	50.0000	49.9443	0.1	64	-0.01
61	T	1,1,2-Trichloroethane	50.0000	48.0427	3.9	64	-0.02
62	T	2-Hexanone	50.0000	48.1538	3.7	66	-0.01
63	T	1,3-Dichloropropane	50.0000	48.2262	3.5	63	-0.01
64	T	Tetrachloroethene	50.0000	48.1917	3.6	63	-0.02
65	T	Dibromochloromethane	50.0000	48.8381	2.3	62	-0.02
66	T	1,2-Dibromoethane	50.0000	47.8463	4.3	63	-0.01
67	T	1-Chlorohexane	50.0000	47.6332	4.7	63	-0.02
68	P	Chlorobenzene	50.0000	47.0351	5.9	64	0.00
69	T	1,1,1,2-Tetrachloroethane	50.0000	47.1077	5.8	61	-0.02
70	C	Ethylbenzene	50.0000	49.3861	1.2	63	-0.01
71	T	m-,p-Xylene	100.0000	95.3862	4.6	63	0.00
72	T	o-Xylene	50.0000	48.4695	3.1	62	-0.01
73	T	Styrene	50.0000	49.7364	0.5	64	-0.02
74	P	Bromoform	50.0000	47.4306	5.1	60	-0.02
75	T	Isopropylbenzene	50.0000	44.8006	10.4	64	-0.01
76	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	75	-0.02
77	P	1,1,2,2-Tetrachloroethane	50.0000	47.4048	5.2	66	-0.02
78	S	p-Bromofluorobenzene	25.0000	24.6273	1.5	70	-0.02
79	T	1,2,3-Trichloropropane	50.0000	45.0856	9.8	63	-0.01
80	T	trans-1,4-Dichloro-2-Butene	50.0000	43.5734	12.9	61	-0.02
81	T	n-Propylbenzene	50.0000	43.2178	13.6	66	-0.02
82	T	Bromobenzene	50.0000	45.7766	8.4	63	-0.02
83	T	1,3,5-Trimethylbenzene	50.0000	43.3991	13.2	64	-0.02
84	T	2-Chlorotoluene	50.0000	39.4556	21.1	59	-0.02
85	T	4-Chlorotoluene	50.0000	47.4283	5.1	71	-0.02
86	T	a-Methylstyrene	50.0000	46.6283	6.7	60	-0.02
87	T	tert-Butylbenzene	50.0000	44.4043	11.2	61	-0.02
88	T	1,2,4-Trimethylbenzene	50.0000	42.9578	14.1	64	-0.01
89	T	sec-Butylbenzene	50.0000	44.7168	10.6	65	-0.02
90	T	p-Isopropyltoluene	50.0000	45.7841	8.4	65	-0.02
91	T	1,3-Dichlorobenzene	50.0000	46.6350	6.7	64	-0.02
92	T	1,4-Dichlorobenzene	50.0000	46.0118	8.0	65	-0.02
93	T	n-Butylbenzene	50.0000	48.2216	3.6	68	-0.02
94	T	1,2-Dichlorobenzene	50.0000	47.0191	6.0	63	-0.02
95	T	1,2-Dibromo-3-Chloropropane	50.0000	46.0827	7.8	64	-0.02
96	T	1,2,4-Trichlorobenzene	50.0000	49.3342	1.3	67	-0.01
97	T	Hexachlorobutadiene	50.0000	45.0960	9.8	62	-0.02
98	T	Naphthalene	50.0000	47.0444	5.9	66	-0.02
99	T	1,2,3-Trichlorobenzene	50.0000	46.6351	6.7	65	-0.02

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032417\8M418485.D Vial: 3
Acq On : 24 Mar 2017 10:21 Operator: TMB
Sample : WG607571-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD81106 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 12:52:45 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.94	96	753298	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.81	117	600706	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.82	152	327178	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.89	111	211599	24.7674 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 99.08%		
43) 1,2-Dichloroethane-d4	10.53	65	177888	24.0269 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 96.12%		
58) Toluene-d8	12.91	98	737677	24.4126 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.64%		
80) p-Bromofluorobenzene	16.30	95	293051	23.6698 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 94.68%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.34	85	633108	53.6507 ug/L	99
3) Chloromethane	3.82	50	691538	48.3582 ug/L	99
4) Vinyl Chloride	4.05	62	656938	49.1304 ug/L	100
5) 1,3-Butadiene	4.09	54	251688	57.8326 ug/L	99
6) Bromomethane	4.97	94	314659	46.4579 ug/L	99
7) Chloroethane	5.13	64	264527	48.7747 ug/L	100
8) Trichlorofluoromethane	5.61	101	707217	48.8756 ug/L	100
9) Diethyl ether	6.14	59	463957	99.1406 ug/L	99
10) Isoprene	6.18	67	587545	52.5532 ug/L	99
11) Acrolein	6.38	56	29895	49.9602 ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	6.40	101	385828	49.5721 ug/L	100
13) Acetone	6.48	43	44658	49.5727 ug/L	99
14) 1,1-Dichloroethene	6.71	61	525192	48.3575 ug/L	98
15) Tert-Butyl Alcohol	6.81	59	64726	225.7420 ug/L	97
16) Dimethyl Sulfide	6.97	62	395155	51.1860 ug/L	99
17) Iodomethane	7.23	142	366826	40.7084 ug/L	100
18) Methyl acetate	7.24	43	131895	51.1996 ug/L	99
19) Methylene Chloride	7.50	84	400158	48.3871 ug/L	98
20) Carbon Disulfide	7.54	76	1326777	53.6361 ug/L	100
21) Acrylonitrile	7.67	53	68288	54.1957 ug/L	98
22) Methyl Tert Butyl Ether	7.70	73	817140	51.3330 ug/L	100
23) trans-1,2-Dichloroethene	7.94	61	501289	47.6042 ug/L	100
24) n-Hexane	8.01	57	465368	52.1715 ug/L	98
25) Diisopropyl ether	8.35	45	1975215	98.2019 ug/L	99
26) Vinyl Acetate	8.52	43	461351	58.2825 ug/L	100
27) 1,1-Dichloroethane	8.56	63	677363	49.3212 ug/L	100
28) Ethyl-Tert-Butyl ether	8.92	59	1955806	101.5557 ug/L	99
29) 2-Butanone	9.11	43	71817	49.4795 ug/L	98
30) Propionitrile	9.22	54	46480	108.1748 ug/L	98
31) 2,2-Dichloropropane	9.34	77	643735	52.5421 ug/L	100
32) cis-1,2-Dichloroethene	9.40	96	446513	49.9585 ug/L	99
33) Chloroform	9.60	83	728985	45.7970 ug/L	100
34) 1-Bromopropane	9.74	122	88049	51.5655 ug/L	99
35) Bromochloromethane	9.84	130	240570	50.1076 ug/L	99
36) Tetrahydrofuran	9.86	42	92668	100.3206 ug/L	98
38) 1,1,1-Trichloroethane	10.14	97	655504	50.0669 ug/L	100
39) Cyclohexane	10.17	56	563497	49.8027 ug/L	98
40) 1,1-Dichloropropene	10.33	75	552334	49.1225 ug/L	100
41) Tert-Amyl-Methyl ether	10.43	73	1885959	104.9366 ug/L	98
42) Carbon Tetrachloride	10.48	117	605074	51.6520 ug/L	99

(#) = qualifier out of range (m) = manual integration
8M418485.D 8260WTR.M Fri Mar 24 12:52:48 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032417\8M418485.D Vial: 3
Acq On : 24 Mar 2017 10:21 Operator: TMB
Sample : WG607571-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD81106 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 12:52:45 2017 Quant Results File: 8260WTR.RES

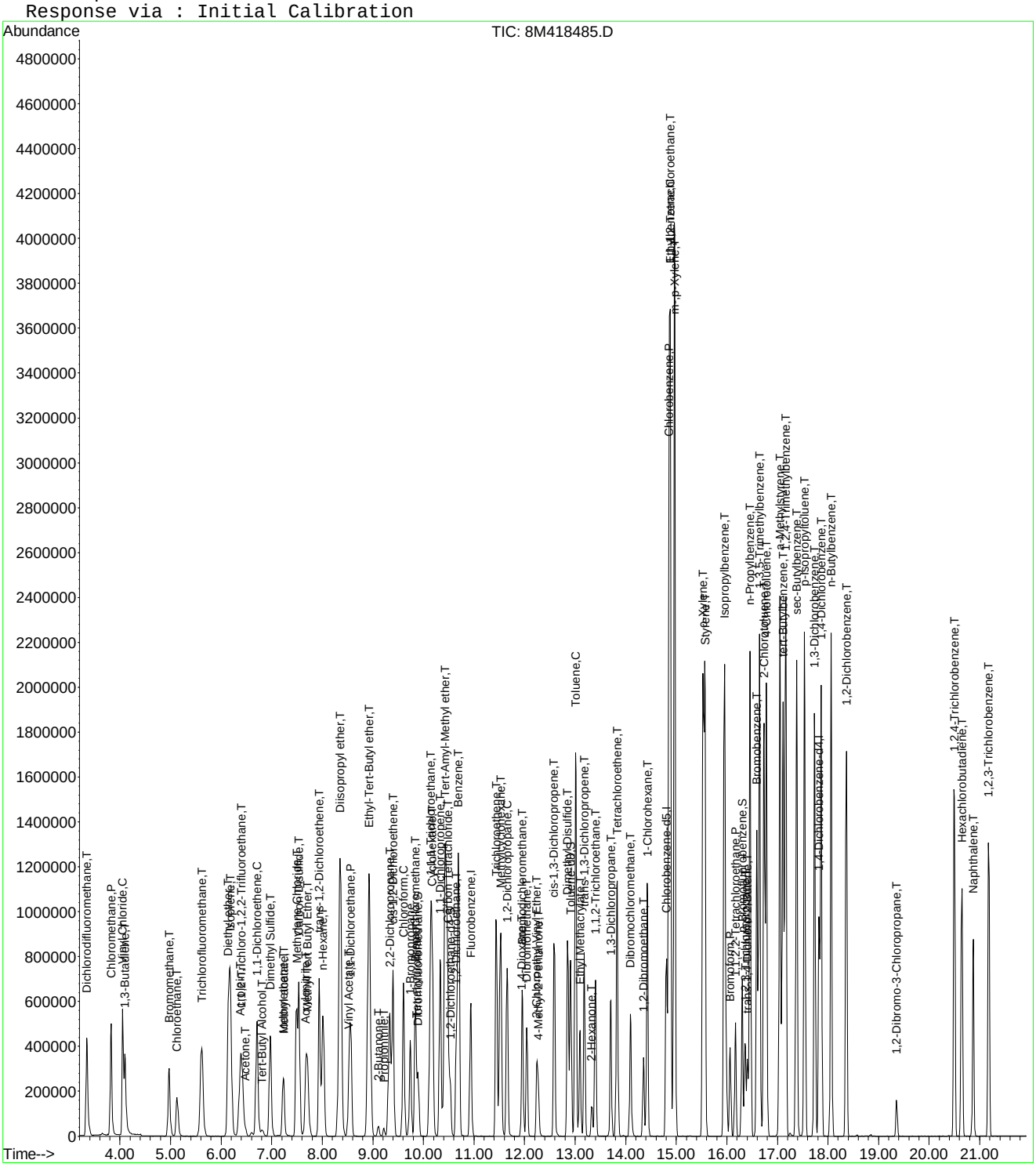
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.65	62	440116	48.9738	ug/L		100
46)	Benzene	10.69	78	1598763	49.3087	ug/L		99
47)	Trichloroethene	11.44	130	419836	48.4253	ug/L		99
48)	Methylcyclohexane	11.53	83	645101	49.5185	ug/L		98
49)	1,2-Dichloropropane	11.65	63	369276	49.5341	ug/L		100
50)	Bromodichloromethane	11.95	83	549802	52.1674	ug/L		100
51)	1,4-Dioxane	11.94	88	8959	250.0841	ug/L		96
52)	Dibromomethane	12.04	93	210265	52.6311	ug/L		100
53)	2-Chloroethyl Vinyl Ether	12.24	63	173737	51.2508	ug/L		99
54)	4-Methyl-2-Pentanone	12.27	58	73236	50.4788	ug/L		96
55)	cis-1,3-Dichloropropene	12.58	75	633886	51.8182	ug/L		98
56)	Dimethyl Disulfide	12.85	79	358961	49.7246	ug/L		100
59)	Toluene	13.01	91	1736499	48.6027	ug/L		99
60)	Ethyl Methacrylate	13.10	69	375258	54.3180	ug/L		97
62)	trans-1,3-Dichloropropene	13.18	75	540654	51.3020	ug/L		100
63)	1,1,2-Trichloroethane	13.40	97	279435	49.6515	ug/L		100
64)	2-Hexanone	13.33	58	67847	50.2862	ug/L		100
65)	1,3-Dichloropropane	13.71	76	488424	48.4675	ug/L		97
66)	Tetrachloroethene	13.83	164	362328	46.8034	ug/L		99
67)	Dibromochloromethane	14.09	129	374052	49.1454	ug/L		100
68)	1,2-Dibromoethane	14.35	107	287533	49.7930	ug/L		99
69)	1-Chlorohexane	14.43	91	586649	48.1798	ug/L		98
70)	Chlorobenzene	14.86	112	1221132	48.5619	ug/L		99
71)	1,1,1,2-Tetrachloroethane	14.88	131	470163	47.0447	ug/L		100
72)	Ethylbenzene	14.88	106	699389	50.1169	ug/L		98
73)	m-,p-Xylene	14.97	106	1679905	100.3698	ug/L		99
74)	o-Xylene	15.53	106	784851	47.2885	ug/L		100
75)	Styrene	15.57	104	1373595	51.2662	ug/L		98
76)	Bromoform	16.07	173	240280	52.1055	ug/L		100
77)	Isopropylbenzene	15.95	105	1953850	48.6585	ug/L		100
79)	1,1,2,2-Tetrachloroethane	16.17	83	330733	51.8657	ug/L		100
81)	1,2,3-Trichloropropane	16.37	110	90643	49.9294	ug/L	#	29
82)	trans-1,4-Dichloro-2-Buten	16.41	53	87065	58.2089	ug/L	#	17
83)	n-Propylbenzene	16.46	91	2319087	48.1242	ug/L		100
84)	Bromobenzene	16.59	156	517440	48.5159	ug/L		99
85)	1,3,5-Trimethylbenzene	16.65	105	1701154	48.8758	ug/L		99
86)	2-Chlorotoluene	16.74	91	1548868	47.8168	ug/L		95
87)	4-Chlorotoluene	16.78	91	1356279	47.9278	ug/L		100
88)	a-Methylstyrene	17.05	118	986768	50.7153	ug/L		100
89)	tert-Butylbenzene	17.11	134	357329	46.4866	ug/L		98
90)	1,2,4-Trimethylbenzene	17.16	105	1800169	49.7491	ug/L		100
91)	sec-Butylbenzene	17.38	105	2102775	48.6723	ug/L		99
92)	p-Isopropyltoluene	17.53	119	1746476	49.3514	ug/L		100
93)	1,3-Dichlorobenzene	17.73	146	1038774	48.8608	ug/L		99
94)	1,4-Dichlorobenzene	17.87	146	1031197	48.1575	ug/L		99
95)	n-Butylbenzene	18.06	91	1664767	48.4861	ug/L		100
96)	1,2-Dichlorobenzene	18.36	146	912254	49.2451	ug/L		99
97)	1,2-Dibromo-3-Chloropropan	19.35	75	51333	51.2943	ug/L		95
98)	1,2,4-Trichlorobenzene	20.50	180	655645	47.3194	ug/L		99
99)	Hexachlorobutadiene	20.65	225	299817	44.2583	ug/L		100
100)	Naphthalene	20.87	128	894938	48.9033	ug/L		100
101)	1,2,3-Trichlorobenzene	21.17	180	533756	46.5830	ug/L		100

(#) = qualifier out of range (m) = manual integration
8M418485.D 8260WTR.M Fri Mar 24 12:52:48 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032417\8M418485.D Vial: 3
Acq On : 24 Mar 2017 10:21 Operator: TMB
Sample : WG607571-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD81106 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 12:52 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration



Continuing Calibration Area and RT check

Instrument: HPMS8
Initial cal date: 21 Mar 2017 19:11
CCV date: 24 Mar 2017 10:21
CCV Filename: 8M418485.D

	Fluorobenzene		Chlorobenzene-d5		1,4-Dichlorobenzene-d4	
	Amount	RT	Amount	RT	Amount	RT
InitCal	821515	10.94	635449	14.81	345493	17.83
CCV	753298	10.94	600706	14.81	327178	17.82

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032417\8M418485.D Vial: 3
Acq On : 24 Mar 2017 10:21 Operator: TMB
Sample : WG607571-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD81106 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.0000	1.0000	0.0	92	0.00
2	T	Dichlorodifluoromethane	0.3916	0.4202	-7.3	89	0.00
3	P	Chloromethane	0.4746	0.4590	3.3	91	0.00
4	C	Vinyl Chloride	0.4438	0.4360	1.7	94	0.00
5	T	1,3-Butadiene	0.1726	0.1671	3.2	88	-0.01
6	T	Bromomethane	0.2248	0.2089	7.1	85	0.00
7	T	Chloroethane	0.1800	0.1756	2.5	87	0.00
8	T	Trichlorofluoromethane	0.4802	0.4694	2.2	88	0.00
9	T	Diethyl ether	0.1553	0.1540	0.9	89	0.00
10	T	Isoprene	0.3710	0.3900	-5.1	97	0.00
11	T	Acrolein	0.0199	0.0198	0.1	89	-0.01
12	T	1,1,2-Trichloro-1,2,2-Trifl	0.2583	0.2561	0.9	87	0.00
13	T	Acetone	0.0299	0.0296	0.9	89	0.00
14	C	1,1-Dichloroethene	0.3604	0.3486	3.3	87	0.00
15	T	Tert-Butyl Alcohol	0.0095	0.0107	-12.8	98	0.00
16	T	Dimethyl Sulfide	0.2562	0.2623	-2.4	94	-0.01
17	T	Iodomethane	0.2687	0.2435	9.4	75	-0.01
18	T	Methyl acetate	0.0855	0.0876	-2.4	95	0.00
19	T	Methylene Chloride	0.2745	0.2656	3.2	88	0.00
20	T	Carbon Disulfide	0.8209	0.8807	-7.3	97	0.00
21	T	Acrylonitrile	0.0418	0.0453	-8.4	91	0.00
22	T	Methyl Tert Butyl Ether	0.5283	0.5424	-2.7	89	0.00
23	T	trans-1,2-Dichloroethene	0.3495	0.3327	4.8	88	0.00
24	T	n-Hexane	0.2960	0.3089	-4.3	97	-0.01
25	T	Diisopropyl ether	0.6675	0.6555	1.8	88	0.00
26	T	Vinyl Acetate	0.2627	0.3062	-16.6	110	-0.01
27	P	1,1-Dichloroethane	0.4558	0.4496	1.4	89	0.00
28	T	Ethyl-Tert-Butyl ether	0.6391	0.6491	-1.6	89	-0.01
29	T	2-Butanone	0.0482	0.0477	1.0	90	0.00
30	T	Propionitrile	0.0143	0.0154	-8.2	95	0.00
31	T	2,2-Dichloropropane	0.4066	0.4273	-5.1	98	0.00
32	T	cis-1,2-Dichloroethene	0.2966	0.2964	0.1	90	0.00
33	C	Chloroform	0.5283	0.4839	8.4	89	0.00
34		1-Bromopropane	0.0567	0.0584	-3.1	94	-0.01
35	T	Bromochloromethane	0.1593	0.1597	-0.2	88	0.00
36	T	Tetrahydrofuran	0.0307	0.0308	-0.3	89	0.00
37	S	Dibromofluoromethane	0.2835	0.2809	0.9	93	0.00
38	T	1,1,1-Trichloroethane	0.4345	0.4351	-0.1	89	0.00
39	T	Cyclohexane	0.3755	0.3740	0.4	91	0.00
40	T	1,1-Dichloropropene	0.3732	0.3666	1.8	90	-0.01
41	T	Tert-Amyl-Methyl ether	0.5965	0.6259	-4.9	91	0.00
42	T	Carbon Tetrachloride	0.3888	0.4016	-3.3	90	0.00
43	S	1,2-Dichloroethane-d4	0.2457	0.2362	3.9	89	0.00
44		Heptane	0.0000	0.0000	0.0	0#	-2.61#
45	T	1,2-Dichloroethane	0.2983	0.2921	2.1	88	-0.01
46	T	Benzene	1.0761	1.0612	1.4	89	-0.01
47	T	Trichloroethene	0.2877	0.2787	3.1	86	0.00
48	T	Methylcyclohexane	0.4324	0.4282	1.0	92	0.00
49	C	1,2-Dichloropropane	0.2474	0.2451	0.9	89	0.00
50	T	Bromodichloromethane	0.3498	0.3649	-4.3	90	-0.01
51	T	1,4-Dioxane	0.0012	0.0015	-25.2#	99	0.00
52	T	Dibromomethane	0.1326	0.1396	-5.3	89	0.00
53	T	2-Chloroethyl Vinyl Ether	0.1125	0.1153	-2.5	95	0.00
54	T	4-Methyl-2-Pentanone	0.0481	0.0486	-1.0	91	0.00

(#) = Out of Range
8M418485.D 8260WTR.M Fri Mar 24 12:53:28 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032417\8M418485.D Vial: 3
Acq On : 24 Mar 2017 10:21 Operator: TMB
Sample : WG607571-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD81106 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	0.4060	0.4207	-3.6	91	-0.01
56	T	Dimethyl Disulfide	0.2197	0.2383	-8.5	99	0.00
57	I	Chlorobenzene-d5	1.0000	1.0000	0.0	95	0.00
58	S	Toluene-d8	1.2576	1.2280	2.3	95	0.00
59	C	Toluene	1.4869	1.4454	2.8	90	-0.01
60	T	Ethyl Methacrylate	0.2875	0.3124	-8.6	97	0.00
61		Paraldehyde	0.0000	0.0000	0.0	0#	-13.40#
62	T	trans-1,3-Dichloropropene	0.4386	0.4500	-2.6	92	0.00
63	T	1,1,2-Trichloroethane	0.2342	0.2326	0.7	90	0.00
64	T	2-Hexanone	0.0561	0.0565	-0.6	92	-0.01
65	T	1,3-Dichloropropane	0.4194	0.4065	3.1	90	0.00
66	T	Tetrachloroethene	0.3222	0.3016	6.4	89	0.00
67	T	Dibromochloromethane	0.2861	0.3113	-8.8	91	0.00
68	T	1,2-Dibromoethane	0.2403	0.2393	0.4	90	0.00
69	T	1-Chlorohexane	0.5068	0.4883	3.6	94	0.00
70	P	Chlorobenzene	1.0465	1.0164	2.9	89	0.00
71	T	1,1,1,2-Tetrachloroethane	0.3805	0.3913	-2.9	89	0.00
72	C	Ethylbenzene	0.5808	0.5821	-0.2	88	0.00
73	T	m-,p-Xylene	0.6966	0.6991	-0.4	89	0.00
74	T	o-Xylene	0.6907	0.6533	5.4	89	0.00
75	T	Styrene	1.1151	1.1433	-2.5	90	0.00
76	P	Bromoform	0.1739	0.2000	-15.0	96	0.00
77	T	Isopropylbenzene	1.6711	1.6263	2.7	88	0.00
78	I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	95	0.00
79	P	1,1,2,2-Tetrachloroethane	0.4873	0.5054	-3.7	95	0.00
80	S	p-Bromofluorobenzene	0.9460	0.8957	5.3	94	0.00
81	T	1,2,3-Trichloropropane	0.1387	0.1385	0.1	90	0.00
82	T	trans-1,4-Dichloro-2-Butene	0.1143	0.1331	-16.4	101	0.00
83	T	n-Propylbenzene	3.6822	3.5441	3.8	88	0.00
84	T	Bromobenzene	0.8149	0.7908	3.0	89	0.00
85	T	1,3,5-Trimethylbenzene	2.6595	2.5997	2.2	88	0.00
86	T	2-Chlorotoluene	2.4751	2.3670	4.4	88	0.00
87	T	4-Chlorotoluene	2.1623	2.0727	4.1	88	0.00
88	T	a-Methylstyrene	1.4867	1.5080	-1.4	96	0.00
89	T	tert-Butylbenzene	0.5874	0.5461	7.0	87	0.00
90	T	1,2,4-Trimethylbenzene	2.7649	2.7511	0.5	89	0.00
91	T	sec-Butylbenzene	3.3012	3.2135	2.7	88	0.00
92	T	p-Isopropyltoluene	2.7041	2.6690	1.3	88	0.00
93	T	1,3-Dichlorobenzene	1.6245	1.5875	2.3	90	-0.01
94	T	1,4-Dichlorobenzene	1.6362	1.5759	3.7	90	0.00
95	T	n-Butylbenzene	2.6236	2.5441	3.0	88	0.00
96	T	1,2-Dichlorobenzene	1.4155	1.3941	1.5	90	0.00
97	T	1,2-Dibromo-3-Chloropropane	0.0765	0.0785	-2.6	90	0.00
98	T	1,2,4-Trichlorobenzene	1.0587	1.0020	5.4	89	0.00
99	T	Hexachlorobutadiene	0.5176	0.4582	11.5	86	0.00
100	T	Naphthalene	1.3983	1.3677	2.2	86	0.00
101	T	1,2,3-Trichlorobenzene	0.8755	0.8157	6.8	87	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M418485.D 8260WTR.M Fri Mar 24 12:53:28 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032417\8M418485.D Vial: 3
Acq On : 24 Mar 2017 10:21 Operator: TMB
Sample : WG607571-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD81106 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	92	0.00
2	T	Dichlorodifluoromethane	50.0000	53.6506	-7.3	89	0.00
3	P	Chloromethane	50.0000	48.3582	3.3	91	0.00
4	C	Vinyl Chloride	50.0000	49.1304	1.7	94	0.00
5	T	1,3-Butadiene	50.0000	57.8326	-15.7	88	-0.01
6	T	Bromomethane	50.0000	46.4579	7.1	85	0.00
7	T	Chloroethane	50.0000	48.7747	2.5	87	0.00
8	T	Trichlorofluoromethane	50.0000	48.8756	2.2	88	0.00
9	T	Diethyl ether	100.0000	99.1406	0.9	89	0.00
10	T	Isoprene	50.0000	52.5532	-5.1	97	0.00
11	T	Acrolein	50.0000	49.9602	0.1	89	-0.01
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	49.5721	0.9	87	0.00
13	T	Acetone	50.0000	49.5727	0.9	89	0.00
14	C	1,1-Dichloroethene	50.0000	48.3575	3.3	87	0.00
15	T	Tert-Butyl Alcohol	200.0000	225.7420	-12.9	98	0.00
16	T	Dimethyl Sulfide	50.0000	51.1860	-2.4	94	-0.01
17	T	Iodomethane	50.0000	40.7084	18.6	75	-0.01
18	T	Methyl acetate	50.0000	51.1996	-2.4	95	0.00
19	T	Methylene Chloride	50.0000	48.3871	3.2	88	0.00
20	T	Carbon Disulfide	50.0000	53.6361	-7.3	97	0.00
21	T	Acrylonitrile	50.0000	54.1957	-8.4	91	0.00
22	T	Methyl Tert Butyl Ether	50.0000	51.3330	-2.7	89	0.00
23	T	trans-1,2-Dichloroethene	50.0000	47.6042	4.8	88	0.00
24	T	n-Hexane	50.0000	52.1715	-4.3	97	-0.01
25	T	Diisopropyl ether	100.0000	98.2019	1.8	88	0.00
26	T	Vinyl Acetate	50.0000	58.2826	-16.6	110	-0.01
27	P	1,1-Dichloroethane	50.0000	49.3212	1.4	89	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	101.5557	-1.6	89	-0.01
29	T	2-Butanone	50.0000	49.4795	1.0	90	0.00
30	T	Propionitrile	100.0000	108.1748	-8.2	95	0.00
31	T	2,2-Dichloropropane	50.0000	52.5421	-5.1	98	0.00
32	T	cis-1,2-Dichloroethene	50.0000	49.9585	0.1	90	0.00
33	C	Chloroform	50.0000	45.7970	8.4	89	0.00
34		1-Bromopropane	50.0000	51.5654	-3.1	94	-0.01
35	T	Bromochloromethane	50.0000	50.1076	-0.2	88	0.00
36	T	Tetrahydrofuran	100.0000	100.3207	-0.3	89	0.00
37	S	Dibromofluoromethane	25.0000	24.7674	0.9	93	0.00
38	T	1,1,1-Trichloroethane	50.0000	50.0669	-0.1	89	0.00
39	T	Cyclohexane	50.0000	49.8027	0.4	91	0.00
40	T	1,1-Dichloropropene	50.0000	49.1225	1.8	90	-0.01
41	T	Tert-Amyl-Methyl ether	100.0000	104.9366	-4.9	91	0.00
42	T	Carbon Tetrachloride	50.0000	51.6520	-3.3	90	0.00
43	S	1,2-Dichloroethane-d4	25.0000	24.0269	3.9	89	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-2.61#
45	T	1,2-Dichloroethane	50.0000	48.9738	2.1	88	-0.01
46	T	Benzene	50.0000	49.3087	1.4	89	-0.01
47	T	Trichloroethene	50.0000	48.4253	3.1	86	0.00
48	T	Methylcyclohexane	50.0000	49.5185	1.0	92	0.00
49	C	1,2-Dichloropropane	50.0000	49.5341	0.9	89	0.00
50	T	Bromodichloromethane	50.0000	52.1674	-4.3	90	-0.01
51	T	1,4-Dioxane	200.0000	250.0841	-25.0#	99	0.00
52	T	Dibromomethane	50.0000	52.6311	-5.3	89	0.00
53	T	2-Chloroethyl Vinyl Ether	50.0000	51.2509	-2.5	95	0.00
54	T	4-Methyl-2-Pentanone	50.0000	50.4788	-1.0	91	0.00

(#) = Out of Range
8M418485.D 8260WTR.M Fri Mar 24 12:53:32 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032417\8M418485.D Vial: 3
Acq On : 24 Mar 2017 10:21 Operator: TMB
Sample : WG607571-02 50ug/L CCV STD 8260 Inst : HPMS8
Misc : 1,1 STD81106 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

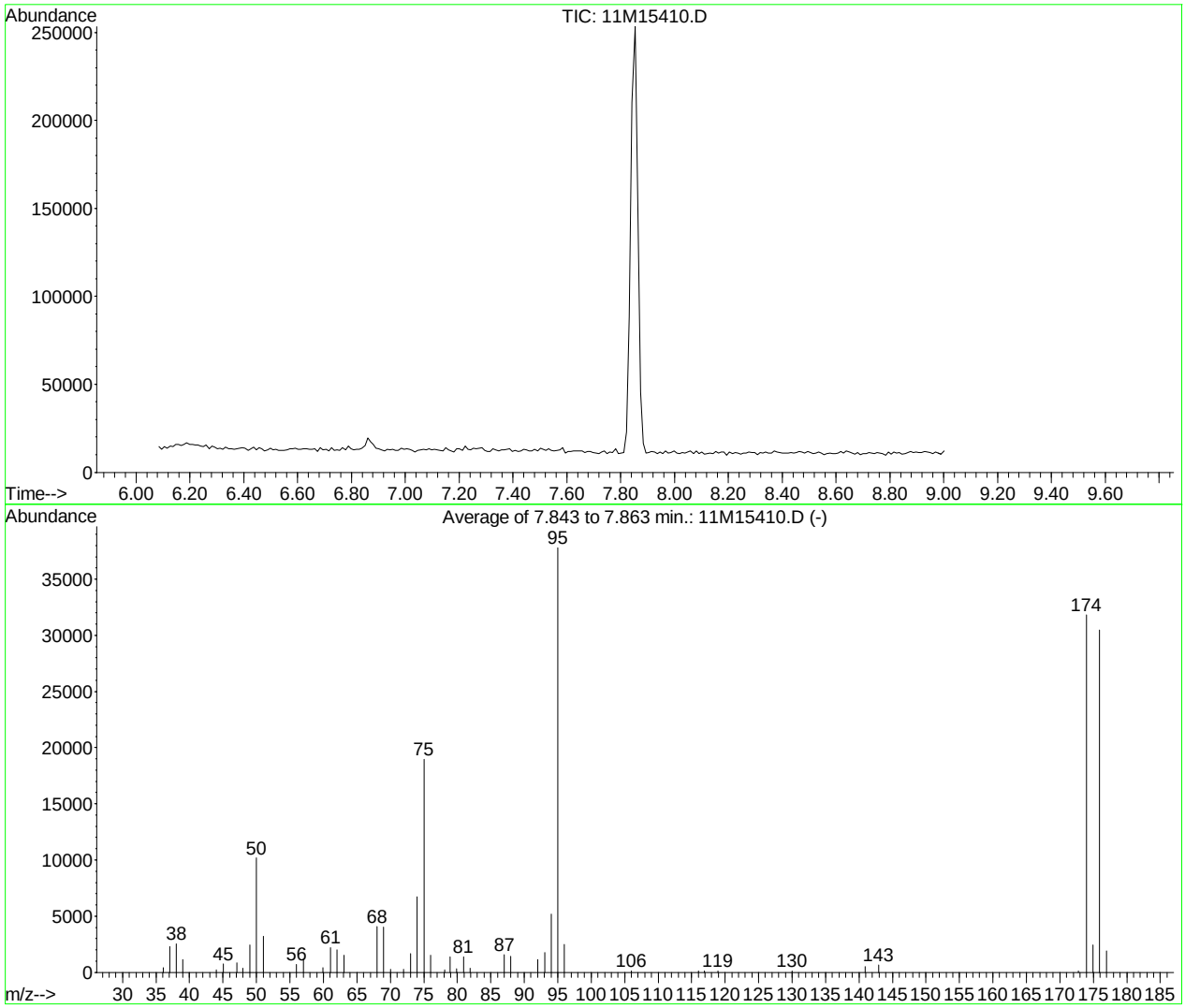
		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	50.0000	51.8182	-3.6	91	-0.01
56	T	Dimethyl Disulfide	50.0000	49.7246	0.6	99	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	95	0.00
58	S	Toluene-d8	25.0000	24.4126	2.3	95	0.00
59	C	Toluene	50.0000	48.6027	2.8	90	-0.01
60	T	Ethyl Methacrylate	50.0000	54.3180	-8.6	97	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.40#
62	T	trans-1,3-Dichloropropene	50.0000	51.3020	-2.6	92	0.00
63	T	1,1,2-Trichloroethane	50.0000	49.6515	0.7	90	0.00
64	T	2-Hexanone	50.0000	50.2862	-0.6	92	-0.01
65	T	1,3-Dichloropropane	50.0000	48.4675	3.1	90	0.00
66	T	Tetrachloroethene	50.0000	46.8034	6.4	89	0.00
67	T	Dibromochloromethane	50.0000	49.1454	1.7	91	0.00
68	T	1,2-Dibromoethane	50.0000	49.7930	0.4	90	0.00
69	T	1-Chlorohexane	50.0000	48.1798	3.6	94	0.00
70	P	Chlorobenzene	50.0000	48.5619	2.9	89	0.00
71	T	1,1,1,2-Tetrachloroethane	50.0000	47.0447	5.9	89	0.00
72	C	Ethylbenzene	50.0000	50.1169	-0.2	88	0.00
73	T	m-,p-Xylene	100.0000	100.3699	-0.4	89	0.00
74	T	o-Xylene	50.0000	47.2885	5.4	89	0.00
75	T	Styrene	50.0000	51.2662	-2.5	90	0.00
76	P	Bromoform	50.0000	52.1055	-4.2	96	0.00
77	T	Isopropylbenzene	50.0000	48.6585	2.7	88	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	95	0.00
79	P	1,1,2,2-Tetrachloroethane	50.0000	51.8657	-3.7	95	0.00
80	S	p-Bromofluorobenzene	25.0000	23.6698	5.3	94	0.00
81	T	1,2,3-Trichloropropane	50.0000	49.9294	0.1	90	0.00
82	T	trans-1,4-Dichloro-2-Butene	50.0000	58.2089	-16.4	101	0.00
83	T	n-Propylbenzene	50.0000	48.1242	3.8	88	0.00
84	T	Bromobenzene	50.0000	48.5159	3.0	89	0.00
85	T	1,3,5-Trimethylbenzene	50.0000	48.8758	2.2	88	0.00
86	T	2-Chlorotoluene	50.0000	47.8168	4.4	88	0.00
87	T	4-Chlorotoluene	50.0000	47.9278	4.1	88	0.00
88	T	a-Methylstyrene	50.0000	50.7153	-1.4	96	0.00
89	T	tert-Butylbenzene	50.0000	46.4866	7.0	87	0.00
90	T	1,2,4-Trimethylbenzene	50.0000	49.7491	0.5	89	0.00
91	T	sec-Butylbenzene	50.0000	48.6723	2.7	88	0.00
92	T	p-Isopropyltoluene	50.0000	49.3514	1.3	88	0.00
93	T	1,3-Dichlorobenzene	50.0000	48.8608	2.3	90	-0.01
94	T	1,4-Dichlorobenzene	50.0000	48.1574	3.7	90	0.00
95	T	n-Butylbenzene	50.0000	48.4861	3.0	88	0.00
96	T	1,2-Dichlorobenzene	50.0000	49.2451	1.5	90	0.00
97	T	1,2-Dibromo-3-Chloropropane	50.0000	51.2943	-2.6	90	0.00
98	T	1,2,4-Trichlorobenzene	50.0000	47.3194	5.4	89	0.00
99	T	Hexachlorobutadiene	50.0000	44.2583	11.5	86	0.00
100	T	Naphthalene	50.0000	48.9033	2.2	86	0.00
101	T	1,2,3-Trichlorobenzene	50.0000	46.5830	6.8	87	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0
8M418485.D 8260WTR.M Fri Mar 24 12:53:33 2017 Page 2

2.1.1.5 Raw QC Data

CLPBFB

Data File : C:\MSDCHEM\1\DATA\112916\11M15410.D Vial: 1
Acq On : 29 Nov 2016 14:38 Operator: JDS
Sample : WG593075-01 BFB 50ng 8260 Inst : hpms11
Misc : 1,1 STD78474 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\A9FOOW.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 112916 HPMS11



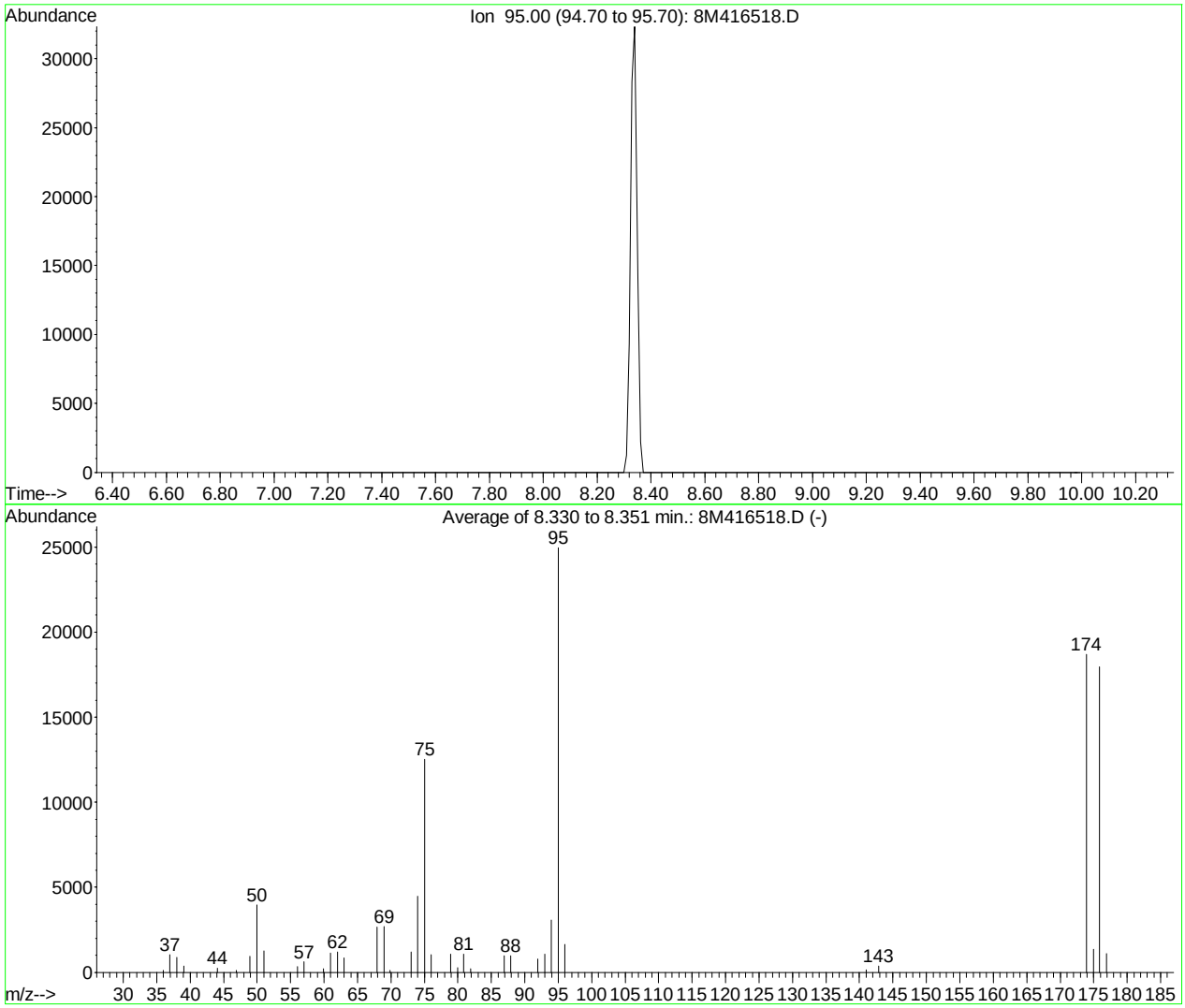
AutoFind: Scans 171, 172, 173; Background Corrected with Scan 165

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	26.9	10170	PASS
75	95	30	60	50.2	18975	PASS
95	95	100	100	100.0	37813	PASS
96	95	5	9	6.5	2474	PASS
173	174	0.00	2	0.4	114	PASS
174	95	50	100	84.1	31818	PASS
175	174	5	9	7.6	2425	PASS
176	174	95	101	95.8	30490	PASS
177	176	5	9	6.2	1892	PASS

11M15410.D A9FOOW.M Wed Nov 30 09:54:46 2016

CLPBFB

```
Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\120816\8M416518.D Vial: 1
Acq On    :  8 Dec 2016   8:55                      Operator: TMB
Sample    : WG594051-01 50ng BFB STD A9/FOO         Inst    : HPMS8
Misc      : 1,1 STD78995                            Multiplr: 1.00
MS Integration Params: rteint.p
Method    : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWTR.M (RTE Integrator)
Title     : A9-FOO Water SOP:MSV01 12-08-16 HPMS8
```



AutoFind: Scans 122, 123, 124; Background Corrected with Scan 117

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.9	3959	PASS
75	95	30	60	50.2	12523	PASS
95	95	100	100	100.0	24967	PASS
96	95	5	9	6.6	1651	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	74.9	18700	PASS
175	174	5	9	7.2	1355	PASS
176	174	95	101	96.0	17959	PASS
177	176	5	9	6.1	1092	PASS

8M416518.D A9FOOWTR.M Thu Dec 08 14:42:12 2016

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\022217\11M16435.D Vial: 7
Acq On : 22 Feb 2017 13:01 Operator: ADC
Sample : screen 1000x 0995-01 Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 22 14:24:06 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 021617 HPMS11
Last Update : Fri Feb 17 10:56:03 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

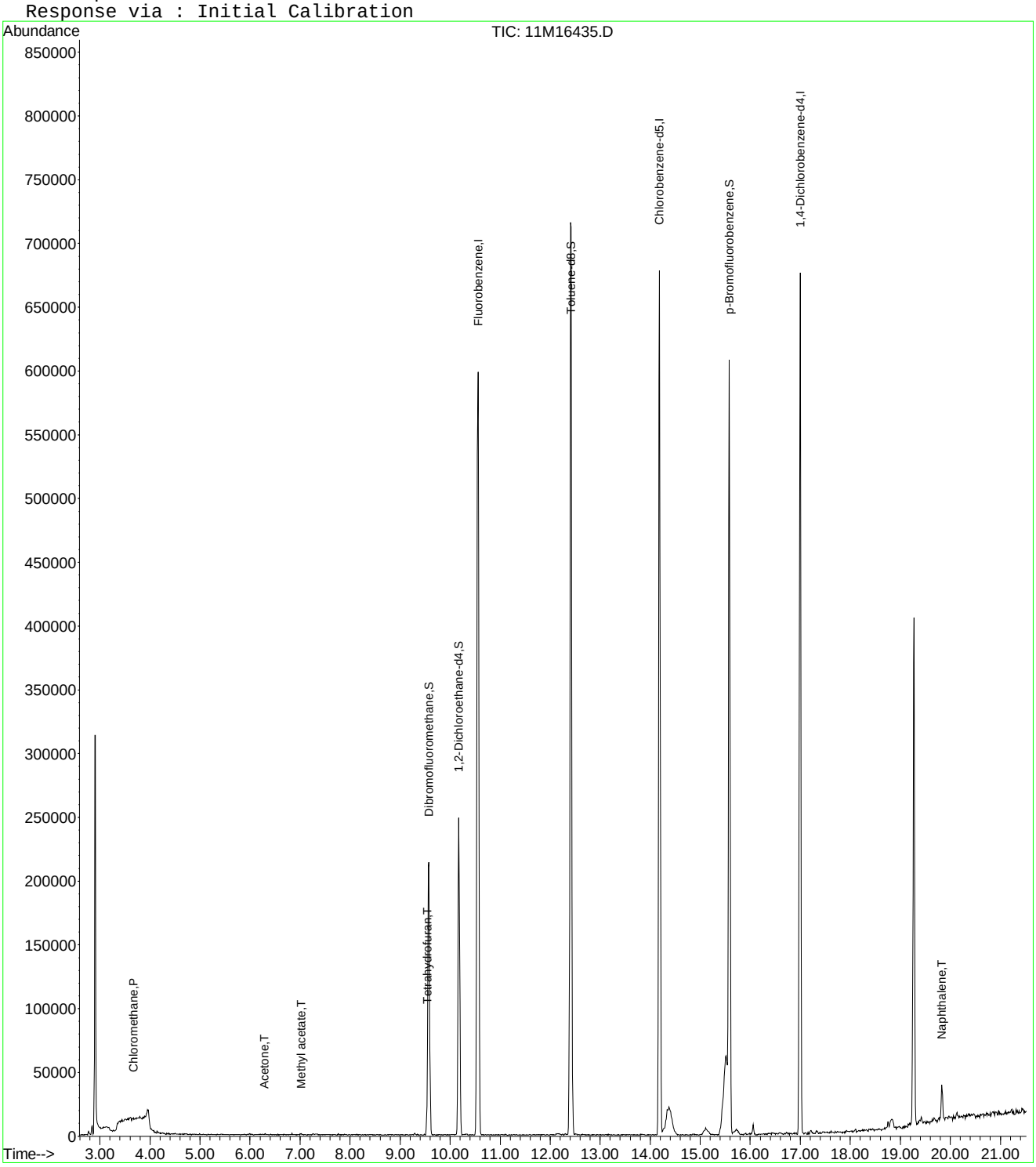
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.56	96	660477	25.00 ug/L	0.00
56) Chlorobenzene-d5	14.19	117	447415	25.00 ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.00	152	205458	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.57	111	177957	25.2600 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 101.04%		
43) 1,2-Dichloroethane-d4	10.17	65	211835	24.4288 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 97.72%		
57) Toluene-d8	12.42	98	613549	25.1864 ug/L	0.01
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.76%		
78) p-Bromofluorobenzene	15.58	95	251659	27.5694 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 110.28%		
Target Compounds					Qvalue
3) Chloromethane	3.67	50	2233	0.2225 ug/L	# 1
13) Acetone	6.29	43	403	0.2071 ug/L	# 45
18) Methyl acetate	7.02	43	1001	0.1632 ug/L	# 58
36) Tetrahydrofuran	9.54	42	1802	0.8328 ug/L	# 50
45) Benzene	10.33	78	983	Below Cal	# 46
98) Naphthalene	19.83	128	23168	1.2301 ug/L	# 95

(#) = qualifier out of range (m) = manual integration
11M16435.D 8260WTR.M Wed Feb 22 14:24:07 2017 Page 1

Quantitation Report (Not Reviewed)

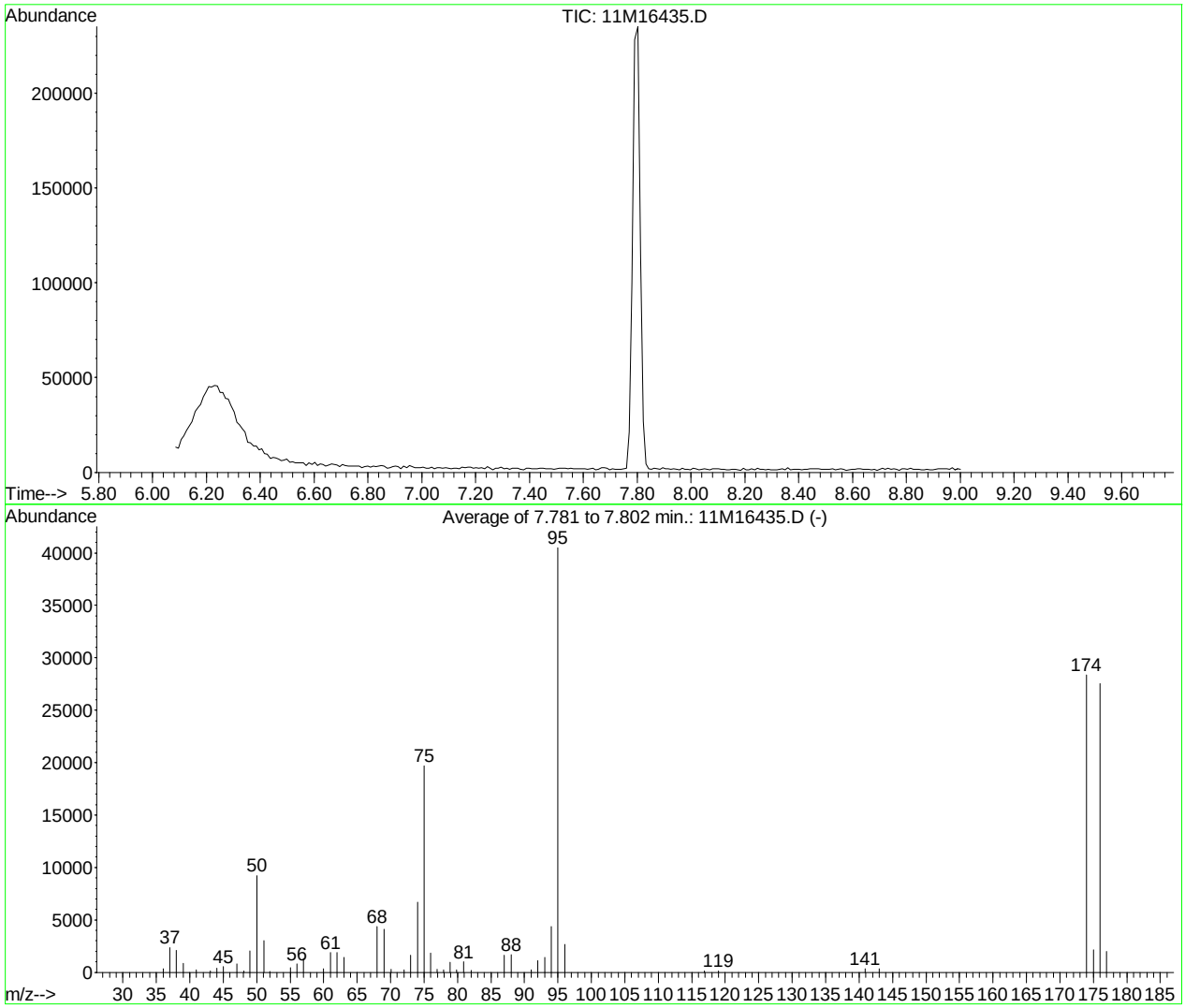
Data File : C:\MSDCHEM\1\DATA\022217\11M16435.D Vial: 7
Acq On : 22 Feb 2017 13:01 Operator: ADC
Sample : screen 1000x 0995-01 Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Feb 22 14:24 2017 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 021617 HPMS11
Last Update : Fri Feb 17 10:56:03 2017
Response via : Initial Calibration



BFB

Data File : C:\MSDCHEM\1\DATA\022817\11M16435.D Vial: 1
Acq On : 28 Feb 2017 15:47 Operator: ADC
Sample : WG604519-01 50ng BFB Inst : hpms11
Misc : 1,1 STD79950 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11

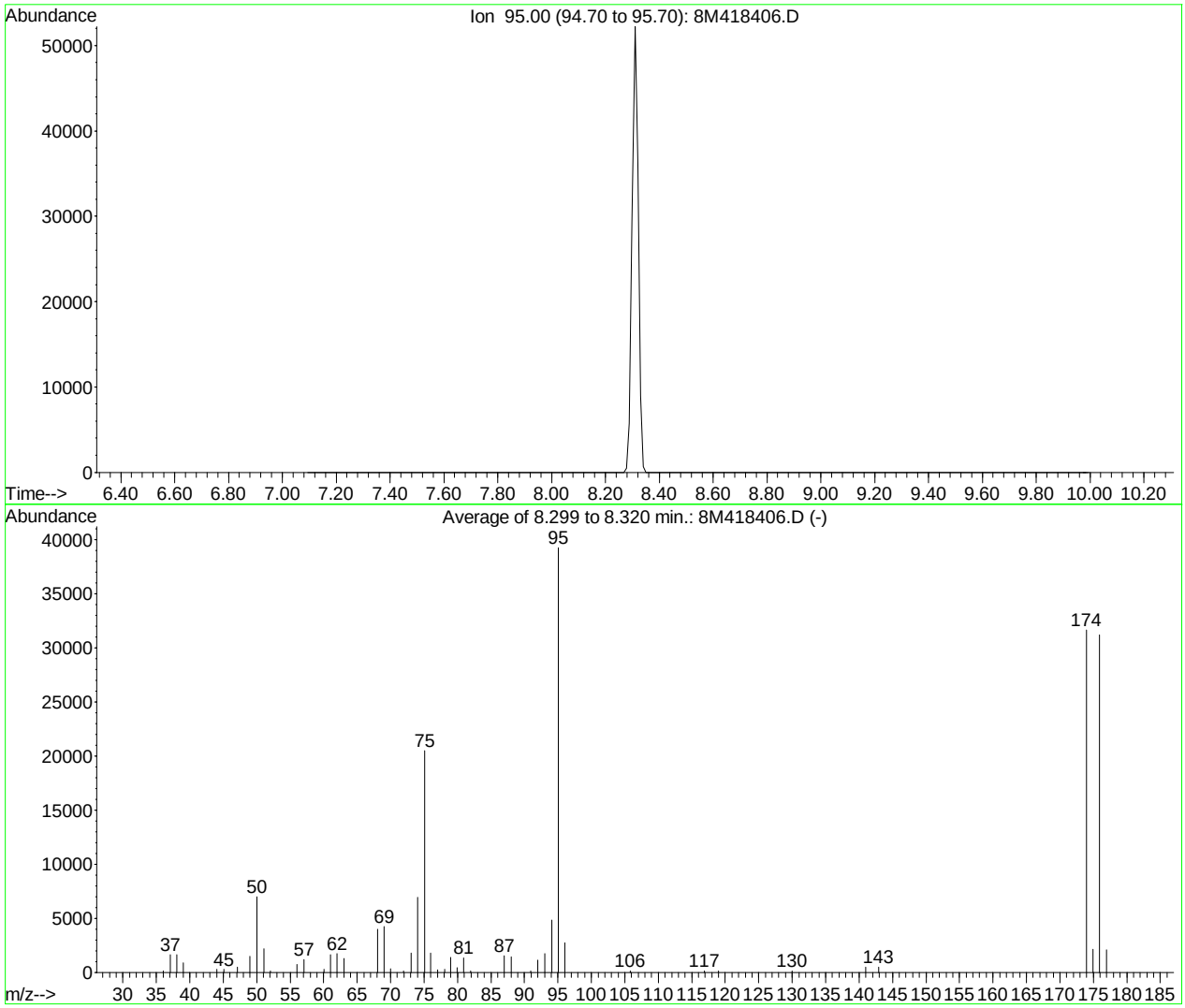


AutoFind: Scans 165, 166, 167; Background Corrected with Scan 160

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.8	9241	PASS
75	95	30	60	48.6	19685	PASS
95	95	100	100	100.0	40504	PASS
96	95	5	9	6.6	2667	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	70.0	28341	PASS
175	174	5	9	7.5	2138	PASS
176	174	95	101	97.2	27539	PASS
177	176	5	9	7.2	1995	PASS

11M16435.D 8260WTR.M Wed Mar 01 08:59:19 2017

```
Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032117\8M418406.D Vial: 1
Acq On    : 21 Mar 2017  15:10                    Operator: TMB
Sample    : WG607066-01 50ng BFB STD 8260         Inst    : HPMS8
Misc      : 1,1 STD80989                          Multiplr: 1.00
MS Integration Params: RTEINT.P
Method    : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title     : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
```



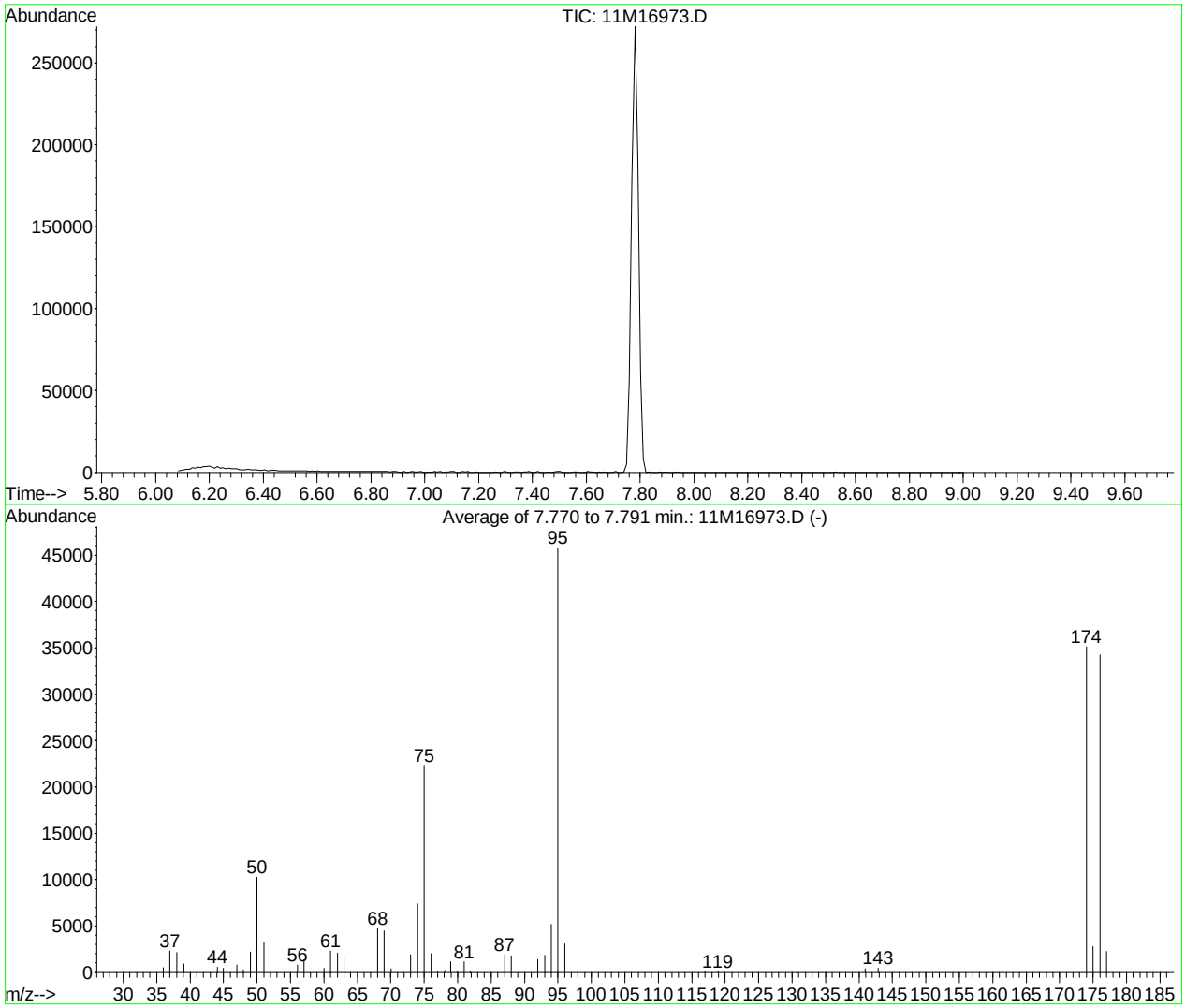
AutoFind: Scans 119, 120, 121; Background Corrected with Scan 114

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.8	6993	PASS
75	95	30	60	52.2	20477	PASS
95	95	100	100	100.0	39240	PASS
96	95	5	9	6.9	2704	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	80.6	31623	PASS
175	174	5	9	6.8	2141	PASS
176	174	95	101	98.6	31189	PASS
177	176	5	9	6.6	2060	PASS

8M418406.D 8260WTR.M Thu Mar 23 08:41:50 2017

BFB

Data File : C:\MSDCHEM\1\DATA\032317\11M16973.D Vial: 1
Acq On : 23 Mar 2017 13:10 Operator: JDS
Sample : WG607453-01 50ng BFB Inst : hpms11
Misc : 1,1 STD80536 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11



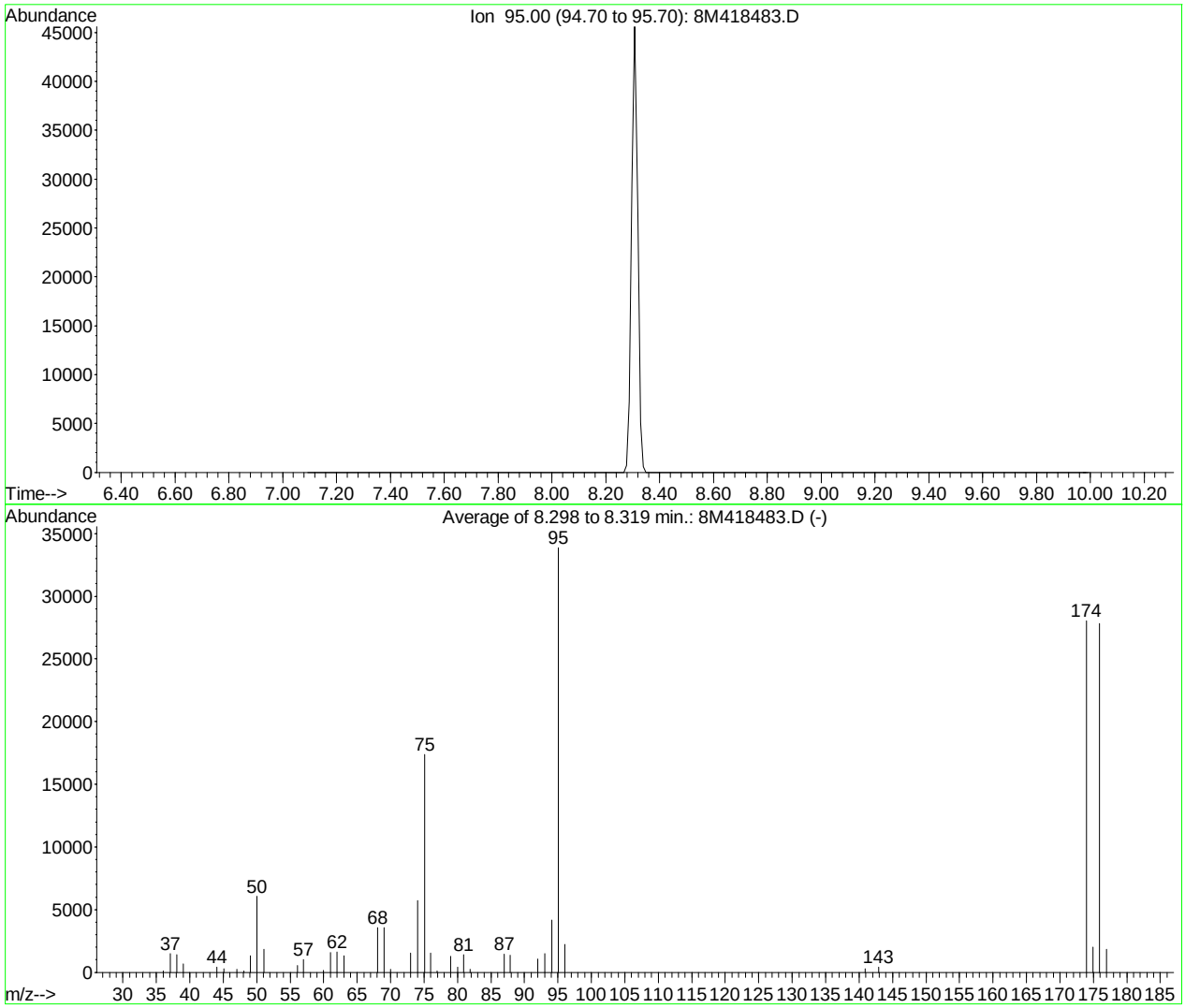
AutoFind: Scans 164, 165, 166; Background Corrected with Scan 159

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.3	10218	PASS
75	95	30	60	48.7	22306	PASS
95	95	100	100	100.0	45805	PASS
96	95	5	9	6.7	3063	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	76.6	35101	PASS
175	174	5	9	7.8	2754	PASS
176	174	95	101	97.5	34237	PASS
177	176	5	9	6.6	2264	PASS

11M16973.D 8260WTR.M Thu Mar 23 17:47:02 2017

BFB

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032417\8M418483.D Vial: 1
Acq On : 24 Mar 2017 9:24 Operator: TMB
Sample : WG607571-01 50ng BFB STD 8260 Inst : HPMS8
Misc : 1,1 STD80989 Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8



AutoFind: Scans 119, 120, 121; Background Corrected with Scan 114

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.9	6077	PASS
75	95	30	60	51.3	17371	PASS
95	95	100	100	100.0	33877	PASS
96	95	5	9	6.6	2226	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	82.8	28050	PASS
175	174	5	9	7.1	1998	PASS
176	174	95	101	99.2	27824	PASS
177	176	5	9	6.6	1840	PASS

8M418483.D 8260WTR.M Fri Mar 24 12:52:26 2017

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\032317\11M16976.D Vial: 3
Acq On : 23 Mar 2017 14:35 Operator: JDS
Sample : WG607454-01 BLK 8260 Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 29 18:43:14 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

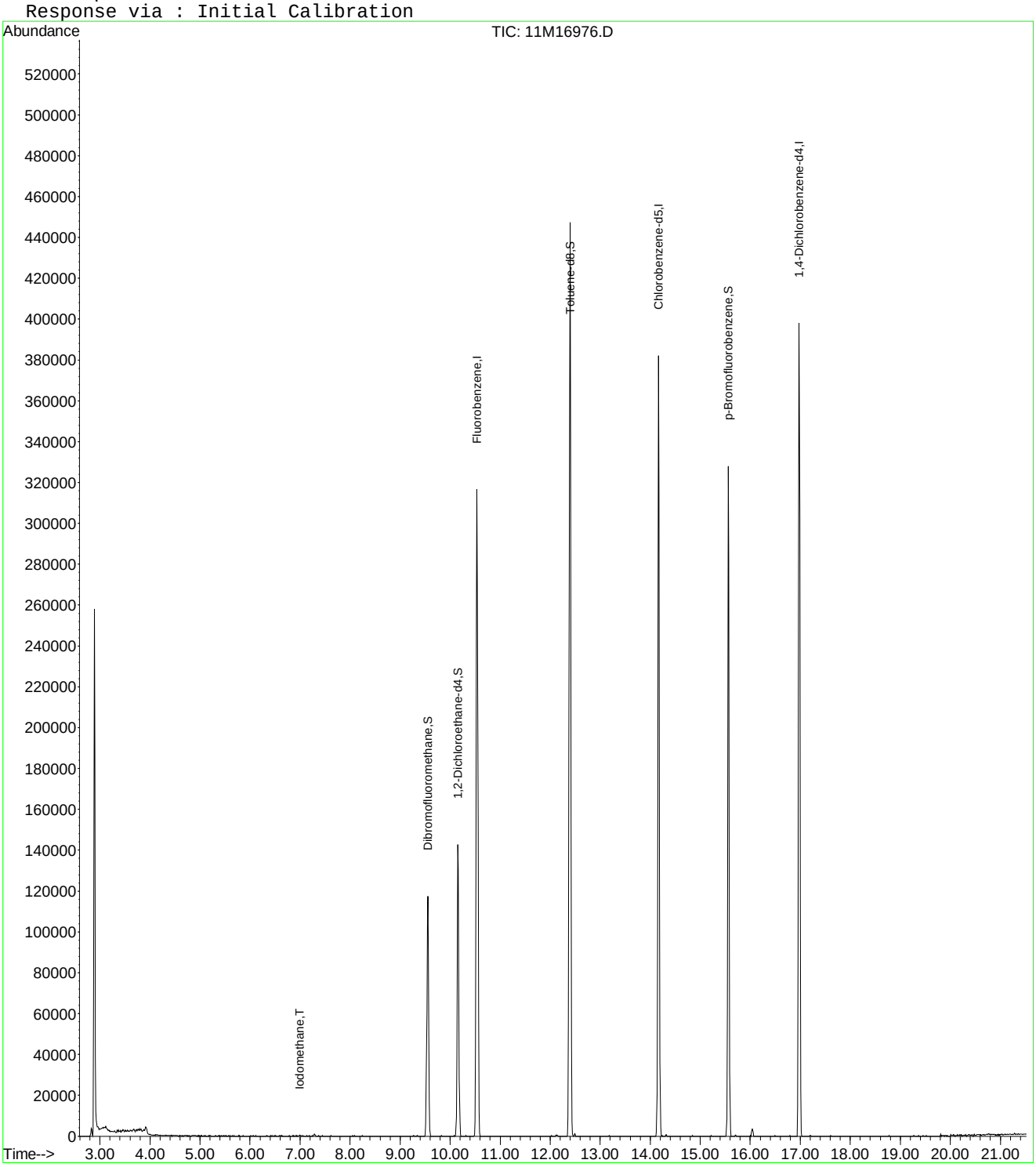
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.54	96	354178	25.00 ug/L	-0.01
56) Chlorobenzene-d5	14.17	117	249570	25.00 ug/L	-0.02
76) 1,4-Dichlorobenzene-d4	16.98	152	123635	25.00 ug/L	-0.02
System Monitoring Compounds					
37) Dibromofluoromethane	9.55	111	95719	26.0993 ug/L	-0.01
Spiked Amount 25.000	Range 86 - 118		Recovery = 104.40%		
43) 1,2-Dichloroethane-d4	10.15	65	120842	27.1141 ug/L	-0.02
Spiked Amount 25.000	Range 80 - 120		Recovery = 108.44%		
57) Toluene-d8	12.40	98	370796	26.4162 ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery = 105.68%		
78) p-Bromofluorobenzene	15.56	95	137453	26.5397 ug/L	-0.02
Spiked Amount 25.000	Range 86 - 115		Recovery = 106.16%		
Target Compounds					Qvalue
17) Iodomethane	6.99	142	983	2.2004 ug/L #	32

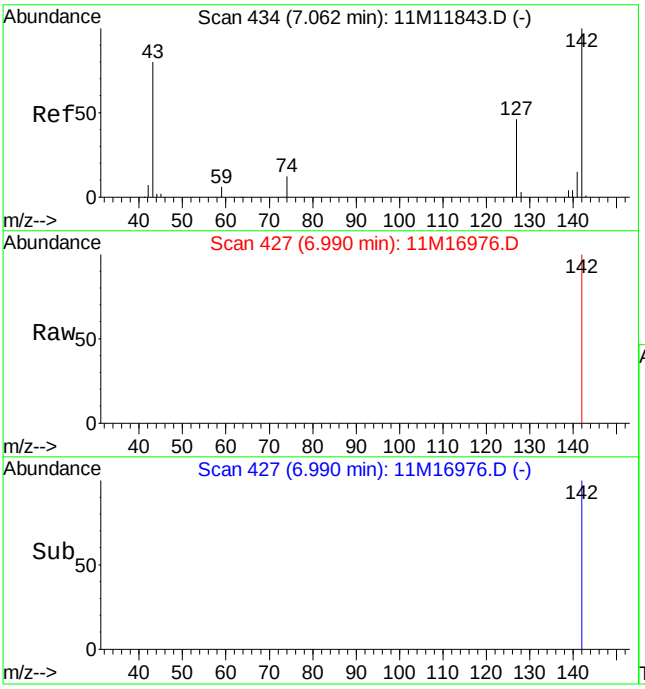
(#) = qualifier out of range (m) = manual integration
11M16976.D 8260WTR.M Wed Mar 29 18:43:14 2017 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\032317\11M16976.D Vial: 3
Acq On : 23 Mar 2017 14:35 Operator: JDS
Sample : WG607454-01 BLK 8260 Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 29 18:43 2017 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration

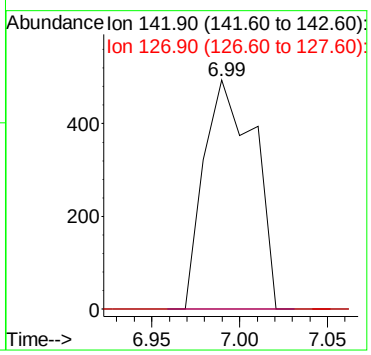




#17
Iodomethane
Concen: 2.20 ug/L
RT: 6.99 min Scan# 427
Delta R.T. -0.01 min
Lab File: 11M16976.D
Acq: 23 Mar 2017 14:35

Tgt Ion:142 Resp: 983

Ion	Ratio	Lower	Upper
142	100		
127	0.0	26.2	61.2#



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032417\8M418487.D Vial: 5
Acq On : 24 Mar 2017 11:21 Operator: TMB
Sample : WG607572-01 VBLK0324 BLANK STD 8260 Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 27 08:22:51 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

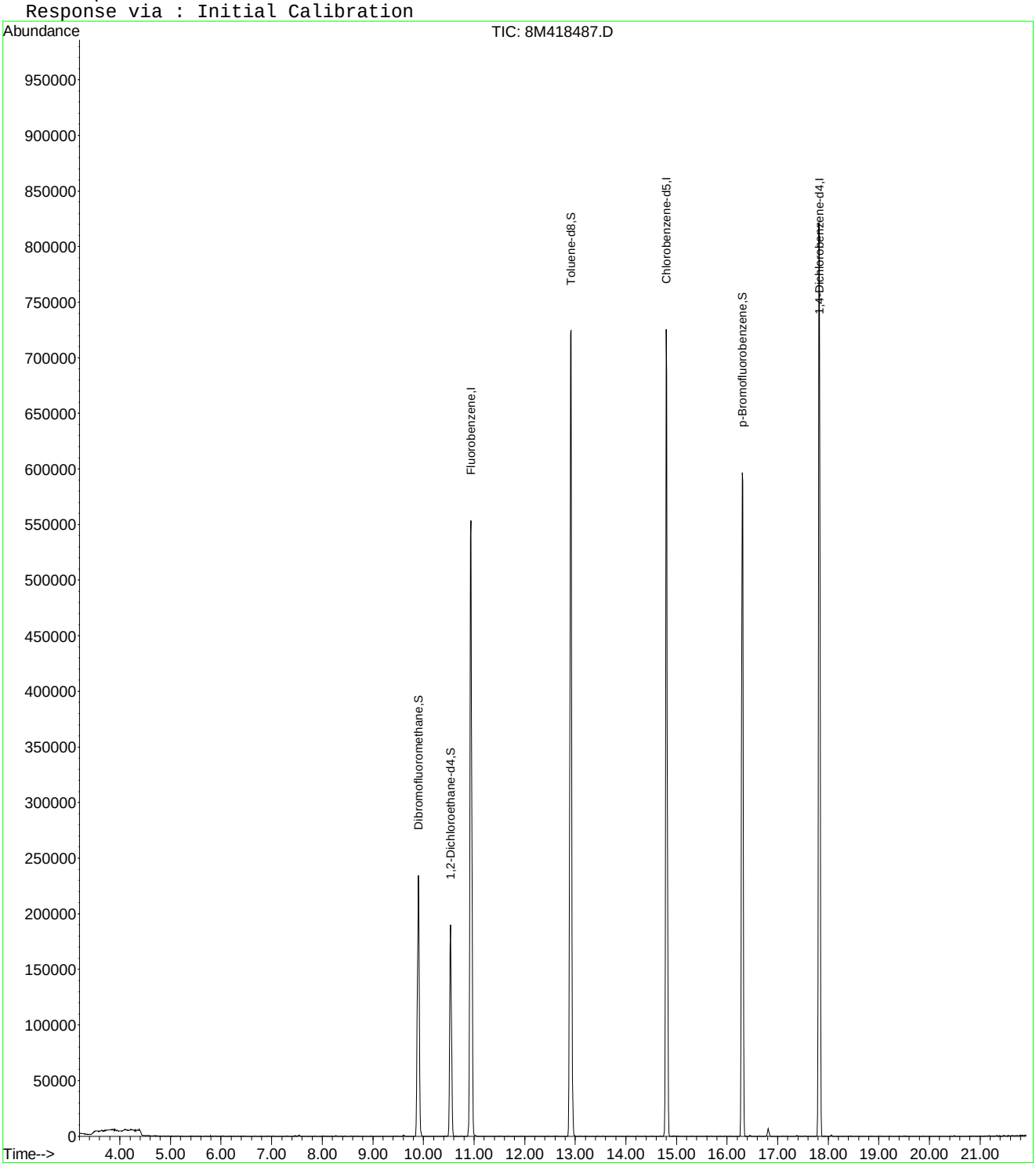
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.94	96	708511	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.80	117	546958	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.83	152	286866	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.90	111	192187	23.9173	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 95.68%			
43) 1,2-Dichloroethane-d4	10.54	65	163817	23.5250	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 94.12%			
58) Toluene-d8	12.92	98	689415	25.0574	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.24%			
80) p-Bromofluorobenzene	16.30	95	266263	24.5282	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 98.12%			

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
8M418487.D 8260WTR.M Mon Mar 27 08:22:54 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032417\8M418487.D Vial: 5
Acq On : 24 Mar 2017 11:21 Operator: TMB
Sample : WG607572-01 VBLK0324 BLANK STD 8260 Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 27 8:22 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\032317\11M16977.D Vial: 4
Acq On : 23 Mar 2017 15:05 Operator: JDS
Sample : WG607454-02 20ug/L LCS 8260 Inst : hpms11
Misc : 1,1 STD80765 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 29 18:36:23 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.54	96	327137	25.00	ug/L	-0.01
56) Chlorobenzene-d5	14.17	117	229108	25.00	ug/L	-0.02
76) 1,4-Dichlorobenzene-d4	16.98	152	117841	25.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.55	111	85677	25.2922	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 118		Recovery = 101.16%			
43) 1,2-Dichloroethane-d4	10.15	65	105837	25.7103	ug/L	-0.02
Spiked Amount 25.000	Range 80 - 120		Recovery = 102.84%			
57) Toluene-d8	12.40	98	336712	26.1304	ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery = 104.52%			
78) p-Bromofluorobenzene	15.56	95	127152	25.7578	ug/L	-0.02
Spiked Amount 25.000	Range 86 - 115		Recovery = 103.04%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.22	85	120866	23.6246	ug/L	98
3) Chloromethane	3.67	50	130449	19.1219	ug/L	99
4) Vinyl Chloride	3.89	62	110883	20.4298	ug/L	99
5) 1,3-Butadiene	3.93	54	55075	22.5423	ug/L	99
6) Bromomethane	4.78	94	62002	18.0528	ug/L	98
7) Chloroethane	4.94	64	74994	21.8799	ug/L	97
8) Trichlorofluoromethane	5.42	101	125960	20.2883	ug/L	100
9) Diethyl ether	5.94	59	392687	103.9564	ug/L	99
10) Isoprene	5.98	67	136258	21.7188	ug/L	99
11) Acrolein	6.16	56	51600	146.4770	ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	6.18	101	73752	21.7138	ug/L	99
13) Acetone	6.27	43	24966	25.7882	ug/L	93
14) 1,1-Dichloroethene	6.48	61	148238	21.5651	ug/L	100
15) Tert-Butyl Alcohol	6.60	59	92974	454.7925	ug/L	98
16) Dimethyl Sulfide	6.74	62	116569	22.0111	ug/L	99
17) Iodomethane	6.99	142	103474	24.5703	ug/L	99
18) Methyl acetate	7.00	43	75804	25.0350	ug/L	99
19) Methylene Chloride	7.24	84	91113	21.9051	ug/L	99
20) Carbon Disulfide	7.29	76	208415	18.0690	ug/L	98
21) Acrylonitrile	7.41	53	35590	24.5038	ug/L	98
22) Methyl Tert Butyl Ether	7.44	73	238353	22.6851	ug/L	100
23) trans-1,2-Dichloroethene	7.68	96	84442	22.1098	ug/L	99
24) n-Hexane	7.74	57	134903	21.6347	ug/L	99
25) Diisopropyl ether	8.08	45	1597889	100.5096	ug/L	97
26) Vinyl Acetate	8.24	43	187128	25.1656	ug/L	100
27) 1,1-Dichloroethane	8.27	63	183174	22.0625	ug/L	100
28) Ethyl-Tert-Butyl ether	8.62	59	1399731	101.1888	ug/L	98
29) 2-Butanone	8.80	43	41235	25.2832	ug/L	98
30) Propionitrile	8.91	54	63694	137.3413	ug/L	98
31) 2,2-Dichloropropane	9.02	77	129239	21.6503	ug/L	99
32) cis-1,2-Dichloroethene	9.08	96	97161	21.8347	ug/L	99
33) Chloroform	9.27	83	160965	22.2641	ug/L	98
34) 1-Bromopropane	9.41	122	21840	26.0853	ug/L	94
35) Bromochloromethane	9.50	130	54567	22.4304	ug/L	98
36) Tetrahydrofuran	9.52	42	138689	116.6413	ug/L	100
38) 1,1,1-Trichloroethane	9.78	97	139781	21.8404	ug/L	100
39) Cyclohexane	9.81	56	163149	19.1080	ug/L	99
40) 1,1-Dichloropropene	9.97	75	118930	21.9519	ug/L	99
41) Carbon Tetrachloride	10.11	117	117152	21.5419	ug/L	99
42) Tert-Amyl-Methyl ether	10.06	73	1157737	103.9355	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M16977.D 8260WTR.M Wed Mar 29 18:36:24 2017 Page 1

Data File : C:\MSDCHEM\1\DATA\032317\11M16977.D Vial: 4
Acq On : 23 Mar 2017 15:05 Operator: JDS
Sample : WG607454-02 20ug/L LCS 8260 Inst : hpms11
Misc : 1,1 STD80765 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 29 18:36:23 2017 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

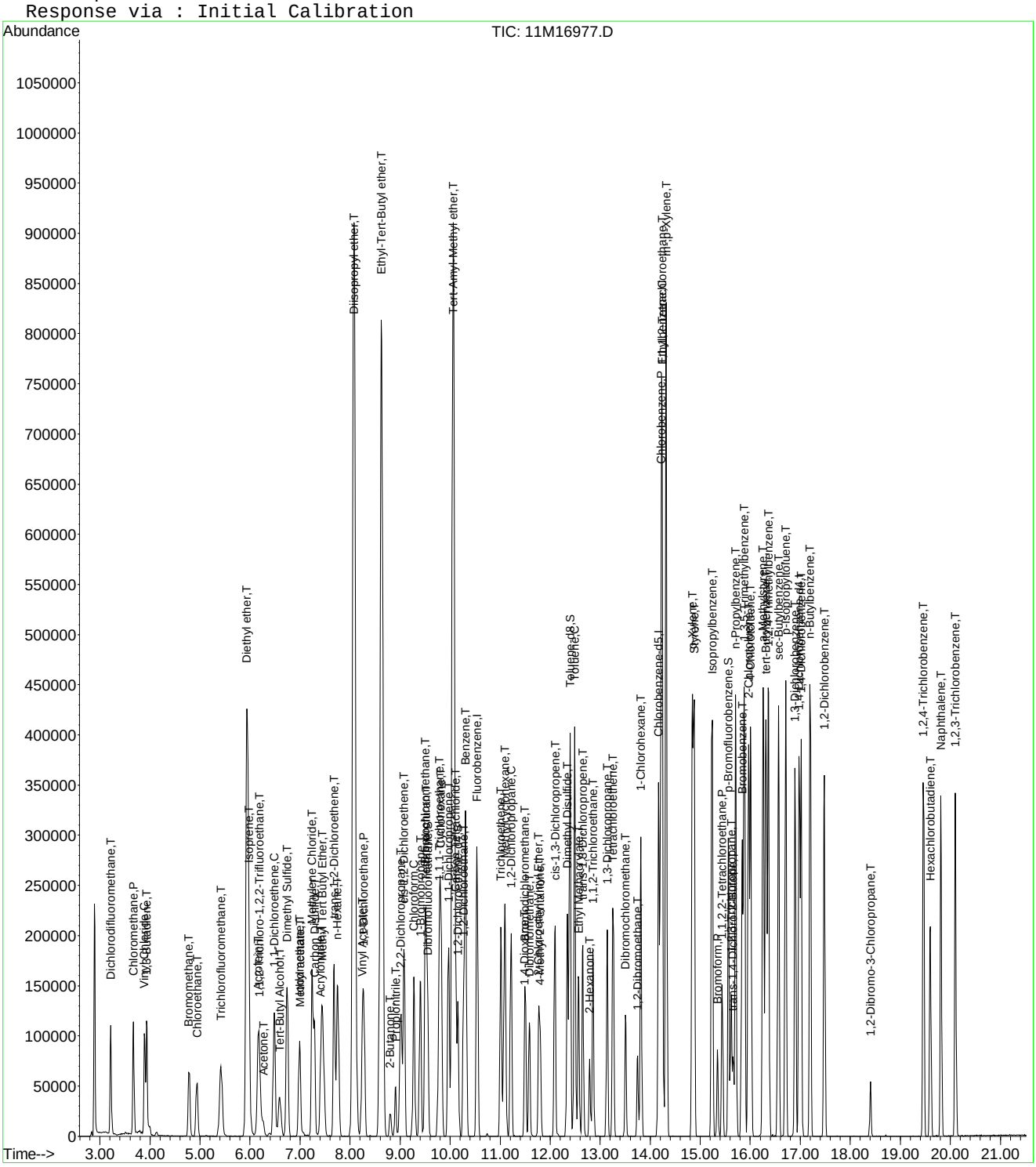
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44)	1,2-Dichloroethane	10.27	62	131665	22.9462	ug/L	98
45)	Benzene	10.31	78	356507	22.8770	ug/L	97
46)	Trichloroethene	11.01	130	83121	21.0360	ug/L	98
47)	Methylcyclohexane	11.09	83	134563	20.0211	ug/L	99
48)	1,2-Dichloropropane	11.22	63	104365	22.3104	ug/L	99
49)	1,4-Dioxane	11.49	88	7715	501.8477	ug/L	85
50)	Bromodichloromethane	11.50	83	114428	21.5257	ug/L	100
51)	Dibromomethane	11.58	93	51949	22.6407	ug/L	99
52)	2-Chloroethyl Vinyl Ether	11.77	63	57570	21.1132	ug/L	98
53)	4-Methyl-2-Pentanone	11.80	58	35168	23.9170	ug/L	99
54)	cis-1,3-Dichloropropene	12.10	75	146214	22.8384	ug/L	100
55)	Dimethyl Disulfide	12.35	79	78072	19.8236	ug/L	92
58)	Toluene	12.49	91	365081	21.2717	ug/L	97
59)	Ethyl Methacrylate	12.57	69	108487	23.8084	ug/L	96
60)	trans-1,3-Dichloropropene	12.66	75	123463	22.3029	ug/L	97
61)	1,1,2-Trichloroethane	12.85	97	75432	22.8232	ug/L	98
62)	2-Hexanone	12.79	43	64639	25.8084	ug/L	100
63)	1,3-Dichloropropane	13.14	76	132795	23.5273	ug/L	97
64)	Tetrachloroethene	13.26	164	67416	21.2485	ug/L	97
65)	Dibromochloromethane	13.50	129	81146	21.4111	ug/L	99
66)	1,2-Dibromoethane	13.75	107	67939	22.3137	ug/L	100
67)	1-Chlorohexane	13.81	91	114509	21.7253	ug/L	99
68)	Chlorobenzene	14.22	112	227136	22.1492	ug/L	97
69)	1,1,1,2-Tetrachloroethane	14.24	131	81347	21.1805	ug/L	98
70)	Ethylbenzene	14.24	106	129491	22.6970	ug/L	85
71)	m-,p-Xylene	14.32	106	303731	45.2236	ug/L	83
72)	o-Xylene	14.85	106	151905	22.3299	ug/L	90
73)	Styrene	14.88	104	251106	22.8395	ug/L	97
74)	Bromoform	15.34	173	51394	21.0406	ug/L	98
75)	Isopropylbenzene	15.24	105	375805	21.1499	ug/L	95
77)	1,1,2,2-Tetrachloroethane	15.44	83	98347	24.2693	ug/L	98
79)	1,2,3-Trichloropropane	15.62	110	27926	24.0126	ug/L	89
80)	trans-1,4-Dichloro-2-Buten	15.65	53	24462	17.2540	ug/L	76
81)	n-Propylbenzene	15.71	91	460474	21.1619	ug/L	93
82)	Bromobenzene	15.84	156	100759	22.0881	ug/L	99
83)	1,3,5-Trimethylbenzene	15.88	105	326483	21.4049	ug/L	95
84)	2-Chlorotoluene	15.96	91	287606	19.2149	ug/L	96
85)	4-Chlorotoluene	16.01	91	290413	23.0977	ug/L	96
86)	a-Methylstyrene	16.25	118	171451	22.6913	ug/L	100
87)	tert-Butylbenzene	16.32	134	67464	20.5279	ug/L	88
88)	1,2,4-Trimethylbenzene	16.37	105	332586	21.1113	ug/L	96
89)	sec-Butylbenzene	16.56	105	403496	21.7182	ug/L	94
90)	p-Isopropyltoluene	16.71	119	346551	22.2995	ug/L	94
91)	1,3-Dichlorobenzene	16.90	146	187270	22.0410	ug/L	97
92)	1,4-Dichlorobenzene	17.02	146	188865	21.9413	ug/L	97
93)	n-Butylbenzene	17.19	91	329901	22.4887	ug/L	95
94)	1,2-Dichlorobenzene	17.48	146	184313	23.1541	ug/L	98
95)	1,2-Dibromo-3-Chloropropan	18.40	75	17693	23.2783	ug/L	96
96)	1,2,4-Trichlorobenzene	19.46	180	136543	23.7758	ug/L	97
97)	Hexachlorobutadiene	19.60	225	59235	20.4618	ug/L	98
98)	Naphthalene	19.81	128	316098	25.8693	ug/L	97
99)	1,2,3-Trichlorobenzene	20.10	180	129872	23.6268	ug/L	98

(#) = qualifier out of range (m) = manual integration
11M16977.D 8260WTR.M Wed Mar 29 18:36:24 2017 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\032317\11M16977.D Vial: 4
Acq On : 23 Mar 2017 15:05 Operator: JDS
Sample : WG607454-02 20ug/L LCS 8260 Inst : hpms11
Misc : 1,1 STD80765 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 29 18:36 2017 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 022517 HPMS11
Last Update : Tue Feb 28 14:56:34 2017
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032417\8M418493.D Vial: 11
Acq On : 24 Mar 2017 14:22 Operator: TMB
Sample : WG607572-02 20ug/L LCS STD 8260 Inst : HPMS8
Misc : 1,1 STD81038 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 15:18:23 2017 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.94	96	702130	25.00 ug/L	0.00
57) Chlorobenzene-d5	14.81	117	539518	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.83	152	296683	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.89	111	192035	24.1156 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 96.48%		
43) 1,2-Dichloroethane-d4	10.54	65	160379	23.2406 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 92.96%		
58) Toluene-d8	12.91	98	683463	25.1836 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.72%		
80) p-Bromofluorobenzene	16.31	95	264765	23.5832 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 94.32%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.34	85	214526	19.5041 ug/L	99
3) Chloromethane	3.83	50	277487	20.8183 ug/L	100
4) Vinyl Chloride	4.05	62	261957	21.0187 ug/L	99
5) 1,3-Butadiene	4.09	54	101272	21.9685 ug/L	99
6) Bromomethane	4.97	94	113769	18.0216 ug/L	100
7) Chloroethane	5.13	64	99560	19.6951 ug/L	99
8) Trichlorofluoromethane	5.62	101	252019	18.6862 ug/L	99
9) Diethyl ether	6.14	59	386690	88.6515 ug/L	99
10) Isoprene	6.18	67	209014	20.0578 ug/L	99
11) Acrolein	6.38	56	32892	58.9747 ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.40	101	144987	19.9858 ug/L	100
13) Acetone	6.48	43	15080	17.9595 ug/L	99
14) 1,1-Dichloroethene	6.71	61	190389	18.8078 ug/L	100
15) Tert-Butyl Alcohol	6.81	59	50515	189.0180 ug/L	95
16) Dimethyl Sulfide	6.98	62	140727	19.5574 ug/L	99
17) Iodomethane	7.24	142	119015	14.4989 ug/L	98
18) Methyl acetate	7.24	43	45447	18.9275 ug/L	99
19) Methylene Chloride	7.50	84	144814	18.7870 ug/L	100
20) Carbon Disulfide	7.54	76	381474	16.5452 ug/L	100
21) Acrylonitrile	7.67	53	22188	18.8924 ug/L	97
22) Methyl Tert Butyl Ether	7.70	73	276818	18.6571 ug/L	98
23) trans-1,2-Dichloroethene	7.94	61	184017	18.7484 ug/L	99
24) n-Hexane	8.01	57	152935	18.3947 ug/L	99
25) Diisopropyl ether	8.35	45	1794371	95.7121 ug/L	100
26) Vinyl Acetate	8.53	43	119701	16.2239 ug/L	99
27) 1,1-Dichloroethane	8.56	63	243871	19.0512 ug/L	100
28) Ethyl-Tert-Butyl ether	8.93	59	1643901	91.5806 ug/L	100
29) 2-Butanone	9.11	43	23834	17.6175 ug/L	94
30) Propionitrile	9.22	54	39879	99.5757 ug/L	98
31) 2,2-Dichloropropane	9.34	77	203146	17.7892 ug/L	100
32) cis-1,2-Dichloroethene	9.40	96	161371	19.3709 ug/L	98
33) Chloroform	9.61	83	274835	18.5242 ug/L	99
34) 1-Bromopropane	9.75	122	39643	24.9087 ug/L	99
35) Bromochloromethane	9.84	130	86076	19.2351 ug/L	99
36) Tetrahydrofuran	9.86	42	77323	89.8087 ug/L	99
38) 1,1,1-Trichloroethane	10.14	97	244899	20.0683 ug/L	100
39) Cyclohexane	10.17	56	181176	17.1795 ug/L	99
40) 1,1-Dichloropropene	10.34	75	202862	19.3566 ug/L	100
41) Tert-Amyl-Methyl ether	10.43	73	1631548	97.3966 ug/L	99
42) Carbon Tetrachloride	10.48	117	223472	20.4668 ug/L	100

(#) = qualifier out of range (m) = manual integration
8M418493.D 8260WTR.M Fri Mar 24 15:18:26 2017 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032417\8M418493.D Vial: 11
Acq On : 24 Mar 2017 14:22 Operator: TMB
Sample : WG607572-02 20ug/L LCS STD 8260 Inst : HPMS8
Misc : 1,1 STD81038 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 15:18:23 2017 Quant Results File: 8260WTR.RES

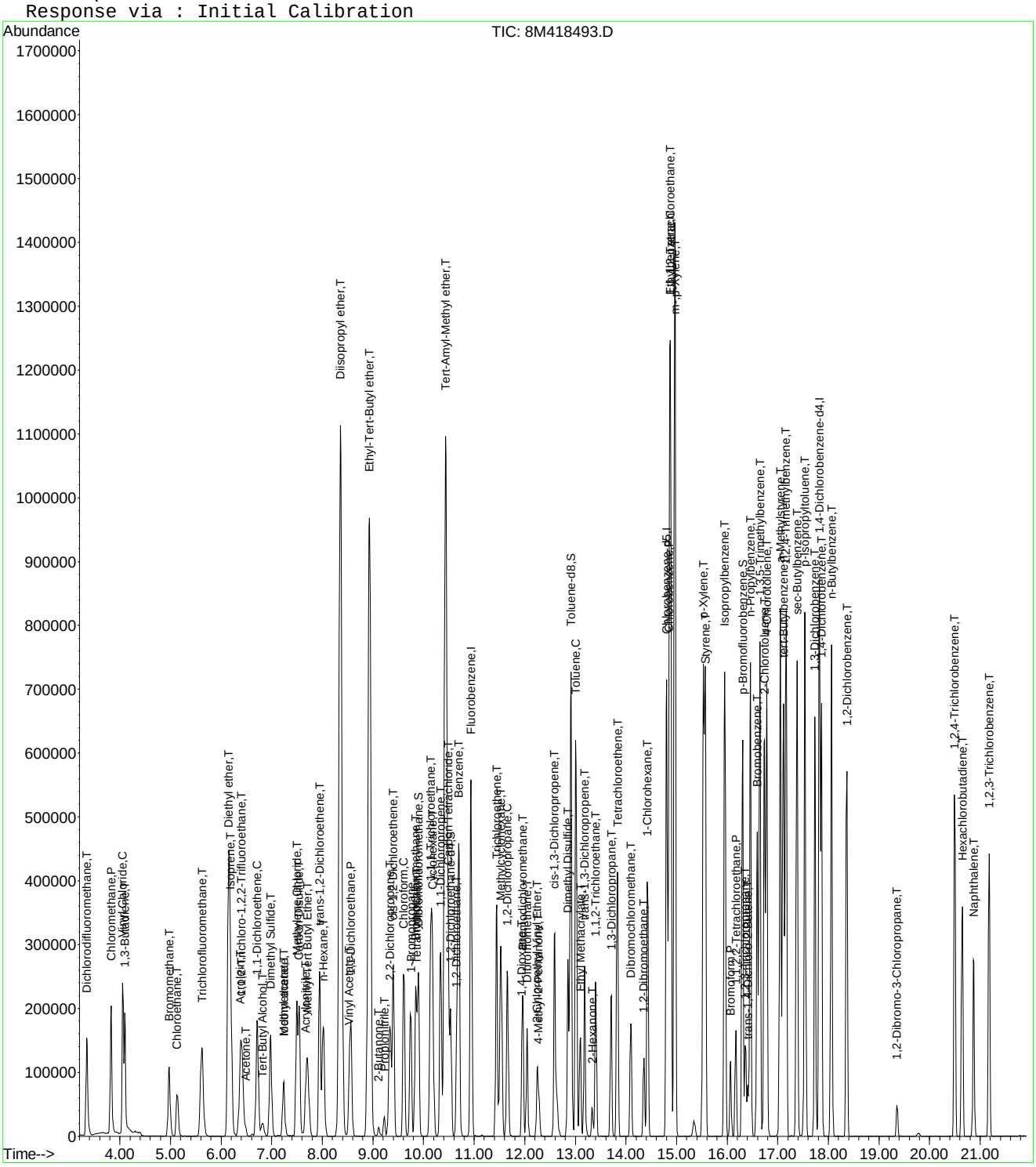
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.65	62	157183	18.7651	ug/L	99
46)	Benzene	10.69	78	598833	19.8150	ug/L	99
47)	Trichloroethene	11.45	130	156164	19.3252	ug/L	99
48)	Methylcyclohexane	11.53	83	213198	17.5579	ug/L	99
49)	1,2-Dichloropropane	11.65	63	134724	19.3886	ug/L	99
50)	Bromodichloromethane	11.95	83	185655	18.8994	ug/L	98
51)	1,4-Dioxane	11.94	88	5012	150.1022	ug/L	90
52)	Dibromomethane	12.05	93	75160	20.1842	ug/L	99
53)	2-Chloroethyl Vinyl Ether	12.24	63	58681	18.5719	ug/L	97
54)	4-Methyl-2-Pentanone	12.27	58	23335	17.2561	ug/L	97
55)	cis-1,3-Dichloropropene	12.58	75	227651	19.9660	ug/L	99
56)	Dimethyl Disulfide	12.85	79	114928	18.9216	ug/L	92
59)	Toluene	13.01	91	636603	19.8386	ug/L	98
60)	Ethyl Methacrylate	13.10	69	129112	20.8083	ug/L	94
62)	trans-1,3-Dichloropropene	13.18	75	178827	18.8931	ug/L	99
63)	1,1,2-Trichloroethane	13.40	97	95632	18.9195	ug/L	97
64)	2-Hexanone	13.34	58	22175	18.2995	ug/L	100
65)	1,3-Dichloropropane	13.71	76	180328	19.9238	ug/L	96
66)	Tetrachloroethene	13.83	164	131446	18.9051	ug/L	100
67)	Dibromochloromethane	14.09	129	122331	18.5880	ug/L	100
68)	1,2-Dibromoethane	14.35	107	99032	19.0947	ug/L	99
69)	1-Chlorohexane	14.42	91	206561	18.8882	ug/L	99
70)	Chlorobenzene	14.85	112	421693	18.6718	ug/L	100
71)	1,1,1,2-Tetrachloroethane	14.88	131	151246	18.0132	ug/L	99
72)	Ethylbenzene	14.88	106	241367	19.2575	ug/L	94
73)	m-,p-Xylene	14.97	106	585734	38.9650	ug/L	94
74)	o-Xylene	15.53	106	282137	18.9271	ug/L	100
75)	Styrene	15.57	104	480763	19.9784	ug/L	98
76)	Bromoform	16.07	173	72219	18.6426	ug/L	99
77)	Isopropylbenzene	15.95	105	698801	19.3766	ug/L	98
79)	1,1,2,2-Tetrachloroethane	16.17	83	107362	18.5671	ug/L	100
81)	1,2,3-Trichloropropane	16.36	110	31804	19.3195	ug/L	80
82)	trans-1,4-Dichloro-2-Buten	16.41	53	18545	13.6730	ug/L	56
83)	n-Propylbenzene	16.46	91	831069	19.0184	ug/L	98
84)	Bromobenzene	16.59	156	181138	18.7294	ug/L	99
85)	1,3,5-Trimethylbenzene	16.65	105	609875	19.3234	ug/L	98
86)	2-Chlorotoluene	16.74	91	555881	18.9252	ug/L	96
87)	4-Chlorotoluene	16.78	91	479363	18.6808	ug/L	99
88)	a-Methylstyrene	17.05	118	344127	19.5045	ug/L	100
89)	tert-Butylbenzene	17.11	134	125491	18.0038	ug/L	96
90)	1,2,4-Trimethylbenzene	17.16	105	633698	19.3128	ug/L	98
91)	sec-Butylbenzene	17.38	105	747914	19.0912	ug/L	98
92)	p-Isopropyltoluene	17.54	119	624619	19.4645	ug/L	98
93)	1,3-Dichlorobenzene	17.73	146	356262	18.4799	ug/L	98
94)	1,4-Dichlorobenzene	17.87	146	359989	18.5397	ug/L	100
95)	n-Butylbenzene	18.06	91	590982	18.9815	ug/L	98
96)	1,2-Dichlorobenzene	18.36	146	313303	18.6510	ug/L	99
97)	1,2-Dibromo-3-Chloropropan	19.36	75	16497	18.1789	ug/L	99
98)	1,2,4-Trichlorobenzene	20.49	180	216818	17.2567	ug/L	99
99)	Hexachlorobutadiene	20.65	225	99609	16.2154	ug/L	100
100)	Naphthalene	20.88	128	293727	17.7003	ug/L	100
101)	1,2,3-Trichlorobenzene	21.18	180	178756	17.2043	ug/L	99

(#) = qualifier out of range (m) = manual integration
8M418493.D 8260WTR.M Fri Mar 24 15:18:26 2017 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\032417\8M418493.D Vial: 11
Acq On : 24 Mar 2017 14:22 Operator: TMB
Sample : WG607572-02 20ug/L LCS STD 8260 Inst : HPMS8
Misc : 1,1 STD81038 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 15:18 2017 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WTR.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 03-21-17 HPMS8
Last Update : Thu Mar 23 10:18:22 2017
Response via : Initial Calibration



8M418493.D 8260WTR.M Fri Mar 24 15:18:27 2017 Page 3

2.2 General Chemistry Data

2.2.1 Method 9056

2.2.1.1 Summary Data

Microbac

Lab Report #: L17031141
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031141-01	**PrePrep Method:**	N/A	**Instrument:**	IC3
Client ID:	LH18/24-SP650-6425	**Prep Method:**	9056	**Prep Date:**	03/22/2017 15:40
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	12/01/2016 17:22
Workgroup #:	WG607290	**Analyst:**	CAS	**Run Date:**	03/22/2017 19:04
Collect Date:	03/20/2017 15:00	**Dilution:**	50	**File ID:**	I3_032217-13
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfate	14808-79-8	115		100	50.0	25.0

J	Estimated value ; the analyte concentration was greater than the highest standard

Microbac

Lab Report #: L17031141
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031141-01	**PrePrep Method:**	N/A	**Instrument:**	IC3
Client ID:	LH18/24-SP650-6425	**Prep Method:**	9056	**Prep Date:**	03/22/2017 15:40
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	12/01/2016 17:22
Workgroup #:	WG607290	**Analyst:**	CAS	**Run Date:**	03/22/2017 19:24
Collect Date:	03/20/2017 15:00	**Dilution:**	500	**File ID:**	I3_032217-14
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	4270		200	100	50.0

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

Microbac

Lab Report #: L17031141
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

2.2.1.2 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: IC3 Dataset: 120116 IC3 ICAL.SEQ_OL
Analyst1: CAS Analyst2: NA
Method: 300/9056 SOP: IC01 Rev: 19

Maintenance Log ID: Syringe Filter Lot#: 160109254
Eluent ID#: RGT385836

Workgroups: Column 1 ID: AG14A-4MM Column 2 ID: AS14A-4MM
Analytical WGs: 593355 (LOD/LOQ Waters) 593356 (LOD/LOQ Soils)
Internal STD: NA Surrogate STD: NA Calibration STD STD77046 01-DEC-2016
CCV STD: STD77046 LCS STD: STD79166 MS/MSD STD: NA

Comments: System Backpressure: 2166 psi

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I3_120116-01	ELUENT	1	1		12/01/16 15:00
2	I3_120116-02	DI WATER	1	1		12/01/16 15:20
3	I3_120116-03	WG593545-01 STD	1	1	STD77046	12/01/16 15:40
4	I3_120116-04	WG593545-02 STD	1	1	STD77046	12/01/16 16:01
5	I3_120116-05	WG593545-03 STD	1	1	STD77046	12/01/16 16:21
6	I3_120116-06	WG593545-04 STD	1	1	STD77046	12/01/16 16:41
7	I3_120116-07	WG593545-05 STD	1	1	STD77046	12/01/16 17:02
8	I3_120116-08	WG593545-06 STD	1	1	STD77046	12/01/16 17:22
9	I3_120116-09	WG593545-07 SSCV	1	1	STD79166	12/01/16 17:43
10	I3_120116-10	LCRV @ Lvl 6	1	1	STD79166	12/01/16 18:03
11	I3_120116-11	LCRV @ Lvl 4	1	1	STD79166	12/01/16 18:23
12	I3_120116-12	LCRV @ Lvl 2	1	1	STD79166	12/01/16 18:44
13	I3_120116-13	LCRV @ Lvl 0	1	1		12/01/16 19:04
14	I3_120116-14	WG593357-01 ANION CCV	1	1	STD77046	12/01/16 19:24
15	I3_120116-15	WG593357-02 ANION CCB	1	1		12/01/16 19:45
16	I3_120116-16	WG593355-01 ANION BLANK	1	1		12/01/16 20:05
17	I3_120116-17	WG593355-02 ANION LCS	1	1	STD79166	12/01/16 20:25
18	I3_120116-18	WG593355-03 ANION LCS2	1	1	STD79166	12/01/16 20:46
19	I3_120116-19	L16100002-01 LOD (F,CL,BR,SO4)	1	1		12/01/16 21:06
20	I3_120116-20	L16100002-01 LOD (NO2,NO3)	1	1		12/01/16 21:27
21	I3_120116-21	L16100004-01 LOQ (F,CL,BR,SO4)	1	1		12/01/16 21:47
22	I3_120116-22	L16100004-01 LOQ (NO2,NO3)	1	1		12/01/16 22:07
23	I3_120116-23	L16100004-09 LOQ (F,CL,BR,SO4)	1	1		12/01/16 22:28
24	I3_120116-24	L16100004-09 LOQ (NO2,NO3)	1	1		12/01/16 22:48
25	I3_120116-25	WG593357-03 ANION CCV	1	1	STD77046	12/01/16 23:08
26	I3_120116-26	WG593357-04 ANION CCB	1	1		12/01/16 23:29
27	I3_120116-27	WG593356-01 ANION BLANK-SOIL	7	1		12/01/16 23:49
28	I3_120116-28	WG593356-02 ANION LCS-SOIL	7	1	STD79166	12/02/16 00:09
29	I3_120116-29	WG593356-03 ANION LCS2-SOIL	7	1	STD79166	12/02/16 00:30
30	I3_120116-30	L16100003-01 LOD (F,CL,BR,SO4)	7	1		12/02/16 00:50
31	I3_120116-31	L16100003-01 LOD (NO2,NO3)	7	1		12/02/16 01:11
32	I3_120116-32	L16100005-01 LOQ (F,CL,BR,SO4)	7	1		12/02/16 01:31
33	I3_120116-33	L16100005-01 LOQ (NO2,NO3)	7	1		12/02/16 01:51

Page: 1 Approved: 05-DEC-16



Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC3 Dataset: 120116 IC3 ICAL.SEQ_OL

Analyst1: CAS Analyst2: NA

Method: 300/9056 SOP: IC01 Rev: 19

Maintenance Log ID: Syringe Filter Lot#: 160109254

Eluent ID#: RGT385836

Workgroups: Column 1 ID: AG14A-4MM Column 2 ID: AS14A-4MM

Analytical WGs: 593355 (LOD/LOQ Waters) 593356 (LOD/LOQ Soils)

Internal STD: NA Surrogate STD: NA STD77046 01-DEC-2016

CCV STD: STD77046 LCS STD: STD79166 NA

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
34	I3_120116-34	L16100005-10 LOQ (F,CL,BR,SO4)	7	1		12/02/16 02:12
35	I3_120116-35	L16100005-10 LOQ (NO2,NO3)	7	1		12/02/16 02:32
36	I3_120116-36	WG593357-05 ANION CCV	1	1	STD77046	12/02/16 02:52
37	I3_120116-37	WG593357-06 ANION CCB	1	1		12/02/16 03:13
38	I3_120116-38	END	1	1		12/02/16 03:33

Comments

Seq.	Rerun	Dil.	Reason	Analytes

Page: 2 Approved: 05-DEC-16



Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC3 Dataset: 032217 IC3.SEQ

Analyst1: CAS Analyst2: NA

Method: 300/9056 SOP: IC01 Rev: 19

Maintenance Log ID: Syringe Filter Lot#: 160804254

Eluent ID#: RGT39651

Workgroups: Column 1 ID: AG14A-4MM Column 2 ID: AG14A-4MM

Analytical WG607290 (Waters)

Internal STD: NA Surrogate STD: NA Calibration STD STD77046 01-DEC-2016

CCV STD: STD77046 LCS STD: STD79166 MS/MSD STD: STD79166

Comments: System Backpressure: 2113 psi

Sample L17031097 (-01,02), L17031098-01, L17031141-01, and L17031176 (-01,05) 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	I3_032217-01	ELUENT	1	1		03/22/17 15:00
2	I3_032217-02	DI WATER	1	1		03/22/17 15:20
3	I3_032217-03	WG607292-01 ANION CCV	1	1	STD77046	03/22/17 15:40
4	I3_032217-04	WG607292-02 ANION CCB	1	1		03/22/17 16:01
5	I3_032217-05	WG607290-01 ANION BLANK	1	1		03/22/17 16:21
6	I3_032217-06	WG607290-02 ANION LCS	1	1	STD79166	03/22/17 16:41
7	I3_032217-07	L17031097-01 (CL,SO4) 20x	1	20		03/22/17 17:02
8	I3_032217-08	L17031097-01 RR CL 200x	1	200		03/22/17 17:22
9	I3_032217-09	L17031097-02 (CL,SO4) 20x	1	20		03/22/17 17:43
10	I3_032217-10	L17031097-02 RR CL 200x	1	200		03/22/17 18:03
11	I3_032217-11	L17031098-01 (CL,SO4) 100x	1	100		03/22/17 18:23
12	I3_032217-12	L17031098-01 RR CL 1000x	1	1000		03/22/17 18:44
13	I3_032217-13	L17031141-01 (CL,SO4) 50x	1	50		03/22/17 19:04
14	I3_032217-14	L17031141-01 RR CL 500x	1	500		03/22/17 19:24
15	I3_032217-15	WG607292-03 ANION CCV	1	1	STD77046	03/22/17 19:45
16	I3_032217-16	WG607292-04 ANION CCB	1	1		03/22/17 20:05
17	I3_032217-17	L17031163-01 (F,CL,NO2,NO3,SO4) REF	1	1		03/22/17 20:25
18	I3_032217-18	WG607290-04 DUP 1163-01	1	1		03/22/17 20:46
19	I3_032217-19	WG607290-05 MS 1163-01	1	1	STD79166	03/22/17 21:06
20	I3_032217-20	WG607290-06 MSD 1163-01	1	1	STD79166	03/22/17 21:26
21	I3_032217-21	L17031164-01 (F,CL,NO2,NO3,SO4)	1	1		03/22/17 21:47
22	I3_032217-22	L17031165-01 (F,CL,NO2,NO3,SO4)	1	1		03/22/17 22:07
23	I3_032217-23	L17031165-02 (F,CL,NO2,NO3,SO4)	1	1		03/22/17 22:28
24	I3_032217-24	L17031176-01 (CL,NO3,SO4) 5x	1	5		03/22/17 22:48
25	I3_032217-25	L17031176-01 RR CL 50x	1	50		03/22/17 23:08
26	I3_032217-26	WG607292-05 ANION CCV	1	1	STD77046	03/22/17 23:29
27	I3_032217-27	WG607292-06 ANION CCB	1	1		03/22/17 23:49
28	I3_032217-28	L17031176-02 (CL,NO3,SO4)	1	1		03/23/17 00:09
29	I3_032217-29	L17031176-02 RR CL 10x	1	10		03/23/17 00:30
30	I3_032217-30	L17031176-03 (CL,NO3,SO4)	1	1		03/23/17 00:50
31	I3_032217-31	L17031176-03 RR CL 10x	1	10		03/23/17 01:10
32	I3_032217-32	L17031176-05 (CL,NO3,SO4) 5x	1	5		03/23/17 01:31

Page: 1 Approved: 23-MAR-17



Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC3 Dataset: 032217 IC3.SEQ

Analyst1: CAS Analyst2: NA

Method: 300/9056 SOP: IC01 Rev: 19

Maintenance Log ID: Syringe Filter Lot#: 160804254

Eluent ID#: RGT39651

Workgroups: Column 1 ID: AG14A-4MM Column 2 ID: AG14A-4MM

Analytical WG607290 (Waters)

Internal STD: NA Surrogate STD: NA STD77046 01-DEC-2016

CCV STD: STD77046 LCS STD: STD79166 STD79166

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
33	I3_032217-33	L17031176-05 RR CL 20x	1	20		03/23/17 01:51
34	I3_032217-34	L17031177-01 (CL,NO3,SO4) REF	1	1		03/23/17 02:12
35	I3_032217-35	WG607290-08 DUP 1177-01	1	1		03/23/17 02:32
36	I3_032217-36	L17031177-01 RR CL 10x	1	10		03/23/17 02:52
37	I3_032217-37	WG607292-07 ANION CCV	1	1	STD77046	03/23/17 03:13
38	I3_032217-38	WG607292-08 ANION CCB	1	1		03/23/17 03:33
39	I3_032217-39	END	1	1		03/23/17 03:53

Comments

Seq.	Rerun	Dil.	Reason	Analytes

Page: 2 Approved: 23-MAR-17

Microbac Laboratories Inc.

Data Checklist

Date: 01-DEC-2016
Analyst: CAS
Analyst: NA
Method: 300/9056
Instrument: IC3
Curve Workgroup: WG593545
Runlog ID: 79020
Analytical Workgroups: L16100002, L16100003, L16100004, L16100005

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)	2166PSI
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	NA
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	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	NA
Reruns	NA
Manual integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
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	ECL

Primary Reviewer:
05-DEC-2016

Secondary Reviewer:
05-DEC-2016

CHECKLIST1 - Modified 03/05/2008
Generated: DEC-05-2016 16:27:53

Microbac Laboratories Inc.

Data Checklist

Date: 22-MAR-2017
Analyst: CAS
Analyst: NA
Method: 300/9056
Instrument: IC3
Curve Workgroup: NA
Runlog ID: 81118
Analytical Workgroups: L17031097, 1098, 1163, 1164, 1165, 1176, 1177

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)	2113 PSI
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	X
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	ECL

Primary Reviewer:
23-MAR-2017

Secondary Reviewer:
23-MAR-2017

CHECKLIST1 - Modified 03/05/2008
Generated: MAR-23-2017 15:57:48

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 9056 AAB#: WG607290

Login Number: L17031141

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
LH18/24-SP650-6425	01	03/20/17					03/22/2017	2	2		03/22/17	2.2	2	*
LH18/24-SP650-6425	01	03/20/17					03/22/2017	2	2		03/22/17	2.2	2	*

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5212968
Report generated 03/23/2017 16:22

METHOD BLANK SUMMARY

Login Number:	L17031141	Work Group:	WG607290
Blank File ID:	I3_032217-05	Blank Sample ID:	WG607290-01
Prep Date:	03/22/17 15:40	Instrument ID:	IC3
Analyzed Date:	03/22/17 16:21	Method:	9056
Analyst:	CAS		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG607290-02	I3_032217-06	03/22/17 16:41	01
LH18/24-SP650-6425	L17031141-01	I3_032217-13	03/22/17 19:04	DL01
LH18/24-SP650-6425	L17031141-01	I3_032217-14	03/22/17 19:24	DL02
DUP	WG607290-04	I3_032217-18	03/22/17 20:46	01
DUP	WG607290-08	I3_032217-35	03/23/17 02:32	01

Report Name: BLANK_SUMMARY
PDF File ID: 5212969
Report generated 03/23/2017 16:22

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L17031141 Prep Date: 03/22/17 15:40 Sample ID: WG607290-01
Instrument ID: IC3 Run Date: 03/22/17 16:21 Prep Method: 9056
File ID: I3_032217-05 Analyst: CAS Method: 9056
Workgroup (AAB#): WG607290 Matrix: Water Units: mg/L
Contract #: Cal ID: IC3-01-DEC-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Chloride	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: 5212970
23-MAR-2017 16:22

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17031141 Run Date: 03/22/2017 Sample ID: WG607290-02
Instrument ID: IC3 Run Time: 16:41 Prep Method: 9056
File ID: I3_032217-06 Analyst: CAS Method: 9056
Workgroup (AAB#): WG607290 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD79166 Cal ID: IC3-01-DEC-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Chloride	8.00	8.22	103	90 - 110	
Sulfate	40.0	41.4	104	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 5212971
Report generated: 03/23/2017 16:22

Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L17031141
Analytical Method: 9056
ICAL Workgroup: WG593545

Instrument ID: IC3
Initial Calibration Date: 01-DEC-16 17:22
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R^2)
Chloride		5.791	5.91		1.00000
Sulfate		7.754	8.18		1.00000

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

INT_CAL - Modified 03/06/2008
PDF File ID: 5214089
Report generated 03/23/2017 16:22

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L17031141
Analytical Method: 9056
Instrument ID: IC3
Initial Calibration Date: 01-DEC-16 17:22
Column ID: F

Analyte	WG593545-01			WG593545-02			WG593545-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloride	0.200	0.0343000000	5.831	1.00	0.162700000	6.146	4.00	0.663600000	6.028
Sulfate	1.00	0.121500000	8.230	5.00	0.598000000	8.361	20.0	2.48560000	8.046

INT_CAL - Modified 03/06/2008
PDF File ID: 5214089
Report generated 03/23/2017 16:22

Login Number: L17031141
Analytical Method: 9056
Instrument ID: IC3
Initial Calibration Date: 01-DEC-16 17:22
Column ID: F

Analyte	WG593545-04			WG593545-05			WG593545-06		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloride	8.00	1.36840000	5.846	12.0	2.11410000	5.676	24.0	4.60140000	5.216
Sulfate	40.0	5.18840000	7.710	60.0	8.07990000	7.426	120	17.7738000	6.752

INT_CAL - Modified 03/06/2008
PDF File ID: 5214089
Report generated 03/23/2017 16:22

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L17031141 Run Date: 12/01/2016 Sample ID: WG593545-07
Instrument ID: IC3 Run Time: 17:43 Method: 9056
File ID: I3_120116-09 Analyst: CAS QC Key: DOD4
ICal Workgroup: WG593545 Cal ID: IC3 - 01-DEC-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloride		8.00	8.01	mg/L	5.85	0.100	10	
Sulfate		40.0	40.2	mg/L	7.71	0.500	10	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5214090
Report generated 03/23/2017 16:22

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L17031141 | Run Date: 03/22/2017 | Sample ID: WG607292-02
Instrument ID: IC3 | Run Time: 16:01 | Method: 9056
File ID: I3_032217-04 | Analyst: CAS | Units: mg/L
Workgroup (AAB#): WG607290 | Cal ID: IC3 - 01-DEC-16
Matrix: WATER | QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	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: 5212973
Report generated 03/23/2017 16:22

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L17031141 | Run Date: 03/22/2017 | Sample ID: WG607292-04
Instrument ID: IC3 | Run Time: 20:05 | Method: 9056
File ID: I3_032217-16 | Analyst: CAS | Units: mg/L
Workgroup (AAB#): WG607290 | Cal ID: IC3 - 01-DEC-16
Matrix: WATER | QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	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: 5212973
Report generated 03/23/2017 16:22

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17031141 Run Date: 03/22/2017 Sample ID: WG607292-01

Instrument ID: IC3 Run Time: 15:40 Method: 9056

File ID: I3_032217-03 Analyst: CAS QC Key: DOD4

Workgroup (AAB#): WG607290 Cal ID: IC3 - 01-DEC-16

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	8.11	mg/L	5.77	1.41	10	
Sulfate		40.0	40.5	mg/L	7.65	1.24	10	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 5212972

Report generated 03/23/2017 16:22

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17031141 Run Date: 03/22/2017 Sample ID: WG607292-03
Instrument ID: IC3 Run Time: 19:45 Method: 9056
File ID: I3_032217-15 Analyst: CAS QC Key: DOD4
Workgroup (AAB#): WG607290 Cal ID: IC3 - 01-DEC-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	8.13	mg/L	5.76	1.66	10	
Sulfate		40.0	40.6	mg/L	7.62	1.54	10	

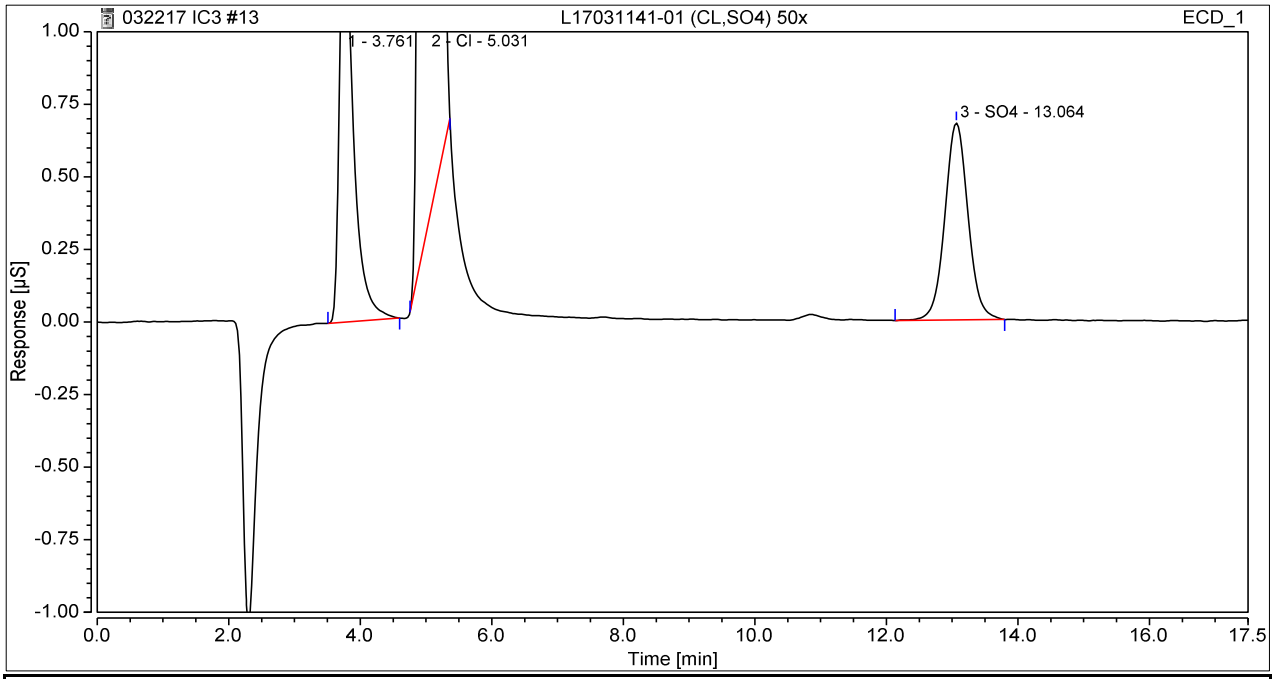
* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 5212972
Report generated 03/23/2017 16:22

2.2.1.3 Sample Data

13 L17031141-01 (CL,SO4) 50x
1,50 CAS (CL screen>200ppm)

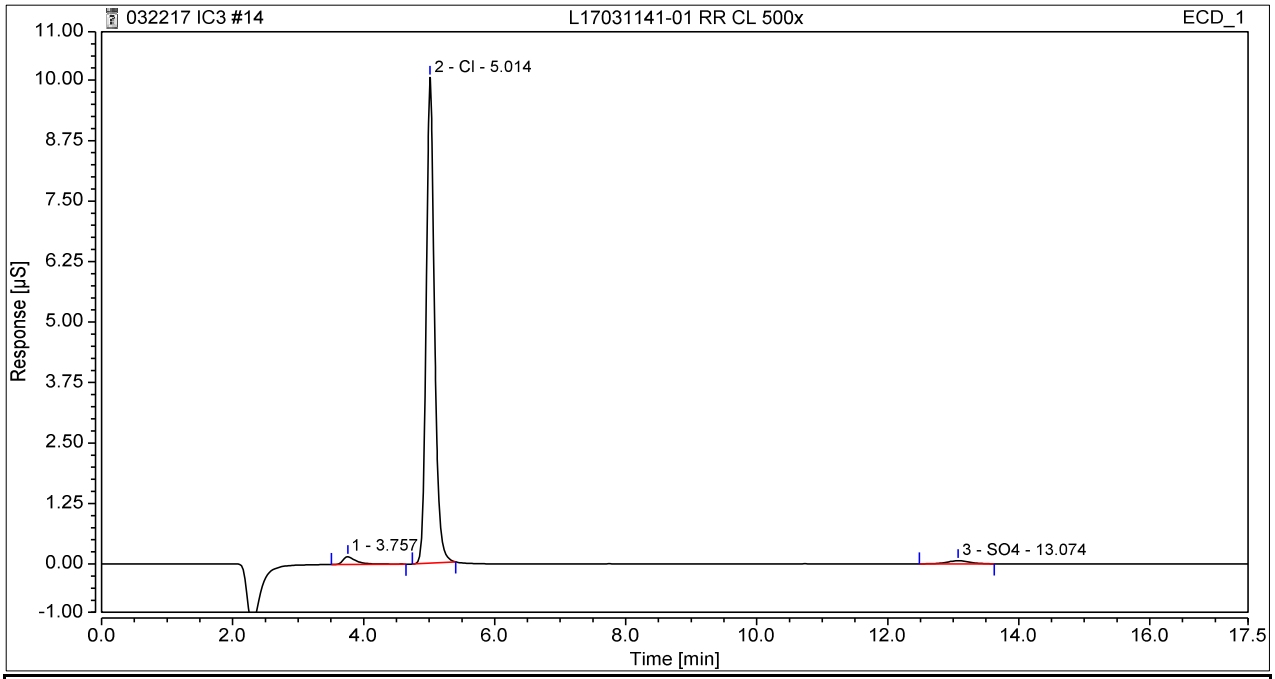
Sample Name:	**L17031141-01 (CL,SO4) 50x**	*Injection Volume:*	**5000.0**
Vial Number:	**13**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC3_120116_9056QNT**	*Dilution Factor:*	**1.0000**
Recording Time:	**03/22/2017 19:04**	*Sample Weight:*	**1.0000**
Run Time:	**17.5**	*Sample Amount:*	**1.0000**



No.	Ret. Time	Peak Name	Height	Area	Rel. Area	Amount	Type
	min		µS	µS*min	%	mg/L	
2	5.03	Cl	139.8558	19.8936	96.9	76.035	BMB
3	13.06	SO4	0.6780	0.2768	1.3	2.296	BMB
Total:			**140.53**	**20.17**	**98**	**78.33**	

14 L17031141-01 RR CL 500x 1,500 CAS

Sample Name:	**L17031141-01 RR CL 500x**	*Injection Volume:*	**5000.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC3_120116_9056QNT**	*Dilution Factor:*	**1.0000**
Recording Time:	**03/22/2017 19:24**	*Sample Weight:*	**1.0000**
Run Time:	**17.5**	*Sample Amount:*	**1.0000**

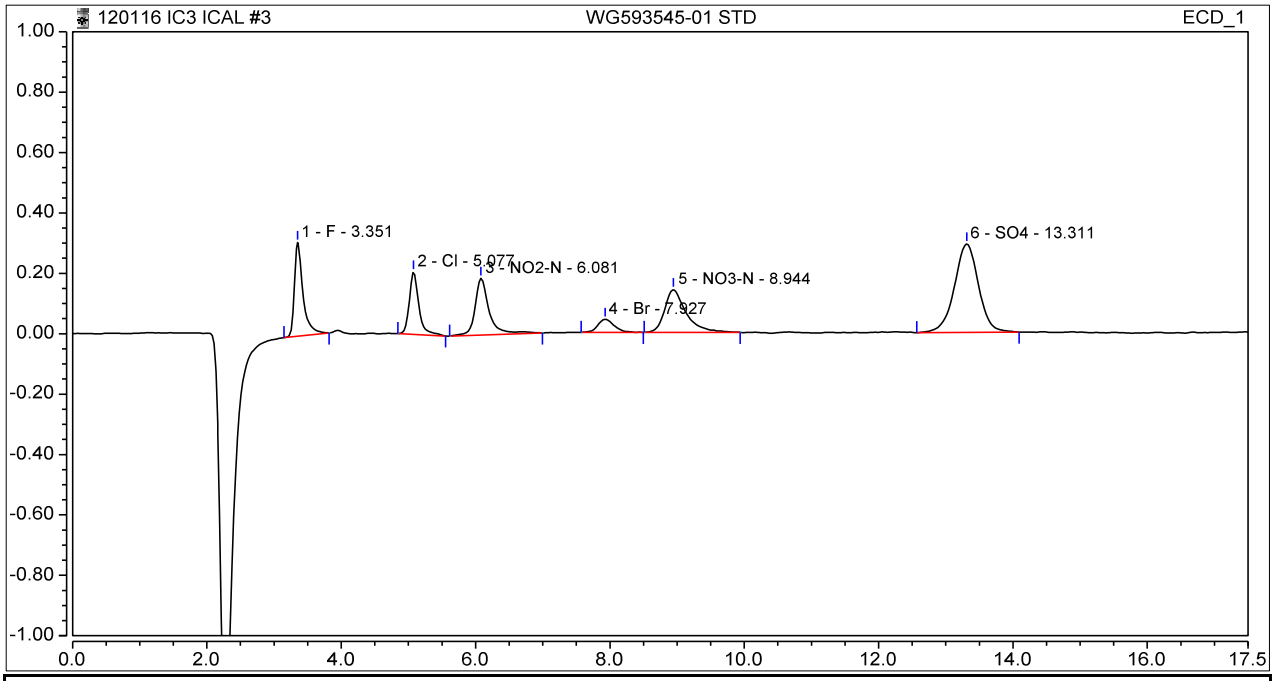


No.	Ret. Time	Peak Name	Height	Area	Rel. Area	Amount	Type
	min		µS	µS*min	%	mg/L	
2	5.01	Cl	10.0405	1.4623	95.8	8.532	BMB
3	13.07	SO4	0.0651	0.0263	1.7	0.205	BMB
Total:			**10.11**	**1.49**	**97**	**8.74**	

2.2.1.4 Standards Data

3 WG593545-01 STD
1,1 CAS STD77046

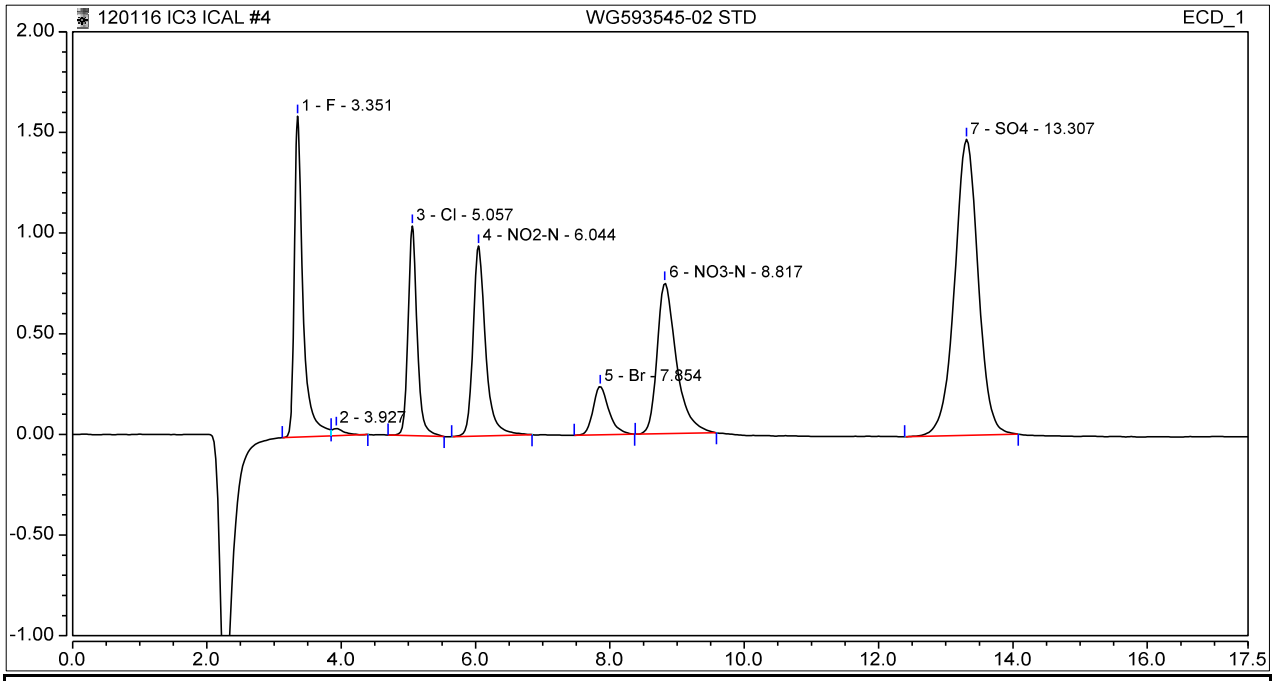
Sample Name:	**WG593545-01 STD**	*Injection Volume:*	**5000.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC3_120116_9056QNT**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/01/2016 15:40**	*Sample Weight:*	**1.0000**
Run Time:	**17.5**	*Sample Amount:*	**1.0000**



No.	Ret. Time	Peak Name	Height	Area	Rel. Area	Amount	Type
	min		µS	µS*min	%	mg/L	
1	3.35	F	0.3102	0.0458	14.6	0.201	M
2	5.08	Cl	0.2073	0.0343	11.0	0.200	M
3	6.08	NO2-N	0.1872	0.0460	14.7	0.122	M
4	7.93	Br	0.0436	0.0125	4.0	0.200	M
5	8.94	NO3-N	0.1417	0.0526	16.8	0.135	M
6	13.31	SO4	0.2923	0.1215	38.9	1.002	M
Total:			**1.18**	**0.31**	**100**	**1.86**	

4 WG593545-02 STD
1,1 CAS STD77046

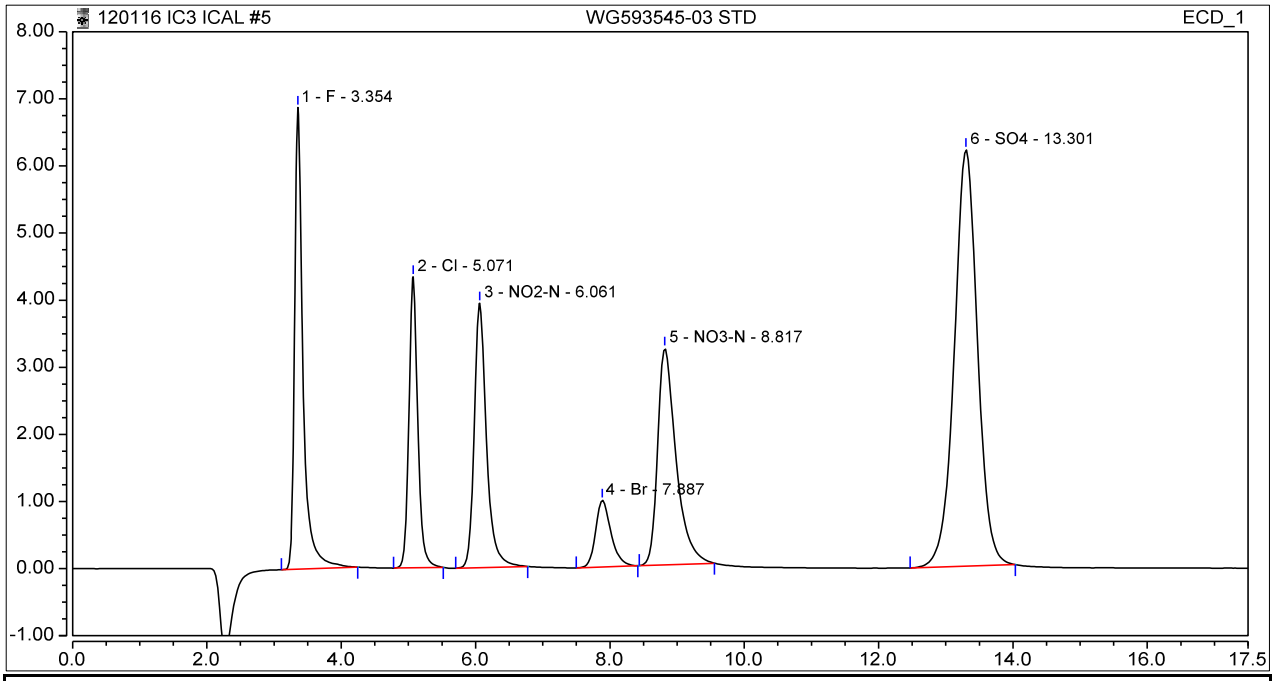
Sample Name:	**WG593545-02 STD**	*Injection Volume:*	**5000.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC3_120116_9056QNT**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/01/2016 16:01**	*Sample Weight:*	**1.0000**
Run Time:	**17.5**	*Sample Amount:*	**1.0000**



No.	Ret. Time	Peak Name	Height	Area	Rel. Area	Amount	Type
	min		µS	µS*min	%	mg/L	
1	3.35	F	1.5946	0.2386	15.6	0.983	M
3	5.06	Cl	1.0416	0.1627	10.7	0.996	M
4	6.04	NO2-N	0.9439	0.2048	13.4	0.598	M
5	7.85	Br	0.2409	0.0658	4.3	1.010	M
6	8.82	NO3-N	0.7490	0.2494	16.3	0.669	M
7	13.31	SO4	1.4700	0.5980	39.2	4.952	M
Total:			**6.04**	**1.52**	**100**	**9.21**	

5 WG593545-03 STD
1,1 CAS STD77046

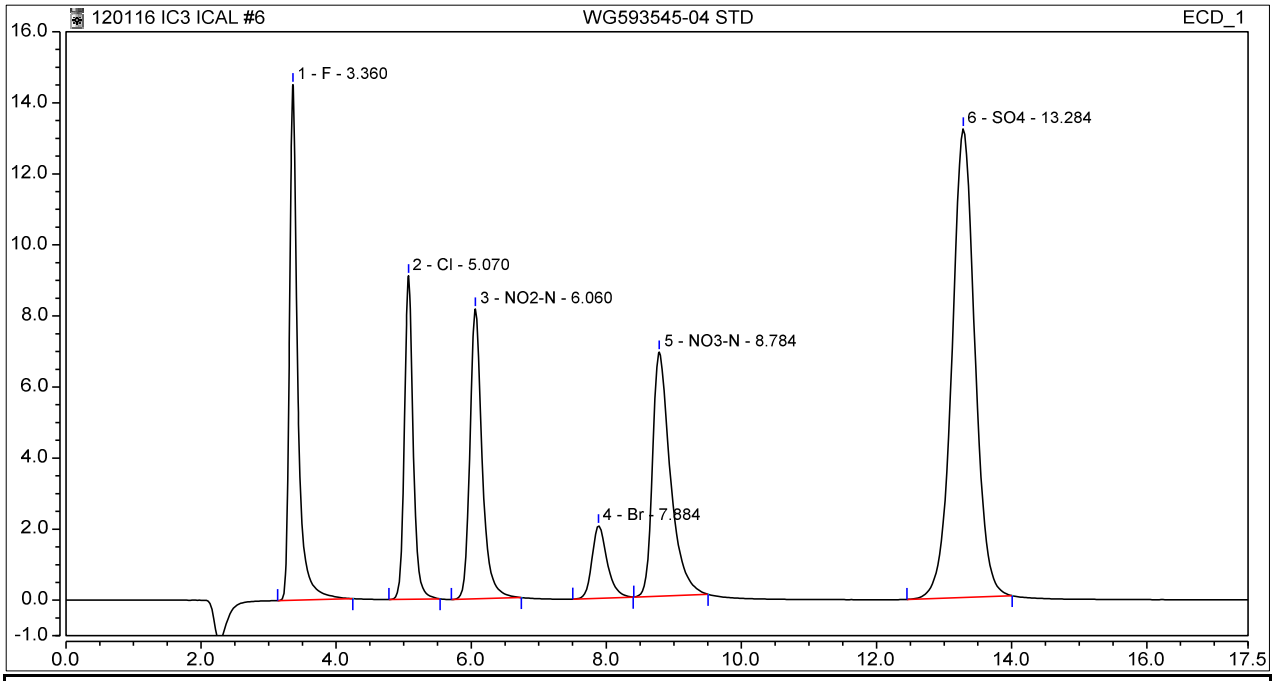
Sample Name:	**WG593545-03 STD**	*Injection Volume:*	**5000.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC3_120116_9056QNT**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/01/2016 16:21**	*Sample Weight:*	**1.0000**
Run Time:	**17.5**	*Sample Amount:*	**1.0000**



No.	Ret. Time	Peak Name	Height	Area	Rel. Area	Amount	Type
	min		µS	µS*min	%	mg/L	
1	3.35	F	6.8792	0.9972	15.9	4.002	M
2	5.07	Cl	4.3366	0.6636	10.6	4.006	M
3	6.06	NO2-N	3.9403	0.8357	13.3	2.447	M
4	7.89	Br	0.9936	0.2638	4.2	3.993	M
5	8.82	NO3-N	3.2267	1.0254	16.4	2.709	M
6	13.30	SO4	6.2072	2.4856	39.6	20.018	M
Total:			**25.58**	**6.27**	**100**	**37.18**	

6 WG593545-04 STD
1,1 CAS STD77046

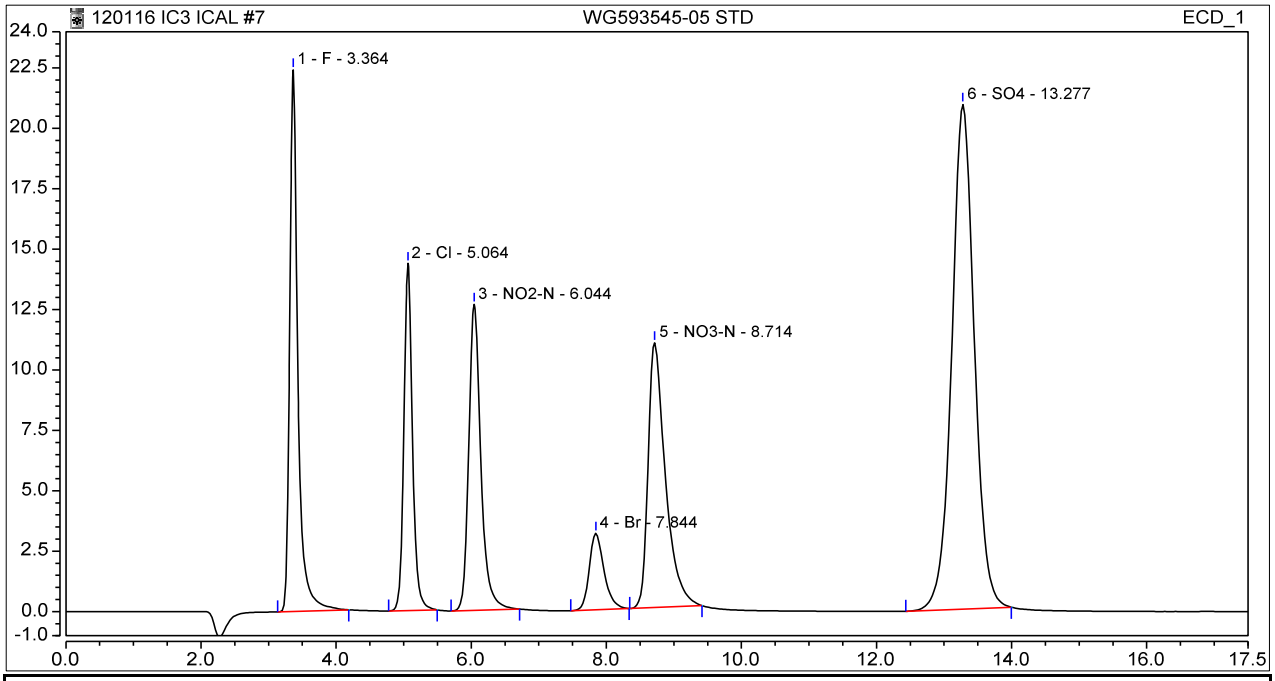
Sample Name:	**WG593545-04 STD**	*Injection Volume:*	**5000.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC3_120116_9056QNT**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/01/2016 16:41**	*Sample Weight:*	**1.0000**
Run Time:	**17.5**	*Sample Amount:*	**1.0000**



No.	Ret. Time	Peak Name	Height	Area	Rel. Area	Amount	Type
	min		µS	µS*min	%	mg/L	
1	3.36	F	14.5129	2.0600	15.9	8.082	M
2	5.07	Cl	9.1102	1.3684	10.6	8.015	M
3	6.06	NO2-N	8.1623	1.7115	13.2	4.908	M
4	7.88	Br	2.0434	0.5309	4.1	7.960	M
5	8.78	NO3-N	6.8691	2.1105	16.3	5.418	M
6	13.28	SO4	13.1891	5.1884	40.0	40.195	M
Total:			**53.89**	**12.97**	**100**	**74.58**	

7 WG593545-05 STD
1,1 CAS STD77046

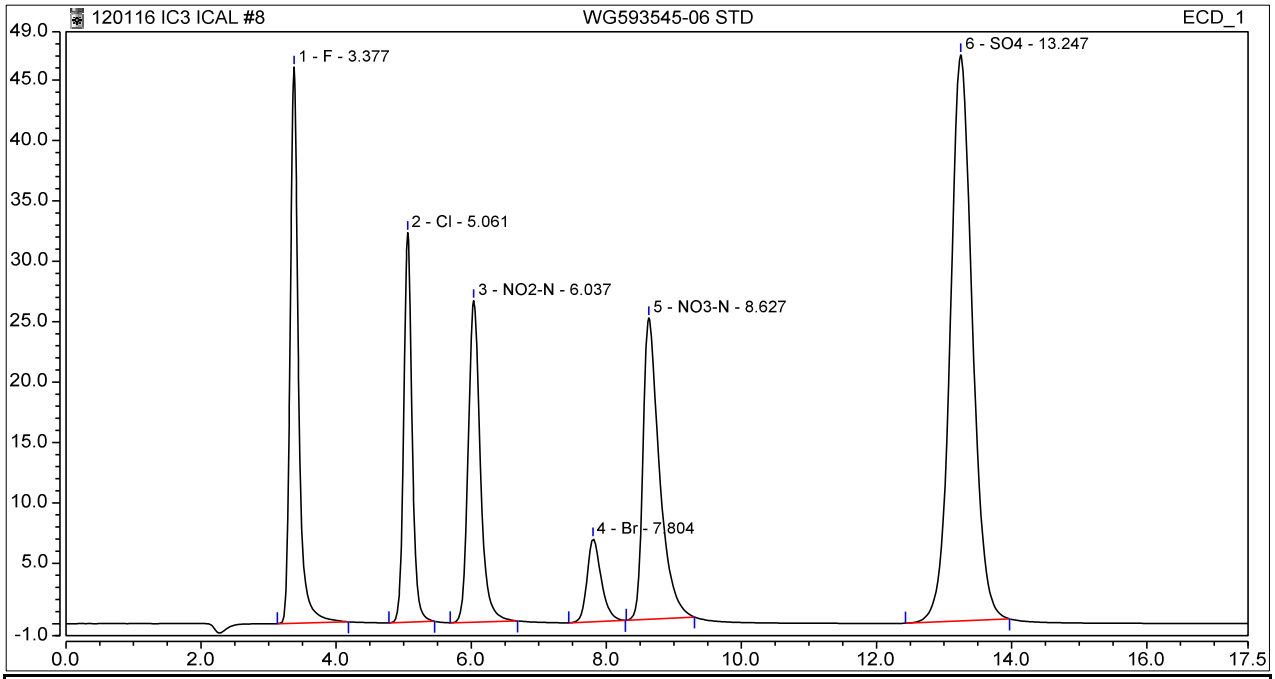
Sample Name:	**WG593545-05 STD**	*Injection Volume:*	**5000.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC3_120116_9056QNT**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/01/2016 17:02**	*Sample Weight:*	**1.0000**
Run Time:	**17.5**	*Sample Amount:*	**1.0000**



No.	Ret. Time	Peak Name	Height	Area	Rel. Area	Amount	Type
	min		µS	µS*min	%	mg/L	
1	3.36	F	22.4169	3.1530	15.7	12.113	M
2	5.06	Cl	14.3675	2.1141	10.6	12.013	M
3	6.04	NO2-N	12.6638	2.6236	13.1	7.357	M
4	7.84	Br	3.1722	0.8036	4.0	11.941	M
5	8.71	NO3-N	10.9613	3.2605	16.3	8.131	M
6	13.28	SO4	20.8901	8.0799	40.3	60.294	M
Total:			**84.47**	**20.03**	**100**	**111.85**	

8 WG593545-06 STD
1,1 CAS STD77046

Sample Name:	**WG593545-06 STD**	*Injection Volume:*	**5000.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC3_120116_9056QNT**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/01/2016 17:22**	*Sample Weight:*	**1.0000**
Run Time:	**17.5**	*Sample Amount:*	**1.0000**

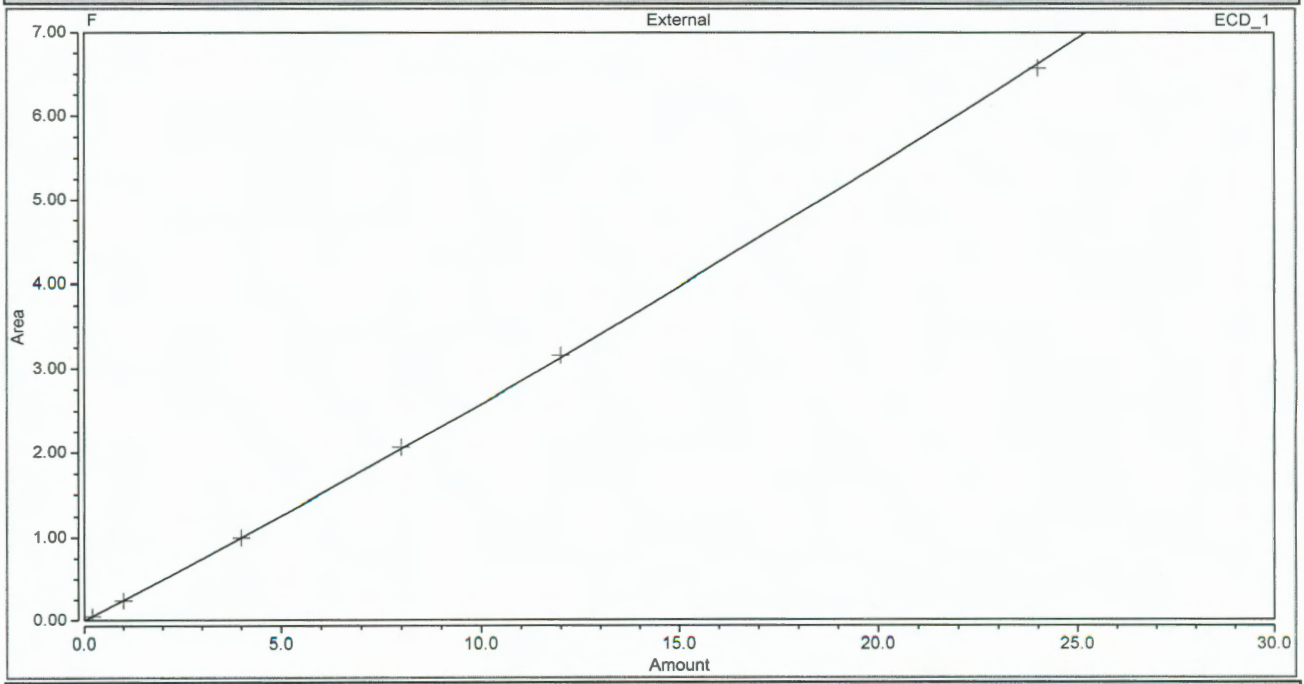


No.	Ret. Time	Peak Name	Height	Area	Rel. Area	Amount	Type
	min		µS	µS*min	%	mg/L	
1	3.38	F	46.0328	6.5724	15.2	23.838	M
2	5.06	Cl	32.2540	4.6014	10.6	23.975	M
3	6.04	NO2-N	26.6066	5.5326	12.8	14.537	M
4	7.80	Br	6.8536	1.6634	3.8	24.092	M
5	8.63	NO3-N	24.9522	7.0863	16.4	16.269	M
6	13.25	SO4	46.8610	17.7738	41.1	119.621	M
Total:			**183.56**	**43.23**	**100**	**222.33**	

Calibration

Calibration Details	F		
Calibration Type	Quad, WithOffset, 1/A²	*Offset (C0)*	-0.0034
Evaluation Type	Area	*Slope (C1)*	0.2448
Number of Calibration Points	6	*Curve (C2)*	0.0013
Number of disabled Calibration Points	0	*R-Square*	0.9999

Calibration Plot F



Calibration Results F

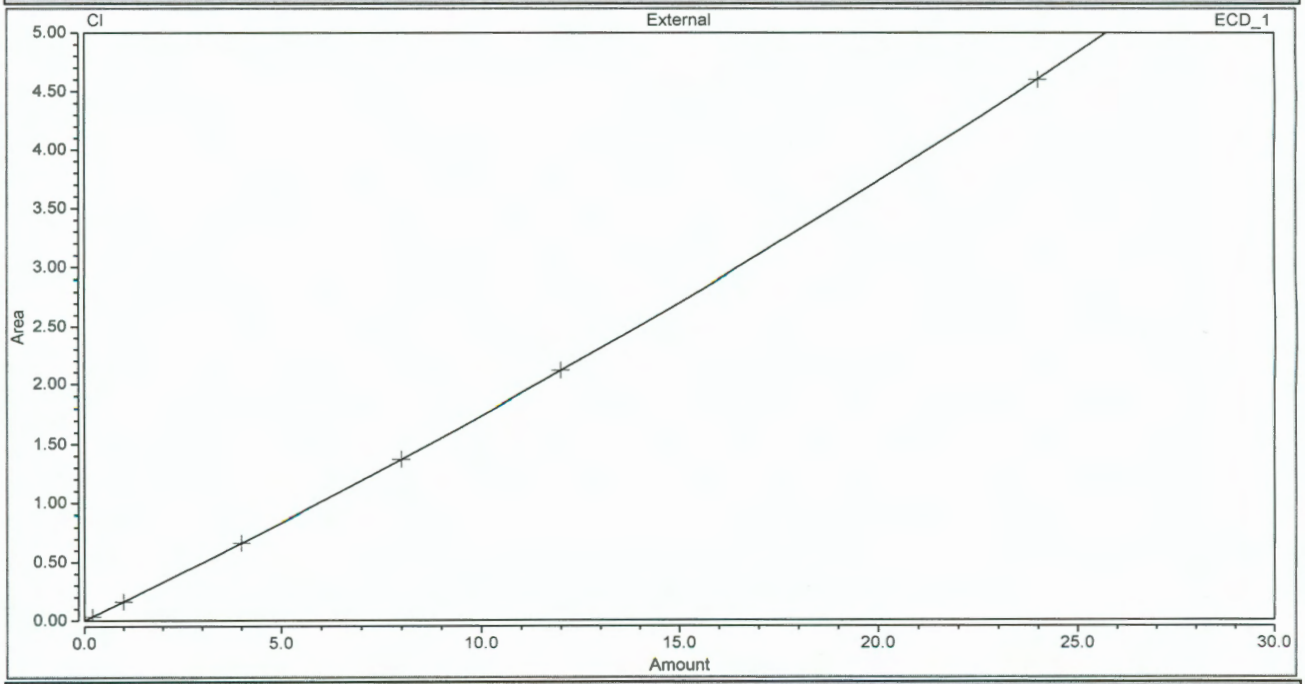
No.	Injection Name	Calibration Level	X Value ECD_1 F	Y Value ECD_1 F	Y Value ECD_1 F	Area µS*min ECD_1 F	Height µS ECD_1 F
1	WG593352-01 STD	01	0.2000	0.0458	0.0458	0.046	0.310
2	WG593352-02 STD	02	1.0000	0.2386	0.2386	0.239	1.595
3	WG593352-03 STD	03	4.0000	0.9972	0.9972	0.997	6.879
4	WG593352-04 STD	04	8.0000	2.0600	2.0600	2.060	14.513
5	WG593352-05 STD	05	12.0000	3.1530	3.1530	3.153	22.417
6	WG593352-06 STD	06	24.0000	6.5724	6.5724	6.572	46.033

00846541

Calibration

Calibration Details	Cl		
Calibration Type	Quad, WithOffset, 1/A²	*Offset (C0)*	0.0023
Evaluation Type	Area	*Slope (C1)*	0.1597
Number of Calibration Points	6	*Curve (C2)*	0.0013
Number of disabled Calibration Points	0	*R-Square*	1.0000

Calibration Plot Cl



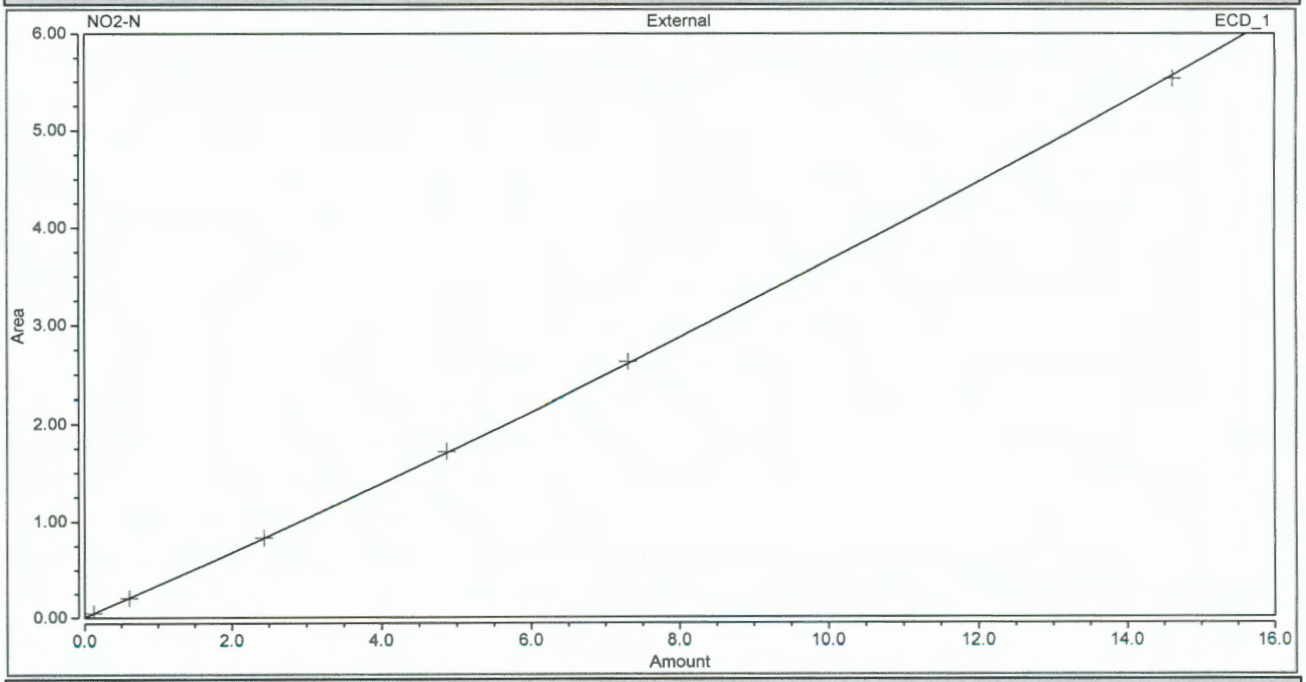
Calibration Results Cl

No.	Injection Name	Calibration Level	X Value ECD_1 Cl	Y Value ECD_1 Cl	Y Value ECD_1 Cl	Area µS*min ECD_1 Cl	Height µS ECD_1 Cl
1	WG593352-01 STD	01	0.2000	0.0343	0.0343	0.034	0.207
2	WG593352-02 STD	02	1.0000	0.1627	0.1627	0.163	1.042
3	WG593352-03 STD	03	4.0000	0.6636	0.6636	0.664	4.337
4	WG593352-04 STD	04	8.0000	1.3684	1.3684	1.368	9.110
5	WG593352-05 STD	05	12.0000	2.1141	2.1141	2.114	14.367
6	WG593352-06 STD	06	24.0000	4.6014	4.6014	4.601	32.254

Calibration

Calibration Details	NO2-N		
Calibration Type	Quad, WithOffset, 1/A²	*Offset (C0)*	0.0055
Evaluation Type	Area	*Slope (C1)*	0.3309
Number of Calibration Points	6	*Curve (C2)*	0.0034
Number of disabled Calibration Points	0	*R-Square*	0.9999

Calibration Plot NO2-N



Calibration Results NO2-N

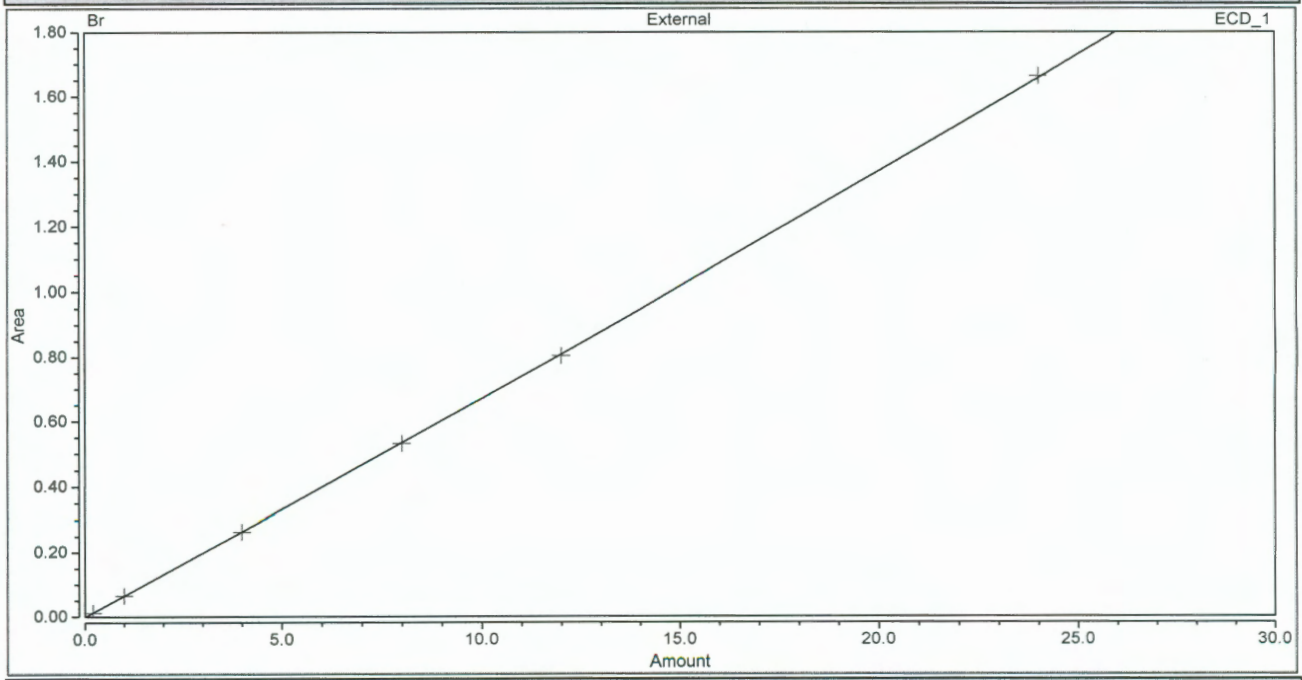
No.	Injection Name	Calibration Level	X Value ECD_1 NO2-N	Y Value ECD_1 NO2-N	Y Value ECD_1 NO2-N	Area µS*min ECD_1 NO2-N	Height µS ECD_1 NO2-N
1	WG593352-01 STD	01	0.1218	0.0460	0.0460	0.046	0.187
2	WG593352-02 STD	02	0.6089	0.2048	0.2048	0.205	0.944
3	WG593352-03 STD	03	2.4356	0.8357	0.8357	0.836	3.940
4	WG593352-04 STD	04	4.8714	1.7115	1.7115	1.711	8.162
5	WG593352-05 STD	05	7.3070	2.6236	2.6236	2.624	12.664
6	WG593352-06 STD	06	14.6140	5.5326	5.5326	5.533	26.607

00846543

Calibration

Calibration Details	Br		
Calibration Type	Quad, WithOffset, 1/A²	*Offset (C0)*	-0.0007
Evaluation Type	Area	*Slope (C1)*	0.0657
Number of Calibration Points	6	*Curve (C2)*	0.0001
Number of disabled Calibration Points	0	*R-Square*	1.0000

Calibration Plot Br



Calibration Results Br

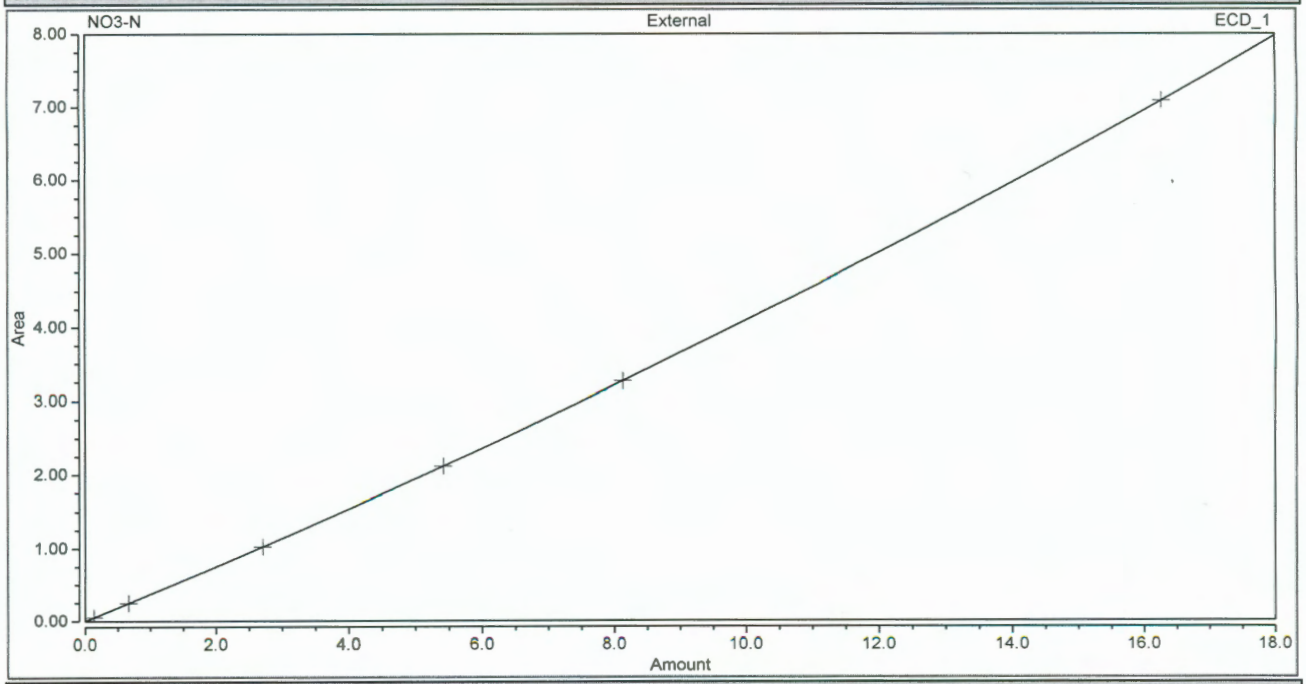
No.	Injection Name	Calibration Level	X Value ECD_1 Br	Y Value ECD_1 Br	Y Value ECD_1 Br	Area µS*min ECD_1 Br	Height µS ECD_1 Br
1	WG593352-01 STD	01	0.2000	0.0125	0.0125	0.012	0.044
2	WG593352-02 STD	02	1.0000	0.0658	0.0658	0.066	0.241
3	WG593352-03 STD	03	4.0000	0.2638	0.2638	0.264	0.994
4	WG593352-04 STD	04	8.0000	0.5309	0.5309	0.531	2.043
5	WG593352-05 STD	05	12.0000	0.8036	0.8036	0.804	3.172
6	WG593352-06 STD	06	24.0000	1.6634	1.6634	1.663	6.854

00846544

Calibration

Calibration Details	NO3-N		
Calibration Type	Quad, WithOffset, 1/A²	*Offset (C0)*	0.0029
Evaluation Type	Area	*Slope (C1)*	0.3659
Number of Calibration Points	6	*Curve (C2)*	0.0043
Number of disabled Calibration Points	0	*R-Square*	1.0000

Calibration Plot NO3-N



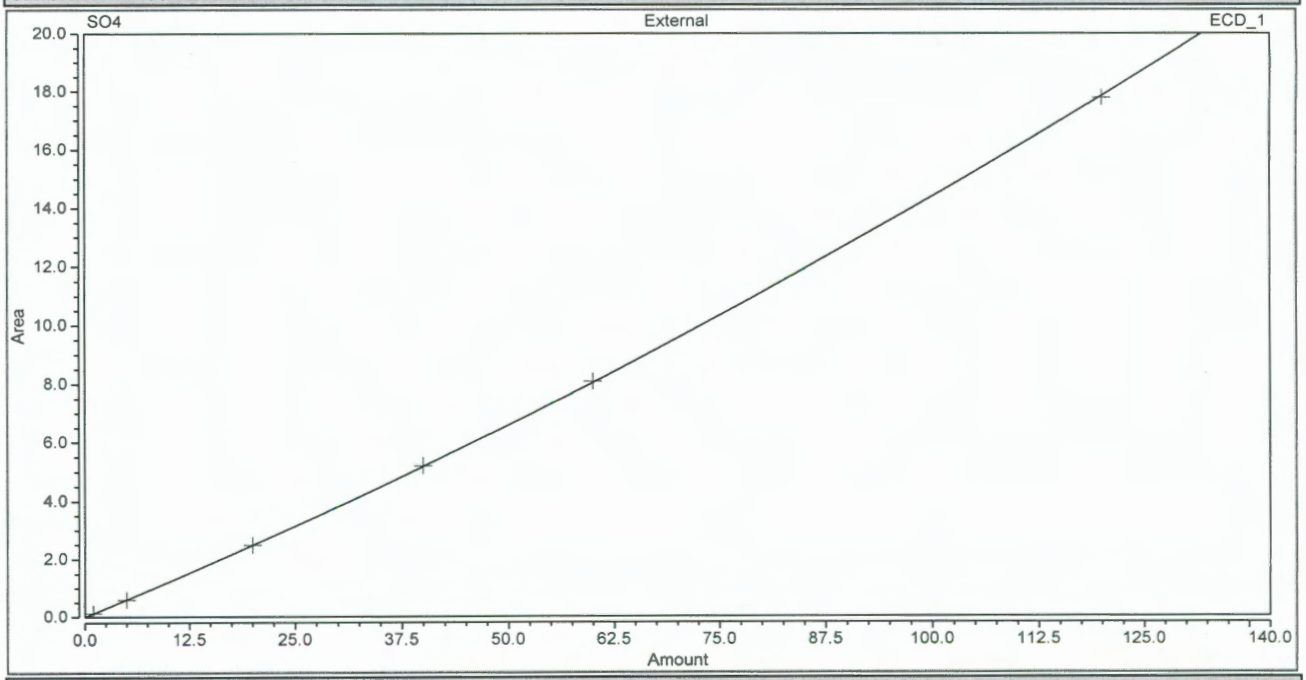
Calibration Results NO3-N

No.	Injection Name	Calibration Level	X Value ECD_1 NO3-N	Y Value ECD_1 NO3-N	Y Value ECD_1 NO3-N	Area µS*min ECD_1 NO3-N	Height µS ECD_1 NO3-N
1	WG593352-01 STD	01	0.1355	0.0526	0.0526	0.053	0.142
2	WG593352-02 STD	02	0.6675	0.2494	0.2494	0.249	0.749
3	WG593352-03 STD	03	2.7108	1.0254	1.0254	1.025	3.227
4	WG593352-04 STD	04	5.4216	2.1105	2.1105	2.111	6.869
5	WG593352-05 STD	05	8.1322	3.2605	3.2605	3.260	10.961
6	WG593352-06 STD	06	16.2644	7.0863	7.0863	7.086	24.952

Calibration

Calibration Details	SO4		
Calibration Type	Quad, WithOffset, 1/A²	*Offset (C0)*	0.0019
Evaluation Type	Area	*Slope (C1)*	0.1192
Number of Calibration Points	6	*Curve (C2)*	0.0002
Number of disabled Calibration Points	0	*R-Square*	1.0000

Calibration Plot SO4



Calibration Results SO4

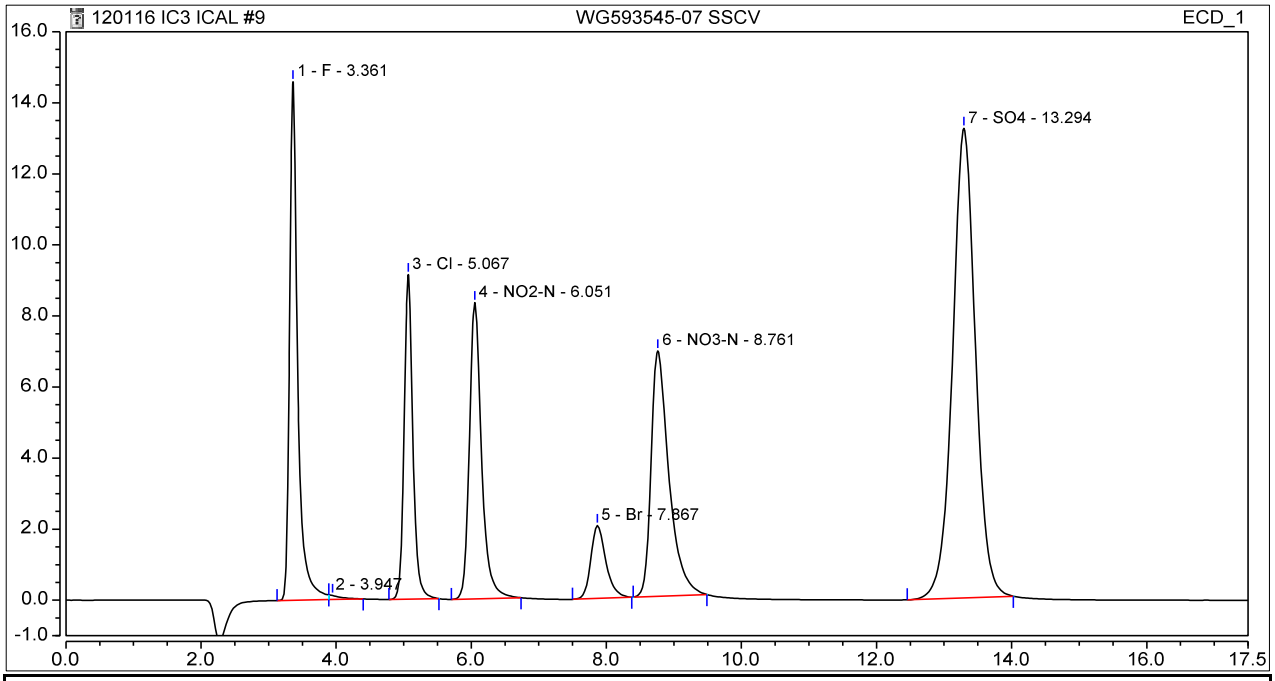
No.	Injection Name	Calibration Level	X Value ECD_1 SO4	Y Value ECD_1 SO4	Y Value ECD_1 SO4	Area µS*min ECD_1 SO4	Height µS ECD_1 SO4
1	WG593352-01 STD	01	1.0000	0.1215	0.1215	0.121	0.292
2	WG593352-02 STD	02	5.0000	0.5980	0.5980	0.598	1.470
3	WG593352-03 STD	03	20.0000	2.4856	2.4856	2.486	6.207
4	WG593352-04 STD	04	40.0000	5.1884	5.1884	5.188	13.189
5	WG593352-05 STD	05	60.0000	8.0799	8.0799	8.080	20.890
6	WG593352-06 STD	06	120.0000	17.7738	17.7738	17.774	46.861

9056Rept/Calibration

Chromeleon (c) Dionex
Version 7.2.0.3765

9 WG593545-07 SSCV
1,1 CAS STD79166

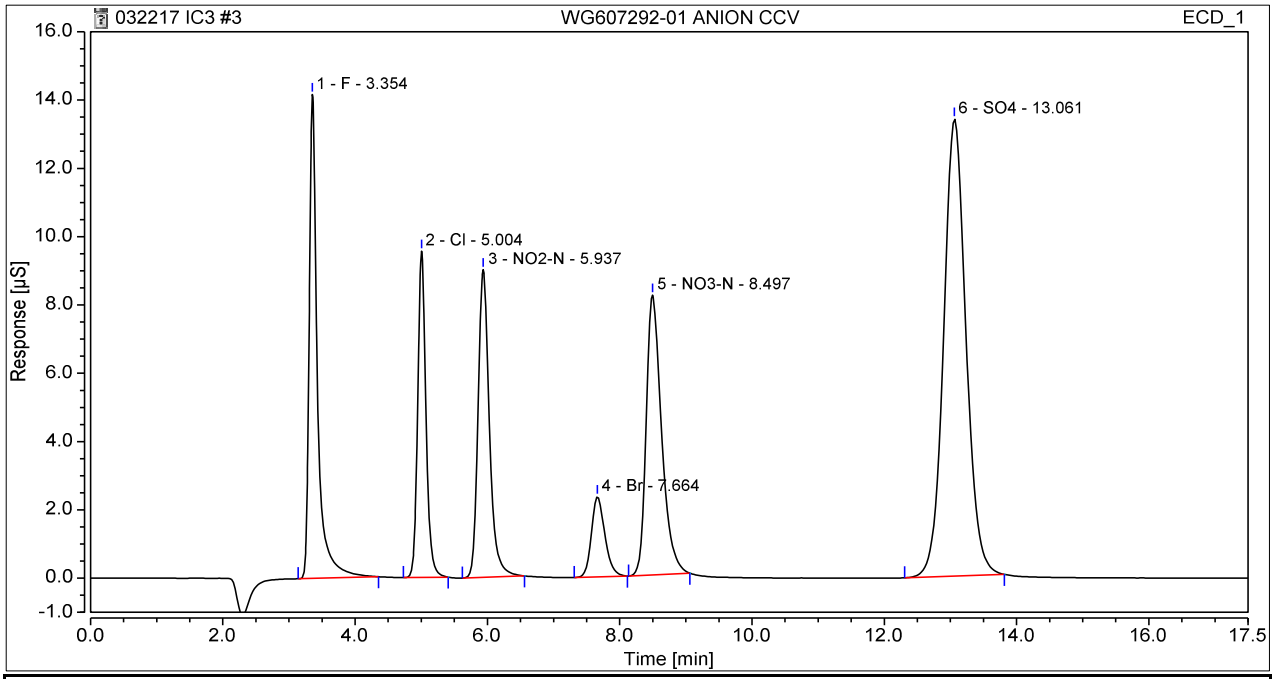
Sample Name:	**WG593545-07 SSCV**	*Injection Volume:*	**5000.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC3_120116_9056QNT**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/01/2016 17:43**	*Sample Weight:*	**1.0000**
Run Time:	**17.5**	*Sample Amount:*	**1.0000**



No.	Ret. Time	Peak Name	Height	Area	Rel. Area	Amount	Type
	min		µS	µS*min	%	mg/L	
1	3.36	F	14.5966	2.0475	15.7	8.035	M
3	5.07	Cl	9.1392	1.3673	10.5	8.009	M
4	6.05	NO2-N	8.3363	1.7389	13.4	4.984	M
5	7.87	Br	2.0521	0.5299	4.1	7.945	M
6	8.76	NO3-N	6.9052	2.1121	16.2	5.421	M
7	13.29	SO4	13.2162	5.1895	39.9	40.203	M
Total:			**54.25**	**12.99**	**100**	**74.60**	

3 WG607292-01 ANION CCV
1,1 CAS STD77046 BP=2113psi

Sample Name:	**WG607292-01 ANION CCV**	*Injection Volume:*	**5000.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC3_120116_9056QNT**	*Dilution Factor:*	**1.0000**
Recording Time:	**03/22/2017 15:40**	*Sample Weight:*	**1.0000**
Run Time:	**17.5**	*Sample Amount:*	**1.0000**



No.	Ret. Time	Peak Name	Height	Area	Rel. Area	Amount	Type
	min		µS	µS*min	%	mg/L	
1	3.35	F	14.1663	2.0428	15.5	8.017	M
2	5.00	Cl	9.5564	1.3861	10.5	8.113	M
3	5.94	NO2-N	9.0079	1.7741	13.4	5.080	M
4	7.66	Br	2.3515	0.5541	4.2	8.301	M
5	8.50	NO3-N	8.1922	2.2051	16.7	5.646	M
6	13.06	SO4	13.3862	5.2300	39.6	40.494	M
Total:			**56.66**	**13.19**	**100**	**75.65**	

3 WG607292-01 ANION CCV
1,1 CAS STD77046 BP=2113psi

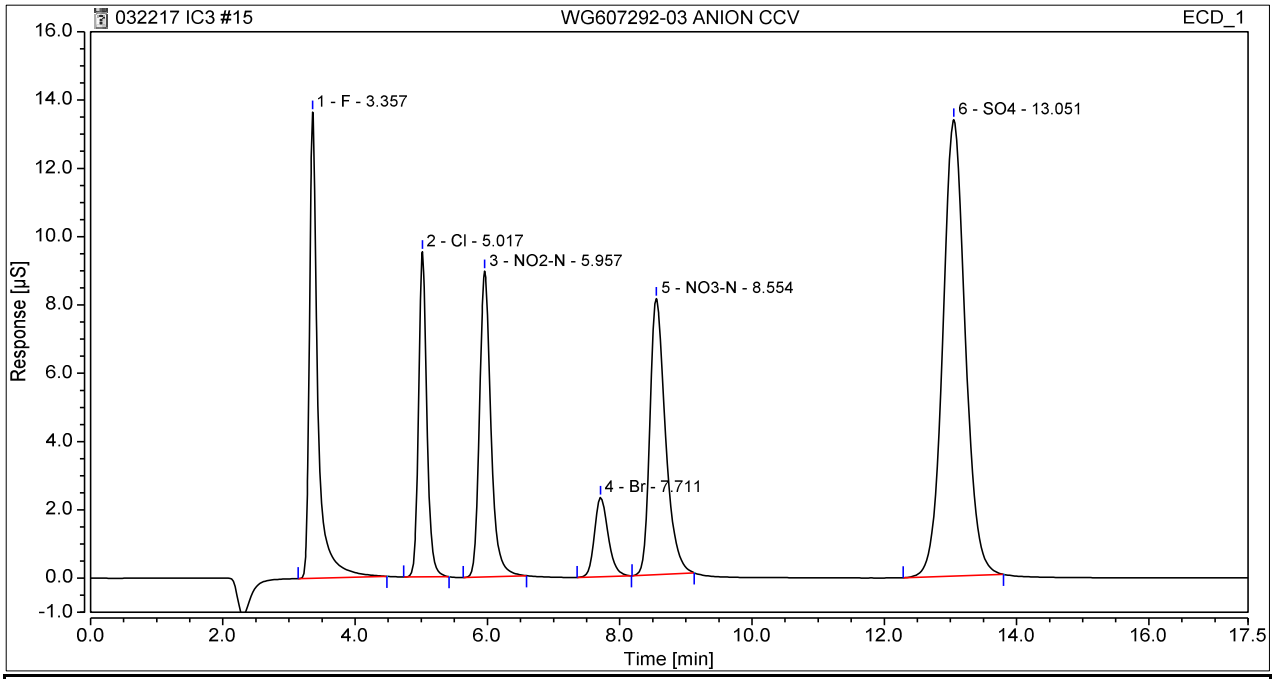
Sequence Details

Name:	**WG607292-01 ANION CCV**	*Run Time:*	**17.50**
Vial Number:	**3**	*Injection Volume:*	**10.00**
Instrument Method:	**9056**	*Channel:*	**ECD_1**
Processing Method:	**IC3_120116_9056QNT**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**3/22/2017 15:40**	*Sample Weight:*	**1.0000**

WG607292-	Actual mg/L	Recovered mg/L	% Difference	Pass/Fail
F	8.00	**8.01668776**	**0.208596997**	**PASS**
CL	8.00	**8.112960996**	**1.412012447**	**PASS**
NO2	4.87	**5.080025**	**4.312628344**	**PASS**
BR	8.00	**8.300597298**	**3.75746622**	**PASS**
NO3	5.42	**5.646447781**	**4.159553158**	**PASS**
SO4	40.00	**40.49379278**	**1.234481952**	**PASS**

15 WG607292-03 ANION CCV
1,1 CAS STD77046

Sample Name:	**WG607292-03 ANION CCV**	*Injection Volume:*	**5000.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC3_120116_9056QNT**	*Dilution Factor:*	**1.0000**
Recording Time:	**03/22/2017 19:45**	*Sample Weight:*	**1.0000**
Run Time:	**17.5**	*Sample Amount:*	**1.0000**



No.	Ret. Time	Peak Name	Height	Area	Rel. Area	Amount	Type
	min		µS	µS*min	%	mg/L	
1	3.36	F	13.6537	2.0326	15.4	7.979	M
2	5.02	Cl	9.5174	1.3898	10.5	8.133	M
3	5.96	NO2-N	8.9507	1.7809	13.5	5.099	M
4	7.71	Br	2.3251	0.5568	4.2	8.340	M
5	8.55	NO3-N	8.0833	2.2085	16.7	5.655	M
6	13.05	SO4	13.3582	5.2468	39.7	40.615	M
Total:			**55.89**	**13.22**	**100**	**75.82**	

15 WG607292-03 ANION CCV
1,1 CAS STD77046

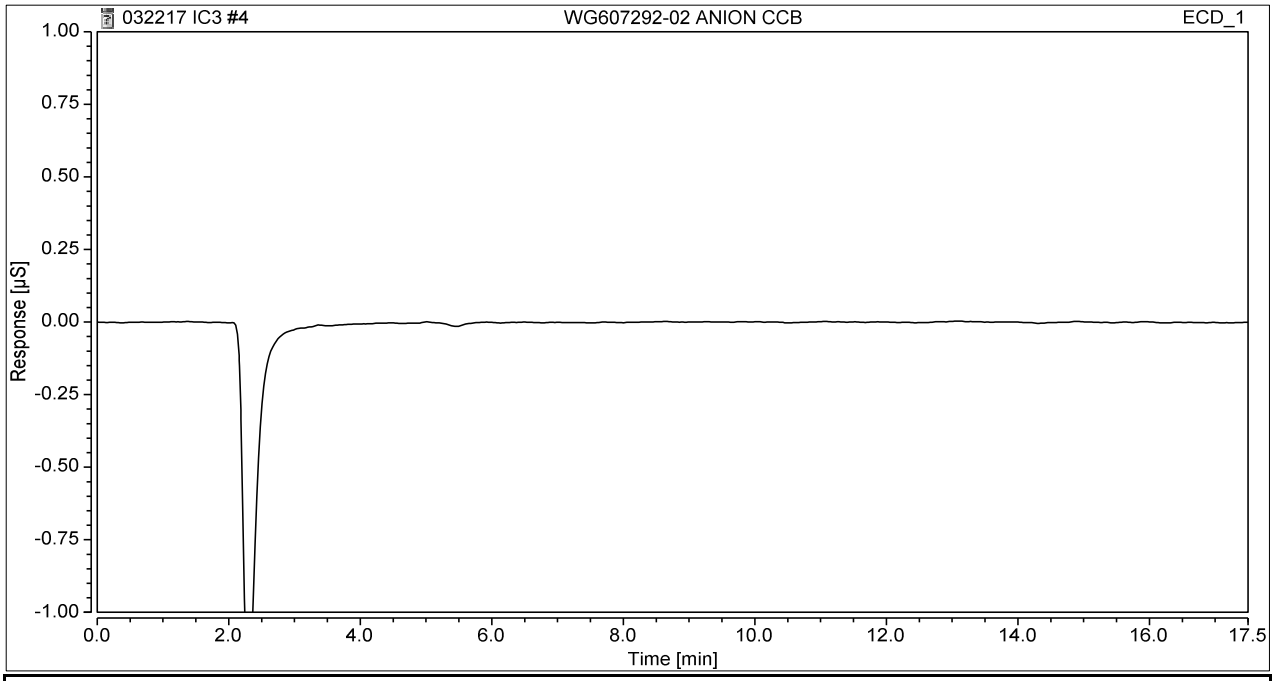
Sequence Details

Name:	**WG607292-03 ANION CCV**	*Run Time:*	**17.50**
Vial Number:	**15**	*Injection Volume:*	**10.00**
Instrument Method:	**9056**	*Channel:*	**ECD_1**
Processing Method:	**IC3_120116_9056QNT**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**3/22/2017 19:45**	*Sample Weight:*	**1.0000**

WG607292-	Actual mg/L	Recovered mg/L	% Difference	Pass/Fail
F	8.00	**7.978543638**	**-0.2682045267**	**PASS**
CL	8.00	**8.132934728**	**1.661684105**	**PASS**
NO2	4.87	**5.098657996**	**4.695236056**	**PASS**
BR	8.00	**8.340265313**	**4.25331641**	**PASS**
NO3	5.42	**5.65474552**	**4.312647976**	**PASS**
SO4	40.00	**40.61466109**	**1.536652727**	**PASS**

4 WG607292-02 ANION CCB
1,1 CAS

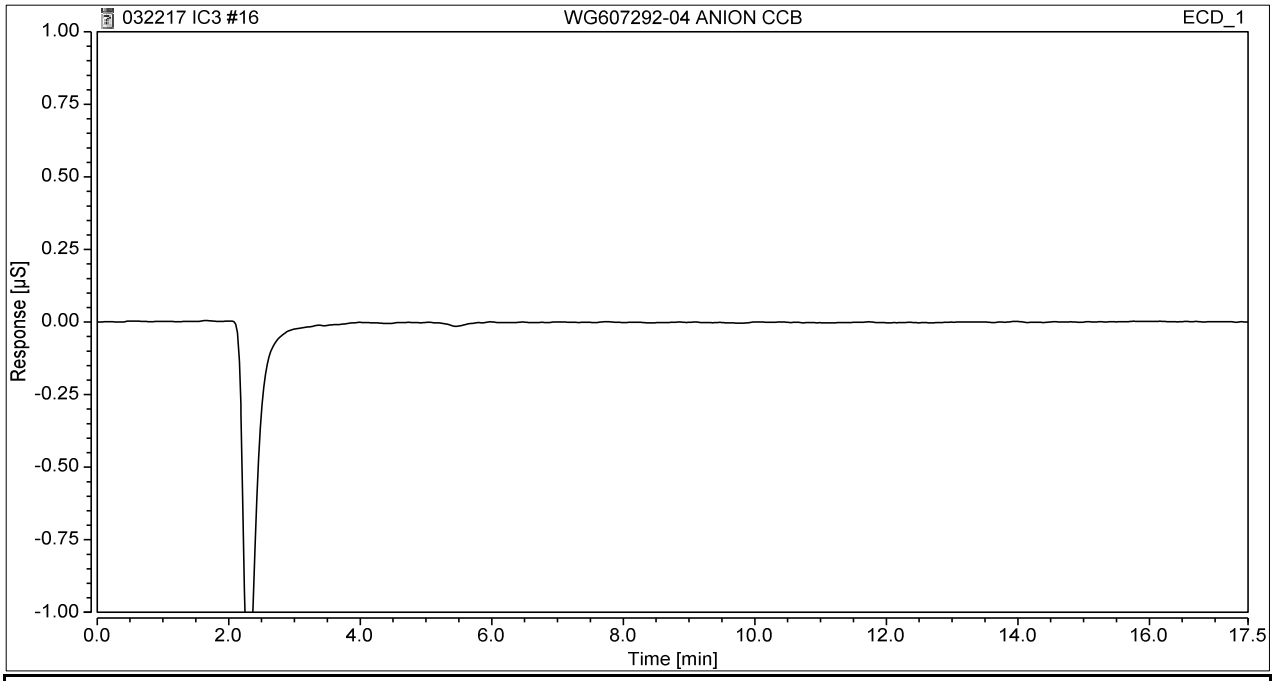
Sample Name:	**WG607292-02 ANION CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC3_120116_9056QNT**	*Dilution Factor:*	**1.0000**
Recording Time:	**03/22/2017 16:01**	*Sample Weight:*	**1.0000**
Run Time:	**17.5**	*Sample Amount:*	**1.0000**



No.	Ret. Time	Peak Name	Height	Area	Rel. Area	Amount	Type
	min		µS	µS*min	%	mg/L	
Total:			**0.00**	**0.00**	**0**	**0.00**	

16 WG607292-04 ANION CCB
1,1 CAS

Sample Name:	**WG607292-04 ANION CCB**	*Injection Volume:*	**5000.0**
Vial Number:	**16**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC3_120116_9056QNT**	*Dilution Factor:*	**1.0000**
Recording Time:	**03/22/2017 20:05**	*Sample Weight:*	**1.0000**
Run Time:	**17.5**	*Sample Amount:*	**1.0000**



No.	Ret. Time	Peak Name	Height	Area	Rel. Area	Amount	Type
	min		µS	µS*min	%	mg/L	
Total:			**0.00**	**0.00**	**0**	**0.00**	

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

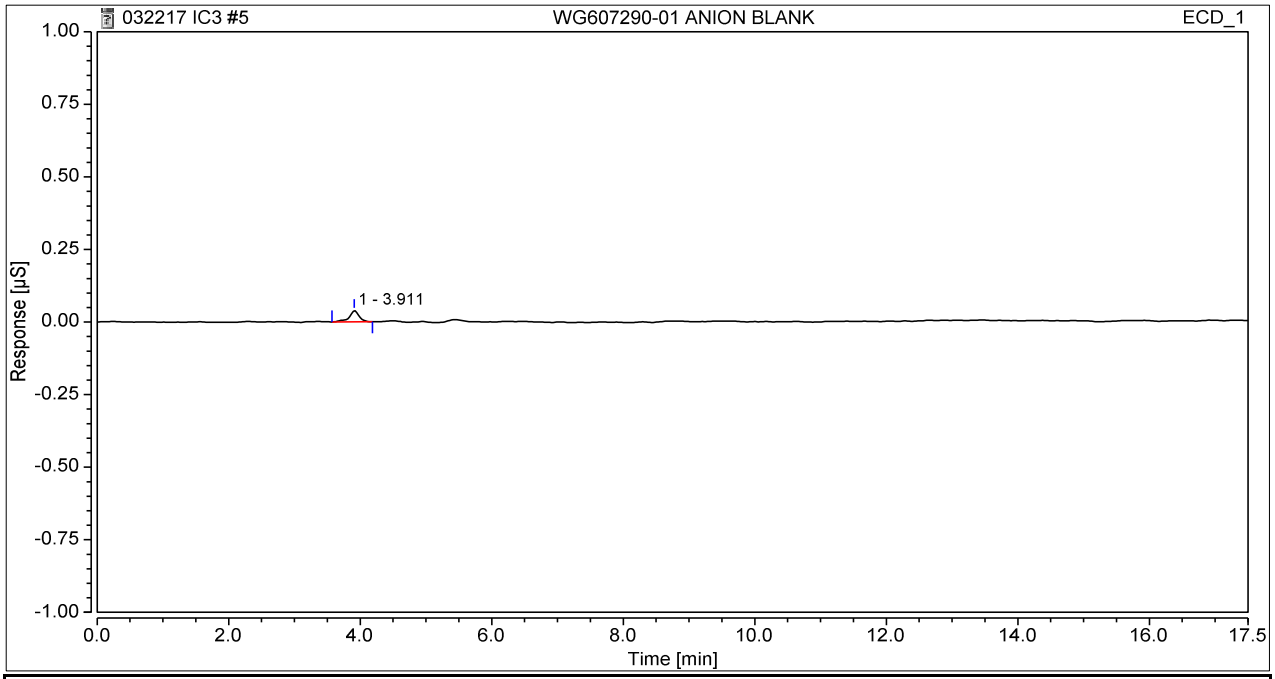
	STANDARD #1	STANDARD #2	STANDARD #3
Date Run	5/20/2014	5/21/2014	5/21/2014
File #	WG476910-05	WG476934-01	WG476934-03
Time	12:41	9:54	13:59

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

2.2.1.5 Raw QC Data

5 WG607290-01 ANION BLANK
1,1 CAS

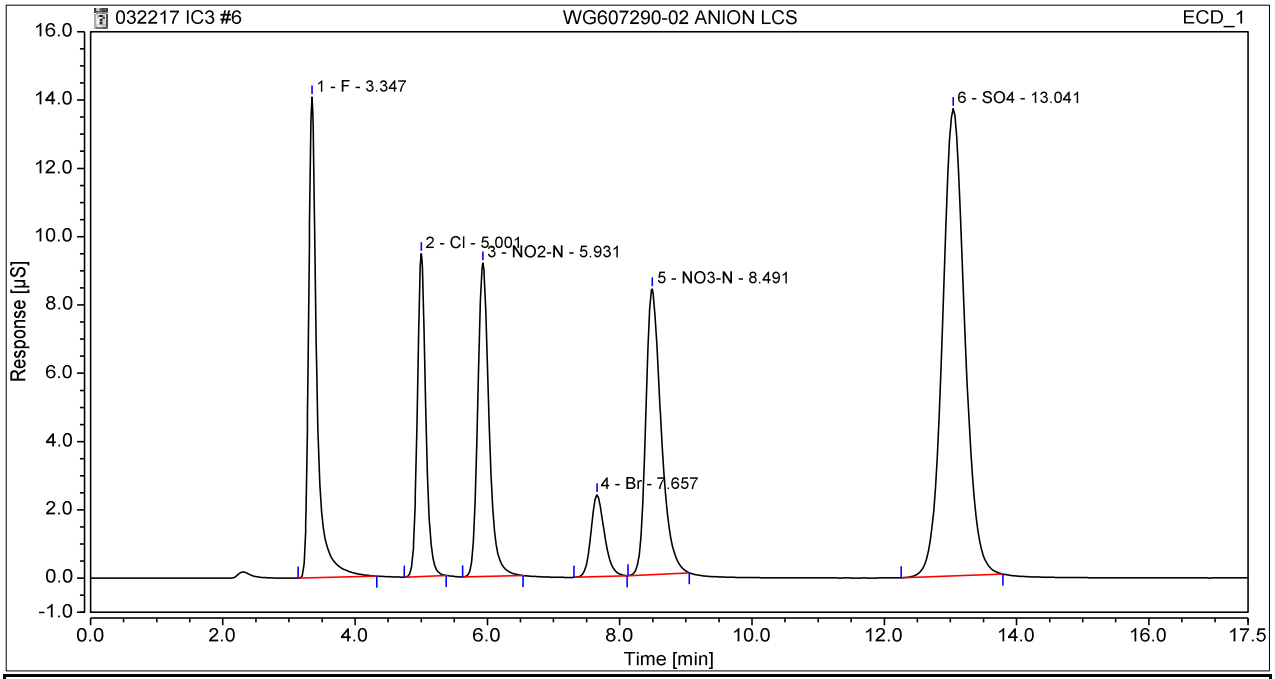
Sample Name:	**WG607290-01 ANION BLANK**	*Injection Volume:*	**5000.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC3_120116_9056QNT**	*Dilution Factor:*	**1.0000**
Recording Time:	**03/22/2017 16:21**	*Sample Weight:*	**1.0000**
Run Time:	**17.5**	*Sample Amount:*	**1.0000**



No.	Ret. Time	Peak Name	Height	Area	Rel. Area	Amount	Type
	min		µS	µS*min	%	mg/L	
Total:			**0.00**	**0.00**	**0**	**0.00**	

6 WG607290-02 ANION LCS
1,1 CAS STD79166

Sample Name:	**WG607290-02 ANION LCS**	*Injection Volume:*	**5000.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC3_120116_9056QNT**	*Dilution Factor:*	**1.0000**
Recording Time:	**03/22/2017 16:41**	*Sample Weight:*	**1.0000**
Run Time:	**17.5**	*Sample Amount:*	**1.0000**



No.	Ret. Time	Peak Name	Height	Area	Rel. Area	Amount	Type
	min		µS	µS*min	%	mg/L	
1	3.35	F	14.0729	2.0838	15.5	8.171	M
2	5.00	Cl	9.4505	1.4049	10.4	8.216	M
3	5.93	NO2-N	9.1766	1.8121	13.4	5.184	M
4	7.66	Br	2.3944	0.5667	4.2	8.486	M
5	8.49	NO3-N	8.3575	2.2565	16.7	5.770	M
6	13.04	SO4	13.6837	5.3606	39.8	41.431	M
Total:			**57.14**	**13.48**	**100**	**77.26**	

3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
March 30, 2017

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001 – BIO-CHEM TESTING WVDEP 220	002 – REIC Consultants, Inc. WVDEP 060
003 – Sturm Environmental	004 – MICROBAC PITTSBURGH
005 – ES LABORATORIES	006 – ALCOSAN LABORATORIES
007 – ALS LABORATORIES	008 – BENCHMARK LABORATORIES
010 – MICROBAC CHICAGOLAND	AC – AMBER R. CARMICHAEL
ADC – ANTHONY D. CANTER	ADG – APRIL D. GREENE
ALS – ADRIANE L. STEED	AWE – ANDREW W. ESSIG
AZH – AFTER HOURS	BJO – BRIAN J. OGDEN
BLG – BRENDA L. GREENWALT	BNB – Brandi N. Bentley
BRG – BRENDA R. GREGORY	CAS – Craig A. Smith
CEB – CHAD E. BARNES	CLC – CHRYS L. CRAWFORD
CLS – CARA L. STRICKLER	CPD – CHAD P. DAVIS
CSH – CHRIS S. HILL	CV – Carl Volkman
DAK – DEAN A. KETELSEN	DCM – DAVID C. MERCKLE
DEV – DAVID E. VANDENBERG	DIH – DEANNA I. HESSON
DLB – DAVID L. BUMGARNER	DLP – DOROTHY L. PAYNE
DSM – DAVID S. MOSSOR	DTG – DOMINIC T. GEHRET
ECL – ERIC C. LAWSON	EPT – ETHAN P. TIDD
ERP – ERIN R. PORTER	FJB – FRANCES J. BOLDEN
HRF – HEATHER R. FAIRCHILD	JDH – JUSTIN D. HESSON
JDS – JARED D. SMITH	JKP – JACQUELINE K. PARSONS
JLD – JESSICA L. DELONG	JST – JOSHUA S. TAYLOR
JTP – JOSHUA T. PEMBERTON	JWR – JOHN W. RICHARDS
JWS – JACK W. SHEAVES	JYH – JI Y. HU
KAK – KATHY A. KIRBY	KDD – Katelyn D. Daley
KEB – KATIE E. BARNES	KHR – KIM H. RHODES
KKB – KERRI K. BUCK	KRA – KATHY R. ALBERTSON
KRP – KATHY R. PARSONS	LJH – Lacey J. Hendershot
LLS – LARRY L. STEPHENS	LSB – LESLIE S. BUCINA
LSJ – LAURA S. JONES	MAP – MARLA A. PORTER
MBK – MORGAN B. KNOWLTON	MES – MARY E. SCHILLING
MMB – MAREN M. BEERY	MRT – MICHELLE R. TAYLOR
PDM – PIERCE D. MORRIS	PIT – MICROBAC WARRENDALE
REK – BOB E. KYER	RLB – BOB BUCHANAN
RNP – RICK N. PETTY	SAV – SARAH A. VANDENBERG
SCB – SARAH C. BOGOLIN	SCJ – SUE ELLEN C. JOHNSON
SDC – SHALYN D. CONLEY	TB – TODD BOYLE
TMB – TIFFANY M. BAILEY	TMM – TAMMY M. MORRIS
VC – VICKI COLLIER	WTD – WADE T. DELONG
XXX – UNAVAILABLE OR SUBCONTRACT	

Microbac Laboratories Inc.
List of Valid Qualifiers
March 30, 2017

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
March 30, 2017

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

L17031141 / Revision: 0 / 335 total pages

Page 330

CHAIN OF CUSTODY

Name Of Lab Shipping To: MICROBAC (740) 373-4071 ATTN: STEPHANIE MOSSBURG

Project: AECOM
LONGHORN ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No.
60256135.GWTPT
HRUMAR16

Job:
GROUNDWATER TREATMENT PLANT
BI-WEEKLY SAMPLES

Prepared By:
Scott Beesinger

P.O Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC	Analyses: CHLORIDE, SULFATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650-6425	Water	03/20/17 / 15:00		3	3		HCL	
LH18/24-SP650-6425	Water	03/20/17 / 15:00		1		1	NONE	
Trip Blank	Water	03/20/17		2	2		HCL	

Additional Remarks: **STANDARD TAT ON ALL PARAMETERS.** **EMAIL RESULTS TO** linda.raabe@aecom.com

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	03/20/17	15:30									

9For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks

Microbac OVD
Received: 03/21/2017 10:16
By: BRENDA GREGORY 221000098520

Brenda Gregory

(Word) S:\1-ces\Forms\Chain of Custody - BiWeekly

Generated: 03/30/2017 13:43

00846561

MICROBAC

Cooler ID 8520

COOLER TEMP >6° C LOG

SAMPLE ID	Bottle 1 °C	Bottle 2 °C	Bottle 3 °C	Bottle 4 °C	Bottle 5 °C	Bottle 6 °C

BLG 3/21/17

pH Exceptions

pH Lot # HC693124

SAMPLE ID	Bottle 1	Bottle 2	Bottle 3	Bottle 4	Bottle 5	Bottle 6

BLG 3/21/17

PRESERVATIVE EXCEPTIONS

✓ NONE

__ AS NOTED

Document Control # 1957
Last 10-07-2016

BLG 3/21/17

Issued to: Document Master File

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L17031141
Account: 2551
Project: 2551.096
Samples: 2
Due Date: 31-MAR-2017

Samplenum	Container ID	Products
L17031141-01	883933	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	L1	21-MAR-2017 14:24	CLS		
2	ANALYZ	L1	ORG4	22-MAR-2017 12:46	HRF	CLS	
3	STORE	ORG4	A1	29-MAR-2017 07:09	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	L1	21-MAR-2017 14:24	CLS		
2	ANALYZ	L1	ORG4	22-MAR-2017 12:46	HRF	CLS	
3	STORE	ORG4	A1	29-MAR-2017 07:09	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	L1	21-MAR-2017 14:24	CLS		
2	ANALYZ	L1	ORG4	22-MAR-2017 12:46	HRF	CLS	
3	STORE	ORG4	A1	29-MAR-2017 07:09	CLS	AWE	

Samplenum	Container ID	Products
L17031141-01	883934	9056

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	21-MAR-2017 14:24	CLS		
2	PREP	W1	SEM	22-MAR-2017 08:40	CAS	CLS	
3	STORE	SEM	A1	23-MAR-2017 15:43	CLS	CAS	

Samplenum	Container ID	Products
L17031141-02	883935	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	L1	21-MAR-2017 14:24	CLS		
2	ANALYZ	L1	ORG4	22-MAR-2017 12:46	HRF	CLS	
3	STORE	ORG4	A1	29-MAR-2017 07:09	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	L1	21-MAR-2017 14:24	CLS		
2	ANALYZ	L1	ORG4	22-MAR-2017 12:46	HRF	CLS	
3	STORE	ORG4	A1	29-MAR-2017 07:09	CLS	AWE	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

NELAP Addendum - January 4, 2016

Non-NELAP LIMS Product and Description

The following is a list of those tests that are not included in the Microbac – OVD NELAP Scope of Accreditation:

Heat of Combustion (BTU)
Total Halide by Bomb Combustion (TX)
Particle Sizing - 200 Mesh (PS200)
Specific Gravity/Density (SPGRAV)
Total Residual Chlorine (CL-TRL)
Total Volatile Solids (all forms) (TVS)
Total Coliform Bacteria (all methods)
Fecal Coliform Bacteria (all methods)
Sulfite (SO3)
Propionaldehyde (HPLC-UV)

SOLID AND HAZARDOUS CHEMICALS
Nitrogen, Ammonia by Method 350.1
Chromium, Hexavalent, Leachable by SM3500 Cr-B 2009
Phenolics, Total by Method 420.1
ASTM D3987-06

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVD HPLC02/HPLC-UV

Nitroglycerin
Acetic acid
Butyric acid
Lactic acid
Propionic acid
Pyruvic acid

OVD MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene
1,4-Dioxane
Atrazine
Benzaldehyde
Biphenyl
Caprolactam
Hexamethylphosphoramide (HMPA)
Pentachlorobenzene
Pentachloroethane

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVD MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVD HPLC07/HPLC-MS-MS

Hexamethylphosphoramide (XMPA-LCMS)

OVD HPLC12/HPLC/UV

Acetate
Formate

OVD RSK01/GC-FID

Acetylene
Propane

OVD K9305/ISE

Fluoroborate

SOLID AND HAZARDOUS CHEMICALS

OVD MSS0I/GC-MS

1-Methylnaphthalene
Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

NELAP Accreditation by Laboratory SOP

SOLID AND HAZARDOUS CHEMICALS

OVD MSV0I/GC-MS

1.3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)

Microbac

Laboratory Report Number: L17031161

Linda Raabe
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 March 31 2017

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 #: L17031161
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.

There were no discrepancies.

Discrepancy	Resolution

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #	Temp Required?
00114306	I	0.0		1Z4016632210154803	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
9	Were samples received within EPA hold times?	Yes
10	Were correct preservatives used? (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	Yes
12	Were VOA samples free of headspace (less than 6mm)?	Yes

Microbac

Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
18WW08-032017	L17031161-01	03/20/2017 08:25	03/21/2017 10:14
18WW08MS-032017	L17031161-02	03/20/2017 08:25	03/21/2017 10:14
18WW08MSD-032017	L17031161-03	03/20/2017 08:25	03/21/2017 10:14
18CPTMW23SW-032017	L17031161-04	03/20/2017 09:40	03/21/2017 10:14
18WW24-032017	L17031161-05	03/20/2017 10:40	03/21/2017 10:14
18WW25-032017	L17031161-06	03/20/2017 13:25	03/21/2017 10:14
18WW25F-032017	L17031161-07	03/20/2017 13:25	03/21/2017 10:14
MW10-032017	L17031161-08	03/20/2017 14:25	03/21/2017 10:14
MW10F-032017	L17031161-09	03/20/2017 14:25	03/21/2017 10:14
TRIP BLANK	L17031161-10	03/20/2017 00:01	03/21/2017 10:14

Microbac REPORT L17031161
PREPARED FOR AECOM Technical Services, Inc.
WORK ID:

1.0 Summary Data 5
1.1 Narratives 6
1.2 Certificate of Analysis 31
2.0 Full Sample Data Package 86
2.1 Volatiles Data 87
2.1.1 Volatiles GCMS Data (8260) 88
2.1.1.1 Summary Data 89
2.1.1.2 QC Summary Data 112
2.1.1.3 Sample Data 172
2.1.1.4 Standards Data 200
2.1.1.5 Raw QC Data 358
2.2 Metals Data 378
2.2.1 Metals I C P Data 379
2.2.1.1 Summary Data 380
2.2.1.2 QC Summary Data 394
2.2.1.3 Raw Data 437
2.2.2 Metals ICP-MS Data 716
2.2.2.1 Summary Data 717
2.2.2.2 QC Summary Data 733
2.2.2.3 Raw Data 788
2.2.3 Metals CVAA Data (Mercury) 1289
2.2.3.1 Summary Data 1290
2.2.3.2 QC Summary 1298
2.2.3.3 Raw Data 1324
3.0 Attachments 1329

1.0 Summary Data

1.1 Narratives

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17031161
Project Name:		**Method:**	8260
Prep Batch Number(s):	WG607454, WG607572	**Reviewer Name:**	Franci Bolden
LRC Date:	2017-03-30 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	2017-03-30 16:22:19

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17031161
Project Name:		**Method:**	8260
Prep Batch Number(s):	WG607454, WG607572	**Reviewer Name:**	Franci Bolden
LRC Date:	2017-03-30 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:**	L17031161
Project Name:		**Method:**	8260
Prep Batch Number(s):	WG607454, WG607572	**Reviewer Name:**	Franci Bolden
LRC Date:	2017-03-30 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:**	L17031161
Project Name:		**Method:**	8260
Prep Batch Number(s):	WG607454, WG607572	**Reviewer Name:**	Franci Bolden
LRC Date:	2017-03-30 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			2
Was the ICAL curve verified for each analyte?		X			1
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:**	L17031161
Project Name:		**Method:**	8260
Prep Batch Number(s):	WG607454, WG607572	**Reviewer Name:**	Franci Bolden
LRC Date:	2017-03-30 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:**	L17031161
Project Name:		**Method:**	8260
Prep Batch Number(s):	WG607454, WG607572	**Reviewer Name:**	Franci Bolden
LRC Date:	2017-03-30 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) Bromomethane was marginally below the LCL in ICV WG607066-12 analyzed 03/21/2017 on HPMS8.

2) 2-Chlorotoluene was marginally below the LCL in CCV WG607453-02 analyzed 03/23/2017 on HPMS11.

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17031161
Project Name:		**Method:**	6010
Prep Batch Number(s):	607345	**Reviewer Name:**	Kerri Buck
LRC Date:	2017-03-30 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
Kerri Buck	Kerri K Buck		2017-03-30 16:30:01

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17031161
Project Name:		**Method:**	6010
Prep Batch Number(s):	607345	**Reviewer Name:**	Kerri Buck
LRC Date:	2017-03-30 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				
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:**	L17031161
Project Name:		**Method:**	6010
Prep Batch Number(s):	607345	**Reviewer Name:**	Kerri Buck
LRC Date:	2017-03-30 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			ER#2
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				ER#3
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:**	L17031161
Project Name:		**Method:**	6010
Prep Batch Number(s):	607345	**Reviewer Name:**	Kerri Buck
LRC Date:	2017-03-30 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				ER#1
Method detection limit (MDL) studies					

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17031161
Project Name:		**Method:**	6010
Prep Batch Number(s):	607345	**Reviewer Name:**	Kerri Buck
LRC Date:	2017-03-30 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:**	L17031161
Project Name:		**Method:**	6010
Prep Batch Number(s):	607345	**Reviewer Name:**	Kerri Buck
LRC Date:	2017-03-30 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 - Calcium and sodium for client sample 05 was reported from the ten fold dilution where the ten fold post digestion spike dilution was compliant.

ER#2 - Sample 01 was chosen by the client for MS/MSD analysis. Samples 02 (MS) and 03 (MSD) yielded a noncompliant recovery for sodium.

ER#3 - Client sample 05 required dilution analysis in order to obtain results for calcium and magnesium within the calibration range. Client samples 04, 07, and 09 required dilution analyses in order to obtain results for iron within the calibration range. Client samples 01, 02, 03, and 05 required dilution analyses in order to obtain results for sodium within the calibration range.

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17031161
Project Name:		**Method:**	6020
Prep Batch Number(s):	607249	**Reviewer Name:**	Kerri Buck
LRC Date:	2017-03-30 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
Kerri Buck	Kerri K Buck		2017-03-30 16:50:52

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17031161
Project Name:		**Method:**	6020
Prep Batch Number(s):	607249	**Reviewer Name:**	Kerri Buck
LRC Date:	2017-03-30 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				
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				ER#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:**	L17031161
Project Name:		**Method:**	6020
Prep Batch Number(s):	607249	**Reviewer Name:**	Kerri Buck
LRC Date:	2017-03-30 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			ER#2
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				ER#3
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:**	L17031161
Project Name:		**Method:**	6020
Prep Batch Number(s):	607249	**Reviewer Name:**	Kerri Buck
LRC Date:	2017-03-30 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:**	L17031161
Project Name:		**Method:**	6020
Prep Batch Number(s):	607249	**Reviewer Name:**	Kerri Buck
LRC Date:	2017-03-30 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:**	L17031161
Project Name:		**Method:**	6020
Prep Batch Number(s):	607249	**Reviewer Name:**	Kerri Buck
LRC Date:	2017-03-30 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 - The method blank associated with this analytical batch yielded a result for manganese which exceeded the reporting detection limit. All client samples along with the batch QA/QC samples were reanalyzed on a later calibration with a compliant method blank for manganese.

ER#2 - Sample 01 was chosen by the client for MS/MSD analysis. Samples 02 (MS) and 03 (MSD) yielded a noncompliant recovery for manganese.

ER#3 - Client samples 04, 07, and 09 required dilution analyses in order to obtain results for barium within the calibration range. Client samples 02, 03, 04, 05, 07, and 09 required dilution analysis in order to obtain results for manganese within the calibration range. In order to stay consistent with batch QC samples 02 (MS) and 03 (MSD), sample 01 was reanalyzed at a dilution for manganese.

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17031161
Project Name:		**Method:**	7471
Prep Batch Number(s):	607143	**Reviewer Name:**	Kerri Buck
LRC Date:	2017-03-30 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
Kerri Buck	Kerri K Buck		2017-03-30 16:23:37

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17031161
Project Name:		**Method:**	7471
Prep Batch Number(s):	607143	**Reviewer Name:**	Kerri Buck
LRC Date:	2017-03-30 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				
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:**	L17031161
Project Name:		**Method:**	7471
Prep Batch Number(s):	607143	**Reviewer Name:**	Kerri Buck
LRC Date:	2017-03-30 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:**	L17031161
Project Name:		**Method:**	7471
Prep Batch Number(s):	607143	**Reviewer Name:**	Kerri Buck
LRC Date:	2017-03-30 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					

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L17031161
Project Name:		**Method:**	7471
Prep Batch Number(s):	607143	**Reviewer Name:**	Kerri Buck
LRC Date:	2017-03-30 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:**	L17031161
Project Name:		**Method:**	7471
Prep Batch Number(s):	607143	**Reviewer Name:**	Kerri Buck
LRC Date:	2017-03-30 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

1.2 Certificate of Analysis

Microbac

Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	18WW08-032017	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	03/21/2017 20:43
Workgroup #:	WG607572	**Analyst:**	TMB	**Run Date:**	03/24/2017 18:52
Collect Date:	03/20/2017 08:25	**Dilution:**	1	**File ID:**	8M418502
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	10.3		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	U	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
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L17031161
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	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	U	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	94.3	85	115	
1,2-Dichloroethane-d4	97.2	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	98.5	75	120	

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

Microbac

Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-01	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO3
Client ID:	18WW08-032017	**Prep Method:**	3015A	**Prep Date:**	03/23/2017 07:42
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	03/29/2017 10:06
Workgroup #:	WG607769	**Analyst:**	JYH	**Run Date:**	03/29/2017 10:42
Collect Date:	03/20/2017 08:25	**Dilution:**	1	**File ID:**	T3.032917.104254
Sample Tag:	02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Aluminum, Total	7429-90-5	0.627		0.200	0.100	0.0500
Beryllium, Total	7440-41-7	0.0100	U	0.0200	0.0100	0.00500
Calcium, Total	7440-70-2	4.96		0.500	0.250	0.125
Iron, Total	7439-89-6	4.95		0.200	0.100	0.0500
Magnesium, Total	7439-95-4	6.21		1.00	0.500	0.250
Potassium, Total	7440-09-7	0.862	J	2.00	1.00	0.500
Selenium, Total	7782-49-2	0.0100	U	0.0200	0.0100	0.00500

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 #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-01	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO3
Client ID:	18WW08-032017	**Prep Method:**	3015A	**Prep Date:**	03/23/2017 07:42
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	03/29/2017 10:06
Workgroup #:	WG607769	**Analyst:**	JYH	**Run Date:**	03/29/2017 12:17
Collect Date:	03/20/2017 08:25	**Dilution:**	10	**File ID:**	T3.032917.121717
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sodium, Total	7440-23-5	147		10.0	5.00	2.50

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 #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-01	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	18WW08-032017	**Prep Method:**	3015	**Prep Date:**	03/22/2017 12:37
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	03/23/2017 14:28
Workgroup #:	WG607276	**Analyst:**	JYH	**Run Date:**	03/23/2017 16:29
Collect Date:	03/20/2017 08:25	**Dilution:**	1	**File ID:**	NI.032317.162910
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Antimony, Total	7440-36-0	0.000942	J	0.00200	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00336		0.00200	0.00100	0.000500
Barium, Total	7440-39-3	0.0734		0.00600	0.00300	0.00150
Cadmium, Total	7440-43-9	0.000397	J	0.00120	0.000600	0.000300
Chromium, Total	7440-47-3	0.0503		0.00400	0.00200	0.00100
Cobalt, Total	7440-48-4	0.00460		0.00200	0.00100	0.000500
Copper, Total	7440-50-8	0.00297	J	0.00400	0.00200	0.00100
Lead, Total	7439-92-1	0.00105	J	0.00200	0.00100	0.000500
Nickel, Total	7440-02-0	0.00951		0.00800	0.00400	0.00200
Silver, Total	7440-22-4	0.00100	U	0.00200	0.00100	0.000500
Thallium, Total	7440-28-0	0.000425		0.000400	0.000200	0.000100
Vanadium, Total	7440-62-2	0.00526		0.00200	0.00100	0.000500
Zinc, Total	7440-66-6	0.0220	J	0.0500	0.0250	0.0125

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 #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-01	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	18WW08-032017	**Prep Method:**	3015	**Prep Date:**	03/22/2017 12:37
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	03/27/2017 11:33
Workgroup #:	WG607276	**Analyst:**	JYH	**Run Date:**	03/27/2017 15:21
Collect Date:	03/20/2017 08:25	**Dilution:**	5	**File ID:**	NI.032717.152103
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Total	7439-96-5	0.164		0.0200	0.0100	0.00500

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 #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-01	**PrePrep Method:**	N/A	**Instrument:**	CVAA1
Client ID:	18WW08-032017	**Prep Method:**	7470A	**Prep Date:**	03/22/2017 09:07
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	03/23/2017 14:18
Workgroup #:	WG607470	**Analyst:**	KDD	**Run Date:**	03/23/2017 15:04
Collect Date:	03/20/2017 08:25	**Dilution:**	1	**File ID:**	M7.032317.150429
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Mercury	7439-97-6	0.000200	U	0.000400	0.000200	0.000100

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

Microbac

Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-02	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	18WW08MS-032017	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	03/21/2017 20:43
Workgroup #:	WG607572	**Analyst:**	TMB	**Run Date:**	03/24/2017 14:51
Collect Date:	03/20/2017 08:25	**Dilution:**	1	**File ID:**	8M418494
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	21.2		10.0	5.00	2.50
Benzene	71-43-2	19.1		1.00	0.250	0.125
Bromobenzene	108-86-1	18.4		1.00	0.250	0.125
Bromochloromethane	74-97-5	19.5		1.00	0.400	0.200
Bromodichloromethane	75-27-4	19.3		1.00	0.500	0.250
Bromoform	75-25-2	20.2		2.00	1.00	0.500
Bromomethane	74-83-9	18.3		2.00	1.00	0.500
2-Butanone	78-93-3	17.7		10.0	5.00	2.50
n-Butylbenzene	104-51-8	18.7		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	18.6		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	17.3		1.00	0.500	0.250
Carbon disulfide	75-15-0	16.2		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	19.5		1.00	0.500	0.250
Chlorobenzene	108-90-7	18.3		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	19.2		1.00	0.500	0.250
Chloroethane	75-00-3	19.5		2.00	1.00	0.500
Chloroform	67-66-3	17.9		1.00	0.250	0.125
Chloromethane	74-87-3	19.8		2.00	1.00	0.500
2-Chlorotoluene	95-49-8	18.2		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	19.0		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	19.6		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	19.3		1.00	0.500	0.250
Dibromomethane	74-95-3	20.7		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	19.0		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	18.3		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	18.4		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	19.8		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	18.6		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	19.0		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	18.6		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	19.0		1.00	0.500	0.250

Microbac

Lab Report #: L17031161
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	18.3		1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	19.2		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	20.2		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	18.8		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	20.3		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	19.5		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	18.7		1.00	0.500	0.250
Ethylbenzene	100-41-4	18.7		1.00	0.500	0.250
2-Hexanone	591-78-6	20.0		10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	16.0		1.00	0.500	0.250
Isopropylbenzene	98-82-8	19.1		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	19.1		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	18.7		10.0	5.00	2.50
Methylene chloride	75-09-2	19.0		1.00	0.500	0.250
Naphthalene	91-20-3	18.5		1.00	0.400	0.200
n-Propylbenzene	103-65-1	18.5		1.00	0.250	0.125
Styrene	100-42-5	19.5		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	17.9		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	20.2		1.00	0.400	0.200
Tetrachloroethene	127-18-4	18.3		1.00	0.500	0.250
Toluene	108-88-3	19.4		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	17.5		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	17.5		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	19.5		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	19.7		1.00	0.500	0.250
Trichloroethene	79-01-6	18.3		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	18.4		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	20.1		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	18.9		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	18.7		1.00	0.500	0.250
Vinyl chloride	75-01-4	19.9		1.00	0.500	0.250
o-Xylene	95-47-6	18.4		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	38.2		2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	95.5	85	115	
1,2-Dichloroethane-d4	94.4	70	120	
Toluene-d8	100	85	120	
4-Bromofluorobenzene	95.7	75	120	

Certificate of Analysis

Microbac

Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Sample #:	L17031161-02	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO3
Client ID:	18WW08MS-032017	**Prep Method:**	3015A	**Prep Date:**	03/23/2017 07:42
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	03/29/2017 10:06
Workgroup #:	WG607769	**Analyst:**	JYH	**Run Date:**	03/29/2017 10:46
Collect Date:	03/20/2017 08:25	**Dilution:**	1	**File ID:**	T3.032917.104634
Sample Tag:	02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Aluminum, Total	7429-90-5	7.18		0.200	0.100	0.0500
Beryllium, Total	7440-41-7	0.0311		0.0200	0.0100	0.00500
Calcium, Total	7440-70-2	11.2		0.500	0.250	0.125
Iron, Total	7439-89-6	7.78		0.200	0.100	0.0500
Magnesium, Total	7439-95-4	12.5		1.00	0.500	0.250
Potassium, Total	7440-09-7	31.3		2.00	1.00	0.500
Selenium, Total	7782-49-2	0.243		0.0200	0.0100	0.00500

Certificate of Analysis

Sample #:	L17031161-02	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO3
Client ID:	18WW08MS-032017	**Prep Method:**	3015A	**Prep Date:**	03/23/2017 07:42
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	03/29/2017 10:06
Workgroup #:	WG607769	**Analyst:**	JYH	**Run Date:**	03/29/2017 12:20
Collect Date:	03/20/2017 08:25	**Dilution:**	10	**File ID:**	T3.032917.122058
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sodium, Total	7440-23-5	176		10.0	5.00	2.50

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

Microbac

Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-02	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	18WW08MS-032017	**Prep Method:**	3015	**Prep Date:**	03/22/2017 12:37
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	03/23/2017 14:28
Workgroup #:	WG607276	**Analyst:**	JYH	**Run Date:**	03/23/2017 16:32
Collect Date:	03/20/2017 08:25	**Dilution:**	1	**File ID:**	NI.032317.163215
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Antimony, Total	7440-36-0	0.125		0.00200	0.00100	0.000500
Arsenic, Total	7440-38-2	0.129		0.00200	0.00100	0.000500
Barium, Total	7440-39-3	0.195		0.00600	0.00300	0.00150
Cadmium, Total	7440-43-9	0.127		0.00120	0.000600	0.000300
Chromium, Total	7440-47-3	0.166		0.00400	0.00200	0.00100
Cobalt, Total	7440-48-4	0.126		0.00200	0.00100	0.000500
Copper, Total	7440-50-8	0.124		0.00400	0.00200	0.00100
Lead, Total	7439-92-1	0.123		0.00200	0.00100	0.000500
Nickel, Total	7440-02-0	0.131		0.00800	0.00400	0.00200
Silver, Total	7440-22-4	0.123		0.00200	0.00100	0.000500
Thallium, Total	7440-28-0	0.127		0.000400	0.000200	0.000100
Vanadium, Total	7440-62-2	0.124		0.00200	0.00100	0.000500
Zinc, Total	7440-66-6	0.136		0.0500	0.0250	0.0125

J	Estimated value ; the analyte concentration was greater than the highest standard

Microbac

Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-02	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	18WW08MS-032017	**Prep Method:**	3015	**Prep Date:**	03/22/2017 12:37
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	03/27/2017 11:33
Workgroup #:	WG607276	**Analyst:**	JYH	**Run Date:**	03/27/2017 15:24
Collect Date:	03/20/2017 08:25	**Dilution:**	5	**File ID:**	NI.032717.152409
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Total	7439-96-5	0.295		0.0200	0.0100	0.00500

J	Estimated value ; the analyte concentration was less than the LOQ.

Microbac

Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-02	**PrePrep Method:**	N/A	**Instrument:**	CVAA1
Client ID:	18WW08MS-032017	**Prep Method:**	7470A	**Prep Date:**	03/22/2017 09:06
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	03/23/2017 14:18
Workgroup #:	WG607470	**Analyst:**	KDD	**Run Date:**	03/23/2017 15:09
Collect Date:	03/20/2017 08:25	**Dilution:**	1	**File ID:**	M7.032317.150930
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Mercury	7439-97-6	0.00412		0.000444	0.000222	0.000111

Certificate of Analysis

Sample #:	L17031161-03	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	18WW08MSD-032017	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	03/21/2017 20:43
Workgroup #:	WG607572	**Analyst:**	TMB	**Run Date:**	03/24/2017 15:21
Collect Date:	03/20/2017 08:25	**Dilution:**	1	**File ID:**	8M418495
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	24.7		10.0	5.00	2.50
Benzene	71-43-2	19.1		1.00	0.250	0.125
Bromobenzene	108-86-1	18.2		1.00	0.250	0.125
Bromochloromethane	74-97-5	19.2		1.00	0.400	0.200
Bromodichloromethane	75-27-4	19.2		1.00	0.500	0.250
Bromoform	75-25-2	19.1		2.00	1.00	0.500
Bromomethane	74-83-9	18.6		2.00	1.00	0.500
2-Butanone	78-93-3	17.1		10.0	5.00	2.50
n-Butylbenzene	104-51-8	18.4		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	18.2		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	17.1		1.00	0.500	0.250
Carbon disulfide	75-15-0	16.3		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	19.3		1.00	0.500	0.250
Chlorobenzene	108-90-7	18.0		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	18.6		1.00	0.500	0.250
Chloroethane	75-00-3	19.6		2.00	1.00	0.500
Chloroform	67-66-3	17.9		1.00	0.250	0.125
Chloromethane	74-87-3	19.8		2.00	1.00	0.500
2-Chlorotoluene	95-49-8	17.9		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	18.5		1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dibromo-3-chloropropane	96-12-8	17.2		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	18.5		1.00	0.500	0.250
Dibromomethane	74-95-3	20.4		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	18.4		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	17.8		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	18.0		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	19.8		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	18.7		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	18.8		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	18.3		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	19.1		1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	18.5		1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	19.0		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	19.3		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	18.8		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	20.2		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	18.7		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	18.6		1.00	0.500	0.250
Ethylbenzene	100-41-4	18.5		1.00	0.500	0.250
2-Hexanone	591-78-6	18.6		10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	16.0		1.00	0.500	0.250
Isopropylbenzene	98-82-8	18.6		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	18.8		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	17.4		10.0	5.00	2.50
Methylene chloride	75-09-2	18.8		1.00	0.500	0.250
Naphthalene	91-20-3	17.4		1.00	0.400	0.200
n-Propylbenzene	103-65-1	18.2		1.00	0.250	0.125
Styrene	100-42-5	19.2		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	17.6		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	19.1		1.00	0.400	0.200
Tetrachloroethene	127-18-4	17.9		1.00	0.500	0.250
Toluene	108-88-3	19.1		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	16.8		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	17.0		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	19.6		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	18.8		1.00	0.500	0.250
Trichloroethene	79-01-6	18.4		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	18.4		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	19.5		2.00	1.00	0.500

Microbac

Lab Report #: L17031161
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	18.6		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	18.5		1.00	0.500	0.250
Vinyl chloride	75-01-4	20.1		1.00	0.500	0.250
o-Xylene	95-47-6	17.9		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	37.5		2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	97.3	85	115	
1,2-Dichloroethane-d4	94.6	70	120	
Toluene-d8	99.6	85	120	
4-Bromofluorobenzene	94.3	75	120	

Certificate of Analysis

Sample #: L17031161-03 **PrePrep Method:** N/A **Instrument:** ICP-THERMO3
Client ID: 18WW08MSD-032017 **Prep Method:** 3015A **Prep Date:** 03/23/2017 07:42
Matrix: Water **Analytical Method:** 6010C **Cal Date:** 03/29/2017 10:06
Workgroup #: WG607769 **Analyst:** JYH **Run Date:** 03/29/2017 10:50
Collect Date: 03/20/2017 08:25 **Dilution:** 1 **File ID:** T3.032917.105003
Sample Tag: 02 **Units:** mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Aluminum, Total	7429-90-5	7.35		0.200	0.100	0.0500
Beryllium, Total	7440-41-7	0.0309		0.0200	0.0100	0.00500
Calcium, Total	7440-70-2	11.3		0.500	0.250	0.125
Iron, Total	7439-89-6	7.91		0.200	0.100	0.0500
Magnesium, Total	7439-95-4	12.6		1.00	0.500	0.250
Potassium, Total	7440-09-7	31.2		2.00	1.00	0.500
Selenium, Total	7782-49-2	0.240		0.0200	0.0100	0.00500

Certificate of Analysis

Sample #: L17031161-03 **PrePrep Method:** N/A **Instrument:** ICP-THERMO3
Client ID: 18WW08MSD-032017 **Prep Method:** 3015A **Prep Date:** 03/23/2017 07:42
Matrix: Water **Analytical Method:** 6010C **Cal Date:** 03/29/2017 10:06
Workgroup #: WG607769 **Analyst:** JYH **Run Date:** 03/29/2017 12:24
Collect Date: 03/20/2017 08:25 **Dilution:** 10 **File ID:** T3.032917.122434
Sample Tag: DL01 **Units:** mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sodium, Total	7440-23-5	196		10.0	5.00	2.50

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

Microbac

Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-03	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	18WW08MSD-032017	**Prep Method:**	3015	**Prep Date:**	03/22/2017 12:37
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	03/23/2017 14:28
Workgroup #:	WG607276	**Analyst:**	JYH	**Run Date:**	03/23/2017 16:35
Collect Date:	03/20/2017 08:25	**Dilution:**	1	**File ID:**	NI.032317.163520
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Antimony, Total	7440-36-0	0.130		0.00200	0.00100	0.000500
Arsenic, Total	7440-38-2	0.134		0.00200	0.00100	0.000500
Barium, Total	7440-39-3	0.211		0.00600	0.00300	0.00150
Cadmium, Total	7440-43-9	0.131		0.00120	0.000600	0.000300
Chromium, Total	7440-47-3	0.180		0.00400	0.00200	0.00100
Cobalt, Total	7440-48-4	0.130		0.00200	0.00100	0.000500
Copper, Total	7440-50-8	0.128		0.00400	0.00200	0.00100
Lead, Total	7439-92-1	0.128		0.00200	0.00100	0.000500
Nickel, Total	7440-02-0	0.134		0.00800	0.00400	0.00200
Silver, Total	7440-22-4	0.128		0.00200	0.00100	0.000500
Thallium, Total	7440-28-0	0.131		0.000400	0.000200	0.000100
Vanadium, Total	7440-62-2	0.129		0.00200	0.00100	0.000500
Zinc, Total	7440-66-6	0.141		0.0500	0.0250	0.0125

J	Estimated value ; the analyte concentration was greater than the highest standard

Microbac

Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-03	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	18WW08MSD-032017	**Prep Method:**	3015	**Prep Date:**	03/22/2017 12:37
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	03/27/2017 11:33
Workgroup #:	WG607276	**Analyst:**	JYH	**Run Date:**	03/27/2017 15:27
Collect Date:	03/20/2017 08:25	**Dilution:**	5	**File ID:**	NI.032717.152715
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Total	7439-96-5	0.328		0.0200	0.0100	0.00500

J	Estimated value ; the analyte concentration was less than the LOQ.

Microbac

Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-03	**PrePrep Method:**	N/A	**Instrument:**	CVAA1
Client ID:	18WW08MSD-032017	**Prep Method:**	7470A	**Prep Date:**	03/22/2017 09:06
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	03/23/2017 14:18
Workgroup #:	WG607470	**Analyst:**	KDD	**Run Date:**	03/23/2017 15:12
Collect Date:	03/20/2017 08:25	**Dilution:**	1	**File ID:**	M7.032317.151200
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Mercury	7439-97-6	0.00409		0.000444	0.000222	0.000111

Certificate of Analysis

Sample #:	L17031161-04	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	18CPTMW23SW-032017	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	03/21/2017 20:43
Workgroup #:	WG607572	**Analyst:**	TMB	**Run Date:**	03/24/2017 19:23
Collect Date:	03/20/2017 09:40	**Dilution:**	1	**File ID:**	8M418503
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	10.9		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	U	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

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Lab Report #: L17031161
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	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	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500

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Lab Report #: L17031161
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	95.2	85	115	
1,2-Dichloroethane-d4	96.8	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	97.0	75	120	

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

Microbac

Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-04	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO3
Client ID:	18CPTMW23SW-032017	**Prep Method:**	3015A	**Prep Date:**	03/23/2017 07:42
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	03/29/2017 10:06
Workgroup #:	WG607769	**Analyst:**	JYH	**Run Date:**	03/29/2017 10:53
Collect Date:	03/20/2017 09:40	**Dilution:**	1	**File ID:**	T3.032917.105332
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Aluminum, Total	7429-90-5	0.157	J	0.200	0.100	0.0500
Beryllium, Total	7440-41-7	0.0100	U	0.0200	0.0100	0.00500
Calcium, Total	7440-70-2	23.3		0.500	0.250	0.125
Magnesium, Total	7439-95-4	11.3		1.00	0.500	0.250
Potassium, Total	7440-09-7	2.75		2.00	1.00	0.500
Selenium, Total	7782-49-2	0.0100	U	0.0200	0.0100	0.00500
Sodium, Total	7440-23-5	80.9		1.00	0.500	0.250

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 #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-04	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO3
Client ID:	18CPTMW23SW-032017	**Prep Method:**	3015A	**Prep Date:**	03/23/2017 07:42
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	03/29/2017 10:06
Workgroup #:	WG607769	**Analyst:**	JYH	**Run Date:**	03/29/2017 12:28
Collect Date:	03/20/2017 09:40	**Dilution:**	10	**File ID:**	T3.032917.122809
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Total	7439-89-6	56.5		2.00	1.00	0.500

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

Microbac

Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-04	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	18CPTMW23SW-032017	**Prep Method:**	3015	**Prep Date:**	03/22/2017 12:37
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	03/23/2017 14:28
Workgroup #:	WG607276	**Analyst:**	JYH	**Run Date:**	03/23/2017 17:00
Collect Date:	03/20/2017 09:40	**Dilution:**	1	**File ID:**	NI.032317.170008
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Antimony, Total	7440-36-0	0.00100	U	0.00200	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00342		0.00200	0.00100	0.000500
Cadmium, Total	7440-43-9	0.000600	U	0.00120	0.000600	0.000300
Chromium, Total	7440-47-3	0.00112	J	0.00400	0.00200	0.00100
Cobalt, Total	7440-48-4	0.00100	U	0.00200	0.00100	0.000500
Copper, Total	7440-50-8	0.00123	J	0.00400	0.00200	0.00100
Lead, Total	7439-92-1	0.00100	U	0.00200	0.00100	0.000500
Nickel, Total	7440-02-0	0.00400	U	0.00800	0.00400	0.00200
Silver, Total	7440-22-4	0.00100	U	0.00200	0.00100	0.000500
Thallium, Total	7440-28-0	0.000309	J	0.000400	0.000200	0.000100
Vanadium, Total	7440-62-2	0.000874	J	0.00200	0.00100	0.000500
Zinc, Total	7440-66-6	0.0250	U	0.0500	0.0250	0.0125

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 #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-04	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	18CPTMW23SW-032017	**Prep Method:**	3015	**Prep Date:**	03/22/2017 12:37
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	03/27/2017 11:33
Workgroup #:	WG607276	**Analyst:**	JYH	**Run Date:**	03/27/2017 15:30
Collect Date:	03/20/2017 09:40	**Dilution:**	25	**File ID:**	NI.032717.153020
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Barium, Total	7440-39-3	0.302		0.150	0.0750	0.0375
Manganese, Total	7439-96-5	0.792		0.100	0.0500	0.0250

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 #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-04	**PrePrep Method:**	N/A	**Instrument:**	CVAA1
Client ID:	18CPTMW23SW-032017	**Prep Method:**	7470A	**Prep Date:**	03/22/2017 09:07
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	03/23/2017 14:18
Workgroup #:	WG607470	**Analyst:**	KDD	**Run Date:**	03/23/2017 15:15
Collect Date:	03/20/2017 09:40	**Dilution:**	1	**File ID:**	M7.032317.151533
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Mercury	7439-97-6	0.000200	U	0.000400	0.000200	0.000100

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

Microbac

Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-05	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	18WW24-032017	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	02/25/2017 21:24
Workgroup #:	WG607454	**Analyst:**	JDS	**Run Date:**	03/23/2017 20:00
Collect Date:	03/20/2017 10:40	**Dilution:**	1	**File ID:**	11M16987
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	6.95	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	U	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	Q	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 #: L17031161
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	U	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	99.2	85	115	
1,2-Dichloroethane-d4	107	70	120	
Toluene-d8	103	85	120	
4-Bromofluorobenzene	102	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 #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-05	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO3
Client ID:	18WW24-032017	**Prep Method:**	3015A	**Prep Date:**	03/23/2017 07:42
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	03/29/2017 10:06
Workgroup #:	WG607769	**Analyst:**	JYH	**Run Date:**	03/29/2017 10:57
Collect Date:	03/20/2017 10:40	**Dilution:**	1	**File ID:**	T3.032917.105710
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Aluminum, Total	7429-90-5	0.201		0.200	0.100	0.0500
Beryllium, Total	7440-41-7	0.0100	U	0.0200	0.0100	0.00500
Iron, Total	7439-89-6	0.202		0.200	0.100	0.0500
Potassium, Total	7440-09-7	0.966	J	2.00	1.00	0.500
Selenium, Total	7782-49-2	0.0100	U	0.0200	0.0100	0.00500

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 #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-05	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO3
Client ID:	18WW24-032017	**Prep Method:**	3015A	**Prep Date:**	03/23/2017 07:42
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	03/29/2017 10:06
Workgroup #:	WG607769	**Analyst:**	JYH	**Run Date:**	03/29/2017 12:39
Collect Date:	03/20/2017 10:40	**Dilution:**	10	**File ID:**	T3.032917.123903
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Calcium, Total	7440-70-2	29.9		5.00	2.50	1.25
Magnesium, Total	7439-95-4	26.7		10.0	5.00	2.50
Sodium, Total	7440-23-5	575		10.0	5.00	2.50

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

Microbac

Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-05	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	18WW24-032017	**Prep Method:**	3015	**Prep Date:**	03/22/2017 12:37
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	03/23/2017 14:28
Workgroup #:	WG607276	**Analyst:**	JYH	**Run Date:**	03/23/2017 17:03
Collect Date:	03/20/2017 10:40	**Dilution:**	1	**File ID:**	NI.032317.170314
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Antimony, Total	7440-36-0	0.00100	U	0.00200	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00362		0.00200	0.00100	0.000500
Barium, Total	7440-39-3	0.0844		0.00600	0.00300	0.00150
Cadmium, Total	7440-43-9	0.000600	U	0.00120	0.000600	0.000300
Chromium, Total	7440-47-3	0.00226	J	0.00400	0.00200	0.00100
Cobalt, Total	7440-48-4	0.00287		0.00200	0.00100	0.000500
Copper, Total	7440-50-8	0.00276	J	0.00400	0.00200	0.00100
Lead, Total	7439-92-1	0.00100	U	0.00200	0.00100	0.000500
Nickel, Total	7440-02-0	0.0135		0.00800	0.00400	0.00200
Silver, Total	7440-22-4	0.00100	U	0.00200	0.00100	0.000500
Thallium, Total	7440-28-0	0.000179	J	0.000400	0.000200	0.000100
Vanadium, Total	7440-62-2	0.00100	U	0.00200	0.00100	0.000500
Zinc, Total	7440-66-6	0.0256	J	0.0500	0.0250	0.0125

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 #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-05	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	18WW24-032017	**Prep Method:**	3015	**Prep Date:**	03/22/2017 12:37
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	03/27/2017 11:33
Workgroup #:	WG607276	**Analyst:**	JYH	**Run Date:**	03/27/2017 15:33
Collect Date:	03/20/2017 10:40	**Dilution:**	5	**File ID:**	NI.032717.153325
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Total	7439-96-5	0.276		0.0200	0.0100	0.00500

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 #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-05	**PrePrep Method:**	N/A	**Instrument:**	CVAA1
Client ID:	18WW24-032017	**Prep Method:**	7470A	**Prep Date:**	03/22/2017 09:07
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	03/23/2017 14:18
Workgroup #:	WG607470	**Analyst:**	KDD	**Run Date:**	03/23/2017 15:18
Collect Date:	03/20/2017 10:40	**Dilution:**	1	**File ID:**	M7.032317.151804
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Mercury	7439-97-6	0.000200	U	0.000400	0.000200	0.000100

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

Microbac

Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-06	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	18WW25-032017	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	03/21/2017 20:43
Workgroup #:	WG607572	**Analyst:**	TMB	**Run Date:**	03/24/2017 19:52
Collect Date:	03/20/2017 13:25	**Dilution:**	1	**File ID:**	8M418504
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	4.48	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	U	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 #: L17031161
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	U	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	96.2	85	115	
1,2-Dichloroethane-d4	98.3	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	98.3	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 #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-07	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO3
Client ID:	18WW25F-032017	**Prep Method:**	3015A	**Prep Date:**	03/23/2017 07:42
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	03/29/2017 10:06
Workgroup #:	WG607769	**Analyst:**	JYH	**Run Date:**	03/29/2017 11:15
Collect Date:	03/20/2017 13:25	**Dilution:**	1	**File ID:**	T3.032917.111512
Sample Tag:	02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Aluminum, Total	7429-90-5	0.100	U	0.200	0.100	0.0500
Beryllium, Total	7440-41-7	0.0100	U	0.0200	0.0100	0.00500
Calcium, Total	7440-70-2	23.1		0.500	0.250	0.125
Magnesium, Total	7439-95-4	13.5		1.00	0.500	0.250
Potassium, Total	7440-09-7	1.48	J	2.00	1.00	0.500
Selenium, Total	7782-49-2	0.0100	U	0.0200	0.0100	0.00500
Sodium, Total	7440-23-5	42.6		1.00	0.500	0.250

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 #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-07	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO3
Client ID:	18WW25F-032017	**Prep Method:**	3015A	**Prep Date:**	03/23/2017 07:42
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	03/29/2017 10:06
Workgroup #:	WG607769	**Analyst:**	JYH	**Run Date:**	03/29/2017 12:49
Collect Date:	03/20/2017 13:25	**Dilution:**	10	**File ID:**	T3.032917.124954
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Total	7439-89-6	13.2		2.00	1.00	0.500

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 #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-07	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	18WW25F-032017	**Prep Method:**	3015	**Prep Date:**	03/22/2017 12:37
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	03/23/2017 14:28
Workgroup #:	WG607276	**Analyst:**	JYH	**Run Date:**	03/23/2017 17:06
Collect Date:	03/20/2017 13:25	**Dilution:**	1	**File ID:**	NI.032317.170619
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Antimony, Total	7440-36-0	0.00100	U	0.00200	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00168	J	0.00200	0.00100	0.000500
Cadmium, Total	7440-43-9	0.000600	U	0.00120	0.000600	0.000300
Chromium, Total	7440-47-3	0.00200	U	0.00400	0.00200	0.00100
Cobalt, Total	7440-48-4	0.00425		0.00200	0.00100	0.000500
Copper, Total	7440-50-8	0.00129	J	0.00400	0.00200	0.00100
Lead, Total	7439-92-1	0.00100	U	0.00200	0.00100	0.000500
Nickel, Total	7440-02-0	0.00229	J	0.00800	0.00400	0.00200
Silver, Total	7440-22-4	0.00100	U	0.00200	0.00100	0.000500
Thallium, Total	7440-28-0	0.000255	J	0.000400	0.000200	0.000100
Vanadium, Total	7440-62-2	0.00100	U	0.00200	0.00100	0.000500
Zinc, Total	7440-66-6	0.0250	U	0.0500	0.0250	0.0125

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 #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-07	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	18WW25F-032017	**Prep Method:**	3015	**Prep Date:**	03/22/2017 12:37
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	03/27/2017 11:33
Workgroup #:	WG607276	**Analyst:**	JYH	**Run Date:**	03/27/2017 15:48
Collect Date:	03/20/2017 13:25	**Dilution:**	25	**File ID:**	NI.032717.154856
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Barium, Total	7440-39-3	0.307		0.150	0.0750	0.0375
Manganese, Total	7439-96-5	3.02		0.100	0.0500	0.0250

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

Microbac

Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-07	**PrePrep Method:**	N/A	**Instrument:**	CVAA1
Client ID:	18WW25F-032017	**Prep Method:**	7470A	**Prep Date:**	03/22/2017 09:07
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	03/23/2017 14:18
Workgroup #:	WG607470	**Analyst:**	KDD	**Run Date:**	03/23/2017 15:20
Collect Date:	03/20/2017 13:25	**Dilution:**	1	**File ID:**	M7.032317.152036
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Mercury	7439-97-6	0.000200	U	0.000400	0.000200	0.000100

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

Microbac

Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-08	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	MW10-032017	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	03/21/2017 20:43
Workgroup #:	WG607572	**Analyst:**	TMB	**Run Date:**	03/24/2017 20:21
Collect Date:	03/20/2017 14:25	**Dilution:**	1	**File ID:**	8M418505
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	7.80	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	U	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 #: L17031161
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	0.447	J	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	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	96.2	85	115	
1,2-Dichloroethane-d4	97.3	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	97.4	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 #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-09	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO3
Client ID:	MW10F-032017	**Prep Method:**	3015A	**Prep Date:**	03/23/2017 07:42
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	03/29/2017 10:06
Workgroup #:	WG607769	**Analyst:**	JYH	**Run Date:**	03/29/2017 11:18
Collect Date:	03/20/2017 14:25	**Dilution:**	1	**File ID:**	T3.032917.111852
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Aluminum, Total	7429-90-5	0.100	U	0.200	0.100	0.0500
Beryllium, Total	7440-41-7	0.0100	U	0.0200	0.0100	0.00500
Calcium, Total	7440-70-2	14.0		0.500	0.250	0.125
Magnesium, Total	7439-95-4	6.87		1.00	0.500	0.250
Potassium, Total	7440-09-7	3.02		2.00	1.00	0.500
Selenium, Total	7782-49-2	0.0100	U	0.0200	0.0100	0.00500
Sodium, Total	7440-23-5	55.4		1.00	0.500	0.250

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

Microbac

Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-09	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO3
Client ID:	MW10F-032017	**Prep Method:**	3015A	**Prep Date:**	03/23/2017 07:42
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	03/29/2017 10:06
Workgroup #:	WG607769	**Analyst:**	JYH	**Run Date:**	03/29/2017 12:53
Collect Date:	03/20/2017 14:25	**Dilution:**	10	**File ID:**	T3.032917.125334
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Total	7439-89-6	23.2		2.00	1.00	0.500

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 #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-09	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	MW10F-032017	**Prep Method:**	3015	**Prep Date:**	03/22/2017 12:37
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	03/23/2017 14:28
Workgroup #:	WG607276	**Analyst:**	JYH	**Run Date:**	03/23/2017 17:09
Collect Date:	03/20/2017 14:25	**Dilution:**	1	**File ID:**	NI.032317.170924
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Antimony, Total	7440-36-0	0.00100	U	0.00200	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00159	J	0.00200	0.00100	0.000500
Cadmium, Total	7440-43-9	0.000493	J	0.00120	0.000600	0.000300
Chromium, Total	7440-47-3	0.00111	J	0.00400	0.00200	0.00100
Cobalt, Total	7440-48-4	0.00226		0.00200	0.00100	0.000500
Copper, Total	7440-50-8	0.00146	J	0.00400	0.00200	0.00100
Lead, Total	7439-92-1	0.00100	U	0.00200	0.00100	0.000500
Nickel, Total	7440-02-0	0.0146		0.00800	0.00400	0.00200
Silver, Total	7440-22-4	0.00100	U	0.00200	0.00100	0.000500
Thallium, Total	7440-28-0	0.000221	J	0.000400	0.000200	0.000100
Vanadium, Total	7440-62-2	0.00100	U	0.00200	0.00100	0.000500
Zinc, Total	7440-66-6	0.0186	J	0.0500	0.0250	0.0125

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 #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-09	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	MW10F-032017	**Prep Method:**	3015	**Prep Date:**	03/22/2017 12:37
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	03/27/2017 11:33
Workgroup #:	WG607276	**Analyst:**	JYH	**Run Date:**	03/27/2017 15:52
Collect Date:	03/20/2017 14:25	**Dilution:**	50	**File ID:**	NI.032717.155202
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Barium, Total	7440-39-3	0.457		0.300	0.150	0.0750
Manganese, Total	7439-96-5	0.534		0.200	0.100	0.0500

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

Microbac

Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-09	**PrePrep Method:**	N/A	**Instrument:**	CVAA1
Client ID:	MW10F-032017	**Prep Method:**	7470A	**Prep Date:**	03/22/2017 09:07
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	03/23/2017 14:18
Workgroup #:	WG607470	**Analyst:**	KDD	**Run Date:**	03/23/2017 15:23
Collect Date:	03/20/2017 14:25	**Dilution:**	1	**File ID:**	M7.032317.152308
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Mercury	7439-97-6	0.000200	U	0.000400	0.000200	0.000100

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

Microbac

Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-10	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	TRIP BLANK	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	02/25/2017 21:24
Workgroup #:	WG607454	**Analyst:**	JDS	**Run Date:**	03/23/2017 16:04
Collect Date:	03/20/2017 00:01	**Dilution:**	1	**File ID:**	11M16979
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	4.18	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	U	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	Q	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 #: L17031161
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	U	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	103	85	115	
1,2-Dichloroethane-d4	109	70	120	
Toluene-d8	107	85	120	
4-Bromofluorobenzene	107	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 #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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Lab Report #: L17031161
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

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Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

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Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	18WW08-032017	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	03/21/2017 20:43
Workgroup #:	WG607572	**Analyst:**	TMB	**Run Date:**	03/24/2017 18:52
Collect Date:	03/20/2017 08:25	**Dilution:**	1	**File ID:**	8M418502
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	10.3		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	U	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
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250

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Lab Report #: L17031161
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	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	U	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	94.3	85	115	
1,2-Dichloroethane-d4	97.2	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	98.5	75	120	

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

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Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-02	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	18WW08MS-032017	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	03/21/2017 20:43
Workgroup #:	WG607572	**Analyst:**	TMB	**Run Date:**	03/24/2017 14:51
Collect Date:	03/20/2017 08:25	**Dilution:**	1	**File ID:**	8M418494
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	21.2		10.0	5.00	2.50
Benzene	71-43-2	19.1		1.00	0.250	0.125
Bromobenzene	108-86-1	18.4		1.00	0.250	0.125
Bromochloromethane	74-97-5	19.5		1.00	0.400	0.200
Bromodichloromethane	75-27-4	19.3		1.00	0.500	0.250
Bromoform	75-25-2	20.2		2.00	1.00	0.500
Bromomethane	74-83-9	18.3		2.00	1.00	0.500
2-Butanone	78-93-3	17.7		10.0	5.00	2.50
n-Butylbenzene	104-51-8	18.7		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	18.6		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	17.3		1.00	0.500	0.250
Carbon disulfide	75-15-0	16.2		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	19.5		1.00	0.500	0.250
Chlorobenzene	108-90-7	18.3		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	19.2		1.00	0.500	0.250
Chloroethane	75-00-3	19.5		2.00	1.00	0.500
Chloroform	67-66-3	17.9		1.00	0.250	0.125
Chloromethane	74-87-3	19.8		2.00	1.00	0.500
2-Chlorotoluene	95-49-8	18.2		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	19.0		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	19.6		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	19.3		1.00	0.500	0.250
Dibromomethane	74-95-3	20.7		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	19.0		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	18.3		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	18.4		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	19.8		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	18.6		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	19.0		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	18.6		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	19.0		1.00	0.500	0.250

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Lab Report #: L17031161
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	18.3		1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	19.2		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	20.2		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	18.8		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	20.3		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	19.5		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	18.7		1.00	0.500	0.250
Ethylbenzene	100-41-4	18.7		1.00	0.500	0.250
2-Hexanone	591-78-6	20.0		10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	16.0		1.00	0.500	0.250
Isopropylbenzene	98-82-8	19.1		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	19.1		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	18.7		10.0	5.00	2.50
Methylene chloride	75-09-2	19.0		1.00	0.500	0.250
Naphthalene	91-20-3	18.5		1.00	0.400	0.200
n-Propylbenzene	103-65-1	18.5		1.00	0.250	0.125
Styrene	100-42-5	19.5		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	17.9		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	20.2		1.00	0.400	0.200
Tetrachloroethene	127-18-4	18.3		1.00	0.500	0.250
Toluene	108-88-3	19.4		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	17.5		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	17.5		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	19.5		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	19.7		1.00	0.500	0.250
Trichloroethene	79-01-6	18.3		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	18.4		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	20.1		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	18.9		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	18.7		1.00	0.500	0.250
Vinyl chloride	75-01-4	19.9		1.00	0.500	0.250
o-Xylene	95-47-6	18.4		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	38.2		2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	95.5	85	115	
1,2-Dichloroethane-d4	94.4	70	120	
Toluene-d8	100	85	120	
4-Bromofluorobenzene	95.7	75	120	

Certificate of Analysis

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Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Sample #:	L17031161-03	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	18WW08MSD-032017	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	03/21/2017 20:43
Workgroup #:	WG607572	**Analyst:**	TMB	**Run Date:**	03/24/2017 15:21
Collect Date:	03/20/2017 08:25	**Dilution:**	1	**File ID:**	8M418495
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	24.7		10.0	5.00	2.50
Benzene	71-43-2	19.1		1.00	0.250	0.125
Bromobenzene	108-86-1	18.2		1.00	0.250	0.125
Bromochloromethane	74-97-5	19.2		1.00	0.400	0.200
Bromodichloromethane	75-27-4	19.2		1.00	0.500	0.250
Bromoform	75-25-2	19.1		2.00	1.00	0.500
Bromomethane	74-83-9	18.6		2.00	1.00	0.500
2-Butanone	78-93-3	17.1		10.0	5.00	2.50
n-Butylbenzene	104-51-8	18.4		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	18.2		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	17.1		1.00	0.500	0.250
Carbon disulfide	75-15-0	16.3		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	19.3		1.00	0.500	0.250
Chlorobenzene	108-90-7	18.0		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	18.6		1.00	0.500	0.250
Chloroethane	75-00-3	19.6		2.00	1.00	0.500
Chloroform	67-66-3	17.9		1.00	0.250	0.125
Chloromethane	74-87-3	19.8		2.00	1.00	0.500
2-Chlorotoluene	95-49-8	17.9		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	18.5		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	17.2		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	18.5		1.00	0.500	0.250
Dibromomethane	74-95-3	20.4		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	18.4		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	17.8		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	18.0		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	19.8		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	18.7		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	18.8		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	18.3		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	19.1		1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	18.5		1.00	0.500	0.250

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Lab Report #: L17031161
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	19.0		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	19.3		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	18.8		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	20.2		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	18.7		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	18.6		1.00	0.500	0.250
Ethylbenzene	100-41-4	18.5		1.00	0.500	0.250
2-Hexanone	591-78-6	18.6		10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	16.0		1.00	0.500	0.250
Isopropylbenzene	98-82-8	18.6		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	18.8		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	17.4		10.0	5.00	2.50
Methylene chloride	75-09-2	18.8		1.00	0.500	0.250
Naphthalene	91-20-3	17.4		1.00	0.400	0.200
n-Propylbenzene	103-65-1	18.2		1.00	0.250	0.125
Styrene	100-42-5	19.2		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	17.6		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	19.1		1.00	0.400	0.200
Tetrachloroethene	127-18-4	17.9		1.00	0.500	0.250
Toluene	108-88-3	19.1		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	16.8		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	17.0		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	19.6		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	18.8		1.00	0.500	0.250
Trichloroethene	79-01-6	18.4		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	18.4		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	19.5		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	18.6		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	18.5		1.00	0.500	0.250
Vinyl chloride	75-01-4	20.1		1.00	0.500	0.250
o-Xylene	95-47-6	17.9		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	37.5		2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	97.3	85	115	
1,2-Dichloroethane-d4	94.6	70	120	
Toluene-d8	99.6	85	120	
4-Bromofluorobenzene	94.3	75	120	

Certificate of Analysis

Microbac

Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Sample #:	L17031161-04	**PrePrep Method:**	N/A	**Instrument:**	HPMS8
Client ID:	18CPTMW23SW-032017	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	03/21/2017 20:43
Workgroup #:	WG607572	**Analyst:**	TMB	**Run Date:**	03/24/2017 19:23
Collect Date:	03/20/2017 09:40	**Dilution:**	1	**File ID:**	8M418503
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	10.9		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	U	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
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250

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Lab Report #: L17031161
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	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	U	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	95.2	85	115	
1,2-Dichloroethane-d4	96.8	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	97.0	75	120	

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

Microbac

Lab Report #: L17031161
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L17031161-05	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	18WW24-032017	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	02/25/2017 21:24
Workgroup #:	WG607454	**Analyst:**	JDS	**Run Date:**	03/23/2017 20:00
Collect Date:	03/20/2017 10:40	**Dilution:**	1	**File ID:**	11M16987
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	6.95	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	U	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	Q	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