Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 209191
ANALYTICAL REPORT

Baseline Environmental	Project	: Y0239-04.A3
5900 Hollis Street	Location	: Doyle Drive Replacement Project
Emeryville, CA 94608	Level	: III

Sample ID	Lab ID
E074F-1.0	209191-001
E074F-2.5	209191-002
E074A-7.5	209191-003
E074A-12.5	209191-004
E074C-17.5	209191-005
E074C-22.5	209191-006
E074C-27.5	209191-007
E074C-32.5	209191-008
E074C-37.5	209191-009
E076F-1.0	209191-010
E076F-2.5	209191-011
E076A-7.5	209191-012
E076A-12.5	209191-013
E076A-17.5	209191-014
E076C-22.5	209191-015
E076C-27.5	209191-016
E076C-32.5	209191-017
E074	209191-018

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 01/20/2009
Project Manager

Signature: _____ Date: 01/21/2009
Senior Program Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**209191**
Client:	**Baseline Environmental**
Project:	**Y0239-04.A3**
Location:	**Doyle Drive Replacement Project**
Request Date:	**01/12/09**
Samples Received:	**01/12/09**

This data package contains sample and QC results for four soil samples and one water sample, requested for the above referenced project on 01/12/09. See attached cooler receipt form for any sample receipt problems or discrepancies.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):
No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):
No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):
E074 (lab # 209191-018) had multiple vials combined due to sediment.

No other analytical problems were encountered.

Semivolatile Organics by GC/MS (EPA 8270C):
Low responses were observed for 3,3'-dichlorobenzidine, 3-nitroaniline, and 4-nitroaniline in the CCV analyzed 01/15/09 18:21; these analytes met minimum response criteria.

Low surrogate recovery was observed for terphenyl-d14 in E074 (lab # 209191-018), due to matrix interference.

No other analytical problems were encountered.

PCBs (EPA 8082):
All samples underwent sulfur cleanup using the copper option in EPA Method 3660B.

Low surrogate recoveries were observed for decachlorobiphenyl in E074 (lab # 209191-018) and the method blank/BS for batch 146951; the corresponding TCMX surrogate recoveries were within limits.

No other analytical problems were encountered.

Metals (EPA 6020 and EPA 7470A) Water:
Low recoveries were observed for nickel in the MS/MSD for batch 146911; the parent sample was not a project sample, and the associated RPD was within limits.

High % differences were observed for a number of analytes in the serial

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**209191**
Client:	**Baseline Environmental**
Project:	**Y0239-04.A3**
Location:	**Doyle Drive Replacement Project**
Request Date:	**01/12/09**
Samples Received:	**01/12/09**

Metals (EPA 6020 and EPA 7470A) Water:
dilution for batch 146911.

No other analytical problems were encountered.

Metals (EPA 6010B) Soil:
Low recovery was observed for lead in the MS of E074F-1.0 (lab # 209191-001); the BS/BSD were within limits, and the associated RPD was within limits.

High % difference was observed for lead in the serial dilution of E074F-1.0 (lab # 209191-001).

No other analytical problems were encountered.

Ion Chromatography (EPA 300.0):
No analytical problems were encountered.

Dissolved Sulfide (SM4500S2-D):
No analytical problems were encountered.

Total Suspended Solids (TSS) (SM2540D):
No analytical problems were encountered.

pH (EPA 9040C):
No analytical problems were encountered.

Chemical Oxygen Demand (SM5220D):
Low recovery was observed for chemical oxygen demand in the MSD of E074 (lab # 209191-018); the LCS was within limits, and the associated RPD was within limits.

No other analytical problems were encountered.

Moisture (ASTM D2216/CLP):
No analytical problems were encountered.

Chain of Custody

BASELINE Environmental Consulting
5900 Hollis Street, Suite D
Emeryville, CA 94608
Tel: (510) 420-8686 Fax: (510) 420-1707

CHAIN OF CUSTODY RECORD

209191

Turn-Around-Time Standard TAT
Laboratory Curtis & Tompkins, Ltd.
BASELINE Contact Person Cheri Page

Project Number Y0239-04.A3
Project Name: Doyle Drive Replacement Project

Samplers Signature: [signature]

Suite A consists of Sampling Suite B, listed below, plus organochlorine pesticides by EPA Method 8081A and herbicides by EPA Method 8151A.
Suite B consists of Title 22 metals (EPA Methods 6020/7000 series), VOCs (EPA Method 8260B), SVOCs (EPA Method 8270C), TPH-g (EPA Method 8015M/CA LUFT), TPH-d and fo (EPA Method 8015M with silica gel cleanup), PAHs (EPA Method 8310), and PCBs (EPA Method 8082). and RCI

	Sample ID No. Station	Date	Time	Media	Containers No.	Stainless Steel	Brass liner	Macrocore	Ice	Lead	Asbestos	Suite A	Suite B	Title 22 metals	RCI						Remarks/ Composite
1	E074F-1.0	1-12-09	10:00	S	2		X		X	X											
2	E074F-2.5	1-12-09	10:10	S	2		X		X	X											
3	E074A-7.5	1/12-09	10:20	S	1		X		X												
4	E074A-12.5	1/12/09	10:30	S	1		X		X												
5	E074C-17.5	1/12/09	11:01	S	1		X		X												
6	E074C-22.5	1/12/09	11:07	S	1		X		X												
7	E074C-27.5	1/12/09	11:15	S	1		X		X												
8	E074C-32.5	1-12-09	11:22	S	1		X		X												
9	E074C-37.5	1-12-09	11:33	S	1		X		X												

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	
[signature]	1-12-09 / 14:10	[signature] 1/12/09	1410	Arrival at Laboratory:
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Remarks:
				Email contact:
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	cheri@baseline-env.com
Received at laboratory with intact: YES NO		Comments:		

BASELINE Environmental Consulting
5900 Hollis Street, Suite D
Emeryville, CA 94608
Tel: (510) 420-8686 Fax: (510) 420-1707

CHAIN OF CUSTODY RECORD

209191

Turn-Around-Time Standard TAT
Laboratory Curtis & Tompkins, Ltd.
BASELINE Contact Person Cheri Page

Project Number Y0239-04.A3
Project Name: Doyle Drive Replacement Project

Samplers Signature

Suite A consists of Sampling Suite B, listed below, plus organochlorine pesticides by EPA Method 8081A and herbicides by EPA Method 8151A.
Suite B consists of Title 22 metals (EPA Methods 6020/7000 series), VOCs (EPA Method 8260B), SVOCs (EPA Method 8270C), TPH-g (EPA Method 8015M/CA LUFT), TPH-d and fo (EPA Method 8015M with silica gel cleanup), PAHs (EPA Method 8310), and PCBs (EPA Method 8082). and RCI

	Sample ID No. Station	Date	Time	Media	Containers No.	Stainless Steel	Brass liner	Macrocore	Ice	Lead	Asbestos	Suite A	Suite B	Title 22 metals	RCI						Remarks/ Composite
10	E076F-1.0	1-12-09	13:20	Soil	2		X		X	X											
11	E076F-2.5	1-12-09	13:30	Soil	2		X		X	X											
12	E076A-7.5	1-12-09	13:40	Soil	1		X														
13	E076A-12.5	1-12-09	13:45	Soil	1		X														
14	E076A-17.5	1-12-09	13:50	Soil	1		X														
15	E076C-22.5	1-12-09	14:00	Soil	1		X														
16	E076C-27.5	1-12-09	14:05	Soil	1		X														
17	E076C-32.5	1-12-09	14:10	Soil	1		X														

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	1-12-09/ 14:10	1/12/09	1410
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

Arrival at Laboratory:
Remarks:
Email contact:
cheri@baseline-env.com

Received at laboratory with intact: YES NO
Comments:

BASELINE Environmental Consulting
5900 Hollis Street, Suite D
Emeryville, CA 94608
Tel: (510) 420-8686 Fax: (510) 420-1707

CHAIN OF CUSTODY RECORD

209191

Turn-Around-Time Standard
Laboratory Curtis and Tompkins, Ltd.
BASELINE Contact Person Cheri Page

Project Number Y0239-04.A3
Project Name: Doyle Drive Replacement Project
Samplers: (Signature)

[1]As, Cd, Cr, Cu, Pb, Hg, Ni, Ag, and Zn

Sample ID No. Station	Date	Time	Media	Containers No.	L-AG	40-ml VOA	500 ml-Poly	250 ml Poly	Ice	HCL	HNO_3	H_2SO_4	NaOH	TPH-g (EPA Method 8015M)	TPH-d and mo (EPA Method 8015M with silica gel cleanup)	VOC (EPA Method 8260)	PCB (EPA Method 8082)	SVOC (EPA Method 8270)	Dissolved Sulfides	pH	Total Suspended Solids	Chemical Oxygen Demad	Chlorides	Metals[1] (EPA Method 6010B/7471)	Remarks/ Composite
14 E074	1-12-09	12:00	WATER			6			X	X				X		X									
					4				X						X		X	X			X				
							1		X				X						X						
							1		X											X			X		
								1	X			X										X			
								1	X		X													X	

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	1-12-09 14:10	1/12/09	1400
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	

Arrival at Laboratory:
Remarks:
Email contact:
cheri@baseline-env.com

Received at laboratory with intact: YES NO
Comments:

Page 3 of 3

Y0239-04.A3.gw_chain_of_custody

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 209191 Date Received 1-12-9 Number of coolers 1
Client BASELINE Project DOYLE DRIVE

Date Opened 1-12-9 By (print) S. EVANS (sign) [signature]
Date Logged in / By (print) PHUONG (sign) P.U

1. Did cooler come with a shipping slip (airbill, etc) _____ YES ~~NO~~
   Shipping info _____

2A. Were custody seals present? ... ☐ YES (circle) on cooler on samples ☑ NO
   How many _____ Name _____ Date _____
2B. Were custody seals intact upon arrival? _____ YES NO ~~N/A~~
3. Were custody papers dry and intact when received? _____ ~~YES~~ NO
4. Were custody papers filled out properly (ink, signed, etc)? _____ ~~YES~~ NO
5. Is the project identifiable from custody papers? (If so fill out top of form) ~~YES~~ NO
6. Indicate the packing in cooler: (if other, describe) _____

   ☑ Bubble Wrap ☑ Foam blocks ☑ Bags ☐ None
   ☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels
7. Temperature documentation:

   Type of ice used: ☑ Wet ☐ Blue/Gel ☐ None Temp(°C) _____

   ☑ Samples Received on ice & cold without a temperature blank

   ☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES ~~NO~~
   If YES, what time were they transferred to freezer? _____
9. Did all bottles arrive unbroken/unopened? _____ ~~YES~~ NO
10. Are samples in the appropriate containers for indicated tests? _____ ~~YES~~ NO
11. Are sample labels present, in good condition and complete? _____ ~~YES~~ NO
12. Do the sample labels agree with custody papers? _____ ~~YES~~ NO
13. Was sufficient amount of sample sent for tests requested? _____ ~~YES~~ NO
14. Are the samples appropriately preserved? _____ ~~YES~~ NO N/A
15. Are bubbles > 6mm absent in VOA samples? _____ ~~YES~~ NO N/A
16. Was the client contacted concerning this sample delivery? _____ YES NO
   If YES, Who was called? _____ By _____ Date: _____

COMMENTS

_____
_____
_____
_____
_____
_____
_____
_____

Laboratory Job Number 209191

ANALYTICAL REPORT

TPH-Purgeables and/or BTXE by GC

Matrix: Water

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	Y0239-04.A3	Analysis:	EPA 8015B
Field ID:	E074	Batch#:	146903
Matrix:	Water	Sampled:	01/12/09
Units:	ug/L	Received:	01/12/09
Diln Fac:	1.000	Analyzed:	01/13/09

Type: SAMPLE Lab ID: 209191-018

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	104	65-135

Type: BLANK Lab ID: QC479144

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	93	65-135

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	Y0239-04.A3	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC479145	Batch#:	146903
Matrix:	Water	Analyzed:	01/13/09
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,016	102	75-125

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	103	65-135

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	Y0239-04.A3	Analysis:	EPA 8015B
Field ID:	E074	Batch#:	146903
MSS Lab ID:	209191-018	Sampled:	01/12/09
Matrix:	Water	Received:	01/12/09
Units:	ug/L	Analyzed:	01/13/09
Diln Fac:	1.000		

Type: MS Lab ID: QC479146

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	31.90	2,000	1,893	93	75-125

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	108	65-135

Type: MSD Lab ID: QC479147

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,948	96	75-125	3	35

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	108	65-135

RPD= Relative Percent Difference

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 209191 GCVOA Water: EPA 8015B

Inst : GC07
Calnum : 328253936003
Units : ng

Name : GC07 TVH 176
Date : 25-JUN-2008 00:15
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	176_022	328253936022	TVH 1	25-JUN-2008 00:15	S8847 (1000X), S9291 (5000X)
L2	176_023	328253936023	TVH 2	25-JUN-2008 00:52	S8846 (1000X), S9291 (5000X)
L3	176_024	328253936024	TVH 3	25-JUN-2008 01:29	S8845 (1000X), S9291 (5000X)
L4	176_025	328253936025	TVH 4	25-JUN-2008 02:06	S8844 (2000X), S9291 (5000X)
L5	176_026	328253936026	TVH 5	25-JUN-2008 02:43	S8844 (1000X), S9291 (5000X)

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Gasoline C7-C12	A	3740.6	2830.0	2898.0	2508.2	2566.4	AVRG		3.44E-4		2908.7	17	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Gasoline C7-C12	A	250.0	29	2500	-3	10000	0	25000	-14	50000	-12

Analyst: PDM Date: 06/25/08 Reviewer: MMP Date: 06/26/08

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 209191 GCVOA Water
EPA 8015B

Inst : GC07 Name : GC07 TVH 176
Calnum : 328253936003 Cal Date : 25-JUN-2008

ICV 328253936029 (176_029 25-JUN-2008) stds: S9476 (1000X), S9291 (5000X)

Analyte	Ch	Average RF	RF	Spiked	Quant	Units	%D	Flags
Gasoline C7-C12	A	2908.7	2514.2	10000	8644	ng	-14	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 209191 GCVOA Water: EPA 8015B / EPA 8021B

Inst : GC07
Calnum : 329011983003
Units : ng

Name : gc07 surr ical 008
Date : 08-JAN-2009 12:44
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	008_006	329011983006	SURROGATE_1	08-JAN-2009 12:44	S10937 (5000X)
L2	008_007	329011983007	SURROGATE_2	08-JAN-2009 13:21	S10937 (5000X)
L3	008_008	329011983008	SURROGATE_3	08-JAN-2009 13:57	S10937 (5000X)
L4	008_009	329011983009	SURROGATE_4	08-JAN-2009 14:34	S10937 (5000X)
L5	008_010	329011983010	SURROGATE_5	08-JAN-2009 15:11	S10937 (5000X)

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Bromofluorobenzene (FID)	A	2736.0	2768.4	2675.2	2669.4	2699.1	AVRG		3.69E-4		2709.6	2	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Bromofluorobenzene (FID)	A	450.0	1	450.0	2	450.0	-1	450.0	-1	450.0	0

Analyst: PDM Date: 01/10/09 Reviewer: CP Date: 01/12/09

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS SPIKE USER REPORT FOR 209191 GCVOA Water
EPA 8015B

Inst : GC07 Run Name : QC479145 IDF : 1.0
Seqnum : 329019163003.3 File : 013_003 Time : 13-JAN-2009 08:36
Standards: S10986 (2000X), S10937 (5000X)

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	328253936003	25-JUN-2008	2908.7	2954.2	5000	5078	ng	2	15	u
Bromofluorobenzene (FID)	A	329011983003	08-JAN-2009	2709.6	2788.7	450.0	463.1	ng	3	15	u

Analyst: PDM Date: 01/14/09 Reviewer: ATL Date: 01/16/09

u=use

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 GCVOA Water
EPA 8015B

Inst : GC07 Run Name : BTXE IDF : 1.0
Seqnum : 329019163013 File : 013_013 Time : 13-JAN-2009 16:12
Cal : 329011983003 Caldate : 08-JAN-2009
Standards: S10675 (1000X), S10937 (5000X)

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Bromofluorobenzene (FID)	A	2709.6	2767.0	450.0	459.5	ng	2	15	

PDM 01/14/09 : corrected automatically drawn baseline, Channel C

Analyst: PDM Date: 01/14/09 Reviewer: EAH Date: 01/15/09

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 GCVOA Water
EPA 8015B

Inst : GC07 Run Name : TVH IDF : 1.0
Seqnum : 329019163014 File : 013_014 Time : 13-JAN-2009 16:49
Standards: S10986 (1000X), S10937 (5000X)

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Gasoline C7-C12	A	328253936003	25-JUN-2008	2908.7	2739.2	10000	9417	ng	-6	15	
Bromofluorobenzene (FID)	A	329011983003	08-JAN-2009	2709.6	2895.4	450.0	480.9	ng	7	15	

PDM 01/14/09 [Trifluorotoluene (FID) A]: Passes control limits.

Analyst: PDM Date: 01/14/09 Reviewer: EAH Date: 01/15/09

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 328253936

Instrument : GC07 Begun : 06/24/08 08:16
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv14

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	176_001	X	IB			06/24/08 08:16	1.0	1	
002	176_002	ICAL	SURROGATE_1			06/24/08 08:50	1.0	1	
003	176_003	ICAL	SURROGATE_2			06/24/08 09:58	1.0	1	
004	176_004	ICAL	SURROGATE_3			06/24/08 11:05	1.0	1	
005	176_005	ICAL	SURROGATE_4			06/24/08 12:07	1.0	1	
006	176_006	ICAL	SURROGATE_5			06/24/08 12:43	1.0	1	
007	176_007	X	IB			06/24/08 13:20	1.0	1	
008	176_008	IB	IB			06/24/08 15:42	1.0	1	
009	176_009	ICAL	BTXE_1			06/24/08 16:18	1.0	2 1	
010	176_010	ICAL	MBTXE_2			06/24/08 16:55	1.0	3 1	
011	176_011	ICAL	MBTXE_3			06/24/08 17:32	1.0	3 1	
012	176_012	ICAL	MBTXE_4			06/24/08 18:09	1.0	3 1	
013	176_013	ICAL	MBTXE_5			06/24/08 18:45	1.0	4 1	
014	176_014	ICAL	MBTXE_6			06/24/08 19:22	1.0	4 1	
015	176_015	ICAL	MBTXE_7			06/24/08 19:58	1.0	4 1	
016	176_016	ICAL	MTBE_7			06/24/08 20:35	1.0	5 1	
017	176_017	X	IB			06/24/08 21:12	1.0	1	
018	176_018	X	ICV			06/24/08 21:49	1.0	6 1	
019	176_019	ICV	MBTXE			06/24/08 22:25	1.0	6 1	
020	176_020	X	IB			06/24/08 23:02	1.0	1	
021	176_021	IB	IB			06/24/08 23:39	1.0	1	
022	176_022	ICAL	TVH 1			06/25/08 00:15	1.0	7 1	
023	176_023	ICAL	TVH 2			06/25/08 00:52	1.0	8 1	
024	176_024	ICAL	TVH 3			06/25/08 01:29	1.0	9 1	
025	176_025	ICAL	TVH 4			06/25/08 02:06	1.0	10 1	
026	176_026	ICAL	TVH 5			06/25/08 02:43	1.0	10 1	
027	176_027	X	IB			06/25/08 03:19	1.0	1	
028	176_028	X	ICV			06/25/08 03:56	1.0	11 1	
029	176_029	ICV	TVH			06/25/08 04:33	1.0	11 1	
030	176_030	X	IB			06/25/08 05:10	1.0	1	
031	176_031	CMARKER				06/25/08 05:46	1.0	12 1	

PDM 06/25/08 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 001 through 031.

Analyst: PDM Date: 06/25/08 Reviewer: MMP Date: 06/26/08

Standards used: 1=S9291 2=S9365 3=S9364 4=S9363 5=S9366 6=S8775 7=S8847 8=S8846 9=S8845 10=S8844 11=S9476 12=S8671

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 329011983

Instrument : GC07 Begun : 01/08/09 07:43
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv14

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	008_001	X	CMARK			01/08/09 07:43	1.0	1 2	
002	008_002	CCV	TVH			01/08/09 08:20	1.0	3 2	
003	008_003	CCV	TVH			01/08/09 09:32	1.0	3 2	
004	008_004	X	IB			01/08/09 11:31	1.0	2	
005	008_005	X	IB			01/08/09 12:08	1.0	2	
006	008_006	ICAL	SURROGATE_1			01/08/09 12:44	1.0	2	
007	008_007	ICAL	SURROGATE_2			01/08/09 13:21	1.0	2	
008	008_008	ICAL	SURROGATE_3			01/08/09 13:57	1.0	2	
009	008_009	ICAL	SURROGATE_4			01/08/09 14:34	1.0	2	
010	008_010	ICAL	SURROGATE_5			01/08/09 15:11	1.0	2	
011	008_011	IB	CALIB			01/08/09 15:48	1.0	2	
012	008_012	X	IB			01/08/09 16:25	1.0	2	
013	008_013	ICAL	BTXE_6			01/08/09 17:01	1.0	4 2	
014	008_014	X	ICAL			01/08/09 17:38	1.0	5 2	
015	008_015	ICAL	MBTXE_8			01/08/09 18:15	1.0	5 2	
016	008_016	ICAL	MBTXE_9			01/08/09 18:52	1.0	5 2	
017	008_017	ICAL	MBTXE_10			01/08/09 19:29	1.0	6 2	
018	008_018	ICAL	MBTXE_11			01/08/09 20:05	1.0	6 2	
019	008_019	ICAL	MBTXE_12			01/08/09 20:42	1.0	6 2	
020	008_020	ICAL	MTBE_13			01/08/09 21:19	1.0	7 2	
021	008_021	X	IB			01/08/09 21:56	1.0	2	
022	008_022	X	ICV			01/08/09 22:33	1.0	8 2	
023	008_023	X	ICV			01/08/09 23:10	1.0	8 2	
024	008_024	X	IB			01/09/09 07:29	1.0	2	
025	008_025	ICAL	MBTXE_7			01/09/09 08:13	1.0	5 2	
026	008_026	ICV	MBTXE			01/09/09 08:50	1.0	8 2	

PDM 01/10/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 001 through 026.

Analyst: PDM Date: 01/10/09 Reviewer: CP Date: 01/12/09

Standards used: 1=S10996 2=S10937 3=S10986 4=S11012 5=S10611 6=S10610 7=S10613 8=S10872

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CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 329019163

Instrument : GC07 Begun : 01/13/09 07:23
Method : EPA 8015B, EPA 8021B SOP Version : TVH_BTXE_rv14

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	013_001	X	CMARK			01/13/09 07:23	1.0	1 2	
002	013_002	X	BTXE			01/13/09 07:59	1.0	3 2	
003	013_003	CCV/LCS	QC479145	Water	146903	01/13/09 08:36	1.0	4 2	
004	013_004	CCV/BS	QC479153	Water	146903	01/13/09 09:47	1.0	3 2	
005	013_005	BLANK	QC479144	Water	146903	01/13/09 11:07	1.0	2	
006	013_006	SAMPLE	209128-001	Water	146903	01/13/09 11:55	1.0	2	
007	013_007	SAMPLE	209150-009	Water	146903	01/13/09 12:32	10.0	2	headspace <= 1 mL
008	013_008	MSS	209191-018	Water	146903	01/13/09 13:08	1.0	2	
009	013_009	MS	QC479146	Water	146903	01/13/09 13:45	1.0	4 2	
010	013_010	MSD	QC479147	Water	146903	01/13/09 14:22	1.0	4 2	
011	013_011	SAMPLE	209204-001	Water	146903	01/13/09 14:59	1.0	2	
012	013_012	BSD	QC479154	Water	146903	01/13/09 15:36	1.0	3 2	
013	013_013	CCV	BTXE		146903	01/13/09 16:12	1.0	3 2	
014	013_014	CCV	TVH		146903	01/13/09 16:49	1.0	4 2	
015	013_015	X	CCV		146903	01/13/09 17:26	1.0	3 2	
016	013_016	X	CCV		146903	01/13/09 18:03	1.0	4 2	
017	013_017	X	CMARK			01/13/09 18:39	1.0	1 2	
018	013_018	SAMPLE	209204-002	Water	146903	01/13/09 19:16	1.0	2	
019	013_019	SAMPLE	209204-003	Water	146903	01/13/09 19:53	1.0	2	
020	013_020	SAMPLE	209204-004	Water	146903	01/13/09 20:30	1.0	2	
021	013_021	SAMPLE	209204-005	Water	146903	01/13/09 21:07	1.0	2	
022	013_022	SAMPLE	209204-006	Water	146903	01/13/09 21:44	1.0	2	headspace > 1 mL
023	013_023	SAMPLE	209204-007	Water	146903	01/13/09 22:20	1.0	2	
024	013_024	SAMPLE	209204-008	Water	146903	01/13/09 22:57	1.0	2	
025	013_025	SAMPLE	209204-009	Water	146903	01/13/09 23:34	1.0	2	
026	013_026	SAMPLE	209204-010	Water	146903	01/14/09 00:11	1.0	2	
027	013_027	SAMPLE	209204-011	Water	146903	01/14/09 00:48	1.0	2	
028	013_028	CCV	TVH		146903	01/14/09 01:25	1.0	4 2	
029	013_029	X	CCV		146903	01/14/09 02:02	1.0	4 2	
030	013_030	X	CMARK			01/14/09 02:39	1.0	1 2	
031	013_031	SAMPLE	209214-001	Water	146903	01/14/09 03:16	1.0	2	
032	013_032	SAMPLE	209214-002	Water	146903	01/14/09 03:53	1.0	2	
033	013_033	SAMPLE	209214-003	Water	146903	01/14/09 04:29	1.0	2	
034	013_034	SAMPLE	209214-004	Water	146903	01/14/09 05:06	1.0	2	
035	013_035	X	IB			01/14/09 05:43	1.0	2	
036	013_036	SAMPLE	209209-007	Water	146903	01/14/09 06:20	1.0	2	
037	013_037	CCV	TVH		146903	01/14/09 06:57	1.0	4 2	

PDM 01/14/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 001 through 037.

Analyst: PDM Date: 01/14/09 Reviewer: EAH Date: 01/15/09

Standards used: 1=S10996 2=S10937 3=S10675 4=S10986

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Laboratory Job Number 209191

ANALYTICAL REPORT

TPH-Extractables by GC

Matrix: Water

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	EPA 3520C
Project#:	Y0239-04.A3	Analysis:	EPA 8015B
Field ID:	E074	Sampled:	01/12/09
Matrix:	Water	Received:	01/12/09
Units:	ug/L	Prepared:	01/13/09
Diln Fac:	1.000	Analyzed:	01/14/09
Batch#:	146913		

Type: SAMPLE Cleanup Method: EPA 3630C
Lab ID: 209191-018

Analyte	Result	RL
Diesel C12-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	73	63-124

Type: BLANK Cleanup Method: EPA 3630C
Lab ID: QC479187

Analyte	Result	RL
Diesel C12-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	98	63-124

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	EPA 3520C
Project#:	Y0239-04.A3	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	146913
Units:	ug/L	Prepared:	01/13/09
Diln Fac:	1.000	Analyzed:	01/14/09

Type: BS Cleanup Method: EPA 3630C
Lab ID: QC479188

Analyte	Spiked	Result	%REC	Limits
Diesel C12-C24	2,500	2,022	81	65-135

Surrogate	%REC	Limits
o-Terphenyl	84	63-124

Type: BSD Cleanup Method: EPA 3630C
Lab ID: QC479189

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C12-C24	2,500	1,953	78	65-135	3	35

Surrogate	%REC	Limits
o-Terphenyl	77	63-124

RPD= Relative Percent Difference

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 209191 GCSV Water: EPA 8015B

Inst : GC14B
Calnum : 228500250002
Units : mg/L

Name : DSL_347
Date : 12-DEC-2008 17:20
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	347_012	228500250012	DSL_10	12-DEC-2008 17:20	S9527
L2	347_013	228500250013	DSL_100	12-DEC-2008 17:48	S9528
L3	347_014	228500250014	DSL_500	12-DEC-2008 18:17	S9529
L4	347_015	228500250015	DSL_1000	12-DEC-2008 18:45	S9530
L5	347_016	228500250016	DSL_5000	12-DEC-2008 19:13	S9526
L6	347_017	228500250017	DSL_7500	12-DEC-2008 19:42	S9531

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C12-C24	B	65173	63992	62460	62211	62909	61788	AVRG		1.59E-5		63089	2	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Diesel C12-C24	B	10.00	3	100.0	1	500.0	-1	1000	-1	5000	0	7500	-2

DNT 12/19/08 : Manually integrated the fuel hump for Levels 1, and 4-6.

Analyst: DNT Date: 12/15/08 Reviewer: CP Date: 12/19/08

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 209191 GCSV Water
EPA 8015B

Inst : GC14B
Calnum : 228500250002

Name : DSL_347
Cal Date : 12-DEC-2008

ICV 228500250019 (347_019 12-DEC-2008) stds: S10153

Analyte	Ch	Average RF	RF	Spiked	Quant	Units	%D	Flags
Diesel C12-C24	B	63089	59290	500.0	469.9	mg/L	-6	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 209191 GCSV Water: EPA 8015B

Inst : GC14B
Calnum : 228507636002
Units : mg/L

Name : MO_352
Date : 18-DEC-2008 03:04
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	352_022	228507636022	MO_50	18-DEC-2008 03:04	S10563
L2	352_023	228507636023	MO_250	18-DEC-2008 03:32	S10565
L3	352_024	228507636024	MO_500	18-DEC-2008 04:00	S10564
L4	352_025	228507636025	MO_1000	18-DEC-2008 04:28	S10566
L5	352_026	228507636026	MO_5000	18-DEC-2008 04:56	S10567
L6	352_027	228507636027	MO_7500	18-DEC-2008 05:23	S10568

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	B	48113	50653	50801	50758	45035	43904	AVRG		2.07E-5		48211	6	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	B	50.00	0	250.0	5	500.0	5	1000	5	5000	-7	7500	-9

DNT 12/18/08 : Levels 3-6 were manually integrated for the fuel humps.

Analyst: DNT Date: 12/18/08 Reviewer: CP Date: 12/19/08

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 209191 GCSV Water: EPA 8015B

Inst : GC14B
Calnum : 228515747001
Units : mg/L

Name : OTP_358
Date : 23-DEC-2008 17:21
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	358_023	228515747023	OTP_5	23-DEC-2008 17:21	S10979
L2	358_024	228515747024	OTP_10	23-DEC-2008 17:49	S10980
L3	358_025	228515747025	OTP_25	23-DEC-2008 18:17	S10981
L4	358_026	228515747026	OTP_50	23-DEC-2008 18:44	S10982
L5	358_027	228515747027	OTP_100	23-DEC-2008 19:12	S10983
L6	358_028	228515747028	OTP_200	23-DEC-2008 19:40	S10984

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	B	73705	75889	73331	76258	76548	69019	AVRG		1.35E-5		74125	4	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	B	5.000	-1	10.00	2	25.00	-1	50.00	3	100.0	3	200.0	-7

Analyst: ATL Date: 12/24/08 Reviewer: CP Date: 12/24/08

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 209191 GCSV Water: EPA 8015B

Inst : GC17A
Calnum : 178514649002
Units : mg/L

Name : Diesel_357
Date : 22-DEC-2008 17:01
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	357a013	178514649013	DSL_10	22-DEC-2008 17:01	S10988
L2	357a014	178514649014	DSL_100	22-DEC-2008 17:29	S10989
L3	357a015	178514649015	DSL_500	22-DEC-2008 18:04	S10990
L4	357a016	178514649016	DSL_1000	22-DEC-2008 18:32	S10991
L5	357a017	178514649017	DSL_5000	22-DEC-2008 18:59	S10987
L6	357a018	178514649018	DSL_7500	22-DEC-2008 19:27	S10992

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C12-C24	54063	55135	56001	56549	54346	55840	AVRG		1.81E-5		55322	2	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Diesel C12-C24	10.00	-2	100.0	0	500.0	1	1000	2	5000	-2	7500	1

ATL 12/23/08 : Manually integrated DSL_10,DSL_5000, and DSL_7500 for fuel hump.

Analyst: ATL Date: 12/23/08 Reviewer: CP Date: 12/23/08

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 209191 GCSV Water
EPA 8015B

Inst : GC17A
Calnum : 178514649002

Name : Diesel_357
Cal Date : 22-DEC-2008

ICV 178514649020 (357a020 22-DEC-2008) stds: S10993

Analyte	Average RF	RF	Spiked	Quant	Units	%D	Flags
Diesel C12-C24	55322	53098	500.0	479.9	mg/L	-4	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 209191 GCSV Water: EPA 8015B

Inst : GC17A
Calnum : 178514649003
Units : mg/L

Name : Motor Oil_357
Date : 22-DEC-2008 21:44
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	357a023	178514649023	MO_50	22-DEC-2008 21:44	S10563
L2	357a024	178514649024	MO_250	22-DEC-2008 22:11	S10565
L3	357a025	178514649025	MO_500	22-DEC-2008 22:39	S10564
L4	357a026	178514649026	MO_1000	22-DEC-2008 23:07	S10566
L5	357a027	178514649027	MO_5000	22-DEC-2008 23:34	S10567
L6	357a028	178514649028	MO_7500	23-DEC-2008 00:02	S10568

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	45820	50284	51547	51304	48739	46529	AVRG		2.04E-5		49037	5	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	50.00	-7	250.0	3	500.0	5	1000	5	5000	-1	7500	-5

ATL 12/23/08 : Manaully integrated all motor oil ical points for fuel hump except MO_250, and MO_5000.

Analyst: ATL Date: 12/23/08 Reviewer: CP Date: 12/23/08

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 209191 GCSV Water: EPA 8015B

Inst : GC17A
Calnum : 178516035001
Units : mg/L

Name : OTP_358
Date : 24-DEC-2008 11:57
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	358a036	178516035036	OTP_5	24-DEC-2008 11:57	S10979
L2	358a037	178516035037	OTP_10	24-DEC-2008 12:25	S10980
L3	358a038	178516035038	OTP_25	24-DEC-2008 12:53	S10981
L4	358a039	178516035039	OTP_50	24-DEC-2008 13:20	S10982
L5	358a040	178516035040	OTP_100	24-DEC-2008 13:48	S10983
L6	358a041	178516035041	OTP_200	24-DEC-2008 14:15	S10984

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	76310	73762	74349	76415	75601	73694	AVRG		1.33E-5		75022	2	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.000	2	10.00	-2	25.00	-1	50.00	2	100.0	1	200.0	-2

ATL 12/29/08 : Corrected automatically drawn baseline for all OTP points.

ATL 12/29/08 : OTP_50 point was used to update RT for asurotp358.met.

Analyst: ATL Date: 12/29/08 Reviewer: CP Date: 12/29/08

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 GCSV Water
EPA 8015B

Inst : GC14B Run Name : DSL_250 IDF : 1.0
Seqnum : 229021224003 File : 014_003 Time : 14-JAN-2009 18:40
Standards: S10773

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C12-C24	B	228500250002	12-DEC-2008	63089	63497	250.0	251.6	mg/L	1	15	
Hexacosane	B	228507636001	17-DEC-2008	69042	71700	50.00	51.93	mg/L	4	15	

Analyst: ATL Date: 01/15/09 Reviewer: JDG Date: 01/15/09

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 GCSV Water
EPA 8015B

Inst : GC14B Run Name : MO_500 IDF : 1.0
Seqnum : 229021224004 File : 014_004 Time : 14-JAN-2009 19:08
Standards: S11127

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	B	228507636002	18-DEC-2008	48211	51830	500.0	537.5	mg/L	8	15	
o-Terphenyl	B	228515747001	23-DEC-2008	74125	81159	50.00	54.74	mg/L	9	15	

ATL 01/15/09 : Manually integrated for fuel hump by another analyst.

Analyst: ATL Date: 01/15/09 Reviewer: JDG Date: 01/15/09

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 GCSV Water
EPA 8015B

Inst : GC14B Run Name : DSL_1000 IDF : 1.0
Seqnum : 229021224017 File : 014_017 Time : 15-JAN-2009 01:31
Standards: S10775

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C12-C24	B	228500250002	12-DEC-2008	63089	64056	1000	1015	mg/L	2	15	
Hexacosane	B	228507636001	17-DEC-2008	69042	71639	50.00	51.88	mg/L	4	15	

Analyst: ATL Date: 01/15/09 Reviewer: JDG Date: 01/15/09

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 GCSV Water
EPA 8015B

Inst : GC14B Run Name : MO_500 IDF : 1.0
Seqnum : 229021224018 File : 014_018 Time : 15-JAN-2009 01:59
Standards: S11127

Analyte	Ch	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	B	228507636002	18-DEC-2008	48211	50316	500.0	521.8	mg/L	4	15	
o-Terphenyl	B	228515747001	23-DEC-2008	74125	78610	50.00	53.03	mg/L	6	15	

ATL 01/15/09 : Manually integrated fuel hump.

Analyst: ATL Date: 01/15/09 Reviewer: JDG Date: 01/15/09

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_500 IDF : 1.0
Seqnum : 179020674004 File : 014a004 Time : 14-JAN-2009 09:56
Standards: S10774

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C12-C24	178514649002	22-DEC-2008	55322	50635	500.0	457.6	mg/L	-8	15	
Hexacosane	178514649001	22-DEC-2008	61537	61373	50.00	49.87	mg/L	0	15	

Analyst: JDG Date: 01/14/09 Reviewer: EAH Date: 01/16/09

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 179020674005 File : 014a005 Time : 14-JAN-2009 10:24
Standards: S11127

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	178514649003	22-DEC-2008	49037	53011	500.0	540.5	mg/L	8	15	
o-Terphenyl	178516035001	24-DEC-2008	75022	75949	50.00	50.62	mg/L	1	15	

Analyst: JDG Date: 01/14/09 Reviewer: EAH Date: 01/16/09

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_1000 IDF : 1.0
Seqnum : 179020674012 File : 014a012 Time : 14-JAN-2009 17:39
Standards: S10775

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C12-C24	178514649002	22-DEC-2008	55322	51236	1000	926.1	mg/L	-7	15	
Hexacosane	178514649001	22-DEC-2008	61537	60739	50.00	49.35	mg/L	-1	15	

Analyst: ATL Date: 01/15/09 Reviewer: JDG Date: 01/15/09

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 179020674013 File : 014a013 Time : 14-JAN-2009 18:06
Standards: S11127

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	178514649003	22-DEC-2008	49037	47347	500.0	482.8	mg/L	-3	15	
o-Terphenyl	178516035001	24-DEC-2008	75022	66517	50.00	44.33	mg/L	-11	15	

Analyst: ATL Date: 01/15/09 Reviewer: JDG Date: 01/15/09

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 178514649

Instrument : GC17A Begun : 12/22/08 09:29
Method : EPA 8015B SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	357a001	X	IB			12/22/08 09:29	1.0		
002	357a002	X	IB			12/22/08 10:11	1.0		
003	357a003	X	IB			12/22/08 11:42	1.0		
004	357a004	X	CMARKER			12/22/08 12:46	1.0	1	
005	357a005	IB	CALIB			12/22/08 13:20	1.0		
006	357a006	ICAL	HEX_5			12/22/08 13:48	1.0	2	
007	357a007	ICAL	HEX_10			12/22/08 14:15	1.0	3	
008	357a008	ICAL	HEX_25			12/22/08 14:43	1.0	4	
009	357a009	ICAL	HEX_50			12/22/08 15:11	1.0	5	
010	357a010	ICAL	HEX_100			12/22/08 15:38	1.0	6	
011	357a011	ICAL	HEX_200			12/22/08 16:06	1.0	7	
012	357a012	IB	CALIB			12/22/08 16:34	1.0		
013	357a013	ICAL	DSL_10			12/22/08 17:01	1.0	8	
014	357a014	ICAL	DSL_100			12/22/08 17:29	1.0	9	
015	357a015	ICAL	DSL_500			12/22/08 18:04	1.0	10	
016	357a016	ICAL	DSL_1000			12/22/08 18:32	1.0	11	
017	357a017	ICAL	DSL_5000			12/22/08 18:59	1.0	12	
018	357a018	ICAL	DSL_7500			12/22/08 19:27	1.0	13	
019	357a019	IB	CALIB			12/22/08 19:54	1.0		
020	357a020	ICV	DSL_500			12/22/08 20:22	1.0	14	
021	357a021	X	ICV			12/22/08 20:49	1.0	14	
022	357a022	IB	CALIB			12/22/08 21:16	1.0		
023	357a023	ICAL	MO_50			12/22/08 21:44	1.0	15	
024	357a024	ICAL	MO_250			12/22/08 22:11	1.0	16	
025	357a025	ICAL	MO_500			12/22/08 22:39	1.0	17	
026	357a026	ICAL	MO_1000			12/22/08 23:07	1.0	18	
027	357a027	ICAL	MO_5000			12/22/08 23:34	1.0	19	
028	357a028	ICAL	MO_7500			12/23/08 00:02	1.0	20	
029	357a029	IB	CALIB			12/23/08 00:29	1.0		
030	357a030	CMARKER	C8-C-50			12/23/08 00:56	1.0	1	
031	357a031	IB	CALIB			12/23/08 01:23	1.0		

ATL 12/23/08 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 31.

Analyst: ATL Date: 12/23/08 Reviewer: CP Date: 12/23/08

Standards used: 1=S10268 2=S10602 3=S10603 4=S10604 5=S10605 6=S10606 7=S10607 8=S10988 9=S10989 10=S10990 11=S10991 12=S10987 13=S10992 14=S10993 15=S10563 16=S10565 17=S10564 18=S10566 19=S10567 20=S10568

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 178516035

Instrument : GC17A Begun : 12/23/08 08:35
Method : EPA 8015B SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	358a001	X	IB				12/23/08 08:35	1.0		
002	358a002	X	IB				12/23/08 09:02	1.0		
003	358a003	X	CMARKER				12/23/08 10:10	1.0	1	
004	358a004	CCV	DSL_500				12/23/08 10:37	1.0	2	
005	358a005	CCV	MO_500				12/23/08 11:05	1.0	3	
006	358a006	X	IB				12/23/08 12:05	1.0		
007	358a007	BLANK	QC476714		Soil	146301	12/23/08 13:40	1.0		
008	358a008	SAMPLE	208545-001		Soil	146301	12/23/08 14:08	1.0		
009	358a009	CCV	DSL_1000				12/23/08 14:35	1.0	4	
010	358a010	CCV	MO_500				12/23/08 15:03	1.0	3	
011	358a011	SAMPLE	208620-007	S	Soil	146301	12/23/08 16:26	1.0		
012	358a012	SAMPLE	208620-009	S	Soil	146301	12/23/08 17:11	1.0		
013	358a013	SAMPLE	208620-008	S	Soil	146301	12/23/08 17:38	1.0		
014	358a014	SAMPLE	208573-009	S	Soil	146301	12/23/08 18:14	20.0		
015	358a015	SAMPLE	208374-005	S	Soil	146301	12/23/08 18:41	10.0		
016	358a016	SAMPLE	208374-004	S	Soil	146301	12/23/08 19:09	5.0		
017	358a017	X	IB				12/23/08 19:36	1.0		
018	358a018	SAMPLE	208374-002	S	Soil	146301	12/23/08 20:03	5.0		
019	358a019	SAMPLE	208374-001	S	Soil	146301	12/23/08 20:31	5.0		
020	358a020	X	IB				12/23/08 20:58	1.0		
021	358a021	SAMPLE	208620-012	S	Soil	146301	12/23/08 21:26	1.0		
022	358a022	SAMPLE	208620-010	S	Soil	146301	12/23/08 21:53	1.0		
023	358a023	X	CMARKER				12/23/08 22:20	1.0	1	
024	358a024	CCV	DSL_250				12/24/08 06:24	1.0	5	
025	358a025	CCV	MO_500				12/24/08 06:51	1.0	3	
026	358a026	X	CCV				12/24/08 07:19	1.0	5	
027	358a027	SAMPLE	208845-006	S	Soil	146399	12/24/08 07:49	1.0		
028	358a028	X	IB				12/24/08 08:17	1.0		
029	358a029	X	TANKCHECK				12/24/08 08:44	1.0		
030	358a030	SAMPLE	208620-001	S	Soil	146301	12/24/08 09:12	1.0		
031	358a031	SAMPLE	208620-004	S	Soil	146301	12/24/08 09:39	1.0		
032	358a032	X	CMARKER				12/24/08 10:07	1.0	1	
033	358a033	CCV	DSL_500				12/24/08 10:34	1.0	2	
034	358a034	CCV	MO_500				12/24/08 11:02	1.0	3	
035	358a035	IB	CALIB				12/24/08 11:29	1.0		
036	358a036	ICAL	OTP_5				12/24/08 11:57	1.0	6	
037	358a037	ICAL	OTP_10				12/24/08 12:25	1.0	7	
038	358a038	ICAL	OTP_25				12/24/08 12:53	1.0	8	
039	358a039	ICAL	OTP_50				12/24/08 13:20	1.0	9	
040	358a040	ICAL	OTP_100				12/24/08 13:48	1.0	10	
041	358a041	ICAL	OTP_200				12/24/08 14:15	1.0	11	
043	358a043	X	CMARKER				12/24/08 15:30	1.0	1	
044	358a044	CCV	DSL_500				12/24/08 15:58	1.0	2	
045	358a045	CCV	MO_500				12/24/08 16:25	1.0	3	
046	358a046	X	CCV				12/24/08 17:08	1.0	2	
047	358a047	X	CCV				12/24/08 17:35	1.0	3	
048	358a048	SAMPLE	208628-001	S	Water	146222	12/24/08 18:38	1.0		
049	358a049	SAMPLE	208604-004		Water	146222	12/24/08 19:06	1.0		
050	358a050	SAMPLE	208604-005		Water	146222	12/24/08 19:33	1.0		
051	358a051	SAMPLE	208604-001		Water	146222	12/24/08 20:01	1.0		
052	358a052	SAMPLE	208604-002		Water	146222	12/24/08 20:28	1.0		
053	358a053	SAMPLE	208604-006		Water	146222	12/24/08 20:56	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 178516035

Instrument : GC17A Begun : 12/23/08 08:35
Method : EPA 8015B SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
054	358a054	SAMPLE	208604-007		Water	146222	12/24/08 21:23	1.0		
055	358a055	SAMPLE	208604-008		Water	146222	12/24/08 21:51	1.0		
056	358a056	SAMPLE	208604-009		Water	146222	12/24/08 22:18	1.0		
058	358a058	X	CMARKER				12/26/08 14:57	1.0	1	
059	358a059	X	CCV				12/26/08 15:25	1.0	4	
060	358a060	CCV	MO_500				12/26/08 15:52	1.0	3	
061	358a061	CCV	DSL_1000				12/26/08 16:20	1.0	4	
062	358a062	X	CCV				12/26/08 16:47	1.0	3	

ATL 12/24/08 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 34.

ATL 12/29/08 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 35 through 62.

Standards used: 1=S10268 2=S10774 3=S10552 4=S10775 5=S10773 6=S10979 7=S10980 8=S10981 9=S10982 10=S10983 11=S10984

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 179020674

Instrument : GC17A Begun : 01/14/09 08:34
Method : EPA 8015B SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	014a001	X	PRIMER				01/14/09 08:34	1.0	
002	014a002	X	IB				01/14/09 09:01	1.0	
003	014a003	X	CMARKER				01/14/09 09:29	1.0	1
004	014a004	CCV	DSL_500				01/14/09 09:56	1.0	2
005	014a005	CCV	MO_500				01/14/09 10:24	1.0	3
006	014a006	BS	QC479188	S	Water	146913	01/14/09 14:30	1.0	
007	014a007	BSD	QC479189	S	Water	146913	01/14/09 14:58	1.0	
008	014a008	SAMPLE	209191-018	S	Water	146913	01/14/09 15:26	1.0	
009	014a009	SAMPLE	209210-001	S	Water	146913	01/14/09 15:53	1.0	
010	014a010	SAMPLE	209210-002	S	Water	146913	01/14/09 16:20	1.0	
011	014a011	SAMPLE	209210-003	S	Water	146913	01/14/09 16:48	1.0	
012	014a012	CCV	DSL_1000				01/14/09 17:39	1.0	4
013	014a013	CCV	MO_500				01/14/09 18:06	1.0	3
014	014a014	CCV	OTP_50				01/14/09 18:34	1.0	5
015	014a015	X	CCV				01/14/09 19:01	1.0	4
016	014a016	X	CCV				01/14/09 19:28	1.0	3
017	014a017	X	CCV				01/14/09 19:56	1.0	5
018	014a018	X	IB				01/14/09 21:22	1.0	
019	014a019	SAMPLE	209269-003		Soil	146961	01/14/09 21:49	20.0	
020	014a020	X	IB				01/14/09 22:17	1.0	
021	014a021	BLANK	QC479385		Soil	146961	01/14/09 22:44	1.0	
022	014a022	LCS	QC479386		Soil	146961	01/14/09 23:12	1.0	
023	014a023	MSS	209269-004		Soil	146961	01/14/09 23:39	1.0	
024	014a024	MS	QC479387		Soil	146961	01/15/09 00:06	1.0	
025	014a025	MSD	QC479388		Soil	146961	01/15/09 00:34	1.0	
026	014a026	SAMPLE	209268-001		Soil	146961	01/15/09 01:01	1.0	
027	014a027	SAMPLE	209268-002		Soil	146961	01/15/09 01:29	1.0	
028	014a028	SAMPLE	209268-003		Soil	146961	01/15/09 01:56	1.0	
029	014a029	SAMPLE	209268-004		Soil	146961	01/15/09 02:23	1.0	
030	014a030	X	CMARKER				01/15/09 02:51	1.0	1
031	014a031	CCV	DSL_500				01/15/09 03:18	1.0	2
032	014a032	CCV	MO_500				01/15/09 03:46	1.0	3
033	014a033	CCV	OTP_50				01/15/09 04:13	1.0	5
034	014a034	X	CCV				01/15/09 04:40	1.0	2
035	014a035	X	CCV				01/15/09 05:08	1.0	3
036	014a036	X	CCV				01/15/09 05:35	1.0	5
037	014a037	SAMPLE	209269-001		Soil	146961	01/15/09 06:03	1.0	
038	014a038	SAMPLE	209269-002		Soil	146961	01/15/09 06:30	1.0	
039	014a039	X	IB				01/15/09 06:57	1.0	
040	014a040	MS	QC479387		Soil	146961	01/15/09 07:25	1.0	
041	014a041	SAMPLE	209269-005		Soil	146961	01/15/09 07:53	1.0	
042	014a042	SAMPLE	209268-005		Soil	146961	01/15/09 08:20	1.0	
043	014a043	CCV	DSL_250				01/15/09 08:48	1.0	6
044	014a044	CCV	MO_500				01/15/09 09:16	1.0	3

ATL 01/15/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 44.

Standards used: 1=S10268 2=S10774 3=S11127 4=S10775 5=S11100 6=S10773

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 228500250

Instrument : GC14B Begun : 12/12/08 09:30
Method : EPA 8015B SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	347_001	X	IB			12/12/08 09:30	1.0		
002	347_002	X	IB			12/12/08 09:58	1.0		
003	347_003	IB	CLEAN			12/12/08 10:26	1.0		
004	347_004	IB	CALIB			12/12/08 11:25	1.0		
005	347_005	ICAL	HEX_5			12/12/08 14:01	1.0	1	
006	347_006	ICAL	HEX_10			12/12/08 14:29	1.0	2	
007	347_007	ICAL	HEX_25			12/12/08 14:58	1.0	3	
008	347_008	ICAL	HEX_50			12/12/08 15:27	1.0	4	
009	347_009	ICAL	HEX_100			12/12/08 15:55	1.0	5	
010	347_010	ICAL	HEX_200			12/12/08 16:23	1.0	6	
011	347_011	IB	CALIB			12/12/08 16:52	1.0		
012	347_012	ICAL	DSL_10			12/12/08 17:20	1.0	7	
013	347_013	ICAL	DSL_100			12/12/08 17:48	1.0	8	
014	347_014	ICAL	DSL_500			12/12/08 18:17	1.0	9	
015	347_015	ICAL	DSL_1000			12/12/08 18:45	1.0	10	
016	347_016	ICAL	DSL_5000			12/12/08 19:13	1.0	11	
017	347_017	ICAL	DSL_7500			12/12/08 19:42	1.0	12	
018	347_018	IB	CALIB			12/12/08 20:10	1.0		
019	347_019	ICV	DSL_500			12/12/08 20:38	1.0	13	
020	347_020	X	ICV			12/12/08 21:06	1.0	13	
021	347_021	IB	CALIB			12/12/08 21:34	1.0		
022	347_022	ICAL	MO_50			12/12/08 22:02	1.0	14	
023	347_023	ICAL	MO_250			12/12/08 22:30	1.0	15	
024	347_024	ICAL	MO_500			12/12/08 22:57	1.0	16	
025	347_025	ICAL	MO_1000			12/12/08 23:25	1.0	17	
026	347_026	ICAL	MO_5000			12/12/08 23:53	1.0	18	
027	347_027	ICAL	MO_7500			12/13/08 00:21	1.0	19	
028	347_028	IB	CALIB			12/13/08 00:49	1.0		
029	347_029	ICAL	JETA_10			12/13/08 01:17	1.0	20	
030	347_030	ICAL	JETA_100			12/13/08 01:45	1.0	21	
031	347_031	ICAL	JETA_500			12/13/08 02:13	1.0	22	
032	347_032	ICAL	JETA_1000			12/13/08 02:41	1.0	23	
033	347_033	ICAL	JETA_2000			12/13/08 03:09	1.0	24	
034	347_034	ICAL	JETA_3000			12/13/08 03:37	1.0	25	
035	347_035	IB	CALIB			12/13/08 04:05	1.0		
036	347_036	ICAL	JP5_10			12/13/08 04:33	1.0	26	
037	347_037	ICAL	JP5_100			12/13/08 05:00	1.0	27	
038	347_038	ICAL	JP5_500			12/13/08 05:28	1.0	28	
039	347_039	ICAL	JP5_1500			12/13/08 05:56	1.0	29	
040	347_040	ICAL	JP5_2500			12/13/08 06:24	1.0	30	
041	347_041	ICAL	JP5_5000			12/13/08 06:52	1.0	31	
042	347_042	IB	CALIB			12/13/08 07:20	1.0		
043	347_043	ICAL	JP8_10			12/13/08 07:48	1.0	32	
044	347_044	ICAL	JP8_100			12/13/08 08:16	1.0	33	
045	347_045	ICAL	JP8_500			12/13/08 08:44	1.0	34	
046	347_046	ICAL	JP8_1500			12/13/08 09:11	1.0	35	
047	347_047	ICAL	JP8_2500			12/13/08 09:39	1.0	36	
048	347_048	ICAL	JP8_5000			12/13/08 10:07	1.0	37	
049	347_049	IB	CALIB			12/13/08 10:35	1.0		
050	347_050	ICAL	BUNK_50			12/13/08 11:03	1.0	38	
051	347_051	ICAL	BUNK_500			12/13/08 11:31	1.0	39	
052	347_052	ICAL	BUNK_1250			12/13/08 11:59	1.0	40	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 228500250

Instrument : GC14B Begun : 12/12/08 09:30
Method : EPA 8015B SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	347_053	ICAL	BUNK_2500			12/13/08 12:28	1.0	41	
054	347_054	ICAL	BUNK_3000			12/13/08 12:56	1.0	42	
055	347_055	IB	CALIB			12/13/08 13:24	1.0		
056	347_056	CMARKER	C8-C-50			12/13/08 13:52	1.0	43	
057	347_057	IB	CALIB			12/13/08 14:20	1.0		
058	347_058	IB	CALIB			12/15/08 16:45	1.0		
059	347_059	IB	CALIB			12/15/08 17:13	1.0		
060	347_060	ICAL	MO_50			12/15/08 18:16	1.0	14	
061	347_061	IB	CALIB			12/15/08 19:12	1.0		

DNT 12/14/08 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 57.

Analyst: DNT Date: 12/15/08 Reviewer: CP Date: 12/19/08

Standards used: 1=S10602 2=S10603 3=S10604 4=S10605 5=S10606 6=S10607 7=S9527 8=S9528 9=S9529 10=S9530 11=S9526 12=S9531 13=S10153 14=S10563 15=S10565 16=S10564 17=S10566 18=S10567 19=S10568 20=S10749 21=S10750 22=S10751 23=S10752 24=S10753 25=S10754 26=S10506 27=S10507 28=S10508 29=S10509 30=S10510 31=S10505 32=S10822 33=S10823 34=S10824 35=S10825 36=S10826 37=S10821 38=S10515 39=S10516 40=S10517 41=S10518 42=S10514 43=S10268

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 228507636

Instrument : GC14B Begun : 12/17/08 12:36
Method : EPA 8015B SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	352_001	X	IB			12/17/08 12:36	1.0		
002	352_002	X	IB			12/17/08 13:04	1.0		
003	352_003	X	CMARKER			12/17/08 13:32	1.0	1	
004	352_004	CCV	DSL_250			12/17/08 14:00	1.0	2	
005	352_005	CCV	MO_500			12/17/08 14:28	1.0	3	
006	352_006	X	IB			12/17/08 17:13	1.0		
007	352_007	CCV	DSL_1000			12/17/08 17:41	1.0	4	
008	352_008	CCV	MO_500			12/17/08 18:09	1.0	3	
009	352_009	CCV	JP5_250			12/17/08 18:54	1.0	5	
010	352_010	CCV	JET_250			12/17/08 19:22	1.0	6	
011	352_011	CCV	JP8_250			12/17/08 19:50	1.0	7	
012	352_012	CCV	BUNK_1250			12/17/08 20:18	1.0	8	
013	352_013	X	IB			12/17/08 22:52	1.0		
014	352_014	IB	CALIB			12/17/08 23:20	1.0		
015	352_015	ICAL	HEX_5			12/17/08 23:48	1.0	9	
016	352_016	ICAL	HEX_10			12/18/08 00:17	1.0	10	
017	352_017	ICAL	HEX_25			12/18/08 00:45	1.0	11	
018	352_018	ICAL	HEX_50			12/18/08 01:13	1.0	12	
019	352_019	ICAL	HEX_100			12/18/08 01:41	1.0	13	
020	352_020	ICAL	HEX_200			12/18/08 02:09	1.0	14	
021	352_021	IB	CALIB			12/18/08 02:36	1.0		
022	352_022	ICAL	MO_50			12/18/08 03:04	1.0	15	
023	352_023	ICAL	MO_250			12/18/08 03:32	1.0	16	
024	352_024	ICAL	MO_500			12/18/08 04:00	1.0	17	
025	352_025	ICAL	MO_1000			12/18/08 04:28	1.0	18	
026	352_026	ICAL	MO_5000			12/18/08 04:56	1.0	19	
027	352_027	ICAL	MO_7500			12/18/08 05:23	1.0	20	
028	352_028	IB	CALIB			12/18/08 05:51	1.0		
029	352_029	ICAL	JP8_10			12/18/08 06:19	1.0	21	
030	352_030	ICAL	JP8_100			12/18/08 06:47	1.0	22	
031	352_031	ICAL	JP8_500			12/18/08 07:14	1.0	23	
032	352_032	ICAL	JP8_1500			12/18/08 07:42	1.0	24	
033	352_033	ICAL	JP8_2500			12/18/08 08:10	1.0	25	
034	352_034	IB	CALIB			12/18/08 08:37	1.0		
035	352_035	CMARKER	C8-C-50			12/18/08 09:05	1.0	1	
036	352_036	X	IB			12/18/08 09:32	1.0		

DNT 12/18/08 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 36.

Analyst: DNT Date: 12/18/08 Reviewer: CP Date: 12/19/08

Standards used: 1=S10268 2=S10773 3=S10552 4=S10775 5=S10245 6=S10451 7=S10453 8=S10267 9=S10602 10=S10603 11=S10604 12=S10605 13=S10606 14=S10607 15=S10563 16=S10565 17=S10564 18=S10566 19=S10567 20=S10568 21=S10822 22=S10823 23=S10824 24=S10825 25=S10826

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 228515747

Instrument : GC14B Begun : 12/23/08 03:47
Method : EPA 8015B SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	358_001	X	PRIMER				12/23/08 03:47	1.0		
002	358_002	X	IB				12/23/08 04:15	1.0		
003	358_003	X	CMARKER				12/23/08 04:43	1.0	1	
004	358_004	CCV	DSL_500				12/23/08 05:11	1.0	2	
005	358_005	CCV	MO_500				12/23/08 05:38	1.0	3	
006	358_006	X	IB				12/23/08 06:56	1.0		
007	358_007	SAMPLE	208677-001		Water	146148	12/23/08 07:23	1.0		1:BUNKC:12-40=6700
008	358_008	SAMPLE	208677-002		Water	146148	12/23/08 07:51	1.0		1:BUNKC:12-40=3200
009	358_009	CCV	DSL_1000				12/23/08 08:48	1.0	4	
010	358_010	CCV	MO_500				12/23/08 09:16	1.0	3	
011	358_011	BLANK	QC476714	S	Soil	146301	12/23/08 10:37	1.0		
012	358_012	BLANK	QC476990		Soil	146376	12/23/08 11:17	1.0		
013	358_013	LCS	QC476991		Soil	146376	12/23/08 11:45	1.0		
014	358_014	SAMPLE	208779-001		Soil	146376	12/23/08 12:13	1.0		
015	358_015	SAMPLE	208780-001		Soil	146376	12/23/08 12:41	1.0		
016	358_016	SAMPLE	208780-002		Soil	146376	12/23/08 13:09	1.0		1:BUNKC:12-40=16000
017	358_017	SAMPLE	208780-003		Soil	146376	12/23/08 13:38	1.0		1:BUNKC:12-40=3900
018	358_018	SAMPLE	208780-004		Soil	146376	12/23/08 14:06	1.0		1:BUNKC:12-40=13000
019	358_019	CCV	DSL_1000				12/23/08 14:34	1.0	4	
020	358_020	CCV	MO_500				12/23/08 15:03	1.0	3	
021	358_021	X	OTP_50				12/23/08 15:51	1.0	5	
022	358_022	IB	CALIB				12/23/08 16:43	1.0		
023	358_023	ICAL	OTP_5				12/23/08 17:21	1.0	6	
024	358_024	ICAL	OTP_10				12/23/08 17:49	1.0	7	
025	358_025	ICAL	OTP_25				12/23/08 18:17	1.0	8	
026	358_026	ICAL	OTP_50				12/23/08 18:44	1.0	9	
027	358_027	ICAL	OTP_100				12/23/08 19:12	1.0	10	
028	358_028	ICAL	OTP_200				12/23/08 19:40	1.0	11	
029	358_029	X	IB				12/23/08 20:08	1.0		
030	358_030	X	CMARKER				12/23/08 20:37	1.0	1	
031	358_031	CCV	DSL_1000				12/23/08 21:04	1.0	4	
032	358_032	CCV	MO_500				12/23/08 21:33	1.0	3	
033	358_033	CCV	OTP_50				12/23/08 22:00	1.0	5	
034	358_034	X	CCV				12/23/08 22:29	1.0	12	
035	358_035	X	CCV				12/23/08 22:57	1.0	3	
036	358_036	X	CCV				12/23/08 23:25	1.0	5	
037	358_037	BLANK	QC477079		Soil	146399	12/23/08 23:53	1.0		
038	358_038	LCS	QC477080		Soil	146399	12/24/08 00:21	1.0		
039	358_039	SAMPLE	208734-088		Soil	146399	12/24/08 00:49	1.0		
040	358_040	SAMPLE	208734-095		Soil	146399	12/24/08 01:17	1.0		
041	358_041	SAMPLE	208734-087		Soil	146399	12/24/08 01:45	1.0		
042	358_042	SAMPLE	208734-096		Soil	146399	12/24/08 02:13	1.0		
043	358_043	SAMPLE	208734-091		Soil	146399	12/24/08 02:41	1.0		
044	358_044	SAMPLE	208734-089		Soil	146399	12/24/08 03:09	1.0		
045	358_045	SAMPLE	208734-090		Soil	146399	12/24/08 03:37	1.0		
046	358_046	SAMPLE	208734-092		Soil	146399	12/24/08 04:05	1.0		
047	358_047	CCV	DSL_500				12/24/08 04:34	1.0	2	
048	358_048	CCV	MO_500				12/24/08 05:02	1.0	3	
049	358_049	CCV	OTP_50				12/24/08 05:30	1.0	5	
050	358_050	X	CCV				12/24/08 05:58	1.0	4	
051	358_051	SAMPLE	208734-094		Soil	146399	12/24/08 06:26	1.0		
052	358_052	SAMPLE	208734-093		Soil	146399	12/24/08 06:54	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 228515747

Instrument : GC14B Begun : 12/23/08 03:47
Method : EPA 8015B SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
053	358_053	SAMPLE	208734-097		Soil	146399	12/24/08 07:22	1.0		
054	358_054	SAMPLE	208734-098		Soil	146399	12/24/08 07:50	1.0		
055	358_055	SAMPLE	208734-085		Soil	146399	12/24/08 08:18	1.0		
056	358_056	SAMPLE	208734-086		Soil	146399	12/24/08 08:46	1.0		
057	358_057	LCS	QC477080	S	Soil	146399	12/24/08 09:14	1.0		
058	358_058	BLANK	QC477079	S	Soil	146399	12/24/08 09:43	1.0		
059	358_059	SAMPLE	208840-001	S	Water	146353	12/24/08 10:11	1.0		
060	358_060	SAMPLE	208840-002	S	Water	146353	12/24/08 10:40	1.0		
061	358_061	X	CMARKER				12/24/08 11:08	1.0	1	
062	358_062	CCV	DSL_250				12/24/08 11:37	1.0	12	
063	358_063	CCV	MO_500				12/24/08 12:05	1.0	3	
064	358_064	CCV	OTP_50				12/24/08 12:33	1.0	5	
065	358_065	CCV	JP5_250				12/24/08 13:04	1.0	13	
066	358_066	MSS	208598-005	S	Soil	146376	12/24/08 13:55	1.0		
067	358_067	MS	QC476992	S	Soil	146376	12/24/08 14:23	1.0		
068	358_068	MSD	QC476993	S	Soil	146376	12/24/08 14:51	1.0		
069	358_069	CCV	DSL_500				12/24/08 15:25	1.0	2	
070	358_070	CCV	MO_500				12/24/08 15:53	1.0	3	
071	358_071	CCV	JP5_250				12/24/08 16:21	1.0	13	
072	358_072	CCV	BUNK_1250				12/24/08 17:20	1.0	14	
073	358_073	X	CCV				12/24/08 17:48	1.0	14	
074	358_074	BLANK	QC476383		Water	146222	12/24/08 18:17	1.0		
075	358_075	BLANK	QC476383	S	Water	146222	12/24/08 18:46	1.0		
076	358_076	BS	QC476384	S	Water	146222	12/24/08 19:14	1.0		
077	358_077	BSD	QC476385	S	Water	146222	12/24/08 19:42	1.0		
078	358_078	SAMPLE	208636-001	S	Water	146222	12/24/08 20:10	1.0		
079	358_079	SAMPLE	208636-002	S	Water	146222	12/24/08 20:39	1.0		
080	358_080	SAMPLE	208605-001		Water	146222	12/24/08 21:07	1.0		
081	358_081	SAMPLE	208605-002		Water	146222	12/24/08 21:35	1.0		
082	358_082	SAMPLE	208605-003		Water	146222	12/24/08 22:04	1.0		
083	358_083	SAMPLE	208605-005		Water	146222	12/24/08 22:32	1.0		
084	358_084	CCV	DSL_1000				12/24/08 23:00	1.0	4	
085	358_085	CCV	MO_500				12/24/08 23:29	1.0	3	
086	358_086	CCV	JP5_250				12/24/08 23:57	1.0	13	
087	358_087	CCV	BUNK_1250				12/25/08 00:25	1.0	14	
088	358_088	X	CCV				12/25/08 00:54	1.0	4	
089	358_089	X	CCV				12/25/08 01:22	1.0	3	
090	358_090	X	CCV				12/25/08 01:50	1.0	13	
091	358_091	X	CCV				12/25/08 02:19	1.0	14	
092	358_092	CCV	OTP_50				12/25/08 02:47	1.0	5	
093	358_093	X	CCV				12/25/08 03:15	1.0	5	
094	358_094	MSS	208611-003	S	Soil	146399	12/25/08 03:44	1.0		
095	358_095	MS	QC477081		Soil	146399	12/25/08 04:12	1.0		
096	358_096	MSD	QC477082		Soil	146399	12/25/08 04:40	1.0		
097	358_097	SAMPLE	208611-002	S	Soil	146399	12/25/08 05:09	1.0		
098	358_098	SAMPLE	208605-007		Water	146222	12/25/08 05:37	1.0		
099	358_099	SAMPLE	208605-008		Water	146222	12/25/08 06:05	1.0		
100	358_100	SAMPLE	208611-004	S	Soil	146399	12/25/08 06:33	1.0		
101	358_101	SAMPLE	208611-001	S	Soil	146399	12/25/08 07:01	1.0		
102	358_102	SAMPLE	208605-006		Water	146222	12/25/08 07:30	1.0		
103	358_103	SAMPLE	208605-004		Water	146222	12/25/08 07:58	1.0		
104	358_104	X	CMARKER				12/25/08 08:26	1.0	1	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 228515747

Instrument : GC14B Begun : 12/23/08 03:47
Method : EPA 8015B SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
105	358_105	CCV	DSL_250				12/25/08 08:54	1.0	12	
106	358_106	CCV	MO_500				12/25/08 09:22	1.0	3	
107	358_107	CCV	OTP_50				12/25/08 09:50	1.0	5	
108	358_108	CCV	BUNK_1250				12/25/08 10:19	1.0	14	
109	358_109	X	CCV				12/25/08 10:47	1.0	12	
110	358_110	X	CCV				12/25/08 11:15	1.0	3	
111	358_111	X	CCV				12/25/08 11:43	1.0	5	
112	358_112	X	CCV				12/25/08 12:11	1.0	14	

JDG 12/23/08 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 20.

ATL 12/24/08 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 21 through 65.

ATL 12/29/08 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 66 through 112.

ATL 12/29/08 : Vials from 79 thru 112 are all misinject. Will need to re-run all samples from 74-103.

Standards used: 1=S10268 2=S10774 3=S10552 4=S10775 5=S10089 6=S10979 7=S10980 8=S10981 9=S10982 10=S10983 11=S10984 12=S10773 13=S10245 14=S10267

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 229021224

Instrument : GC14B Begun : 01/14/09 17:44
Method : EPA 8015B SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	014_001	X	IB				01/14/09 17:44	1.0		
002	014_002	X	CMARKER				01/14/09 18:12	1.0	1	
003	014_003	CCV	DSL_250				01/14/09 18:40	1.0	2	
004	014_004	CCV	MO_500				01/14/09 19:08	1.0	3	
005	014_005	CCV	OTP_50				01/14/09 19:36	1.0	4	
006	014_006	CCV	JP5_250				01/14/09 20:04	1.0	5	
007	014_007	SAMPLE	209145-001	S	Water	146829	01/14/09 20:49	1.0		
008	014_008	SAMPLE	209150-010	S	Water	146830	01/14/09 21:18	2.0		3:BUNKC:12-40=10000
009	014_009	SAMPLE	209145-003	S	Water	146829	01/14/09 21:46	1.0		
010	014_010	SAMPLE	209145-004	S	Water	146829	01/14/09 22:14	1.0		
011	014_011	BLANK	QC479187	S	Water	146913	01/14/09 22:42	1.0		
012	014_012	SAMPLE	209204-001	S	Water	146913	01/14/09 23:10	1.0		
013	014_013	SAMPLE	209204-002	S	Water	146913	01/14/09 23:38	1.0		
014	014_014	SAMPLE	209204-003	S	Water	146913	01/15/09 00:06	1.0		
015	014_015	SAMPLE	209204-004	S	Water	146913	01/15/09 00:34	1.0		2:BUNKC:12-40=7500
016	014_016	SAMPLE	209204-005	S	Water	146913	01/15/09 01:02	1.0		
017	014_017	CCV	DSL_1000				01/15/09 01:31	1.0	6	
018	014_018	CCV	MO_500				01/15/09 01:59	1.0	3	
019	014_019	CCV	OTP_50				01/15/09 02:27	1.0	4	
020	014_020	CCV	JP5_250				01/15/09 02:55	1.0	5	
021	014_021	X	CCV				01/15/09 03:23	1.0	6	
022	014_022	X	CCV				01/15/09 03:52	1.0	3	
023	014_023	X	CCV				01/15/09 04:20	1.0	4	
024	014_024	X	CCV				01/15/09 04:48	1.0	5	
025	014_025	SAMPLE	209204-006	S	Water	146913	01/15/09 05:16	1.0		
026	014_026	SAMPLE	209204-007	S	Water	146913	01/15/09 05:44	1.0		
027	014_027	SAMPLE	209204-008	S	Water	146913	01/15/09 06:12	1.0		
028	014_028	SAMPLE	209204-009	S	Water	146913	01/15/09 06:40	1.0		
029	014_029	SAMPLE	209204-010	S	Water	146913	01/15/09 07:08	1.0		
030	014_030	SAMPLE	209204-011	S	Water	146913	01/15/09 07:37	1.0		
031	014_031	X	CMARKER				01/15/09 08:05	1.0	1	
032	014_032	CCV	DSL_250				01/15/09 08:33	1.0	2	
033	014_033	CCV	MO_500				01/15/09 09:01	1.0	3	
034	014_034	CCV	JP5_250				01/15/09 09:30	1.0	5	

ATL 01/15/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 34.

Standards used: 1=S10268 2=S10773 3=S11127 4=S11100 5=S10245 6=S10775

SAMPLE PREPARATION SUMMARY

Batch # : 146913
Started By : TWY
Method : 3520C
Spike #1 ID : S11048

Prep Date : 13-JAN-2009 13:45
Spike #2 ID : S11036

Analysis : TEHM
Finished By : MAM
Units : mL

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
209191-018		Water	500	2.5	1	0.005	5	.5			3630C	TEHM	
209204-001		Water	500	2.5	1	0.005	5	.5			3630C	TEHM	
209204-002		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
209204-003		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
209204-004		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
209204-005		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
209204-006		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
209204-007		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
209204-008		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
209204-009		Water	500	2.5	1	0.005	5	.5			3630C	TEHM	
209204-010		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
209204-011		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
209210-001		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
209210-002		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
209210-003		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
QC479187	BLANK	Water	500	2.5	1	0.005		.5			3630C	TEHM	
QC479188	BS	Water	500	2.5	1	0.005		.5	.5		3630C	TEHM	
QC479189	BSD	Water	500	2.5	1	0.005		.5	.5		3630C	TEHM	

Analyst: JDG Date: 01/16/09 Reviewer: EAH Date: 01/16/09

TEH (8015) Water Prep Log

Curtis & Tompkins, Ltd.

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LIMS Batch No: 146913
LIMS Analysis: TEHM
Date Extracted: 1/13/09

Extraction Method:
☐ mod. EPA 3510c sep. funnel
☒ mod. EPA 3520c cont. L/L

Cleanup Method (if needed):
☒ EPA 3630c Silica Gel

Sample #	Container ID	Volume of Sample (mL)	Sample pH	Final Volume (mL)	Cleanup (x if needed)	Comments
209191-018	N	500	5	2.5	X	
209204-001	F		5			
-002			7			
-003						
-004						
-005						
-006						
-007						
-008						
-009			5			
-010			7			
-011						
209210-001	A					
-002						
-003						
MB QC479187			NA			
BS 8						
BSD 9						
						TFB 01/15/09

	Mfg & Lot# / LIMS # / Time	Date/ Initials
0.5 mL of TEH_SURR was added to all samples	S11048B	TFB for TWY 1/13/09
0.5 mL of TEH_SP was added to all spikes	S11036B	
pH of all samples adjusted to pH ≤ 2 with H_2SO_4	FS085385	
☒ 3520c: Samples were continually extracted about 450 mL of CH_2Cl_2	EM48340	
Extraction Start Time:	1345	
Extraction End Time:	824	DDC 1/14/09
☐ 3510c: Samples were extracted 3 times with 60 mL of CH_2Cl_2	N/A	MAM 01/14/09
Extracts filtered through baked, CH2Cl2-rinsed granular Na2SO4	EM48315847	
Concentrated to final volume at temperature (degrees C)	100°	
Relinquished to TEH Department	✓	

01/14/09
Extraction Chemist **Date**

Contined from Page ____
Continued on Page ____

TFB 01/15/09
Reviewed by **Date**

Curtis & Tompkins, Ltd.

Silica Gel Cleanup

EPA 3630c

Prep Chemist: MAM
Cleanup Date: 01/14/09

Benchbook # **BK 2819**
Page 69

Sample #	Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
209191-018	149913	1.0	1.0	
209204-001				
002				
003				
004				
005				
006				
007				
008				
009				
010				
011				
209210-001				
002				
003				
MB QC479187				
BS 8				
BSD 9				

TFB 01/15/09

☐ Extracts were cleaned up using C&T assembled ___ g columns
☒ Extracts were cleaned up using 1.0 g cartridges
Extracts were eluted with 4.0 mL CH_2Cl_2
Concentrated to volumes as noted above

Mfg & Lot # / Time / Program	Initials / Date
N/A	MAM 01/14/09
SP 10882	
EM 48340	
✓	

01/14/09
Extraction Chemist / Date

Continued from page ___
Continued on page ___

TFB 01/15/09
Reviewed by / Date

Laboratory Job Number 209191

ANALYTICAL REPORT

Volatile Organics by GC/MS

Matrix: Water

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	Y0239-04.A3	Analysis:	EPA 8260B
Field ID:	E074	Batch#:	146893
Lab ID:	209191-018	Sampled:	01/12/09
Matrix:	Water	Received:	01/12/09
Units:	ug/L	Analyzed:	01/13/09
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Chloromethane	ND	1.0	0.2
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	0.2
Chloroethane	ND	1.0	0.2
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	1.0
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
Chloroform	0.7	0.5	
1,1,1-Trichloroethane	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
Tetrachloroethene	ND	0.5	
Dibromochloromethane	ND	0.5	
Chlorobenzene	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	0.2
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2-Dichloroethene (total)	ND	0.5	

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	110	76-120
Toluene-d8	104	80-120
Bromofluorobenzene	93	80-120

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

20.0

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	Y0239-04.A3	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	146893
Units:	ug/L	Analyzed:	01/13/09
Diln Fac:	1.000		

Type: BS Lab ID: QC479108

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	20.00	18.35	92	65-135
Benzene	20.00	17.74	89	65-135
Trichloroethene	20.00	20.05	100	65-135
Toluene	20.00	19.16	96	65-135
Chlorobenzene	20.00	18.98	95	65-135

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	104	76-120
Toluene-d8	106	80-120
Bromofluorobenzene	93	80-120

Type: BSD Lab ID: QC479109

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	20.00	18.95	95	65-135	3	35
Benzene	20.00	18.60	93	65-135	5	35
Trichloroethene	20.00	20.73	104	65-135	3	35
Toluene	20.00	20.30	102	65-135	6	35
Chlorobenzene	20.00	18.57	93	65-135	2	35

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	111	76-120
Toluene-d8	110	80-120
Bromofluorobenzene	94	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	EPA 5030B
Project#:	Y0239-04.A3	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC479110	Batch#:	146893
Matrix:	Water	Analyzed:	01/13/09
Units:	ug/L		

Analyte	Result	RL	MDL
Chloromethane	ND	1.0	0.2
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	0.2
Chloroethane	ND	1.0	0.2
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	1.0
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
Chloroform	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
Tetrachloroethene	ND	0.5	
Dibromochloromethane	ND	0.5	
Chlorobenzene	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	0.2
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2-Dichloroethene (total)	ND	0.5	

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	111	76-120
Toluene-d8	104	80-120
Bromofluorobenzene	91	80-120

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

CURTIS & TOMPKINS BFB TUNE FOR 209191 MSVOA Water
EPA 8260B

Inst : MSVOA06 Run Name : BFB IDF : 1.0
Seqnum : 458468482014 File : fkk14 Time : 20-NOV-2008 16:09

Standards: S9454

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	13627	15.43	
75	30% - 60% of mass 95	34213	38.75	
95		88293		
96	5% - 9% of mass 95	5645	6.39	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	77104	87.33	
175	5% - 9% of mass 174	5993	7.77	
176	> 95% and < 101% of mass 174	76701	99.48	
177	5% - 9% of mass 176	5145	6.71	

Analyst: BO Date: 11/21/08 Reviewer: ACM Date: 11/21/08

CURTIS & TOMPKINS BFB TUNE FOR 209191 MSVOA Water
EPA 8260B

Inst : MSVOA06 Run Name : BFB IDF : 1.0
Seqnum : 459019270002 File : fad02 Time : 13-JAN-2009 09:47

Standards: S10902

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	86013	16.63	
75	30% - 60% of mass 95	206890	40.00	
95		517184		
96	5% - 9% of mass 95	34986	6.76	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	448789	86.78	
175	5% - 9% of mass 174	34509	7.69	
176	> 95% and < 101% of mass 174	437653	97.52	
177	5% - 9% of mass 176	28264	6.46	

Analyst: MJM Date: 01/13/09 Reviewer: LW Date: 01/14/09

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 209191 MSVOA Water: EPA 8260B

Inst : MSVOA06 Name : 826GOX6W
Calnum : 458468482002 Date : 20-NOV-2008 18:54 Type : WATER
Units : ug/L X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	fkk19	458468482019	0.25PPB	20-NOV-2008 18:54	S10756 (2000000X), S10619 (2000000X), S10653 (1000000X), S9073 (2000000X), S10447 (1000X)
L2	fkk20	458468482020	0.5PPB	20-NOV-2008 19:28	S10756 (1000000X), S10619 (1000000X), S10653 (500000X), S9073 (1000000X), S10447 (1000X)
L3	fkk21	458468482021	2PPB	20-NOV-2008 20:02	S10756 (250000X), S10619 (250000X), S10653 (250000X), S9073 (500000X), S10447 (1000X)
L4	fkk22	458468482022	5PPB	20-NOV-2008 20:36	S10756 (100000X), S10619 (100000X), S10653 (100000X), S9073 (200000X), S10447 (1000X)
L5	fkk23	458468482023	10PPB	20-NOV-2008 21:11	S10756 (50000X), S10619 (50000X), S10653 (50000X), S9073 (100000X), S10447 (1000X)
L6	fkk24	458468482024	20PPB	20-NOV-2008 21:45	S10756 (25000X), S10619 (25000X), S10653 (25000X), S9073 (50000X), S10447 (1000X)
L7	fkk25	458468482025	50PPB	20-NOV-2008 22:19	S10756 (10000X), S10619 (10000X), S10653 (10000X), S9073 (20000X), S10447 (1000X)
L8	fkk26	458468482026	75PPB	20-NOV-2008 22:53	S10756 (6667X), S10619 (6667X), S10653 (6667X), S9073 (13330X), S10447 (1000X)
L9	fkk27	458468482027	100PPB	20-NOV-2008 23:28	S10756 (5000X), S10619 (5000X), S10653 (5000X), S9073 (10000X), S10447 (1000X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Chloromethane		0.9120	1.0398m	0.8574m	0.9261	0.7973	0.8813	0.8769	0.9183	AVRG		1.10970		0.9011	8	15	0.10	0.99	
Vinyl Chloride	0.6186	0.5959m	0.7893m	0.5598m	0.6264	0.5569	0.6827	0.7578	0.7322	AVRG		1.52036		0.6577	13	15	0.05	0.99	
Bromomethane		0.1930m	0.2567m	0.2550m	0.3034	0.2679	0.3026	0.3182	0.3165	AVRG		3.61455		0.2767	15	15	0.05	0.99	
Chloroethane		0.2923	0.4104m	0.3212m	0.3726	0.3217	0.3698	0.3835	0.3545	AVRG		2.83075		0.3533	11	15	0.05	0.99	
Acetone			0.3710	0.3072	0.3329	0.3066	0.3294	0.3094	0.3034	AVRG		3.09739		0.3229	8	15	0.05	0.99	
1,1-Dichloroethene		0.5390	0.5372	0.4875	0.5458	0.5394	0.5632	0.5255	0.5359	AVRG		1.87202		0.5342	4	15	0.05	0.99	
Methylene Chloride			0.7555	0.7020	0.7777	0.7282	0.7274	0.7409	0.6984	AVRG		1.36448		0.7329	4	15	0.05	0.99	
Carbon Disulfide		1.9732	2.0441	1.9382	2.1352	2.1460	2.1501	2.1023	2.0997	AVRG		0.48225		2.0736	4	15	0.05	0.99	
MTBE		1.8448	1.9060	1.8521	2.0989	1.9539	1.9188	1.8955	1.8013	AVRG		0.52386		1.9089	5	15	0.05	0.99	
trans-1,2-Dichloroethene		0.5724	0.6436	0.5699	0.6624	0.6271	0.6206	0.6152	0.6125	AVRG		1.62478		0.6155	5	15	0.05	0.99	
Vinyl Acetate			1.4646	1.3551	1.4651	1.4441	1.3282	1.1582	1.2586	AVRG		0.73887		1.3534	9	15	0.05	0.99	
1,1-Dichloroethane		1.1776	1.3258	1.1169	1.2878	1.2281	1.2081	1.1790	1.1551	AVRG		0.82659		1.2098	6	15	0.10	0.99	
2-Butanone			0.4453	0.3964	0.4502	0.4328	0.4482	0.3979	0.4069	AVRG		2.35082		0.4254	6	15	0.05	0.99	
cis-1,2-Dichloroethene		0.7223	0.7479	0.6878	0.7508	0.7135	0.7124	0.6781	0.6675	AVRG		1.40840		0.7100	4	15	0.05	0.99	
Chloroform		1.1011	1.1817	0.9979	1.1557	1.1104	1.1029	1.0849	1.0483	AVRG		0.91087		1.0978	5	15	0.05	0.99	
1,1,1-Trichloroethane		0.6786	0.6238	0.6419	0.6958	0.6787	0.7016	0.6478	0.6849	AVRG		1.49443		0.6692	4	15	0.05	0.99	
Carbon Tetrachloride		0.3579	0.3097	0.3470	0.3746	0.3690	0.4029	0.3392	0.3707	AVRG		2.78631		0.3589	8	15	0.05	0.99	
1,2-Dichloroethane		0.4235	0.4701	0.4850	0.5038	0.4928	0.4932	0.4776	0.4512	AVRG		2.10680		0.4747	6	15	0.05	0.99	
Benzene		1.4164	1.5484	1.4447	1.5657	1.5800	1.5338	1.4807	1.4213	AVRG		0.66716		1.4989	4	15	0.05	0.99	
Trichloroethene		0.3697	0.3608	0.3472	0.3727	0.3785	0.3762	0.3664	0.3544	AVRG		2.73401		0.3658	3	15	0.05	0.99	
1,2-Dichloropropane		0.4435	0.4550	0.4382	0.4770	0.4693	0.4468	0.4365	0.3983	AVRG		2.24433		0.4456	5	15	0.05	0.99	
Bromodichloromethane		0.4415	0.4802	0.4840	0.5273	0.5310	0.5354	0.5045	0.4853	AVRG		2.00542		0.4986	6	15	0.05	0.99	
4-Methyl-2-Pentanone			0.4959	0.4811	0.5008	0.5289	0.5033	0.4753	0.4843	AVRG		2.01743		0.4957	4	15	0.05	0.99	
cis-1,3-Dichloropropene		0.6246	0.6565	0.6505	0.6813	0.6704	0.6664	0.6453	0.6113	AVRG		1.53661		0.6508	4	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Toluene		0.8146	0.8853	0.8122	0.9430	0.8216	0.8864	0.8331	0.7821	AVRG		1.18022		0.8473	6	15	0.05	0.99	
trans-1,3-Dichloropropene		0.5134	0.5798	0.5280	0.6186	0.5837	0.6048	0.5817	0.5529	AVRG		1.75321		0.5704	6	15	0.05	0.99	
1,1,2-Trichloroethane		0.1829	0.1999	0.2064	0.2296	0.2242	0.2147	0.2110	0.2022	AVRG		4.78775		0.2089	7	15	0.05	0.99	
2-Hexanone			0.4174	0.3862	0.4263	0.4429	0.4268	0.4108	0.3985	AVRG		2.40632		0.4156	5	15	0.05	0.99	
Tetrachloroethene		0.4671	0.3880	0.3940	0.4274	0.4027	0.4365	0.3896	0.4448	AVRG		2.38796		0.4188	7	15	0.05	0.99	
Dibromochloromethane		0.5128	0.5363	0.5575	0.6187	0.5950	0.5587	0.5842	0.5715	AVRG		1.76417		0.5668	6	15	0.05	0.99	
Chlorobenzene		1.2018	1.3036	1.2462	1.3654	1.2216	1.2035	1.1940	1.1691	AVRG		0.80766		1.2382	5	15	0.30	0.99	
Ethylbenzene		1.8818	1.8141	1.7404	1.8654	1.7387	1.7386	1.6694	1.7063	AVRG		0.56518		1.7693	4	15	0.05	0.99	
m,p-Xylenes	0.6758	0.7117	0.7093	0.6555	0.7591	0.6902	0.6493	0.6463	0.6219	AVRG		1.47082		0.6799	6	15	0.05	0.99	
o-Xylene		0.7474	0.7130	0.7380	0.8050	0.7101	0.7081	0.6705	0.6743	AVRG		1.38732		0.7208	6	15	0.05	0.99	
Styrene		1.1668	1.2083	1.2783	1.3591	1.2751	1.2064	1.2359	1.1947	AVRG		0.80609		1.2406	5	15	0.05	0.99	
Bromoform		0.3384	0.4010	0.3872	0.4298	0.4176	0.4104	0.4216	0.4280	AVRG		2.47363		0.4043	7	15	0.10	0.99	
1,1,2,2-Tetrachloroethane		1.2187	1.3367	1.2470	1.3233	1.3741	1.2816	1.1398	1.1738	AVRG		0.79248		1.2619	7	15	0.30	0.99	
1,2-Dichloroethane-d4	0.3077	0.3168	0.3283	0.3237	0.3184	0.3303	0.3215	0.3005	0.3060	AVRG		3.15437		0.3170	3	15	0.05	0.99	
Toluene-d8	1.0044	0.9486	1.0031	1.0163	0.9886	1.0385	0.9811	1.0217	1.0037	AVRG		0.99934		1.0007	3	15	0.05	0.99	
Bromofluorobenzene	1.0593	0.9793	1.0003	1.0272	1.0410	1.0415	0.9604	0.8944	0.9258	AVRG		1.00794		0.9921	6	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Chloromethane			1.000	1	2.000	15	5.000	-5	10.00	3	20.00	-12	50.00	-2	75.00	-3	100.0	2
Vinyl Chloride	0.500	-6	1.000	-9	2.000	20	5.000	-15	10.00	-5	20.00	-15	50.00	4	75.00	15	100.0	11
Bromomethane			1.000	-30	2.000	-7	5.000	-8	10.00	10	20.00	-3	50.00	9	75.00	15	100.0	14
Chloroethane			1.000	-17	2.000	16	5.000	-9	10.00	5	20.00	-9	50.00	5	75.00	9	100.0	0
Acetone					2.000	15	5.000	-5	10.00	3	20.00	-5	50.00	2	75.00	-4	100.0	-6
1,1-Dichloroethene			0.500	1	2.000	1	5.000	-9	10.00	2	20.00	1	50.00	5	75.00	-2	100.0	0
Methylene Chloride					2.000	3	5.000	-4	10.00	6	20.00	-1	50.00	-1	75.00	1	100.0	-5
Carbon Disulfide			0.500	-5	2.000	-1	5.000	-7	10.00	3	20.00	3	50.00	4	75.00	1	100.0	1
MTBE			0.500	-3	2.000	0	5.000	-3	10.00	10	20.00	2	50.00	1	75.00	-1	100.0	-6
trans-1,2-Dichloroethene			0.500	-7	2.000	5	5.000	-7	10.00	8	20.00	2	50.00	1	75.00	0	100.0	0
Vinyl Acetate					2.000	8	5.000	0	10.00	8	20.00	7	50.00	-2	75.00	-14	100.0	-7
1,1-Dichloroethane			0.500	-3	2.000	10	5.000	-8	10.00	6	20.00	2	50.00	0	75.00	-3	100.0	-5
2-Butanone					2.000	5	5.000	-7	10.00	6	20.00	2	50.00	5	75.00	-6	100.0	-4
cis-1,2-Dichloroethene			0.500	2	2.000	5	5.000	-3	10.00	6	20.00	0	50.00	0	75.00	-5	100.0	-6
Chloroform			0.500	0	2.000	8	5.000	-9	10.00	5	20.00	1	50.00	0	75.00	-1	100.0	-5
1,1,1-Trichloroethane			0.500	1	2.000	-7	5.000	-4	10.00	4	20.00	1	50.00	5	75.00	-3	100.0	2
Carbon Tetrachloride			0.500	0	2.000	-14	5.000	-3	10.00	4	20.00	3	50.00	12	75.00	-5	100.0	3
1,2-Dichloroethane			0.500	-11	2.000	-1	5.000	2	10.00	6	20.00	4	50.00	4	75.00	1	100.0	-5
Benzene			0.500	-6	2.000	3	5.000	-4	10.00	4	20.00	5	50.00	2	75.00	-1	100.0	-5
Trichloroethene			0.500	1	2.000	-1	5.000	-5	10.00	2	20.00	3	50.00	3	75.00	0	100.0	-3
1,2-Dichloropropane			0.500	0	2.000	2	5.000	-2	10.00	7	20.00	5	50.00	0	75.00	-2	100.0	-11
Bromodichloromethane			0.500	-11	2.000	-4	5.000	-3	10.00	6	20.00	6	50.00	7	75.00	1	100.0	-3
4-Methyl-2-Pentanone					2.000	0	5.000	-3	10.00	1	20.00	7	50.00	2	75.00	-4	100.0	-2
cis-1,3-Dichloropropene			0.500	-4	2.000	1	5.000	0	10.00	5	20.00	3	50.00	2	75.00	-1	100.0	-6
Toluene			0.500	-4	2.000	4	5.000	-4	10.00	11	20.00	-3	50.00	5	75.00	-2	100.0	-8
trans-1,3-Dichloropropene			0.500	-10	2.000	2	5.000	-7	10.00	8	20.00	2	50.00	6	75.00	2	100.0	-3
1,1,2-Trichloroethane			0.500	-12	2.000	-4	5.000	-1	10.00	10	20.00	7	50.00	3	75.00	1	100.0	-3
2-Hexanone					2.000	0	5.000	-7	10.00	3	20.00	7	50.00	3	75.00	-1	100.0	-4
Tetrachloroethene			0.500	12	2.000	-7	5.000	-6	10.00	2	20.00	-4	50.00	4	75.00	-7	100.0	6
Dibromochloromethane			0.500	-10	2.000	-5	5.000	-2	10.00	9	20.00	5	50.00	-1	75.00	3	100.0	1
Chlorobenzene			0.500	-3	2.000	5	5.000	1	10.00	10	20.00	-1	50.00	-3	75.00	-4	100.0	-6
Ethylbenzene			0.500	6	2.000	3	5.000	-2	10.00	5	20.00	-2	50.00	-2	75.00	-6	100.0	-4
m,p-Xylenes	0.500	-1	1.000	5	4.000	4	10.00	-4	20.00	12	40.00	2	100.0	-4	150.0	-5	200.0	-9
o-Xylene			0.500	4	2.000	-1	5.000	2	10.00	12	20.00	-1	50.00	-2	75.00	-7	100.0	-6
Styrene			0.500	-6	2.000	-3	5.000	3	10.00	10	20.00	3	50.00	-3	75.00	0	100.0	-4
Bromoform			0.500	-16	2.000	-1	5.000	-4	10.00	6	20.00	3	50.00	2	75.00	4	100.0	6
1,1,2,2-Tetrachloroethane			0.500	-3	2.000	6	5.000	-1	10.00	5	20.00	9	50.00	2	75.00	-10	100.0	-7
1,2-Dichloroethane-d4	50.00	-3	50.00	0	50.00	4	50.00	2	50.00	0	50.00	4	50.00	1	50.00	-5	50.00	-3
Toluene-d8	50.00	0	50.00	-5	50.00	0	50.00	2	50.00	-1	50.00	4	50.00	-2	50.00	2	50.00	0
Bromofluorobenzene	50.00	7	50.00	-1	50.00	1	50.00	4	50.00	5	50.00	5	50.00	-3	50.00	-10	50.00	-7

BO 11/21/08 : Manual integrations were made due to fronting/tailing of peaks, except for Bromomethane

which was integrated to raise the baseline due to noise

Analyst: BO Date: 11/21/08 Reviewer: ACM Date: 11/21/08

m=manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

458468482002

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 209191 MSVOA Water
EPA 8260B

Inst : MSVOA06 Name : 826GOX6W
Calnum : 458468482002 Cal Date : 20-NOV-2008 Type : WATER

ICV 458468482028 (fkk28 21-NOV-2008) stds: S10631 (10000X), S10447 (1000X)
ICV 458468482029 (fkk29 21-NOV-2008) stds: S10654 (10000X), S10798 (10000X), S10788 (10000X), S10447 (1000X)

Analyte	ICV Seqnum	Average RF	RF	Spiked	Quant	Units	%D	Max	Flags
Chloromethane	458468482028	0.9011	0.7419	25.00	20.58	ug/L	-18	30	
Vinyl Chloride	458468482028	0.6577	0.7466	25.00	28.38	ug/L	14	20	
Bromomethane	458468482028	0.2767	0.2219	25.00	20.05	ug/L	-20	30	
Chloroethane	458468482028	0.3533	0.3134	25.00	22.18	ug/L	-11	30	
Acetone	458468482029	0.3229	0.2969	25.00	22.99	ug/L	-8	40	
1,1-Dichloroethene	458468482029	0.5342	0.5779	25.00	27.05	ug/L	8	20	
Methylene Chloride	458468482029	0.7329	0.7315	25.00	24.95	ug/L	0	30	
Carbon Disulfide	458468482029	2.0736	2.0503	25.00	24.72	ug/L	-1	30	
MTBE	458468482029	1.9089	1.6999	25.00	22.26	ug/L	-11	30	
trans-1,2-Dichloroethene	458468482029	0.6155	0.6477	25.00	26.31	ug/L	5	30	
Vinyl Acetate	458468482029	1.3534	0.9237	25.00	17.06	ug/L	**-32**	40	!v-
1,1-Dichloroethane	458468482029	1.2098	1.1919	25.00	24.63	ug/L	-1	30	
2-Butanone	458468482029	0.4254	0.3758	25.00	22.09	ug/L	-12	40	
cis-1,2-Dichloroethene	458468482029	0.7100	0.7126	25.00	25.09	ug/L	0	30	
Chloroform	458468482029	1.0978	1.0713	25.00	24.40	ug/L	-2	20	
1,1,1-Trichloroethane	458468482029	0.6692	0.7239	25.00	27.04	ug/L	8	30	
Carbon Tetrachloride	458468482029	0.3589	0.4153	25.00	28.93	ug/L	16	30	
1,2-Dichloroethane	458468482029	0.4747	0.4647	25.00	24.47	ug/L	-2	30	
Benzene	458468482029	1.4989	1.5405	25.00	25.69	ug/L	3	30	
Trichloroethene	458468482029	0.3658	0.3974	25.00	27.16	ug/L	9	30	
1,2-Dichloropropane	458468482029	0.4456	0.4417	25.00	24.78	ug/L	-1	20	
Bromodichloromethane	458468482029	0.4986	0.5145	25.00	25.79	ug/L	3	30	
4-Methyl-2-Pentanone	458468482029	0.4957	0.4561	25.00	23.01	ug/L	-8	40	
cis-1,3-Dichloropropene	458468482029	0.6508	0.6214	25.00	23.87	ug/L	-5	30	
Toluene	458468482029	0.8473	0.9101	25.00	26.85	ug/L	7	20	
trans-1,3-Dichloropropene	458468482029	0.5704	0.5250	25.00	23.01	ug/L	-8	30	
1,1,2-Trichloroethane	458468482029	0.2089	0.2147	25.00	25.70	ug/L	3	30	
2-Hexanone	458468482029	0.4156	0.3925	25.00	23.61	ug/L	-6	40	
Tetrachloroethene	458468482029	0.4188	0.4715	25.00	28.15	ug/L	13	30	
Dibromochloromethane	458468482029	0.5668	0.5681	25.00	25.06	ug/L	0	30	
Chlorobenzene	458468482029	1.2382	1.2117	25.00	24.47	ug/L	-2	30	
Ethylbenzene	458468482029	1.7693	1.8355	25.00	25.94	ug/L	4	20	
m,p-Xylenes	458468482029	0.6799	0.7220	50.00	53.10	ug/L	6	30	
o-Xylene	458468482029	0.7208	0.7255	25.00	25.16	ug/L	1	30	
Styrene	458468482029	1.2406	1.2565	25.00	25.32	ug/L	1	30	
Bromoform	458468482029	0.4043	0.4197	25.00	25.96	ug/L	4	30	
1,1,2,2-Tetrachloroethane	458468482029	1.2619	1.1922	25.00	23.62	ug/L	-6	30	

!=warning -=low bias v=ICV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 MSVOA Water
EPA 8260B

Inst : MSVOA06 Run Name : 20PPB IDF : 1.0
Seqnum : 459019270003 File : fad03 Time : 13-JAN-2009 10:15
Cal : 458468482002 Caldate : 20-NOV-2008 Caltype : WATER
Standards: S10945 (25000X), S10928 (25000X), S11037 (25000X), S10277 (50000X), S11178 (1000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Chloromethane	0.9011	0.8458	20.00	18.77	ug/L	-6	30	0.1000	
Vinyl Chloride	0.6577	0.7603	20.00	23.12	ug/L	16	20	0.0500	
Bromomethane	0.2767	0.3269	20.00	23.63	ug/L	18	30	0.0500	
Chloroethane	0.3533	0.3886	20.00	22.00	ug/L	10	30	0.0500	
Acetone	0.3229	0.2671	20.00	16.55	ug/L	-17	40	0.0500	
1,1-Dichloroethene	0.5342	0.4272	20.00	16.00	ug/L	-20	20	0.0500	
Methylene Chloride	0.7329	0.6192	20.00	16.90	ug/L	-16	30	0.0500	
Carbon Disulfide	2.0736	1.7584	20.00	16.96	ug/L	-15	30	0.0500	
MTBE	1.9089	1.6453	20.00	17.24	ug/L	-14	30	0.0500	
trans-1,2-Dichloroethene	0.6155	0.5454	20.00	17.72	ug/L	-11	30	0.0500	
Vinyl Acetate	1.3534	0.8904	20.00	13.16	ug/L	**-34**	40	0.0500	!c-
1,1-Dichloroethane	1.2098	1.0318	20.00	17.06	ug/L	-15	30	0.1000	
2-Butanone	0.4254	0.3512	20.00	16.51	ug/L	-17	40	0.0500	
cis-1,2-Dichloroethene	0.7100	0.6326	20.00	17.82	ug/L	-11	30	0.0500	
Chloroform	1.0978	0.9958	20.00	18.14	ug/L	-9	20	0.0500	
1,1,1-Trichloroethane	0.6692	0.6496	20.00	19.42	ug/L	-3	30	0.0500	
Carbon Tetrachloride	0.3589	0.3572	20.00	19.90	ug/L	0	30	0.0500	
1,2-Dichloroethane	0.4747	0.5013	20.00	21.12	ug/L	6	30	0.0500	
Benzene	1.4989	1.4225	20.00	18.98	ug/L	-5	30	0.0500	
Trichloroethene	0.3658	0.3612	20.00	19.75	ug/L	-1	30	0.0500	
1,2-Dichloropropane	0.4456	0.3925	20.00	17.62	ug/L	-12	20	0.0500	
Bromodichloromethane	0.4986	0.5143	20.00	20.63	ug/L	3	30	0.0500	
4-Methyl-2-Pentanone	0.4957	0.4341	20.00	17.52	ug/L	-12	40	0.0500	
cis-1,3-Dichloropropene	0.6508	0.6036	20.00	18.55	ug/L	-7	30	0.0500	
Toluene	0.8473	0.7884	20.00	18.61	ug/L	-7	20	0.0500	
trans-1,3-Dichloropropene	0.5704	0.5631	20.00	19.75	ug/L	-1	30	0.0500	
1,1,2-Trichloroethane	0.2089	0.1944	20.00	18.61	ug/L	-7	30	0.0500	
2-Hexanone	0.4156	0.3903	20.00	18.78	ug/L	-6	40	0.0500	
Tetrachloroethene	0.4188	0.3979	20.00	19.00	ug/L	-5	30	0.0500	
Dibromochloromethane	0.5668	0.5695	20.00	20.09	ug/L	0	30	0.0500	
Chlorobenzene	1.2382	1.2296	20.00	19.86	ug/L	-1	30	0.3000	
Ethylbenzene	1.7693	1.7619	20.00	19.92	ug/L	0	20	0.0500	
m,p-Xylenes	0.6799	0.6305	40.00	37.09	ug/L	-7	30	0.0500	
o-Xylene	0.7208	0.6883	20.00	19.10	ug/L	-5	30	0.0500	
Styrene	1.2406	1.2190	20.00	19.65	ug/L	-2	30	0.0500	
Bromoform	0.4043	0.4361	20.00	21.58	ug/L	8	30	0.1000	
1,1,2,2-Tetrachloroethane	1.2619	1.0730	20.00	17.01	ug/L	-15	30	0.3000	
1,2-Dichloroethane-d4	0.3170	0.3599	50.00	56.77	ug/L	14	30	0.0500	
Toluene-d8	1.0007	1.0854	50.00	54.23	ug/L	8	30	0.0500	
Bromofluorobenzene	0.9921	0.9318	50.00	46.96	ug/L	-6	30	0.0500	

ISTD (ICAL fkk25)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	811980	737735	-9.14	12.82	12.81	-0.01
1,4-Difluorobenzene	1320025	1085189	-17.79	14.16	14.15	-0.01
Chlorobenzene-d5	1182141	888073	-24.88	18.69	18.67	-0.02
1,4-Dichlorobenzene-d4	596162	512882	-13.97	21.48	21.47	-0.01

Analyst: MJM Date: 01/13/09 Reviewer: LW Date: 01/14/09

!=warning -=low bias c=CCV

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 459019270

Date : 01/13/09 Reference : fkk25
Sequence : MSVOA06 fad Analyzed : 11/20/08 22:19

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	811980	12.82	1320025	14.16	1182141	18.69	596162	21.48
		LOWER LIMIT	405990	12.32	660013	13.66	591071	18.19	298081	20.98
		UPPER LIMIT	1623960	13.32	2640050	14.66	2364282	19.19	1192324	21.98
003	CCV	20PPB	737735	12.81	1085189	14.15	888073	18.67	512882	21.47
004	BS	QC479108	721823	12.80	1141418	14.14	934673	18.68	508492	21.46
005	BSD	QC479109	671797	12.81	1058505	14.15	908572	18.67	516860	21.47
007	BLANK	QC479110	706051	12.81	1106480	14.15	931864	18.67	517635	21.47
008	SAMPLE	209195-001	656365	12.82	1077145	14.15	921798	18.68	481689	21.47
009	SAMPLE	209195-002	671939	12.81	1067143	14.15	941895	18.67	473194	21.47
010	SAMPLE	209191-018	659978	12.81	1089819	14.15	899947	18.68	488093	21.47
011	SAMPLE	209199-001	674185	12.82	1093236	14.16	903354	18.68	477621	21.48
012	SAMPLE	209199-002	654393	12.81	1019868	14.15	889604	18.67	475263	21.47
013	SAMPLE	209199-003	668845	12.82	1079972	14.16	886374	18.68	491011	21.48
014	SAMPLE	209199-004	631446	12.82	998697	14.16	894421	18.68	497879	21.48
015	SAMPLE	209195-003	639869	12.81	996154	14.15	866138	18.68	467572	21.47
016	SAMPLE	209195-004	622785	12.81	981093	14.15	794786	18.68	457203	21.47
017	SAMPLE	209195-005	619084	12.81	966482	14.15	874285	18.69	468362	21.47
018	SAMPLE	209179-001	633866	12.81	976673	14.15	842509	18.68	456670	21.47
019	SAMPLE	209179-002	629341	12.81	1009469	14.15	839044	18.68	449443	21.47
020	SAMPLE	209135-005	616723	12.82	993629	14.16	824760	18.68	453151	21.47

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 458468482

Instrument : MSVOA06 Begun : 11/20/08 08:02
Method : EPA 8260B SOP Version : TVH_8260B_rv0

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	fkk01	X	IB			11/20/08 08:02	1.0	1	
002	fkk02	X	BFB			11/20/08 08:57	1.0	2	
003	fkk03	X	20PPB			11/20/08 09:14	1.0	3 4 5 6 1	
004	fkk04	X	BFB			11/20/08 10:48	1.0	2	
005	fkk05	X	20PPB			11/20/08 11:04	1.0	3 4 5 6 1	
006	fkk06	X	BFB			11/20/08 11:44	1.0	2	
007	fkk07	X	BFB			11/20/08 11:56	1.0	2	
008	fkk08	X	20PPB			11/20/08 12:13	1.0	3 4 5 6 1	
009	fkk09	X	BFB			11/20/08 13:19	1.0	2	
010	fkk10	X	20PPB			11/20/08 13:36	1.0	3 4 5 6 1	
011	fkk11	X	IB			11/20/08 14:29	1.0	1	
012	fkk12	X	IB			11/20/08 15:03	1.0	1	
013	fkk13	X	LOW PT			11/20/08 15:37	1.0	1	
014	fkk14	TUN	BFB			11/20/08 16:09	1.0	2	
015	fkk15	X	IB			11/20/08 16:38	1.0	1	
016	fkk16	X	IB			11/20/08 17:12	1.0	1	
017	fkk17	X	IB			11/20/08 17:46	1.0	1	
018	fkk18	IB	CALIB			11/20/08 18:20	1.0	1	
019	fkk19	ICAL	0.25PPB			11/20/08 18:54	1.0	3 4 7 6 1	
020	fkk20	ICAL	0.5PPB			11/20/08 19:28	1.0	3 4 7 6 1	
021	fkk21	ICAL	2PPB			11/20/08 20:02	1.0	3 4 7 6 1	
022	fkk22	ICAL	5PPB			11/20/08 20:36	1.0	3 4 7 6 1	
023	fkk23	ICAL	10PPB			11/20/08 21:11	1.0	3 4 7 6 1	
024	fkk24	ICAL	20PPB			11/20/08 21:45	1.0	3 4 7 6 1	
025	fkk25	ICAL	50PPB			11/20/08 22:19	1.0	3 4 7 6 1	
026	fkk26	ICAL	75PPB			11/20/08 22:53	1.0	3 4 7 6 1	
027	fkk27	ICAL	100PPB			11/20/08 23:28	1.0	3 4 7 6 1	
028	fkk28	ICV	ICVGAS25PPB			11/21/08 00:02	1.0	8 1	
029	fkk29	ICV	ICV25PPB			11/21/08 00:36	1.0	9 10 11 1	
030	fkk30	X	IB			11/21/08 01:10	1.0	1	
031	fkk31	X	IB			11/21/08 01:45	1.0	1	
032	fkk32	X	IB			11/21/08 02:19	1.0	1	

BO 11/21/08 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

BO 11/21/08 : fkk14, maximum sensitivity autotune

Analyst: BO Date: 11/21/08 Reviewer: ACM Date: 11/21/08

Standards used: 1=S10447 2=S9454 3=S10756 4=S10619 5=S10355 6=S9073 7=S10653 8=S10631 9=S10654 10=S10798 11=S10788

Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 459019270

Instrument : MSVOA06 Begun : 01/13/09 09:10
Method : EPA 8260B SOP Version : TVH_8260B_rv0

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	fad01	X	IB			01/13/09 09:10	1.0	1	
002	fad02	TUN	BFB			01/13/09 09:47	1.0	2	
003	fad03	CCV	20PPB			01/13/09 10:15	1.0	3 4 5 6 1	
004	fad04	BS	QC479108	Water	146893	01/13/09 10:49	1.0	7 8 9 10 1	
005	fad05	BSD	QC479109	Water	146893	01/13/09 11:23	1.0	7 8 9 10 1	
006	fad06	X	IB			01/13/09 11:57	1.0	1	
007	fad07	BLANK	QC479110	Water	146893	01/13/09 12:32	1.0	1	
008	fad08	SAMPLE	209195-001	Water	146893	01/13/09 13:06	1.0	1	
009	fad09	SAMPLE	209195-002	Water	146893	01/13/09 13:40	1.0	1	
010	fad10	SAMPLE	209191-018	Water	146893	01/13/09 14:14	1.0	1	combined (sediment)
011	fad11	SAMPLE	209199-001	Water	146893	01/13/09 14:48	1.0	1	
012	fad12	SAMPLE	209199-002	Water	146893	01/13/09 15:22	1.0	1	
013	fad13	SAMPLE	209199-003	Water	146893	01/13/09 15:56	1.0	1	
014	fad14	SAMPLE	209199-004	Water	146893	01/13/09 16:30	1.0	1	
015	fad15	SAMPLE	209195-003	Water	146893	01/13/09 17:05	1.0	1	
016	fad16	SAMPLE	209195-004	Water	146893	01/13/09 17:39	1.0	1	
017	fad17	SAMPLE	209195-005	Water	146893	01/13/09 18:13	1.0	1	1:TCE=120
018	fad18	SAMPLE	209179-001	Water	146893	01/13/09 18:47	1.0	1	
019	fad19	SAMPLE	209179-002	Water	146893	01/13/09 19:22	1.0	1	
020	fad20	SAMPLE	209135-005	Water	146893	01/13/09 19:56	2.0	1	
021	fad21	X	IB			01/13/09 20:31	1.0	1	
022	fad22	X	IB			01/13/09 21:05	1.0	1	
023	fad23	X	IB			01/13/09 21:40	1.0	1	
024	fad24	X	IB			01/13/09 22:15	1.0	1	
025	fad25	X	IB			01/13/09 22:50	1.0	1	

MJM 01/14/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 001 through 025.

Analyst: MJM Date: 01/14/09 Reviewer: LW Date: 01/14/09

Standards used: 1=S11178 2=S10902 3=S10945 4=S10928 5=S11037 6=S10277 7=S11053 8=S11013 9=S11106 10=S10985

GC/MS VOLATILE ORGANICS

Batch #: 146893

Water Sample Prep Sheet

	Sample Number	Sample Vial	pH	Head space?	Shelf	Dil'n Flask	MS#	Comments	Initials & Date
1	209135-005	C	<2			1	6	RR 2x TCE >LR	2ee 1-13-09
2	209199-001	B						1x clean MB SC 1-12	
3	-002								
4	-003								
5	-004								
6	209191-018	CD	<2					1x tight SURR. Silty	
7	209195-001	A						TB clean MB	
8	-002							EB	
9	-003	B						1x	
10	-004								
11	-005								
12	209179-001							1x	
13	-002	A						1X	
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									

Laboratory Job Number 209191

ANALYTICAL REPORT

Semivolatile Organics by GC/MS

Matrix: Water

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	EPA 3520C
Project#:	Y0239-04.A3	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC479345	Batch#:	146949
Matrix:	Water	Prepared:	01/14/09
Units:	ug/L	Analyzed:	01/15/09

Analyte	Result	RL	MDL
Phenol	ND	10	
bis(2-Chloroethyl)ether	ND	10	
2-Chlorophenol	ND	10	
1,3-Dichlorobenzene	ND	10	
1,4-Dichlorobenzene	ND	10	
Benzyl alcohol	ND	10	
1,2-Dichlorobenzene	ND	10	
2-Methylphenol	ND	10	
bis(2-Chloroisopropyl) ether	ND	10	
4-Methylphenol	ND	10	
N-Nitroso-di-n-propylamine	ND	10	
Hexachloroethane	ND	10	
Nitrobenzene	ND	10	
Isophorone	ND	10	
2-Nitrophenol	ND	20	1.3
2,4-Dimethylphenol	ND	10	
Benzoic acid	ND	50	
bis(2-Chloroethoxy)methane	ND	10	
2,4-Dichlorophenol	ND	10	
1,2,4-Trichlorobenzene	ND	10	
Naphthalene	ND	10	
4-Chloroaniline	ND	10	
Hexachlorobutadiene	ND	10	
4-Chloro-3-methylphenol	ND	10	
2-Methylnaphthalene	ND	10	
Hexachlorocyclopentadiene	ND	20	
2,4,6-Trichlorophenol	ND	10	
2,4,5-Trichlorophenol	ND	10	
2-Chloronaphthalene	ND	10	
2-Nitroaniline	ND	20	
Dimethylphthalate	ND	10	
Acenaphthylene	ND	10	
2,6-Dinitrotoluene	ND	10	
3-Nitroaniline	ND	20	
Acenaphthene	ND	10	
2,4-Dinitrophenol	ND	20	
4-Nitrophenol	ND	20	
Dibenzofuran	ND	10	
2,4-Dinitrotoluene	ND	10	
Diethylphthalate	ND	10	
Fluorene	ND	10	
4-Chlorophenyl-phenylether	ND	10	
4-Nitroaniline	ND	20	
4,6-Dinitro-2-methylphenol	ND	20	
N-Nitrosodiphenylamine	ND	10	
4-Bromophenyl-phenylether	ND	10	
Hexachlorobenzene	ND	10	
Pentachlorophenol	ND	20	
Phenanthrene	ND	10	
Anthracene	ND	10	
Di-n-butylphthalate	ND	10	
Fluoranthene	ND	10	
Pyrene	ND	10	

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	EPA 3520C
Project#:	Y0239-04.A3	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC479345	Batch#:	146949
Matrix:	Water	Prepared:	01/14/09
Units:	ug/L	Analyzed:	01/15/09

Analyte	Result	RL	MDL
Butylbenzylphthalate	ND	10	
3,3'-Dichlorobenzidine	ND	20	
Benzo(a)anthracene	ND	10	
Chrysene	ND	10	
bis(2-Ethylhexyl)phthalate	ND	10	
Di-n-octylphthalate	ND	10	
Benzo(b)fluoranthene	ND	10	
Benzo(k)fluoranthene	ND	10	
Benzo(a)pyrene	ND	10	
Indeno(1,2,3-cd)pyrene	ND	10	
Dibenz(a,h)anthracene	ND	10	
Benzo(g,h,i)perylene	ND	10	

Surrogate	%REC	Limits
2-Fluorophenol	95	21-120
Phenol-d5	90	10-120
2,4,6-Tribromophenol	89	10-123
Nitrobenzene-d5	92	36-120
2-Fluorobiphenyl	93	43-120
Terphenyl-d14	95	33-141

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	EPA 3520C
Project#:	Y0239-04.A3	Analysis:	EPA 8270C
Matrix:	Water	Batch#:	146949
Units:	ug/L	Prepared:	01/14/09
Diln Fac:	1.000	Analyzed:	01/15/09

Type: BS Lab ID: QC479346

Analyte	Spiked	Result	%REC	Limits
Phenol	80.00	62.01	78	17-120
2-Chlorophenol	80.00	64.26	80	46-120
1,4-Dichlorobenzene	80.00	63.23	79	38-120
N-Nitroso-di-n-propylamine	80.00	68.60	86	42-120
1,2,4-Trichlorobenzene	80.00	62.14	78	39-120
4-Chloro-3-methylphenol	80.00	62.43	78	54-120
Acenaphthene	30.00	26.03	87	49-120
4-Nitrophenol	80.00	60.01	75	10-120
2,4-Dinitrotoluene	80.00	65.82	82	48-120
Pentachlorophenol	80.00	65.86	82	13-153
Pyrene	30.00	27.80	93	57-150

Surrogate	%REC	Limits
2-Fluorophenol	90	21-120
Phenol-d5	86	10-120
2,4,6-Tribromophenol	96	10-123
Nitrobenzene-d5	88	36-120
2-Fluorobiphenyl	88	43-120
Terphenyl-d14	93	33-141

Type: BSD Lab ID: QC479347

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Phenol	80.00	64.96	81	17-120	5	29
2-Chlorophenol	80.00	67.50	84	46-120	5	28
1,4-Dichlorobenzene	80.00	65.77	82	38-120	4	28
N-Nitroso-di-n-propylamine	80.00	70.29	88	42-120	2	18
1,2,4-Trichlorobenzene	80.00	65.25	82	39-120	5	25
4-Chloro-3-methylphenol	80.00	65.07	81	54-120	4	25
Acenaphthene	30.00	27.00	90	49-120	4	16
4-Nitrophenol	80.00	65.43	82	10-120	9	50
2,4-Dinitrotoluene	80.00	68.01	85	48-120	3	15
Pentachlorophenol	80.00	71.93	90	13-153	9	45
Pyrene	30.00	29.54	98	57-150	6	24

Surrogate	%REC	Limits
2-Fluorophenol	93	21-120
Phenol-d5	89	10-120
2,4,6-Tribromophenol	99	10-123
Nitrobenzene-d5	90	36-120
2-Fluorobiphenyl	93	43-120
Terphenyl-d14	97	33-141

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	EPA 3520C
Project#:	Y0239-04.A3	Analysis:	EPA 8270C
Field ID:	E074	Batch#:	146949
Lab ID:	209191-018	Sampled:	01/12/09
Matrix:	Water	Received:	01/12/09
Units:	ug/L	Prepared:	01/14/09
Diln Fac:	1.000	Analyzed:	01/16/09

Analyte	Result	RL	MDL
Phenol	ND	9.8	
bis(2-Chloroethyl)ether	ND	9.8	
2-Chlorophenol	ND	9.8	
1,3-Dichlorobenzene	ND	9.8	
1,4-Dichlorobenzene	ND	9.8	
Benzyl alcohol	ND	9.8	
1,2-Dichlorobenzene	ND	9.8	
2-Methylphenol	ND	9.8	
bis(2-Chloroisopropyl) ether	ND	9.8	
4-Methylphenol	ND	9.8	
N-Nitroso-di-n-propylamine	ND	9.8	
Hexachloroethane	ND	9.8	
Nitrobenzene	ND	9.8	
Isophorone	ND	9.8	
2-Nitrophenol	ND	20	4.3
2,4-Dimethylphenol	ND	9.8	
Benzoic acid	ND	49	
bis(2-Chloroethoxy)methane	ND	9.8	
2,4-Dichlorophenol	ND	9.8	
1,2,4-Trichlorobenzene	ND	9.8	
Naphthalene	ND	9.8	
4-Chloroaniline	ND	9.8	
Hexachlorobutadiene	ND	9.8	
4-Chloro-3-methylphenol	ND	9.8	
2-Methylnaphthalene	ND	9.8	
Hexachlorocyclopentadiene	ND	20	
2,4,6-Trichlorophenol	ND	9.8	
2,4,5-Trichlorophenol	ND	9.8	
2-Chloronaphthalene	ND	9.8	
2-Nitroaniline	ND	20	
Dimethylphthalate	ND	9.8	
Acenaphthylene	ND	9.8	
2,6-Dinitrotoluene	ND	9.8	
3-Nitroaniline	ND	20	
Acenaphthene	ND	9.8	
2,4-Dinitrophenol	ND	20	
4-Nitrophenol	ND	20	
Dibenzofuran	ND	9.8	
2,4-Dinitrotoluene	ND	9.8	
Diethylphthalate	ND	9.8	
Fluorene	ND	9.8	
4-Chlorophenyl-phenylether	ND	9.8	
4-Nitroaniline	ND	20	
4,6-Dinitro-2-methylphenol	ND	20	
N-Nitrosodiphenylamine	ND	9.8	
4-Bromophenyl-phenylether	ND	9.8	
Hexachlorobenzene	ND	9.8	
Pentachlorophenol	ND	20	
Phenanthrene	ND	9.8	
Anthracene	ND	9.8	
Di-n-butylphthalate	ND	9.8	
Fluoranthene	ND	9.8	

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	EPA 3520C
Project#:	Y0239-04.A3	Analysis:	EPA 8270C
Field ID:	E074	Batch#:	146949
Lab ID:	209191-018	Sampled:	01/12/09
Matrix:	Water	Received:	01/12/09
Units:	ug/L	Prepared:	01/14/09
Diln Fac:	1.000	Analyzed:	01/16/09

Analyte	Result	RL	MDL
Pyrene	ND	9.8	
Butylbenzylphthalate	ND	9.8	
3,3'-Dichlorobenzidine	ND	20	
Benzo(a)anthracene	ND	9.8	
Chrysene	ND	9.8	
bis(2-Ethylhexyl)phthalate	ND	9.8	
Di-n-octylphthalate	ND	9.8	
Benzo(b)fluoranthene	ND	9.8	
Benzo(k)fluoranthene	ND	9.8	
Benzo(a)pyrene	ND	9.8	
Indeno(1,2,3-cd)pyrene	ND	9.8	
Dibenz(a,h)anthracene	ND	9.8	
Benzo(g,h,i)perylene	ND	9.8	

Surrogate	%REC	Limits
2-Fluorophenol	33	21-120
Phenol-d5	32	10-120
2,4,6-Tribromophenol	30	10-123
Nitrobenzene-d5	73	36-120
2-Fluorobiphenyl	76	43-120
Terphenyl-d14	22 *	33-141

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

CURTIS & TOMPKINS DFTPP TUNE FOR 209191 MSBNA Water
EPA 8270C

Inst : MSBNA05 Run Name : DFTPP/PEM 50 NG IDF : 1.0
Seqnum : 548517591008 File : xlo08 Time : 24-DEC-2008 14:54

Standards: S11025

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	129413	35.13	
68	< 2% of mass 69	0	0.00	
69		146048		
70	< 2% of mass 69	820	0.56	
127	40% - 60% of mass 198	174933	47.48	
197	< 1% of mass 198	0	0.00	
199	5% - 9% of mass 198	25218	6.85	
275	10% - 30% of mass 198	90901	24.67	
365	> 1% of mass 198	10919	2.96	
441	Present, < mass 443	56544	79.27	
442	> 40% and < 100% of mass 198	368320	99.98	
443	17% - 23% of mass 442	71333	19.37	

Analyst: SHD Date: 12/29/08 Reviewer: LW Date: 12/31/08

PEM REPORT

Calibration Title	MSBNA05 BNA DFTPP/PEM
Data File Name	XLO08.D
Data File Path	G:\msbna05\122408\
Date Acquired	12/24/200814:54
Acq. Method File	DFTPP05.M
Instrument Name	MSBNA05

Name	Ret Time	Amount	Units	Target Response	Scan#
Pentachlorophenol	4.48	50.00	ug/mL	221393	261
DFTPP	5.04	50.00	ug/mL	569326	366
Benzidine	6.29	49.70	ug/mL	2593217	600
4,4'-DDT	7.30	50.00	ug/mL	1642174	790
4,4'-DDE	6.53	0.00	ug/mL	5833	646
4,4'-DDD	6.94	0.00	ug/mL	56743	722

	% Breakdown
4,4'-DDE + 4,4'-DDD	3.670684851

CURTIS & TOMPKINS DFTPP TUNE FOR 209191 MSBNA Water
EPA 8270C

Inst : MSBNA05 Run Name : DFTPP/PEM 50UG/ML IDF : 1.0
Seqnum : 549022249007 File : xaf07 Time : 15-JAN-2009 17:58

Standards: S11025

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	133568	34.26	
68	< 2% of mass 69	0	0.00	
69		159232		
70	< 2% of mass 69	803	0.50	
127	40% - 60% of mass 198	183456	47.06	
197	< 1% of mass 198	0	0.00	
199	5% - 9% of mass 198	26768	6.87	
275	10% - 30% of mass 198	97948	25.12	
365	> 1% of mass 198	11782	3.02	
441	Present, < mass 443	58008	77.78	
442	> 40% and < 100% of mass 198	379136	97.25	
443	17% - 23% of mass 442	74584	19.67	

Analyst: LLH Date: 01/16/09 Reviewer: SHD Date: 01/16/09

PEM REPORT

Calibration Title	MSBNA05 BNA DFTPP/PEM
Data File Name	XAF07.D
Data File Path	G:\csinput.net\DATA\011509\
Date Acquired	1/15/200917:58
Acq. Method File	DFTPP05.M
Instrument Name	MSBNA05

Name	Ret Time	Amount	Units	Target Response	Scan#
Pentachlorophenol	3.95	68.72	ug/mL	694174	162
DFTPP	4.54	50.00	ug/mL	687595	273
Benzidine	5.74	46.73	ug/mL	2366440	498
4,4'-DDT	6.76	50.00	ug/mL	1985699	688
4,4'-DDE	5.99	0.00	ug/mL	5127	545
4,4'-DDD	6.39	0.00	ug/mL	85086	620

	% Breakdown
4,4'-DDE + 4,4'-DDD	4.345704442

CURTIS & TOMPKINS DFTPP TUNE FOR 209191 MSBNA Water
EPA 8270C

Inst : MSBNA06 Run Name : DFTPP/PEM 50UG/ML IDF : 1.0
Seqnum : 559021123004 File : yae04 Time : 14-JAN-2009 18:35

Standards: S11025

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	65173	51.79	
68	< 2% of mass 69	0	0.00	
69		51325		
70	< 2% of mass 69	300	0.58	
127	40% - 60% of mass 198	54843	43.58	
197	< 1% of mass 198	332	0.26	
199	5% - 9% of mass 198	8448	6.71	
275	10% - 30% of mass 198	30952	24.60	
365	> 1% of mass 198	4332	3.44	
441	Present, < mass 443	18621	79.89	
442	> 40% and < 100% of mass 198	121576	96.61	
443	17% - 23% of mass 442	23307	19.17	

Decafluorotriphenylphosphene: **m**

Analyst: SHD Date: 01/15/09 Reviewer: LW Date: 01/15/09

PEM REPORT

Calibration Title	MSBNA06 BNA DFTPP/PEM
Data File Name	YAE04.D
Data File Path	G:\msbna06\011409\
Date Acquired	1/14/200918:35
Acq. Method File	DFTPP06.M
Instrument Name	MSBNA06

Name	Ret Time	Amount	Units	Target Response	Scan#
Pentachlorophenol	4.58	9.48	ug/mL	184826	429
DFTPP	5.15	50.00	ug/mL	198149	552
Benzidine	6.37	322175.73	ug/mL	751433	815
4,4'-DDT	7.38	50.00	ug/mL	476778	1032
4,4'-DDE	6.61	0.00	ug/mL	1160	866
4,4'-DDD	7.05	0.00	ug/mL	16129	961

	% Breakdown
4,4'-DDE + 4,4'-DDD	3.499322966

CURTIS & TOMPKINS DFTPP TUNE FOR 209191 MSBNA Water
EPA 8270C

Inst : MSBNA06 Run Name : DFTPP/PEM 50UG/ML IDF : 1.0
Seqnum : 559023759001 File : yag01 Time : 16-JAN-2009 11:59

Standards: S11025

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
51	30% - 60% of mass 198	65530	51.57	
68	< 2% of mass 69	273	0.53	
69		51072		
70	< 2% of mass 69	316	0.62	
127	40% - 60% of mass 198	54378	42.80	
197	< 1% of mass 198	0	0.00	
199	5% - 9% of mass 198	8786	6.91	
275	10% - 30% of mass 198	30840	24.27	
365	> 1% of mass 198	4550	3.58	
441	Present, < mass 443	19610	81.28	
442	> 40% and < 100% of mass 198	126021	99.18	
443	17% - 23% of mass 442	24125	19.14	

Analyst: LLH Date: 01/19/09 Reviewer: LW Date: 01/19/09

PEM REPORT

Calibration Title	MSBNA06 BNA DFTPP/PEM
Data File Name	YAG01.D
Data File Path	G:\msbna06\011609\
Date Acquired	1/16/200911:59
Acq. Method File	DFTPP06.M
Instrument Name	MSBNA06

Name	Ret Time	Amount	Units	Target Response	Scan#
Pentachlorophenol	4.58	50.42	ug/mL	186369	429
DFTPP	5.15	50.00	ug/mL	200169	552
Benzidine	6.37	51.93	ug/mL	788441	815
4,4'-DDT	7.38	50.00	ug/mL	476017	1032
4,4'-DDE	6.61	0.00	ug/mL	1582	867
4,4'-DDD	7.01	0.00	ug/mL	15836	953

	% Breakdown
4,4'-DDE + 4,4'-DDD	3.52994822

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 209191 MSBNA Water: EPA 8270C

Inst : MSBNA05
Calnum : 548517591001
Units : ug/mL

Name : 6PTBNA5
Date : 24-DEC-2008 15:17
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	xlo09	548517591009	#1	24-DEC-2008 15:17	S10916
L2	xlo10	548517591010	#2	24-DEC-2008 15:59	S10917
L3	xlo11	548517591011	#3	24-DEC-2008 16:45	S10918
L4	xlo12	548517591012	#4	24-DEC-2008 17:28	S10919
L5	xlo13	548517591013	#5	24-DEC-2008 18:15	S10920
L6	xlo14	548517591014	#6	24-DEC-2008 19:00	S10921
L7	xlo15	548517591015	#7	24-DEC-2008 19:44	S10922
L8	xlo16	548517591016	#8	24-DEC-2008 20:27	S10923

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Phenol		1.6458	1.6914	1.6774	1.6568	1.5906m	1.5014m	1.4631m	AVRG		0.62353		1.6038	6	15	0.05	0.99	
bis(2-Chloroethyl)ether		1.2078m	1.1963	1.1360	1.1247m	1.0690m	0.9833m	1.1537m	AVRG		0.88938		1.1244	7	15	0.05	0.99	
2-Chlorophenol		1.4425	1.4648	1.4541	1.4302	1.3859	1.3646	1.3336	AVRG		0.70881		1.4108	4	15	0.05	0.99	
1,3-Dichlorobenzene		1.7085	1.7148	1.6948	1.6555	1.5677	1.4519	1.3333	AVRG		0.62913		1.5895	9	15	0.05	0.99	
1,4-Dichlorobenzene		1.7622	1.7609	1.7063	1.6582	1.5253	1.3861	1.2284	AVRG		0.63478		1.5754	13	15	0.05	0.99	
Benzyl alcohol		0.8506	0.8874	0.8862	0.8969	0.8640	0.8282	0.8248m	AVRG		1.15928		0.8626	3	15	0.05	0.99	
1,2-Dichlorobenzene		1.6455	1.6369	1.5974	1.5633	1.4071	1.2296	1.1234	AVRG		0.68606		1.4576	14	15	0.05	0.99	
2-Methylphenol		1.1004	1.0772	1.0678	1.0250	0.9720	0.9011	0.8132	AVRG		1.00622		0.9938	11	15	0.05	0.99	
bis(2-Chloroisopropyl) ether		1.5569	1.5297	1.3965	1.3459	1.2543	1.1669	1.1252	AVRG		0.74663		1.3394	13	15	0.05	0.99	
4-Methylphenol		1.5252	1.5385	1.5002	1.4781	1.4529	1.4532m	1.4547m	AVRG		0.67290		1.4861	2	15	0.05	0.99	
N-Nitroso-di-n-propylamine		0.7157	0.7331	0.6971	0.6949m	0.6633	0.6257	0.6206	AVRG		1.47359		0.6786	6	15	0.050	0.99	
Hexachloroethane		0.6636	0.6739	0.6531	0.6419	0.6144	0.5793	0.5282	AVRG		1.60752		0.6221	8	15	0.05	0.99	
Nitrobenzene		0.3780	0.3766	0.3655	0.3576m	0.3365m	0.3233m	0.3118m	AVRG		2.85798		0.3499	8	15	0.05	0.99	
Isophorone		0.6523	0.6582	0.6438	0.6342	0.6203	0.5954m	0.5526	AVRG		1.60670		0.6224	6	15	0.05	0.99	
2-Nitrophenol			0.2360m	0.2414m	0.2444m	0.2409m	0.2449	0.2200	AVRG		4.20283		0.2379	4	15	0.05	0.99	
2,4-Dimethylphenol		0.3777	0.3751	0.3641	0.3595	0.3426	0.3375	0.3299m	AVRG		2.81515		0.3552	5	15	0.05	0.99	
bis(2-Chloroethoxy)methane			0.4041	0.4011	0.3964	0.3843	0.3706	0.3598	AVRG		2.59046		0.3860	5	15	0.05	0.99	
Benzoic acid		0.0883m	0.1248	0.1596	0.1829	0.2032	0.2117	0.2164m	LINR	33.3990	3.61848		0.1695	0.999	15	0.05	0.99	
2,4-Dichlorophenol		0.3745	0.3892	0.3972	0.3922	0.3777	0.3469	0.3302	AVRG		2.68419		0.3726	7	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.4355	0.4395	0.4467	0.4371	0.4097	0.3647	0.3328	AVRG		2.44253		0.4094	11	15	0.05	0.99	
Naphthalene	1.1258	1.1417	1.1200	1.1170	1.0663	0.9745	0.8734	0.8032	AVRG		0.97302		1.0277	13	15	0.05	0.99	
4-Chloroaniline		0.4065	0.5041	0.5193	0.5119	0.4706	0.4444	0.4207	AVRG		2.13578		0.4682	10	15	0.05	0.99	
Hexachlorobutadiene		0.2508	0.2576	0.2632	0.2574	0.2390	0.2113	0.1893	AVRG		4.19495		0.2384	12	15	0.05	0.99	
4-Chloro-3-methylphenol		0.3342	0.3420	0.3398	0.3262	0.3110	0.2914	0.2776	AVRG		3.15014		0.3174	8	15	0.05	0.99	
2-Methylnaphthalene	0.7772	0.7886	0.8190	0.8228	0.7874	0.7458	0.6900	0.6494	AVRG		1.31575		0.7600	8	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Hexachlorocyclopentadiene			0.3756	0.3808	0.4016	0.4123	0.3987	0.3623	AVRG		2.57375		0.3885	5	15	0.050	0.99	
2,4,6-Trichlorophenol		0.4500	0.4685	0.4778	0.4749	0.4716	0.4649	0.4384	AVRG		2.15642		0.4637	3	15	0.05	0.99	
2,4,5-Trichlorophenol		0.5204	0.5307	0.5329	0.5329	0.5155	0.4786m	0.4442m	AVRG		1.96890		0.5079	7	15	0.05	0.99	
2-Chloronaphthalene			1.2814	1.2715	1.2517	1.2188	1.1514	1.0786	AVRG		0.82719		1.2089	7	15	0.05	0.99	
2-Nitroaniline			0.3312	0.3094	0.3044	0.3013	0.3015	0.3012	AVRG		3.24511		0.3082	4	15	0.05	0.99	
Dimethylphthalate		1.5025	1.4975	1.4344	1.3768	1.2816	1.1978	1.1039	AVRG		0.74513		1.3421	11	15	0.05	0.99	
2,6-Dinitrotoluene		0.3646	0.3675	0.3675	0.3652	0.3665	0.3651m	0.3725	AVRG		2.72502		0.3670	1	15	0.05	0.99	
Acenaphthylene	1.9595	1.9917	1.9637	1.9162	1.8416	1.7246	1.6191	1.4867	AVRG		0.55160		1.8129	10	15	0.05	0.99	
3-Nitroaniline			0.3574m	0.3802m	0.3802m	0.3797	0.3845	0.3894	AVRG		2.64153		0.3786	3	15	0.05	0.99	
Acenaphthene	1.1909	1.2153	1.2103	1.1955	1.1671	1.1286	1.0817	1.0131	AVRG		0.86934		1.1503	6	15	0.05	0.99	
2,4-Dinitrophenol			0.0823m	0.1353	0.1725	0.2053	0.2311	0.2425m	LINR	16.1428	3.74283		0.1782	0.999	15	0.050	0.99	
4-Nitrophenol			0.1490	0.1524	0.1578	0.1621	0.1704m	0.1575m	AVRG		6.32131		0.1582	5	15	0.050	0.99	
Dibenzofuran			1.7996	1.7614	1.6824	1.5741	1.4782	1.2894	AVRG		0.62598		1.5975	12	15	0.05	0.99	
2,4-Dinitrotoluene		0.4728	0.4852	0.4843	0.4778	0.4679	0.4752	0.4562	AVRG		2.10880		0.4742	2	15	0.05	0.99	
Diethylphthalate			1.3413	1.3109	1.2952	1.2499	1.1920	1.1297	AVRG		0.79797		1.2532	6	15	0.05	0.99	
Fluorene	1.4356	1.4934	1.4685	1.4551	1.4075	1.2959	1.1816	1.0668	AVRG		0.74045		1.3505	11	15	0.05	0.99	
4-Chlorophenyl-phenylether			0.7435	0.7477	0.7309	0.6784	0.6079	0.5252	AVRG		1.48751		0.6723	13	15	0.05	0.99	
4-Nitroaniline			0.3367m	0.3495m	0.3533m	0.3674m	0.3762m	0.3755m	AVRG		2.77964		0.3598	4	15	0.05	0.99	
4,6-Dinitro-2-methylphenol			0.1339	0.1624	0.1761	0.1855	0.1868	0.1904m	AVRG		5.79596		0.1725	12	15	0.05	0.99	
N-Nitrosodiphenylamine			0.6278	0.6211	0.6140	0.5872	0.5585	0.5366	AVRG		1.69239		0.5909	6	15	0.05	0.99	
4-Bromophenyl-phenylether			0.2840	0.2926	0.2931	0.2923	0.2839	0.2719	AVRG		3.49287		0.2863	3	15	0.05	0.99	
Hexachlorobenzene		0.3459	0.3552	0.3635	0.3633	0.3458	0.3186	0.2902	AVRG		2.93820		0.3403	8	15	0.05	0.99	
Pentachlorophenol			0.1868	0.2129	0.2380	0.2398	0.2335	0.2202	AVRG		4.50718		0.2219	9	15	0.05	0.99	
Phenanthrene	1.2705	1.3062	1.2924	1.2542	1.2133	1.1090	1.0004	0.9275	AVRG		0.85346		1.1717	12	15	0.05	0.99	
Anthracene	1.2366	1.2746	1.2740	1.2399	1.1975	1.0847	0.9787	0.8922	AVRG		0.87163		1.1473	13	15	0.05	0.99	
Di-n-butylphthalate			1.3987	1.3404	1.2912	1.1927	1.0653	0.9581	AVRG		0.82801		1.2077	14	15	0.05	0.99	
Fluoranthene	1.4143	1.4630	1.4649	1.4269	1.3716	1.2757	1.1461	1.0581	AVRG		0.75326		1.3276	12	15	0.05	0.99	
Pyrene	1.2129	1.2401	1.2579	1.2688	1.2015	1.1430	1.0763	1.0898	AVRG		0.84296		1.1863	6	15	0.05	0.99	
Butylbenzylphthalate			0.5322	0.5252	0.5198	0.5174	0.5123	0.5309	AVRG		1.91222		0.5230	2	15	0.05	0.99	
3,3'-Dichlorobenzidine			0.4324	0.4854	0.4914	0.4381	0.3936	0.3682	AVRG		2.29963		0.4349	11	15	0.05	0.99	
Benzo(a)anthracene	1.2121	1.2242	1.2297	1.2251	1.1833	1.0641	0.9659	0.9574	AVRG		0.88281		1.1327	10	15	0.05	0.99	
bis(2-Ethylhexyl)phthalate			0.7365	0.7281	0.7087	0.6630	0.5882	0.5741	AVRG		1.50054		0.6664	11	15	0.05	0.99	
Chrysene	1.0884	1.0952	1.1275	1.0855	1.0553	0.9599m	0.8557	0.8272m	AVRG		0.98830		1.0118	11	15	0.05	0.99	
Di-n-octylphthalate			1.1964	1.1970	1.1861	1.1477	1.0699	1.0107	AVRG		0.88134		1.1346	7	15	0.05	0.99	
Benzo(b)fluoranthene	1.0620	1.0808	1.1318	1.1622	1.1881	1.2673	1.3754	1.3679	AVRG		0.83026		1.2044	10	15	0.05	0.99	
Benzo(k)fluoranthene	1.0003	1.1023	1.1339	1.1315	1.1188	1.0023m	0.7926m		AVRG		0.96131		1.0402	12	15	0.05	0.99	
Benzo(a)pyrene	0.9612	1.0482	1.0958	1.1251	1.1167	1.1322	1.0927	1.0606	AVRG		0.92673		1.0791	5	15	0.05	0.99	
Indeno(1,2,3-cd)pyrene	0.9933	1.0881	1.1693	1.2144	1.2468	1.2643	1.2521	1.2327	AVRG		0.84558		1.1826	8	15	0.05	0.99	
Dibenz(a,h)anthracene	0.8129	0.8978	0.9628	0.9982	1.0264	1.0391	1.0285	1.0213	AVRG		1.02733		0.9734	8	15	0.05	0.99	
Benzo(g,h,i)perylene	0.8523	0.8664	0.9111	0.9555	0.9938	1.0134	0.9906	0.9583	AVRG		1.06081		0.9427	6	15	0.05	0.99	
2-Fluorophenol		0.9968	1.0764	1.0952	1.1372	1.1222	1.1367	1.1455	AVRG		0.90792		1.1014	5	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Phenol-d5		1.3985	1.4295	1.4135	1.4169	1.3965	1.3664	1.3422	AVRG		0.71696		1.3948	2	15	0.05	0.99	
Nitrobenzene-d5		0.3435	0.3470	0.3423	0.3416	0.3343	0.3304	0.3195	AVRG		2.96784		0.3369	3	15	0.05	0.99	
2-Fluorobiphenyl		1.4405	1.4450	1.4254	1.3956	1.3152	1.2364	1.1352	AVRG		0.74520		1.3419	9	15	0.05	0.99	
2,4,6-Tribromophenol		0.2449	0.2580	0.2755	0.2855	0.3005	0.3098	0.3077	AVRG		3.53204		0.2831	9	15	0.05	0.99	
Terphenyl-d14		0.7671	0.8012	0.8111	0.8059	0.7772	0.7546	0.7487	AVRG		1.28069		0.7808	3	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
Phenol			10.00	3	20.00	5	32.00	5	50.00	3	80.00	-1	120.0	-6	160.0	-9
bis(2-Chloroethyl)ether			10.00	7	20.00	6	32.00	1	50.00	0	80.00	-5	120.0	-13	160.0	3
2-Chlorophenol			10.00	2	20.00	4	32.00	3	50.00	1	80.00	-2	120.0	-3	160.0	-5
1,3-Dichlorobenzene			10.00	7	20.00	8	32.00	7	50.00	4	80.00	-1	120.0	-9	160.0	-16
1,4-Dichlorobenzene			10.00	12	20.00	12	32.00	8	50.00	5	80.00	-3	120.0	-12	160.0	-22
Benzyl alcohol			10.00	-1	20.00	3	32.00	3	50.00	4	80.00	0	120.0	-4	160.0	-4
1,2-Dichlorobenzene			10.00	13	20.00	12	32.00	10	50.00	7	80.00	-3	120.0	-16	160.0	-23
2-Methylphenol			10.00	11	20.00	8	32.00	7	50.00	3	80.00	-2	120.0	-9	160.0	-18
bis(2-Chloroisopropyl) ether			10.00	16	20.00	14	32.00	4	50.00	0	80.00	-6	120.0	-13	160.0	-16
4-Methylphenol			10.00	3	20.00	4	32.00	1	50.00	-1	80.00	-2	120.0	-2	160.0	-2
N-Nitroso-di-n-propylamine			10.00	5	20.00	8	32.00	3	50.00	2	80.00	-2	120.0	-8	160.0	-9
Hexachloroethane			10.00	7	20.00	8	32.00	5	50.00	3	80.00	-1	120.0	-7	160.0	-15
Nitrobenzene			10.00	8	20.00	8	32.00	4	50.00	2	80.00	-4	120.0	-8	160.0	-11
Isophorone			10.00	5	20.00	6	32.00	3	50.00	2	80.00	0	120.0	-4	160.0	-11
2-Nitrophenol					20.00	-1	32.00	1	50.00	3	80.00	1	120.0	3	160.0	-8
2,4-Dimethylphenol			10.00	6	20.00	6	32.00	3	50.00	1	80.00	-4	120.0	-5	160.0	-7
bis(2-Chloroethoxy)methane					10.00	5	16.00	4	25.00	3	40.00	0	60.00	-4	80.00	-7
Benzoic acid			50.00	-1	60.00	1	80.00	-1	100.0	0	120.0	1	140.0	0	160.0	-1
2,4-Dichlorophenol			10.00	1	20.00	4	32.00	7	50.00	5	80.00	1	120.0	-7	160.0	-11
1,2,4-Trichlorobenzene			10.00	6	20.00	7	32.00	9	50.00	7	80.00	0	120.0	-11	160.0	-19
Naphthalene	2.000	10	5.000	11	10.00	9	16.00	9	25.00	4	40.00	-5	60.00	-15	80.00	-22
4-Chloroaniline			10.00	-13	20.00	8	32.00	11	50.00	9	80.00	1	120.0	-5	160.0	-10
Hexachlorobutadiene			10.00	5	20.00	8	32.00	10	50.00	8	80.00	0	120.0	-11	160.0	-21
4-Chloro-3-methylphenol			10.00	5	20.00	8	32.00	7	50.00	3	80.00	-2	120.0	-8	160.0	-13
2-Methylnaphthalene	2.000	2	5.000	4	10.00	8	16.00	8	25.00	4	40.00	-2	60.00	-9	80.00	-15
Hexachlorocyclopentadiene					20.00	-3	32.00	-2	50.00	3	80.00	6	120.0	3	160.0	-7
2,4,6-Trichlorophenol			10.00	-3	20.00	1	32.00	3	50.00	2	80.00	2	120.0	0	160.0	-5
2,4,5-Trichlorophenol			10.00	2	20.00	4	32.00	5	50.00	5	80.00	1	120.0	-6	160.0	-13
2-Chloronaphthalene					10.00	6	16.00	5	25.00	4	40.00	1	60.00	-5	80.00	-11
2-Nitroaniline					20.00	7	32.00	0	50.00	-1	80.00	-2	120.0	-2	160.0	-2
Dimethylphthalate			10.00	12	20.00	12	32.00	7	50.00	3	80.00	-5	120.0	-11	160.0	-18
2,6-Dinitrotoluene			10.00	-1	20.00	0	32.00	0	50.00	0	80.00	0	120.0	-1	160.0	2
Acenaphthylene	2.000	8	5.000	10	10.00	8	16.00	6	25.00	2	40.00	-5	60.00	-11	80.00	-18
3-Nitroaniline					20.00	-6	32.00	0	50.00	0	80.00	0	120.0	2	160.0	3
Acenaphthene	2.000	4	5.000	6	10.00	5	16.00	4	25.00	1	40.00	-2	60.00	-6	80.00	-12
2,4-Dinitrophenol					20.00	12	32.00	1	50.00	-3	80.00	-3	120.0	0	160.0	1
4-Nitrophenol					20.00	-6	32.00	-4	50.00	0	80.00	2	120.0	8	160.0	0
Dibenzofuran					10.00	13	16.00	10	25.00	5	40.00	-1	60.00	-7	80.00	-19
2,4-Dinitrotoluene			10.00	0	20.00	2	32.00	2	50.00	1	80.00	-1	120.0	0	160.0	-4
Diethylphthalate					10.00	7	16.00	5	25.00	3	40.00	0	60.00	-5	80.00	-10
Fluorene	2.000	6	5.000	11	10.00	9	16.00	8	25.00	4	40.00	-4	60.00	-13	80.00	-21
4-Chlorophenyl-phenylether					10.00	11	16.00	11	25.00	9	40.00	1	60.00	-10	80.00	-22

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
4-Nitroaniline					20.00	-6	32.00	-3	50.00	-2	80.00	2	120.0	5	160.0	4
4,6-Dinitro-2-methylphenol					20.00	-22	32.00	-6	50.00	2	80.00	8	120.0	8	160.0	10
N-Nitrosodiphenylamine					10.00	6	16.00	5	25.00	4	40.00	-1	60.00	-5	80.00	-9
4-Bromophenyl-phenylether					10.00	-1	16.00	2	25.00	2	40.00	2	60.00	-1	80.00	-5
Hexachlorobenzene			10.00	2	20.00	4	32.00	7	50.00	7	80.00	2	120.0	-6	160.0	-15
Pentachlorophenol					20.00	-16	32.00	-4	50.00	7	80.00	8	120.0	5	160.0	-1
Phenanthrene	2.000	8	5.000	11	10.00	10	16.00	7	25.00	4	40.00	-5	60.00	-15	80.00	-21
Anthracene	2.000	8	5.000	11	10.00	11	16.00	8	25.00	4	40.00	-5	60.00	-15	80.00	-22
Di-n-butylphthalate					10.00	16	16.00	11	25.00	7	40.00	-1	60.00	-12	80.00	-21
Fluoranthene	2.000	7	5.000	10	10.00	10	16.00	7	25.00	3	40.00	-4	60.00	-14	80.00	-20
Pyrene	2.000	2	5.000	5	10.00	6	16.00	7	25.00	1	40.00	-4	60.00	-9	80.00	-8
Butylbenzylphthalate					10.00	2	16.00	0	25.00	-1	40.00	-1	60.00	-2	80.00	2
3,3'-Dichlorobenzidine					20.00	-1	32.00	12	50.00	13	80.00	1	120.0	-9	160.0	-15
Benzo(a)anthracene	2.000	7	5.000	8	10.00	9	16.00	8	25.00	4	40.00	-6	60.00	-15	80.00	-15
bis(2-Ethylhexyl)phthalate					10.00	11	16.00	9	25.00	6	40.00	-1	60.00	-12	80.00	-14
Chrysene	2.000	8	5.000	8	10.00	11	16.00	7	25.00	4	40.00	-5	60.00	-15	80.00	-18
Di-n-octylphthalate					10.00	5	16.00	5	25.00	5	40.00	1	60.00	-6	80.00	-11
Benzo(b)fluoranthene	2.000	-12	5.000	-10	10.00	-6	16.00	-4	25.00	-1	40.00	5	60.00	14	80.00	14
Benzo(k)fluoranthene	2.000	-4	5.000	6	10.00	9	16.00	9	25.00	8	40.00	-4	60.00	-24		
Benzo(a)pyrene	2.000	-11	5.000	-3	10.00	2	16.00	4	25.00	3	40.00	5	60.00	1	80.00	-2
Indeno(1,2,3-cd)pyrene	2.000	-16	5.000	-8	10.00	-1	16.00	3	25.00	5	40.00	7	60.00	6	80.00	4
Dibenz(a,h)anthracene	2.000	-16	5.000	-8	10.00	-1	16.00	3	25.00	5	40.00	7	60.00	6	80.00	5
Benzo(g,h,i)perylene	2.000	-10	5.000	-8	10.00	-3	16.00	1	25.00	5	40.00	8	60.00	5	80.00	2
2-Fluorophenol			5.000	-9	10.00	-2	16.00	-1	25.00	3	40.00	2	60.00	3	80.00	4
Phenol-d5			5.000	0	10.00	2	16.00	1	25.00	2	40.00	0	60.00	-2	80.00	-4
Nitrobenzene-d5			5.000	2	10.00	3	16.00	2	25.00	1	40.00	-1	60.00	-2	80.00	-5
2-Fluorobiphenyl			5.000	7	10.00	8	16.00	6	25.00	4	40.00	-2	60.00	-8	80.00	-15
2,4,6-Tribromophenol			5.000	-14	10.00	-9	16.00	-3	25.00	1	40.00	6	60.00	9	80.00	9
Terphenyl-d14			5.000	-2	10.00	3	16.00	4	25.00	3	40.00	0	60.00	-3	80.00	-4

SHD 12/29/08 : Manual integrations due to mischosen, tailing, or splitting peaks.

Analyst: SHD Date: 12/29/08 Reviewer: LW Date: 12/31/08

m=manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; LINR=Linear regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 209191 MSBNA Water
EPA 8270C

Inst : MSBNA05 Name : 6PTBNA5
Calnum : 548517591001 Cal Date : 24-DEC-2008

ICV 548517591017 (xlo17 24-DEC-2008) stds: S10319

Analyte	Average RF	RF	Spiked	Quant	Units	%D	Max	Flags
Phenol	1.6038	1.4895	50.00	46.44	ug/mL	-7	20	
bis(2-Chloroethyl)ether	1.1244	1.0285	50.00	45.74	ug/mL	-9	30	
2-Chlorophenol	1.4108	1.2826	50.00	45.46	ug/mL	-9	30	
1,3-Dichlorobenzene	1.5895	1.4729	50.00	46.33	ug/mL	-7	30	
1,4-Dichlorobenzene	1.5754	1.4687	50.00	46.62	ug/mL	-7	20	
Benzyl alcohol	0.8626	0.7745	50.00	44.89	ug/mL	-10	30	
1,2-Dichlorobenzene	1.4576	1.4061	50.00	48.24	ug/mL	-4	30	
2-Methylphenol	0.9938	0.9039	50.00	45.48	ug/mL	-9	30	
bis(2-Chloroisopropyl) ether	1.3394	1.2239	50.00	45.69	ug/mL	-9	30	
4-Methylphenol	1.4861	1.3135	50.00	44.19	ug/mL	-12	30	
N-Nitroso-di-n-propylamine	0.6786	0.6586	50.00	48.53	ug/mL	-3	30	m
Hexachloroethane	0.6221	0.5702	50.00	45.83	ug/mL	-8	30	
Nitrobenzene	0.3499	0.3178	50.00	45.42	ug/mL	-9	30	m
Isophorone	0.6224	0.6025	50.00	48.40	ug/mL	-3	30	
2-Nitrophenol	0.2379	0.2258	50.00	47.46	ug/mL	-5	20	
2,4-Dimethylphenol	0.3552	0.2988	50.00	42.06	ug/mL	-16	30	m
bis(2-Chloroethoxy)methane	0.3860	0.3816	25.00	24.72	ug/mL	-1	30	
Benzoic acid	0.1695	0.2228	100.0	114.0	ug/mL	14	40	
2,4-Dichlorophenol	0.3726	0.3534	50.00	47.43	ug/mL	-5	20	
1,2,4-Trichlorobenzene	0.4094	0.3946	50.00	48.20	ug/mL	-4	30	
Naphthalene	1.0277	1.0148	25.00	24.69	ug/mL	-1	30	
4-Chloroaniline	0.4682	0.4594	50.00	49.06	ug/mL	-2	30	
Hexachlorobutadiene	0.2384	0.2331	50.00	48.90	ug/mL	-2	20	
4-Chloro-3-methylphenol	0.3174	0.2931	50.00	46.17	ug/mL	-8	20	
2-Methylnaphthalene	0.7600	0.7272	25.00	23.92	ug/mL	-4	30	
Hexachlorocyclopentadiene	0.3885	0.3705	50.00	47.68	ug/mL	-5	40	
2,4,6-Trichlorophenol	0.4637	0.4269	50.00	46.03	ug/mL	-8	20	
2,4,5-Trichlorophenol	0.5079	0.4715	50.00	46.41	ug/mL	-7	30	
2-Chloronaphthalene	1.2089	1.1772	25.00	24.35	ug/mL	-3	30	
2-Nitroaniline	0.3082	0.2805	50.00	45.52	ug/mL	-9	30	
Dimethylphthalate	1.3421	1.2577	50.00	46.86	ug/mL	-6	30	
2,6-Dinitrotoluene	0.3670	0.3241	50.00	44.16	ug/mL	-12	30	
Acenaphthylene	1.8129	1.7776	25.00	24.51	ug/mL	-2	30	
3-Nitroaniline	0.3786	0.3370	50.00	44.52	ug/mL	-11	30	
Acenaphthene	1.1503	1.1010	25.00	23.93	ug/mL	-4	20	
2,4-Dinitrophenol	0.1782	0.1542	50.00	45.00	ug/mL	-10	40	
4-Nitrophenol	0.1582	0.1435	50.00	45.34	ug/mL	-9	40	
Dibenzofuran	1.5975	1.5972	25.00	24.99	ug/mL	0	30	
2,4-Dinitrotoluene	0.4742	0.4255	50.00	44.86	ug/mL	-10	30	
Diethylphthalate	1.2532	1.2639	25.00	25.21	ug/mL	1	30	
Fluorene	1.3505	1.3336	25.00	24.69	ug/mL	-1	30	
4-Chlorophenyl-phenylether	0.6723	0.6934	25.00	25.79	ug/mL	3	40	
4-Nitroaniline	0.3598	0.3193	50.00	44.37	ug/mL	-11	30	m
4,6-Dinitro-2-methylphenol	0.1725	0.1492	50.00	43.25	ug/mL	-13	30	
N-Nitrosodiphenylamine	0.5909	0.5765	25.00	24.39	ug/mL	-2	20	
4-Bromophenyl-phenylether	0.2863	0.2782	25.00	24.29	ug/mL	-3	30	
Hexachlorobenzene	0.3403	0.3151	50.00	46.29	ug/mL	-7	30	
Pentachlorophenol	0.2219	0.2123	50.00	47.84	ug/mL	-4	20	
Phenanthrene	1.1717	1.1274	25.00	24.05	ug/mL	-4	30	

Analyte	Average RF	RF	Spiked	Quant	Units	%D	Max	Flags
Anthracene	1.1473	1.1524	25.00	25.11	ug/mL	0	30	
Di-n-butylphthalate	1.2077	1.2590	25.00	26.06	ug/mL	4	30	
Fluoranthene	1.3276	1.3180	25.00	24.82	ug/mL	-1	20	
Pyrene	1.1863	1.1563	25.00	24.37	ug/mL	-3	30	
Butylbenzylphthalate	0.5230	0.5047	25.00	24.13	ug/mL	-3	30	
3,3'-Dichlorobenzidine	0.4349	0.4343	50.00	49.93	ug/mL	0	40	
Benzo(a)anthracene	1.1327	1.1157	25.00	24.62	ug/mL	-2	30	
bis(2-Ethylhexyl)phthalate	0.6664	0.6797	25.00	25.50	ug/mL	2	30	
Chrysene	1.0118	1.0193	25.00	25.18	ug/mL	1	30	m
Di-n-octylphthalate	1.1346	1.1033	25.00	24.31	ug/mL	-3	20	
Benzo(b)fluoranthene	1.2044	1.1232	25.00	23.31	ug/mL	-7	30	
Benzo(k)fluoranthene	1.0402	1.0833	25.00	26.04	ug/mL	4	30	
Benzo(a)pyrene	1.0791	1.0066	25.00	23.32	ug/mL	-7	20	
Indeno(1,2,3-cd)pyrene	1.1826	1.1521	25.00	24.35	ug/mL	-3	30	
Dibenz(a,h)anthracene	0.9734	0.9655	25.00	24.80	ug/mL	-1	30	
Benzo(g,h,i)perylene	0.9427	0.9358	25.00	24.82	ug/mL	-1	30	

m=manual integration

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 209191 MSBNA Water: EPA 8270C

Inst : MSBNA06
Calnum : 559021123001
Units : ug/mL

Name : 6PTBNA6
Date : 14-JAN-2009 19:24
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	yae05	559021123005	ICAL 1	14-JAN-2009 19:24	S10916
L2	yae06	559021123006	ICAL 2	14-JAN-2009 20:00	S10917
L3	yae07	559021123007	ICAL 3	14-JAN-2009 20:36	S10918
L4	yae08	559021123008	ICAL 4	14-JAN-2009 21:12	S10919
L5	yae09	559021123009	ICAL 5	14-JAN-2009 21:51	S10920
L6	yae10	559021123010	ICAL 6	14-JAN-2009 22:28	S10921
L7	yae11	559021123011	ICAL 7	14-JAN-2009 23:04	S10922
L8	yae12	559021123012	ICAL 8	14-JAN-2009 23:39	S10923

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Phenol		2.4879	2.4819	2.6436	2.7001	2.6133	2.3527	2.0852	AVRG		0.40312		2.4807	8	15	0.05	0.99	
bis(2-Chloroethyl)ether		1.5350	1.5424	1.5712	1.5899	1.5530	1.5008	1.3969	AVRG		0.65486		1.5270	4	15	0.05	0.99	
2-Chlorophenol		1.6826	1.7209	1.7107	1.6807	1.6232	1.6034	1.5020	AVRG		0.60745		1.6462	5	15	0.05	0.99	
1,3-Dichlorobenzene		1.9108	1.8990	1.8235	1.7731	1.6210	1.5066	1.3996	AVRG		0.58658		1.7048	12	15	0.05	0.99	
1,4-Dichlorobenzene		1.8984	1.8335	1.7859	1.7133	1.5942	1.4413	1.3372	AVRG		0.60325		1.6577	13	15	0.05	0.99	
Benzyl alcohol		1.1226	1.1982	1.3244	1.3475	1.2389	1.0935	0.9682m	AVRG		0.84404		1.1848	11	15	0.05	0.99	
1,2-Dichlorobenzene		1.7281	1.7075	1.6983	1.5988	1.4487	1.2770	1.1436	AVRG		0.66026		1.5146	15	15	0.05	0.99	
2-Methylphenol		1.3337	1.3409	1.3931	1.3970	1.3427	1.2553	1.1007	AVRG		0.76391		1.3091	8	15	0.05	0.99	
bis(2-Chloroisopropyl) ether		3.3606	3.4279	3.4127	3.5412	3.4630	3.2613	2.8889	AVRG		0.29971		3.3365	6	15	0.05	0.99	
4-Methylphenol		1.9251	1.9254	1.9550	1.9470	1.8166	1.7694	1.6709m	AVRG		0.53808		1.8585	6	15	0.05	0.99	
N-Nitroso-di-n-propylamine		1.1065	1.1842	1.1856	1.1861	1.1119	1.0810m	0.9738	AVRG		0.89411		1.1184	7	15	0.050	0.99	
Hexachloroethane		0.7799	0.7783	0.7752	0.7336	0.6841	0.6206	0.5584	AVRG		1.41985		0.7043	12	15	0.05	0.99	
Nitrobenzene		0.4757	0.4732	0.4855	0.4731	0.4797	0.4390	0.3959	AVRG		2.17252		0.4603	7	15	0.05	0.99	
Isophorone		1.0542	1.0430	0.9718	0.9140	0.8930	0.8659	0.8369	AVRG		1.06403		0.9398	9	15	0.05	0.99	
2-Nitrophenol			0.1966	0.2062	0.2026	0.2075	0.1940	0.1758	AVRG		5.07327		0.1971	6	15	0.05	0.99	
2,4-Dimethylphenol		0.4643	0.4744	0.4603	0.4354	0.4102	0.3743	0.3503	AVRG		2.35751		0.4242	11	15	0.05	0.99	
bis(2-Chloroethoxy)methane			0.5452	0.5577	0.5325	0.5158	0.4682	0.4353	AVRG		1.96411		0.5091	9	15	0.05	0.99	
Benzoic acid		0.1766	0.1874	0.2061	0.2260	0.2438	0.2661m	0.2838m	LINR	27.5043	3.02465		0.2271	0.992	15	0.05	0.99	
2,4-Dichlorophenol		0.3809	0.3918	0.3808	0.3535	0.3357	0.3070	0.2857	AVRG		2.87447		0.3479	12	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.4480	0.4279	0.4146	0.3885	0.3734	0.3443	0.3198	AVRG		2.57683		0.3881	12	15	0.05	0.99	
Naphthalene	1.1867	1.2015	1.2300	1.1686	1.1164	1.0954	0.9981	0.9262	AVRG		0.89656		1.1154	9	15	0.05	0.99	
4-Chloroaniline		0.6035	0.6065	0.5673	0.5424	0.4978	0.4588	0.4213	AVRG		1.89311		0.5282	14	15	0.05	0.99	
Hexachlorobutadiene		0.2861	0.2831	0.2651	0.2501	0.2455	0.2298	0.2159	AVRG		3.94239		0.2537	10	15	0.05	0.99	
4-Chloro-3-methylphenol		0.4542	0.4417	0.4244	0.3871	0.3589	0.3370	0.3074	AVRG		2.58233		0.3872	14	15	0.05	0.99	
2-Methylnaphthalene	0.8430	0.9090	0.9128	0.8416	0.8232	0.7479	0.7027	0.6478	AVRG		1.24457		0.8035	12	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Hexachlorocyclopentadiene			0.4635	0.4605	0.4724	0.4575	0.4418	0.4507	AVRG		2.18473		0.4577	2	15	0.050	0.99	
2,4,6-Trichlorophenol		0.4696	0.4691	0.4669	0.4549	0.4352	0.4251	0.4427	AVRG		2.21276		0.4519	4	15	0.05	0.99	
2,4,5-Trichlorophenol		0.5092	0.5137	0.5011	0.4922m	0.4637m	0.4581m	0.4714m	AVRG		2.05313		0.4871	5	15	0.05	0.99	
2-Chloronaphthalene			1.3359	1.2544	1.2340	1.1868	1.1281	1.1645	AVRG		0.82151		1.2173	6	15	0.05	0.99	
2-Nitroaniline			0.4634	0.4732	0.5135	0.4945	0.4866	0.4938	AVRG		2.05131		0.4875	4	15	0.05	0.99	
Dimethylphthalate		1.4354	1.5188	1.5620	1.5296	1.4353	1.3270	1.2645	AVRG		0.69495		1.4390	8	15	0.05	0.99	
2,6-Dinitrotoluene		0.2840	0.3190	0.3395	0.3506	0.3503	0.3365	0.3350	AVRG		3.02405		0.3307	7	15	0.05	0.99	
Acenaphthylene	2.0067	1.9892	1.9684	1.9205	1.9052	1.8318	1.7607	1.7761	AVRG		0.52776		1.8948	5	15	0.05	0.99	
3-Nitroaniline			0.3052	0.3416	0.3739	0.3799	0.3571	0.3350	AVRG		2.86702		0.3488	8	15	0.05	0.99	
Acenaphthene	1.2117	1.1924	1.2084	1.1982	1.1646	1.1170	1.0954	1.1246	AVRG		0.85908		1.1640	4	15	0.05	0.99	
2,4-Dinitrophenol			0.0850	0.1150	0.1352	0.1485	0.1575	0.1681	LINR	11.8873	5.59598		0.1349	0.999	15	0.050	0.99	
4-Nitrophenol			0.1780	0.2051	0.2108	0.2109	0.2083	0.2039	AVRG		4.92987		0.2028	6	15	0.050	0.99	
Dibenzofuran			1.7840	1.7157	1.7120	1.6572	1.6365	1.6189	AVRG		0.59263		1.6874	4	15	0.05	0.99	
2,4-Dinitrotoluene		0.3371	0.4044	0.4358	0.4391	0.4395	0.4180	0.4102	AVRG		2.42713		0.4120	9	15	0.05	0.99	
Diethylphthalate			1.4304	1.4709	1.4746	1.3684	1.3229	1.2569	AVRG		0.72080		1.3873	6	15	0.05	0.99	
Fluorene	1.4615	1.4283	1.4240	1.4973	1.4960	1.3954	1.3528	1.3360	AVRG		0.70228		1.4239	4	15	0.05	0.99	
4-Chlorophenyl-phenylether			0.7250	0.7395	0.7298	0.6981	0.6837	0.6813	AVRG		1.40926		0.7096	4	15	0.05	0.99	
4-Nitroaniline			0.3004	0.3326	0.3405	0.3263	0.3263m	0.3008m	AVRG		3.11390		0.3211	5	15	0.05	0.99	
4,6-Dinitro-2-methylphenol			0.1041	0.1173	0.1257	0.1316	0.1303	0.1277	AVRG		8.14470		0.1228	9	15	0.05	0.99	
N-Nitrosodiphenylamine			0.5810	0.5832	0.5887	0.5661	0.5452	0.5427	AVRG		1.76115		0.5678	4	15	0.05	0.99	
4-Bromophenyl-phenylether			0.2774	0.2662	0.2714	0.2678	0.2626	0.2601	AVRG		3.73722		0.2676	2	15	0.05	0.99	
Hexachlorobenzene		0.3438	0.3254	0.3259	0.3169	0.3138	0.3088	0.3095	AVRG		3.11915		0.3206	4	15	0.05	0.99	
Pentachlorophenol			0.1500	0.1602	0.1667	0.1715	0.1678	0.1661	AVRG		6.10804		0.1637	5	15	0.05	0.99	
Phenanthrene	1.2867	1.2769	1.2402	1.2179	1.1752	1.1366	1.0486	0.9853	AVRG		0.85401		1.1709	9	15	0.05	0.99	
Anthracene	1.2326	1.2376	1.2111	1.1932	1.1274	1.0888	1.0272	0.9578	AVRG		0.88147		1.1345	9	15	0.05	0.99	
Di-n-butylphthalate			1.1610	1.1015	1.0314	1.0040	0.9312	0.8722	AVRG		0.98340		1.0169	10	15	0.05	0.99	
Fluoranthene	1.2823	1.2460	1.2068	1.1529	1.0649	1.0215	0.9357	0.8925	AVRG		0.90880		1.1003	13	15	0.05	0.99	
Pyrene	1.9206	1.9200	1.8871	1.9182	1.7814	1.6984	1.5970	1.5458	AVRG		0.56067		1.7836	9	15	0.05	0.99	
Butylbenzylphthalate			0.4769	0.4995	0.4994	0.5127	0.5201	0.5335	AVRG		1.97236		0.5070	4	15	0.05	0.99	
3,3'-Dichlorobenzidine			0.2917	0.3358	0.3568	0.3997	0.4148	0.4361	AVRG		2.68479		0.3725	15	15	0.05	0.99	
Benzo(a)anthracene	1.1819	1.1587	1.1437	1.1665	1.1538	1.1427	1.1240	1.1492	AVRG		0.86763		1.1526	2	15	0.05	0.99	
bis(2-Ethylhexyl)phthalate			0.4868	0.5505	0.5634	0.5874	0.6006	0.6357	AVRG		1.75212		0.5707	9	15	0.05	0.99	
Chrysene	1.0820	1.0819	1.0529	1.0738	1.0809	1.0908	1.0845	1.0951m	AVRG		0.92573		1.0802	1	15	0.05	0.99	
Di-n-octylphthalate			1.0078	1.1175	1.2122	1.2589	1.3583	1.4745	AVRG		0.80763		1.2382	13	15	0.05	0.99	
Benzo(b)fluoranthene	1.1457	1.1878	1.2019	1.2765	1.3096	1.2736	1.3048	1.3177	AVRG		0.79860		1.2522	5	15	0.05	0.99	
Benzo(k)fluoranthene	1.0998	1.1599	1.2539	1.2468	1.2364	1.2209	1.2082	1.2462	AVRG		0.82713		1.2090	4	15	0.05	0.99	
Benzo(a)pyrene	0.9488	1.0317	1.0924	1.1286	1.1610	1.1596	1.1649	1.1564	AVRG		0.90464		1.1054	7	15	0.05	0.99	
Indeno(1,2,3-cd)pyrene	0.7433m	0.8120m	0.8661m	0.8733m	0.8785m	0.8888m	0.8275m	0.6999m	AVRG		1.21405		0.8237	8	15	0.05	0.99	
Dibenz(a,h)anthracene	0.5688	0.6234	0.6695	0.6984m	0.7137m	0.7251m	0.6584	0.5588	AVRG		1.53375		0.6520	10	15	0.05	0.99	
Benzo(g,h,i)perylene	0.6707	0.6961	0.6931	0.6708	0.6056	0.6356	0.5594	0.4790	AVRG		1.59668		0.6263	12	15	0.05	0.99	
2-Fluorophenol		1.7280	1.7573	1.8234	1.8432	1.8092	1.7806	1.7331	AVRG		0.56113		1.7821	3	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Phenol-d5		2.1482	2.2862	2.4149	2.4872	2.4345	2.3178	2.0701	AVRG		0.43320		2.3084	7	15	0.05	0.99	
Nitrobenzene-d5		0.4221	0.4262	0.4368	0.4392	0.4570	0.4454	0.4224	AVRG		2.29574		0.4356	3	15	0.05	0.99	
2-Fluorobiphenyl		1.5112	1.5160	1.4402	1.3822	1.3188	1.2625	1.2915	AVRG		0.71999		1.3889	7	15	0.05	0.99	
2,4,6-Tribromophenol		0.2015	0.2191	0.2394	0.2516	0.2539	0.2521	0.2630	AVRG		4.16489		0.2401	9	15	0.05	0.99	
Terphenyl-d14		0.9932	0.9673	1.0104	0.9819	0.9706	0.9282	0.9317	AVRG		1.03195		0.9690	3	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
Phenol			10.00	0	20.00	0	32.00	7	50.00	9	80.00	5	120.0	-5	160.0	-16
bis(2-Chloroethyl)ether			10.00	1	20.00	1	32.00	3	50.00	4	80.00	2	120.0	-2	160.0	-9
2-Chlorophenol			10.00	2	20.00	5	32.00	4	50.00	2	80.00	-1	120.0	-3	160.0	-9
1,3-Dichlorobenzene			10.00	12	20.00	11	32.00	7	50.00	4	80.00	-5	120.0	-12	160.0	-18
1,4-Dichlorobenzene			10.00	15	20.00	11	32.00	8	50.00	3	80.00	-4	120.0	-13	160.0	-19
Benzyl alcohol			10.00	-5	20.00	1	32.00	12	50.00	14	80.00	5	120.0	-8	160.0	-18
1,2-Dichlorobenzene			10.00	14	20.00	13	32.00	12	50.00	6	80.00	-4	120.0	-16	160.0	-24
2-Methylphenol			10.00	2	20.00	2	32.00	6	50.00	7	80.00	3	120.0	-4	160.0	-16
bis(2-Chloroisopropyl) ether			10.00	1	20.00	3	32.00	2	50.00	6	80.00	4	120.0	-2	160.0	-13
4-Methylphenol			10.00	4	20.00	4	32.00	5	50.00	5	80.00	-2	120.0	-5	160.0	-10
N-Nitroso-di-n-propylamine			10.00	-1	20.00	6	32.00	6	50.00	6	80.00	-1	120.0	-3	160.0	-13
Hexachloroethane			10.00	11	20.00	11	32.00	10	50.00	4	80.00	-3	120.0	-12	160.0	-21
Nitrobenzene			10.00	3	20.00	3	32.00	5	50.00	3	80.00	4	120.0	-5	160.0	-14
Isophorone			10.00	12	20.00	11	32.00	3	50.00	-3	80.00	-5	120.0	-8	160.0	-11
2-Nitrophenol					20.00	0	32.00	5	50.00	3	80.00	5	120.0	-2	160.0	-11
2,4-Dimethylphenol			10.00	9	20.00	12	32.00	9	50.00	3	80.00	-3	120.0	-12	160.0	-17
bis(2-Chloroethoxy)methane					10.00	7	16.00	10	25.00	5	40.00	1	60.00	-8	80.00	-15
Benzoic acid			50.00	8	60.00	3	80.00	-3	100.0	-4	120.0	-3	140.0	0	160.0	3
2,4-Dichlorophenol			10.00	9	20.00	13	32.00	9	50.00	2	80.00	-4	120.0	-12	160.0	-18
1,2,4-Trichlorobenzene			10.00	15	20.00	10	32.00	7	50.00	0	80.00	-4	120.0	-11	160.0	-18
Naphthalene	2.000	6	5.000	8	10.00	10	16.00	5	25.00	0	40.00	-2	60.00	-11	80.00	-17
4-Chloroaniline			10.00	14	20.00	15	32.00	7	50.00	3	80.00	-6	120.0	-13	160.0	-20
Hexachlorobutadiene			10.00	13	20.00	12	32.00	5	50.00	-1	80.00	-3	120.0	-9	160.0	-15
4-Chloro-3-methylphenol			10.00	17	20.00	14	32.00	10	50.00	0	80.00	-7	120.0	-13	160.0	-21
2-Methylnaphthalene	2.000	5	5.000	13	10.00	14	16.00	5	25.00	2	40.00	-7	60.00	-13	80.00	-19
Hexachlorocyclopentadiene					20.00	1	32.00	1	50.00	3	80.00	0	120.0	-3	160.0	-2
2,4,6-Trichlorophenol			10.00	4	20.00	4	32.00	3	50.00	1	80.00	-4	120.0	-6	160.0	-2
2,4,5-Trichlorophenol			10.00	5	20.00	5	32.00	3	50.00	1	80.00	-5	120.0	-6	160.0	-3
2-Chloronaphthalene					10.00	10	16.00	3	25.00	1	40.00	-3	60.00	-7	80.00	-4
2-Nitroaniline					20.00	-5	32.00	-3	50.00	5	80.00	1	120.0	0	160.0	1
Dimethylphthalate			10.00	0	20.00	6	32.00	9	50.00	6	80.00	0	120.0	-8	160.0	-12
2,6-Dinitrotoluene			10.00	-14	20.00	-4	32.00	3	50.00	6	80.00	6	120.0	2	160.0	1
Acenaphthylene	2.000	6	5.000	5	10.00	4	16.00	1	25.00	1	40.00	-3	60.00	-7	80.00	-6
3-Nitroaniline					20.00	-13	32.00	-2	50.00	7	80.00	9	120.0	2	160.0	-4
Acenaphthene	2.000	4	5.000	2	10.00	4	16.00	3	25.00	0	40.00	-4	60.00	-6	80.00	-3
2,4-Dinitrophenol					20.00	7	32.00	1	50.00	-1	80.00	-2	120.0	-2	160.0	2
4-Nitrophenol					20.00	-12	32.00	1	50.00	4	80.00	4	120.0	3	160.0	1
Dibenzofuran					10.00	6	16.00	2	25.00	1	40.00	-2	60.00	-3	80.00	-4
2,4-Dinitrotoluene			10.00	-18	20.00	-2	32.00	6	50.00	7	80.00	7	120.0	1	160.0	0
Diethylphthalate					10.00	3	16.00	6	25.00	6	40.00	-1	60.00	-5	80.00	-9
Fluorene	2.000	3	5.000	0	10.00	0	16.00	5	25.00	5	40.00	-2	60.00	-5	80.00	-6
4-Chlorophenyl-phenylether					10.00	2	16.00	4	25.00	3	40.00	-2	60.00	-4	80.00	-4

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
4-Nitroaniline					20.00	-6	32.00	4	50.00	6	80.00	2	120.0	2	160.0	-6
4,6-Dinitro-2-methylphenol					20.00	-15	32.00	-4	50.00	2	80.00	7	120.0	6	160.0	4
N-Nitrosodiphenylamine					10.00	2	16.00	3	25.00	4	40.00	0	60.00	-4	80.00	-4
4-Bromophenyl-phenylether					10.00	4	16.00	-1	25.00	1	40.00	0	60.00	-2	80.00	-3
Hexachlorobenzene			10.00	7	20.00	1	32.00	2	50.00	-1	80.00	-2	120.0	-4	160.0	-3
Pentachlorophenol					20.00	-8	32.00	-2	50.00	2	80.00	5	120.0	2	160.0	1
Phenanthrene	2.000	10	5.000	9	10.00	6	16.00	4	25.00	0	40.00	-3	60.00	-10	80.00	-16
Anthracene	2.000	9	5.000	9	10.00	7	16.00	5	25.00	-1	40.00	-4	60.00	-9	80.00	-16
Di-n-butylphthalate					10.00	14	16.00	8	25.00	1	40.00	-1	60.00	-8	80.00	-14
Fluoranthene	2.000	17	5.000	13	10.00	10	16.00	5	25.00	-3	40.00	-7	60.00	-15	80.00	-19
Pyrene	2.000	8	5.000	8	10.00	6	16.00	8	25.00	0	40.00	-5	60.00	-10	80.00	-13
Butylbenzylphthalate					10.00	-6	16.00	-1	25.00	-2	40.00	1	60.00	3	80.00	5
3,3'-Dichlorobenzidine					20.00	-22	32.00	-10	50.00	-4	80.00	7	120.0	11	160.0	17
Benzo(a)anthracene	2.000	3	5.000	1	10.00	-1	16.00	1	25.00	0	40.00	-1	60.00	-2	80.00	0
bis(2-Ethylhexyl)phthalate					10.00	-15	16.00	-4	25.00	-1	40.00	3	60.00	5	80.00	11
Chrysene	2.000	0	5.000	0	10.00	-3	16.00	-1	25.00	0	40.00	1	60.00	0	80.00	1
Di-n-octylphthalate					10.00	-19	16.00	-10	25.00	-2	40.00	2	60.00	10	80.00	19
Benzo(b)fluoranthene	2.000	-9	5.000	-5	10.00	-4	16.00	2	25.00	5	40.00	2	60.00	4	80.00	5
Benzo(k)fluoranthene	2.000	-9	5.000	-4	10.00	4	16.00	3	25.00	2	40.00	1	60.00	0	80.00	3
Benzo(a)pyrene	2.000	-14	5.000	-7	10.00	-1	16.00	2	25.00	5	40.00	5	60.00	5	80.00	5
Indeno(1,2,3-cd)pyrene	2.000	-10	5.000	-1	10.00	5	16.00	6	25.00	7	40.00	8	60.00	0	80.00	-15
Dibenz(a,h)anthracene	2.000	-13	5.000	-4	10.00	3	16.00	7	25.00	9	40.00	11	60.00	1	80.00	-14
Benzo(g,h,i)perylene	2.000	7	5.000	11	10.00	11	16.00	7	25.00	-3	40.00	1	60.00	-11	80.00	-24
2-Fluorophenol			5.000	-3	10.00	-1	16.00	2	25.00	3	40.00	2	60.00	0	80.00	-3
Phenol-d5			5.000	-7	10.00	-1	16.00	5	25.00	8	40.00	5	60.00	0	80.00	-10
Nitrobenzene-d5			5.000	-3	10.00	-2	16.00	0	25.00	1	40.00	5	60.00	2	80.00	-3
2-Fluorobiphenyl			5.000	9	10.00	9	16.00	4	25.00	0	40.00	-5	60.00	-9	80.00	-7
2,4,6-Tribromophenol			5.000	-16	10.00	-9	16.00	0	25.00	5	40.00	6	60.00	5	80.00	10
Terphenyl-d14			5.000	2	10.00	0	16.00	4	25.00	1	40.00	0	60.00	-4	80.00	-4

SHD 01/15/09 : Manual integrations correcting for mischosen, split or tailing peaks.

Analyst: SHD Date: 01/15/09 Reviewer: LW Date: 01/15/09

m=manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; LINR=Linear regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 209191 MSBNA Water
EPA 8270C

Inst : MSBNA06 Name : 6PTBNA6
Calnum : 559021123001 Cal Date : 14-JAN-2009

ICV 559021123013 (yae13 15-JAN-2009) stds: S10319

Analyte	Average RF	RF	Spiked	Quant	Units	%D	Max	Flags
Phenol	2.4807	2.2779	50.00	45.91	ug/mL	-8	20	
bis(2-Chloroethyl)ether	1.5270	1.4044	50.00	45.99	ug/mL	-8	30	
2-Chlorophenol	1.6462	1.4940	50.00	45.38	ug/mL	-9	30	
1,3-Dichlorobenzene	1.7048	1.5639	50.00	45.87	ug/mL	-8	30	
1,4-Dichlorobenzene	1.6577	1.5025	50.00	45.32	ug/mL	-9	20	
Benzyl alcohol	1.1848	1.0897	50.00	45.99	ug/mL	-8	30	
1,2-Dichlorobenzene	1.5146	1.4359	50.00	47.40	ug/mL	-5	30	
2-Methylphenol	1.3091	1.2116	50.00	46.28	ug/mL	-7	30	
bis(2-Chloroisopropyl) ether	3.3365	3.0157	50.00	45.19	ug/mL	-10	30	
4-Methylphenol	1.8585	1.6859	50.00	45.36	ug/mL	-9	30	
N-Nitroso-di-n-propylamine	1.1184	1.0791	50.00	48.24	ug/mL	-4	30	
Hexachloroethane	0.7043	0.6421	50.00	45.58	ug/mL	-9	30	
Nitrobenzene	0.4603	0.4478	50.00	48.64	ug/mL	-3	30	
Isophorone	0.9398	0.8749	50.00	46.55	ug/mL	-7	30	
2-Nitrophenol	0.1971	0.2001	50.00	50.77	ug/mL	2	20	
2,4-Dimethylphenol	0.4242	0.3805	50.00	44.85	ug/mL	-10	30	
bis(2-Chloroethoxy)methane	0.5091	0.5227	25.00	25.67	ug/mL	3	30	
Benzoic acid	0.2271	0.2749	100.0	110.7	ug/mL	11	40	
2,4-Dichlorophenol	0.3479	0.3307	50.00	47.53	ug/mL	-5	20	
1,2,4-Trichlorobenzene	0.3881	0.3663	50.00	47.20	ug/mL	-6	30	
Naphthalene	1.1154	1.1048	25.00	24.76	ug/mL	-1	30	
4-Chloroaniline	0.5282	0.5105	50.00	48.32	ug/mL	-3	30	
Hexachlorobutadiene	0.2537	0.2441	50.00	48.11	ug/mL	-4	20	
4-Chloro-3-methylphenol	0.3872	0.3531	50.00	45.59	ug/mL	-9	20	
2-Methylnaphthalene	0.8035	0.7624	25.00	23.72	ug/mL	-5	30	
Hexachlorocyclopentadiene	0.4577	0.4562	50.00	49.83	ug/mL	0	40	
2,4,6-Trichlorophenol	0.4519	0.4036	50.00	44.65	ug/mL	-11	20	
2,4,5-Trichlorophenol	0.4871	0.4360	50.00	44.75	ug/mL	-10	30	m
2-Chloronaphthalene	1.2173	1.1835	25.00	24.31	ug/mL	-3	30	
2-Nitroaniline	0.4875	0.4627	50.00	47.46	ug/mL	-5	30	
Dimethylphthalate	1.4390	1.3648	50.00	47.42	ug/mL	-5	30	
2,6-Dinitrotoluene	0.3307	0.3191	50.00	48.25	ug/mL	-3	30	
Acenaphthylene	1.8948	1.7753	25.00	23.42	ug/mL	-6	30	
3-Nitroaniline	0.3488	0.3509	50.00	50.30	ug/mL	1	30	
Acenaphthene	1.1640	1.0717	25.00	23.02	ug/mL	-8	20	
2,4-Dinitrophenol	0.1349	0.1259	50.00	47.11	ug/mL	-6	40	
4-Nitrophenol	0.2028	0.1983	50.00	48.89	ug/mL	-2	40	
Dibenzofuran	1.6874	1.6399	25.00	24.30	ug/mL	-3	30	
2,4-Dinitrotoluene	0.4120	0.4109	50.00	49.86	ug/mL	0	30	
Diethylphthalate	1.3873	1.4012	25.00	25.25	ug/mL	1	30	
Fluorene	1.4239	1.4018	25.00	24.61	ug/mL	-2	30	
4-Chlorophenyl-phenylether	0.7096	0.6863	25.00	24.18	ug/mL	-3	40	
4-Nitroaniline	0.3211	0.3182	50.00	49.54	ug/mL	-1	30	
4,6-Dinitro-2-methylphenol	0.1228	0.1135	50.00	46.23	ug/mL	-8	30	
N-Nitrosodiphenylamine	0.5678	0.5443	25.00	23.97	ug/mL	-4	20	
4-Bromophenyl-phenylether	0.2676	0.2564	25.00	23.96	ug/mL	-4	30	
Hexachlorobenzene	0.3206	0.2783	50.00	43.40	ug/mL	-13	30	
Pentachlorophenol	0.1637	0.1568	50.00	47.87	ug/mL	-4	20	
Phenanthrene	1.1709	1.0877	25.00	23.22	ug/mL	-7	30	

Analyte	Average RF	RF	Spiked	Quant	Units	%D	Max	Flags
Anthracene	1.1345	1.1199	25.00	24.68	ug/mL	-1	30	
Di-n-butylphthalate	1.0169	0.9894	25.00	24.32	ug/mL	-3	30	
Fluoranthene	1.1003	1.0165	25.00	23.10	ug/mL	-8	20	
Pyrene	1.7836	1.7235	25.00	24.16	ug/mL	-3	30	
Butylbenzylphthalate	0.5070	0.4641	25.00	22.88	ug/mL	-8	30	
3,3'-Dichlorobenzidine	0.3725	0.3328	50.00	44.68	ug/mL	-11	40	
Benzo(a)anthracene	1.1526	1.0968	25.00	23.79	ug/mL	-5	30	
bis(2-Ethylhexyl)phthalate	0.5707	0.5091	25.00	22.30	ug/mL	-11	30	
Chrysene	1.0802	1.0267	25.00	23.76	ug/mL	-5	30	
Di-n-octylphthalate	1.2382	1.1091	25.00	22.39	ug/mL	-10	20	
Benzo(b)fluoranthene	1.2522	1.2756	25.00	25.47	ug/mL	2	30	
Benzo(k)fluoranthene	1.2090	1.2029	25.00	24.87	ug/mL	-1	30	
Benzo(a)pyrene	1.1054	1.0190	25.00	23.04	ug/mL	-8	20	
Indeno(1,2,3-cd)pyrene	0.8237	0.7733	25.00	23.47	ug/mL	-6	30	m
Dibenz(a,h)anthracene	0.6520	0.6348	25.00	24.34	ug/mL	-3	30	
Benzo(g,h,i)perylene	0.6263	0.6013	25.00	24.00	ug/mL	-4	30	

m=manual integration

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 MSBNA Water
EPA 8270C

Inst : MSBNA05 Run Name : CCV #4 IDF : 1.0
Seqnum : 549022249008 File : xaf08 Time : 15-JAN-2009 18:21
Cal : 548517591001 Caldate : 24-DEC-2008
Standards: S10919

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Phenol	1.6038	1.7026	32.00	33.97	ug/mL	6	20	0.0500	
bis(2-Chloroethyl)ether	1.1244	1.2314	32.00	35.05	ug/mL	10	30	0.0500	
2-Chlorophenol	1.4108	1.5136	32.00	34.33	ug/mL	7	30	0.0500	
1,3-Dichlorobenzene	1.5895	1.7291	32.00	34.81	ug/mL	9	30	0.0500	
1,4-Dichlorobenzene	1.5754	1.7353	32.00	35.25	ug/mL	10	20	0.0500	
Benzyl alcohol	0.8626	0.8961	32.00	33.24	ug/mL	4	30	0.0500	
1,2-Dichlorobenzene	1.4576	1.6226	32.00	35.62	ug/mL	11	30	0.0500	
2-Methylphenol	0.9938	1.0605	32.00	34.15	ug/mL	7	30	0.0500	
bis(2-Chloroisopropyl) ether	1.3394	1.5196	32.00	36.31	ug/mL	13	30	0.0500	
4-Methylphenol	1.4861	1.4943	32.00	32.18	ug/mL	1	30	0.0500	
N-Nitroso-di-n-propylamine	0.6786	0.7241	32.00	34.14	ug/mL	7	30	0.0500	
Hexachloroethane	0.6221	0.6782	32.00	34.89	ug/mL	9	30	0.0500	
Nitrobenzene	0.3499	0.3697	32.00	33.81	ug/mL	6	30	0.0500	m
Isophorone	0.6224	0.6362	32.00	32.71	ug/mL	2	30	0.0500	
2-Nitrophenol	0.2379	0.2501	32.00	33.64	ug/mL	5	20	0.0500	m
2,4-Dimethylphenol	0.3552	0.3474	32.00	31.30	ug/mL	-2	30	0.0500	
bis(2-Chloroethoxy)methane	0.3860	0.4005	16.00	16.60	ug/mL	4	30	0.0500	
Benzoic acid	0.1695	0.1958	80.00	90.08	ug/mL	13	40	0.0500	
2,4-Dichlorophenol	0.3726	0.3878	32.00	33.31	ug/mL	4	20	0.0500	
1,2,4-Trichlorobenzene	0.4094	0.4462	32.00	34.87	ug/mL	9	30	0.0500	
Naphthalene	1.0277	1.1128	16.00	17.32	ug/mL	8	30	0.0500	
4-Chloroaniline	0.4682	0.4164	32.00	28.46	ug/mL	-11	30	0.0500	
Hexachlorobutadiene	0.2384	0.2564	32.00	34.42	ug/mL	8	20	0.0500	
4-Chloro-3-methylphenol	0.3174	0.3297	32.00	33.24	ug/mL	4	20	0.0500	
2-Methylnaphthalene	0.7600	0.7928	16.00	16.69	ug/mL	4	30	0.0500	
Hexachlorocyclopentadiene	0.3885	0.3730	32.00	30.72	ug/mL	-4	40	0.0500	
2,4,6-Trichlorophenol	0.4637	0.4954	32.00	34.18	ug/mL	7	20	0.0500	
2,4,5-Trichlorophenol	0.5079	0.5391	32.00	33.97	ug/mL	6	30	0.0500	
2-Chloronaphthalene	1.2089	1.3023	16.00	17.24	ug/mL	8	30	0.0500	
2-Nitroaniline	0.3082	0.3290	32.00	34.17	ug/mL	7	30	0.0500	
Dimethylphthalate	1.3421	1.4790	32.00	35.27	ug/mL	10	30	0.0500	
2,6-Dinitrotoluene	0.3670	0.3740	32.00	32.62	ug/mL	2	30	0.0500	
Acenaphthylene	1.8129	1.9667	16.00	17.36	ug/mL	8	30	0.0500	
3-Nitroaniline	0.3786	0.1614	32.00	13.64	ug/mL	**-57**	30	0.0500	c- ***
Acenaphthene	1.1503	1.2002	16.00	16.69	ug/mL	4	20	0.0500	
2,4-Dinitrophenol	0.1782	0.2099	32.00	41.28	ug/mL	29	40	0.0500	
4-Nitrophenol	0.1582	0.1403	32.00	28.38	ug/mL	-11	40	0.0500	
Dibenzofuran	1.5975	1.7806	16.00	17.83	ug/mL	11	30	0.0500	
2,4-Dinitrotoluene	0.4742	0.4891	32.00	33.01	ug/mL	3	30	0.0500	
Diethylphthalate	1.2532	1.3626	16.00	17.40	ug/mL	9	30	0.0500	
Fluorene	1.3505	1.4630	16.00	17.33	ug/mL	8	30	0.0500	
4-Chlorophenyl-phenylether	0.6723	0.7529	16.00	17.92	ug/mL	12	40	0.0500	
4-Nitroaniline	0.3598	0.2411	32.00	21.45	ug/mL	**-33**	30	0.0500	c- ***
4,6-Dinitro-2-methylphenol	0.1725	0.1906	32.00	35.36	ug/mL	10	30	0.0500	
N-Nitrosodiphenylamine	0.5909	0.6059	16.00	16.41	ug/mL	3	20	0.0500	
4-Bromophenyl-phenylether	0.2863	0.2944	16.00	16.45	ug/mL	3	30	0.0500	
Hexachlorobenzene	0.3403	0.3620	32.00	34.03	ug/mL	6	30	0.0500	
Pentachlorophenol	0.2219	0.2400	32.00	34.62	ug/mL	8	20	0.0500	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Phenanthrene	1.1717	1.2641	16.00	17.26	ug/mL	8	30	0.0500	
Anthracene	1.1473	1.2361	16.00	17.24	ug/mL	8	30	0.0500	
Di-n-butylphthalate	1.2077	1.3907	16.00	18.42	ug/mL	15	30	0.0500	
Fluoranthene	1.3276	1.4426	16.00	17.39	ug/mL	9	20	0.0500	
Pyrene	1.1863	1.2897	16.00	17.39	ug/mL	9	30	0.0500	
Butylbenzylphthalate	0.5230	0.5568	16.00	17.03	ug/mL	6	30	0.0500	
3,3'-Dichlorobenzidine	0.4349	0.2289	32.00	16.84	ug/mL	**-47**	40	0.0500	c- ***
Benzo(a)anthracene	1.1327	1.2260	16.00	17.32	ug/mL	8	30	0.0500	
bis(2-Ethylhexyl)phthalate	0.6664	0.7624	16.00	18.30	ug/mL	14	30	0.0500	
Chrysene	1.0118	1.0837	16.00	17.14	ug/mL	7	30	0.0500	
Di-n-octylphthalate	1.1346	1.2519	16.00	17.65	ug/mL	10	20	0.0500	
Benzo(b)fluoranthene	1.2044	1.2529	16.00	16.64	ug/mL	4	30	0.0500	
Benzo(k)fluoranthene	1.0402	1.0661	16.00	16.40	ug/mL	2	30	0.0500	
Benzo(a)pyrene	1.0791	1.1389	16.00	16.89	ug/mL	6	20	0.0500	
Indeno(1,2,3-cd)pyrene	1.1826	1.2955	16.00	17.53	ug/mL	10	30	0.0500	
Dibenz(a,h)anthracene	0.9734	1.0601	16.00	17.43	ug/mL	9	30	0.0500	
Benzo(g,h,i)perylene	0.9427	1.0178	16.00	17.27	ug/mL	8	30	0.0500	
2-Fluorophenol	1.1014	1.2028	16.00	17.47	ug/mL	9	30	0.0500	
Phenol-d5	1.3948	1.4520	16.00	16.66	ug/mL	4	30	0.0500	
Nitrobenzene-d5	0.3369	0.3434	16.00	16.31	ug/mL	2	30	0.0500	
2-Fluorobiphenyl	1.3419	1.4666	16.00	17.49	ug/mL	9	30	0.0500	
2,4,6-Tribromophenol	0.2831	0.2965	16.00	16.76	ug/mL	5	30	0.0500	
Terphenyl-d14	0.7808	0.8143	16.00	16.69	ug/mL	4	30	0.0500	

LLH 01/16/09 : Corrected automatically drawn baseline .

LLH 01/16/09 : by JGM

Analyst: LLH Date: 01/16/09 Reviewer: SHD Date: 01/16/09

-=low bias c=CCV m=manual integration

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 MSBNA Water
EPA 8270C

Inst : MSBNA06 Run Name : CCV #5 IDF : 1.0
Seqnum : 559023759002 File : yag02 Time : 16-JAN-2009 12:30
Cal : 559021123001 Caldate : 14-JAN-2009
Standards: S10920

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Phenol	2.4807	2.7424	50.00	55.27	ug/mL	11	20	0.0500	
bis(2-Chloroethyl)ether	1.5270	1.5794	50.00	51.72	ug/mL	3	30	0.0500	
2-Chlorophenol	1.6462	1.7201	50.00	52.24	ug/mL	4	30	0.0500	
1,3-Dichlorobenzene	1.7048	1.7826	50.00	52.28	ug/mL	5	30	0.0500	
1,4-Dichlorobenzene	1.6577	1.7201	50.00	51.88	ug/mL	4	20	0.0500	
Benzyl alcohol	1.1848	1.3125	50.00	55.39	ug/mL	11	30	0.0500	
1,2-Dichlorobenzene	1.5146	1.5945	50.00	52.64	ug/mL	5	30	0.0500	
2-Methylphenol	1.3091	1.4296	50.00	54.60	ug/mL	9	30	0.0500	
bis(2-Chloroisopropyl) ether	3.3365	3.3648	50.00	50.42	ug/mL	1	30	0.0500	
4-Methylphenol	1.8585	1.9545	50.00	52.58	ug/mL	5	30	0.0500	
N-Nitroso-di-n-propylamine	1.1184	1.1653	50.00	52.10	ug/mL	4	30	0.0500	
Hexachloroethane	0.7043	0.7267	50.00	51.59	ug/mL	3	30	0.0500	
Nitrobenzene	0.4603	0.4748	50.00	51.57	ug/mL	3	30	0.0500	
Isophorone	0.9398	0.8958	50.00	47.66	ug/mL	-5	30	0.0500	
2-Nitrophenol	0.1971	0.2144	50.00	54.39	ug/mL	9	20	0.0500	
2,4-Dimethylphenol	0.4242	0.4357	50.00	51.35	ug/mL	3	30	0.0500	
bis(2-Chloroethoxy)methane	0.5091	0.5214	25.00	25.60	ug/mL	2	30	0.0500	
Benzoic acid	0.2271	0.2420	100.0	100.7	ug/mL	1	40	0.0500	
2,4-Dichlorophenol	0.3479	0.3675	50.00	52.82	ug/mL	6	20	0.0500	
1,2,4-Trichlorobenzene	0.3881	0.3908	50.00	50.35	ug/mL	1	30	0.0500	
Naphthalene	1.1154	1.1445	25.00	25.65	ug/mL	3	30	0.0500	
4-Chloroaniline	0.5282	0.5358	50.00	50.71	ug/mL	1	30	0.0500	
Hexachlorobutadiene	0.2537	0.2518	50.00	49.64	ug/mL	-1	20	0.0500	
4-Chloro-3-methylphenol	0.3872	0.3881	50.00	50.11	ug/mL	0	20	0.0500	
2-Methylnaphthalene	0.8035	0.8282	25.00	25.77	ug/mL	3	30	0.0500	
Hexachlorocyclopentadiene	0.4577	0.4693	50.00	51.26	ug/mL	3	40	0.0500	
2,4,6-Trichlorophenol	0.4519	0.4530	50.00	50.12	ug/mL	0	20	0.0500	
2,4,5-Trichlorophenol	0.4871	0.5012	50.00	51.45	ug/mL	3	30	0.0500	m
2-Chloronaphthalene	1.2173	1.2347	25.00	25.36	ug/mL	1	30	0.0500	
2-Nitroaniline	0.4875	0.5239	50.00	53.74	ug/mL	7	30	0.0500	
Dimethylphthalate	1.4390	1.5350	50.00	53.34	ug/mL	7	30	0.0500	
2,6-Dinitrotoluene	0.3307	0.3676	50.00	55.59	ug/mL	11	30	0.0500	
Acenaphthylene	1.8948	1.8765	25.00	24.76	ug/mL	-1	30	0.0500	
3-Nitroaniline	0.3488	0.3935	50.00	56.41	ug/mL	13	30	0.0500	
Acenaphthene	1.1640	1.1518	25.00	24.74	ug/mL	-1	20	0.0500	
2,4-Dinitrophenol	0.1349	0.1486	50.00	53.47	ug/mL	7	40	0.0500	
4-Nitrophenol	0.2028	0.2209	50.00	54.46	ug/mL	9	40	0.0500	
Dibenzofuran	1.6874	1.7414	25.00	25.80	ug/mL	3	30	0.0500	
2,4-Dinitrotoluene	0.4120	0.4764	50.00	57.82	ug/mL	16	30	0.0500	
Diethylphthalate	1.3873	1.4985	25.00	27.00	ug/mL	8	30	0.0500	
Fluorene	1.4239	1.5178	25.00	26.65	ug/mL	7	30	0.0500	
4-Chlorophenyl-phenylether	0.7096	0.7305	25.00	25.74	ug/mL	3	40	0.0500	
4-Nitroaniline	0.3211	0.3679	50.00	57.28	ug/mL	15	30	0.0500	
4,6-Dinitro-2-methylphenol	0.1228	0.1398	50.00	56.91	ug/mL	14	30	0.0500	
N-Nitrosodiphenylamine	0.5678	0.5701	25.00	25.10	ug/mL	0	20	0.0500	
4-Bromophenyl-phenylether	0.2676	0.2698	25.00	25.20	ug/mL	1	30	0.0500	
Hexachlorobenzene	0.3206	0.3099	50.00	48.33	ug/mL	-3	30	0.0500	
Pentachlorophenol	0.1637	0.1777	50.00	54.28	ug/mL	9	20	0.0500	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Phenanthrene	1.1709	1.1501	25.00	24.56	ug/mL	-2	30	0.0500	
Anthracene	1.1345	1.1349	25.00	25.01	ug/mL	0	30	0.0500	
Di-n-butylphthalate	1.0169	1.0337	25.00	25.41	ug/mL	2	30	0.0500	
Fluoranthene	1.1003	1.0964	25.00	24.91	ug/mL	0	20	0.0500	
Pyrene	1.7836	1.8707	25.00	26.22	ug/mL	5	30	0.0500	
Butylbenzylphthalate	0.5070	0.5176	25.00	25.52	ug/mL	2	30	0.0500	
3,3'-Dichlorobenzidine	0.3725	0.3592	50.00	48.21	ug/mL	-4	40	0.0500	
Benzo(a)anthracene	1.1526	1.1695	25.00	25.37	ug/mL	1	30	0.0500	
bis(2-Ethylhexyl)phthalate	0.5707	0.5641	25.00	24.71	ug/mL	-1	30	0.0500	
Chrysene	1.0802	1.1302	25.00	26.16	ug/mL	5	30	0.0500	
Di-n-octylphthalate	1.2382	1.2158	25.00	24.55	ug/mL	-2	20	0.0500	
Benzo(b)fluoranthene	1.2522	1.2972	25.00	25.90	ug/mL	4	30	0.0500	
Benzo(k)fluoranthene	1.2090	1.2674	25.00	26.21	ug/mL	5	30	0.0500	
Benzo(a)pyrene	1.1054	1.1104	25.00	25.11	ug/mL	0	20	0.0500	
Indeno(1,2,3-cd)pyrene	0.8237	0.8006	25.00	24.30	ug/mL	-3	30	0.0500	m
Dibenz(a,h)anthracene	0.6520	0.6552	25.00	25.12	ug/mL	0	30	0.0500	
Benzo(g,h,i)perylene	0.6263	0.5627	25.00	22.46	ug/mL	-10	30	0.0500	
2-Fluorophenol	1.7821	1.8454	25.00	25.89	ug/mL	4	30	0.0500	
Phenol-d5	2.3084	2.5196	25.00	27.29	ug/mL	9	30	0.0500	
Nitrobenzene-d5	0.4356	0.4524	25.00	25.97	ug/mL	4	30	0.0500	
2-Fluorobiphenyl	1.3889	1.3612	25.00	24.50	ug/mL	-2	30	0.0500	
2,4,6-Tribromophenol	0.2401	0.2603	25.00	27.10	ug/mL	8	30	0.0500	
Terphenyl-d14	0.9690	1.0121	25.00	26.11	ug/mL	4	30	0.0500	

SHD 01/16/09 : Picked or reassigned peak .

SHD 01/16/09 : Integrated to match integration of ICAL and CCV .

Analyst: SHD Date: 01/16/09 Reviewer: LLH Date: 01/16/09

m=manual integration

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 549022249

Date : 01/15/09
Sequence : MSBNA05 xaf

Reference : xaf08
Analyzed : 01/15/09 18:21

#	Type	Sample ID	DCBZ14D4	RT	NAPHD8	RT	ACEND10	RT	PHEND10	RT	CHYD12	RT	PERYD12	RT
		CCV+ICV+ICV/CCV STD	1445744	4.77	4850444	6.21	2871247	8.31	4832647	10.09	5504530	13.30	5761893	15.08
		LOWER LIMIT	722872	4.27	2425222	5.71	1435624	7.81	2416324	9.59	2752265	12.80	2880947	14.58
		UPPER LIMIT	2891488	5.27	9700888	6.71	5742494	8.81	9665294	10.59	11009060	13.80	11523786	15.58
008	CCV	CCV #4	1445744	4.77	4850444	6.21	2871247	8.31	4832647	10.09	5504530	13.30	5761893	15.08
009	BLANK	QC479345	1333651	4.77	4488883	6.21	2620746	8.30	4482555	10.09	5113557	13.29	5532465	15.07
010	BS	QC479346	1301493	4.77	4458496	6.22	2642103	8.31	4731116	10.09	5046814	13.31	5576781	15.08
011	BSD	QC479347	1282130	4.77	4342716	6.22	2561356	8.31	4564437	10.09	4851528	13.31	5315267	15.08
012	SAMPLE	209247-001	1345738	4.77	4480039	6.21	2607036	8.30	4499365	10.09	5091872	13.30	5419552	15.07
013	SAMPLE	209247-002	1429760	4.77	4790011	6.21	2787810	8.31	4752846	10.09	5470669	13.30	5810981	15.07
014	SAMPLE	209247-003	1390618	4.77	4605067	6.21	2667784	8.31	4634204	10.09	5271250	13.30	5660410	15.07
015	SAMPLE	209247-004	1323627	4.77	4432172	6.21	2558730	8.30	4432576	10.09	5122331	13.30	5392538	15.07
016	SAMPLE	209247-005	1300085	4.77	4323137	6.21	2562581	8.30	4410092	10.09	5008261	13.29	5411088	15.07
017	SAMPLE	209247-006	1386994	4.77	4615863	6.21	2737185	8.30	4636158	10.09	5383083	13.30	5795496	15.07
018	SAMPLE	209247-007	1318617	4.77	4331955	6.21	2567331	8.30	4428947	10.09	5014692	13.29	5370760	15.07
019	SAMPLE	209247-008	1329485	4.77	4435892	6.21	2566112	8.30	4540735	10.09	5166860	13.30	5388349	15.07
020	SAMPLE	209248-001	1282490	4.77	4262597	6.21	2492102	8.31	4359925	10.09	4969497	13.29	5376007	15.07
021	SAMPLE	209248-002	1299577	4.76	4376817	6.21	2534629	8.31	4437788	10.09	5035962	13.30	5432150	15.07
022	SAMPLE	209248-003	396500 *	4.76	1408556 *	6.21	794258 *	8.29	1396020 *	10.08	1527943 *	13.28	1540943 *	15.05
023	SAMPLE	209155-009	1339732	4.77	4465325	6.21	2584263	8.30	4561380	10.09	5211915	13.29	5504176	15.07
024	SAMPLE	209191-018	1336936	4.77	4435760	6.21	2576971	8.30	4464546	10.09	5091291	13.29	5466740	15.07

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 559023759

Date : 01/16/09 Reference : yag02
Sequence : MSBNA06 yag Analyzed : 01/16/09 12:30

#	Type	Sample ID	DCBZ14D4	RT	NAPHD8	RT	ACEND10	RT	PHEND10	RT	CHYD12	RT	PERYD12	RT
		CCV+ICV+ICV/CCV STD	163648	5.28	635737	6.71	372134	8.81	693139	10.60	384144	13.81	274621	15.75
		LOWER LIMIT	81824	4.78	317869	6.21	186067	8.31	346570	10.10	192072	13.31	137311	15.25
		UPPER LIMIT	327296	5.78	1271474	7.21	744268	9.31	1386278	11.10	768288	14.31	549242	16.25
002	CCV	CCV #5	163648	5.28	635737	6.71	372134	8.81	693139	10.60	384144	13.81	274621	15.75
003	SAMPLE	209191-018	159012	5.28	525675	6.71	346460	8.81	559840	10.60	378591	13.81	235078	15.75
004	SAMPLE	209248-003	138171	5.28	466505	6.70	313084	8.80	510193	10.60	337654	13.80	223846	15.75
005	SAMPLE	209155-009	154041	5.27	515034	6.70	320649	8.80	539682	10.60	356685	13.80	221531	15.75
006	SAMPLE	209287-001	143277	5.28	466281	6.70	319869	8.80	523671	10.59	256265	13.80	128217 *	15.75
007	BLANK	QC479686	149988	5.27	496116	6.70	302082	8.80	478810	10.59	301984	13.80	197647	15.75
008	BS	QC479687	128731	5.28	479008	6.71	272121	8.81	505720	10.60	293785	13.81	206615	15.75
009	BSD	QC479688	127072	5.28	463650	6.71	274805	8.81	492953	10.60	282219	13.81	194877	15.75
010	SAMPLE	209287-001	126916	5.28	441921	6.70	314165	8.80	502043	10.59	151705 *	13.80	72293 *	15.75

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 548517591

Instrument : MSBNA05 Begun : 12/24/08 10:31
Method : EPA 8270C SOP Version : bna_rv.9

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	xlo01	TUN	DFTPP/PEM 50 NG			12/24/08 10:31	1.0	1	
002	xlo02	TUN	DFTPP/PEM 50 NG			12/24/08 10:52	1.0	1	
003	xlo03	TUN	DFTPP/PEM 50 NG			12/24/08 11:08	1.0	1	
004	xlo04	TUN	DFTPP/PEM 50 NG			12/24/08 11:27	1.0	1	
005	xlo05	CCV	#5			12/24/08 11:49	1.0	2	
006	xlo06	CCV	#3			12/24/08 12:32	1.0	3	
007	xlo07	CCV	#3			12/24/08 14:09	1.0	3	
008	xlo08	TUN	DFTPP/PEM 50 NG			12/24/08 14:54	1.0	1	
009	xlo09	ICAL	#1			12/24/08 15:17	1.0	4	
010	xlo10	ICAL	#2			12/24/08 15:59	1.0	5	
011	xlo11	ICAL	#3			12/24/08 16:45	1.0	3	
012	xlo12	ICAL	#4			12/24/08 17:28	1.0	6	
013	xlo13	ICAL	#5			12/24/08 18:15	1.0	2	
014	xlo14	ICAL	#6			12/24/08 19:00	1.0	7	
015	xlo15	ICAL	#7			12/24/08 19:44	1.0	8	
016	xlo16	ICAL	#8			12/24/08 20:27	1.0	9	
017	xlo17	ICV	ICV			12/24/08 21:13	1.0	10	

SHD 12/29/08 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 17.

Analyst: SHD Date: 12/29/08 Reviewer: LW Date: 12/31/08

Standards used: 1=S11025 2=S10920 3=S10918 4=S10916 5=S10917 6=S10919 7=S10921 8=S10922 9=S10923 10=S10319

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 549022249

Instrument : MSBNA05 Begun : 01/15/09 10:49
Method : EPA 8270C SOP Version : bna_rv.9

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	xaf01	TUN	DFTPP/PEM 50UG/ML			01/15/09 10:49	1.0	1	
002	xaf02	CCV	CCV #4			01/15/09 11:20	1.0	2	
003	xaf03	ICAL	CREOSOTE			01/15/09 12:10	1.0	3	
004	xaf04	SAMPLE	209240-015	Soil	146933	01/15/09 13:09	3.0	4	
005	xaf05	MSS	209222-013	Soil	146933	01/15/09 13:55	5.0	4	
006	xaf06	TUN	DFTPP/PEM 50UG/ML			01/15/09 17:29	1.0	1	
007	xaf07	TUN	DFTPP/PEM 50UG/ML			01/15/09 17:58	1.0	1	
008	xaf08	CCV	CCV #4			01/15/09 18:21	1.0	2	
009	xaf09	BLANK	QC479345	Water	146949	01/15/09 19:28	1.0	4	
010	xaf10	BS	QC479346	Water	146949	01/15/09 20:13	1.0	4	
011	xaf11	BSD	QC479347	Water	146949	01/15/09 21:00	1.0	4	
012	xaf12	SAMPLE	209247-001	Water	146949	01/15/09 21:51	1.0	4	
013	xaf13	SAMPLE	209247-002	Water	146949	01/15/09 22:40	1.0	4	
014	xaf14	SAMPLE	209247-003	Water	146949	01/15/09 23:27	1.0	4	
015	xaf15	SAMPLE	209247-004	Water	146949	01/16/09 00:15	1.0	4	
016	xaf16	SAMPLE	209247-005	Water	146949	01/16/09 01:02	1.0	4	
017	xaf17	SAMPLE	209247-006	Water	146949	01/16/09 01:48	1.0	4	
018	xaf18	SAMPLE	209247-007	Water	146949	01/16/09 02:34	1.0	4	
019	xaf19	SAMPLE	209247-008	Water	146949	01/16/09 03:20	1.0	4	
020	xaf20	SAMPLE	209248-001	Water	146949	01/16/09 04:06	1.0	4	
021	xaf21	SAMPLE	209248-002	Water	146949	01/16/09 04:51	1.0	4	
022	xaf22	SAMPLE	209248-003	Water	146949	01/16/09 05:41	1.0	4	
023	xaf23	SAMPLE	209155-009	Water	146949	01/16/09 06:29	1.0	4	
024	xaf24	SAMPLE	209191-018	Water	146949	01/16/09 07:16	1.0	4	

SHD 01/15/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 3.

LLH 01/16/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 004 through 024.

Standards used: 1=S11025 2=S10919 3=S11194 4=S10233

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 559021123

Instrument : MSBNA06 Begun : 01/14/09 16:03
Method : EPA 8270C SOP Version : bna_rv.9

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	yae01	TUN	DFTPP/PEM 50UG/ML			01/14/09 16:03	1.0	1	
002	yae02	CHECK	RF CHECK			01/14/09 16:24	1.0	2	
003	yae03	CHECK	RF CHECK			01/14/09 17:09	1.0	2	
004	yae04	TUN	DFTPP/PEM 50UG/ML			01/14/09 18:35	1.0	1	
005	yae05	ICAL	ICAL 1			01/14/09 19:24	1.0	3	
006	yae06	ICAL	ICAL 2			01/14/09 20:00	1.0	4	
007	yae07	ICAL	ICAL 3			01/14/09 20:36	1.0	2	
008	yae08	ICAL	ICAL 4			01/14/09 21:12	1.0	5	
009	yae09	ICAL	ICAL 5			01/14/09 21:51	1.0	6	
010	yae10	ICAL	ICAL 6			01/14/09 22:28	1.0	7	
011	yae11	ICAL	ICAL 7			01/14/09 23:04	1.0	8	
012	yae12	ICAL	ICAL 8			01/14/09 23:39	1.0	9	
013	yae13	ICV	ICV			01/15/09 00:17	1.0	10	

SHD 01/15/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 13.

Analyst: SHD Date: 01/15/09 Reviewer: LW Date: 01/15/09

Standards used: 1=S11025 2=S10918 3=S10916 4=S10917 5=S10919 6=S10920 7=S10921 8=S10922 9=S10923 10=S10319

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 559023759

Instrument : MSBNA06 Begun : 01/16/09 11:59
Method : EPA 8270C SOP Version : bna_rv.9

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	yag01	TUN	DFTPP/PEM 50UG/ML			01/16/09 11:59	1.0	1	
002	yag02	CCV	CCV #5			01/16/09 12:30	1.0	2	
003	yag03	SAMPLE	209191-018	Water	146949	01/16/09 14:19	1.0	3	
004	yag04	SAMPLE	209248-003	Water	146949	01/16/09 14:54	1.0	3	
005	yag05	SAMPLE	209155-009	Water	146949	01/16/09 15:30	1.0	3	
006	yag06	SAMPLE	209287-001	Oil	147028	01/16/09 16:07	10.0	3	
007	yag07	BLANK	QC479686	Oil	147028	01/16/09 16:42	1.0	3	
008	yag08	BS	QC479687	Oil	147028	01/16/09 17:20	1.0	3	
009	yag09	BSD	QC479688	Oil	147028	01/16/09 17:58	1.0	3	
010	yag10	SAMPLE	209287-001	Oil	147028	01/16/09 18:35	3.0	3	

SHD 01/16/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 5.

JGM 01/18/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 10.

Standards used: 1=S11025 2=S10920 3=S10233

SAMPLE PREPARATION SUMMARY

Batch # : 146949
Started By : TFB
Method : 3520C
Spike #1 ID : S10894
Prep Date : 14-JAN-2009 13:20
SOP Version : 8270_3520_rv16
Spike #2 ID : S11166
Analysis : 8270-1
Finished By : DJT
Units : mL

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
209155-009		Water	1060	1	1	0.0009434	7	.4				8270-1	re-extract
209191-018		Water	1020	1	1	0.0009804	7	.4				8270-1	
209247-001		Water	1060	1	1	0.0009434	9	.4				8270-1	
209247-002		Water	1060	1	1	0.0009434	9	.4				8270-1	
209247-003		Water	1060	1	1	0.0009434	9	.4				8270-1	
209247-004		Water	1060	1	1	0.0009434	7	.4				8270-1	sample went dry<1min
209247-005		Water	1060	1	1	0.0009434	7	.4				8270-1	
209247-006		Water	1060	1	1	0.0009434	7	.4				8270-1	
209247-007		Water	1060	1	1	0.0009434	7	.4				8270-1	
209247-008		Water	1060	1	1	0.0009434	7	.4				8270-1	
209248-001		Water	1060	1	1	0.0009434	5	.4				8270-1	
209248-002		Water	1060	1	1	0.0009434	7	.4				8270-1	
209248-003		Water	1060	1	1	0.0009434	7	.4				8270-1	pink
QC479345	BLANK	Water	1000	1	1	0.001		.4				8270-1	poss dry 2 seconds
QC479346	BS	Water	1000	1	1	0.001		.4	1			8270-1	
QC479347	BSD	Water	1000	1	1	0.001		.4	1			8270-1	

Analyst: SHD Date: 01/16/09 Reviewer: LLH Date: 01/16/09

BNA (8270 & 625) Water Prep Log

Curtis & Tompkins, Ltd.

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LIMS Analysis: 8270-1
LIMS Batch No: 146949
Date Extracted: 01/14/09

Extraction Method:
☒ mod.EPA 3520c cont.L/L
☐

Cleanup Method (if needed):
☐ EPA 3640a GPC
☐

Sample #	Container ID	Volume of Sample (mL)	Sample pH	Final Volume (mL)	Cleanup (x if needed)	Comments
209155-009	G	G 1060	7	1.0		re-extract
209191-018	L	L 1020	↓			
209247-001	E	G 1060	9			
-002	D	E				
-003			↓			
-004	↓	↓	7			
-005	E	G				SAMPLE WENT DRY <1mL
-006	D	E				
-007	G	F				
-008	E	D	↓			
209248-001	G	E TFB 1/14/09	5			
-002	E	D ~~1040~~ 1060	7			
-003	G	F 1060	↓			
MB QC479345	TFB 1/14/09	1000				PINK
BS 6						POSS DRY SECONDS
BSD 7						

SDC 1/16/09

0.4 mL of surrogate solution was added to all samples
1.0 mL of matrix spiking solution was added to all spikes
pH of all samples adjusted to pH ≤ 2 with H_2SO_4
Cont. L/L extracted with 450mL of CH_2Cl_2
Extraction Start Time:
Extraction End Time:
pH of all samples adjusted to pH ≥ 11 with 10 N NaOH
Extraction Start Time:
Extraction End Time:
Extracts filtered through baked, CH2Cl2-rinsed granular Na2SO4
Concentrated to final volume at temperature (degrees C)
Relinquished to BNA department

Lot# / LIMS # / Time	Date/ Initials
S10894B	TFB 1/14/09
S11166B	↓
FS085385	
EM48340	
1325	↓
850	SDC 1/15/09
NA	DJT 1/15/09
↓	
EM48315877	
70°	
✓	↓

01/14/09
Extraction Chemist **Date**

Contined from Page ___
Continued on Page ___

1/16/09
Reviewed by **Date**

Laboratory Job Number 209191

ANALYTICAL REPORT

PCBs

Matrix: Water

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	EPA 3520C
Project#:	Y0239-04.A3	Analysis:	EPA 8082
Field ID:	E074	Sampled:	01/12/09
Matrix:	Water	Received:	01/12/09
Units:	ug/L	Prepared:	01/14/09
Diln Fac:	1.000	Analyzed:	01/16/09
Batch#:	146951		

Type: SAMPLE Cleanup Method: EPA 3665A
Lab ID: 209191-018

Analyte	Result	RL
Aroclor-1016	ND	0.50
Aroclor-1221	ND	1.0
Aroclor-1232	ND	0.50
Aroclor-1242	ND	0.50
Aroclor-1248	ND	0.50
Aroclor-1254	ND	0.50
Aroclor-1260	ND	0.50

Surrogate	%REC	Limits
TCMX	69	65-135
Decachlorobiphenyl	25 *	65-135

Type: BLANK Cleanup Method: EPA 3665A
Lab ID: QC479350

Analyte	Result	RL
Aroclor-1016	ND	0.50
Aroclor-1221	ND	1.0
Aroclor-1232	ND	0.50
Aroclor-1242	ND	0.50
Aroclor-1248	ND	0.50
Aroclor-1254	ND	0.50
Aroclor-1260	ND	0.50

Surrogate	%REC	Limits
TCMX	87	65-135
Decachlorobiphenyl	52 *	65-135

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	EPA 3520C
Project#:	Y0239-04.A3	Analysis:	EPA 8082
Matrix:	Water	Batch#:	146951
Units:	ug/L	Prepared:	01/14/09
Diln Fac:	1.000	Analyzed:	01/16/09

Type: BS Cleanup Method: EPA 3665A
Lab ID: QC479351

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	5.000	5.106	102	71-139
Aroclor-1260	5.000	5.229	105	75-141

Surrogate	%REC	Limits
TCMX	90	65-135
Decachlorobiphenyl	56 *	65-135

Type: BSD Cleanup Method: EPA 3665A
Lab ID: QC479352

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	5.000	5.384	108	71-139	5	24
Aroclor-1260	5.000	5.287	106	75-141	1	27

Surrogate	%REC	Limits
TCMX	97	65-135
Decachlorobiphenyl	66	65-135

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 209191 PCBS Water: EPA 8082

Inst : GC16
Calnum : 239019705001
Units : pg/ul

Name : 1660_013
Date : 13-JAN-2009 17:49
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	013_004	239019705004	PCB10_2	13-JAN-2009 17:49	S10123
L2	013_005	239019705005	PCB25_5	13-JAN-2009 18:16	S10124
L3	013_006	239019705006	PCB100_20	13-JAN-2009 18:44	S10125
L4	013_007	239019705007	PCB250_50	13-JAN-2009 19:12	S10126
L5	013_008	239019705008	PCB500_100	13-JAN-2009 19:39	S10127
L6	013_009	239019705009	PCB750_150	13-JAN-2009 20:07	S10128
L7	013_010	239019705010	PCB1000_200	13-JAN-2009 20:34	S10129

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Aroclor-1016 Peak # 1	A	585.80	625.96	556.70	522.34	472.93	488.06	413.86	AVRG		0.00191		523.66	14	.99	20	
Aroclor-1016 Peak # 2	A	520.10	550.44	523.20	553.18	560.55	615.02	539.72	AVRG		0.00181		551.74	6	.99	20	
Aroclor-1016 Peak # 3	A	341.40	367.56	346.01	346.54	328.31	355.54	307.35	AVRG		0.00293		341.81	6	.99	20	
Aroclor-1016 Peak # 4	A	210.40	238.92	215.53	209.77	188.55	200.73	170.66	AVRG		0.00488		204.94	11	.99	20	
Aroclor-1016 Peak # 5	A	281.60	318.64	292.93	295.35	285.23	299.20	258.73	AVRG		0.00345		290.24	6	.99	20	
Aroclor-1260 Peak # 1	A	827.30	986.16	880.54	879.06	803.03	808.30	722.55	AVRG		0.00119		843.85	10	.99	20	
Aroclor-1260 Peak # 2	A	407.40	534.32	496.21	502.49	468.34	468.96	429.49	AVRG		0.00212		472.46	9	.99	20	
Aroclor-1260 Peak # 3	A	487.90	541.64	480.23	502.88	472.93	485.59	450.23	AVRG		0.00205		488.77	6	.99	20	
Aroclor-1260 Peak # 4	A	810.90	1046.1	962.13	1053.7	989.98	1006.6	947.64	AVRG		0.00103		973.86	8	.99	20	
Aroclor-1260 Peak # 5	A	361.90	464.16	429.59	489.56	474.10	494.72	481.53	AVRG		0.00219		456.51	10	.99	20	
TCMX	A	8220.0	9096.6	9661.8	10779	10774	11700	10085	AVRG		9.95E-5		10045	12	.99	20	
Decachlorobiphenyl	A	9254.5	13028	10935	11443	9640.1	8856.1	8556.0	AVRG		9.76E-5		10245	16	.99	20	
Aroclor-1016 Peak # 1	B	739.60	783.60	751.21	749.32	667.20	692.36	577.78	AVRG		0.00141		708.72	10	.99	20	
Aroclor-1016 Peak # 2	B	2713.8	2913.6	2556.2	2399.5	2123.4	2187.3	1853.9	AVRG		4.18E-4		2392.5	15	.99	20	
Aroclor-1016 Peak # 3	B	1179.2	1215.0	1077.1	1028.6	910.40	933.39	787.97	AVRG		9.82E-4		1018.8	15	.99	20	
Aroclor-1016 Peak # 4	B	637.70	680.12	607.76	587.98	514.81	524.67	436.46	AVRG		0.00175		569.93	15	.99	20	
Aroclor-1016 Peak # 5	B	671.90	740.76	683.77	673.49	608.45	613.35	515.23	AVRG		0.00155		643.85	11	.99	20	
Aroclor-1260 Peak # 1	B	2099.5	2583.0	2220.8	2202.9	1979.6	2007.4	1824.6	AVRG		4.69E-4		2131.1	11	.99	20	
Aroclor-1260 Peak # 2	B	1596.4	2079.7	1895.3	1865.2	1724.4	1724.9	1587.5	AVRG		5.61E-4		1781.9	10	.99	20	
Aroclor-1260 Peak # 3	B	1386.1	1705.3	1502.9	1491.0	1343.9	1337.5	1257.4	AVRG		6.98E-4		1432.0	10	.99	20	
Aroclor-1260 Peak # 4	B	2960.8	3782.1	3341.9	3512.2	3215.8	3242.2	3094.7	AVRG		3.02E-4		3307.1	8	.99	20	
Aroclor-1260 Peak # 5	B	1289.7	1764.4	1533.3	1648.3	1513.6	1520.3	1468.5	AVRG		6.52E-4		1534.0	10	.99	20	
TCMX	B	25754	27143	25293	25111	23885	25514	21966	AVRG		4.01E-5		24952	7	.99	20	
Decachlorobiphenyl	B	24120	32726	26485	27133	23154	21507	21115	AVRG		3.97E-5		25177	16	.99	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D
Aroclor-1016 Peak # 1	A	10.00	12	25.00	20	100.0	6	250.0	0	500.0	-10	750.0	-7	1000	-21
Aroclor-1016 Peak # 2	A	10.00	-6	25.00	0	100.0	-5	250.0	0	500.0	2	750.0	11	1000	-2
Aroclor-1016 Peak # 3	A	10.00	0	25.00	8	100.0	1	250.0	1	500.0	-4	750.0	4	1000	-10
Aroclor-1016 Peak # 4	A	10.00	3	25.00	17	100.0	5	250.0	2	500.0	-8	750.0	-2	1000	-17
Aroclor-1016 Peak # 5	A	10.00	-3	25.00	10	100.0	1	250.0	2	500.0	-2	750.0	3	1000	-11
Aroclor-1260 Peak # 1	A	10.00	-2	25.00	17	100.0	4	250.0	4	500.0	-5	750.0	-4	1000	-14
Aroclor-1260 Peak # 2	A	10.00	-14	25.00	13	100.0	5	250.0	6	500.0	-1	750.0	-1	1000	-9
Aroclor-1260 Peak # 3	A	10.00	0	25.00	11	100.0	-2	250.0	3	500.0	-3	750.0	-1	1000	-8
Aroclor-1260 Peak # 4	A	10.00	-17	25.00	7	100.0	-1	250.0	8	500.0	2	750.0	3	1000	-3
Aroclor-1260 Peak # 5	A	10.00	-21	25.00	2	100.0	-6	250.0	7	500.0	4	750.0	8	1000	5
TCMX	A	2.000	-18	5.000	-9	20.00	-4	50.00	7	100.0	7	150.0	16	200.0	0
Decachlorobiphenyl	A	2.000	-10	5.000	27	20.00	7	50.00	12	100.0	-6	150.0	-14	200.0	-16
Aroclor-1016 Peak # 1	B	10.00	4	25.00	11	100.0	6	250.0	6	500.0	-6	750.0	-2	1000	-18
Aroclor-1016 Peak # 2	B	10.00	13	25.00	22	100.0	7	250.0	0	500.0	-11	750.0	-9	1000	-23
Aroclor-1016 Peak # 3	B	10.00	16	25.00	19	100.0	6	250.0	1	500.0	-11	750.0	-8	1000	-23
Aroclor-1016 Peak # 4	B	10.00	12	25.00	19	100.0	7	250.0	3	500.0	-10	750.0	-8	1000	-23
Aroclor-1016 Peak # 5	B	10.00	4	25.00	15	100.0	6	250.0	5	500.0	-5	750.0	-5	1000	-20
Aroclor-1260 Peak # 1	B	10.00	-1	25.00	21	100.0	4	250.0	3	500.0	-7	750.0	-6	1000	-14
Aroclor-1260 Peak # 2	B	10.00	-10	25.00	17	100.0	6	250.0	5	500.0	-3	750.0	-3	1000	-11
Aroclor-1260 Peak # 3	B	10.00	-3	25.00	19	100.0	5	250.0	4	500.0	-6	750.0	-7	1000	-12
Aroclor-1260 Peak # 4	B	10.00	-10	25.00	14	100.0	1	250.0	6	500.0	-3	750.0	-2	1000	-6
Aroclor-1260 Peak # 5	B	10.00	-16	25.00	15	100.0	0	250.0	7	500.0	-1	750.0	-1	1000	-4
TCMX	B	2.000	3	5.000	9	20.00	1	50.00	1	100.0	-4	150.0	2	200.0	-12
Decachlorobiphenyl	B	2.000	-4	5.000	30	20.00	5	50.00	8	100.0	-8	150.0	-15	200.0	-16

KMH 01/16/09 : corrected automatically drawn baselines

KMH 01/16/09 : LIMS help ticket #2703 for missing unintegrated documents

Analyst: KMH Date: 01/16/09 Reviewer: EAH Date: 01/16/09

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 209191 PCBS Water
EPA 8082

Inst : GC16 Name : 1660_013
Calnum : 239019705001 Cal Date : 13-JAN-2009

ICV 239019705012 (013_012 13-JAN-2009) stds: S10363

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Aroclor-1016	A	250.0	269.2	pg/ul	8	15	
Aroclor-1260	A	250.0	270.2	pg/ul	8	15	
Aroclor-1016	B	250.0	268.2	pg/ul	7	15	
Aroclor-1260	B	250.0	269.7	pg/ul	8	15	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 PCBS Water
EPA 8082

Inst : GC16 Run Name : PCB250_50 IDF : 1.0
Seqnum : 239023414002 File : 016_002 Time : 16-JAN-2009 06:42
Cal : 239019705001 Caldate : 13-JAN-2009
Standards: S10126

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Aroclor-1016	A			250.0	215.2	pg/ul	-14	15	
Aroclor-1260	A			250.0	234.4	pg/ul	-6	15	
TCMX	A	10045	9138.6	50.00	45.49	pg/ul	-9	15	
Decachlorobiphenyl	A	10245	11146	50.00	54.40	pg/ul	9	15	
Aroclor-1016	B			250.0	217.8	pg/ul	-13	15	
Aroclor-1260	B			250.0	239.5	pg/ul	-4	15	
TCMX	B	24952	21965	50.00	44.01	pg/ul	-12	15	
Decachlorobiphenyl	B	25177	26599	50.00	52.82	pg/ul	6	15	

KMH 01/16/09 : Corrected automatically drawn baseline .

Analyst: KMH Date: 01/16/09 Reviewer: EAH Date: 01/16/09

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 PCBS Water
EPA 8082

Inst : GC16 Run Name : PCB500_100 IDF : 1.0
Seqnum : 239023414010 File : 016_010 Time : 16-JAN-2009 13:06
Cal : 239019705001 Caldate : 13-JAN-2009
Standards: S10127

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Aroclor-1016	A			500.0	442.3	pg/ul	-12	15	
Aroclor-1260	A			500.0	478.4	pg/ul	-4	15	
TCMX	A	10045	9887.4	100.0	98.43	pg/ul	-2	15	
Decachlorobiphenyl	A	10245	10087	100.0	98.46	pg/ul	-2	15	
Aroclor-1016	B			500.0	431.1	pg/ul	-14	15	
Aroclor-1260	B			500.0	474.5	pg/ul	-5	15	
TCMX	B	24952	22517	100.0	90.24	pg/ul	-10	15	
Decachlorobiphenyl	B	25177	24536	100.0	97.45	pg/ul	-3	15	

KMH 01/16/09 : Corrected automatically drawn baseline .

KMH 01/16/09 [Aroclor-1016 A]: Picked or reassigned peak .

Analyst: KMH Date: 01/16/09 Reviewer: EAH Date: 01/16/09

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 239019705

Instrument : GC16 Begun : 01/13/09 16:25
Method : EPA 8082 SOP Version : pcb_rv.7

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	013_001	X	HEX			01/13/09 16:25	1.0		
002	013_002	X	HEX			01/13/09 16:53	1.0		
003	013_003	IB	CAL			01/13/09 17:21	1.0		
004	013_004	ICAL	PCB10_2			01/13/09 17:49	1.0	1	
005	013_005	ICAL	PCB25_5			01/13/09 18:16	1.0	2	
006	013_006	ICAL	PCB100_20			01/13/09 18:44	1.0	3	
007	013_007	ICAL	PCB250_50			01/13/09 19:12	1.0	4	
008	013_008	ICAL	PCB500_100			01/13/09 19:39	1.0	5	
009	013_009	ICAL	PCB750_150			01/13/09 20:07	1.0	6	
010	013_010	ICAL	PCB1000_200			01/13/09 20:34	1.0	7	
011	013_011	X	HEX			01/13/09 21:02	1.0		
012	013_012	ICV	ULTRA_1660			01/13/09 21:29	1.0	8	
013	013_013	X	ICV			01/13/09 21:57	1.0	8	
014	013_014	X	HEX			01/13/09 22:24	1.0		
015	013_015	ICAL	AR1232			01/13/09 22:52	1.0	9	
016	013_016	ICAL	AR1242			01/13/09 23:20	1.0	10	
017	013_017	ICAL	AR1248			01/13/09 23:47	1.0	11	
018	013_018	ICAL	AR2154			01/14/09 00:15	1.0	12	
019	013_019	ICAL	AR1262			01/14/09 00:43	1.0	13	
020	013_020	ICAL	AR1268			01/14/09 01:10	1.0	14	
021	013_021	X	HEX			01/14/09 01:38	1.0		

KMH 01/14/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 21.

Analyst: KMH Date: 01/14/09 Reviewer: EAH Date: 01/16/09

Standards used: 1=S10123 2=S10124 3=S10125 4=S10126 5=S10127 6=S10128 7=S10129 8=S10363 9=S9582 10=S11044 11=S10907 12=S11075 13=S9270 14=S9862

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CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 239023414

Instrument : GC16 Begun : 01/16/09 06:14
Method : EPA 8082 SOP Version : pcb_rv.7

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	016_001	X	HEX			01/16/09 06:14	1.0		
002	016_002	CCV	PCB250_50			01/16/09 06:42	1.0	1	
003	016_003	X	CCV			01/16/09 07:10	1.0	1	
004	016_004	BLANK	QC479350	Water	146951	01/16/09 09:38	1.0		
005	016_005	SAMPLE	209191-018	Water	146951	01/16/09 10:06	1.0		
006	016_006	BS	QC479351	Water	146951	01/16/09 10:34	1.0		
007	016_007	BSD	QC479352	Water	146951	01/16/09 11:01	1.0		
008	016_008	SAMPLE	209191-018	Water	146951	01/16/09 11:42	1.0		
009	016_009	X	PCB500_100			01/16/09 12:31	1.0	2	
010	016_010	CCV	PCB500_100			01/16/09 13:06	1.0	2	
011	016_011	CCV	AR2154			01/16/09 16:05	1.0	3	
012	016_012	X	CCV			01/16/09 16:33	1.0	3	
013	016_013	CCV	AR1248			01/16/09 17:01	1.0	4	
014	016_014	BLANK	QC479623	Soil	147014	01/16/09 17:29	1.0		

KMH 01/16/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 10.

Standards used: 1=S10126 2=S10127 3=S11075 4=S10907

SAMPLE PREPARATION SUMMARY

Batch # : 146951
Started By : SFL
Method : 3520C
Spike #1 ID : S10819

Prep Date : 14-JAN-2009 14:00
SOP Version : PCB_3520_rv9
Spike #2 ID : S10768

Analysis : PCB
Finished By : NAV
Units : mL

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
209191-018		Water	1050	25	1	0.02381	7	.05			3665A	PCB	sediment
QC479350	BLANK	Water	1000	25	1	0.025		.05			3665A	PCB	
QC479351	BS	Water	1000	25	1	0.025		.05	.05		3665A	PCB	
QC479352	BSD	Water	1000	25	1	0.025		.05	.05		3665A	PCB	

KMH 01/16/09 : all samples copper cleaned (3660B)

Analyst: KMH Date: 01/16/09 Reviewer: EAH Date: 01/16/09

PCB Water Prep Log Curtis & Tompkins, Ltd.

LIMS Batch No: 146951
LIMS Analysis: PCB
Date Extracted: 1/14/09

Extraction Method:
☑ EPA 3520c Continuous L/L
☐ Other _____

BK 2667
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Sample #	Container ID	Volume of Sample (mL)	Sample pH	Final Volume (mL)	Comments
209191-018	K	1050	7	25.0	SEDIMENT
MB QC479350		1000			
BS 51					
BSD 52					

KMH 1/16/09

	Lot# / LIMS # / Time	Date/ Initials
0.05 mL of surrogate solution was added to all samples	S108/9A	SPL 1/14/09
0.05 mL of spike solution AM6/60 was added to all spikes	S107/68A	
☑ 3520c: Samples were continuously extracted with about 450 mL CH_2Cl_2	EM48340	
Extraction Start Time:	1440	
Extraction End Time:	850	DDC 1/15/09
☐ 3510c: Samples were extracted 3 times with 60 mL of CH_2Cl_2	N/A	NAV 1/5/09
Extracts filtered through baked, CH2Cl2-rinsed granular Na2SO4	EM48317650	
Solvent exchanged 2x w/ Hexane lot#	JTB639E14	
Concentrated to final volume at temperature (degrees C)	100°	
EPA 3665A Clean-up: Vortexed w/ H_2SO_4 lot #	FS075640	
Centrifuged for 1min; 10mL transferred to labelled vial	✓	
Relinquished to PCB group	✓	

1/14/09
Extraction Chemist **Date**

Contined from Page ____
Continued on Page ____

KMH 1/16/09
Reviewed by **Date**

REPORTING SUMMARY FOR 209191 PCBS Water

Sample ID	Analyte	Inst ID	Ch	Date & Time
209191-018	Aroclor-1016	GC16	A	01/16/09 11:42
209191-018	Aroclor-1221	GC16	A	01/16/09 11:42
209191-018	Aroclor-1232	GC16	A	01/16/09 11:42
209191-018	Aroclor-1242	GC16	A	01/16/09 11:42
209191-018	Aroclor-1248	GC16	A	01/16/09 11:42
209191-018	Aroclor-1254	GC16	A	01/16/09 11:42
209191-018	Aroclor-1260	GC16	A	01/16/09 11:42
209191-018	TCMX	GC16	A	01/16/09 11:42
209191-018	Decachlorobiphenyl	GC16	A	01/16/09 11:42
QC479350	Aroclor-1016	GC16	A	01/16/09 09:38
QC479350	Aroclor-1221	GC16	A	01/16/09 09:38
QC479350	Aroclor-1232	GC16	A	01/16/09 09:38
QC479350	Aroclor-1242	GC16	A	01/16/09 09:38
QC479350	Aroclor-1248	GC16	A	01/16/09 09:38
QC479350	Aroclor-1254	GC16	A	01/16/09 09:38
QC479350	Aroclor-1260	GC16	A	01/16/09 09:38
QC479350	TCMX	GC16	A	01/16/09 09:38
QC479350	Decachlorobiphenyl	GC16	A	01/16/09 09:38
QC479351	Aroclor-1016	GC16	A	01/16/09 10:34
QC479351	Aroclor-1260	GC16	A	01/16/09 10:34
QC479351	TCMX	GC16	A	01/16/09 10:34
QC479351	Decachlorobiphenyl	GC16	A	01/16/09 10:34
QC479352	Aroclor-1016	GC16	A	01/16/09 11:01
QC479352	Aroclor-1260	GC16	A	01/16/09 11:01
QC479352	TCMX	GC16	A	01/16/09 11:01
QC479352	Decachlorobiphenyl	GC16	A	01/16/09 11:01

Laboratory Job Number 209191

ANALYTICAL REPORT

Metals

Matrix: Water

Curtis & Tompkins, Ltd.

Metals Analytical Report

Lab #:	209191	Project#:	Y0239-04.A3
Client:	Baseline Environmental	Location:	Doyle Drive Replacement Project
Field ID:	E074	Sampled:	01/12/09
Lab ID:	209191-018	Received:	01/12/09
Matrix:	Water	Prepared:	01/13/09
Units:	ug/L		

Analyte	Result	RL	Diln Fac	Batch#	Analyzed	Prep	Analysis
Arsenic	170	1.0	5.000	146911	01/14/09	EPA 200.8	EPA 6020
Cadmium	1.8	1.0	5.000	146911	01/14/09	EPA 200.8	EPA 6020
Chromium	3,800	5.0	50.00	146911	01/14/09	EPA 200.8	EPA 6020
Copper	480	1.0	5.000	146911	01/14/09	EPA 200.8	EPA 6020
Lead	250	1.0	5.000	146911	01/14/09	EPA 200.8	EPA 6020
Mercury	0.54	0.20	1.000	146892	01/13/09	METHOD	EPA 7470A
Nickel	5,200	6.2	50.00	146911	01/14/09	EPA 200.8	EPA 6020
Silver	ND	1.0	5.000	146911	01/14/09	EPA 200.8	EPA 6020
Zinc	2,100	27	50.00	146911	01/14/09	EPA 200.8	EPA 6020

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Metals Analytical Report

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	METHOD
Project#:	Y0239-04.A3	Analysis:	EPA 7470A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	146892
Lab ID:	QC479099	Prepared:	01/13/09
Matrix:	Water	Analyzed:	01/13/09
Units:	ug/L		

Result	RL
ND	0.20

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Metals Analytical Report

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	METHOD
Project#:	Y0239-04.A3	Analysis:	EPA 7470A
Analyte:	Mercury	Batch#:	146892
Matrix:	Water	Prepared:	01/13/09
Units:	ug/L	Analyzed:	01/13/09
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC479100	5.000	5.260	105	80-120		
BSD	QC479101	5.000	5.240	105	80-120	0	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Metals Analytical Report

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	METHOD
Project#:	Y0239-04.A3	Analysis:	EPA 7470A
Analyte:	Mercury	Batch#:	146892
Field ID:	E074	Sampled:	01/12/09
MSS Lab ID:	209191-018	Received:	01/12/09
Matrix:	Water	Prepared:	01/13/09
Units:	ug/L	Analyzed:	01/13/09
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC479102	0.5410	5.000	6.240	114	75-125		
MSD	QC479103		5.000	6.360	116	75-125	2	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Metals Analytical Report

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	METHOD
Project#:	Y0239-04.A3	Analysis:	EPA 7470A
Analyte:	Mercury	Units:	ug/L
Field ID:	E074	Diln Fac:	5.000
Type:	Serial Dilution	Batch#:	146892
MSS Lab ID:	209191-018	Sampled:	01/12/09
Lab ID:	QC479104	Received:	01/12/09
Matrix:	Water	Analyzed:	01/13/09

MSS Result	MSS RL	Result	RL	% Diff	Lim
0.5410	0.2000	0.1900 J	1.000	NC	10

J= Estimated value
NC= Not Calculated
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Metals Analytical Report

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	EPA 200.8
Project#:	Y0239-04.A3	Analysis:	EPA 6020
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC479174	Batch#:	146911
Matrix:	Filtrate	Prepared:	01/13/09
Units:	ug/L	Analyzed:	01/14/09

Analyte	Result	RL
Arsenic	ND	1.0
Cadmium	ND	1.0
Chromium	ND	1.0
Copper	ND	1.0
Lead	ND	1.0
Nickel	ND	1.0
Silver	ND	1.0
Zinc	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Metals Analytical Report

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	EPA 200.8
Project#:	Y0239-04.A3	Analysis:	EPA 6020
Matrix:	Filtrate	Batch#:	146911
Units:	ug/L	Prepared:	01/13/09
Diln Fac:	1.000	Analyzed:	01/14/09

Type: BS Lab ID: QC479175

Analyte	Spiked	Result	%REC	Limits
Arsenic	100.0	94.42	94	80-120
Cadmium	100.0	93.35	93	80-120
Chromium	100.0	96.59	97	80-120
Copper	100.0	96.19	96	80-120
Lead	100.0	95.79	96	80-120
Nickel	100.0	95.98	96	80-120
Silver	100.0	96.26	96	80-120
Zinc	100.0	94.60	95	80-120

Type: BSD Lab ID: QC479176

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Arsenic	100.0	84.34	84	80-120	11	20
Cadmium	100.0	86.29	86	80-120	8	20
Chromium	100.0	89.23	89	80-120	8	20
Copper	100.0	86.92	87	80-120	10	20
Lead	100.0	86.82	87	80-120	10	20
Nickel	100.0	87.86	88	80-120	9	20
Silver	100.0	88.70	89	80-120	8	20
Zinc	100.0	83.93	84	80-120	12	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Metals Analytical Report

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	EPA 200.8
Project#:	Y0239-04.A3	Analysis:	EPA 6020
Field ID:	ZZZZZZZZZZ	Batch#:	146911
MSS Lab ID:	209202-001	Sampled:	01/12/09
Matrix:	Filtrate	Received:	01/12/09
Units:	ug/L	Prepared:	01/13/09
Diln Fac:	5.000		

Type: MS Lab ID: QC479177

Analyte	MSS Result	Spiked	Result	%REC	Limits	Analyzed
Arsenic	8.220	100.0	104.0	96	75-125	01/15/09
Cadmium	0.8820	100.0	87.55	87	75-125	01/15/09
Chromium	1.961	100.0	92.15	90	75-125	01/15/09
Copper	81.10	100.0	189.8	109	75-125	01/15/09
Lead	<0.1101	100.0	88.00	88	75-125	01/15/09
Nickel	154.0	100.0	227.8	74 *	75-125	01/15/09
Silver	<0.1531	100.0	82.30	82	75-125	01/15/09
Zinc	352.2	100.0	470.5	118	75-125	01/14/09

Type: MSD Lab ID: QC479178

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	Analyzed
Arsenic	100.0	105.6	97	75-125	2	20	01/15/09
Cadmium	100.0	86.40	86	75-125	1	20	01/15/09
Chromium	100.0	91.55	90	75-125	1	20	01/15/09
Copper	100.0	183.8	103	75-125	3	20	01/15/09
Lead	100.0	86.10	86	75-125	2	20	01/15/09
Nickel	100.0	223.6	70 *	75-125	2	20	01/15/09
Silver	100.0	81.35	81	75-125	1	20	01/15/09
Zinc	100.0	445.3	93	75-125	6	20	01/14/09

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Metals Analytical Report

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	EPA 200.8
Project#:	Y0239-04.A3	Analysis:	EPA 6020
Field ID:	ZZZZZZZZZZ	Diln Fac:	25.00
Type:	Serial Dilution	Batch#:	146911
MSS Lab ID:	209202-001	Sampled:	01/12/09
Lab ID:	QC479179	Received:	01/12/09
Matrix:	Filtrate	Analyzed:	01/15/09
Units:	ug/L		

Analyte	MSS Result	MSS RL	Result	RL	% Diff	Lim
Arsenic	8.220	1.000	10.04	2.500	22 *	10
Cadmium	0.8820	1.000	0.8775 J	2.500	NC	10
Chromium	1.961	1.000	3.138	2.500	NC	10
Copper	81.10	1.000	91.28	2.728	13 *	10
Lead	ND	1.000	ND	2.500	NC	10
Nickel	154.0	1.000	172.1	3.075	12 *	10
Silver	ND	1.000	ND	2.500	NC	10
Zinc	352.2	5.000	448.8	13.30	27 *	10

*= Value outside of QC limits; see narrative
J= Estimated value
NC= Not Calculated
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Metals Analytical Report

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	EPA 200.8
Project#:	Y0239-04.A3	Analysis:	EPA 6020
Field ID:	ZZZZZZZZZZ	Units:	ug/L
Type:	Post Digest Spike	Diln Fac:	5.000
MSS Lab ID:	209202-001	Batch#:	146911
Lab ID:	QC479180	Sampled:	01/12/09
Matrix:	Filtrate	Received:	01/12/09

Analyte	MSS Result	Spiked	Result	%REC	Limits	Analyzed
Arsenic	8.030	500.0	469.2	92	75-125	01/16/09
Cadmium	0.8605	500.0	431.9	86	75-125	01/16/09
Chromium	1.961	500.0	427.1	85	75-125	01/16/09
Copper	89.70	500.0	514.5	85	75-125	01/16/09
Lead	<0.1376	500.0	427.0	85	75-125	01/16/09
Nickel	151.7	500.0	539.5	78	75-125	01/16/09
Silver	<0.1531	500.0	408.4	82	75-125	01/16/09
Zinc	352.2	500.0	836.5	97	75-125	01/15/09

REPORTING SUMMARY FOR 209191 METALS Water
Curtis & Tompkins Laboratories

Lab ID	Inst ID	Analyzed	IDF	AS	CD	CR	CU	PB	HG	NI	AG	ZN
209191-018	MET14	01/13/09 14:56	1.0						+			
209191-018	MET06	01/14/09 03:46	5.0	+							+	
209191-018	MET06	01/14/09 16:43	5.0		+		+	+				
209191-018	MET06	01/14/09 16:53	50.0			+				+		+
QC479099	MET14	01/13/09 14:49	1.0						+			
QC479100	MET14	01/13/09 14:51	1.0						+			
QC479101	MET14	01/13/09 14:54	1.0						+			
QC479102	MET14	01/13/09 15:00	1.0						+			
QC479103	MET14	01/13/09 15:03	1.0						+			
QC479104	MET14	01/13/09 14:58	5.0						+			
QC479105	MET14	01/13/09 15:05	1.0						+			
QC479106	MET14	01/13/09 15:09	1.0						+			
QC479107	MET14	01/13/09 15:16	1.0						+			
QC479174	MET06	01/14/09 00:31	1.0									
QC479174	MET16	01/14/09 14:51	1.0									
QC479174	MET06	01/14/09 15:25	1.0	+	+	+	+	+		+	+	+
QC479175	MET06	01/14/09 00:41	1.0									
QC479175	MET16	01/14/09 15:04	1.0									
QC479175	MET06	01/14/09 15:34	1.0	+	+	+	+	+		+	+	+
QC479176	MET06	01/14/09 00:50	1.0									
QC479176	MET16	01/14/09 15:16	1.0									
QC479176	MET06	01/14/09 15:45	1.0	+	+	+	+	+		+	+	+
QC479177	MET06	01/14/09 01:19	5.0									
QC479177	MET16	01/14/09 15:53	5.0									+
QC479177	MET06	01/14/09 17:42	1000									
QC479177	MET06	01/14/09 22:20	100.0									
QC479177	MET06	01/15/09 15:14	5.0	+	+	+	+	+		+	+	
QC479178	MET06	01/14/09 01:29	5.0									
QC479178	MET16	01/14/09 16:05	5.0									+
QC479178	MET06	01/14/09 17:52	1000									
QC479178	MET06	01/14/09 22:30	100.0									
QC479178	MET06	01/15/09 15:24	5.0	+	+	+	+	+		+	+	
QC479179	MET06	01/14/09 01:10	25.0									
QC479179	MET16	01/14/09 15:40	25.0									
QC479179	MET06	01/14/09 17:32	5000									
QC479179	MET06	01/14/09 22:10	500.0									
QC479179	MET06	01/15/09 14:55	25.0	+	+	+	+	+		+	+	+

REPORTING SUMMARY FOR 209191 METALS Water
Curtis & Tompkins Laboratories

Lab ID	Inst ID	Analyzed	IDF	AS	CD	CR	CU	PB	HG	NI	AG	ZN
QC479180	MET06	01/14/09 01:39	5.0									
QC479180	MET16	01/14/09 16:18	5.0									
QC479180	MET06	01/14/09 18:01	1000									
QC479180	MET06	01/14/09 22:40	100.0									
QC479180	MET06	01/15/09 16:26	5.0									+
QC479180	MET06	01/15/09 22:34	5.0									
QC479180	MET16	01/16/09 06:05	5.0	+	+	+	+	+		+	+	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 69019776

Instrument : MET06 Begun : 01/13/09 17:36
Method : EPA 6020 SOP Version : icpms_rv5

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	09a13r00001	TUN				01/13/09 17:36	1.0	1	
002	09a13r00002	X	RINSE			01/13/09 17:42	1.0	2	
003	09a13r00003	ICALBLK	CALBLANK			01/13/09 17:52	1.0	2	
004	09a13r00004	ICAL				01/13/09 18:02	1.0	3 2	
005	09a13r00005	ICAL				01/13/09 18:12	1.0	4 2	
006	09a13r00006	ICAL				01/13/09 18:22	1.0	5 2	
007	09a13r00007	ICAL				01/13/09 18:31	1.0	6 2	
008	09a13r00008	ICAL				01/13/09 18:41	1.0	7 2	
009	09a13r00009	ICAL				01/13/09 18:51	1.0	8 2	
010	09a13r00010	ICV				01/13/09 19:00	1.0	9 2	
011	09a13r00011	X				01/13/09 19:10	1.0	2	
012	09a13r00012	ICB				01/13/09 19:20	1.0	2	
013	09a13r00013	ICSA				01/13/09 19:27	1.0	10 2	7:CA=340000
014	09a13r00014	ICSAB				01/13/09 19:37	1.0	11 2	13:CA=350000
015	09a13r00015	X	RINSE			01/13/09 19:47	1.0	2	
016	09a13r00016	X	RINSE			01/13/09 19:57	1.0	2	
017	09a13r00017	MSS	209120-001	Water	146787	01/13/09 20:07	5.0	2	2:NA=100000
018	09a13r00018	SER	QC478647	Water	146787	01/13/09 20:17	25.0	2	
019	09a13r00019	MS	QC478645	Water	146787	01/13/09 20:26	5.0	2	3:NA=110000
020	09a13r00020	MSD	QC478646	Water	146787	01/13/09 20:36	5.0	2	3:NA=110000
021	09a13r00021	PDS	QC478648	Water	146787	01/13/09 20:46	5.0	12 13 2	3:NA=110000
022	09a13r00022	PDS	QC479025	Water	146874	01/13/09 20:55	5.0	12 13 2	1:NA=22000
023	09a13r00023	SAMPLE	209155-002	Water	146874	01/13/09 21:05	5.0	2	
024	09a13r00024	CCV				01/13/09 21:15	1.0	14 2	
025	09a13r00025	CCB				01/13/09 21:25	1.0	2	
026	09a13r00026	X				01/13/09 21:35	1.0	2	
027	09a13r00027	ICSA				01/13/09 21:45	1.0	10 2	7:CA=350000
028	09a13r00028	ICSAB				01/13/09 21:55	1.0	11 2	9:CA=310000
029	09a13r00029	X	RINSE			01/13/09 22:06	1.0	2	
030	09a13r00030	X	RINSE			01/13/09 22:15	1.0	2	
031	09a13r00031	BLANK	QC479019	Water	146874	01/13/09 22:25	1.0	2	
032	09a13r00032	BS	QC479020	Water	146874	01/13/09 22:35	1.0	2	
033	09a13r00033	BSD	QC479021	Water	146874	01/13/09 22:44	1.0	2	
034	09a13r00034	MSS	209180-002	Water	146874	01/13/09 22:54	5.0	2	
035	09a13r00035	SER	QC479024	Water	146874	01/13/09 23:04	25.0	2	
036	09a13r00036	MS	QC479022	Water	146874	01/13/09 23:13	5.0	2	
037	09a13r00037	MSD	QC479023	Water	146874	01/13/09 23:23	5.0	2	
038	09a13r00038	SAMPLE	209155-009	Water	146874	01/13/09 23:33	5.0	2	1:MN=530
039	09a13r00039	X				01/13/09 23:42	1.0	14 2	
040	09a13r00040	X				01/13/09 23:52	1.0	14 2	
041	09a13r00041	CCV				01/14/09 00:02	1.0	14 2	
042	09a13r00042	X				01/14/09 00:11	1.0	2	
043	09a13r00043	CCB				01/14/09 00:21	1.0	2	
044	09a13r00044	BLANK	QC479174	Filtrate	146911	01/14/09 00:31	1.0	2	
045	09a13r00045	BS	QC479175	Filtrate	146911	01/14/09 00:41	1.0	2	
046	09a13r00046	BSD	QC479176	Filtrate	146911	01/14/09 00:50	1.0	2	
047	09a13r00047	MSS	209202-001	Filtrate	146911	01/14/09 01:00	5.0	2	5:NA=1400000
048	09a13r00048	SER	QC479179	Filtrate	146911	01/14/09 01:10	25.0	2	
049	09a13r00049	MS	QC479177	Filtrate	146911	01/14/09 01:19	5.0	2	
050	09a13r00050	MSD	QC479178	Filtrate	146911	01/14/09 01:29	5.0	2	
051	09a13r00051	PDS	QC479180	Filtrate	146911	01/14/09 01:39	5.0	12 13 2	
052	09a13r00052	SAMPLE	209202-002	Filtrate	146911	01/14/09 01:49	5.0	2	5:NA=1400000

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 69019776

Instrument : MET06 Begun : 01/13/09 17:36
Method : EPA 6020 SOP Version : icpms_rv5

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	09a13r00053	SAMPLE	209202-003	Filtrate	146911	01/14/09 01:59	5.0	2	5:NA=1300000
054	09a13r00054	CCV				01/14/09 02:08	1.0	14 2	
055	09a13r00055	X				01/14/09 02:18	1.0	2	
056	09a13r00056	CCB				01/14/09 02:28	1.0	2	
057	09a13r00057	SAMPLE	209202-004	Filtrate	146911	01/14/09 02:38	5.0	2	5:NA=1400000
058	09a13r00058	SAMPLE	209202-005	Filtrate	146911	01/14/09 02:47	5.0	2	5:NA=1300000
059	09a13r00059	SAMPLE	209202-006	Filtrate	146911	01/14/09 02:57	5.0	2	6:NA=610000
060	09a13r00060	SAMPLE	209195-002	Water	146911	01/14/09 03:07	5.0	2	
061	09a13r00061	SAMPLE	209195-003	Water	146911	01/14/09 03:17	5.0	2	3:CA=38000
062	09a13r00062	SAMPLE	209195-004	Water	146911	01/14/09 03:27	5.0	2	1:CA=30000
063	09a13r00063	SAMPLE	209195-005	Water	146911	01/14/09 03:36	5.0	2	1:CA=30000
064	09a13r00064	SAMPLE	209191-018	Water	146911	01/14/09 03:46	5.0	2	9:FE=160000
065	09a13r00065	CCV				01/14/09 03:56	1.0	14 2	
066	09a13r00066	X				01/14/09 04:05	1.0	2	
067	09a13r00067	TUN				01/14/09 04:16	1.0	1	
068	09a13r00068	X	RINSE			01/14/09 04:23	1.0	2	
069	09a13r00069	CCB				01/14/09 04:33	1.0	2	
070	09a13r00070	ICSA				01/14/09 04:42	1.0	10 2	7:CA=340000
071	09a13r00071	ICSAB				01/14/09 04:52	1.0	11 2	8:CA=310000

JYF 01/14/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 71.

Standards used: 1=S11076 2=S10858 3=S11083 4=S11084 5=S11085 6=S11086 7=S11077 8=S11080 9=S11088 10=S11090 11=S11091 12=S10997 13=S10998 14=S11089

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 69019776

Date : 01/13/09 Reference : 09a13r00003
Sequence : MET06 09a13r00 Analyzed : 01/13/09 17:52

#	Type	Sample ID	LI A	SC A	SC E	SC H	GE H	GE E	IN A	BI A	Y A	TB A
		IB+ICALBLK STD	2730870	2917025	17553	1340054	297331	16131	3952357	4062434	3894354	5789548
		LOWER LIMIT	819261	875108	5266	402016	89199	4839	1185707	1218730	1168306	1736864
		UPPER LIMIT	3277044	3500430	21064	1608065	356797	19357	4742828	4874921	4673225	6947458
012	ICB		2682822	2920625	18840	1366762	300464	17304	3872090	3958503	3866029	5720688
013	ICSA		1813735	2176102	14776	935205	189334	12472	2659809	2463511	2823124	4059962
014	ICSAB		1800081	2141436	14273	933104	182872	11759	2634749	2503337	2827176	4053624
017	MSS	209120-001	2415217	2685070	16962	1253128	267088	15242	3390912	3273542	3448467	5071314
018	SER	QC478647	2548298	2804014	16729	1288995	282255	15530	3666280	3641002	3687787	5430720
019	MS	QC478645	2521012	2749430	17196	1273179	261774	15399	3406145	3233012	3495360	5148657
020	MSD	QC478646	2695315	2895589	17226	1257329	264139	15120	3424762	3255437	3575272	5148816
021	PDS	QC478648	2638885	2885361	17535	1324760	272399	15308	3421876	3201688	3576177	5054906
022	PDS	QC479025	2552282	2812039	17252	1262715	269711	15646	3547638	3491980	3638982	5286354
023	SAMPLE	209155-002	2629288	2868394	16893	1300940	282163	15964	3773068	3816028	3727489	5486891
024	CCV		2686821	2888391	17139	1251899	271581	15687	3597091	3583780	3684876	5347785
025	CCB		2775551	2897095	17631	1313848	286965	16250	3767450	3799863	3743242	5411960
027	ICSA		1769713	2112802	14149	896780	179261	11914	2571565	2411898	2767732	3936056
028	ICSAB		1743694	2115635	13552	888552	178788	11373	2574393	2473549	2761412	3985665
031	BLANK	QC479019	2427428	2699627	16249	1238820	270894	15236	3710243	3773205	3654248	5480196
032	BS	QC479020	2106203	2478737	14447	1100307	235507	13523	3303965	3397854	3364854	5078429
033	BSD	QC479021	2132623	2488848	14965	1144884	244645	13976	3330578	3424095	3391817	5137450
035	SER	QC479024	2529378	2757272	16249	1220869	270753	15553	3713595	3652370	3633476	5322201
036	MS	QC479022	2358525	2643683	15741	1187088	259410	14695	3499399	3459641	3483169	5212185
037	MSD	QC479023	2370500	2678027	15541	1201006	261129	14560	3499905	3466263	3532989	5173469
038	SAMPLE	209155-009	2472594	2790415	16051	1238470	265340	14974	3511439	3586308	3714424	5249791
041	CCV		2557837	2799753	16459	1214588	262869	15281	3522263	3493271	3602074	5208386
043	CCB		2488871	2680194	15885	1215530	265313	14725	3572122	3649983	3526221	5151454
044	BLANK	QC479174	2170035	2471182	14784	1156244	250482	14042	3451153	3604620	3398810	5170691
045	BS	QC479175	2131787	2490951	14918	1123686	241502	13783	3284843	3378053	3342095	5051128
046	BSD	QC479176	2156096	2505329	14419	1097327	236643	13632	3335132	3405680	3409993	5118438
047	MSS	209202-001	2354935	2674625	17082	988350	181493	12719	2655222	2100426	3010622	3661052
048	SER	QC479179	3108726	3186093	19406	1271062	255245	15685	3373351	2887552	3663089	4697314
049	MS	QC479177	2342639	2708487	18590	1002354	181683	13095	2682737	2109001	3050213	3686553
050	MSD	QC479178	2378041	2803164	18428	1032026	190850	13107	2731102	2138777	3120103	3739258
051	PDS	QC479180	2391089	2791162	18073	1034356	189961	13028	2745489	2134723	3144115	3735750
052	SAMPLE	209202-002	2487068	2921536	18992	1072638	194775	13455	2848478	2199603	3258267	3809225
053	SAMPLE	209202-003	2524543	2980042	19198	1062824	196869	13605	2915785	2223918	3315299	3885859

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 69019776

Date : 01/13/09
Sequence : MET06 09a13r00

Reference : 09a13r00003
Analyzed : 01/13/09 17:52

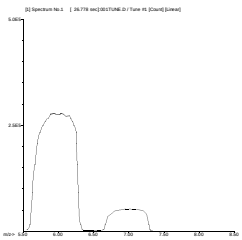
#	Type	Sample ID	LI A	SC A	SC E	SC H	GE H	GE E	IN A	BI A	Y A	TB A
054	CCV		3746496 *	3806485 *	22760 *	1477157	315400	19276	4177803	3605419	4527061	5669216
056	CCB		3788973 *	3702449 *	22540 *	1518277	327362	19556 *	4352817	3829666	4513591	5754538
057	SAMPLE	209202-004	2492831	2905999	19114	1039594	195199	13803	2843929	2200603	3234406	3835877
058	SAMPLE	209202-005	2539373	3014121	19969	1100891	203632	14212	2936308	2256020	3331165	3921257
059	SAMPLE	209202-006	3128402	3398146	21513 *	1258101	245370	16118	3368917	2676082	3829707	4571462
060	SAMPLE	209195-002	4150403 *	3990219 *	24087 *	1497259	324107	20338 *	4564853	3952313	4811254 *	5965986
061	SAMPLE	209195-003	3686045 *	3751348 *	22452 *	1468714	314364	19436 *	4184667	3682470	4748591 *	5742778
062	SAMPLE	209195-004	3616078 *	3668521 *	21843 *	1421293	310797	18929	4181857	3627808	4495534	5637140
063	SAMPLE	209195-005	3651186 *	3608234 *	21912 *	1435932	309408	19130	4186314	3701336	4404952	5687148
064	SAMPLE	209191-018	2753922	5951471 *	34963 *	2156403 *	235866	16485	3380719	3002578	5178323 *	4839313
065	CCV		3205277	3440997	20413	1357019	294268	18160	4006935	3585291	4217497	5524365
069	CCB		3250823	3427429	20535	1376123	297563	18392	4239694	3951090	4360678	5780579
070	ICSA		2115165	2517498	16123	960911	190593	12980	2784090	2472458	3083258	4089941
071	ICSAB		2084237	2492467	14957	927556	185431	12336	2791947	2521712	3103202	4186343

MET06 QC Tune Report

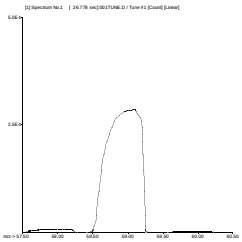
Data File: C:\ICPCHEM\1\DATA\09A13r00.B\001TUNE.D
Date Acquired: Jan 13 2009 05:36 pm
Acq. Method: TN6020.M
Operator:
Sample Name: tun,s11076
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\TN6020.M

RSD (%)

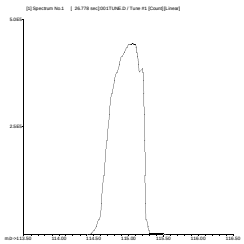
Element	Actual	Required	Flag
7 Li	1.30	5.00	
59 Co	1.84	5.00	
115 In	3.78	5.00	
205 Tl	1.24	5.00	



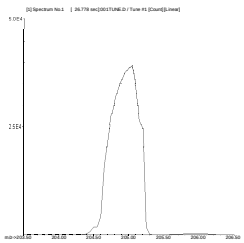
7 Li
Mass Calib.
Actual: 7.00
Required: 6.90 - 7.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:



59 Co
Mass Calib.
Actual: 59.00
Required: 58.90 - 59.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:



115 In
Mass Calib.
Actual: 115.00
Required: 114.90 - 115.10
Flag:
Peak Width
Actual: 0.55
Required: 0.90
Flag:



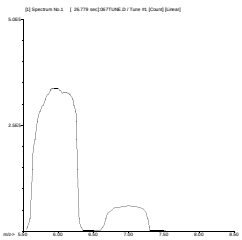
205 Tl
Mass Calib.
Actual: 205.00
Required: 204.90 - 205.10
Flag:
Peak Width
Actual: 0.55
Required: 0.90
Flag:

MET06 QC Tune Report

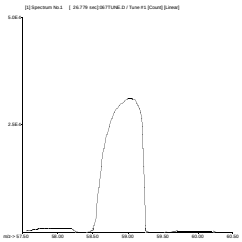
Data File: C:\ICPCHEM\1\DATA\09A13r00.B\067TUNE.D
Date Acquired: Jan 14 2009 04:16 am
Acq. Method: TN6020.M
Operator:
Sample Name: tun,s11076
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\TN6020.M

RSD (%)

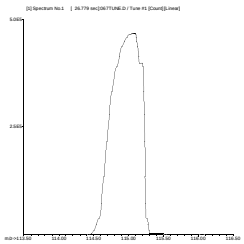
Element	Actual	Required	Flag
7 Li	3.17	5.00	
59 Co	1.01	5.00	
115 In	1.92	5.00	
205 Tl	0.48	5.00	



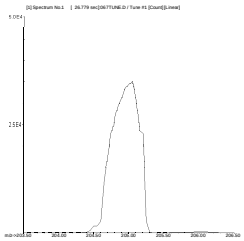
7 Li
Mass Calib.
Actual: 7.00
Required: 6.90 - 7.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:



59 Co
Mass Calib.
Actual: 59.00
Required: 58.90 - 59.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:



115 In
Mass Calib.
Actual: 115.00
Required: 114.90 - 115.10
Flag:
Peak Width
Actual: 0.55
Required: 0.90
Flag:



205 Tl
Mass Calib.
Actual: 205.00
Required: 204.90 - 205.10
Flag:
Peak Width
Actual: 0.55
Required: 0.90
Flag:

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 209191 METALS Water: EPA 6020

Inst : MET06 Reviewer : ---
Calnum : 69019776001 Date : 13-JAN-2009 17:52
Units : ug/L X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	09a13r00004	69019776004		13-JAN-2009 18:02	S11083, S10858
L2	09a13r00005	69019776005		13-JAN-2009 18:12	S11084, S10858
L3	09a13r00006	69019776006		13-JAN-2009 18:22	S11085, S10858
L4	09a13r00007	69019776007		13-JAN-2009 18:31	S11086, S10858
L5	09a13r00008	69019776008		13-JAN-2009 18:41	S11077, S10858
L6	09a13r00009	69019776009		13-JAN-2009 18:51	S11080, S10858

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Cadmium	A	0.0366	0.0350	0.0374	0.0351	0.0351	0.0355	BLNK	-0.0055	28.2424		0.0358	1.000	0.995	
Lead	A	0.3444	0.3150	0.3225	0.3027	0.3087	0.3176	BLNK	-0.0057	3.16652		0.3185	1.000	0.995	
Silver	A	0.1689	0.1584	0.1568	0.1494	0.1569	0.1586	BLNK	-0.0072	6.31886		0.1582	1.000	0.995	
Arsenic	E	0.3007	0.3309	0.2937	0.2928	0.2954	0.2921	BLNK	-0.0423	3.41689		0.3009	1.000	0.995	
Chromium	E	18.210	6.7816	5.0752	3.5606	3.3491	3.3617	BLNK	-0.3613	0.29832		6.7231	1.000	0.995	
Copper	E	74.797	24.485	15.161	7.5974	6.5757	6.4013	BLNK	-0.9775	0.15625		22.503	1.000	0.995	
Nickel	E	5.2506	3.0215	2.5050	2.1955	2.0254	1.9886	BLNK	-0.1191	0.50127		2.8311	1.000	0.995	
Zinc	E	7.7586	2.9306	1.5988	0.7414	0.6250	0.6107	BLNK	-0.3482	1.63263		2.3775	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Cadmium	A	0.100	-2	0.500	-2	1.000	5	10.00	-1	100.0	-1	200.0	0
Lead	A	0.100	3	0.500	-1	1.000	2	10.00	-4	100.0	-2	200.0	1
Silver	A	0.100	0	0.500	-1	1.000	-2	10.00	-6	100.0	-1	200.0	0
Arsenic	E	0.100	-40	0.500	5	1.000	-4	10.00	0	100.0	1	200.0	0
Chromium	E	0.100	82	0.500	30	1.000	15	10.00	3	100.0	0	200.0	0
Copper	E	0.100	91	0.500	87	1.000	39	10.00	9	100.0	2	200.0	0
Nickel	E	0.100	44	0.500	28	1.000	14	10.00	9	100.0	1	200.0	0
Zinc	E	0.100	819	0.500	309	1.000	126	10.00	18	100.0	2	200.0	0

Instrument amount = a0 + response * a1 + response^2 * a2; BLNK=Y=aX+[blank]

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 209191 METALS Water
EPA 6020

Inst : MET06
Calnum : 69019776001 Cal Date : 13-JAN-2009

ICV 69019776010 (09a13r00010 13-JAN-2009) stds: S11088, S10858

Analyte	Ch	Average RF	RF	Spiked	Quant	Units	%D	Max	Flags
Cadmium	A	0.0358	0.0343	100.0	96.93	ug/L	-3	10	
Lead	A	0.3185	0.2967	100.0	93.95	ug/L	-6	10	
Silver	A	0.1582	0.1703	100.0	107.6	ug/L	8	10	
Arsenic	E	0.3009	0.2842	100.0	97.05	ug/L	-3	10	
Chromium	E	6.7231	3.1876	100.0	94.73	ug/L	-5	10	
Copper	E	22.503	6.2268	100.0	96.32	ug/L	-4	10	
Nickel	E	2.8311	1.9504	100.0	97.65	ug/L	-2	10	
Zinc	E	2.3775	0.5856	100.0	95.25	ug/L	-5	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69019776012 File : 09a13r00012 Time : 13-JAN-2009 19:20
Cal : 69019776001 Caldate : 13-JAN-2009

Analyte	Ch	Quant	IQL	2X MDL	Units	Flags
Cadmium	A	ND	0.1000	0.06044	ug/L	
Lead	A	ND	0.1000	0.05505	ug/L	
Silver	A	ND	0.1000	0.06124	ug/L	
Arsenic	E	ND	0.1000	0.06416	ug/L	
Chromium	E	[0.09270]	0.1000	0.03166	ug/L	!ib
Copper	E	ND	0.1000	0.07274	ug/L	
Nickel	E	ND	0.1000	0.08200	ug/L	
Zinc	E	ND	0.1000	0.3547	ug/L	

ISTD (ICALBLK 09a13r00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2730870	2682822	-1.76
Scandium	A	2917025	2920625	0.12
Scandium	E	17553	18840	7.33
Scandium	H	1340054	1366762	1.99
Germanium	H	297331	300464	1.05
Germanium	E	16131	17304	7.27
Indium	A	3952357	3872090	-2.03
Bismuth	A	4062434	3958503	-2.56
Yttrium	A	3894354	3866029	-0.73
Terbium	A	5789548	5720688	-1.19

!=warning ib=instrument blank

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69019776027 File : 09a13r00027 Time : 13-JAN-2009 21:45
Cal : 69019776001 Caldate : 13-JAN-2009
Standards: S11090, S10858

Analyte	Ch	Quant	IQL	Units	Flags
Cadmium	A	1.322	0.1000	ug/L	!a+
Lead	A	0.5467	0.1000	ug/L	!a+
Silver	A	0.2425	0.1000	ug/L	!a+
Arsenic	E	0.2827	0.1000	ug/L	!a+
Chromium	E	2.256	0.1000	ug/L	!a+
Copper	E	1.809	0.1000	ug/L	!a+
Nickel	E	1.306	0.1000	ug/L	!a+
Zinc	E	2.574	0.1000	ug/L	!a+

Interferent	Ch	Spiked	Quant	Units	%Rec
Aluminum	A	100000	109700	ug/L	110
Calcium	A	300000	346400	ug/L	115
Magnesium	A	100000	107400	ug/L	107
Molybdenum	A	2000	2280	ug/L	114
Potassium	A	100000	114600	ug/L	115
Sodium	E	250000	287700	ug/L	115
Iron	H	250000	282600	ug/L	113

ISTD (ICALBLK 09a13r00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2730870	1769713	-35.20
Scandium	A	2917025	2112802	-27.57
Scandium	E	17553	14149	-19.39
Scandium	H	1340054	896780	-33.08
Germanium	H	297331	179261	-39.71
Germanium	E	16131	11914	-26.14
Indium	A	3952357	2571565	-34.94
Bismuth	A	4062434	2411898	-40.63
Yttrium	A	3894354	2767732	-28.93
Terbium	A	5789548	3936056	-32.01

!=warning +=high bias a=ICSA

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69019776028 File : 09a13r00028 Time : 13-JAN-2009 21:55
Cal : 69019776001 Caldate : 13-JAN-2009
Standards: S11091, S10858

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Cadmium	A	100.0	99.58	ug/L	0	20	
Silver	A	50.00	49.37	ug/L	-1	20	
Arsenic	E	100.0	106.9	ug/L	7	20	
Chromium	E	200.0	207.5	ug/L	4	20	
Copper	E	200.0	194.9	ug/L	-3	20	
Nickel	E	200.0	185.2	ug/L	-7	20	
Zinc	E	100.0	95.91	ug/L	-4	20	

ISTD (ICALBLK 09a13r00003)	Ch	ICALBLK Abund	Abund	%Drift
Scandium	H	1340054	888552	-33.69
Scandium	A	2917025	2115635	-27.47
Scandium	E	17553	13552	-22.79
Germanium	H	297331	178788	-39.87
Germanium	E	16131	11373	-29.50
Indium	A	3952357	2574393	-34.86
Yttrium	A	3894354	2761412	-29.09

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69019776054 File : 09a13r00054 Time : 14-JAN-2009 02:08
Cal : 69019776001 Caldate : 13-JAN-2009
Standards: S11089, S10858

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Cadmium	A	0.0358	0.0323	100.0	91.19	ug/L	-9	10	
Lead	A	0.3185	0.2684	100.0	84.98	ug/L	**-15**	10	c- ***
Silver	A	0.1582	0.1662	100.0	105.0	ug/L	5	10	
Arsenic	E	0.3009	0.2735	100.0	93.40	ug/L	-7	10	
Chromium	E	6.7231	2.8794	100.0	85.53	ug/L	**-14**	10	c- i+ ***
Copper	E	22.503	5.8126	100.0	89.85	ug/L	-10	10	
Nickel	E	2.8311	1.7016	100.0	85.18	ug/L	**-15**	10	c- i+ ***
Zinc	E	2.3775	0.5501	100.0	89.47	ug/L	**-11**	10	c- ***

ISTD (ICALBLK 09a13r00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2730870	3746496	**37.19 ***
Scandium	A	2917025	3806485	**30.49 ***
Scandium	E	17553	22760	**29.66 ***
Scandium	H	1340054	1477157	10.23
Germanium	H	297331	315400	6.08
Germanium	E	16131	19276	19.50
Indium	A	3952357	4177803	5.70
Bismuth	A	4062434	3605419	-11.25
Yttrium	A	3894354	4527061	16.25
Terbium	A	5789548	5669216	-2.08

+=high bias -=low bias c=CCV i=ISTD failure

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69019776056 File : 09a13r00056 Time : 14-JAN-2009 02:28
Cal : 69019776001 Caldate : 13-JAN-2009

Analyte	Ch	Quant	IQL	2X MDL	Units	Flags
Cadmium	A	ND	0.1000	0.06044	ug/L	
Lead	A	ND	0.1000	0.05505	ug/L	
Silver	A	ND	0.1000	0.06124	ug/L	
Arsenic	E	ND	0.1000	0.06416	ug/L	i+ ***
Chromium	E	ND	0.1000	0.03166	ug/L	i+ ***
Copper	E	ND	0.1000	0.07274	ug/L	i+ ***
Nickel	E	ND	0.1000	0.08200	ug/L	i+ ***
Zinc	E	ND	0.1000	0.3547	ug/L	i+ ***

ISTD (ICALBLK 09a13r00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2730870	3788973	**38.75 ***
Scandium	A	2917025	3702449	**26.93 ***
Scandium	E	17553	22540	**28.41 ***
Scandium	H	1340054	1518277	13.30
Germanium	H	297331	327362	10.10
Germanium	E	16131	19556	**21.23 ***
Indium	A	3952357	4352817	10.13
Bismuth	A	4062434	3829666	-5.73
Yttrium	A	3894354	4513591	15.90
Terbium	A	5789548	5754538	-0.60

+=high bias i=ISTD failure

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69019776065 File : 09a13r00065 Time : 14-JAN-2009 03:56
Cal : 69019776001 Caldate : 13-JAN-2009
Standards: S11089, S10858

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Cadmium	A	0.0358	0.0316	100.0	89.27	ug/L	**-11**	10	c- ***
Lead	A	0.3185	0.2744	100.0	86.88	ug/L	**-13**	10	c- ***
Silver	A	0.1582	0.1635	100.0	103.3	ug/L	3	10	
Arsenic	E	0.3009	0.2764	100.0	94.39	ug/L	-6	10	
Chromium	E	6.7231	2.9623	100.0	88.01	ug/L	**-12**	10	c- ***
Copper	E	22.503	5.7800	100.0	89.34	ug/L	**-11**	10	c- ***
Nickel	E	2.8311	1.7720	100.0	88.70	ug/L	**-11**	10	c- ***
Zinc	E	2.3775	0.5520	100.0	89.77	ug/L	-10	10	

ISTD (ICALBLK 09a13r00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2730870	3205277	17.37
Scandium	A	2917025	3440997	17.96
Scandium	E	17553	20413	16.29
Scandium	H	1340054	1357019	1.27
Germanium	H	297331	294268	-1.03
Germanium	E	16131	18160	12.58
Indium	A	3952357	4006935	1.38
Bismuth	A	4062434	3585291	-11.75
Yttrium	A	3894354	4217497	8.30
Terbium	A	5789548	5524365	-4.58

-=low bias c=CCV

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69019776069 File : 09a13r00069 Time : 14-JAN-2009 04:33
Cal : 69019776001 Caldate : 13-JAN-2009

Analyte	Ch	Quant	IQL	2X MDL	Units	Flags
Cadmium	A	ND	0.1000	0.06044	ug/L	
Lead	A	ND	0.1000	0.05505	ug/L	
Silver	A	ND	0.1000	0.06124	ug/L	
Arsenic	E	ND	0.1000	0.06416	ug/L	
Chromium	E	ND	0.1000	0.03166	ug/L	
Copper	E	ND	0.1000	0.07274	ug/L	
Nickel	E	ND	0.1000	0.08200	ug/L	
Zinc	E	ND	0.1000	0.3547	ug/L	

ISTD (ICALBLK 09a13r00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2730870	3250823	19.04
Scandium	A	2917025	3427429	17.50
Scandium	E	17553	20535	16.99
Scandium	H	1340054	1376123	2.69
Germanium	H	297331	297563	0.08
Germanium	E	16131	18392	14.02
Indium	A	3952357	4239694	7.27
Bismuth	A	4062434	3951090	-2.74
Yttrium	A	3894354	4360678	11.97
Terbium	A	5789548	5780579	-0.15

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69019776070 File : 09a13r00070 Time : 14-JAN-2009 04:42
Cal : 69019776001 Caldate : 13-JAN-2009
Standards: S11090, S10858

Analyte	Ch	Quant	IQL	Units	Flags
Cadmium	A	1.465	0.1000	ug/L	!a+
Lead	A	0.5177	0.1000	ug/L	!a+
Silver	A	0.2270	0.1000	ug/L	!a+
Arsenic	E	0.2135	0.1000	ug/L	!a+
Chromium	E	2.113	0.1000	ug/L	!a+
Copper	E	1.721	0.1000	ug/L	!a+
Nickel	E	1.205	0.1000	ug/L	!a+
Zinc	E	2.432	0.1000	ug/L	!a+

Interferent	Ch	Spiked	Quant	Units	%Rec
Aluminum	A	100000	110300	ug/L	110
Calcium	A	300000	341400	ug/L	114
Magnesium	A	100000	108100	ug/L	108
Molybdenum	A	2000	2227	ug/L	111
Potassium	A	100000	115900	ug/L	116
Sodium	E	250000	277200	ug/L	111
Iron	H	250000	278100	ug/L	111

ISTD (ICALBLK 09a13r00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2730870	2115165	-22.55
Scandium	A	2917025	2517498	-13.70
Scandium	E	17553	16123	-8.15
Scandium	H	1340054	960911	-28.29
Germanium	H	297331	190593	-35.90
Germanium	E	16131	12980	-19.53
Indium	A	3952357	2784090	-29.56
Bismuth	A	4062434	2472458	-39.14
Yttrium	A	3894354	3083258	-20.83
Terbium	A	5789548	4089941	-29.36

!=warning +=high bias a=ICSA

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69019776071 File : 09a13r00071 Time : 14-JAN-2009 04:52
Cal : 69019776001 Caldate : 13-JAN-2009
Standards: S11091, S10858

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Cadmium	A	100.0	96.84	ug/L	-3	20	
Silver	A	50.00	48.45	ug/L	-3	20	
Arsenic	E	100.0	103.8	ug/L	4	20	
Chromium	E	200.0	199.2	ug/L	0	20	
Copper	E	200.0	186.8	ug/L	-7	20	
Nickel	E	200.0	175.9	ug/L	-12	20	
Zinc	E	100.0	90.82	ug/L	-9	20	

ISTD (ICALBLK 09a13r00003)	Ch	ICALBLK Abund	Abund	%Drift
Scandium	H	1340054	927556	-30.78
Scandium	A	2917025	2492467	-14.55
Scandium	E	17553	14957	-14.79
Germanium	H	297331	185431	-37.63
Germanium	E	16131	12336	-23.53
Indium	A	3952357	2791947	-29.36
Yttrium	A	3894354	3103202	-20.32

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 69020797

Instrument : MET06 Begun : 01/14/09 10:37
Method : EPA 6020 SOP Version : icpms_rv5

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	09a14k00001	TUN				01/14/09 10:37	1.0	1	
002	09a14k00002	X	RINSE			01/14/09 10:44	1.0	2	
003	09a14k00003	ICALBLK	CALBLANK			01/14/09 10:53	1.0	2	
004	09a14k00004	ICAL				01/14/09 11:03	1.0	3 2	
005	09a14k00005	ICAL				01/14/09 11:13	1.0	4 2	
006	09a14k00006	ICAL				01/14/09 11:23	1.0	5 2	
007	09a14k00007	ICAL				01/14/09 11:32	1.0	6 2	
008	09a14k00008	ICAL				01/14/09 11:42	1.0	7 2	
009	09a14k00009	ICAL				01/14/09 11:52	1.0	8 2	
010	09a14k00010	ICV				01/14/09 12:01	1.0	9 2	
011	09a14k00011	X				01/14/09 12:16	1.0	2	
012	09a14k00012	ICB				01/14/09 12:26	1.0	2	
013	09a14k00013	ICSA				01/14/09 12:36	1.0	10 2	7:CA=310000
014	09a14k00014	ICSAB				01/14/09 12:46	1.0	11 2	11:CA=320000
015	09a14k00015	X	RINSE			01/14/09 12:56	1.0	2	
016	09a14k00016	X	RINSE			01/14/09 13:14	1.0	2	
017	09a14k00017	MSS	209180-002	Water	146874	01/14/09 13:37	5.0	2	
018	09a14k00018	SER	QC479024	Water	146874	01/14/09 13:46	25.0	2	
019	09a14k00019	MS	QC479022	Water	146874	01/14/09 13:56	5.0	2	
020	09a14k00020	MSD	QC479023	Water	146874	01/14/09 14:06	5.0	2	
021	09a14k00021	PDS	QC479025	Water	146874	01/14/09 14:15	5.0	12 13 2	1:NA=22000
022	09a14k00022	X				01/14/09 14:46	1.0	14 2	
023	09a14k00023	CCV				01/14/09 14:55	1.0	14 2	
024	09a14k00024	X				01/14/09 15:05	1.0	2	
025	09a14k00025	CCB				01/14/09 15:15	1.0	2	
026	09a14k00026	BLANK	QC479174	Filtrate	146911	01/14/09 15:25	1.0	2	
027	09a14k00027	BS	QC479175	Filtrate	146911	01/14/09 15:34	1.0	2	
028	09a14k00028	BSD	QC479176	Filtrate	146911	01/14/09 15:45	1.0	2	
029	09a14k00029	MSS	209202-001	Filtrate	146911	01/14/09 15:55	1000	2	
030	09a14k00030	SAMPLE	209195-002	Water	146911	01/14/09 16:04	5.0	2	
031	09a14k00031	SAMPLE	209195-003	Water	146911	01/14/09 16:14	5.0	2	3:CA=39000
032	09a14k00032	SAMPLE	209195-004	Water	146911	01/14/09 16:24	5.0	2	1:CA=30000
033	09a14k00033	SAMPLE	209195-005	Water	146911	01/14/09 16:34	5.0	2	1:CA=30000
034	09a14k00034	SAMPLE	209191-018	Water	146911	01/14/09 16:43	5.0	2	9:FE=170000
035	09a14k00035	SAMPLE	209191-018	Water	146911	01/14/09 16:53	50.0	2	2:FE=31000
036	09a14k00036	CCV				01/14/09 17:03	1.0	14 2	
037	09a14k00037	X				01/14/09 17:12	1.0	2	
038	09a14k00038	CCB				01/14/09 17:22	1.0	2	
039	09a14k00039	SER	QC479179	Filtrate	146911	01/14/09 17:32	5000	2	
040	09a14k00040	MS	QC479177	Filtrate	146911	01/14/09 17:42	1000	2	
041	09a14k00041	MSD	QC479178	Filtrate	146911	01/14/09 17:52	1000	2	
042	09a14k00042	PDS	QC479180	Filtrate	146911	01/14/09 18:01	1000	12 13 2	
043	09a14k00043	SAMPLE	209202-002	Filtrate	146911	01/14/09 18:11	1000	2	
044	09a14k00044	SAMPLE	209202-003	Filtrate	146911	01/14/09 18:21	1000	2	
045	09a14k00045	SAMPLE	209202-004	Filtrate	146911	01/14/09 18:31	1000	2	
046	09a14k00046	SAMPLE	209202-005	Filtrate	146911	01/14/09 18:40	1000	2	
047	09a14k00047	SAMPLE	209202-006	Filtrate	146911	01/14/09 18:50	1000	2	
048	09a14k00048	X				01/14/09 19:00	1.0	14 2	
049	09a14k00049	X				01/14/09 19:09	1.0	14 2	
050	09a14k00050	CCV				01/14/09 19:19	1.0	14 2	
051	09a14k00051	CCB				01/14/09 20:44	1.0	2	
052	09a14k00052	X				01/14/09 20:54	1.0	2	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 69020797

Instrument : MET06 Begun : 01/14/09 10:37
Method : EPA 6020 SOP Version : icpms_rv5

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	09a14k00053	ICSA				01/14/09 21:04	1.0	10 2	7:CA=310000
054	09a14k00054	TUN				01/14/09 21:15	1.0	1	
055	09a14k00055	X	RINSE			01/14/09 21:21	1.0	2	
056	09a14k00056	ICSAB				01/14/09 21:31	1.0	11 2	11:CA=310000
057	09a14k00057	X	RINSE			01/14/09 21:41	1.0	2	
058	09a14k00058	X	RINSE			01/14/09 21:51	1.0	2	
059	09a14k00059	MSS	209202-001	Filtrate	146911	01/14/09 22:01	100.0	2	1:NA=67000
060	09a14k00060	SER	QC479179	Filtrate	146911	01/14/09 22:10	500.0	2	
061	09a14k00061	MS	QC479177	Filtrate	146911	01/14/09 22:20	100.0	2	1:NA=69000
062	09a14k00062	MSD	QC479178	Filtrate	146911	01/14/09 22:30	100.0	2	1:NA=67000
063	09a14k00063	PDS	QC479180	Filtrate	146911	01/14/09 22:40	100.0	12 13 2	1:NA=79000
064	09a14k00064	SAMPLE	209202-002	Filtrate	146911	01/14/09 22:49	100.0	2	1:NA=66000
065	09a14k00065	SAMPLE	209202-003	Filtrate	146911	01/14/09 22:59	100.0	2	1:NA=63000
066	09a14k00066	SAMPLE	209202-004	Filtrate	146911	01/14/09 23:09	100.0	2	1:NA=67000
067	09a14k00067	CCV				01/14/09 23:19	1.0	14 2	
068	09a14k00068	X				01/14/09 23:28	1.0	2	
069	09a14k00069	CCB				01/14/09 23:38	1.0	2	
070	09a14k00070	SAMPLE	209202-005	Filtrate	146911	01/14/09 23:46	100.0	2	1:NA=65000
071	09a14k00071	SAMPLE	209202-006	Filtrate	146911	01/14/09 23:56	100.0	2	1:NA=32000
072	09a14k00072	SAMPLE	209195-003	Water	146911	01/15/09 00:06	50.0	2	
073	09a14k00073	CCV				01/15/09 00:16	1.0	14 2	
074	09a14k00074	X				01/15/09 00:25	1.0	2	
075	09a14k00075	CCB				01/15/09 00:35	1.0	2	
076	09a14k00076	ICSA				01/15/09 00:41	1.0	10 2	7:CA=310000
077	09a14k00077	ICSAB				01/15/09 00:51	1.0	11 2	10:CA=320000
078	09a14k00078	X	RINSE			01/15/09 01:01	1.0	2	
079	09a14k00079	X	RINSE			01/15/09 01:11	1.0	2	
080	09a14k00080	BLANK	QC479323	Water	146945	01/15/09 01:21	1.0	2	
081	09a14k00081	BS	QC479324	Water	146945	01/15/09 01:30	1.0	2	
082	09a14k00082	BSD	QC479325	Water	146945	01/15/09 01:40	1.0	2	
083	09a14k00083	MSS	209238-003	Water	146945	01/15/09 01:50	500.0	2	1:MN=860
084	09a14k00084	SER	QC479328	Water	146945	01/15/09 01:59	2500	2	
085	09a14k00085	MS	QC479326	Water	146945	01/15/09 02:09	500.0	2	
086	09a14k00086	MSD	QC479327	Water	146945	01/15/09 02:19	500.0	2	
087	09a14k00087	PDS	QC479329	Water	146945	01/15/09 02:29	500.0	12 13 2	
088	09a14k00088	CCV				01/15/09 02:38	1.0	14 2	
089	09a14k00089	X				01/15/09 02:48	1.0	2	
090	09a14k00090	CCB				01/15/09 02:58	1.0	2	
091	09a14k00091	SAMPLE	209238-004	Water	146945	01/15/09 03:07	500.0	2	1:MN=270
092	09a14k00092	SAMPLE	209238-005	Water	146945	01/15/09 03:17	500.0	2	1:MN=840
093	09a14k00093	SAMPLE	209238-006	Water	146945	01/15/09 03:27	500.0	2	1:MN=790
094	09a14k00094	SAMPLE	209238-007	Water	146945	01/15/09 03:37	500.0	2	
095	09a14k00095	SAMPLE	209238-008	Water	146945	01/15/09 03:47	500.0	2	
096	09a14k00096	SAMPLE	209238-009	Water	146945	01/15/09 03:56	500.0	2	
097	09a14k00097	CCV				01/15/09 04:06	1.0	14 2	
098	09a14k00098	X				01/15/09 04:16	1.0	2	
099	09a14k00099	CCB				01/15/09 04:26	1.0	2	
100	09a14k00100	MSS	209238-003	Water	146945	01/15/09 04:35	5.0	2	4:K=180000
101	09a14k00101	SER	QC479328	Water	146945	01/15/09 04:45	25.0	2	
102	09a14k00102	MS	QC479326	Water	146945	01/15/09 04:55	5.0	2	3:K=170000
103	09a14k00103	MSD	QC479327	Water	146945	01/15/09 05:04	5.0	2	3:K=180000
104	09a14k00104	PDS	QC479329	Water	146945	01/15/09 05:14	5.0	12 13 2	1:K=180000

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 69020797

Instrument : MET06 Begun : 01/14/09 10:37
Method : EPA 6020 SOP Version : icpms_rv5

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
105	09a14k00105	SAMPLE	209238-004	Water	146945	01/15/09 05:24	5.0	2	3:CA=48000
106	09a14k00106	SAMPLE	209238-005	Water	146945	01/15/09 05:33	5.0	2	6:MN=79000
107	09a14k00107	SAMPLE	209238-006	Water	146945	01/15/09 05:43	5.0	2	4:MN=76000
108	09a14k00108	SAMPLE	209238-007	Water	146945	01/15/09 05:53	5.0	2	1:CA=28000
109	09a14k00109	SAMPLE	209238-008	Water	146945	01/15/09 06:03	5.0	2	3:CA=30000
110	09a14k00110	CCV				01/15/09 06:12	1.0	14 2	
111	09a14k00111	X				01/15/09 06:22	1.0	2	
112	09a14k00112	CCB				01/15/09 06:32	1.0	2	
113	09a14k00113	SAMPLE	209238-009	Water	146945	01/15/09 06:42	5.0	2	3:CA=33000
114	09a14k00114	SAMPLE	209235-002	Water	146945	01/15/09 06:51	5.0	2	1:NA=25000
115	09a14k00115	CCV				01/15/09 07:01	1.0	14 2	
116	09a14k00116	X				01/15/09 07:11	1.0	2	
117	09a14k00117	CCB				01/15/09 07:21	1.0	2	
118	09a14k00118	ICSA				01/15/09 07:30	1.0	10 2	7:CA=310000
119	09a14k00119	ICSAB				01/15/09 07:40	1.0	11 2	11:CA=320000

JYF 01/15/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 119.

Standards used: 1=S11076 2=S10858 3=S11083 4=S11084 5=S11085 6=S11086 7=S11077 8=S11080 9=S11088 10=S11090 11=S11091 12=S10997 13=S10998 14=S11089

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 69020797

Date : 01/14/09 Reference : 09a14k00003
Sequence : MET06 09a14k00 Analyzed : 01/14/09 10:53

#	Type	Sample ID	LI A	SC A	SC E	SC H	GE H	GE E	IN A	BI A	Y A	TB A
		IB+ICALBLK STD	2988290	3278587	23555	1141980	265477	20454	4168616	3816885	4281123	5629513
		LOWER LIMIT	896487	983576	7067	342594	79643	6136	1250585	1145066	1284337	1688854
		UPPER LIMIT	3585948	3934304	28266	1370376	318572	24545	5002339	4580262	5137348	6755416
012	ICB		2859690	3110883	24520	1138816	268843	21424	3959833	3694796	4056073	5451671
013	ICSA		1877740	2342595	19597	845989	180671	15480	2636524	2397250	2938134	3980438
014	ICSAB		1845096	2255703	18373	791420	171686	14395	2624971	2365894	2894026	3949813
018	SER	QC479024	2861289	3126925	23993	1088662	259378	20795	4122781	3760033	4202862	5557514
019	MS	QC479022	2483073	2883635	22391	1044469	245701	19663	3772938	3417527	3848100	5264113
020	MSD	QC479023	2515793	2915073	23178	1064354	248522	20376	3820263	3487605	3914257	5359422
021	PDS	QC479025	2468892	2883715	22703	1043075	242362	19460	3668718	3343867	3825830	5221387
023	CCV		2581381	2942853	24000	1068785	250763	20822	3664347	3334875	3851060	5194104
025	CCB		2728264	2992903	23782	1079827	254361	21245	3889501	3611144	3955011	5324837
026	BLANK	QC479174	2287473	2785572	22537	1032641	241146	19744	3715487	3539632	3842861	5310062
027	BS	QC479175	2190235	2691029	21921	963953	224905	18634	3541905	3351998	3688565	5131993
028	BSD	QC479176	2202028	2716151	22227	984353	227949	19167	3577088	3380193	3706018	5269476
029	MSS	209202-001	2541596	2887419	23658	1070514	250728	20924	3789920	3541374	3829835	5182821
030	SAMPLE	209195-002	2597442	2939844	23070	1021445	241946	20099	3954310	3682735	3984874	5414109
031	SAMPLE	209195-003	2327569	2801590	21782	985032	230866	19425	3589183	3391221	3903828	5145194
032	SAMPLE	209195-004	2436709	2791407	22670	1016937	237508	19930	3627759	3386975	3702895	5094830
033	SAMPLE	209195-005	2422284	2795163	22415	993207	234467	19655	3618881	3364392	3718263	5077581
034	SAMPLE	209191-018	2064617	4856840 *	39315 *	1662153 *	194472	18208	3023396	2790857	4568887	4461092
035	SAMPLE	209191-018	2538821	3194450	25799	1105920	235977	20467	3730035	3449088	4011248	5230779
036	CCV		2535467	2911546	23299	1002623	235084	20548	3614512	3286765	3821900	5041980
038	CCB		2567956	2945055	24351	1018481	243766	21474	3818118	3546343	3919379	5223598
039	SER	QC479179	2656193	3027308	24819	1077298	252143	21793	3911644	3651890	4045115	5364708
040	MS	QC479177	2556551	2957028	24134	1025790	243694	21261	3785986	3487810	3908925	5127604
041	MSD	QC479178	2564679	3012072	24356	1050909	247839	21515	3885352	3602968	3998338	5255014
042	PDS	QC479180	2567703	2933822	23996	1007640	233537	20407	3630645	3345884	3863046	5122597
043	SAMPLE	209202-002	2559466	2932424	23636	1012521	239392	20974	3857346	3556965	3896843	5211793
044	SAMPLE	209202-003	2549040	2932358	23174	1040196	246598	20693	3818953	3539114	3916988	5237576
045	SAMPLE	209202-004	2549351	2936939	23528	1023158	242020	20899	3816635	3569503	3929730	5236266
046	SAMPLE	209202-005	2566600	2911316	23861	1041904	246258	20921	3784953	3520010	3890620	5207254
047	SAMPLE	209202-006	2612071	2974560	24106	1032958	244363	21070	3934990	3639274	3979955	5373744
050	CCV		2435963	2849089	22951	965166	228948	19942	3558102	3307065	3740244	5006785
051	CCB		2713297	3007910	24973	1070144	255484	23021	3987472	3675347	4065415	5407876
053	ICSA		1666677	2170817	18690	737088	162245	15080	2554741	2346896	2810894	3853808
056	ICSAB		1581939	2103747	16676	661185	147189	13556	2499839	2322421	2749829	3807077
059	MSS	209202-001	2419148	2864059	22919	904500	210514	19650	3556993	3159293	3746164	4896064
060	SER	QC479179	2490363	2855187	22538	925996	220017	19664	3741217	3404122	3820162	5081624
061	MS	QC479177	2440497	2869348	22512	888010	208181	19169	3562953	3200106	3761214	4964978
062	MSD	QC479178	2400353	2852394	22350	910429	212578	19291	3525684	3138311	3733065	4813911
063	PDS	QC479180	2284785	2802901	21709	880952	203712	18353	3427379	3103125	3658971	4851243
064	SAMPLE	209202-002	2466548	2900736	22384	897757	209450	19463	3621409	3199064	3805516	4972697
065	SAMPLE	209202-003	2455630	2852721	22073	898445	209406	19154	3566774	3167965	3718230	4942721
066	SAMPLE	209202-004	2396871	2827185	22746	936516	218684	19453	3516751	3144269	3702719	4904281
067	CCV		2370757	2775912	22469	915804	214233	19333	3568231	3279960	3766134	5044844
069	CCB		2402912	2770561	22118	920722	219820	19577	3706690	3453442	3776869	5039510
070	SAMPLE	209202-005	2372337	2838899	22361	902386	209552	19472	3558498	3177664	3747998	4973370
071	SAMPLE	209202-006	2349395	2789669	21829	894326	208984	19272	3574815	3262913	3734503	4984269
072	SAMPLE	209195-003	2275027	2662923	21200	895396	216031	19167	3584314	3389948	3696491	4965234
073	CCV		2350081	2862417	22257	903671	214727	19472	3627742	3333343	3833631	5117814

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 69020797

Date : 01/14/09 Reference : 09a14k00003
Sequence : MET06 09a14k00 Analyzed : 01/14/09 10:53

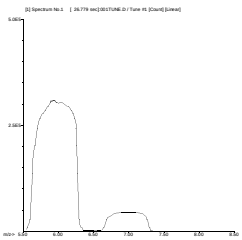
#	Type	Sample ID	LI A	SC A	SC E	SC H	GE H	GE E	IN A	BI A	Y A	TB A
075	CCB		2373486	2831348	22080	923084	219835	19623	3761530	3562244	3858381	5190857
076	ICSA		1513988	2045125	16802	656266	146006	13701	2438177	2262982	2675750	3714545
077	ICSAB		1499974	2036743	16590	628751	141282	13335	2431498	2250228	2680296	3691451
080	BLANK	QC479323	1948586	2576731	20104	831487	200309	18304	3625460	3418707	3702798	5119938
081	BS	QC479324	2024262	2619377	20385	832877	197176	18071	3530642	3247288	3697698	5023640
082	BSD	QC479325	1947102	2579658	20050	807423	191869	17721	3438315	3182622	3605134	4989567
083	MSS	209238-003	2271442	2769349	21094	867326	207952	18869	3777481	3460532	3830521	5125809
084	SER	QC479328	2264990	2823671	21599	894602	215887	19289	3807979	3518843	3885724	5210150
085	MS	QC479326	2224461	2774051	21164	846416	206929	19152	3729260	3486900	3804477	5074791
086	MSD	QC479327	2278378	2813915	21963	877046	210996	19509	3811866	3537789	3877499	5165266
087	PDS	QC479329	2191190	2739788	21606	876656	207695	19077	3556526	3251010	3731705	4976569
088	CCV		2231337	2772222	21423	855503	203969	18816	3593337	3285132	3774358	5030841
090	CCB		2244878	2772479	21456	877260	209719	19404	3757945	3480963	3827740	5102994
091	SAMPLE	209238-004	2280773	2766358	21497	872371	211978	19538	3781415	3533648	3856423	5166891
092	SAMPLE	209238-005	2148742	2653903	21129	867520	211153	19244	3645386	3411267	3689437	4935862
093	SAMPLE	209238-006	2250540	2809683	21916	881491	213695	19744	3811797	3536643	3895785	5199583
094	SAMPLE	209238-007	2275180	2820763	21416	887141	213674	19454	3858710	3562344	3920688	5243794
095	SAMPLE	209238-008	2233087	2796673	21597	885632	214246	19635	3819388	3511551	3864591	5197065
096	SAMPLE	209238-009	2188144	2799244	21697	887777	212826	19695	3793230	3524385	3878375	5180630
097	CCV		2223077	2819131	21129	842996	200540	18745	3633521	3291345	3813444	5061342
099	CCB		2268980	2759478	21560	870400	210851	19209	3750867	3531515	3828597	5136996
100	MSS	209238-003	2086587	2553708	19636	773283	181285	16487	3148166	2875947	3376208	4538610
101	SER	QC479328	2336626	2726118	20664	838765	199377	18125	3580305	3312436	3740862	5007496
102	MS	QC479326	2215610	2644929	20323	791506	182714	16860	3286999	2936062	3518101	4634669
103	MSD	QC479327	2232237	2715153	20833	795205	183899	17295	3280329	2931642	3567458	4657485
104	PDS	QC479329	2234443	2676978	20526	776361	181956	16853	3227147	2862034	3520471	4619171
105	SAMPLE	209238-004	2082275	2612270	19579	787732	185574	17081	3481259	3148088	3638853	4910913
106	SAMPLE	209238-005	2091229	2666646	20016	773800	179361	16711	3286420	2999717	3686733	4712807
107	SAMPLE	209238-006	2005213	2629619	19253	731040	175769	16567	3388486	3038873	3635953	4846588
108	SAMPLE	209238-007	2242467	2779048	20813	776959	188201	18384	3690048	3289555	3824555	5097116
109	SAMPLE	209238-008	2245733	2827319	20893	821293	190991	18202	3598444	3247595	3862964	5056435
110	CCV		2261774	2759418	20934	768550	190389	18184	3613908	3334491	3795552	5082274
112	CCB		2358069	2773222	20981	808686	197747	18919	3853938	3510823	3890807	5156185
113	SAMPLE	209238-009	2150822	2650517	20261	758086	187398	17937	3553103	3223477	3679201	4880173
115	CCV		2124275	2713927	21803	783069	192341	19052	3537805	3256943	3747057	4989876
117	CCB		2246903	2746309	21085	819133	198295	19097	3740783	3494817	3818245	5115493
118	ICSA		1478050	2046647	16546	597603	136116	13702	2468297	2260441	2714768	3730741
119	ICSAB		1353871	1930302	14940	543420	124306	12319	2424639	2238770	2616601	3669451

MET06 QC Tune Report

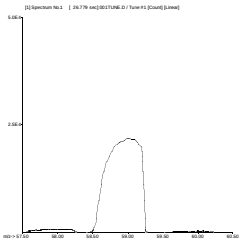
Data File: C:\ICPCHEM\1\DATA\09A14k00.B\001TUNE.D
Date Acquired: Jan 14 2009 10:37 am
Acq. Method: TN6020.M
Operator:
Sample Name: tun,s11076
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\TN6020.M

RSD (%)

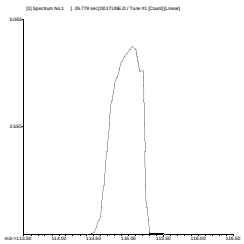
Element	Actual	Required	Flag
7 Li	0.86	5.00	
59 Co	1.16	5.00	
115 In	0.96	5.00	
205 Tl	1.50	5.00	



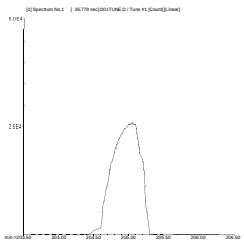
7 Li
Mass Calib.
Actual: 7.00
Required: 6.90 - 7.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:



59 Co
Mass Calib.
Actual: 59.00
Required: 58.90 - 59.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:



115 In
Mass Calib.
Actual: 115.00
Required: 114.90 - 115.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:



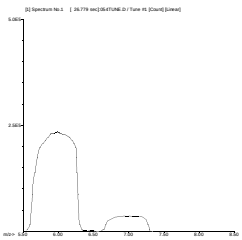
205 Tl
Mass Calib.
Actual: 205.00
Required: 204.90 - 205.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:

MET06 QC Tune Report

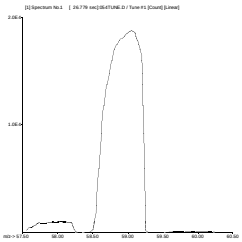
Data File: C:\ICPCHEM\1\DATA\09A14k00.B\054TUNE.D
Date Acquired: Jan 14 2009 09:15 pm
Acq. Method: TN6020.M
Operator:
Sample Name: tun,s11076
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\TN6020.M

RSD (%)

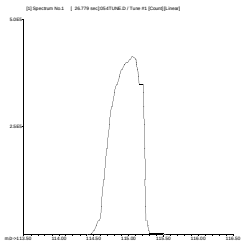
Element	Actual	Required	Flag
7 Li	1.50	5.00	
59 Co	0.74	5.00	
115 In	1.39	5.00	
205 Tl	1.05	5.00	



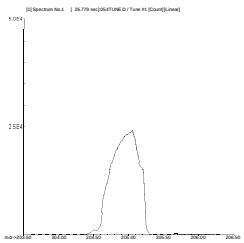
7 Li
Mass Calib.
Actual: 7.00
Required: 6.90 - 7.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:



59 Co
Mass Calib.
Actual: 59.00
Required: 58.90 - 59.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:



115 In
Mass Calib.
Actual: 115.00
Required: 114.90 - 115.10
Flag:
Peak Width
Actual: 0.55
Required: 0.90
Flag:



205 Tl
Mass Calib.
Actual: 205.00
Required: 204.90 - 205.10
Flag:
Peak Width
Actual: 0.55
Required: 0.90
Flag:

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 209191 METALS Water: EPA 6020

Inst : MET06 Reviewer : ---
Calnum : 69020797001 Date : 14-JAN-2009 10:53
Units : ug/L X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	09a14k00004	69020797004		14-JAN-2009 11:03	S11083, S10858
L2	09a14k00005	69020797005		14-JAN-2009 11:13	S11084, S10858
L3	09a14k00006	69020797006		14-JAN-2009 11:23	S11085, S10858
L4	09a14k00007	69020797007		14-JAN-2009 11:32	S11086, S10858
L5	09a14k00008	69020797008		14-JAN-2009 11:42	S11077, S10858
L6	09a14k00009	69020797009		14-JAN-2009 11:52	S11080, S10858

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Cadmium	A	0.0381	0.0341	0.0342	0.0343	0.0341	0.0344	BLNK	-0.0062	29.1498		0.0349	1.000	0.995	
Lead	A	0.3454	0.3101	0.3116	0.2919	0.2925	0.3008	BLNK	-0.0065	3.34290		0.3087	1.000	0.995	
Silver	A	0.1679	0.1517	0.1513	0.1498	0.1536	0.1527	BLNK	-0.0105	6.54007		0.1545	1.000	0.995	
Arsenic	E	0.2871	0.2893	0.2905	0.2745	0.2728	0.2784	BLNK	-0.0353	3.60714		0.2821	1.000	0.995	
Chromium	E	17.065	5.7313	4.4700	2.9283	2.7919	2.7346	BLNK	-0.4485	0.36512		5.9535	1.000	0.995	
Copper	E	61.502	18.626	12.322	6.2185	5.3035	5.2924	BLNK	-0.9480	0.18991		18.211	1.000	0.995	
Nickel	E	4.2539	2.1918	2.0397	1.6840	1.5912	1.5511	BLNK	-0.1509	0.64188		2.2186	1.000	0.995	
Zinc	E	7.1704	2.7713	1.5274	0.6555	0.5552	0.5510	BLNK	-0.4059	1.81596		2.2051	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Cadmium	A	0.100	5	0.500	-2	1.000	-1	10.00	0	100.0	-1	200.0	0
Lead	A	0.100	9	0.500	2	1.000	4	10.00	-2	100.0	-2	200.0	1
Silver	A	0.100	-1	0.500	-3	1.000	-2	10.00	-2	100.0	0	200.0	0
Arsenic	E	0.100	-32	0.500	-3	1.000	1	10.00	-1	100.0	-2	200.0	0
Chromium	E	0.100	75	0.500	20	1.000	18	10.00	2	100.0	1	200.0	0
Copper	E	0.100	120	0.500	64	1.000	39	10.00	9	100.0	0	200.0	0
Nickel	E	0.100	22	0.500	11	1.000	16	10.00	7	100.0	2	200.0	-1
Zinc	E	0.100	796	0.500	322	1.000	137	10.00	15	100.0	0	200.0	0

Instrument amount = a0 + response * a1 + response^2 * a2; BLNK=Y=aX+[blank]

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 209191 METALS Water
EPA 6020

Inst : MET06
Calnum : 69020797001 Cal Date : 14-JAN-2009

ICV 69020797010 (09a14k00010 14-JAN-2009) stds: S11088, S10858

Analyte	Ch	Average RF	RF	Spiked	Quant	Units	%D	Max	Flags
Cadmium	A	0.0349	0.0336	100.0	97.90	ug/L	-2	10	
Lead	A	0.3087	0.2853	100.0	95.37	ug/L	-5	10	
Silver	A	0.1545	0.1667	100.0	109.0	ug/L	9	10	
Arsenic	E	0.2821	0.2718	100.0	98.00	ug/L	-2	10	
Chromium	E	5.9535	2.6363	100.0	95.81	ug/L	-4	10	
Copper	E	18.211	5.1127	100.0	96.15	ug/L	-4	10	
Nickel	E	2.2186	1.5170	100.0	97.22	ug/L	-3	10	
Zinc	E	2.2051	0.5311	100.0	96.05	ug/L	-4	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69020797012 File : 09a14k00012 Time : 14-JAN-2009 12:26
Cal : 69020797001 Caldate : 14-JAN-2009

Analyte	Ch	Quant	IQL	2X MDL	Units	Flags
Cadmium	A	ND	0.1000	0.06044	ug/L	
Lead	A	ND	0.1000	0.05505	ug/L	
Silver	A	ND	0.1000	0.06124	ug/L	
Arsenic	E	ND	0.1000	0.06416	ug/L	
Chromium	E	ND	0.1000	0.03166	ug/L	
Copper	E	ND	0.1000	0.07274	ug/L	
Nickel	E	ND	0.1000	0.08200	ug/L	
Zinc	E	ND	0.1000	0.3547	ug/L	

ISTD (ICALBLK 09a14k00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2988290	2859690	-4.30
Scandium	A	3278587	3110883	-5.12
Scandium	E	23555	24520	4.10
Scandium	H	1141980	1138816	-0.28
Germanium	H	265477	268843	1.27
Germanium	E	20454	21424	4.74
Indium	A	4168616	3959833	-5.01
Bismuth	A	3816885	3694796	-3.20
Yttrium	A	4281123	4056073	-5.26
Terbium	A	5629513	5451671	-3.16

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69020797013 File : 09a14k00013 Time : 14-JAN-2009 12:36
Cal : 69020797001 Caldate : 14-JAN-2009
Standards: S11090, S10858

Analyte	Ch	Quant	IQL	Units	Flags
Cadmium	A	1.418	0.1000	ug/L	!a+
Lead	A	0.5006	0.1000	ug/L	!a+
Silver	A	0.2205	0.1000	ug/L	!a+
Arsenic	E	0.2458	0.1000	ug/L	!a+
Chromium	E	1.803	0.1000	ug/L	!a+
Copper	E	1.703	0.1000	ug/L	!a+
Nickel	E	1.224	0.1000	ug/L	!a+
Zinc	E	2.216	0.1000	ug/L	!a+

Interferent	Ch	Spiked	Quant	Units	%Rec
Aluminum	A	100000	101000	ug/L	101
Calcium	A	300000	311400	ug/L	104
Magnesium	A	100000	99390	ug/L	99
Molybdenum	A	2000	2092	ug/L	105
Potassium	A	100000	103500	ug/L	104
Sodium	E	250000	262800	ug/L	105
Iron	H	250000	255300	ug/L	102

ISTD (ICALBLK 09a14k00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2988290	1877740	-37.16
Scandium	A	3278587	2342595	-28.55
Scandium	E	23555	19597	-16.80
Scandium	H	1141980	845989	-25.92
Germanium	H	265477	180671	-31.94
Germanium	E	20454	15480	-24.32
Indium	A	4168616	2636524	-36.75
Bismuth	A	3816885	2397250	-37.19
Yttrium	A	4281123	2938134	-31.37
Terbium	A	5629513	3980438	-29.29

!=warning +=high bias a=ICSA

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69020797014 File : 09a14k00014 Time : 14-JAN-2009 12:46
Cal : 69020797001 Caldate : 14-JAN-2009
Standards: S11091, S10858

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Cadmium	A	100.0	103.5	ug/L	4	20	
Silver	A	50.00	51.82	ug/L	4	20	
Arsenic	E	100.0	107.5	ug/L	8	20	
Chromium	E	200.0	216.0	ug/L	8	20	
Copper	E	200.0	201.8	ug/L	1	20	
Nickel	E	200.0	192.8	ug/L	-4	20	
Zinc	E	100.0	97.89	ug/L	-2	20	

ISTD (ICALBLK 09a14k00003)	Ch	ICALBLK Abund	Abund	%Drift
Scandium	H	1141980	791420	-30.70
Scandium	A	3278587	2255703	-31.20
Scandium	E	23555	18373	-22.00
Germanium	H	265477	171686	-35.33
Germanium	E	20454	14395	-29.62
Indium	A	4168616	2624971	-37.03
Yttrium	A	4281123	2894026	-32.40

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69020797023 File : 09a14k00023 Time : 14-JAN-2009 14:55
Cal : 69020797001 Caldate : 14-JAN-2009
Standards: S11089, S10858

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Cadmium	A	0.0349	0.0332	100.0	96.78	ug/L	-3	10	
Lead	A	0.3087	0.2808	100.0	93.87	ug/L	-6	10	
Silver	A	0.1545	0.1661	100.0	108.6	ug/L	9	10	
Arsenic	E	0.2821	0.2661	100.0	95.96	ug/L	-4	10	
Chromium	E	5.9535	2.5920	100.0	94.19	ug/L	-6	10	
Copper	E	18.211	4.9024	100.0	92.15	ug/L	-8	10	
Nickel	E	2.2186	1.4763	100.0	94.61	ug/L	-5	10	
Zinc	E	2.2051	0.5212	100.0	94.25	ug/L	-6	10	

ISTD (ICALBLK 09a14k00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2988290	2581381	-13.62
Scandium	A	3278587	2942853	-10.24
Scandium	E	23555	24000	1.89
Scandium	H	1141980	1068785	-6.41
Germanium	H	265477	250763	-5.54
Germanium	E	20454	20822	1.80
Indium	A	4168616	3664347	-12.10
Bismuth	A	3816885	3334875	-12.63
Yttrium	A	4281123	3851060	-10.05
Terbium	A	5629513	5194104	-7.73

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69020797025 File : 09a14k00025 Time : 14-JAN-2009 15:15
Cal : 69020797001 Caldate : 14-JAN-2009

Analyte	Ch	Quant	IQL	2X MDL	Units	Flags
Cadmium	A	ND	0.1000	0.06044	ug/L	
Lead	A	ND	0.1000	0.05505	ug/L	
Silver	A	ND	0.1000	0.06124	ug/L	
Arsenic	E	ND	0.1000	0.06416	ug/L	
Chromium	E	ND	0.1000	0.03166	ug/L	
Copper	E	ND	0.1000	0.07274	ug/L	
Nickel	E	ND	0.1000	0.08200	ug/L	
Zinc	E	ND	0.1000	0.3547	ug/L	

ISTD (ICALBLK 09a14k00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2988290	2728264	-8.70
Scandium	A	3278587	2992903	-8.71
Scandium	E	23555	23782	0.96
Scandium	H	1141980	1079827	-5.44
Germanium	H	265477	254361	-4.19
Germanium	E	20454	21245	3.87
Indium	A	4168616	3889501	-6.70
Bismuth	A	3816885	3611144	-5.39
Yttrium	A	4281123	3955011	-7.62
Terbium	A	5629513	5324837	-5.41

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69020797036 File : 09a14k00036 Time : 14-JAN-2009 17:03
Cal : 69020797001 Caldate : 14-JAN-2009
Standards: S11089, S10858

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Cadmium	A	0.0349	0.0326	100.0	94.98	ug/L	-5	10	
Lead	A	0.3087	0.2828	100.0	94.54	ug/L	-5	10	
Silver	A	0.1545	0.1635	100.0	106.9	ug/L	7	10	
Arsenic	E	0.2821	0.2622	100.0	94.56	ug/L	-5	10	
Chromium	E	5.9535	2.5628	100.0	93.12	ug/L	-7	10	
Copper	E	18.211	4.8127	100.0	90.45	ug/L	-10	10	
Nickel	E	2.2186	1.4718	100.0	94.32	ug/L	-6	10	
Zinc	E	2.2051	0.5118	100.0	92.54	ug/L	-7	10	

ISTD (ICALBLK 09a14k00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2988290	2535467	-15.15
Scandium	A	3278587	2911546	-11.20
Scandium	E	23555	23299	-1.09
Scandium	H	1141980	1002623	-12.20
Germanium	H	265477	235084	-11.45
Germanium	E	20454	20548	0.46
Indium	A	4168616	3614512	-13.29
Bismuth	A	3816885	3286765	-13.89
Yttrium	A	4281123	3821900	-10.73
Terbium	A	5629513	5041980	-10.44

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69020797038 File : 09a14k00038 Time : 14-JAN-2009 17:22
Cal : 69020797001 Caldate : 14-JAN-2009

Analyte	Ch	Quant	IQL	2X MDL	Units	Flags
Cadmium	A	ND	0.1000	0.06044	ug/L	
Lead	A	ND	0.1000	0.05505	ug/L	
Silver	A	ND	0.1000	0.06124	ug/L	
Arsenic	E	ND	0.1000	0.06416	ug/L	
Chromium	E	ND	0.1000	0.03166	ug/L	
Copper	E	ND	0.1000	0.07274	ug/L	
Nickel	E	ND	0.1000	0.08200	ug/L	
Zinc	E	ND	0.1000	0.3547	ug/L	

ISTD (ICALBLK 09a14k00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2988290	2567956	-14.07
Scandium	A	3278587	2945055	-10.17
Scandium	E	23555	24351	3.38
Scandium	H	1141980	1018481	-10.81
Germanium	H	265477	243766	-8.18
Germanium	E	20454	21474	4.99
Indium	A	4168616	3818118	-8.41
Bismuth	A	3816885	3546343	-7.09
Yttrium	A	4281123	3919379	-8.45
Terbium	A	5629513	5223598	-7.21

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69020797053 File : 09a14k00053 Time : 14-JAN-2009 21:04
Cal : 69020797001 Caldate : 14-JAN-2009
Standards: S11090, S10858

Analyte	Ch	Quant	IQL	Units	Flags
Cadmium	A	1.406	0.1000	ug/L	!a+
Lead	A	0.4985	0.1000	ug/L	!a+
Silver	A	0.2075	0.1000	ug/L	!a+
Arsenic	E	0.1619	0.1000	ug/L	!a+
Chromium	E	1.885	0.1000	ug/L	!a+
Copper	E	1.584	0.1000	ug/L	!a+
Nickel	E	1.108	0.1000	ug/L	!a+
Zinc	E	2.158	0.1000	ug/L	!a+

Interferent	Ch	Spiked	Quant	Units	%Rec
Aluminum	A	100000	99620	ug/L	100
Calcium	A	300000	311800	ug/L	104
Magnesium	A	100000	98140	ug/L	98
Molybdenum	A	2000	2081	ug/L	104
Potassium	A	100000	105200	ug/L	105
Sodium	E	250000	253200	ug/L	101
Iron	H	250000	266000	ug/L	106

ISTD (ICALBLK 09a14k00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2988290	1666677	-44.23
Scandium	A	3278587	2170817	-33.79
Scandium	E	23555	18690	-20.65
Scandium	H	1141980	737088	-35.46
Germanium	H	265477	162245	-38.89
Germanium	E	20454	15080	-26.27
Indium	A	4168616	2554741	-38.71
Bismuth	A	3816885	2346896	-38.51
Yttrium	A	4281123	2810894	-34.34
Terbium	A	5629513	3853808	-31.54

!=warning +=high bias a=ICSA

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69020797056 File : 09a14k00056 Time : 14-JAN-2009 21:31
Cal : 69020797001 Caldate : 14-JAN-2009
Standards: S11091, S10858

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Cadmium	A	100.0	100.5	ug/L	1	20	
Silver	A	50.00	50.39	ug/L	1	20	
Arsenic	E	100.0	108.0	ug/L	8	20	
Chromium	E	200.0	218.5	ug/L	9	20	
Copper	E	200.0	196.5	ug/L	-2	20	
Nickel	E	200.0	193.8	ug/L	-3	20	
Zinc	E	100.0	97.12	ug/L	-3	20	

ISTD (ICALBLK 09a14k00003)	Ch	ICALBLK Abund	Abund	%Drift
Scandium	H	1141980	661185	-42.10
Scandium	A	3278587	2103747	-35.83
Scandium	E	23555	16676	-29.20
Germanium	H	265477	147189	-44.56
Germanium	E	20454	13556	-33.72
Indium	A	4168616	2499839	-40.03
Yttrium	A	4281123	2749829	-35.77

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 899020860

Instrument : MET16 Begun : 01/14/09 11:40
Method : EPA 6020 SOP Version : icpms_rv5

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	09a14l00001	TUN				01/14/09 11:40	1.0	1	
002	09a14l00002	X	RINSE			01/14/09 11:46	1.0	2	
003	09a14l00003	ICALBLK	CALBLANK			01/14/09 11:58	1.0	2	
004	09a14l00004	ICAL				01/14/09 12:10	1.0	3 2	
005	09a14l00005	ICAL				01/14/09 12:23	1.0	4 2	
006	09a14l00006	ICAL				01/14/09 12:35	1.0	5 2	
007	09a14l00007	ICAL				01/14/09 12:47	1.0	6 2	
008	09a14l00008	ICAL				01/14/09 13:00	1.0	7 2	
009	09a14l00009	ICAL				01/14/09 13:12	1.0	8 2	
010	09a14l00010	ICV				01/14/09 13:24	1.0	9 2	
011	09a14l00011	X				01/14/09 13:36	1.0	2	
012	09a14l00012	ICB				01/14/09 13:49	1.0	2	
013	09a14l00013	ICSA				01/14/09 14:01	1.0	10 2	7:CA=310000
014	09a14l00014	ICSAB				01/14/09 14:14	1.0	11 2	10:CA=340000
015	09a14l00015	X	RINSE			01/14/09 14:26	1.0	2	
016	09a14l00016	X	RINSE			01/14/09 14:39	1.0	2	
017	09a14l00017	BLANK	QC479174	Filtrate	146911	01/14/09 14:51	1.0	2	
018	09a14l00018	BS	QC479175	Filtrate	146911	01/14/09 15:04	1.0	2	
019	09a14l00019	BSD	QC479176	Filtrate	146911	01/14/09 15:16	1.0	2	
020	09a14l00020	MSS	209202-001	Filtrate	146911	01/14/09 15:28	5.0	2	4:NA=1400000
021	09a14l00021	SER	QC479179	Filtrate	146911	01/14/09 15:40	25.0	2	2:NA=280000
022	09a14l00022	MS	QC479177	Filtrate	146911	01/14/09 15:53	5.0	2	4:NA=1500000
023	09a14l00023	MSD	QC479178	Filtrate	146911	01/14/09 16:05	5.0	2	4:NA=1400000
024	09a14l00024	PDS	QC479180	Filtrate	146911	01/14/09 16:18	5.0	12 13 2	4:NA=1400000
025	09a14l00025	CCV				01/14/09 16:30	1.0	14 2	
026	09a14l00026	X				01/14/09 16:42	1.0	2	
027	09a14l00027	CCB				01/14/09 16:53	1.0	2	
028	09a14l00028	ICSA				01/14/09 17:04	1.0	10 2	7:CA=320000
029	09a14l00029	ICSAB				01/14/09 17:11	1.0	11 2	10:CA=330000

JYF 01/15/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 29.

Standards used: 1=S11076 2=S10858 3=S11083 4=S11084 5=S11085 6=S11086 7=S11077 8=S11080 9=S11088 10=S11090 11=S11091 12=S10997 13=S10998 14=S11089

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 899020860

Date : 01/14/09 Reference : 09a14l00003
Sequence : MET16 09a14l00 Analyzed : 01/14/09 11:58

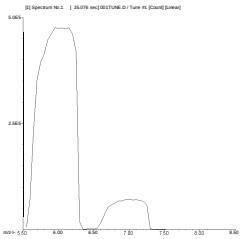
#	Type	Sample ID	LI A	SC A	SC E	SC H	GE H	GE E	IN A	BI A	Y A	TB A
		IB+ICALBLK STD	6464626	3273229	44481	409250	88166	22818	2796103	2999279	2923456	4119184
		LOWER LIMIT	1939388	981969	13344	122775	26450	6845	838831	899784	877037	1235755
		UPPER LIMIT	7757551	3927875	53377	491100	105799	27382	3355324	3599135	3508147	4943021
012	ICB		7275196	3280748	49589	631728 *	128695 *	24382	2548315	2576707	2803516	3636016
013	ICSA		5656151	3311359	53900 *	934004 *	167131 *	25077	2408608	2039836	2821618	3590467
014	ICSAB		5723299	3103590	47846	828908 *	149659 *	22386	2323781	2010938	2673966	3510642
017	BLANK	QC479174	6432764	2994043	43899	612215 *	124923 *	22635	2440987	2637434	2594309	3687007
018	BS	QC479175	6228446	2980808	43617	597826 *	117969 *	21999	2323423	2437257	2558279	3598569
019	BSD	QC479176	6069502	2909142	42203	572710 *	113240 *	21346	2275555	2386754	2477806	3472987
020	MSS	209202-001	4987057	3444126	60211 *	693891 *	115589 *	24725	2202660	1611422	2754216	3129817
021	SER	QC479179	6958421	3815544	58307 *	769916 *	143856 *	26536	2652144	2270044	3088627	3813673
022	MS	QC479177	5069687	3460857	59600 *	761365 *	127310 *	24325	2230183	1685915	2778162	3258787
023	MSD	QC479178	5246879	3512783	60555 *	785326 *	130981 *	24583	2275921	1736535	2801573	3348378
024	PDS	QC479180	5090452	3366589	57509 *	802075 *	132915 *	23367	2251439	1756043	2772345	3344912
025	CCV		7696092	3761918	57938 *	783912 *	154895 *	28151 *	2848300	2711197	3200931	4099576
027	CCB		7830288 *	3547644	53863 *	665984 *	134944 *	26965	2776076	2789270	3011463	3967216
028	ICSA		5611836	3138989	52468	728865 *	131612 *	24691	2343781	2048849	2703860	3521458
029	ICSAB		5339280	3041092	49801	658545 *	118889 *	23688	2284432	2000078	2656767	3480078

MET16 QC Tune Report

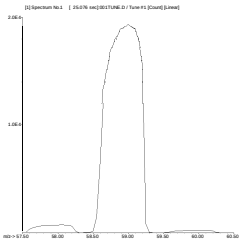
Data File: C:\ICPCHEM\1\DATA\09A14l00.B\001TUNE.D
Date Acquired: Jan 14 2009 11:40 am
Acq. Method: TN6020.M
Operator:
Sample Name: tun,s11076
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\TN6020.M

RSD (%)

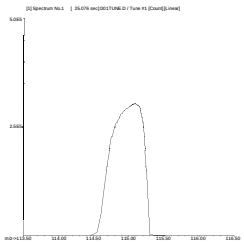
Element	Actual	Required	Flag
7 Li	1.10	5.00	
59 Co	1.12	5.00	
115 In	0.34	5.00	
205 Tl	1.91	5.00	



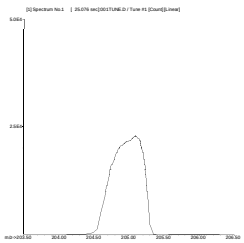
7 Li
Mass Calib.
Actual: 7.05
Required: 6.90 - 7.10
Flag:
Peak Width
Actual: 0.65
Required: 0.90
Flag:



59 Co
Mass Calib.
Actual: 59.00
Required: 58.90 - 59.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90 - 115.10
Flag:
Peak Width
Actual: 0.65
Required: 0.90
Flag:



205 Tl
Mass Calib.
Actual: 205.05
Required: 204.90 - 205.10
Flag:
Peak Width
Actual: 0.65
Required: 0.90
Flag:

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 209191 METALS Water: EPA 6020

Inst : MET16 Reviewer : ---
Calnum : 899020860001 Date : 14-JAN-2009 11:58
Units : ug/L X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	09a14l00004	899020860004		14-JAN-2009 12:10	S11083, S10858
L2	09a14l00005	899020860005		14-JAN-2009 12:23	S11084, S10858
L3	09a14l00006	899020860006		14-JAN-2009 12:35	S11085, S10858
L4	09a14l00007	899020860007		14-JAN-2009 12:47	S11086, S10858
L5	09a14l00008	899020860008		14-JAN-2009 13:00	S11077, S10858
L6	09a14l00009	899020860009		14-JAN-2009 13:12	S11080, S10858

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Cadmium	A	0.0373	0.0341	0.0343	0.0326	0.0330	0.0320	BLNK	-0.0055	31.0528		0.0339	1.000	0.995	
Lead	A	0.4564	0.3416	0.3227	0.3066	0.3044	0.2994	BLNK	-0.0271	3.32897		0.3385	1.000	0.995	
Silver	A	0.1672	0.1554	0.1488	0.1482	0.1463	0.1487	BLNK	-0.0082	6.74596		0.1524	1.000	0.995	
Arsenic	E	0.4144	0.2921	0.2667	0.2504	0.2583	0.2558	BLNK	-0.0342	3.90320		0.2896	1.000	0.995	
Chromium	E	47.943	10.520	4.3345	1.9779	1.8049	1.7855	BLNK	-0.1133	0.55911		11.394	1.000	0.995	
Copper	E	111.38	18.275	9.7347	5.5340	5.1215	4.8807	BLNK	-0.3896	0.20332		25.821	0.999	0.995	
Nickel	E	13.741	3.2867	1.6394	0.9540	0.8920	0.8583	BLNK	-0.0342	1.15595		3.5620	0.999	0.995	
Zinc	E	9.2720	1.9739	1.4755	0.6144	0.5279	0.5218	BLNK	-0.3812	1.91561		2.3976	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Cadmium	A	0.100	10	0.500	5	1.000	6	10.00	1	100.0	3	200.0	-1
Lead	A	0.100	25	0.500	8	1.000	5	10.00	2	100.0	1	200.0	0
Silver	A	0.100	5	0.500	3	1.000	0	10.00	0	100.0	-1	200.0	0
Arsenic	E	0.100	28	0.500	7	1.000	1	10.00	-3	100.0	1	200.0	0
Chromium	E	0.100	2467	0.500	466	1.000	131	10.00	9	100.0	1	200.0	0
Copper	E	0.100	1775	0.500	194	1.000	59	10.00	9	100.0	4	200.0	-1
Nickel	E	0.100	1454	0.500	273	1.000	86	10.00	10	100.0	3	200.0	-1
Zinc	E	0.100	1295	0.500	202	1.000	145	10.00	14	100.0	1	200.0	0

Instrument amount = a0 + response * a1 + response^2 * a2; BLNK=Y=aX+[blank]

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 209191 METALS Water
EPA 6020

Inst : MET16
Calnum : 899020860001 Cal Date : 14-JAN-2009

ICV 899020860010 (09a14l00010 14-JAN-2009) stds: S11088, S10858

Analyte	Ch	Average RF	RF	Spiked	Quant	Units	%D	Max	Flags
Cadmium	A	0.0339	0.0346	100.0	107.3	ug/L	7	10	
Lead	A	0.3385	0.3234	100.0	107.6	ug/L	8	10	
Silver	A	0.1524	0.1678	100.0	113.2	ug/L	**13**	10	v+ ***
Arsenic	E	0.2896	0.2745	100.0	107.1	ug/L	7	10	
Chromium	E	11.394	1.8887	100.0	105.5	ug/L	6	10	
Copper	E	25.821	5.2891	100.0	107.1	ug/L	7	10	
Nickel	E	3.5620	0.9314	100.0	107.6	ug/L	8	10	
Zinc	E	2.3976	0.5502	100.0	105.0	ug/L	5	10	

+=high bias v=ICV

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Water
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 899020860012 File : 09a14l00012 Time : 14-JAN-2009 13:49
Cal : 899020860001 Caldate : 14-JAN-2009

Analyte	Ch	Quant	IQL	2X MDL	Units	Flags
Cadmium	A	ND	0.1000	0.02757	ug/L	
Lead	A	ND	0.1000	0.04402	ug/L	
Silver	A	ND	0.1000	0.02926	ug/L	
Arsenic	E	ND	0.1000	0.03563	ug/L	
Chromium	E	ND	0.1000	0.08000	ug/L	
Copper	E	ND	0.1000	0.08496	ug/L	
Nickel	E	ND	0.1000	0.07446	ug/L	
Zinc	E	ND	0.1000	0.2752	ug/L	

ISTD (ICALBLK 09a14l00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	6464626	7275196	12.54
Scandium	A	3273229	3280748	0.23
Scandium	E	44481	49589	11.48
Scandium	H	409250	631728	**54.36 ***
Germanium	H	88166	128695	**45.97 ***
Germanium	E	22818	24382	6.85
Indium	A	2796103	2548315	-8.86
Bismuth	A	2999279	2576707	-14.09
Yttrium	A	2923456	2803516	-4.10
Terbium	A	4119184	3636016	-11.73

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 209191 METALS Water
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 899020860013 File : 09a14l00013 Time : 14-JAN-2009 14:01
Cal : 899020860001 Caldate : 14-JAN-2009
Standards: S11090, S10858

Analyte	Ch	Quant	IQL	Units	Flags
Cadmium	A	2.066	0.1000	ug/L	!a+
Lead	A	0.4861	0.1000	ug/L	!a+
Silver	A	0.2030	0.1000	ug/L	!a+
Arsenic	E	0.2871	0.1000	ug/L	!a+
Chromium	E	1.816	0.1000	ug/L	!a+ i+ ***
Copper	E	1.677	0.1000	ug/L	!a+
Nickel	E	1.261	0.1000	ug/L	!a+ i+ ***
Zinc	E	1.740	0.1000	ug/L	!a+

Interferent	Ch	Spiked	Quant	Units	%Rec
Aluminum	A	100000	99910	ug/L	100
Calcium	A	300000	314200	ug/L	105
Magnesium	A	100000	97910	ug/L	98
Molybdenum	A	2000	2233	ug/L	112
Potassium	A	100000	103200	ug/L	103
Sodium	E	250000	249100	ug/L	100
Iron	H	250000	239200	ug/L	96

ISTD (ICALBLK 09a14l00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	6464626	5656151	-12.51
Scandium	A	3273229	3311359	1.16
Scandium	E	44481	53900	**21.18 ***
Scandium	H	409250	934004	**128.22 ***
Germanium	H	88166	167131	**89.56 ***
Germanium	E	22818	25077	9.90
Indium	A	2796103	2408608	-13.86
Bismuth	A	2999279	2039836	-31.99
Yttrium	A	2923456	2821618	-3.48
Terbium	A	4119184	3590467	-12.84

!=warning +=high bias a=ICSA i=ISTD failure

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 209191 METALS Water
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 899020860014 File : 09a14l00014 Time : 14-JAN-2009 14:14
Cal : 899020860001 Caldate : 14-JAN-2009
Standards: S11091, S10858

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Cadmium	A	100.0	98.98	ug/L	-1	20	
Silver	A	50.00	50.11	ug/L	0	20	
Arsenic	E	100.0	103.8	ug/L	4	20	
Chromium	E	200.0	213.5	ug/L	7	20	
Copper	E	200.0	186.0	ug/L	-7	20	
Nickel	E	200.0	189.0	ug/L	-5	20	
Zinc	E	100.0	86.61	ug/L	-13	20	

ISTD (ICALBLK 09a14l00003)	Ch	ICALBLK Abund	Abund	%Drift
Scandium	H	409250	828908	**102.54 ***
Scandium	A	3273229	3103590	-5.18
Scandium	E	44481	47846	7.57
Germanium	H	88166	149659	**69.75 ***
Germanium	E	22818	22386	-1.89
Indium	A	2796103	2323781	-16.89
Yttrium	A	2923456	2673966	-8.53

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 METALS Water
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 899020860025 File : 09a14l00025 Time : 14-JAN-2009 16:30
Cal : 899020860001 Caldate : 14-JAN-2009
Standards: S11089, S10858

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Cadmium	A	0.0339	0.0350	100.0	108.8	ug/L	9	10	
Lead	A	0.3385	0.3220	100.0	107.2	ug/L	7	10	
Silver	A	0.1524	0.1674	100.0	112.9	ug/L	**13**	10	c+ ***
Arsenic	E	0.2896	0.2739	100.0	106.9	ug/L	7	10	i+ ***
Chromium	E	11.394	1.8505	100.0	103.3	ug/L	3	10	i+ ***
Copper	E	25.821	5.0097	100.0	101.5	ug/L	2	10	i+ ***
Nickel	E	3.5620	0.8955	100.0	103.5	ug/L	4	10	i+ ***
Zinc	E	2.3976	0.5263	100.0	100.4	ug/L	0	10	i+ ***

ISTD (ICALBLK 09a14l00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	6464626	7696092	19.05
Scandium	A	3273229	3761918	14.93
Scandium	E	44481	57938	**30.25 ***
Scandium	H	409250	783912	**91.55 ***
Germanium	H	88166	154895	**75.69 ***
Germanium	E	22818	28151	**23.37 ***
Indium	A	2796103	2848300	1.87
Bismuth	A	2999279	2711197	-9.61
Yttrium	A	2923456	3200931	9.49
Terbium	A	4119184	4099576	-0.48

+=high bias c=CCV i=ISTD failure

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Water
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 899020860027 File : 09a14l00027 Time : 14-JAN-2009 16:53
Cal : 899020860001 Caldate : 14-JAN-2009

Analyte	Ch	Quant	IQL	2X MDL	Units	Flags
Cadmium	A	ND	0.1000	0.02757	ug/L	
Lead	A	ND	0.1000	0.04402	ug/L	
Silver	A	ND	0.1000	0.02926	ug/L	
Arsenic	E	ND	0.1000	0.03563	ug/L	
Chromium	E	ND	0.1000	0.08000	ug/L	i+ ***
Copper	E	ND	0.1000	0.08496	ug/L	
Nickel	E	ND	0.1000	0.07446	ug/L	i+ ***
Zinc	E	ND	0.1000	0.2752	ug/L	

ISTD (ICALBLK 09a14l00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	6464626	7830288	**21.13 ***
Scandium	A	3273229	3547644	8.38
Scandium	E	44481	53863	**21.09 ***
Scandium	H	409250	665984	**62.73 ***
Germanium	H	88166	134944	**53.06 ***
Germanium	E	22818	26965	18.17
Indium	A	2796103	2776076	-0.72
Bismuth	A	2999279	2789270	-7.00
Yttrium	A	2923456	3011463	3.01
Terbium	A	4119184	3967216	-3.69

+=high bias i=ISTD failure

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 209191 METALS Water
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 899020860028 File : 09a14l00028 Time : 14-JAN-2009 17:04
Cal : 899020860001 Caldate : 14-JAN-2009
Standards: S11090, S10858

Analyte	Ch	Quant	IQL	Units	Flags
Cadmium	A	1.854	0.1000	ug/L	!a+
Lead	A	0.4913	0.1000	ug/L	!a+
Silver	A	0.2056	0.1000	ug/L	!a+
Arsenic	E	0.3029	0.1000	ug/L	!a+
Chromium	E	2.267	0.1000	ug/L	!a+
Copper	E	1.580	0.1000	ug/L	!a+
Nickel	E	1.424	0.1000	ug/L	!a+
Zinc	E	1.650	0.1000	ug/L	!a+

Interferent	Ch	Spiked	Quant	Units	%Rec
Aluminum	A	100000	100600	ug/L	101
Calcium	A	300000	319100	ug/L	106
Magnesium	A	100000	99470	ug/L	99
Molybdenum	A	2000	2193	ug/L	110
Potassium	A	100000	103500	ug/L	104
Sodium	E	250000	251200	ug/L	100
Iron	H	250000	251500	ug/L	101

ISTD (ICALBLK 09a14l00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	6464626	5611836	-13.19
Scandium	A	3273229	3138989	-4.10
Scandium	E	44481	52468	17.96
Scandium	H	409250	728865	**78.10** *
Germanium	H	88166	131612	**49.28** *
Germanium	E	22818	24691	8.21
Indium	A	2796103	2343781	-16.18
Bismuth	A	2999279	2048849	-31.69
Yttrium	A	2923456	2703860	-7.51
Terbium	A	4119184	3521458	-14.51

!=warning +=high bias a=ICSA

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 209191 METALS Water
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 899020860029 File : 09a14l00029 Time : 14-JAN-2009 17:11
Cal : 899020860001 Caldate : 14-JAN-2009
Standards: S11091, S10858

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Cadmium	A	100.0	98.82	ug/L	-1	20	
Silver	A	50.00	49.43	ug/L	-1	20	
Arsenic	E	100.0	102.1	ug/L	2	20	
Chromium	E	200.0	212.3	ug/L	6	20	
Copper	E	200.0	178.4	ug/L	-11	20	
Nickel	E	200.0	186.4	ug/L	-7	20	
Zinc	E	100.0	83.75	ug/L	-16	20	

ISTD (ICALBLK 09a14l00003)	Ch	ICALBLK Abund	Abund	%Drift
Scandium	H	409250	658545	**60.92 ***
Scandium	A	3273229	3041092	-7.09
Scandium	E	44481	49801	11.96
Germanium	H	88166	118889	**34.85 ***
Germanium	E	22818	23688	3.81
Indium	A	2796103	2284432	-18.30
Yttrium	A	2923456	2656767	-9.12

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 69022283

Instrument : MET06 Begun : 01/15/09 11:23
Method : EPA 6020 SOP Version : icpms_rv5

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	09a15l00001	TUN				01/15/09 11:23	1.0	1	
002	09a15l00002	X	RINSE			01/15/09 11:29	1.0	2	
003	09a15l00003	ICALBLK	CALBLANK			01/15/09 11:39	1.0	2	
004	09a15l00004	ICAL				01/15/09 11:49	1.0	3 2	
005	09a15l00005	ICAL				01/15/09 11:59	1.0	4 2	
006	09a15l00006	ICAL				01/15/09 12:08	1.0	5 2	
007	09a15l00007	ICAL				01/15/09 12:18	1.0	6 2	
008	09a15l00008	ICAL				01/15/09 12:28	1.0	7 2	
009	09a15l00009	ICAL				01/15/09 12:38	1.0	8 2	
010	09a15l00010	X				01/15/09 12:47	1.0	9 2	
011	09a15l00011	X				01/15/09 12:56	1.0	9 2	
012	09a15l00012	ICV				01/15/09 13:07	1.0	9 2	
013	09a15l00013	X				01/15/09 13:17	1.0	2	
014	09a15l00014	ICB				01/15/09 13:26	1.0	2	
015	09a15l00015	ICSA				01/15/09 13:36	1.0	10 2	7:CA=340000
016	09a15l00016	ICSAB				01/15/09 13:47	1.0	11 2	13:CA=350000
017	09a15l00017	X	RINSE			01/15/09 13:57	1.0	2	
018	09a15l00018	X	RINSE			01/15/09 14:06	1.0	2	
019	09a15l00019	XMSS	209180-002	Water	146874	01/15/09 14:16	5.0	2	4:K=190000
020	09a15l00020	XSER	QC479024	Water	146874	01/15/09 14:25	25.0	2	3:K=38000
021	09a15l00021	XMS	QC479022	Water	146874	01/15/09 14:35	5.0	2	
022	09a15l00022	MSS	209202-001	Filtrate	146911	01/15/09 14:45	5.0	2	5:NA=1500000
023	09a15l00023	SER	QC479179	Filtrate	146911	01/15/09 14:55	25.0	2	2:NA=300000
024	09a15l00024	MSS	209202-001	Filtrate	146911	01/15/09 15:04	5.0	2	5:NA=1500000
025	09a15l00025	MS	QC479177	Filtrate	146911	01/15/09 15:14	5.0	2	5:NA=1500000
026	09a15l00026	MSD	QC479178	Filtrate	146911	01/15/09 15:24	5.0	2	5:NA=1500000
027	09a15l00027	CCV				01/15/09 15:34	1.0	12 2	
028	09a15l00028	X				01/15/09 15:46	1.0	12 2	
029	09a15l00029	X				01/15/09 15:55	1.0	12 2	
030	09a15l00030	X				01/15/09 16:05	1.0	2	
031	09a15l00031	CCB				01/15/09 16:15	1.0	2	
032	09a15l00032	PDS	QC479180	Filtrate	146911	01/15/09 16:26	5.0	13 14 2	
033	09a15l00033	CCV				01/15/09 16:43	1.0	12 2	
034	09a15l00034	X				01/15/09 16:52	1.0	2	
035	09a15l00035	CCB				01/15/09 17:02	1.0	2	
036	09a15l00036	MSS	209238-003	Water	146945	01/15/09 17:12	5000	2	
037	09a15l00037	SER	QC479328	Water	146945	01/15/09 17:22	25000	2	
038	09a15l00038	MS	QC479326	Water	146945	01/15/09 17:31	5000	2	
039	09a15l00039	MSD	QC479327	Water	146945	01/15/09 17:41	5000	2	
040	09a15l00040	PDS	QC479329	Water	146945	01/15/09 17:51	5000	13 14 2	
041	09a15l00041	SAMPLE	209238-004	Water	146945	01/15/09 18:01	1000	2	
042	09a15l00042	SAMPLE	209238-005	Water	146945	01/15/09 18:11	5000	2	
043	09a15l00043	SAMPLE	209238-006	Water	146945	01/15/09 18:20	5000	2	
044	09a15l00044	SAMPLE	209238-007	Water	146945	01/15/09 18:30	5.0	2	1:CA=29000
045	09a15l00045	CCV				01/15/09 18:40	1.0	12 2	
046	09a15l00046	X				01/15/09 18:51	1.0	2	
047	09a15l00047	CCB				01/15/09 19:00	1.0	2	
048	09a15l00048	SAMPLE	208905-002	Water	146550	01/15/09 19:10	5.0	2	
049	09a15l00049	SAMPLE	208905-003	Water	146550	01/15/09 19:20	50.0	2	1:NA=74000
050	09a15l00050	SAMPLE	208905-004	Water	146550	01/15/09 19:30	50.0	2	1:NA=42000
051	09a15l00051	SAMPLE	208905-001	Filtrate	146550	01/15/09 19:40	5.0	2	
052	09a15l00052	SAMPLE	208905-002	Filtrate	146550	01/15/09 19:49	5.0	2	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 69022283

Instrument : MET06 Begun : 01/15/09 11:23
Method : EPA 6020 SOP Version : icpms_rv5

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	09a15l00053	SAMPLE	208905-003	Filtrate	146550	01/15/09 19:59	50.0	2	1:NA=71000
054	09a15l00054	SAMPLE	208905-004	Filtrate	146550	01/15/09 20:09	50.0	2	1:NA=48000
055	09a15l00055	CCV				01/15/09 20:19	1.0	12 2	
056	09a15l00056	CCB				01/15/09 20:28	1.0	2	
057	09a15l00057	X				01/15/09 20:38	1.0	2	
058	09a15l00058	ICSA				01/15/09 20:48	1.0	10 2	7:CA=330000
059	09a15l00059	ICSAB				01/15/09 20:58	1.0	11 2	12:CA=340000
060	09a15l00060	X	RINSE			01/15/09 21:08	1.0	2	
061	09a15l00061	X	RINSE			01/15/09 21:17	1.0	2	
062	09a15l00062	SAMPLE	209202-002	Filtrate	146911	01/15/09 21:27	5.0	2	5:NA=1400000
063	09a15l00063	SAMPLE	209202-003	Filtrate	146911	01/15/09 21:37	5.0	2	5:NA=1400000
064	09a15l00064	SAMPLE	209202-004	Filtrate	146911	01/15/09 21:47	5.0	2	5:NA=1400000
065	09a15l00065	SAMPLE	209202-005	Filtrate	146911	01/15/09 21:57	5.0	2	5:NA=1400000
066	09a15l00066	TUN				01/15/09 22:07	1.0	1	
067	09a15l00067	X	RINSE			01/15/09 22:14	1.0	2	
068	09a15l00068	SAMPLE	209202-006	Filtrate	146911	01/15/09 22:24	5.0	2	6:NA=660000
069	09a15l00069	PDS	QC479180	Filtrate	146911	01/15/09 22:34	5.0	13 14 2	5:NA=1400000
070	09a15l00070	CCV				01/15/09 22:43	1.0	12 2	
071	09a15l00071	X				01/15/09 22:53	1.0	2	
072	09a15l00072	CCB				01/15/09 23:03	1.0	2	
073	09a15l00073	MSS	209191-001	Soil	146927	01/15/09 23:13	50.0	2	1:MN=280
074	09a15l00074	SER	QC479249	Soil	146927	01/15/09 23:22	250.0	2	
075	09a15l00075	MS	QC479247	Soil	146927	01/15/09 23:32	50.0	2	
076	09a15l00076	MSD	QC479248	Soil	146927	01/15/09 23:42	50.0	2	
077	09a15l00077	PDS	QC479250	Soil	146927	01/15/09 23:51	50.0	13 14 2	
078	09a15l00078	SAMPLE	209188-001	Soil	146927	01/16/09 00:01	50.0	2	
079	09a15l00079	SAMPLE	209188-002	Soil	146927	01/16/09 00:11	50.0	2	
080	09a15l00080	SAMPLE	209188-003	Soil	146927	01/16/09 00:20	50.0	2	
081	09a15l00081	SAMPLE	209188-004	Soil	146927	01/16/09 00:30	50.0	2	
082	09a15l00082	SAMPLE	209188-005	Soil	146927	01/16/09 00:40	50.0	2	
083	09a15l00083	CCV				01/16/09 00:49	1.0	12 2	
084	09a15l00084	X				01/16/09 00:59	1.0	2	
085	09a15l00085	CCB				01/16/09 01:09	1.0	2	
086	09a15l00086	X				01/16/09 01:19	1.0	12 2	
087	09a15l00087	X				01/16/09 01:28	1.0	2	
088	09a15l00088	X				01/16/09 01:38	1.0	2	
089	09a15l00089	ICSA				01/16/09 01:48	1.0	10 2	7:CA=330000
090	09a15l00090	ICSAB				01/16/09 01:58	1.0	11 2	12:CA=340000
091	09a15l00091	X	RINSE			01/16/09 02:08	1.0	2	
092	09a15l00092	X	RINSE			01/16/09 02:17	1.0	2	
093	09a15l00093	BLANK	QC479545	Soil	146998	01/16/09 02:27	5.0	2	
094	09a15l00094	BS	QC479546	Soil	146998	01/16/09 02:37	10.0	2	
095	09a15l00095	BSD	QC479547	Soil	146998	01/16/09 02:47	10.0	2	
096	09a15l00096	MSS	209305-002	Soil	146998	01/16/09 02:56	50.0	2	
097	09a15l00097	SER	QC479550	Soil	146998	01/16/09 03:06	250.0	2	
098	09a15l00098	MS	QC479548	Soil	146998	01/16/09 03:16	50.0	2	
099	09a15l00099	MSD	QC479549	Soil	146998	01/16/09 03:26	50.0	2	
100	09a15l00100	PDS	QC479551	Soil	146998	01/16/09 03:35	50.0	13 14 2	
101	09a15l00101	CCV				01/16/09 03:45	1.0	12 2	
102	09a15l00102	CCB				01/16/09 03:55	1.0	2	
103	09a15l00103	X				01/16/09 04:04	1.0	2	
104	09a15l00104	SAMPLE	209305-001	Soil	146998	01/16/09 04:14	50.0	2	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 69022283

Instrument : MET06 Begun : 01/15/09 11:23
Method : EPA 6020 SOP Version : icpms_rv5

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
105	09a15l00105	SAMPLE	209305-003	Soil	146998	01/16/09 04:24	50.0	2	
106	09a15l00106	SAMPLE	209266-001	Soil	146998	01/16/09 04:34	50.0	2	
107	09a15l00107	SAMPLE	209266-002	Soil	146998	01/16/09 04:43	50.0	2	
108	09a15l00108	SAMPLE	209266-006	Soil	146998	01/16/09 04:53	50.0	2	1:MN=490
109	09a15l00109	SAMPLE	209266-007	Soil	146998	01/16/09 05:03	50.0	2	
110	09a15l00110	SAMPLE	209266-013	Soil	146998	01/16/09 05:12	50.0	2	
111	09a15l00111	SAMPLE	209266-014	Soil	146998	01/16/09 05:22	50.0	2	
112	09a15l00112	CCV				01/16/09 05:32	1.0	12 2	
113	09a15l00113	CCB				01/16/09 05:41	1.0	2	
114	09a15l00114	X				01/16/09 05:51	1.0	2	
115	09a15l00115	ICSA				01/16/09 06:01	1.0	10 2	7:CA=340000
116	09a15l00116	ICSAB				01/16/09 06:11	1.0	11 2	12:CA=340000

JYF 01/15/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 65.

RCH 01/16/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 66 through 116.

Standards used: 1=S11076 2=S10858 3=S11083 4=S11084 5=S11085 6=S11086 7=S11077 8=S11080 9=S11088 10=S11090 11=S11091 12=S11089 13=S10997 14=S10998

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 69022283

Date : 01/15/09 Reference : 09a15l00003
Sequence : MET06 09a15l00 Analyzed : 01/15/09 11:39

#	Type	Sample ID	LI A	SC A	SC E	SC H	GE H	GE E	IN A	BI A	Y A	TB A
		IB+ICALBLK STD	2899199	2435486	21641	1394282	312861	18722	3698856	3612640	3557393	5346743
		LOWER LIMIT	869760	730646	6492	418285	93858	5617	1109657	1083792	1067218	1604023
		UPPER LIMIT	3479039	2922583	25969	1673138	375433	22466	4438627	4335168	4268872	6416092
014	ICB		2794714	2448989	22306	1426698	319067	19635	3707971	3652598	3572442	5403082
015	ICSA		1510679	1323393	16473	954841	191709	12935	1976930	1957248	1952399	3190268
016	ICSAB		1465369	1279596	15343	884053	176304	11909	2007144	1959350	1956619	3252348
022	MSS	209202-001	1929175	1653175	17361	887453	162767	11785	1924557	1695797	2064269	2973979
023	SER	QC479179	2615616	2265827	21866	1214487	244294	16495	2922575	2569129	3046721	4345481
024	MSS	209202-001	2004811	1743571	18764	905339	164647	12333	1995875	1741843	2153130	3066741
025	MS	QC479177	1957628	1740662	18698	924590	166408	12175	2006610	1749440	2172648	3098673
026	MSD	QC479178	1951756	1798286	18948	956543	170017	12535	2057331	1799716	2222961	3198366
027	CCV		3165196	2784863	24404	1382089	297819	19677	3692514	3344640	3806639	5326893
031	CCB		2911197	2601993	23799	1362818	298473	20275	3776366	3599076	3700192	5371460
032	PDS	QC479180	1839178	1680993	17841	883914	158809	12152	1993576	1751293	2153966	3140111
033	CCV		2996654	2696686	25287	1358516	291580	20728	3648520	3359214	3742308	5354149
035	CCB		2921117	2596888	23212	1272001	281270	19991	3759500	3553167	3675384	5377197
036	MSS	209238-003	2874245	2506746	23375	1326454	293113	20112	3730685	3508463	3591132	5267852
037	SER	QC479328	2969065	2615488	23760	1345230	296165	20208	3817245	3617446	3764965	5384729
038	MS	QC479326	2752564	2482356	23489	1307252	287841	20003	3655778	3518451	3573334	5265570
039	MSD	QC479327	2851896	2509779	23837	1296186	288021	20476	3693797	3565590	3622200	5305989
040	PDS	QC479329	2567395	2397207	23014	1265600	273813	19336	3454956	3256327	3439102	5109077
041	SAMPLE	209238-004	2777117	2460989	22760	1278981	283043	19748	3707803	3553294	3594043	5359793
042	SAMPLE	209238-005	2761704	2427607	22851	1234747	274458	19825	3682783	3536737	3571670	5289576
043	SAMPLE	209238-006	2724081	2407235	23058	1253113	277934	19899	3705602	3572861	3560241	5281909
044	SAMPLE	209238-007	2554386	2344844	21825	1225004	269065	18680	3462336	3258563	3401599	5141111
045	CCV		2554855	2297398	21547	1197448	262758	18408	3418455	3287896	3364796	5115289
047	CCB		2603427	2323143	20982	1206175	271211	18548	3603711	3516252	3448357	5284984
048	SAMPLE	208905-002	2460238	2221613	21031	1193333	268966	18338	3513944	3458382	3337720	5206127
049	SAMPLE	208905-003	2442456	2231103	21139	1128050	247403	17983	3299368	3073683	3239430	4886566
050	SAMPLE	208905-004	2593171	2349681	21422	1171182	257887	18351	3446811	3243413	3397302	5142429
051	SAMPLE	208905-001	2344217	2124894	20078	1145786	256825	17687	3404900	3332172	3220860	5085913
052	SAMPLE	208905-002	2495716	2231171	19790	1153152	260315	17662	3592258	3491847	3340737	5277987
053	SAMPLE	208905-003	2466545	2248131	20939	1241186	261979	17843	3337313	3097990	3273082	4912332
054	SAMPLE	208905-004	2468456	2212946	20773	1145984	252922	17856	3302794	3111719	3248705	4946335
055	CCV		2455184	2262776	20541	1140373	251507	17758	3377584	3249620	3339731	5117217
056	CCB		2599362	2329322	20784	1170890	261294	18370	3627981	3595924	3483573	5316337
058	ICSA		1358259	1306822	15742	781497	159475	12481	2040107	1997466	2022615	3279789
059	ICSAB		1276380	1241816	14254	690352	144636	11348	2019301	1958315	1976129	3252305
062	SAMPLE	209202-002	1744302	1616478	17015	722108	138044	11831	1980511	1732900	2110448	3062454
063	SAMPLE	209202-003	1792417	1695679	17663	746598	139699	11864	2009363	1732667	2169666	3058510
064	SAMPLE	209202-004	1790484	1705479	18136	751837	141249	12155	2010713	1717392	2188277	3061512
065	SAMPLE	209202-005	1879756	1788169	18372	729191	138870	12195	2078332	1759202	2263958	3140078
068	SAMPLE	209202-006	2154524	2004540	19537	876481	167590	14025	2543527	2185217	2675852	3815623
069	PDS	QC479180	1753472	1687225	17736	701568	133125	11890	2018078	1753477	2200240	3151375
070	CCV		2805265	2605731	22865	1068061	235934	18990	3549845	3158981	3641701	5063163
072	CCB		2882588	2666178	23247	1090933	244454	20010	3770692	3469855	3787506	5272082
073	MSS	209191-001	2599683	2523655	23449	1056564	231261	19611	3489914	3279805	3653337	5099379
074	SER	QC479249	2666369	2568099	23028	1036754	230362	19626	3662027	3426665	3701868	5263185
075	MS	QC479247	2539429	2523707	23172	1046407	228812	19479	3534897	3259865	3667371	5129154
076	MSD	QC479248	2584838	2528729	23059	1044476	222250	19076	3506989	3273539	3648751	5063209
077	PDS	QC479250	2442141	2402534	22557	1039711	223740	18633	3385333	3112152	3509213	5010239

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 69022283

Date : 01/15/09 Reference : 09a15l00003
Sequence : MET06 09a15l00 Analyzed : 01/15/09 11:39

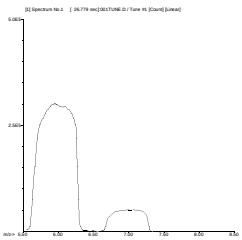
#	Type	Sample ID	LI A	SC A	SC E	SC H	GE H	GE E	IN A	BI A	Y A	TB A
078	SAMPLE	209188-001	2505376	2409977	22452	1039275	220662	18700	3404716	3171349	3490900	4964761
079	SAMPLE	209188-002	2485774	2460668	23424	1014762	219804	19599	3463624	3221073	3580998	4993986
080	SAMPLE	209188-003	2563408	2501943	22803	1014722	222417	19357	3597585	3374292	3639736	5127421
081	SAMPLE	209188-004	2647721	2523570	23222	1024326	227047	19618	3639338	3406423	3704854	5227821
082	SAMPLE	209188-005	2500595	2450052	22636	1007156	221352	19143	3472077	3281192	3573980	4991216
083	CCV		2525882	2383078	21536	990288	221651	18521	3444214	3158022	3478617	5031577
085	CCB		2548224	2388872	20985	994556	225666	18532	3610160	3425663	3518960	5172306
089	ICSA		1273761	1322345	15718	655132	136757	12489	1972583	1902755	1996717	3159486
090	ICSAB		1219843	1266590	14565	615646	127710	11562	1975377	1879387	1988778	3170627
093	BLANK	QC479545	2405479	2297700	19413	892258	199560	17343	3644073	3457840	3499421	5385997
094	BS	QC479546	2332274	2240801	18921	851485	190721	16689	3477998	3279713	3365811	5137458
095	BSD	QC479547	2426604	2232961	18546	834359	188331	16415	3447105	3271590	3348023	5111437
096	MSS	209305-002	2505311	2476852	21009	886334	200857	18518	3661365	3383567	3731670	5262385
097	SER	QC479550	2508237	2467551	20256	867667	200996	18429	3767278	3505348	3744039	5365784
098	MS	QC479548	2541704	2476017	20846	856171	195069	18332	3638631	3380002	3668183	5272668
099	MSD	QC479549	2468230	2407374	20519	862982	194102	17965	3596793	3344547	3614944	5170106
100	PDS	QC479551	2381277	2356968	19679	848052	189740	17073	3398391	3112069	3490600	5004080
101	CCV		2424729	2305761	19348	829616	190182	16889	3369121	3128253	3373553	5021487
102	CCB		2533311	2393347	19618	871965	201017	17913	3662287	3425980	3545364	5198799
104	SAMPLE	209305-001	2607225	2558231	20925	871193	196965	18526	3758980	3477771	3793785	5421030
105	SAMPLE	209305-003	2611276	2511376	20344	862796	194085	18238	3708160	3421056	3730578	5289345
106	SAMPLE	209266-001	2478659	2379036	19568	817467	188224	17560	3565789	3362256	3534043	5085512
107	SAMPLE	209266-002	2524354	2441944	19928	832208	193126	17944	3695989	3450608	3622278	5276701
108	SAMPLE	209266-006	2488619	2423948	19811	815081	185940	17337	3615567	3364752	3630136	5176273
109	SAMPLE	209266-007	2465945	2359921	19685	821291	189094	17686	3580168	3356062	3527700	5196649
110	SAMPLE	209266-013	2457153	2402706	19759	799766	186220	17663	3578340	3422689	3567228	5153317
111	SAMPLE	209266-014	2491976	2396267	19649	808618	187871	17457	3609019	3427389	3590199	5192518
112	CCV		2360851	2258582	19284	826168	187330	17178	3332531	3092036	3315862	4938986
113	CCB		2407490	2305333	18799	815001	190027	17088	3567363	3369148	3452868	5139561
115	ICSA		1220021	1308762	14592	556954	119005	11889	2043026	1935519	2038361	3229330
116	ICSAB		1183213	1246446	13276	525076	110765	10823	2060659	1918184	2038307	3243636

MET06 QC Tune Report

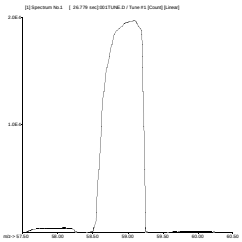
Data File: C:\ICPCHEM\1\DATA\09A15l00.B\001TUNE.D
Date Acquired: Jan 15 2009 11:23 am
Acq. Method: TN6020.M
Operator:
Sample Name: tun,s11076
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\TN6020.M

RSD (%)

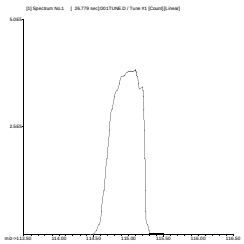
Element	Actual	Required	Flag
7 Li	1.26	5.00	
59 Co	1.57	5.00	
115 In	1.49	5.00	
205 Tl	1.57	5.00	



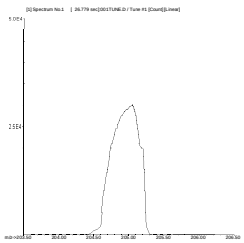
7 Li
Mass Calib.
Actual: 7.00
Required: 6.90 - 7.10
Flag:
Peak Width
Actual: 0.55
Required: 0.90
Flag:



59 Co
Mass Calib.
Actual: 59.05
Required: 58.90 - 59.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:



115 In
Mass Calib.
Actual: 115.00
Required: 114.90 - 115.10
Flag:
Peak Width
Actual: 0.55
Required: 0.90
Flag:



205 Tl
Mass Calib.
Actual: 205.00
Required: 204.90 - 205.10
Flag:
Peak Width
Actual: 0.55
Required: 0.90
Flag:

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 209191 METALS Water: EPA 6020

Inst : MET06 Reviewer : ---
Calnum : 69022283001 Date : 15-JAN-2009 11:39
Units : ug/L X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	09a15l00004	69022283004		15-JAN-2009 11:49	S11083, S10858
L2	09a15l00005	69022283005		15-JAN-2009 11:59	S11084, S10858
L3	09a15l00006	69022283006		15-JAN-2009 12:08	S11085, S10858
L4	09a15l00007	69022283007		15-JAN-2009 12:18	S11086, S10858
L5	09a15l00008	69022283008		15-JAN-2009 12:28	S11077, S10858
L6	09a15l00009	69022283009		15-JAN-2009 12:38	S11080, S10858

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Cadmium	A	0.0398	0.0381	0.0382	0.0392	0.0388	0.0380	BLNK	-0.0083	26.2301		0.0387	1.000	0.995	
Lead	A	0.3761	0.3409	0.3395	0.3361	0.3362	0.3330	BLNK	-0.0082	2.99738		0.3436	1.000	0.995	
Silver	A	0.1895	0.1717	0.1660	0.1668	0.1729	0.1673	BLNK	-0.0086	5.93776		0.1724	1.000	0.995	
Arsenic	E	0.2612	0.3186	0.3183	0.3200	0.3104	0.3041	BLNK	-0.0294	3.27487		0.3054	1.000	0.995	
Chromium	E	14.018	5.4293	4.4482	3.6484	3.4092	3.3591	BLNK	-0.2332	0.29719		5.7187	1.000	0.995	
Copper	E	54.846	28.744	11.159	7.7342	6.9029	6.7099	BLNK	-0.5515	0.14864		19.349	1.000	0.995	
Nickel	E	3.7558	3.7526	2.3158	2.2132	2.0370	1.9995	BLNK	-0.0606	0.49834		2.6790	1.000	0.995	
Zinc	E	18.833	2.8074	1.3780	0.7440	0.6557	0.6330	BLNK	-0.2190	1.57002		4.1751	0.999	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Cadmium	A	0.100	-4	0.500	-2	1.000	-1	10.00	3	100.0	2	200.0	0
Lead	A	0.100	5	0.500	1	1.000	1	10.00	1	100.0	1	200.0	0
Silver	A	0.100	4	0.500	0	1.000	-2	10.00	-1	100.0	3	200.0	-1
Arsenic	E	0.100	-44	0.500	-2	1.000	1	10.00	5	100.0	2	200.0	0
Chromium	E	0.100	83	0.500	15	1.000	9	10.00	6	100.0	1	200.0	0
Copper	E	0.100	164	0.500	217	1.000	11	10.00	9	100.0	2	200.0	-1
Nickel	E	0.100	27	0.500	75	1.000	9	10.00	10	100.0	1	200.0	0
Zinc	E	0.100	2638	0.500	297	1.000	94	10.00	15	100.0	3	200.0	-1

Instrument amount = a0 + response * a1 + response^2 * a2; BLNK=Y=aX+[blank]

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 209191 METALS Water
EPA 6020

Inst : MET06
Calnum : 69022283001 Cal Date : 15-JAN-2009

ICV 69022283012 (09a15l00012 15-JAN-2009) stds: S11088, S10858

Analyte	Ch	Average RF	RF	Spiked	Quant	Units	%D	Max	Flags
Cadmium	A	0.0387	0.0373	100.0	97.78	ug/L	-2	10	
Lead	A	0.3436	0.3179	100.0	95.29	ug/L	-5	10	
Silver	A	0.1724	0.1844	100.0	109.5	ug/L	10	10	
Arsenic	E	0.3054	0.3006	100.0	98.41	ug/L	-2	10	
Chromium	E	5.7187	3.2272	100.0	95.68	ug/L	-4	10	
Copper	E	19.349	6.5062	100.0	96.16	ug/L	-4	10	
Nickel	E	2.6790	1.9570	100.0	97.46	ug/L	-3	10	
Zinc	E	4.1751	0.6134	100.0	96.09	ug/L	-4	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69022283014 File : 09a15l00014 Time : 15-JAN-2009 13:26
Cal : 69022283001 Caldate : 15-JAN-2009

Analyte	Ch	Quant	IQL	2X MDL	Units	Flags
Cadmium	A	ND	0.1000	0.06044	ug/L	
Lead	A	ND	0.1000	0.05505	ug/L	
Silver	A	ND	0.1000	0.06124	ug/L	
Arsenic	E	ND	0.1000	0.06416	ug/L	
Chromium	E	ND	0.1000	0.03166	ug/L	
Copper	E	ND	0.1000	0.07274	ug/L	
Nickel	E	ND	0.1000	0.08200	ug/L	
Zinc	E	ND	0.1000	0.3547	ug/L	

ISTD (ICALBLK 09a15l00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2899199	2794714	-3.60
Scandium	A	2435486	2448989	0.55
Scandium	E	21641	22306	3.07
Scandium	H	1394282	1426698	2.32
Germanium	H	312861	319067	1.98
Germanium	E	18722	19635	4.88
Indium	A	3698856	3707971	0.25
Bismuth	A	3612640	3652598	1.11
Yttrium	A	3557393	3572442	0.42
Terbium	A	5346743	5403082	1.05

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69022283015 File : 09a15l00015 Time : 15-JAN-2009 13:36
Cal : 69022283001 Caldate : 15-JAN-2009
Standards: S11090, S10858

Analyte	Ch	Quant	IQL	Units	Flags
Cadmium	A	1.204	0.1000	ug/L	!a+
Lead	A	0.5834	0.1000	ug/L	!a+
Silver	A	0.2319	0.1000	ug/L	!a+
Arsenic	E	0.2237	0.1000	ug/L	!a+
Chromium	E	2.037	0.1000	ug/L	!a+
Copper	E	1.820	0.1000	ug/L	!a+
Nickel	E	1.277	0.1000	ug/L	!a+
Zinc	E	2.431	0.1000	ug/L	!a+

Interferent	Ch	Spiked	Quant	Units	%Rec
Aluminum	A	100000	113800	ug/L	114
Calcium	A	300000	339800	ug/L	113
Magnesium	A	100000	113300	ug/L	113
Molybdenum	A	2000	2360	ug/L	118
Potassium	A	100000	116000	ug/L	116
Sodium	E	250000	289700	ug/L	116
Iron	H	250000	270300	ug/L	108

ISTD (ICALBLK 09a15l00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2899199	1510679	-47.89
Scandium	A	2435486	1323393	-45.66
Scandium	E	21641	16473	-23.88
Scandium	H	1394282	954841	-31.52
Germanium	H	312861	191709	-38.72
Germanium	E	18722	12935	-30.91
Indium	A	3698856	1976930	-46.55
Bismuth	A	3612640	1957248	-45.82
Yttrium	A	3557393	1952399	-45.12
Terbium	A	5346743	3190268	-40.33

!=warning +=high bias a=ICSA

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69022283016 File : 09a15l00016 Time : 15-JAN-2009 13:47
Cal : 69022283001 Caldate : 15-JAN-2009
Standards: S11091, S10858

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Cadmium	A	100.0	104.8	ug/L	5	20	
Silver	A	50.00	51.83	ug/L	4	20	
Arsenic	E	100.0	109.9	ug/L	10	20	
Chromium	E	200.0	235.7	ug/L	18	20	
Copper	E	200.0	213.9	ug/L	7	20	
Nickel	E	200.0	200.6	ug/L	0	20	
Zinc	E	100.0	101.4	ug/L	1	20	

ISTD (ICALBLK 09a15l00003)	Ch	ICALBLK Abund	Abund	%Drift
Scandium	H	1394282	884053	-36.59
Scandium	A	2435486	1279596	-47.46
Scandium	E	21641	15343	-29.10
Germanium	H	312861	176304	-43.65
Germanium	E	18722	11909	-36.39
Indium	A	3698856	2007144	-45.74
Yttrium	A	3557393	1956619	-45.00

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69022283027 File : 09a15l00027 Time : 15-JAN-2009 15:34
Cal : 69022283001 Caldate : 15-JAN-2009
Standards: S11089, S10858

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Cadmium	A	0.0387	0.0368	100.0	96.48	ug/L	-4	10	
Lead	A	0.3436	0.3099	100.0	92.88	ug/L	-7	10	
Silver	A	0.1724	0.1839	100.0	109.2	ug/L	9	10	
Arsenic	E	0.3054	0.2962	100.0	96.99	ug/L	-3	10	
Chromium	E	5.7187	3.0544	100.0	90.54	ug/L	-9	10	
Copper	E	19.349	6.4411	100.0	95.19	ug/L	-5	10	
Nickel	E	2.6790	1.8136	100.0	90.31	ug/L	-10	10	
Zinc	E	4.1751	0.6130	100.0	96.02	ug/L	-4	10	

ISTD (ICALBLK 09a15l00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2899199	3165196	9.17
Scandium	A	2435486	2784863	14.35
Scandium	E	21641	24404	12.77
Scandium	H	1394282	1382089	-0.87
Germanium	H	312861	297819	-4.81
Germanium	E	18722	19677	5.10
Indium	A	3698856	3692514	-0.17
Bismuth	A	3612640	3344640	-7.42
Yttrium	A	3557393	3806639	7.01
Terbium	A	5346743	5326893	-0.37

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69022283031 File : 09a15l00031 Time : 15-JAN-2009 16:15
Cal : 69022283001 Caldate : 15-JAN-2009

Analyte	Ch	Quant	IQL	2X MDL	Units	Flags
Cadmium	A	ND	0.1000	0.06044	ug/L	
Lead	A	ND	0.1000	0.05505	ug/L	
Silver	A	ND	0.1000	0.06124	ug/L	
Arsenic	E	ND	0.1000	0.06416	ug/L	
Chromium	E	ND	0.1000	0.03166	ug/L	
Copper	E	ND	0.1000	0.07274	ug/L	
Nickel	E	ND	0.1000	0.08200	ug/L	
Zinc	E	ND	0.1000	0.3547	ug/L	

ISTD (ICALBLK 09a15l00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2899199	2911197	0.41
Scandium	A	2435486	2601993	6.84
Scandium	E	21641	23799	9.97
Scandium	H	1394282	1362818	-2.26
Germanium	H	312861	298473	-4.60
Germanium	E	18722	20275	8.30
Indium	A	3698856	3776366	2.10
Bismuth	A	3612640	3599076	-0.38
Yttrium	A	3557393	3700192	4.01
Terbium	A	5346743	5371460	0.46

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69022283033 File : 09a15l00033 Time : 15-JAN-2009 16:43
Cal : 69022283001 Caldate : 15-JAN-2009
Standards: S11089, S10858

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Cadmium	A	0.0387	0.0369	100.0	96.67	ug/L	-3	10	
Lead	A	0.3436	0.3144	100.0	94.23	ug/L	-6	10	
Silver	A	0.1724	0.1842	100.0	109.4	ug/L	9	10	
Arsenic	E	0.3054	0.3059	100.0	100.1	ug/L	0	10	
Chromium	E	5.7187	3.0973	100.0	91.81	ug/L	-8	10	
Copper	E	19.349	6.3469	100.0	93.79	ug/L	-6	10	
Nickel	E	2.6790	1.8285	100.0	91.06	ug/L	-9	10	
Zinc	E	4.1751	0.6155	100.0	96.41	ug/L	-4	10	

ISTD (ICALBLK 09a15l00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2899199	2996654	3.36
Scandium	A	2435486	2696686	10.72
Scandium	E	21641	25287	16.85
Scandium	H	1394282	1358516	-2.57
Germanium	H	312861	291580	-6.80
Germanium	E	18722	20728	10.71
Indium	A	3698856	3648520	-1.36
Bismuth	A	3612640	3359214	-7.01
Yttrium	A	3557393	3742308	5.20
Terbium	A	5346743	5354149	0.14

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69022283035 File : 09a15l00035 Time : 15-JAN-2009 17:02
Cal : 69022283001 Caldate : 15-JAN-2009

Analyte	Ch	Quant	IQL	2X MDL	Units	Flags
Cadmium	A	ND	0.1000	0.06044	ug/L	
Lead	A	ND	0.1000	0.05505	ug/L	
Silver	A	ND	0.1000	0.06124	ug/L	
Arsenic	E	ND	0.1000	0.06416	ug/L	
Chromium	E	ND	0.1000	0.03166	ug/L	
Copper	E	ND	0.1000	0.07274	ug/L	
Nickel	E	ND	0.1000	0.08200	ug/L	
Zinc	E	ND	0.1000	0.3547	ug/L	

ISTD (ICALBLK 09a15l00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2899199	2921117	0.76
Scandium	A	2435486	2596888	6.63
Scandium	E	21641	23212	7.26
Scandium	H	1394282	1272001	-8.77
Germanium	H	312861	281270	-10.10
Germanium	E	18722	19991	6.78
Indium	A	3698856	3759500	1.64
Bismuth	A	3612640	3553167	-1.65
Yttrium	A	3557393	3675384	3.32
Terbium	A	5346743	5377197	0.57

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69022283058 File : 09a15l00058 Time : 15-JAN-2009 20:48
Cal : 69022283001 Caldate : 15-JAN-2009
Standards: S11090, S10858

Analyte	Ch	Quant	IQL	Units	Flags
Cadmium	A	1.218	0.1000	ug/L	!a+
Lead	A	0.5376	0.1000	ug/L	!a+
Silver	A	0.2047	0.1000	ug/L	!a+
Arsenic	E	0.2409	0.1000	ug/L	!a+
Chromium	E	1.997	0.1000	ug/L	!a+
Copper	E	1.729	0.1000	ug/L	!a+
Nickel	E	1.236	0.1000	ug/L	!a+
Zinc	E	2.419	0.1000	ug/L	!a+

Interferent	Ch	Spiked	Quant	Units	%Rec
Aluminum	A	100000	109000	ug/L	109
Calcium	A	300000	332600	ug/L	111
Magnesium	A	100000	107000	ug/L	107
Molybdenum	A	2000	2300	ug/L	115
Potassium	A	100000	113300	ug/L	113
Sodium	E	250000	279400	ug/L	112
Iron	H	250000	277100	ug/L	111

ISTD (ICALBLK 09a15l00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2899199	1358259	-53.15
Scandium	A	2435486	1306822	-46.34
Scandium	E	21641	15742	-27.26
Scandium	H	1394282	781497	-43.95
Germanium	H	312861	159475	-49.03
Germanium	E	18722	12481	-33.34
Indium	A	3698856	2040107	-44.84
Bismuth	A	3612640	1997466	-44.71
Yttrium	A	3557393	2022615	-43.14
Terbium	A	5346743	3279789	-38.66

!=warning +=high bias a=ICSA

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 209191 METALS Water
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69022283059 File : 09a15l00059 Time : 15-JAN-2009 20:58
Cal : 69022283001 Caldate : 15-JAN-2009
Standards: S11091, S10858

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Cadmium	A	100.0	102.3	ug/L	2	20	
Silver	A	50.00	50.08	ug/L	0	20	
Arsenic	E	100.0	110.3	ug/L	10	20	
Chromium	E	200.0	233.1	ug/L	17	20	
Copper	E	200.0	206.8	ug/L	3	20	
Nickel	E	200.0	199.7	ug/L	0	20	
Zinc	E	100.0	99.62	ug/L	0	20	

ISTD (ICALBLK 09a15l00003)	Ch	ICALBLK Abund	Abund	%Drift
Scandium	H	1394282	690352	-50.49
Scandium	A	2435486	1241816	-49.01
Scandium	E	21641	14254	-34.13
Germanium	H	312861	144636	-53.77
Germanium	E	18722	11348	-39.39
Indium	A	3698856	2019301	-45.41
Yttrium	A	3557393	1976129	-44.45

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 899022736

Instrument : MET16 Begun : 01/15/09 18:56
Method : EPA 6020 SOP Version : icpms_rv5

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	09a15s00001	TUN				01/15/09 18:56	1.0	1	
002	09a15s00002	X	RINSE			01/15/09 19:02	1.0	2	
003	09a15s00003	ICALBLK	CALBLANK			01/15/09 19:14	1.0	2	
004	09a15s00004	ICAL				01/15/09 19:26	1.0	3 2	
005	09a15s00005	ICAL				01/15/09 19:39	1.0	4 2	
006	09a15s00006	ICAL				01/15/09 19:51	1.0	5 2	
007	09a15s00007	ICAL				01/15/09 20:03	1.0	6 2	
008	09a15s00008	ICAL				01/15/09 20:16	1.0	7 2	
009	09a15s00009	ICAL				01/15/09 20:28	1.0	8 2	
010	09a15s00010	ICV				01/15/09 20:40	1.0	9 2	
011	09a15s00011	X				01/15/09 20:54	1.0	2	
012	09a15s00012	ICB				01/15/09 21:06	1.0	2	
013	09a15s00013	ICSA				01/15/09 21:14	1.0	10 2	7:CA=310000
014	09a15s00014	ICSAB				01/15/09 21:26	1.0	11 2	11:CA=330000
015	09a15s00015	X	RINSE			01/15/09 21:39	1.0	2	
016	09a15s00016	X	RINSE			01/15/09 21:52	1.0	2	
017	09a15s00017	MSS	208905-001	Water	146550	01/15/09 22:04	10.0	2	
018	09a15s00018	SER	QC477722	Water	146550	01/15/09 22:16	50.0	2	
019	09a15s00019	PDS	QC477723	Water	146550	01/15/09 22:29	10.0	12 13 2	
020	09a15s00020	SAMPLE	208905-003	Water	146550	01/15/09 22:41	500.0	2	
021	09a15s00021	SAMPLE	208905-004	Water	146550	01/15/09 22:53	500.0	2	
022	09a15s00022	SAMPLE	208905-003	Filtrate	146550	01/15/09 23:06	500.0	2	
023	09a15s00023	SAMPLE	208905-004	Filtrate	146550	01/15/09 23:18	500.0	2	
024	09a15s00024	CCV				01/15/09 23:31	1.0	14 2	
025	09a15s00025	CCB				01/15/09 23:43	1.0	2	
026	09a15s00026	X				01/15/09 23:55	1.0	2	
027	09a15s00027	BLANK	QC479403	Soil	146964	01/16/09 00:07	5.0	2	
028	09a15s00028	BS	QC479404	Soil	146964	01/16/09 00:20	10.0	2	
029	09a15s00029	BSD	QC479405	Soil	146964	01/16/09 00:32	10.0	2	
030	09a15s00030	MSS	209209-001	Soil	146964	01/16/09 00:44	50.0	2	
031	09a15s00031	SER	QC479408	Soil	146964	01/16/09 00:57	250.0	2	
032	09a15s00032	MS	QC479406	Soil	146964	01/16/09 01:09	50.0	2	
033	09a15s00033	MSD	QC479407	Soil	146964	01/16/09 01:21	50.0	2	
034	09a15s00034	PDS	QC479409	Soil	146964	01/16/09 01:34	50.0	12 13 2	2:PB=220
035	09a15s00035	SAMPLE	209209-002	Soil	146964	01/16/09 01:46	50.0	2	
036	09a15s00036	SAMPLE	209209-003	Soil	146964	01/16/09 01:58	50.0	2	
037	09a15s00037	CCV				01/16/09 02:11	1.0	14 2	
038	09a15s00038	CCB				01/16/09 02:23	1.0	2	
039	09a15s00039	X				01/16/09 02:35	1.0	2	
040	09a15s00040	SAMPLE	209209-004	Soil	146964	01/16/09 02:48	50.0	2	1:ZN=770
041	09a15s00041	SAMPLE	209209-005	Soil	146964	01/16/09 03:00	50.0	2	
042	09a15s00042	SAMPLE	209209-006	Soil	146964	01/16/09 03:12	50.0	2	
043	09a15s00043	SAMPLE	209125-001	Soil	146964	01/16/09 03:24	50.0	2	
044	09a15s00044	SAMPLE	209125-002	Soil	146964	01/16/09 03:37	50.0	2	
045	09a15s00045	SAMPLE	209125-003	Soil	146964	01/16/09 03:49	50.0	2	
046	09a15s00046	SAMPLE	209125-004	Soil	146964	01/16/09 04:00	50.0	2	
047	09a15s00047	SAMPLE	209125-005	Soil	146964	01/16/09 04:10	50.0	2	
048	09a15s00048	ICSA				01/16/09 04:20	1.0	10 2	7:CA=340000
049	09a15s00049	ICSAB				01/16/09 04:32	1.0	11 2	11:CA=320000
050	09a15s00050	CCV				01/16/09 04:45	1.0	14 2	
051	09a15s00051	X				01/16/09 04:57	1.0	2	
052	09a15s00052	CCB				01/16/09 05:09	1.0	2	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 899022736

Instrument : MET16 Begun : 01/15/09 18:56
Method : EPA 6020 SOP Version : icpms_rv5

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	09a15s00053	TUN				01/16/09 05:22	1.0	1	
054	09a15s00054	X	RINSE			01/16/09 05:28	1.0	2	
055	09a15s00055	X	RINSE			01/16/09 05:41	1.0	2	
056	09a15s00056	X	RINSE			01/16/09 05:53	1.0	2	
057	09a15s00057	PDS	QC479180	Filtrate	146911	01/16/09 06:05	5.0	12 13 2	5:NA=1400000
058	09a15s00058	SAMPLE	209202-002	Filtrate	146911	01/16/09 06:18	5.0	2	5:NA=1400000
059	09a15s00059	SAMPLE	209202-003	Filtrate	146911	01/16/09 06:30	5.0	2	5:NA=1400000
060	09a15s00060	SAMPLE	209202-004	Filtrate	146911	01/16/09 06:43	5.0	2	5:NA=1400000
061	09a15s00061	SAMPLE	209202-005	Filtrate	146911	01/16/09 06:55	5.0	2	5:NA=1300000
062	09a15s00062	SAMPLE	209202-006	Filtrate	146911	01/16/09 07:08	5.0	2	6:NA=650000
063	09a15s00063	CCV				01/16/09 07:20	1.0	14 2	
064	09a15s00064	CCB				01/16/09 07:32	1.0	2	
065	09a15s00065	X				01/16/09 07:45	1.0	2	
066	09a15s00066	ICSA				01/16/09 07:57	1.0	10 2	7:CA=310000
067	09a15s00067	ICSAB				01/16/09 08:09	1.0	11 2	10:CA=340000
068	09a15s00068	X	RINSE			01/16/09 08:22	1.0	2	
069	09a15s00069	X	RINSE			01/16/09 08:34	1.0	2	
070	09a15s00070	BLANK	QC479455	Water	146978	01/16/09 08:47	1.0	2	
071	09a15s00071	BS	QC479456	Water	146978	01/16/09 08:59	1.0	2	
072	09a15s00072	BSD	QC479457	Water	146978	01/16/09 09:11	1.0	2	
073	09a15s00073	MSS	209266-015	Water	146978	01/16/09 09:23	5.0	2	5:FE=65000
074	09a15s00074	SER	QC479460	Water	146978	01/16/09 09:36	25.0	2	
075	09a15s00075	MS	QC479458	Water	146978	01/16/09 09:48	5.0	2	1:FE=69000
076	09a15s00076	MSD	QC479459	Water	146978	01/16/09 10:00	5.0	2	1:FE=70000
077	09a15s00077	PDS	QC479461	Water	146978	01/16/09 10:13	5.0	12 13 2	3:FE=71000
078	09a15s00078	CCV				01/16/09 10:25	1.0	14 2	
079	09a15s00079	X				01/16/09 10:37	1.0	2	
080	09a15s00080	CCB				01/16/09 10:49	1.0	2	
081	09a15s00081	X				01/16/09 10:59	1.0	14 2	
082	09a15s00082	X				01/16/09 11:11	1.0	2	
083	09a15s00083	X				01/16/09 11:24	1.0	2	
084	09a15s00084	X				01/16/09 11:32	1.0	14 2	
085	09a15s00085	X				01/16/09 11:44	1.0	2	
086	09a15s00086	X				01/16/09 11:54	1.0	2	
087	09a15s00087	ICSA				01/16/09 12:03	1.0	10 2	7:CA=310000
088	09a15s00088	ICSAB				01/16/09 12:15	1.0	11 2	12:CA=330000

RCH 01/16/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 67.

Standards used: 1=S11076 2=S10858 3=S11083 4=S11084 5=S11085 6=S11086 7=S11077 8=S11080 9=S11088 10=S11090 11=S11091 12=S10997 13=S10998 14=S11089

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 899022736

Date : 01/15/09 Reference : 09a15s00003
Sequence : MET16 09a15s00 Analyzed : 01/15/09 19:14

#	Type	Sample ID	LI A	SC A	SC E	SC H	GE H	GE E	IN A	BI A	Y A	TB A
		IB+ICALBLK STD	3193805	3437192	91934	449348	114369	59188	4009852	3369907	4361122	5375601
		LOWER LIMIT	958142	1031158	27580	134804	34311	17756	1202956	1010972	1308337	1612680
		UPPER LIMIT	3832566	4124630	110321	539218	137243	71026	4811822	4043888	5233346	6450721
012	ICB		3561486	3581532	91962	323216	76090	56538	3939950	3244960	4353027	5280230
013	ICSA		2518692	2930085	85936	495651	107124	48720	3166144	2528838	3762753	4722316
014	ICSAB		2110923	2730527	73163	394055	85299	42428	3029041	2421659	3575998	4478632
017	MSS	208905-001	2753745	3150252	68561	343242	81333	43221	3656820	3138550	3999514	4982455
018	SER	QC477722	2696412	3085559	69006	334102	78837	43687	3657428	3118445	3973165	4927398
019	PDS	QC477723	2644504	3162958	71539	299163	68523	44115	3539480	2995230	4007968	4992523
020	SAMPLE	208905-003	2651689	3170171	72669	282537	65781	45387	3666161	3091187	4048165	4987417
021	SAMPLE	208905-004	2708476	3244418	74507	323315	75528	46275	3764725	3151400	4105857	5093310
022	SAMPLE	208905-003	2753254	3238463	73569	323848	75380	45704	3739316	3126468	4110068	5013784
023	SAMPLE	208905-004	2816898	3232085	77245	337329	78543	46919	3698043	3092178	4083225	5041776
024	CCV		2984971	3357606	75544	295174	67406	45434	3601569	2989622	4111300	4975163
025	CCB		2917141	3231271	76130	263848	60268	45961	3653398	3048804	4050524	4903894
027	BLANK	QC479403	2828787	3250143	74557	242719	55732	45515	3694047	3123255	4093388	4979406
028	BS	QC479404	3084461	3398085	77985	269539	61126	47302	3752279	3109568	4204849	5083570
029	BSD	QC479405	3066039	3318196	77094	234813	52516	46100	3672176	3049193	4096977	4939873
030	MSS	209209-001	3247361	3451169	79433	182817	39803	46701	3687290	3020167	4170952	4935299
031	SER	QC479408	3289325	3527038	76762	177187	38617	45937	3787418	3106150	4269691	5065002
032	MS	QC479406	3281137	3515865	80283	179967	39029	47490	3678278	3019698	4208536	4956711
033	MSD	QC479407	3389393	3518701	78186	177572	38336	45612	3687430	2997102	4245299	4988162
034	PDS	QC479409	3301760	3468202	78602	222046	47928	46066	3673962	2924108	4203148	4988289
035	SAMPLE	209209-002	3409762	3501092	76431	162047	34829	45116	3682572	2971289	4199195	4932216
036	SAMPLE	209209-003	3336083	3461678	74666	158225	33894 *	43983	3641305	2938240	4175913	4870130
037	CCV		3618485	3540728	80175	194450	43700	46740	3725560	2962042	4249526	5073839
038	CCB		3660785	3518261	75646	201373	44531	44579	3792272	3030402	4218899	4993213
040	SAMPLE	209209-004	3453618	3429207	74778	159400	34538	43914	3597172	2922726	4116530	4825359
041	SAMPLE	209209-005	3441949	3499143	76101	152382	32560 *	44334	3653590	2944110	4173320	4913729
042	SAMPLE	209209-006	3597538	3525716	76391	148384	31670 *	44800	3715186	2996485	4195961	4952757
043	SAMPLE	209125-001	3641676	3553023	77067	140227	29611 *	44911	3683063	2956788	4240036	4906842
044	SAMPLE	209125-002	3662494	3576395	77022	139298	29583 *	44661	3767971	3009381	4281421	5023484
045	SAMPLE	209125-003	3649395	3537425	76166	141556	29897 *	44362	3677300	2937981	4229982	4928179
046	SAMPLE	209125-004	3787746	3650915	76162	136945	28673 *	44264	3762474	2987211	4338821	5021079
047	SAMPLE	209125-005	3740037	3613415	76954	136083	28304 *	44476	3699476	2946256	4277228	4896729
048	ICSA		2496469	2750100	74951	280869	56593	41231	2865470	2220118	3444622	4172084
049	ICSAB		2407510	2844219	67985	233914	47806	38378	2971493	2300394	3584476	4363262
050	CCV		3149628	3384371	66009	154680	34308 *	40413	3602571	2888003	4134205	4892647
052	CCB		3025520	3280966	65409	150015	32741 *	40093	3641239	3021249	4044924	4866105
057	PDS	QC479180	2801746	2896277	74306	267120	50698	38778	2893190	2154462	3478579	4113321
058	SAMPLE	209202-002	2949505	3036062	76943	212842	40193	40062	3133914	2242928	3659974	4381855
059	SAMPLE	209202-003	3083532	3100459	78556	187286	34447	40355	3113624	2186468	3688848	4290066
060	SAMPLE	209202-004	3039950	3120607	79139	180678	33228 *	40479	3219433	2233394	3801822	4470361
061	SAMPLE	209202-005	2993978	2942864	81591	176243	32056 *	41083	2997187	2106133	3560253	4190863
062	SAMPLE	209202-006	3607268	3443015	82884	169388	32141 *	43470	3507975	2475698	4128484	4820194
063	CCV		4183415 *	3780895	82861	162607	34890	48264	4056556	2994836	4618219	5307720
064	CCB		4318515 *	3801471	80571	163136	34688	47504	4071810	3094700	4580803	5286867
066	ICSA		3149851	3292647	75251	183718	36014	41039	3334857	2451731	4038134	4776111
067	ICSAB		2595991	2878004	66658	149830	29649 *	37589	2947179	2208984	3560835	4299843
070	BLANK	QC479455	3565980	3510593	65962	120575 *	25980 *	41198	3821247	3072165	4316046	5103562
071	BS	QC479456	3401006	3474464	65663	109786 *	22534 *	40129	3734095	2904217	4313536	5044130

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 899022736

Date : 01/15/09 Reference : 09a15s00003
Sequence : MET16 09a15s00 Analyzed : 01/15/09 19:14

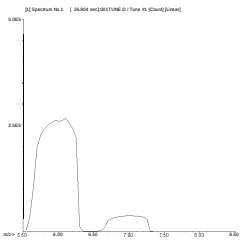
#	Type	Sample ID	LI A	SC A	SC E	SC H	GE H	GE E	IN A	BI A	Y A	TB A
072	BSD	QC479457	3545096	3576707	65508	98846 *	20610 *	40248	3822347	2940420	4408907	5161681
073	MSS	209266-015	3610647	3998298	74864	104103 *	18558 *	39997	3630792	2802912	4984094	4969746
074	SER	QC479460	3657231	3422666	68333	80129 *	15924 *	40957	3525308	2767134	4161442	4620710
075	MS	QC479458	3775087	4078663	75370	104472 *	18556 *	39826	3676372	2818187	5050039	5040456
076	MSD	QC479459	3795495	4020078	72113	101863 *	17862 *	37889	3634305	2788354	5003453	4932856
077	PDS	QC479461	3796945	3888298	66766	106613 *	19106 *	36044	3552321	2744573	4861385	4888859
078	CCV		4062855 *	3466995	64110	92815 *	19860 *	38629	3655347	2843205	4235534	4905274
080	CCB		3741170	3163825	65867	81602 *	16787 *	40506	3442832	2702061	3849469	4496716
087	ICSA		3084804	3101554	65442	134882	26492 *	36360	3140625	2318330	3767129	4519035
088	ICSAB		2979380	3059195	59985	111080 *	22300 *	34092	3086953	2306461	3753235	4444304

MET16 QC Tune Report

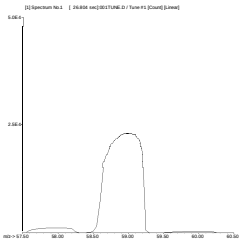
Data File: C:\ICPCHEM\1\DATA\09A15s00.B\001TUNE.D
Date Acquired: Jan 15 2009 06:56 pm
Acq. Method: TN6020.M
Operator:
Sample Name: tun,s11076
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\TN6020.M

RSD (%)

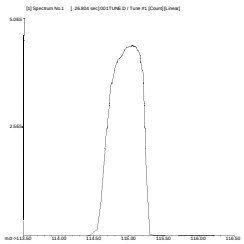
Element	Actual	Required	Flag
7 Li	1.06	5.00	
59 Co	1.02	5.00	
115 In	1.18	5.00	
205 Tl	1.07	5.00	



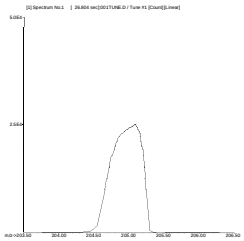
7 Li
Mass Calib.
Actual: 7.00
Required: 6.90 - 7.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:



59 Co
Mass Calib.
Actual: 59.00
Required: 58.90 - 59.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90 - 115.10
Flag:
Peak Width
Actual: 0.65
Required: 0.90
Flag:



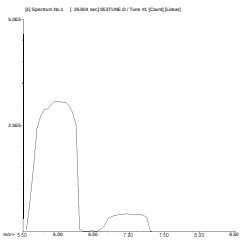
205 Tl
Mass Calib.
Actual: 205.05
Required: 204.90 - 205.10
Flag:
Peak Width
Actual: 0.65
Required: 0.90
Flag:

MET16 QC Tune Report

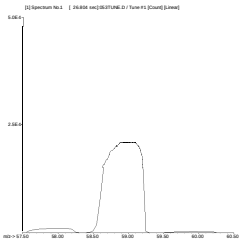
Data File: C:\ICPCHEM\1\DATA\09A15s00.B\053TUNE.D
Date Acquired: Jan 16 2009 05:22 am
Acq. Method: TN6020.M
Operator:
Sample Name: tun,s11076
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\TN6020.M

RSD (%)

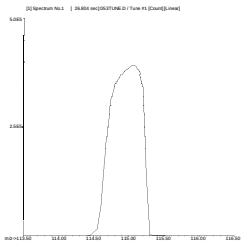
Element	Actual	Required	Flag
7 Li	2.35	5.00	
59 Co	3.20	5.00	
115 In	1.78	5.00	
205 Tl	0.55	5.00	



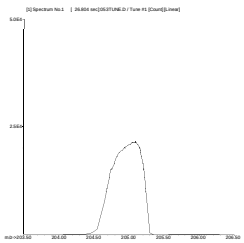
7 Li
Mass Calib.
Actual: 7.00
Required: 6.90 - 7.10
Flag:
Peak Width
Actual: 0.65
Required: 0.90
Flag:



59 Co
Mass Calib.
Actual: 59.00
Required: 58.90 - 59.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90 - 115.10
Flag:
Peak Width
Actual: 0.65
Required: 0.90
Flag:



205 Tl
Mass Calib.
Actual: 205.05
Required: 204.90 - 205.10
Flag:
Peak Width
Actual: 0.65
Required: 0.90
Flag:

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 209191 METALS Water: EPA 6020

Inst : MET16 Reviewer : ---
Calnum : 899022736001 Date : 15-JAN-2009 19:14
Units : ug/L X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	09a15s00004	899022736004		15-JAN-2009 19:26	S11083, S10858
L2	09a15s00005	899022736005		15-JAN-2009 19:39	S11084, S10858
L3	09a15s00006	899022736006		15-JAN-2009 19:51	S11085, S10858
L4	09a15s00007	899022736007		15-JAN-2009 20:03	S11086, S10858
L5	09a15s00008	899022736008		15-JAN-2009 20:16	S11077, S10858
L6	09a15s00009	899022736009		15-JAN-2009 20:28	S11080, S10858

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Cadmium	A	0.0338	0.0304	0.0314	0.0301	0.0310	0.0304	BLNK	-0.0059	32.8008		0.0312	1.000	0.995	
Lead	A	0.4516	0.2921	0.2752	0.2532	0.2583	0.2536	BLNK	-0.0535	3.93073		0.2973	1.000	0.995	
Silver	A	0.1607	0.1449	0.1428	0.1379	0.1423	0.1411	BLNK	-0.0059	7.07370		0.1450	1.000	0.995	
Arsenic	E	0.3227	0.2653	0.2433	0.2378	0.2420	0.2409	BLNK	-0.0366	4.14858		0.2587	1.000	0.995	
Chromium	E	41.978	9.3096	3.9070	1.7103	1.5839	1.5699	BLNK	-0.1181	0.63615		10.010	1.000	0.995	
Copper	E	61.942	9.9499	5.6267	3.4126	3.2779	3.1574	BLNK	-0.1375	0.31453		14.561	1.000	0.995	
Nickel	E	11.104	2.6055	1.2958	0.7696	0.7114	0.6959	BLNK	-0.0406	1.43061		2.8637	1.000	0.995	
Zinc	E	7.6504	1.6439	1.2181	0.4888	0.4248	0.4233	BLNK	-0.4005	2.36563		1.9749	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Cadmium	A	0.100	5	0.500	-1	1.000	2	10.00	-1	100.0	2	200.0	0
Lead	A	0.100	24	0.500	4	1.000	3	10.00	-1	100.0	1	200.0	0
Silver	A	0.100	8	0.500	1	1.000	0	10.00	-3	100.0	1	200.0	0
Arsenic	E	0.100	-3	0.500	3	1.000	-3	10.00	-2	100.0	0	200.0	0
Chromium	E	0.100	2452	0.500	469	1.000	137	10.00	8	100.0	1	200.0	0
Copper	E	0.100	1711	0.500	185	1.000	63	10.00	6	100.0	3	200.0	-1
Nickel	E	0.100	1448	0.500	265	1.000	81	10.00	10	100.0	2	200.0	0
Zinc	E	0.100	1309	0.500	209	1.000	148	10.00	12	100.0	0	200.0	0

Instrument amount = a0 + response * a1 + response^2 * a2; BLNK=Y=aX+[blank]

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 209191 METALS Water
EPA 6020

Inst : MET16
Calnum : 899022736001 Cal Date : 15-JAN-2009

ICV 899022736010 (09a15s00010 15-JAN-2009) stds: S11088, S10858

Analyte	Ch	Average RF	RF	Spiked	Quant	Units	%D	Max	Flags
Cadmium	A	0.0312	0.0302	100.0	99.00	ug/L	-1	10	
Lead	A	0.2973	0.2462	100.0	96.71	ug/L	-3	10	
Silver	A	0.1450	0.1542	100.0	109.1	ug/L	9	10	
Arsenic	E	0.2587	0.2393	100.0	99.26	ug/L	-1	10	
Chromium	E	10.010	1.5109	100.0	96.00	ug/L	-4	10	
Copper	E	14.561	3.1297	100.0	98.30	ug/L	-2	10	
Nickel	E	2.8637	0.6897	100.0	98.64	ug/L	-1	10	
Zinc	E	1.9749	0.4030	100.0	94.93	ug/L	-5	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Water
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 899022736012 File : 09a15s00012 Time : 15-JAN-2009 21:06
Cal : 899022736001 Caldate : 15-JAN-2009

Analyte	Ch	Quant	IQL	2X MDL	Units	Flags
Cadmium	A	ND	0.1000	0.02757	ug/L	
Lead	A	ND	0.1000	0.04402	ug/L	
Silver	A	ND	0.1000	0.02926	ug/L	
Arsenic	E	ND	0.1000	0.03563	ug/L	
Chromium	E	ND	0.1000	0.08000	ug/L	
Copper	E	ND	0.1000	0.08496	ug/L	
Nickel	E	ND	0.1000	0.07446	ug/L	
Zinc	E	ND	0.1000	0.2752	ug/L	

ISTD (ICALBLK 09a15s00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	3193805	3561486	11.51
Scandium	A	3437192	3581532	4.20
Scandium	E	91934	91962	0.03
Scandium	H	449348	323216	-28.07
Germanium	H	114369	76090	-33.47
Germanium	E	59188	56538	-4.48
Indium	A	4009852	3939950	-1.74
Bismuth	A	3369907	3244960	-3.71
Yttrium	A	4361122	4353027	-0.19
Terbium	A	5375601	5280230	-1.77

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 209191 METALS Water
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 899022736048 File : 09a15s00048 Time : 16-JAN-2009 04:20
Cal : 899022736001 Caldate : 15-JAN-2009
Standards: S11090, S10858

Analyte	Ch	Quant	IQL	Units	Flags
Cadmium	A	1.589	0.1000	ug/L	!a+
Lead	A	0.5476	0.1000	ug/L	!a+
Silver	A	0.2458	0.1000	ug/L	!a+
Arsenic	E	0.2372	0.1000	ug/L	!a+
Chromium	E	2.261	0.1000	ug/L	!a+
Copper	E	1.987	0.1000	ug/L	!a+
Nickel	E	1.567	0.1000	ug/L	!a+
Zinc	E	2.085	0.1000	ug/L	!a+

Interferent	Ch	Spiked	Quant	Units	%Rec
Aluminum	A	100000	110400	ug/L	110
Calcium	A	300000	340900	ug/L	114
Magnesium	A	100000	105600	ug/L	106
Molybdenum	A	2000	2236	ug/L	112
Potassium	A	100000	112600	ug/L	113
Sodium	E	250000	262400	ug/L	105
Iron	H	250000	247800	ug/L	99

ISTD (ICALBLK 09a15s00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	3193805	2496469	-21.83
Scandium	A	3437192	2750100	-19.99
Scandium	E	91934	74951	-18.47
Scandium	H	449348	280869	-37.49
Germanium	H	114369	56593	-50.52
Germanium	E	59188	41231	-30.34
Indium	A	4009852	2865470	-28.54
Bismuth	A	3369907	2220118	-34.12
Yttrium	A	4361122	3444622	-21.02
Terbium	A	5375601	4172084	-22.39

!=warning +=high bias a=ICSA

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 209191 METALS Water
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 899022736049 File : 09a15s00049 Time : 16-JAN-2009 04:32
Cal : 899022736001 Caldate : 15-JAN-2009
Standards: S11091, S10858

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Cadmium	A	100.0	105.6	ug/L	6	20	
Silver	A	50.00	52.39	ug/L	5	20	
Arsenic	E	100.0	107.4	ug/L	7	20	
Chromium	E	200.0	211.2	ug/L	6	20	
Copper	E	200.0	199.9	ug/L	0	20	
Nickel	E	200.0	194.9	ug/L	-3	20	
Zinc	E	100.0	92.68	ug/L	-7	20	

ISTD (ICALBLK 09a15s00003)	Ch	ICALBLK Abund	Abund	%Drift
Scandium	H	449348	233914	-47.94
Scandium	A	3437192	2844219	-17.25
Scandium	E	91934	67985	-26.05
Germanium	H	114369	47806	-58.20
Germanium	E	59188	38378	-35.16
Indium	A	4009852	2971493	-25.90
Yttrium	A	4361122	3584476	-17.81

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 METALS Water
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 899022736050 File : 09a15s00050 Time : 16-JAN-2009 04:45
Cal : 899022736001 Caldate : 15-JAN-2009
Standards: S11089, S10858

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Cadmium	A	0.0312	0.0307	100.0	100.6	ug/L	1	10	
Lead	A	0.2973	0.2461	100.0	96.70	ug/L	-3	10	
Silver	A	0.1450	0.1538	100.0	108.8	ug/L	9	10	
Arsenic	E	0.2587	0.2396	100.0	99.38	ug/L	-1	10	
Chromium	E	10.010	1.5649	100.0	99.43	ug/L	-1	10	
Copper	E	14.561	3.2707	100.0	102.7	ug/L	3	10	
Nickel	E	2.8637	0.7289	100.0	104.2	ug/L	4	10	
Zinc	E	1.9749	0.4064	100.0	95.74	ug/L	-4	10	

ISTD (ICALBLK 09a15s00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	3193805	3149628	-1.38
Scandium	A	3437192	3384371	-1.54
Scandium	E	91934	66009	-28.20
Scandium	H	449348	154680	-65.58
Germanium	H	114369	34308	**-70.00** *
Germanium	E	59188	40413	-31.72
Indium	A	4009852	3602571	-10.16
Bismuth	A	3369907	2888003	-14.30
Yttrium	A	4361122	4134205	-5.20
Terbium	A	5375601	4892647	-8.98

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Water
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 899022736052 File : 09a15s00052 Time : 16-JAN-2009 05:09
Cal : 899022736001 Caldate : 15-JAN-2009

Analyte	Ch	Quant	IQL	2X MDL	Units	Flags
Cadmium	A	ND	0.1000	0.02757	ug/L	
Lead	A	ND	0.1000	0.04402	ug/L	
Silver	A	ND	0.1000	0.02926	ug/L	
Arsenic	E	ND	0.1000	0.03563	ug/L	
Chromium	E	ND	0.1000	0.08000	ug/L	
Copper	E	ND	0.1000	0.08496	ug/L	
Nickel	E	ND	0.1000	0.07446	ug/L	
Zinc	E	ND	0.1000	0.2752	ug/L	

ISTD (ICALBLK 09a15s00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	3193805	3025520	-5.27
Scandium	A	3437192	3280966	-4.55
Scandium	E	91934	65409	-28.85
Scandium	H	449348	150015	-66.61
Germanium	H	114369	32741	**-71.37 ***
Germanium	E	59188	40093	-32.26
Indium	A	4009852	3641239	-9.19
Bismuth	A	3369907	3021249	-10.35
Yttrium	A	4361122	4044924	-7.25
Terbium	A	5375601	4866105	-9.48

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 METALS Water
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 899022736063 File : 09a15s00063 Time : 16-JAN-2009 07:20
Cal : 899022736001 Caldate : 15-JAN-2009
Standards: S11089, S10858

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Cadmium	A	0.0312	0.0306	100.0	100.2	ug/L	0	10	
Lead	A	0.2973	0.2367	100.0	92.99	ug/L	-7	10	
Silver	A	0.1450	0.1549	100.0	109.5	ug/L	10	10	
Arsenic	E	0.2587	0.2392	100.0	99.21	ug/L	-1	10	
Chromium	E	10.010	1.4823	100.0	94.18	ug/L	-6	10	
Copper	E	14.561	3.1660	100.0	99.44	ug/L	-1	10	
Nickel	E	2.8637	0.6765	100.0	96.74	ug/L	-3	10	
Zinc	E	1.9749	0.3952	100.0	93.09	ug/L	-7	10	

ISTD (ICALBLK 09a15s00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	3193805	4183415	**30.99 ***
Scandium	A	3437192	3780895	10.00
Scandium	E	91934	82861	-9.87
Scandium	H	449348	162607	-63.81
Germanium	H	114369	34890	-69.49
Germanium	E	59188	48264	-18.46
Indium	A	4009852	4056556	1.16
Bismuth	A	3369907	2994836	-11.13
Yttrium	A	4361122	4618219	5.90
Terbium	A	5375601	5307720	-1.26

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Water
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 899022736064 File : 09a15s00064 Time : 16-JAN-2009 07:32
Cal : 899022736001 Caldate : 15-JAN-2009

Analyte	Ch	Quant	IQL	2X MDL	Units	Flags
Cadmium	A	ND	0.1000	0.02757	ug/L	
Lead	A	ND	0.1000	0.04402	ug/L	
Silver	A	ND	0.1000	0.02926	ug/L	
Arsenic	E	ND	0.1000	0.03563	ug/L	
Chromium	E	ND	0.1000	0.08000	ug/L	
Copper	E	ND	0.1000	0.08496	ug/L	
Nickel	E	ND	0.1000	0.07446	ug/L	
Zinc	E	ND	0.1000	0.2752	ug/L	

ISTD (ICALBLK 09a15s00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	3193805	4318515	**35.22 ***
Scandium	A	3437192	3801471	10.60
Scandium	E	91934	80571	-12.36
Scandium	H	449348	163136	-63.69
Germanium	H	114369	34688	-69.67
Germanium	E	59188	47504	-19.74
Indium	A	4009852	4071810	1.55
Bismuth	A	3369907	3094700	-8.17
Yttrium	A	4361122	4580803	5.04
Terbium	A	5375601	5286867	-1.65

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 209191 METALS Water
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 899022736066 File : 09a15s00066 Time : 16-JAN-2009 07:57
Cal : 899022736001 Caldate : 15-JAN-2009
Standards: S11090, S10858

Analyte	Ch	Quant	IQL	Units	Flags
Cadmium	A	1.599	0.1000	ug/L	!a+
Lead	A	0.4638	0.1000	ug/L	!a+
Silver	A	0.2196	0.1000	ug/L	!a+
Arsenic	E	0.2611	0.1000	ug/L	!a+
Chromium	E	2.207	0.1000	ug/L	!a+
Copper	E	1.938	0.1000	ug/L	!a+
Nickel	E	1.562	0.1000	ug/L	!a+
Zinc	E	2.048	0.1000	ug/L	!a+

Interferent	Ch	Spiked	Quant	Units	%Rec
Aluminum	A	100000	102300	ug/L	102
Calcium	A	300000	307500	ug/L	103
Magnesium	A	100000	98230	ug/L	98
Molybdenum	A	2000	1986	ug/L	99
Potassium	A	100000	102100	ug/L	102
Sodium	E	250000	258500	ug/L	103
Iron	H	250000	258500	ug/L	103

ISTD (ICALBLK 09a15s00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	3193805	3149851	-1.38
Scandium	A	3437192	3292647	-4.21
Scandium	E	91934	75251	-18.15
Scandium	H	449348	183718	-59.11
Germanium	H	114369	36014	-68.51
Germanium	E	59188	41039	-30.66
Indium	A	4009852	3334857	-16.83
Bismuth	A	3369907	2451731	-27.25
Yttrium	A	4361122	4038134	-7.41
Terbium	A	5375601	4776111	-11.15

!=warning +=high bias a=ICSA

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 209191 METALS Water
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 899022736067 File : 09a15s00067 Time : 16-JAN-2009 08:09
Cal : 899022736001 Caldate : 15-JAN-2009
Standards: S11091, S10858

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Cadmium	A	100.0	111.4	ug/L	11	20	
Silver	A	50.00	55.47	ug/L	11	20	
Arsenic	E	100.0	108.9	ug/L	9	20	
Chromium	E	200.0	213.3	ug/L	7	20	
Copper	E	200.0	199.8	ug/L	0	20	
Nickel	E	200.0	195.4	ug/L	-2	20	
Zinc	E	100.0	92.92	ug/L	-7	20	

ISTD (ICALBLK 09a15s00003)	Ch	ICALBLK Abund	Abund	%Drift
Scandium	H	449348	149830	-66.66
Scandium	A	3437192	2878004	-16.27
Scandium	E	91934	66658	-27.49
Germanium	H	114369	29649	**-74.08 ***
Germanium	E	59188	37589	-36.49
Indium	A	4009852	2947179	-26.50
Yttrium	A	4361122	3560835	-18.35

SAMPLE PREPARATION SUMMARY

Batch # : 146911
Started By : KDG
Method : 200.8
Spike #1 ID : S10511

Prep Date : 13-JAN-2009 09:15
Spike #2 ID : S10512

Analysis : ICAP
Finished By : KDG
Units : mL

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
209191-018		Water	50	50	1	1.0						AG, AS, CD, CR, CU, NI, PB, ZN	
209195-002		Water	50	50	1	1.0						K, MN	
209195-003		Water	50	50	1	1.0						AS, CR, K, MN, SE	
209195-004		Water	50	50	1	1.0						K, MN	
209195-005		Water	50	50	1	1.0						K, MN	
209202-001		Filtrate	50	50	1	1.0						TAL/ICP	
209202-002		Filtrate	50	50	1	1.0						TAL/ICP	
209202-003		Filtrate	50	50	1	1.0						TAL/ICP	
209202-004		Filtrate	50	50	1	1.0						TAL/ICP	
209202-005		Filtrate	50	50	1	1.0						TAL/ICP	
209202-006		Filtrate	50	50	1	1.0						TAL/ICP	
QC479174	BLANK	Filtrate	50	50	1	1.0							
QC479175	BS	Filtrate	50	50	1	1.0		.25	.25				
QC479176	BSD	Filtrate	50	50	1	1.0		.25	.25				
QC479177	MS	Filtrate	50	50	1	1.0		.25	.25				
QC479178	MSD	Filtrate	50	50	1	1.0		.25	.25				
QC479179	SER	Filtrate	50	50	1	1.0							
QC479180	PDS	Filtrate	50	50	1	1.0							

Reviewed by: JYF Date: 01/15/09

Water Digestion for ICP-MS

Curtis & Tompkins, Ltd.

LIMS Batch #: HG911
Digested by: KW
Date Digested: 1/13/09
Time begun: 9-15

Digestion Method
☑ EPA 200.8 for ICP-MS
☐ _____

BK 2600
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Continued From: /
Continued On: /

Sample # and letter		Volume Sample (mL)	Final Volume (mL)	Filtered? (y/n)	Comments
BLK		50	50	N	
BS					
BSD					
MS-01	A				FIELD FILTERED
MSD-01					
209302-01					
-02					
-03					
-04	B				
-05	A				
-06					
BS-02	D				
-03					
-04	E				
-05					
191-18	I				

	Reagent ID or LIMS #	Initials / Date
Class-A digestion tubes, lot #	76500 3761	KW 1/13
digestion temperature (90-95 degrees C)	95	
.25 mL of spike solution was added to all spikes	310511	
	310512	
concentrated HCl	G36025 Baker	
concentrated HNO3	G41034	
☐ filtered thru' Whatman # 541		
Relinquished to ICP group	N/A	

Prep Chemist Signature / Date: 1/13/09

Reviewer Signature / Date: Robin Williams 1/13/09

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 849019590

Instrument : MET14 Begun : 01/13/09 14:30
Method : EPA 7470A SOP Version : HG_water_rv12

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	146892	ICALBLK	STD01REP1			01/13/09 14:30	1.0		
002	146892	ICAL	STD02REP1			01/13/09 14:32	1.0	1	
003	146892	ICAL	STD03REP1			01/13/09 14:34	1.0	1	
004	146892	ICAL	STD04REP1			01/13/09 14:36	1.0	1	
005	146892	ICAL	STD05REP1			01/13/09 14:39	1.0	1	
006	146892	ICAL	STD06REP1			01/13/09 14:41	1.0	1	
007	146892	ICV				01/13/09 14:45	1.0	2	
008	146892	ICB				01/13/09 14:47	1.0		
009	146892	BLANK	QC479099	Water	146892	01/13/09 14:49	1.0		
010	146892	BS	QC479100	Water	146892	01/13/09 14:51	1.0		
011	146892	BSD	QC479101	Water	146892	01/13/09 14:54	1.0		
012	146892	MSS	209191-018	Water	146892	01/13/09 14:56	1.0		
013	146892	SER	QC479104	Water	146892	01/13/09 14:58	5.0		
014	146892	MS	QC479102	Water	146892	01/13/09 15:00	1.0		
015	146892	MSD	QC479103	Water	146892	01/13/09 15:03	1.0		
016	146892	BLANK	QC479105	TCLP Leachate	146892	01/13/09 15:05	1.0		
017	146892	MSS	209147-001	TCLP Leachate	146892	01/13/09 15:07	1.0		
018	146892	MS	QC479106	TCLP Leachate	146892	01/13/09 15:09	1.0		
019	146892	CCV				01/13/09 15:12	1.0	3	
020	146892	CCB				01/13/09 15:14	1.0		
021	146892	MSD	QC479107	TCLP Leachate	146892	01/13/09 15:16	1.0		
022	146892	SAMPLE	209163-001	Filtrate	146892	01/13/09 15:18	1.0		
023	146892	SAMPLE	209163-002	Filtrate	146892	01/13/09 15:20	1.0		
024	146892	SAMPLE	209163-003	Filtrate	146892	01/13/09 15:22	1.0		
025	146892	SAMPLE	209163-004	Filtrate	146892	01/13/09 15:25	1.0		
026	146892	SAMPLE	209172-001	TCLP Leachate	146892	01/13/09 15:27	1.0		
027	146892	SAMPLE	209172-002	TCLP Leachate	146892	01/13/09 15:29	1.0		
028	146892	SAMPLE	209202-001	Filtrate	146892	01/13/09 15:31	1.0		
029	146892	SAMPLE	209202-002	Filtrate	146892	01/13/09 15:33	1.0		
030	146892	SAMPLE	209202-003	Filtrate	146892	01/13/09 15:35	1.0		
031	146892	CCV				01/13/09 15:38	1.0	3	
032	146892	CCB				01/13/09 15:40	1.0		
033	146892	SAMPLE	209202-004	Filtrate	146892	01/13/09 15:43	1.0		
034	146892	SAMPLE	209202-005	Filtrate	146892	01/13/09 15:45	1.0		
035	146892	SAMPLE	209202-006	Filtrate	146892	01/13/09 15:47	1.0		
036	146892	CCV				01/13/09 15:49	1.0	3	
037	146892	CCB				01/13/09 15:52	1.0		

PRW 01/13/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 001 through 037.

Standards used: 1=S11174 2=S11176 3=S11177

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 209191 METALS Water: EPA 7470A

Inst : MET14
Calnum : 849019590001
Units : ug/L

Date : 13-JAN-2009 14:30
X Axis : R

Reviewer : ---
Type : WATER

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	146892	849019590002	STD02REP1	13-JAN-2009 14:32	S11174 (500X)
L2	146892	849019590003	STD03REP1	13-JAN-2009 14:34	S11174 (200X)
L3	146892	849019590004	STD04REP1	13-JAN-2009 14:36	S11174 (50X)
L4	146892	849019590005	STD05REP1	13-JAN-2009 14:39	S11174 (20X)
L5	146892	849019590006	STD06REP1	13-JAN-2009 14:41	S11174 (10X)

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Mercury	2075.0	2030.0	1962.5	1977.6	1885.0	LINR	-0.0627	5.29E-4		1986.0	0.999	.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Mercury	0.200	-22	0.500	-5	2.000	1	5.000	3	10.00	-1

Instrument amount = a0 + response * a1 + response^2 * a2; LINR=Linear regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 209191 METALS Water
EPA 7470A

Inst : MET14
Calnum : 849019590001 Cal Date : 13-JAN-2009 Type : WATER

ICV 849019590007 (13-JAN-2009) stds: S11176

Analyte	Average RF	RF	Spiked	Quant	Units	%D	Max	Flags
Mercury	1986.0	2053.8	5.000	5.370	ug/L	7	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Water
EPA 7470A

Inst : MET14 IDF : 1.0
Seqnum : 849019590008.2 File : 146892 Time : 13-JAN-2009 14:47
Cal : 849019590001 Caldate : 13-JAN-2009 Caltype : WATER

Analyte	Quant	IQL	MDL	Units	Flags
Mercury	ND	0.2000	0.03335	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 METALS Water
EPA 7470A

Inst : MET14 IDF : 1.0
Seqnum : 849019590019.2 File : 146892 Time : 13-JAN-2009 15:12
Cal : 849019590001 Caldate : 13-JAN-2009 Caltype : WATER
Standards: S11177

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	1986.0	1983.8	5.000	5.190	ug/L	4	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Water
EPA 7470A

Inst : MET14 IDF : 1.0
Seqnum : 849019590020.2 File : 146892 Time : 13-JAN-2009 15:14
Cal : 849019590001 Caldate : 13-JAN-2009 Caltype : WATER

Analyte	Quant	IQL	MDL	Units	Flags
Mercury	ND	0.2000	0.03335	ug/L	

SAMPLE PREPARATION SUMMARY

Batch # : 146892
Started By : PRW
Method : METHOD
Spike #1 ID : S11174

Prep Date : 13-JAN-2009 10:00

Analysis : HG
Finished By : PRW
Units : mL

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
209147-001		TCLP Leachate	10	50	1	5.0						T22/HG	
209163-001		Filtrate	50	50	1	1.0						HG	
209163-002		Filtrate	50	50	1	1.0						HG	
209163-003		Filtrate	50	50	1	1.0						HG	
209163-004		Filtrate	50	50	1	1.0						HG	
209172-001		TCLP Leachate	10	50	1	5.0						TCLP/HG	
209172-002		TCLP Leachate	10	50	1	5.0						TCLP/HG	
209191-018		Water	50	50	1	1.0						HG	
209202-001		Filtrate	50	50	1	1.0						TAL/HG	
209202-002		Filtrate	50	50	1	1.0						TAL/HG	
209202-003		Filtrate	50	50	1	1.0						TAL/HG	
209202-004		Filtrate	50	50	1	1.0						TAL/HG	
209202-005		Filtrate	50	50	1	1.0						TAL/HG	
209202-006		Filtrate	50	50	1	1.0						TAL/HG	
QC479099	BLANK	Water	50	50	1	1.0							
QC479100	BS	Water	50	50	1	1.0		2.5					
QC479101	BSD	Water	50	50	1	1.0		2.5					
QC479102	MS	Water	50	50	1	1.0		2.5					
QC479103	MSD	Water	50	50	1	1.0		2.5					
QC479104	SER	Water	50	50	1	1.0							
QC479105	BLANK	TCLP Leachate	10	50	1	5.0							209147, 209172
QC479106	MS	TCLP Leachate	10	50	1	5.0		2.5					
QC479107	MSD	TCLP Leachate	10	50	1	5.0		2.5					

Reviewed by: HDD Date: 01/13/09

Water Digestion for Mercury

Curtis & Tompkins, Ltd.

LIMS Batch #: 146892

Date Digested: 1/13/09

Digestion Method

☒ EPA 7470A/ EPA 245.1

☐ _____

BK2827

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Sample #	container ID	Volume Sample (mL)	Final Volume (mL)	Filtered? (y/n)	Comments
209147-001		10	50	N	MSS
209172-001		↓	↓	↓	
-002		↓	↓	↓	
209191-018		50	↓	↓	MSS
209202-001		↓	↓	↓	
-002		↓	↓	↓	
-003		↓	↓	↓	
-004		↓	↓	↓	
-005		↓	↓	↓	
-006		↓	↓	↓	
Blank 479099		↓	↓	↓	
BS 479100		↓	↓	↓	
BSD 479101		↓	↓	↓	
MS 479102		↓	↓	↓	209191-018
MSD 479103		↓	↓	↓	
Blank 479105		10 ~~50~~	↓	↓	
MS 479106		↓	↓	↓	
MSD 479107		↓	↓	↓	
209163-001		50	50	N	
-002		↓	↓	↓	
-003		↓	↓	↓	
-004		↓	↓	↓	

	Reagent ID/ LIMS# / Time	Initials / Date
Digestion Tube Lot #	CV081125	TW 1/13/09
2.5 mL of spike solution was added to all spikes	S11174	↓
ICAL Source LIMS S#	S11175	↓
ICV / CCV LIMS S#	S11176 / S11177	↓
Digestion of Samples & Standards: Digestion Temperature (degrees C)	95°	↓
Digestion Started at (time)	9:30	↓
concentrated H_2SO_4	G23044	↓
concentrated HNO_3	G41034	↓
5% $KMnO_4$	010209	↓
5% $K_2S_2O_8$	121208	↓
NaCl.hydroxylamine hydrochloride	122308	↓
Stannous Chloride	011209	↓
Digestion Completed at (time)	11:30	↓
☐ filtered thru' 0.45 um syringe filter (lot #)		↓

Porter Williams 1/13/09

Prep Chemist / Date

Continued from page ____

Continued on page ____

1/13/09

Reviewed by / Date

Laboratory Job Number 209191

ANALYTICAL REPORT

Metals

Matrix: Soil

Curtis & Tompkins, Ltd.

Lead

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	EPA 3050B
Project#:	Y0239-04.A3	Analysis:	EPA 6010B
Analyte:	Lead	Sampled:	01/12/09
Matrix:	Soil	Received:	01/12/09
Units:	mg/Kg	Prepared:	01/13/09
Diln Fac:	1.000	Analyzed:	01/14/09
Batch#:	146927		

Field ID	Type	Lab ID	Result	RL	Basis	Moisture
E074F-1.0	SAMPLE	209191-001	59	0.26	dry	5%
E074F-2.5	SAMPLE	209191-002	4.6	0.26	dry	5%
E076F-1.0	SAMPLE	209191-010	130	0.32	dry	21%
E076F-2.5	SAMPLE	209191-011	2.4	0.29	dry	13%
	BLANK	QC479244	ND	0.25	as received	

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Lead

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	EPA 3050B
Project#:	Y0239-04.A3	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	146927
Field ID:	E074F-1.0	Sampled:	01/12/09
MSS Lab ID:	209191-001	Received:	01/12/09
Matrix:	Soil	Prepared:	01/13/09
Units:	mg/Kg	Analyzed:	01/14/09
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	Basis	Moisture	RPD	Lim
BS	QC479245		25.00	23.18	93	75-125	as received			
BSD	QC479246		25.00	23.18	93	75-125	as received		0	30
MS	QC479247	58.96	24.37	76.86	73 *	75-125	dry	5%		
MSD	QC479248		25.80	78.30	75	75-125	dry	5%	0	30

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Lead

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	EPA 3050B
Project#:	Y0239-04.A3	Analysis:	EPA 6010B
Analyte:	Lead	Basis:	dry
Field ID:	E074F-1.0	Diln Fac:	5.000
Type:	Serial Dilution	Batch#:	146927
MSS Lab ID:	209191-001	Sampled:	01/12/09
Lab ID:	QC479249	Received:	01/12/09
Matrix:	Soil	Analyzed:	01/14/09
Units:	mg/Kg		

MSS Result	MSS RL	Result	RL	Moisture	% Diff	Lim
58.96	0.2632	65.96	0.8090	5%	12 *	10

*= Value outside of QC limits; see narrative
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Lead

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	EPA 3050B
Project#:	Y0239-04.A3	Analysis:	EPA 6010B
Analyte:	Lead	Basis:	dry
Field ID:	E074F-1.0	Diln Fac:	1.000
Type:	Post Digest Spike	Batch#:	146927
MSS Lab ID:	209191-001	Sampled:	01/12/09
Lab ID:	QC479250	Received:	01/12/09
Matrix:	Soil	Analyzed:	01/14/09
Units:	mg/Kg		

MSS Result	Spiked	Result	%REC	Limits	Moisture
58.96	96.57	132.0	76	75-125	5%

REPORTING SUMMARY FOR 209191 METALS Soil
Curtis & Tompkins Laboratories

Lab ID	Inst ID	Analyzed	IDF	PB
209191-001	MET09	01/14/09 11:32	1.0	+
209191-001	MET16	01/15/09 02:52	50.0	
209191-001	MET06	01/15/09 23:13	50.0	
209191-002	MET09	01/14/09 11:53	1.0	+
209191-010	MET09	01/14/09 12:00	1.0	+
209191-011	MET09	01/14/09 12:18	1.0	+
QC479244	MET09	01/14/09 11:14	1.0	+
QC479244	MET16	01/15/09 02:15	5.0	+
QC479245	MET09	01/14/09 11:19	1.0	+
QC479245	MET16	01/15/09 02:28	10.0	+
QC479246	MET09	01/14/09 11:24	1.0	+
QC479246	MET16	01/15/09 02:40	10.0	+
QC479247	MET09	01/14/09 11:35	1.0	+
QC479247	MET16	01/15/09 03:17	50.0	+
QC479247	MET06	01/15/09 23:32	50.0	
QC479248	MET09	01/14/09 11:40	1.0	+
QC479248	MET16	01/15/09 03:29	50.0	+
QC479248	MET06	01/15/09 23:42	50.0	
QC479249	MET09	01/14/09 11:46	5.0	+
QC479249	MET16	01/15/09 03:05	250.0	+
QC479249	MET06	01/15/09 23:22	250.0	
QC479250	MET09	01/14/09 11:50	1.0	+
QC479250	MET16	01/15/09 03:42	50.0	
QC479250	MET06	01/15/09 23:51	50.0	+

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 99020729

Instrument : MET09 Begun : 01/14/09 09:29
Method : EPA 6010B SOP Version : icp metals_rv9

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met09_6010b	ICALBLK				01/14/09 09:29	1.0		
002	met09_6010b	ICAL	CRIM08			01/14/09 09:34	1.0	1	
003	met09_6010b	ICAL	CS100			01/14/09 09:40	1.0	2	
004	met09_6010b	ICAL	CS1K			01/14/09 09:44	1.0	3	
005	met09_6010b	ICAL	CS10K			01/14/09 09:47	1.0	4	
006	met09_6010b	ICAL	CS100K			01/14/09 09:53	1.0	5	
007	met09_6010b	ICV				01/14/09 09:58	1.0	6	
008	met09_6010b	ICB				01/14/09 10:04	1.0		
009	met09_6010b	ICSA				01/14/09 10:09	1.0	7	10:MG=530000
010	met09_6010b	ICSAB				01/14/09 10:16	1.0	8	5:MG=510000
011	met09_6010b	IDL	207785-001			01/14/09 10:21	1.0		
012	met09_6010b	IDL	207785-001			01/14/09 10:27	1.0		
013	met09_6010b	IDL	207785-001			01/14/09 10:32	1.0		
014	met09_6010b	IDL	207785-001			01/14/09 10:37	1.0		
015	met09_6010b	IDL	207785-001			01/14/09 10:42	1.0		
016	met09_6010b	IDL	207785-001			01/14/09 10:48	1.0		
017	met09_6010b	IDL	207785-001			01/14/09 10:53	1.0		
018	met09_6010b	X	RINSE			01/14/09 10:58	1.0		
019	met09_6010b	CCV				01/14/09 11:03	1.0	9	
020	met09_6010b	CCB				01/14/09 11:09	1.0		
021	met09_6010b	BLANK	QC479244	Soil	146927	01/14/09 11:14	1.0		
022	met09_6010b	BS	QC479245	Soil	146927	01/14/09 11:19	1.0		
023	met09_6010b	BSD	QC479246	Soil	146927	01/14/09 11:24	1.0		
024	met09_6010b	MSS	209191-001	Soil	146927	01/14/09 11:32	1.0		6:FE=460000
025	met09_6010b	MS	QC479247	Soil	146927	01/14/09 11:35	1.0		
026	met09_6010b	MSD	QC479248	Soil	146927	01/14/09 11:40	1.0		
027	met09_6010b	SER	QC479249	Soil	146927	01/14/09 11:46	5.0		
028	met09_6010b	PDS	QC479250	Soil	146927	01/14/09 11:50	1.0	10 11	1:FE=450000
029	met09_6010b	SAMPLE	209191-002	Soil	146927	01/14/09 11:53	1.0		2:FE=190000
030	met09_6010b	SAMPLE	209191-010	Soil	146927	01/14/09 12:00	1.0		3:FE=360000
031	met09_6010b	CCV				01/14/09 12:04	1.0	9	
032	met09_6010b	X				01/14/09 12:10	1.0		
033	met09_6010b	CCB				01/14/09 12:13	1.0		
034	met09_6010b	SAMPLE	209191-011	Soil	146927	01/14/09 12:18	1.0		2:FE=240000
035	met09_6010b	SAMPLE	209242-001	Soil	146927	01/14/09 12:22	1.0		4:CA=540000
036	met09_6010b	SAMPLE	209242-002	Soil	146927	01/14/09 12:27	1.0		3:FE=530000
037	met09_6010b	SAMPLE	209242-003	Soil	146927	01/14/09 12:30	1.0		2:FE=350000
038	met09_6010b	SAMPLE	209242-004	Soil	146927	01/14/09 12:34	1.0		3:FE=410000
039	met09_6010b	SAMPLE	209242-005	Soil	146927	01/14/09 12:40	1.0		3:FE=430000
040	met09_6010b	SAMPLE	209242-006	Soil	146927	01/14/09 12:44	1.0		3:CA=300000
041	met09_6010b	ICSAB				01/14/09 12:48	1.0	8	5:MG=510000
042	met09_6010b	CCV				01/14/09 12:54	1.0	9	
043	met09_6010b	X				01/14/09 12:59	1.0		
044	met09_6010b	CCB				01/14/09 13:03	1.0		
045	met09_6010b	BLANK	QC479335	WET Leachate	146947	01/14/09 13:42	10.0		1:NA=210000
046	met09_6010b	BS	QC479336	WET Leachate	146947	01/14/09 13:50	1.0		
047	met09_6010b	BSD	QC479337	WET Leachate	146947	01/14/09 13:53	1.0		
048	met09_6010b	MSS	209138-004	WET Leachate	146947	01/14/09 13:56	10.0		1:NA=190000
049	met09_6010b	MS	QC479338	WET Leachate	146947	01/14/09 14:04	10.0		
050	met09_6010b	MSD	QC479339	WET Leachate	146947	01/14/09 14:10	10.0		
051	met09_6010b	SER	QC479340	WET Leachate	146947	01/14/09 14:16	50.0		
052	met09_6010b	PDS	QC479341	WET Leachate	146947	01/14/09 14:22	10.0	10 11	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 99020729

Instrument : MET09 Begun : 01/14/09 09:29
Method : EPA 6010B SOP Version : icp metals_rv9

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met09_6010b	CCV				01/14/09 14:27	1.0	9	
054	met09_6010b	X				01/14/09 14:28	1.0	9	
055	met09_6010b	CCB				01/14/09 14:34	1.0		
056	met09_6010b	SAMPLE	209105-001	WET Leachate	146947	01/14/09 14:39	10.0		1:NA=220000
057	met09_6010b	SAMPLE	209105-002	WET Leachate	146947	01/14/09 14:46	10.0		1:NA=200000
058	met09_6010b	SAMPLE	209105-003	WET Leachate	146947	01/14/09 14:54	10.0		1:NA=190000
059	met09_6010b	SAMPLE	209105-004	WET Leachate	146947	01/14/09 15:01	10.0		1:NA=190000
060	met09_6010b	X				01/14/09 15:08	1.0	8	
061	met09_6010b	X				01/14/09 15:10	1.0	8	
062	met09_6010b	ICSAB				01/14/09 15:15	1.0	8	5:MG=500000
063	met09_6010b	CCV				01/14/09 15:20	1.0	9	
064	met09_6010b	X				01/14/09 15:22	1.0	9	
065	met09_6010b	X				01/14/09 15:27	1.0		
066	met09_6010b	CCB				01/14/09 15:30	1.0		
067	met09_6010b	BLANK	QC479299	Wipe	146940	01/14/09 15:50	1.0		
068	met09_6010b	BS	QC479300	Wipe	146940	01/14/09 15:55	1.0		
069	met09_6010b	BSD	QC479301	Wipe	146940	01/14/09 15:59	1.0		
070	met09_6010b	SAMPLE	209181-002	Wipe	146940	01/14/09 16:02	10.0		1:PB=110000
071	met09_6010b	SAMPLE	209181-002	Wipe	146940	01/14/09 16:09	100.0		1:PB=10000
072	met09_6010b	SAMPLE	209181-002	Wipe	146940	01/14/09 16:15	1000		
073	met09_6010b	ICSAB				01/14/09 16:20	1.0	8	5:MG=510000
074	met09_6010b	CCV				01/14/09 16:26	1.0	9	
075	met09_6010b	X				01/14/09 16:27	1.0	9	
076	met09_6010b	X				01/14/09 16:32	1.0		
077	met09_6010b	X				01/14/09 16:36	1.0		
078	met09_6010b	X				01/14/09 16:52	1.0		
079	met09_6010b	CCB				01/14/09 16:55	1.0		
080	met09_6010b	BLANK	QC479285	Fuels	146935	01/14/09 17:31	40.0		
081	met09_6010b	MSS	209028-001	Fuels	146935	01/14/09 17:36	40.0		
082	met09_6010b	SDUP	QC479286	Fuels	146935	01/14/09 17:41	40.0		
083	met09_6010b	SAMPLE	209028-002	Fuels	146935	01/14/09 17:47	40.0		
084	met09_6010b	SAMPLE	209029-001	Fuels	146935	01/14/09 17:52	40.0		
085	met09_6010b	SAMPLE	209029-002	Fuels	146935	01/14/09 17:57	40.0		
086	met09_6010b	SAMPLE	209030-001	Fuels	146935	01/14/09 18:02	40.0		
087	met09_6010b	SAMPLE	209030-002	Fuels	146935	01/14/09 18:08	40.0		
088	met09_6010b	CCV				01/14/09 18:13	1.0	9	
089	met09_6010b	X				01/14/09 18:14	1.0	9	
090	met09_6010b	X				01/14/09 18:19	1.0		
091	met09_6010b	CCB				01/14/09 18:23	1.0		
092	met09_6010b	SAMPLE	209055-001	Fuels	146935	01/14/09 18:28	40.0		
093	met09_6010b	SAMPLE	209055-002	Fuels	146935	01/14/09 18:33	40.0		
094	met09_6010b	SAMPLE	209057-001	Fuels	146935	01/14/09 18:39	40.0		
095	met09_6010b	SAMPLE	209057-002	Fuels	146935	01/14/09 18:44	40.0		
096	met09_6010b	SAMPLE	209126-001	Fuels	146935	01/14/09 18:49	40.0		
097	met09_6010b	SAMPLE	209141-001	Fuels	146935	01/14/09 18:54	40.0		
098	met09_6010b	SAMPLE	209141-002	Fuels	146935	01/14/09 19:00	40.0		
099	met09_6010b	ICSAB				01/14/09 19:05	1.0	8	5:AL=520000
100	met09_6010b	CCV				01/14/09 19:10	1.0	9	
101	met09_6010b	X				01/14/09 19:16	1.0		
102	met09_6010b	X				01/14/09 19:19	1.0		
103	met09_6010b	CCB				01/14/09 19:54	1.0		
104	met09_6010b	BLANK	QC479285	Fuels	146935	01/14/09 20:11	40.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 99020729

Instrument : MET09 Begun : 01/14/09 09:29
Method : EPA 6010B SOP Version : icp metals_rv9

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
105	met09_6010b	ICSAB				01/14/09 20:16	1.0	8	5:AL=500000
106	met09_6010b	X				01/14/09 20:22	1.0	9	
107	met09_6010b	CCV				01/14/09 20:23	1.0	9	
108	met09_6010b	CCB				01/14/09 20:29	1.0		
109	met09_6010b	ICSAB				01/14/09 23:29	1.0	8	
110	met09_6010b	CCV				01/14/09 23:35	1.0	9	
111	met09_6010b	CCV				01/14/09 23:36	1.0	9	
112	met09_6010b	CCB				01/14/09 23:41	1.0		

AH 01/14/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 44.

DHD 01/14/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 45 through 108.

Standards used: 1=S10757 2=S10759 3=S10758 4=S10932 5=S10933 6=S10959 7=S10931 8=S10760 9=S10960 10=S10695 11=S10696

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 99020729

Date : 01/14/09 Reference : met09_6010b
Sequence : MET09 01/14/09 Analyzed : 01/14/09 09:34

#	Type	Sample ID	Y A
		ICAL STD	3918883
		LOWER LIMIT	1175665
		UPPER LIMIT	7837766
008	ICB		3902003
009	ICSA		3190725
010	ICSAB		3272331
019	CCV		3849027
020	CCB		3968083
021	BLANK	QC479244	4032983
022	BS	QC479245	3653238
023	BSD	QC479246	3754556
024	MSS	209191-001	3770172
025	MS	QC479247	3623005
026	MSD	QC479248	3640251
027	SER	QC479249	3883051
028	PDS	QC479250	3777383
029	SAMPLE	209191-002	3896061
030	SAMPLE	209191-010	3985662
031	CCV		3928773
033	CCB		3951288
034	SAMPLE	209191-011	3877129
035	SAMPLE	209242-001	3779217
036	SAMPLE	209242-002	3840606
037	SAMPLE	209242-003	3876101
038	SAMPLE	209242-004	3838450
039	SAMPLE	209242-005	3913123
040	SAMPLE	209242-006	3715944
041	ICSAB		3431762
042	CCV		3875009
044	CCB		3982956
045	BLANK	QC479335	3706632
046	BS	QC479336	3778109
047	BSD	QC479337	3559169
048	MSS	209138-004	3724466
049	MS	QC479338	3842290
050	MSD	QC479339	3885122
051	SER	QC479340	3879050
052	PDS	QC479341	3508452
053	CCV		3850461
055	CCB		3995997
056	SAMPLE	209105-001	3738081
057	SAMPLE	209105-002	3728891
058	SAMPLE	209105-003	3754934
059	SAMPLE	209105-004	3751598
062	ICSAB		3438007
063	CCV		3793757
066	CCB		3999609
067	BLANK	QC479299	3894711
068	BS	QC479300	3998353
069	BSD	QC479301	3838888
070	SAMPLE	209181-002	3881245

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 99020729

Date : 01/14/09 Reference : met09_6010b
Sequence : MET09 01/14/09 Analyzed : 01/14/09 09:34

#	Type	Sample ID	Y A
071	SAMPLE	209181-002	4182723
072	SAMPLE	209181-002	4080368
073	ICSAB		3387669
074	CCV		3866567
079	CCB		4004627
080	BLANK	QC479285	4148926
081	MSS	209028-001	3823921
082	SDUP	QC479286	3631011
083	SAMPLE	209028-002	3614870
084	SAMPLE	209029-001	3690234
085	SAMPLE	209029-002	3574133
086	SAMPLE	209030-001	3622041
087	SAMPLE	209030-002	3619194
088	CCV		3471491
091	CCB		3600189
092	SAMPLE	209055-001	3599426
093	SAMPLE	209055-002	3609025
094	SAMPLE	209057-001	3574610
095	SAMPLE	209057-002	3595678
096	SAMPLE	209126-001	3599386
097	SAMPLE	209141-001	3500605
098	SAMPLE	209141-002	3597207
099	ICSAB		2947995
100	CCV		3414947
103	CCB		3823135
104	BLANK	QC479285	3724682
105	ICSAB		3120908
107	CCV		3457854
108	CCB		3541585

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 209191 METALS Soil: EPA 6010B

Inst : MET09 Reviewer : ---
Calnum : 99020729001 Date : 14-JAN-2009 09:29
Units : ug/L X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met09_6010b	99020729002	CRIM08	14-JAN-2009 09:34	S10757
L2	met09_6010b	99020729003	CS100	14-JAN-2009 09:40	S10759
L3	met09_6010b	99020729004	CS1K	14-JAN-2009 09:44	S10758
L4	met09_6010b	99020729005	CS10K	14-JAN-2009 09:47	S10932
L5	met09_6010b	99020729006	CS100K	14-JAN-2009 09:53	S10933

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Lead	A	53.967	54.251	54.535	51.937		LOR0	0.00000	0.01924		53.673	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Lead	A	3.000	4	100.0	4	1000	5	10000	0		

Instrument amount = a0 + response * a1 + response^2 * a2; LOR0=Linear regression forced thru origin, including 0,0 point

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 209191 METALS Soil
EPA 6010B

Inst : MET09
Calnum : 99020729001 Cal Date : 14-JAN-2009

ICV 99020729007 (14-JAN-2009) stds: S10959

Analyte	Ch	Average RF	RF	Spiked	Quant	Units	%D	Max	Flags
Lead	A	53.673	50.084	5000	4819	ug/L	-4	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 99020729008.1 File : met09_6010b Time : 14-JAN-2009 10:04
Cal : 99020729001 Caldate : 14-JAN-2009

Analyte	Ch	Quant	IQL	2X MDL	Units	Flags
Lead	A	[2.356]	3.000	1.839	ug/L	!ib

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	3918883	3902003	-0.43

!=warning ib=instrument blank

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 209191 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 99020729009.1 File : met09_6010b Time : 14-JAN-2009 10:09
Cal : 99020729001 Caldate : 14-JAN-2009
Standards: S10931

Analyte	Ch	Quant	IQL	Units	Flags
Lead	A	[-0.6977]	3.000	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec
Chromium	A	20000	20400	ug/L	102
Copper	A	20000	22260	ug/L	111
Manganese	A	20000	19160	ug/L	96
Nickel	A	20000	18790	ug/L	94
Vanadium	A	20000	11050	ug/L	55
Aluminum	R	500000	526100	ug/L	105
Calcium	R	500000	525400	ug/L	105
Iron	R	200000	204700	ug/L	102
Magnesium	R	500000	529500	ug/L	106
Titanium	R	20000	22740	ug/L	114

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	3918883	3190725	-18.58

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 209191 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 99020729010.1 File : met09_6010b Time : 14-JAN-2009 10:16
Cal : 99020729001 Caldate : 14-JAN-2009
Standards: S10760

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	1000	955.7	ug/L	-4	20	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	3918883	3272331	-16.50

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 99020729019.1 File : met09_6010b Time : 14-JAN-2009 11:03
Cal : 99020729001 Caldate : 14-JAN-2009
Standards: S10960

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	53.673	50.632	5000	4872	ug/L	-3	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	3918883	3849027	-1.78

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 99020729020.1 File : met09_6010b Time : 14-JAN-2009 11:09
Cal : 99020729001 Caldate : 14-JAN-2009

Analyte	Ch	Quant	IQL	2X MDL	Units	Flags
Lead	A	[1.980]	3.000	1.839	ug/L	!ib

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	3918883	3968083	1.26

!=warning ib=instrument blank

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 99020729031.1 File : met09_6010b Time : 14-JAN-2009 12:04
Cal : 99020729001 Caldate : 14-JAN-2009
Standards: S10960

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	53.673	49.279	5000	4742	ug/L	-5	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	3918883	3928773	0.25

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 99020729033.1 File : met09_6010b Time : 14-JAN-2009 12:13
Cal : 99020729001 Caldate : 14-JAN-2009

Analyte	Ch	Quant	IQL	2X MDL	Units	Flags
Lead	A	[1.922]	3.000	1.839	ug/L	!ib

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	3918883	3951288	0.83

!=warning ib=instrument blank

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 209191 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 99020729041.1 File : met09_6010b Time : 14-JAN-2009 12:48
Cal : 99020729001 Caldate : 14-JAN-2009
Standards: S10760

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	1000	903.7	ug/L	-10	20	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	3918883	3431762	-12.43

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 99020729042.1 File : met09_6010b Time : 14-JAN-2009 12:54
Cal : 99020729001 Caldate : 14-JAN-2009
Standards: S10960

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	53.673	50.241	5000	4834	ug/L	-3	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	3918883	3875009	-1.12

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 99020729044.1 File : met09_6010b Time : 14-JAN-2009 13:03
Cal : 99020729001 Caldate : 14-JAN-2009

Analyte	Ch	Quant	IQL	2X MDL	Units	Flags
Lead	A	[2.640]	3.000	1.839	ug/L	!ib

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	3918883	3982956	1.63

!=warning ib=instrument blank

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 899021525

Instrument : MET16 Begun : 01/14/09 22:45
Method : EPA 6020 SOP Version : icpms_rv5

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	09a14w00001	TUN				01/14/09 22:45	1.0	1	
002	09a14w00002	X	RINSE			01/14/09 22:51	1.0	2	
003	09a14w00003	ICALBLK	CALBLANK			01/14/09 23:03	1.0	2	
004	09a14w00004	ICAL				01/14/09 23:16	1.0	3 2	
005	09a14w00005	ICAL				01/14/09 23:28	1.0	4 2	
006	09a14w00006	ICAL				01/14/09 23:40	1.0	5 2	
007	09a14w00007	ICAL				01/14/09 23:53	1.0	6 2	
008	09a14w00008	ICAL				01/15/09 00:05	1.0	7 2	
009	09a14w00009	ICAL				01/15/09 00:17	1.0	8 2	
010	09a14w00010	X				01/15/09 00:29	1.0	9 2	
011	09a14w00011	X				01/15/09 00:42	1.0	2	
012	09a14w00012	ICV				01/15/09 00:48	1.0	9 2	
013	09a14w00013	X				01/15/09 01:01	1.0	2	
014	09a14w00014	ICB				01/15/09 01:13	1.0	2	
015	09a14w00015	ICSA				01/15/09 01:26	1.0	10 2	7:CA=320000
016	09a14w00016	ICSAB				01/15/09 01:38	1.0	11 2	11:CA=330000
017	09a14w00017	X	RINSE			01/15/09 01:51	1.0	2	
018	09a14w00018	X	RINSE			01/15/09 02:03	1.0	2	
019	09a14w00019	BLANK	QC479244	Soil	146927	01/15/09 02:15	5.0	2	
020	09a14w00020	BS	QC479245	Soil	146927	01/15/09 02:28	10.0	2	
021	09a14w00021	BSD	QC479246	Soil	146927	01/15/09 02:40	10.0	2	
022	09a14w00022	MSS	209191-001	Soil	146927	01/15/09 02:52	50.0	2	1:MN=270
023	09a14w00023	SER	QC479249	Soil	146927	01/15/09 03:05	250.0	2	
024	09a14w00024	MS	QC479247	Soil	146927	01/15/09 03:17	50.0	2	
025	09a14w00025	MSD	QC479248	Soil	146927	01/15/09 03:29	50.0	2	
026	09a14w00026	PDS	QC479250	Soil	146927	01/15/09 03:42	50.0	12 13 2	2:FE=22000
027	09a14w00027	CCV				01/15/09 03:54	1.0	14 2	
028	09a14w00028	CCB				01/15/09 04:06	1.0	2	
029	09a14w00029	X				01/15/09 04:18	1.0	2	
030	09a14w00030	SAMPLE	209188-001	Soil	146927	01/15/09 04:31	50.0	2	
031	09a14w00031	SAMPLE	209188-002	Soil	146927	01/15/09 04:43	50.0	2	
032	09a14w00032	SAMPLE	209188-003	Soil	146927	01/15/09 04:55	50.0	2	
033	09a14w00033	SAMPLE	209188-004	Soil	146927	01/15/09 05:08	50.0	2	
034	09a14w00034	SAMPLE	209188-005	Soil	146927	01/15/09 05:20	50.0	2	
035	09a14w00035	CCV				01/15/09 05:32	1.0	14 2	
036	09a14w00036	CCB				01/15/09 05:45	1.0	2	
037	09a14w00037	X				01/15/09 05:57	1.0	2	
038	09a14w00038	ICSA				01/15/09 06:09	1.0	10 2	7:CA=320000
039	09a14w00039	ICSAB				01/15/09 06:22	1.0	11 2	9:CA=330000
040	09a14w00040	X	RINSE			01/15/09 06:34	1.0	2	
041	09a14w00041	X	RINSE			01/15/09 06:47	1.0	2	
042	09a14w00042	BLANK	QC479403	Soil	146964	01/15/09 06:59	5.0	2	
043	09a14w00043	BS	QC479404	Soil	146964	01/15/09 07:11	10.0	2	
044	09a14w00044	BSD	QC479405	Soil	146964	01/15/09 07:24	10.0	2	
045	09a14w00045	MSS	209209-001	Soil	146964	01/15/09 07:36	50.0	2	
046	09a14w00046	SER	QC479408	Soil	146964	01/15/09 07:48	250.0	2	
047	09a14w00047	MS	QC479406	Soil	146964	01/15/09 08:01	50.0	2	
048	09a14w00048	MSD	QC479407	Soil	146964	01/15/09 08:13	50.0	2	
049	09a14w00049	PDS	QC479409	Soil	146964	01/15/09 08:25	50.0	12 13 2	2:PB=240
050	09a14w00050	CCV				01/15/09 08:37	1.0	14 2	
051	09a14w00051	X				01/15/09 08:50	1.0	2	
052	09a14w00052	CCB				01/15/09 09:02	1.0	2	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 899021525

Instrument : MET16 Begun : 01/14/09 22:45
Method : EPA 6020 SOP Version : icpms_rv5

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	09a14w00053	SAMPLE	209269-001	Soil	146964	01/15/09 09:11	50.0	2	
054	09a14w00054	TUN				01/15/09 09:23	1.0	1	
055	09a14w00055	X	RINSE			01/15/09 09:30	1.0	2	
056	09a14w00056	SAMPLE	209269-002	Soil	146964	01/15/09 09:42	50.0	2	
057	09a14w00057	SAMPLE	209269-003	Soil	146964	01/15/09 09:54	50.0	2	
058	09a14w00058	SAMPLE	209269-004	Soil	146964	01/15/09 10:07	50.0	2	
059	09a14w00059	SAMPLE	209269-005	Soil	146964	01/15/09 10:19	50.0	2	
060	09a14w00060	CCV				01/15/09 10:31	1.0	14 2	
061	09a14w00061	X				01/15/09 10:44	1.0	2	
062	09a14w00062	CCB				01/15/09 10:56	1.0	2	
063	09a14w00063	MSS	209209-001	Soil	146964	01/15/09 11:08	100.0	2	
064	09a14w00064	SER	QC479408	Soil	146964	01/15/09 11:21	500.0	2	
065	09a14w00065	MS	QC479406	Soil	146964	01/15/09 11:33	100.0	2	
066	09a14w00066	MSD	QC479407	Soil	146964	01/15/09 11:45	100.0	2	
067	09a14w00067	PDS	QC479409	Soil	146964	01/15/09 11:58	100.0	12 13 2	
068	09a14w00068	CCV				01/15/09 12:10	1.0	14 2	
069	09a14w00069	CCB				01/15/09 12:22	1.0	2	
070	09a14w00070	X				01/15/09 12:34	1.0	2	
071	09a14w00071	ICSA				01/15/09 12:45	1.0	10 2	7:CA=310000
072	09a14w00072	ICSAB				01/15/09 12:58	1.0	11 2	10:CA=330000

RCH 01/15/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 72.

Standards used: 1=S11076 2=S10858 3=S11083 4=S11084 5=S11085 6=S11086 7=S11077 8=S11080 9=S11088 10=S11090 11=S11091 12=S10997 13=S10998 14=S11089

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 899021525

Date : 01/14/09 Reference : 09a14w00003
Sequence : MET16 09a14w00 Analyzed : 01/14/09 23:03

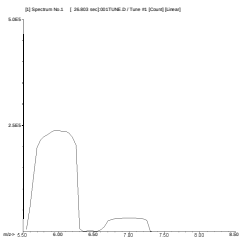
#	Type	Sample ID	LI A	SC A	SC E	SC H	GE H	GE E	IN A	BI A	Y A	TB A
		IB+ICALBLK STD	2535495	2372117	46643	255332	68163	31673	3038131	3028432	3052327	4396911
		LOWER LIMIT	760649	711635	13993	76600	20449	9502	911439	908530	915698	1319073
		UPPER LIMIT	3042594	2846540	55972	306398	81796	38008	3645757	3634118	3662792	5276293
014	ICB		2805898	2265939	48207	189303	46812	30226	2939454	2781416	2997456	4195458
015	ICSA		2332201	2123761	46147	254619	59183	28132	2576995	2336513	2854636	3996999
016	ICSAB		2131123	2057898	41965	240162	56127	26101	2544066	2311444	2759107	3957895
019	BLANK	QC479244	2547290	2149830	40037	219603	53877	25861	2827218	2760781	2865241	4129804
020	BS	QC479245	2672262	2219304	44091	213511	50865	27410	2857348	2720896	2931712	4148186
021	BSD	QC479246	2705659	2212886	42965	203657	48242	26716	2818815	2680308	2892902	4110330
022	MSS	209191-001	2848808	2316547	46011	169294	39083	27789	2756965	2573103	2965515	3945830
023	SER	QC479249	2830767	2303985	45763	167368	38800	28095	2872856	2690372	2979999	4112355
024	MS	QC479247	2854787	2345982	45881	168070	38356	27812	2827391	2649796	3008367	4064459
025	MSD	QC479248	2892815	2332306	46786	169072	38198	27891	2801418	2622346	3015349	4042463
026	PDS	QC479250	2778097	2254526	45310	193476	43163	27059	2702493	2496178	2910162	3958754
027	CCV		2763416	2253118	45438	199185	45556	27449	2753639	2519276	2897537	3935191
028	CCB		2861849	2266281	46461	192285	44736	28005	2819040	2604492	2921537	3975023
030	SAMPLE	209188-001	2907025	2290593	47191	159426	35050	27552	2684622	2448940	2880446	3823497
031	SAMPLE	209188-002	2897768	2304669	47324	146862	32084	27843	2729528	2491944	2913380	3874311
032	SAMPLE	209188-003	2867322	2296771	47621	148624	32677	27915	2771948	2505252	2952867	3890100
033	SAMPLE	209188-004	2842210	2284263	47247	143076	31154	27704	2709503	2465141	2919532	3826279
034	SAMPLE	209188-005	2839285	2281777	48227	142833	30569	27860	2651779	2437336	2874000	3781576
035	CCV		2744819	2194011	46353	182259	40935	27564	2640966	2394940	2778877	3799212
036	CCB		2807140	2212342	45909	179932	40550	27424	2722850	2506489	2825622	3823140
038	ICSA		2356641	2061290	45015	229923	49701	26269	2393643	2074902	2674383	3668116
039	ICSAB		2375027	2034075	42336	227158	48759	25098	2330982	2037497	2596492	3584541
042	BLANK	QC479403	2710502	2086860	39700	204775	46401	24985	2607019	2452080	2694716	3755149
043	BS	QC479404	2766671	2161185	42774	191620	42768	25818	2647762	2439738	2739993	3780371
044	BSD	QC479405	2799732	2152769	42691	191336	42126	25909	2612908	2401582	2712319	3729815
045	MSS	209209-001	2807298	2222033	45646	159961	34403	27315	2651238	2442104	2792940	3743727
046	SER	QC479408	2820266	2186512	45116	158939	34543	26929	2652564	2450996	2760614	3747083
047	MS	QC479406	2728485	2170919	45495	148907	31752	26931	2613845	2383396	2754425	3698768
048	MSD	QC479407	2713098	2161827	45869	139451	29756	26915	2570776	2358317	2717876	3640714
049	PDS	QC479409	2697800	2141703	44453	167247	35871	26343	2518758	2297992	2697977	3636460
050	CCV		2647345	2102407	43677	177499	38827	26242	2493307	2299349	2629566	3582897
052	CCB		2708152	2070328	43237	161817	35212	25731	2546937	2346516	2627742	3585225
053	SAMPLE	209269-001	2639682	2145879	45481	133834	27764	26761	2529360	2322494	2702486	3596936
056	SAMPLE	209269-002	2663422	2164036	46335	136894	28655	27154	2595147	2369992	2767930	3665238
057	SAMPLE	209269-003	2628028	2126668	46163	130433	26854	26765	2530253	2328286	2711575	3598700
058	SAMPLE	209269-004	2601943	2100398	45578	124549	26186	26520	2529864	2334195	2687350	3584925
059	SAMPLE	209269-005	2670204	2160003	45870	125270	26118	26839	2587546	2385703	2759574	3668758
060	CCV		2548282	2046226	44327	160258	34526	26078	2454027	2261146	2574390	3544554
062	CCB		2607497	2068982	44435	152520	32729	26355	2525422	2335980	2609307	3566260
063	MSS	209209-001	2633596	2097396	46577	136720	29016	27435	2547808	2340306	2658678	3582290
064	SER	QC479408	2630324	2084279	44956	135958	28764	26498	2550679	2343475	2642143	3609008
065	MS	QC479406	2634858	2119276	45994	134763	28599	26798	2584638	2355599	2706335	3650990
066	MSD	QC479407	2595379	2075321	45974	135583	28370	27142	2530947	2328617	2645578	3575892
067	PDS	QC479409	2582308	2067431	44745	165549	34883	25985	2459836	2261593	2618417	3574875
068	CCV		2535071	2030786	44123	180279	38970	26217	2417273	2245463	2569521	3501111
069	CCB		2578640	2049655	44685	172343	37598	26335	2486410	2316554	2606888	3535353
071	ICSA		2279938	1935660	44798	231979	47593	25735	2270954	2011294	2518566	3490104
072	ICSAB		2292306	1853896	40451	214058	44825	24030	2173249	1962028	2391372	3399859

MET16 QC Tune Report

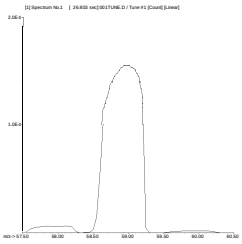
Data File: C:\ICPCHEM\1\DATA\09A14w00.B\001TUNE.D
Date Acquired: Jan 14 2009 10:45 pm
Acq. Method: TN6020.M
Operator:
Sample Name: tun,s11076
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\TN6020.M

RSD (%)

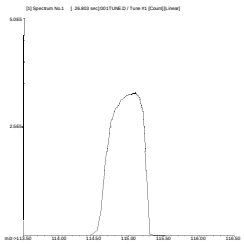
Element	Actual	Required	Flag
7 Li	0.44	5.00	
59 Co	0.84	5.00	
115 In	0.68	5.00	
205 Tl	0.77	5.00	



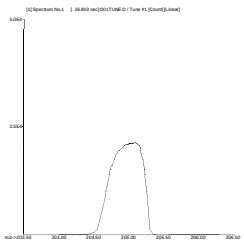
7 Li
Mass Calib.
Actual: 7.00
Required: 6.90 - 7.10
Flag:
Peak Width
Actual: 0.65
Required: 0.90
Flag:



59 Co
Mass Calib.
Actual: 59.00
Required: 58.90 - 59.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90 - 115.10
Flag:
Peak Width
Actual: 0.65
Required: 0.90
Flag:



205 Tl
Mass Calib.
Actual: 205.05
Required: 204.90 - 205.10
Flag:
Peak Width
Actual: 0.65
Required: 0.90
Flag:

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 209191 METALS Soil: EPA 6020

Inst : MET16 Reviewer : ---
Calnum : 899021525001 Date : 14-JAN-2009 23:03
Units : ug/L X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	09a14w00004	899021525004		14-JAN-2009 23:16	S11083, S10858
L2	09a14w00005	899021525005		14-JAN-2009 23:28	S11084, S10858
L3	09a14w00006	899021525006		14-JAN-2009 23:40	S11085, S10858
L4	09a14w00007	899021525007		14-JAN-2009 23:53	S11086, S10858
L5	09a14w00008	899021525008		15-JAN-2009 00:05	S11077, S10858
L6	09a14w00009	899021525009		15-JAN-2009 00:17	S11080, S10858

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Lead	A	0.5018	0.3226	0.3103	0.2856	0.2827	0.2774	BLNK	-0.0470	3.59216		0.3301	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Lead	A	0.100	33	0.500	6	1.000	7	10.00	2	100.0	1	200.0	0

Instrument amount = a0 + response * a1 + response^2 * a2; BLNK=Y=aX+[blank]

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 209191 METALS Soil
EPA 6020

Inst : MET16
Calnum : 899021525001 Cal Date : 14-JAN-2009

ICV 899021525012 (09a14w00012 15-JAN-2009) stds: S11088, S10858

Analyte	Ch	Average RF	RF	Spiked	Quant	Units	%D	Max	Flags
Lead	A	0.3301	0.2741	100.0	98.43	ug/L	-2	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Soil
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 899021525014 File : 09a14w00014 Time : 15-JAN-2009 01:13
Cal : 899021525001 Caldate : 14-JAN-2009

Analyte	Ch	Quant	IQL	2X MDL	Units	Flags
Lead	A	ND	0.1000	0.04402	ug/L	

ISTD (ICALBLK 09a14w00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2535495	2805898	10.66
Scandium	A	2372117	2265939	-4.48
Scandium	E	46643	48207	3.35
Scandium	H	255332	189303	-25.86
Germanium	H	68163	46812	-31.32
Germanium	E	31673	30226	-4.57
Indium	A	3038131	2939454	-3.25
Bismuth	A	3028432	2781416	-8.16
Yttrium	A	3052327	2997456	-1.80
Terbium	A	4396911	4195458	-4.58

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 209191 METALS Soil
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 899021525015 File : 09a14w00015 Time : 15-JAN-2009 01:26
Cal : 899021525001 Caldate : 14-JAN-2009
Standards: S11090, S10858

Analyte	Ch	Quant	IQL	Units	Flags
Lead	A	0.5269	0.1000	ug/L	!a+

Interferent	Ch	Spiked	Quant	Units	%Rec
Aluminum	A	100000	104400	ug/L	104
Calcium	A	300000	315300	ug/L	105
Magnesium	A	100000	100900	ug/L	101
Molybdenum	A	2000	2151	ug/L	108
Potassium	A	100000	105400	ug/L	105
Sodium	E	250000	254900	ug/L	102
Iron	H	250000	238500	ug/L	95

ISTD (ICALBLK 09a14w00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2535495	2332201	-8.02
Scandium	A	2372117	2123761	-10.47
Scandium	E	46643	46147	-1.06
Scandium	H	255332	254619	-0.28
Germanium	H	68163	59183	-13.17
Germanium	E	31673	28132	-11.18
Indium	A	3038131	2576995	-15.18
Bismuth	A	3028432	2336513	-22.85
Yttrium	A	3052327	2854636	-6.48
Terbium	A	4396911	3996999	-9.10

!=warning +=high bias a=ICSA

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 METALS Soil
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 899021525027 File : 09a14w00027 Time : 15-JAN-2009 03:54
Cal : 899021525001 Caldate : 14-JAN-2009
Standards: S11089, S10858

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	0.3301	0.2679	100.0	96.19	ug/L	-4	10	

ISTD (ICALBLK 09a14w00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2535495	2763416	8.99
Scandium	A	2372117	2253118	-5.02
Scandium	E	46643	45438	-2.58
Scandium	H	255332	199185	-21.99
Germanium	H	68163	45556	-33.17
Germanium	E	31673	27449	-13.34
Indium	A	3038131	2753639	-9.36
Bismuth	A	3028432	2519276	-16.81
Yttrium	A	3052327	2897537	-5.07
Terbium	A	4396911	3935191	-10.50

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Soil
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 899021525028 File : 09a14w00028 Time : 15-JAN-2009 04:06
Cal : 899021525001 Caldate : 14-JAN-2009

Analyte	Ch	Quant	IQL	2X MDL	Units	Flags
Lead	A	[0.04440]	0.1000	0.04402	ug/L	!ib

ISTD (ICALBLK 09a14w00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2535495	2861849	12.87
Scandium	A	2372117	2266281	-4.46
Scandium	E	46643	46461	-0.39
Scandium	H	255332	192285	-24.69
Germanium	H	68163	44736	-34.37
Germanium	E	31673	28005	-11.58
Indium	A	3038131	2819040	-7.21
Bismuth	A	3028432	2604492	-14.00
Yttrium	A	3052327	2921537	-4.28
Terbium	A	4396911	3975023	-9.60

!=warning ib=instrument blank

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 209191 METALS Soil
EPA 6020

Inst : MET16 IDF : 1.0
Seqnum : 899021525038 File : 09a14w00038 Time : 15-JAN-2009 06:09
Cal : 899021525001 Caldate : 14-JAN-2009
Standards: S11090, S10858

Analyte	Ch	Quant	IQL	Units	Flags
Lead	A	0.4990	0.1000	ug/L	!a+

Interferent	Ch	Spiked	Quant	Units	%Rec
Aluminum	A	100000	107100	ug/L	107
Calcium	A	300000	315100	ug/L	105
Magnesium	A	100000	104400	ug/L	104
Molybdenum	A	2000	2113	ug/L	106
Potassium	A	100000	106300	ug/L	106
Sodium	E	250000	258400	ug/L	103
Iron	H	250000	242600	ug/L	97

ISTD (ICALBLK 09a14w00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2535495	2356641	-7.05
Scandium	A	2372117	2061290	-13.10
Scandium	E	46643	45015	-3.49
Scandium	H	255332	229923	-9.95
Germanium	H	68163	49701	-27.09
Germanium	E	31673	26269	-17.06
Indium	A	3038131	2393643	-21.21
Bismuth	A	3028432	2074902	-31.49
Yttrium	A	3052327	2674383	-12.38
Terbium	A	4396911	3668116	-16.58

!=warning +=high bias a=ICSA

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 69022283

Instrument : MET06 Begun : 01/15/09 11:23
Method : EPA 6020 SOP Version : icpms_rv5

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	09a15l00001	TUN				01/15/09 11:23	1.0	1	
002	09a15l00002	X	RINSE			01/15/09 11:29	1.0	2	
003	09a15l00003	ICALBLK	CALBLANK			01/15/09 11:39	1.0	2	
004	09a15l00004	ICAL				01/15/09 11:49	1.0	3 2	
005	09a15l00005	ICAL				01/15/09 11:59	1.0	4 2	
006	09a15l00006	ICAL				01/15/09 12:08	1.0	5 2	
007	09a15l00007	ICAL				01/15/09 12:18	1.0	6 2	
008	09a15l00008	ICAL				01/15/09 12:28	1.0	7 2	
009	09a15l00009	ICAL				01/15/09 12:38	1.0	8 2	
010	09a15l00010	X				01/15/09 12:47	1.0	9 2	
011	09a15l00011	X				01/15/09 12:56	1.0	9 2	
012	09a15l00012	ICV				01/15/09 13:07	1.0	9 2	
013	09a15l00013	X				01/15/09 13:17	1.0	2	
014	09a15l00014	ICB				01/15/09 13:26	1.0	2	
015	09a15l00015	ICSA				01/15/09 13:36	1.0	10 2	7:CA=340000
016	09a15l00016	ICSAB				01/15/09 13:47	1.0	11 2	13:CA=350000
017	09a15l00017	X	RINSE			01/15/09 13:57	1.0	2	
018	09a15l00018	X	RINSE			01/15/09 14:06	1.0	2	
019	09a15l00019	XMSS	209180-002	Water	146874	01/15/09 14:16	5.0	2	4:K=190000
020	09a15l00020	XSER	QC479024	Water	146874	01/15/09 14:25	25.0	2	3:K=38000
021	09a15l00021	XMS	QC479022	Water	146874	01/15/09 14:35	5.0	2	
022	09a15l00022	MSS	209202-001	Filtrate	146911	01/15/09 14:45	5.0	2	5:NA=1500000
023	09a15l00023	SER	QC479179	Filtrate	146911	01/15/09 14:55	25.0	2	
024	09a15l00024	MSS	209202-001	Filtrate	146911	01/15/09 15:04	5.0	2	5:NA=1500000
025	09a15l00025	MS	QC479177	Filtrate	146911	01/15/09 15:14	5.0	2	5:NA=1500000
026	09a15l00026	MSD	QC479178	Filtrate	146911	01/15/09 15:24	5.0	2	5:NA=1500000
027	09a15l00027	CCV				01/15/09 15:34	1.0	12 2	
028	09a15l00028	X				01/15/09 15:46	1.0	12 2	
029	09a15l00029	X				01/15/09 15:55	1.0	12 2	
030	09a15l00030	X				01/15/09 16:05	1.0	2	
031	09a15l00031	CCB				01/15/09 16:15	1.0	2	
032	09a15l00032	PDS	QC479180	Filtrate	146911	01/15/09 16:26	5.0	13 14 2	
033	09a15l00033	CCV				01/15/09 16:43	1.0	12 2	
034	09a15l00034	X				01/15/09 16:52	1.0	2	
035	09a15l00035	CCB				01/15/09 17:02	1.0	2	
036	09a15l00036	MSS	209238-003	Water	146945	01/15/09 17:12	5000	2	
037	09a15l00037	SER	QC479328	Water	146945	01/15/09 17:22	25000	2	
038	09a15l00038	MS	QC479326	Water	146945	01/15/09 17:31	5000	2	
039	09a15l00039	MSD	QC479327	Water	146945	01/15/09 17:41	5000	2	
040	09a15l00040	PDS	QC479329	Water	146945	01/15/09 17:51	5000	13 14 2	
041	09a15l00041	SAMPLE	209238-004	Water	146945	01/15/09 18:01	1000	2	
042	09a15l00042	SAMPLE	209238-005	Water	146945	01/15/09 18:11	5000	2	
043	09a15l00043	SAMPLE	209238-006	Water	146945	01/15/09 18:20	5000	2	
044	09a15l00044	SAMPLE	209238-007	Water	146945	01/15/09 18:30	5.0	2	1:CA=29000
045	09a15l00045	CCV				01/15/09 18:40	1.0	12 2	
046	09a15l00046	X				01/15/09 18:51	1.0	2	
047	09a15l00047	CCB				01/15/09 19:00	1.0	2	
048	09a15l00048	SAMPLE	208905-002	Water	146550	01/15/09 19:10	5.0	2	
049	09a15l00049	SAMPLE	208905-003	Water	146550	01/15/09 19:20	50.0	2	1:NA=74000
050	09a15l00050	SAMPLE	208905-004	Water	146550	01/15/09 19:30	50.0	2	1:NA=42000
051	09a15l00051	SAMPLE	208905-001	Filtrate	146550	01/15/09 19:40	5.0	2	
052	09a15l00052	SAMPLE	208905-002	Filtrate	146550	01/15/09 19:49	5.0	2	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 69022283

Instrument : MET06 Begun : 01/15/09 11:23
Method : EPA 6020 SOP Version : icpms_rv5

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	09a15l00053	SAMPLE	208905-003	Filtrate	146550	01/15/09 19:59	50.0	2	1:NA=71000
054	09a15l00054	SAMPLE	208905-004	Filtrate	146550	01/15/09 20:09	50.0	2	1:NA=48000
055	09a15l00055	CCV				01/15/09 20:19	1.0	12 2	
056	09a15l00056	CCB				01/15/09 20:28	1.0	2	
057	09a15l00057	X				01/15/09 20:38	1.0	2	
058	09a15l00058	ICSA				01/15/09 20:48	1.0	10 2	7:CA=330000
059	09a15l00059	ICSAB				01/15/09 20:58	1.0	11 2	12:CA=340000
060	09a15l00060	X	RINSE			01/15/09 21:08	1.0	2	
061	09a15l00061	X	RINSE			01/15/09 21:17	1.0	2	
062	09a15l00062	SAMPLE	209202-002	Filtrate	146911	01/15/09 21:27	5.0	2	5:NA=1400000
063	09a15l00063	SAMPLE	209202-003	Filtrate	146911	01/15/09 21:37	5.0	2	5:NA=1400000
064	09a15l00064	SAMPLE	209202-004	Filtrate	146911	01/15/09 21:47	5.0	2	5:NA=1400000
065	09a15l00065	SAMPLE	209202-005	Filtrate	146911	01/15/09 21:57	5.0	2	5:NA=1400000
066	09a15l00066	TUN				01/15/09 22:07	1.0	1	
067	09a15l00067	X	RINSE			01/15/09 22:14	1.0	2	
068	09a15l00068	SAMPLE	209202-006	Filtrate	146911	01/15/09 22:24	5.0	2	6:NA=660000
069	09a15l00069	PDS	QC479180	Filtrate	146911	01/15/09 22:34	5.0	13 14 2	
070	09a15l00070	CCV				01/15/09 22:43	1.0	12 2	
071	09a15l00071	X				01/15/09 22:53	1.0	2	
072	09a15l00072	CCB				01/15/09 23:03	1.0	2	
073	09a15l00073	MSS	209191-001	Soil	146927	01/15/09 23:13	50.0	2	1:MN=280
074	09a15l00074	SER	QC479249	Soil	146927	01/15/09 23:22	250.0	2	
075	09a15l00075	MS	QC479247	Soil	146927	01/15/09 23:32	50.0	2	
076	09a15l00076	MSD	QC479248	Soil	146927	01/15/09 23:42	50.0	2	
077	09a15l00077	PDS	QC479250	Soil	146927	01/15/09 23:51	50.0	13 14 2	
078	09a15l00078	SAMPLE	209188-001	Soil	146927	01/16/09 00:01	50.0	2	
079	09a15l00079	SAMPLE	209188-002	Soil	146927	01/16/09 00:11	50.0	2	
080	09a15l00080	SAMPLE	209188-003	Soil	146927	01/16/09 00:20	50.0	2	
081	09a15l00081	SAMPLE	209188-004	Soil	146927	01/16/09 00:30	50.0	2	
082	09a15l00082	SAMPLE	209188-005	Soil	146927	01/16/09 00:40	50.0	2	
083	09a15l00083	CCV				01/16/09 00:49	1.0	12 2	
084	09a15l00084	X				01/16/09 00:59	1.0	2	
085	09a15l00085	CCB				01/16/09 01:09	1.0	2	
086	09a15l00086	X				01/16/09 01:19	1.0	12 2	
087	09a15l00087	X				01/16/09 01:28	1.0	2	
088	09a15l00088	X				01/16/09 01:38	1.0	2	
089	09a15l00089	ICSA				01/16/09 01:48	1.0	10 2	7:CA=330000
090	09a15l00090	ICSAB				01/16/09 01:58	1.0	11 2	12:CA=340000
091	09a15l00091	X	RINSE			01/16/09 02:08	1.0	2	
092	09a15l00092	X	RINSE			01/16/09 02:17	1.0	2	
093	09a15l00093	BLANK	QC479545	Soil	146998	01/16/09 02:27	5.0	2	
094	09a15l00094	BS	QC479546	Soil	146998	01/16/09 02:37	10.0	2	
095	09a15l00095	BSD	QC479547	Soil	146998	01/16/09 02:47	10.0	2	
096	09a15l00096	MSS	209305-002	Soil	146998	01/16/09 02:56	50.0	2	
097	09a15l00097	SER	QC479550	Soil	146998	01/16/09 03:06	250.0	2	
098	09a15l00098	MS	QC479548	Soil	146998	01/16/09 03:16	50.0	2	
099	09a15l00099	MSD	QC479549	Soil	146998	01/16/09 03:26	50.0	2	
100	09a15l00100	PDS	QC479551	Soil	146998	01/16/09 03:35	50.0	13 14 2	
101	09a15l00101	CCV				01/16/09 03:45	1.0	12 2	
102	09a15l00102	CCB				01/16/09 03:55	1.0	2	
103	09a15l00103	X				01/16/09 04:04	1.0	2	
104	09a15l00104	SAMPLE	209305-001	Soil	146998	01/16/09 04:14	50.0	2	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 69022283

Instrument : MET06 Begun : 01/15/09 11:23
Method : EPA 6020 SOP Version : icpms_rv5

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
105	09a15l00105	SAMPLE	209305-003	Soil	146998	01/16/09 04:24	50.0	2	
106	09a15l00106	SAMPLE	209266-001	Soil	146998	01/16/09 04:34	50.0	2	
107	09a15l00107	SAMPLE	209266-002	Soil	146998	01/16/09 04:43	50.0	2	
108	09a15l00108	SAMPLE	209266-006	Soil	146998	01/16/09 04:53	50.0	2	1:MN=490
109	09a15l00109	SAMPLE	209266-007	Soil	146998	01/16/09 05:03	50.0	2	
110	09a15l00110	SAMPLE	209266-013	Soil	146998	01/16/09 05:12	50.0	2	
111	09a15l00111	SAMPLE	209266-014	Soil	146998	01/16/09 05:22	50.0	2	
112	09a15l00112	CCV				01/16/09 05:32	1.0	12 2	
113	09a15l00113	CCB				01/16/09 05:41	1.0	2	
114	09a15l00114	X				01/16/09 05:51	1.0	2	
115	09a15l00115	ICSA				01/16/09 06:01	1.0	10 2	7:CA=340000
116	09a15l00116	ICSAB				01/16/09 06:11	1.0	11 2	12:CA=340000

JYF 01/15/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 65.

RCH 01/16/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 66 through 116.

Standards used: 1=S11076 2=S10858 3=S11083 4=S11084 5=S11085 6=S11086 7=S11077 8=S11080 9=S11088 10=S11090 11=S11091 12=S11089 13=S10997 14=S10998

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 69022283

Date : 01/15/09 Reference : 09a15l00003
Sequence : MET06 09a15l00 Analyzed : 01/15/09 11:39

#	Type	Sample ID	LI A	SC A	SC E	SC H	GE H	GE E	IN A	BI A	Y A	TB A
		IB+ICALBLK STD	2899199	2435486	21641	1394282	312861	18722	3698856	3612640	3557393	5346743
		LOWER LIMIT	869760	730646	6492	418285	93858	5617	1109657	1083792	1067218	1604023
		UPPER LIMIT	3479039	2922583	25969	1673138	375433	22466	4438627	4335168	4268872	6416092
014	ICB		2794714	2448989	22306	1426698	319067	19635	3707971	3652598	3572442	5403082
015	ICSA		1510679	1323393	16473	954841	191709	12935	1976930	1957248	1952399	3190268
016	ICSAB		1465369	1279596	15343	884053	176304	11909	2007144	1959350	1956619	3252348
022	MSS	209202-001	1929175	1653175	17361	887453	162767	11785	1924557	1695797	2064269	2973979
023	SER	QC479179	2615616	2265827	21866	1214487	244294	16495	2922575	2569129	3046721	4345481
024	MSS	209202-001	2004811	1743571	18764	905339	164647	12333	1995875	1741843	2153130	3066741
025	MS	QC479177	1957628	1740662	18698	924590	166408	12175	2006610	1749440	2172648	3098673
026	MSD	QC479178	1951756	1798286	18948	956543	170017	12535	2057331	1799716	2222961	3198366
027	CCV		3165196	2784863	24404	1382089	297819	19677	3692514	3344640	3806639	5326893
031	CCB		2911197	2601993	23799	1362818	298473	20275	3776366	3599076	3700192	5371460
032	PDS	QC479180	1839178	1680993	17841	883914	158809	12152	1993576	1751293	2153966	3140111
033	CCV		2996654	2696686	25287	1358516	291580	20728	3648520	3359214	3742308	5354149
035	CCB		2921117	2596888	23212	1272001	281270	19991	3759500	3553167	3675384	5377197
036	MSS	209238-003	2874245	2506746	23375	1326454	293113	20112	3730685	3508463	3591132	5267852
037	SER	QC479328	2969065	2615488	23760	1345230	296165	20208	3817245	3617446	3764965	5384729
038	MS	QC479326	2752564	2482356	23489	1307252	287841	20003	3655778	3518451	3573334	5265570
039	MSD	QC479327	2851896	2509779	23837	1296186	288021	20476	3693797	3565590	3622200	5305989
040	PDS	QC479329	2567395	2397207	23014	1265600	273813	19336	3454956	3256327	3439102	5109077
041	SAMPLE	209238-004	2777117	2460989	22760	1278981	283043	19748	3707803	3553294	3594043	5359793
042	SAMPLE	209238-005	2761704	2427607	22851	1234747	274458	19825	3682783	3536737	3571670	5289576
043	SAMPLE	209238-006	2724081	2407235	23058	1253113	277934	19899	3705602	3572861	3560241	5281909
044	SAMPLE	209238-007	2554386	2344844	21825	1225004	269065	18680	3462336	3258563	3401599	5141111
045	CCV		2554855	2297398	21547	1197448	262758	18408	3418455	3287896	3364796	5115289
047	CCB		2603427	2323143	20982	1206175	271211	18548	3603711	3516252	3448357	5284984
048	SAMPLE	208905-002	2460238	2221613	21031	1193333	268966	18338	3513944	3458382	3337720	5206127
049	SAMPLE	208905-003	2442456	2231103	21139	1128050	247403	17983	3299368	3073683	3239430	4886566
050	SAMPLE	208905-004	2593171	2349681	21422	1171182	257887	18351	3446811	3243413	3397302	5142429
051	SAMPLE	208905-001	2344217	2124894	20078	1145786	256825	17687	3404900	3332172	3220860	5085913
052	SAMPLE	208905-002	2495716	2231171	19790	1153152	260315	17662	3592258	3491847	3340737	5277987
053	SAMPLE	208905-003	2466545	2248131	20939	1241186	261979	17843	3337313	3097990	3273082	4912332
054	SAMPLE	208905-004	2468456	2212946	20773	1145984	252922	17856	3302794	3111719	3248705	4946335
055	CCV		2455184	2262776	20541	1140373	251507	17758	3377584	3249620	3339731	5117217
056	CCB		2599362	2329322	20784	1170890	261294	18370	3627981	3595924	3483573	5316337
058	ICSA		1358259	1306822	15742	781497	159475	12481	2040107	1997466	2022615	3279789
059	ICSAB		1276380	1241816	14254	690352	144636	11348	2019301	1958315	1976129	3252305
062	SAMPLE	209202-002	1744302	1616478	17015	722108	138044	11831	1980511	1732900	2110448	3062454
063	SAMPLE	209202-003	1792417	1695679	17663	746598	139699	11864	2009363	1732667	2169666	3058510
064	SAMPLE	209202-004	1790484	1705479	18136	751837	141249	12155	2010713	1717392	2188277	3061512
065	SAMPLE	209202-005	1879756	1788169	18372	729191	138870	12195	2078332	1759202	2263958	3140078
068	SAMPLE	209202-006	2154524	2004540	19537	876481	167590	14025	2543527	2185217	2675852	3815623
069	PDS	QC479180	1753472	1687225	17736	701568	133125	11890	2018078	1753477	2200240	3151375
070	CCV		2805265	2605731	22865	1068061	235934	18990	3549845	3158981	3641701	5063163
072	CCB		2882588	2666178	23247	1090933	244454	20010	3770692	3469855	3787506	5272082
073	MSS	209191-001	2599683	2523655	23449	1056564	231261	19611	3489914	3279805	3653337	5099379
074	SER	QC479249	2666369	2568099	23028	1036754	230362	19626	3662027	3426665	3701868	5263185
075	MS	QC479247	2539429	2523707	23172	1046407	228812	19479	3534897	3259865	3667371	5129154
076	MSD	QC479248	2584838	2528729	23059	1044476	222250	19076	3506989	3273539	3648751	5063209
077	PDS	QC479250	2442141	2402534	22557	1039711	223740	18633	3385333	3112152	3509213	5010239

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 69022283

Date : 01/15/09 Reference : 09a15l00003
Sequence : MET06 09a15l00 Analyzed : 01/15/09 11:39

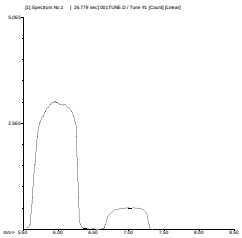
#	Type	Sample ID	LI A	SC A	SC E	SC H	GE H	GE E	IN A	BI A	Y A	TB A
078	SAMPLE	209188-001	2505376	2409977	22452	1039275	220662	18700	3404716	3171349	3490900	4964761
079	SAMPLE	209188-002	2485774	2460668	23424	1014762	219804	19599	3463624	3221073	3580998	4993986
080	SAMPLE	209188-003	2563408	2501943	22803	1014722	222417	19357	3597585	3374292	3639736	5127421
081	SAMPLE	209188-004	2647721	2523570	23222	1024326	227047	19618	3639338	3406423	3704854	5227821
082	SAMPLE	209188-005	2500595	2450052	22636	1007156	221352	19143	3472077	3281192	3573980	4991216
083	CCV		2525882	2383078	21536	990288	221651	18521	3444214	3158022	3478617	5031577
085	CCB		2548224	2388872	20985	994556	225666	18532	3610160	3425663	3518960	5172306
089	ICSA		1273761	1322345	15718	655132	136757	12489	1972583	1902755	1996717	3159486
090	ICSAB		1219843	1266590	14565	615646	127710	11562	1975377	1879387	1988778	3170627
093	BLANK	QC479545	2405479	2297700	19413	892258	199560	17343	3644073	3457840	3499421	5385997
094	BS	QC479546	2332274	2240801	18921	851485	190721	16689	3477998	3279713	3365811	5137458
095	BSD	QC479547	2426604	2232961	18546	834359	188331	16415	3447105	3271590	3348023	5111437
096	MSS	209305-002	2505311	2476852	21009	886334	200857	18518	3661365	3383567	3731670	5262385
097	SER	QC479550	2508237	2467551	20256	867667	200996	18429	3767278	3505348	3744039	5365784
098	MS	QC479548	2541704	2476017	20846	856171	195069	18332	3638631	3380002	3668183	5272668
099	MSD	QC479549	2468230	2407374	20519	862982	194102	17965	3596793	3344547	3614944	5170106
100	PDS	QC479551	2381277	2356968	19679	848052	189740	17073	3398391	3112069	3490600	5004080
101	CCV		2424729	2305761	19348	829616	190182	16889	3369121	3128253	3373553	5021487
102	CCB		2533311	2393347	19618	871965	201017	17913	3662287	3425980	3545364	5198799
104	SAMPLE	209305-001	2607225	2558231	20925	871193	196965	18526	3758980	3477771	3793785	5421030
105	SAMPLE	209305-003	2611276	2511376	20344	862796	194085	18238	3708160	3421056	3730578	5289345
106	SAMPLE	209266-001	2478659	2379036	19568	817467	188224	17560	3565789	3362256	3534043	5085512
107	SAMPLE	209266-002	2524354	2441944	19928	832208	193126	17944	3695989	3450608	3622278	5276701
108	SAMPLE	209266-006	2488619	2423948	19811	815081	185940	17337	3615567	3364752	3630136	5176273
109	SAMPLE	209266-007	2465945	2359921	19685	821291	189094	17686	3580168	3356062	3527700	5196649
110	SAMPLE	209266-013	2457153	2402706	19759	799766	186220	17663	3578340	3422689	3567228	5153317
111	SAMPLE	209266-014	2491976	2396267	19649	808618	187871	17457	3609019	3427389	3590199	5192518
112	CCV		2360851	2258582	19284	826168	187330	17178	3332531	3092036	3315862	4938986
113	CCB		2407490	2305333	18799	815001	190027	17088	3567363	3369148	3452868	5139561
115	ICSA		1220021	1308762	14592	556954	119005	11889	2043026	1935519	2038361	3229330
116	ICSAB		1183213	1246446	13276	525076	110765	10823	2060659	1918184	2038307	3243636

MET06 QC Tune Report

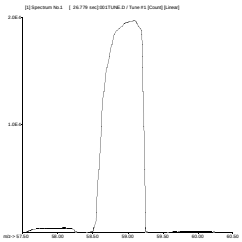
Data File: C:\ICPCHEM\1\DATA\09A15l00.B\001TUNE.D
Date Acquired: Jan 15 2009 11:23 am
Acq. Method: TN6020.M
Operator:
Sample Name: tun,s11076
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\TN6020.M

RSD (%)

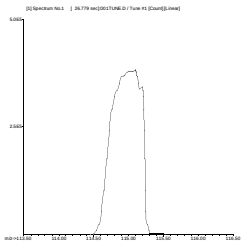
Element	Actual	Required	Flag
7 Li	1.26	5.00	
59 Co	1.57	5.00	
115 In	1.49	5.00	
205 Tl	1.57	5.00	



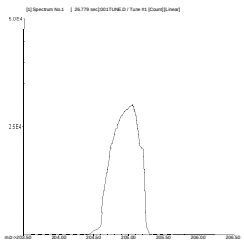
7 Li
Mass Calib.
Actual: 7.00
Required: 6.90 - 7.10
Flag:
Peak Width
Actual: 0.55
Required: 0.90
Flag:



59 Co
Mass Calib.
Actual: 59.05
Required: 58.90 - 59.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:



115 In
Mass Calib.
Actual: 115.00
Required: 114.90 - 115.10
Flag:
Peak Width
Actual: 0.55
Required: 0.90
Flag:



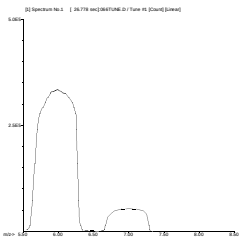
205 Tl
Mass Calib.
Actual: 205.00
Required: 204.90 - 205.10
Flag:
Peak Width
Actual: 0.55
Required: 0.90
Flag:

MET06 QC Tune Report

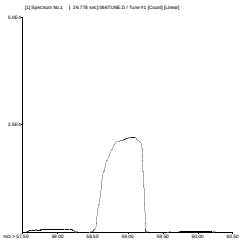
Data File: C:\ICPCHEM\1\DATA\09A15l00.B\066TUNE.D
Date Acquired: Jan 15 2009 10:07 pm
Acq. Method: TN6020.M
Operator:
Sample Name: tun,s11076
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\TN6020.M

RSD (%)

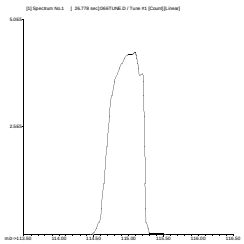
Element	Actual	Required	Flag
7 Li	0.88	5.00	
59 Co	2.17	5.00	
115 In	2.28	5.00	
205 Tl	3.76	5.00	



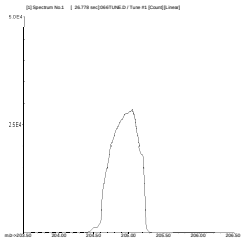
7 Li
Mass Calib.
Actual: 7.00
Required: 6.90 - 7.10
Flag:
Peak Width
Actual: 0.55
Required: 0.90
Flag:



59 Co
Mass Calib.
Actual: 59.00
Required: 58.90 - 59.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:



115 In
Mass Calib.
Actual: 115.00
Required: 114.90 - 115.10
Flag:
Peak Width
Actual: 0.55
Required: 0.90
Flag:



205 Tl
Mass Calib.
Actual: 205.00
Required: 204.90 - 205.10
Flag:
Peak Width
Actual: 0.55
Required: 0.90
Flag:

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 209191 METALS Soil: EPA 6020

Inst : MET06 Reviewer : ---
Calnum : 69022283001 Date : 15-JAN-2009 11:39
Units : ug/L X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	09a15l00004	69022283004		15-JAN-2009 11:49	S11083, S10858
L2	09a15l00005	69022283005		15-JAN-2009 11:59	S11084, S10858
L3	09a15l00006	69022283006		15-JAN-2009 12:08	S11085, S10858
L4	09a15l00007	69022283007		15-JAN-2009 12:18	S11086, S10858
L5	09a15l00008	69022283008		15-JAN-2009 12:28	S11077, S10858
L6	09a15l00009	69022283009		15-JAN-2009 12:38	S11080, S10858

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Lead	A	0.3761	0.3409	0.3395	0.3361	0.3362	0.3330	BLNK	-0.0082	2.99738		0.3436	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Lead	A	0.100	5	0.500	1	1.000	1	10.00	1	100.0	1	200.0	0

Instrument amount = a0 + response * a1 + response^2 * a2; BLNK=Y=aX+[blank]

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 209191 METALS Soil
EPA 6020

Inst : MET06
Calnum : 69022283001 Cal Date : 15-JAN-2009

ICV 69022283012 (09a15l00012 15-JAN-2009) stds: S11088, S10858

Analyte	Ch	Average RF	RF	Spiked	Quant	Units	%D	Max	Flags
Lead	A	0.3436	0.3179	100.0	95.29	ug/L	-5	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Soil
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69022283014 File : 09a15l00014 Time : 15-JAN-2009 13:26
Cal : 69022283001 Caldate : 15-JAN-2009

Analyte	Ch	Quant	IQL	2X MDL	Units	Flags
Lead	A	ND	0.1000	0.05505	ug/L	

ISTD (ICALBLK 09a15l00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2899199	2794714	-3.60
Scandium	A	2435486	2448989	0.55
Scandium	E	21641	22306	3.07
Scandium	H	1394282	1426698	2.32
Germanium	H	312861	319067	1.98
Germanium	E	18722	19635	4.88
Indium	A	3698856	3707971	0.25
Bismuth	A	3612640	3652598	1.11
Yttrium	A	3557393	3572442	0.42
Terbium	A	5346743	5403082	1.05

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 209191 METALS Soil
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69022283058 File : 09a15l00058 Time : 15-JAN-2009 20:48
Cal : 69022283001 Caldate : 15-JAN-2009
Standards: S11090, S10858

Analyte	Ch	Quant	IQL	Units	Flags
Lead	A	0.5376	0.1000	ug/L	!a+

Interferent	Ch	Spiked	Quant	Units	%Rec
Aluminum	A	100000	109000	ug/L	109
Calcium	A	300000	332600	ug/L	111
Magnesium	A	100000	107000	ug/L	107
Molybdenum	A	2000	2300	ug/L	115
Potassium	A	100000	113300	ug/L	113
Sodium	E	250000	279400	ug/L	112
Iron	H	250000	277100	ug/L	111

ISTD (ICALBLK 09a15l00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2899199	1358259	-53.15
Scandium	A	2435486	1306822	-46.34
Scandium	E	21641	15742	-27.26
Scandium	H	1394282	781497	-43.95
Germanium	H	312861	159475	-49.03
Germanium	E	18722	12481	-33.34
Indium	A	3698856	2040107	-44.84
Bismuth	A	3612640	1997466	-44.71
Yttrium	A	3557393	2022615	-43.14
Terbium	A	5346743	3279789	-38.66

!=warning +=high bias a=ICSA

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 METALS Soil
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69022283070 File : 09a15l00070 Time : 15-JAN-2009 22:43
Cal : 69022283001 Caldate : 15-JAN-2009
Standards: S11089, S10858

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	0.3436	0.3124	100.0	93.63	ug/L	-6	10	

ISTD (ICALBLK 09a15l00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2899199	2805265	-3.24
Scandium	A	2435486	2605731	6.99
Scandium	E	21641	22865	5.66
Scandium	H	1394282	1068061	-23.40
Germanium	H	312861	235934	-24.59
Germanium	E	18722	18990	1.43
Indium	A	3698856	3549845	-4.03
Bismuth	A	3612640	3158981	-12.56
Yttrium	A	3557393	3641701	2.37
Terbium	A	5346743	5063163	-5.30

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Soil
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69022283072 File : 09a15l00072 Time : 15-JAN-2009 23:03
Cal : 69022283001 Caldate : 15-JAN-2009

Analyte	Ch	Quant	IQL	2X MDL	Units	Flags
Lead	A	ND	0.1000	0.05505	ug/L	

ISTD (ICALBLK 09a15l00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2899199	2882588	-0.57
Scandium	A	2435486	2666178	9.47
Scandium	E	21641	23247	7.42
Scandium	H	1394282	1090933	-21.76
Germanium	H	312861	244454	-21.86
Germanium	E	18722	20010	6.88
Indium	A	3698856	3770692	1.94
Bismuth	A	3612640	3469855	-3.95
Yttrium	A	3557393	3787506	6.47
Terbium	A	5346743	5272082	-1.40

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 METALS Soil
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69022283083 File : 09a15l00083 Time : 16-JAN-2009 00:49
Cal : 69022283001 Caldate : 15-JAN-2009
Standards: S11089, S10858

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Lead	A	0.3436	0.3097	100.0	92.82	ug/L	-7	10	

ISTD (ICALBLK 09a15l00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2899199	2525882	-12.88
Scandium	A	2435486	2383078	-2.15
Scandium	E	21641	21536	-0.49
Scandium	H	1394282	990288	-28.98
Germanium	H	312861	221651	-29.15
Germanium	E	18722	18521	-1.07
Indium	A	3698856	3444214	-6.88
Bismuth	A	3612640	3158022	-12.58
Yttrium	A	3557393	3478617	-2.21
Terbium	A	5346743	5031577	-5.89

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 METALS Soil
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69022283085 File : 09a15l00085 Time : 16-JAN-2009 01:09
Cal : 69022283001 Caldate : 15-JAN-2009

Analyte	Ch	Quant	IQL	2X MDL	Units	Flags
Lead	A	ND	0.1000	0.05505	ug/L	

ISTD (ICALBLK 09a15l00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2899199	2548224	-12.11
Scandium	A	2435486	2388872	-1.91
Scandium	E	21641	20985	-3.03
Scandium	H	1394282	994556	-28.67
Germanium	H	312861	225666	-27.87
Germanium	E	18722	18532	-1.01
Indium	A	3698856	3610160	-2.40
Bismuth	A	3612640	3425663	-5.18
Yttrium	A	3557393	3518960	-1.08
Terbium	A	5346743	5172306	-3.26

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 209191 METALS Soil
EPA 6020

Inst : MET06 IDF : 1.0
Seqnum : 69022283089 File : 09a15l00089 Time : 16-JAN-2009 01:48
Cal : 69022283001 Caldate : 15-JAN-2009
Standards: S11090, S10858

Analyte	Ch	Quant	IQL	Units	Flags
Lead	A	0.5171	0.1000	ug/L	!a+

Interferent	Ch	Spiked	Quant	Units	%Rec
Aluminum	A	100000	108400	ug/L	108
Calcium	A	300000	334600	ug/L	112
Magnesium	A	100000	105600	ug/L	106
Molybdenum	A	2000	2266	ug/L	113
Potassium	A	100000	115500	ug/L	116
Sodium	E	250000	280000	ug/L	112
Iron	H	250000	291700	ug/L	117

ISTD (ICALBLK 09a15l00003)	Ch	ICALBLK Abund	Abund	%Drift
Lithium	A	2899199	1273761	-56.07
Scandium	A	2435486	1322345	-45.71
Scandium	E	21641	15718	-27.37
Scandium	H	1394282	655132	-53.01
Germanium	H	312861	136757	-56.29
Germanium	E	18722	12489	-33.29
Indium	A	3698856	1972583	-46.67
Bismuth	A	3612640	1902755	-47.33
Yttrium	A	3557393	1996717	-43.87
Terbium	A	5346743	3159486	-40.91

!=warning +=high bias a=ICSA

SAMPLE PREPARATION SUMMARY

Batch # : 146927 Analysis : ICAP
Started By : MCB Prep Date : 13-JAN-2009 22:40 Finished By : MCB
Method : 3050B SOP Version : 3050B_ICP_rv9 Units : g
Spike #1 ID : S10697 Spike #2 ID : S10698

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
209188-001		Soil	1.11	50	1	45.05						T22/ICP	
209188-002		Soil	1.11	50	1	45.05						T22/ICP	
209188-003		Soil	1.09	50	1	45.87						T22/ICP	
209188-004		Soil	1.12	50	1	44.64						T22/ICP	
209188-005		Soil	1.12	50	1	44.64						T22/ICP	
209191-001		Soil	1.09	50	1	45.87						PB	
209191-002		Soil	1.04	50	1	48.08						PB	
209191-010		Soil	1.05	50	1	47.62						PB	
209191-011		Soil	1.02	50	1	49.02						PB	
209242-001		Soil	1.12	50	1	44.64						PB	
209242-002		Soil	1.05	50	1	47.62						PB	
209242-003		Soil	1.07	50	1	46.73						PB	
209242-004		Soil	1.09	50	1	45.87						PB	
209242-005		Soil	1.04	50	1	48.08						PB	
209242-006		Soil	1.09	50	1	45.87						PB	
QC479244	BLANK	Soil	1	50	1	50.0							
QC479245	BS	Soil	1	50	1	50.0		.25	.25				
QC479246	BSD	Soil	1	50	1	50.0		.25	.25				
QC479247	MS	Soil	1.08	50	1	46.30		.25	.25				
QC479248	MSD	Soil	1.02	50	1	49.02		.25	.25				
QC479249	SER	Soil	1.09	50	1	45.87							
QC479250	PDS	Soil	1.09	50	1	45.87							

Reviewed by: AH Date: 01/14/09

Soil Digestion for ICP & ICP-MS

Curtis & Tompkins, Ltd.

LIMS Batch #: 146927
Date Digested: 1/13/09
Digested by: MCB III

Digestion Method
☒ EPA 3050b
☐ _____

BK 2817
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Sample #	Container ID	Weight of Sample (g)	Final Volume (mL)	Filtered? (y/n)	Comments
BLANK		Ø	50	Y	
BS		↓	↓	↓	
BSD		↓	↓	↓	
MS-191-001	A	1.08	↓	↓	
MSD-191-001	↓	1.02	↓	↓	
209191-001	↓	1.09	↓	↓	
-002	↓	1.04	↓	↓	
-010	↓	1.05	↓	↓	
-011	↓	1.02	↓	↓	
209242-001	↓	1.12	↓	↓	
-002	↓	1.05	↓	↓	
-003	↓	1.07	↓	↓	
-004	↓	1.09	↓	↓	
-005	↓	1.04	↓	↓	
-006	↓	1.09	↓	↓	
209188-001 (032)	↓	1.11	↓	↓	209188-001 IS A COMP OF (032-001-002) 566a
-002	↓	1.11	↓	↓	-002 ANALIAS OF (032-003)
-003	↓	1.09	↓	↓	-003 IS A COMP OF (032-004-005) (067-1)
-004	↓	1.12	↓	↓	-004 (067-2,5,+6)
-005	↓	1.12	↓	↓	-005 ALIAS+COMP OF (067 3+4)

	Reagent ID or LIMS #	Initials / Date
Digestion tubes, lot#	U65005-261	
.25 ml. of spike solution (Std1) was added to all spikes	S10697	MCB III 1/13/09
.25 ml. of spike solution (Std2) was added to all spikes	S10698	↓
digestion temperature (90 - 95 degrees C)	95°C	↓
Digestion begun at (time)	10:40am	↓
1:1 HNO3	G17027 JT BAKER	↓
concentrated HNO3	G44029	↓
3mL 30% hydrogen peroxide	G21A02	↓
concentrated HCl	G36029	↓
Digestion ended at (time)		↓
☒ filtered thru' Whatman # 541	J11387693	↓
Relinquished to ICP group		

Michael Crocker 1/13/09
Digestion Chemist / Date

Continued from page ____
Continued on page ____

1/13/09
Reviewed by / Date

Laboratory Job Number 209191

ANALYTICAL REPORT

Ion Chromatography

Matrix: Water

Curtis & Tompkins, Ltd.

Chloride

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	METHOD
Project#:	Y0239-04.A3	Analysis:	EPA 300.0
Field ID:	E074	Batch#:	146879
Matrix:	Water	Sampled:	01/12/09 12:00
Units:	mg/L	Received:	01/12/09

Type:	SAMPLE	Diln Fac:	5.000
Lab ID:	209191-018	Analyzed:	01/12/09 18:41

Analyte	Result	RL
Chloride	47	1.0

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC479042	Analyzed:	01/12/09 12:57

Analyte	Result	RL
Chloride	ND	0.20

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Chloride

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	METHOD
Project#:	Y0239-04.A3	Analysis:	EPA 300.0
Field ID:	E074	Batch#:	146879
MSS Lab ID:	209191-018	Sampled:	01/12/09 12:00
Matrix:	Water	Received:	01/12/09
Units:	mg/L		

Type: BS Diln Fac: 1.000
Lab ID: QC479043 Analyzed: 01/12/09 13:15

Analyte	Spiked	Result	%REC	Limits
Chloride	4.000	3.862	97	90-110

Type: BSD Diln Fac: 1.000
Lab ID: QC479044 Analyzed: 01/12/09 13:32

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Chloride	4.000	3.892	97	90-110	1	20

Type: MS Diln Fac: 5.000
Lab ID: QC479075 Analyzed: 01/13/09 00:47

Analyte	MSS Result	Spiked	Result	%REC	Limits
Chloride	46.60	10.00	56.34	97 NM	80-120

Type: MSD Diln Fac: 5.000
Lab ID: QC479076 Analyzed: 01/13/09 01:04

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Chloride	10.00	56.44	98 NM	80-120	0	25

NM= Not Meaningful: Sample concentration > 4X spike concentration
RPD= Relative Percent Difference

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 209191 IC Water: EPA 300.0

Inst : IC03
Calnum : 629003521001
Units : mg/L

Name : IC03 CAL 002
Date : 02-JAN-2009 13:09
X Axis : A

Inj Vol : 25 uL

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	002_14	629003521014	L1	02-JAN-2009 13:09	S11105 (500X)
L2	002_15	629003521015	L2	02-JAN-2009 13:26	S11105 (250X)
L3	002_16	629003521016	L3	02-JAN-2009 13:43	S11105 (100X)
L4	002_17	629003521017	L4	02-JAN-2009 14:01	S11105 (25X)
L5	002_18	629003521018	L5	02-JAN-2009 14:18	S11105 (10X)
L6	002_19	629003521019	L6	02-JAN-2009 14:36	S11105 (5X)

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Chloride	0.1450	0.1372	0.1384	0.1431	0.1531	0.1644	QORG		0.14042	0.001204	0.1469	1.000	0.990	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Chloride	0.200	3	0.400	-3	1.000	-2	4.000	-1	10.00	0	20.00	0

JLM 01/02/09 : ical pts integrated to match previous icals

Analyst: JLM Date: 01/02/09 Reviewer: LW Date: 01/07/09

Instrument response = a0 + amount * a1 + amount^2 * a2 (invert equation before quantitating); QORG=Quadratic regression forced through origin

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 209191 IC Water
EPA 300.0

Inst : IC03 Name : IC03 CAL 002
Calnum : 629003521001 Cal Date : 02-JAN-2009

ICV 629003521021 (002_21 02-JAN-2009) stds: S10785 (25X)

Analyte	Average RF	RF	Spiked	Quant	Units	%D	Max	Flags
Chloride	0.1469	0.1400	2.000	1.962	mg/L	-2	10	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 IC Water
EPA 300.0

Inst : IC03 Run Name : L IDF : 1.0
Seqnum : 629017950011 File : 012_11 Time : 12-JAN-2009 12:20
Cal : 629003521001 Caldate : 02-JAN-2009
Standards: S11105 (100X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Chloride	0.1469	0.1351	1.000	0.9541	mg/L	-5	10	

MJB 01/12/09 : Integrated to match integration of ICAL and CCV .

Analyst: MJB Date: 01/12/09 Reviewer: LW Date: 01/13/09

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 IC Water
EPA 300.0

Inst : IC03 Run Name : M IDF : 1.0
Seqnum : 629017950022 File : 012_22 Time : 12-JAN-2009 18:06
Cal : 629003521001 Caldate : 02-JAN-2009
Standards: S11105 (25X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Chloride	0.1469	0.1425	4.000	3.927	mg/L	-2	10	

MJB 01/12/09 : Integrated to match integration of ICAL and CCV .

Analyst: MJB Date: 01/12/09 Reviewer: LW Date: 01/13/09

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 209191 IC Water
EPA 300.0

Inst : IC03 Run Name : H IDF : 1.0
Seqnum : 629017950046 File : 012_46 Time : 13-JAN-2009 01:22
Cal : 629003521001 Caldate : 02-JAN-2009
Standards: S11105 (10X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Chloride	0.1469	0.1507	10.00	9.895	mg/L	-1	10	

MJB 01/13/09 : Integrated to match integration of ICAL and CCV .

Analyst: MJB Date: 01/13/09 Reviewer: LW Date: 01/13/09

CURTIS & TOMPKINS BLANK USER REPORT FOR 209191 IC Water
EPA 300.0

Inst : IC03 Run Name : QC479042 IDF : 1.0
Seqnum : 629017950012.3 File : 012_12 Time : 12-JAN-2009 12:57

Analyte	Cal	Caldate	Quant	IQL	MDL	Units	Flags
Chloride	629003521001	02-JAN-2009	ND	0.2000	0.02734	mg/L	u

Analyst: MJB Date: 01/14/09 Reviewer: LW Date: 01/16/09

u=use

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 IC Water
EPA 300.0

Inst : IC03 IDF : 1.0
Seqnum : 629017950023 File : 012_23 Time : 12-JAN-2009 18:23

Analyte	Cal	Caldate	Quant	IQL	MDL	Units	Flags
Chloride	629003521001	02-JAN-2009	ND	0.2000	0.02734	mg/L	

Analyst: MJB Date: 01/12/09 Reviewer: LW Date: 01/13/09

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 209191 IC Water
EPA 300.0

Inst : IC03 IDF : 1.0
Seqnum : 629017950047 File : 012_47 Time : 13-JAN-2009 01:39

Analyte	Cal	Caldate	Quant	IQL	MDL	Units	Flags
Chloride	629003521001	02-JAN-2009	ND	0.2000	0.02734	mg/L	

Analyst: MJB Date: 01/13/09 Reviewer: LW Date: 01/13/09

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 629003521

Instrument : IC03 Begun : 01/02/09 10:41
Method : EPA 300.0 SOP Version : ANIONS_300_rv8

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
007	002_7	X	AS14A 10X			01/02/09 10:41	1.0		
008	002_8	X	BLK			01/02/09 10:58	1.0		
009	002_9	X	BLK			01/02/09 11:16	1.0		
010	002_10	X	CCV			01/02/09 11:45	1.0	1	
011	002_11	X	BLK			01/02/09 12:03	1.0		
012	002_12	X	CCV			01/02/09 12:32	1.0	2	
013	002_13	IB	CALIB			01/02/09 12:49	1.0		
014	002_14	ICAL	L1			01/02/09 13:09	1.0	2	
015	002_15	ICAL	L2			01/02/09 13:26	1.0	2	
016	002_16	ICAL	L3			01/02/09 13:43	1.0	2	
017	002_17	ICAL	L4			01/02/09 14:01	1.0	2	
018	002_18	ICAL	L5			01/02/09 14:18	1.0	2	
019	002_19	ICAL	L6			01/02/09 14:36	1.0	2	
020	002_20	ICB				01/02/09 14:53	1.0		
021	002_21	ICV				01/02/09 15:11	1.0	1	
022	002_22	CCB/MB	QC477859	Water	146584	01/02/09 15:28	1.0		
023	002_23	BS	QC477860	Water	146584	01/02/09 15:45	1.0	2	
024	002_24	BSD	QC477861	Water	146584	01/02/09 16:03	1.0	2	
025	002_25	MSS	208903-005	Water	146584	01/02/09 16:27	10.0		
026	002_26	MS	QC477862	Water	146584	01/02/09 16:45	10.0	2	
027	002_27	MSD	QC477863	Water	146584	01/02/09 17:02	10.0	2	
028	002_28	SAMPLE	208903-001	Water	146584	01/02/09 17:19	1.0		
029	002_29	X	BLK		146584	01/02/09 17:37	1.0		
030	002_30	X	BLK		146584	01/02/09 17:54	1.0		
031	002_31	SAMPLE	208903-002	Water	146584	01/02/09 18:12	5.0		
032	002_32	X	BLK		146584	01/02/09 18:29	1.0		
033	002_33	SAMPLE	208903-003	Water	146584	01/02/09 18:47	1.0		
034	002_34	X	BLK		146584	01/02/09 19:04	1.0		
035	002_35	X	BLK		146584	01/02/09 19:21	1.0		
036	002_36	SAMPLE	208903-004	Water	146584	01/02/09 19:39	1.0		1:CL=48
037	002_37	X	BLK		146584	01/02/09 19:56	1.0		
038	002_38	X	BLK		146584	01/02/09 20:14	1.0		
039	002_39	CCV	H		146584	01/02/09 20:31	1.0	2	
040	002_40	CCB			146584	01/02/09 20:48	1.0		
041	002_41	X	CCV		146584	01/02/09 21:06	1.0	2	
042	002_42	X	CCB		146584	01/02/09 21:23	1.0		
043	002_43	SAMPLE	208903-006	Water	146584	01/02/09 21:41	10.0		
044	002_44	SAMPLE	208903-009	Water	146584	01/02/09 21:58	10.0		
045	002_45	SAMPLE	208903-010	Water	146584	01/02/09 22:15	5.0		
046	002_46	X	BLK		146584	01/02/09 22:33	1.0		
047	002_47	SAMPLE	208903-011	Water	146584	01/02/09 22:50	5.0		1:CL=84
048	002_48	X	BLK		146584	01/02/09 23:08	1.0		
049	002_49	CCV	M		146584	01/02/09 23:25	1.0	2	
050	002_50	CCB			146584	01/02/09 23:42	1.0		
051	002_51	X	CCV		146584	01/03/09 00:00	1.0	2	
052	002_52	X	CCB		146584	01/03/09 00:17	1.0		

JLM 01/03/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 7 through 52.

Analyst: JLM Date: 01/02/09 Reviewer: LW Date: 01/07/09

Standards used: 1=S10785 2=S11105

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CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 629017950

Instrument : IC03 Begun : 01/12/09 11:10
Method : EPA 300.0 SOP Version : ANIONS_300_rv8

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
007	012_7	X	AS14A 10X			01/12/09 11:10	1.0		
008	012_8	X	BLK			01/12/09 11:28	1.0		
009	012_9	X	BLK			01/12/09 11:46	1.0		
010	012_10	X	BLK			01/12/09 12:03	1.0		
011	012_11	CCV	L			01/12/09 12:20	1.0	1	
012	012_12	CCB/MB	QC479042	Water	146879	01/12/09 12:57	1.0		
013	012_13	BS	QC479043	Water	146879	01/12/09 13:15	1.0	1	
014	012_14	BSD	QC479044	Water	146879	01/12/09 13:32	1.0	1	
015	012_15	SAMPLE	209190-001	Filtrate	146879	01/12/09 16:04	200.0		
016	012_16	SAMPLE	209190-002	Filtrate	146879	01/12/09 16:22	200.0		
017	012_17	SAMPLE	209190-003	Filtrate	146879	01/12/09 16:39	200.0		
018	012_18	SAMPLE	209190-004	Filtrate	146879	01/12/09 16:56	500.0		
019	012_19	SAMPLE	209190-005	Filtrate	146879	01/12/09 17:14	200.0		
020	012_20	SAMPLE	209196-001	Water	146879	01/12/09 17:31	1000		
021	012_21	SAMPLE	209196-002	Water	146879	01/12/09 17:49	5000		
022	012_22	CCV	M		146879	01/12/09 18:06	1.0	1	
023	012_23	CCB			146879	01/12/09 18:23	1.0		
024	012_24	MSS	209191-018	Water	146879	01/12/09 18:41	5.0		
025	012_25	SAMPLE	209190-001	Filtrate	146879	01/12/09 19:16	5.0		1:CL=260
026	012_26	X	BLK		146879	01/12/09 19:34	1.0		
027	012_27	X	BLK		146879	01/12/09 19:51	1.0		
028	012_28	SAMPLE	209190-002	Filtrate	146879	01/12/09 20:08	10.0		1:CL=220
029	012_29	X	BLK		146879	01/12/09 20:26	1.0		
030	012_30	X	BLK		146879	01/12/09 20:43	1.0		
031	012_31	SAMPLE	209190-003	Filtrate	146879	01/12/09 21:01	10.0		1:CL=220
032	012_32	X	BLK		146879	01/12/09 21:18	1.0		
033	012_33	X	BLK		146879	01/12/09 21:35	1.0		
034	012_34	SAMPLE	209190-004	Filtrate	146879	01/12/09 21:53	20.0		1:CL=200
035	012_35	X	BLK		146879	01/12/09 22:10	1.0		
036	012_36	X	BLK		146879	01/12/09 22:28	1.0		
037	012_37	SAMPLE	209190-005	Filtrate	146879	01/12/09 22:45	5.0		1:CL=260
038	012_38	X	BLK		146879	01/12/09 23:02	1.0		
039	012_39	X	BLK		146879	01/12/09 23:20	1.0		
040	012_40	SAMPLE	209196-001	Water	146879	01/12/09 23:37	20.0		1:CL=250
041	012_41	X	BLK		146879	01/12/09 23:55	1.0		
042	012_42	X	BLK		146879	01/13/09 00:12	1.0		
043	012_43	SAMPLE	209196-002	Water	146879	01/13/09 00:30	1000		
044	012_44	MS	QC479075	Water	146879	01/13/09 00:47	5.0	1	
045	012_45	MSD	QC479076	Water	146879	01/13/09 01:04	5.0	1	
046	012_46	CCV	H		146879	01/13/09 01:22	1.0	1	
047	012_47	CCB			146879	01/13/09 01:39	1.0		
048	012_48	X	CCV		146879	01/13/09 01:57	1.0	1	
049	012_49	X	CCB		146879	01/13/09 02:14	1.0		
050	012_50	X	QC479075		146879	01/13/09 02:31	5.0	1	
051	012_51	X	QC479076		146879	01/13/09 02:49	5.0	1	
052	012_52	CCV	M		146879	01/13/09 03:06	1.0	1	
053	012_53	CCB			146879	01/13/09 03:24	1.0		
054	012_54	X	CCV		146879	01/13/09 03:41	1.0	1	
055	012_55	X	CCB		146879	01/13/09 03:58	1.0		

MJB 01/13/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 11 through 55.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 629017950

Instrument : IC03 Begun : 01/12/09 11:10
Method : EPA 300.0 SOP Version : ANIONS_300_rv8

Analyst: MJB Date: 01/13/09 Reviewer: LW Date: 01/13/09

Standards used: 1=S11105

Curtis & Tompkins, Ltd. **Water Prep Log** Ion Chromatography

Analysis: ☑ Anions EPA 300 / EPA 9056
☐ Perchlorate (ClO_4) EPA 314
☐ Cr6+ EPA 7199

Batch#: 146879
Date Started: 1/12/09
Prep Chemist: MSB

BK 2832
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	Sample #	Conductivity	Estimated Dilution Factor	Filters Used	Comments
1	209190-001 A	8.10	5x/200x	S	
2	-002	11.83	10x/200x		
3	-003	12.00	10x/200x		
4	-004	17.48	20x/500x		
5	-005	8.19	5x/200x		
6	209191-018 G	.59	5x		MSS
7	209196-001 A	29.1	20x/1000x		
8	-002	67.7	1000x/5000x		
9	Blank QC 479042	N/A	1x	N/A	
10	BS 043				
11	BSD 044				
12	MS 075	.59	5x	S	
13	MSD 076				
14					
15					
16					
17					
18					MSB 1/13/09
19					
20					

		Mfg & Lot # / Time / Program	Initials / Date
	Eluent Reagent ID	100x MSB 12/15/08	MSB 1/13/09
BS/BSD Spiked with	.2 mL of :	511105	
MS/MSD Spiked with	.1 mL of :	511105	
Filters Used:	Ag: OnGuard II Ag	N/A	
	Na: OnGuard II Na		
	P: OnGuard II P		
	RP: OnGuard II RP		
	S: (0.20um)/0.45um	Acrodisc #21700086	

MSB 1/13/09
Extraction Chemist / Date

Continued from page ___
Continued on page ___

CP 1/13/09
Reviewed by / Date

Laboratory Job Number 209191

ANALYTICAL REPORT

Wet Chemistry

Matrix: Water

Curtis & Tompkins, Ltd.

Chemical Oxygen Demand

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	METHOD
Project#:	Y0239-04.A3	Analysis:	SM5220D
Analyte:	Chemical Oxygen Demand	Batch#:	147020
Field ID:	E074	Sampled:	01/12/09 12:00
Matrix:	Water	Received:	01/12/09
Units:	mg/L	Prepared:	01/16/09 12:00
Diln Fac:	1.000	Analyzed:	01/16/09 14:00

Type	Lab ID	Result	RL
SAMPLE	209191-018	85	10
BLANK	QC479648	ND	10

ND= Not Detected
RL= Reporting Limit

42.0

Curtis & Tompkins, Ltd.

Batch QC Report

Chemical Oxygen Demand

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	METHOD
Project#:	Y0239-04.A3	Analysis:	SM5220D
Analyte:	Chemical Oxygen Demand	Batch#:	147020
Field ID:	E074	Sampled:	01/12/09 12:00
MSS Lab ID:	209191-018	Received:	01/12/09
Matrix:	Water	Prepared:	01/16/09 12:00
Units:	mg/L	Analyzed:	01/16/09 14:00
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
LCS	QC479649		100.0	93.10	93	85-115		
MS	QC479650	84.63	100.0	190.3	106	75-125		
MSD	QC479651		100.0	156.6	72 *	75-125	19	20

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins Laboratories Sample Batch Report

Batch Number: 147020
Date Started: 16-JAN-2009
Batched by : Patrick Perin

Analysis : COD
Bgroup : N/A
Department : Wet Chemistry

Sample	Type		Client	Matrix	Analyses	Due Date
209191-018			Baseline Environme	Water	COD	16-JAN-2009
QC479648	BLANK			Water	COD	
QC479649	LCS			Water	COD	
QC479650	MS	of 209191-018		Water	COD	
QC479651	MSD	of 209191-018		Water	COD	

Analysis:	COD - Chemical Oxygen Demand	Analyst:	PAP
	FCOD - Chemical Oxygen Demand (Filtered)	Prep Date:	1/16/2009
Method:	SMWW 5220D / EPA 410.4	Analysis Date:	1/16/2009
Instrument:	Hach DR 2800	Batch Number:	147020 COD
Wavelength:	600 nm		
SOP#:	COD_rv 10.doc		

INITIAL CALIBRATION

Calibration Date: 6/30/2008

	ABS	RF
10.0	0.004	0.0004000
20.0	0.012	0.0006000
40.0	0.018	0.0004500
80.0	0.037	0.0004625
100.0	0.046	0.0004600
130.0	0.061	0.0004692
150.0	0.070	0.0004667

Correlation Coefficient: 0.9989

Average Response Factor: 0.0004726

%RSD: 12.90

Note: Sample results based on average response factor.

CALIBRATION VERIFICATION DATA

			ABS	Result	True Value (mg/L)	%Rec	Limits
ICV	2	1	0.044	93.10	100.0	93%	90 - 110%
ICB	2	1	0.000	ND			
CCV	2	1	0.043	90.98	100.0	91%	90 - 110%
CCB	2	1	0.000	ND			

QC DATA	Sample Vol. Used (mL)	Dilution Factor	ABS	RESULT (mg/L)	Spike (mg/L)	True Value (mg/L)	RPD	%REC	Reporting Limit (mg/L)
MB	2	1	0.000	ND					10.0
LCS	2	1	0.044	93.10	100.0			93	10.0
209191-018	2	1	0.040	84.63					10.0
MS	1	1	0.045	190.42	100			106	20.0
MSD	1	1	0.037	156.57	100		20	72	20.0

QC Limits	Recovery	RPD
LCS/ BS/ BSD	90 - 110	20
SSPIKE/ SDUP	61 - 124	20

FCOD: Samples filtered thru' a Whatman 934-AH glass fiber filter prior to analysis.

Reviewed by / Date: _____

COD (Chemical Oxygen Demand) - SM 5220D

Curtis & Tompkins, Ltd.

LIMS Batch #: 147020
Analyzed by: PAL

Filtered (y/n): N
Filter Lot#: —

Benchbook#: **BK 2802**
Page: **37**

Date ON: 1/16/09
Time ON: 12:00
Temp ON: 150°C

Date OFF: 1/16/09
Time OFF: 14:00
Temp OFF: 150°C

Sample #	Container ID	pH	Sample Vol (mL)	PDF	Absorbance	Comments
ICB/MB		~2	2	1x	0.000	
ICV/CCS			↓		0.044	
209191-018	H				0.040	
-018MS	↓		1		0.045	
-018MSD	↓		↓		0.037	
CCV			2		0.043	
CCB		↓	↓	↓	0.000	

PAL
1/16/08

☒ Short-Range Tubes (wavelength: 600nm), Lot#: 10817
☐ Long-Range Tubes (wavelength: 620nm), Lot#: _____

KHP LIMS#: 5828
Std Conc (mg/L): 100
Std Vol Added (mL): ICV/CCS - 2
MS/MSD - 1

PL 1/16/09
Analyst / Date

SR 1/16/09
Reviewed by / Date

Curtis & Tompkins, Ltd.

Dissolved Sulfide

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Analysis:	SM4500S2-D
Project#:	Y0239-04.A3		
Analyte:	Dissolved Sulfide	Batch#:	146867
Field ID:	E074	Sampled:	01/12/09
Matrix:	Water	Received:	01/12/09
Units:	mg/L	Analyzed:	01/12/09
Diln Fac:	1.000		

Type	Lab ID	Result	RL
SAMPLE	209191-018	ND	0.04
BLANK	QC478989	ND	0.04

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Dissolved Sulfide

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Analysis:	SM4500S2-D
Project#:	Y0239-04.A3		
Analyte:	Dissolved Sulfide	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	146867
MSS Lab ID:	209072-001	Sampled:	01/06/09
Matrix:	Water	Received:	01/06/09
Units:	mg/L	Analyzed:	01/12/09

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
LCS	QC478990		0.8530	0.8014	94	88-114		
MS	QC478991	<0.04000	0.8530	0.7570	89	75-125		
MSD	QC478992		0.8530	0.7441	87	75-125	2	20

RPD= Relative Percent Difference

Curtis & Tompkins Laboratories Sample Batch Report

Batch Number: 146867
Date Started: 12-JAN-2009
Batched by : Benjamin Phillips

Analysis : DISS SULFIDE
Bgroup : N/A
Department : Wet Chemistry

Sample	Type		Client	Matrix	Analyses	Due Date
209072-001			Dixon Marine Servi	Water	DISS SULFIDE	12-JAN-2009
209072-002			Dixon Marine Servi	Water	DISS SULFIDE	12-JAN-2009
209107-001			TRC Solutions	Water	DISS SULFIDE	13-JAN-2009
209108-001			TRC Solutions	Water	DISS SULFIDE	13-JAN-2009
209109-001			TRC Solutions	Water	DISS SULFIDE	13-JAN-2009
209151-001			Reed International	Water	DISS SULFIDE	14-JAN-2009
209191-018			Baseline Environme	Water	DISS SULFIDE	16-JAN-2009
QC478989	BLANK			Water	DISS SULFIDE	
QC478990	LCS			Water	DISS SULFIDE	
QC478991	MS	of 209072-001		Water	DISS SULFIDE	
QC478992	MSD	of 209072-001		Water	DISS SULFIDE	

Analysis:	**DISSOLVED SULFIDE**	Analyst:	BJP
Method:	**SMWW 4500S2-D / EPA 376.2**	Prep Date:	**01/12/09**
Instrument:	Perkin-Elmer Lambda 25	Analysis Date:	**01/12/09**
Wavelength:	626 nm	Batch:	**146867**
SOP#:	sulfide_376_rv 4.doc	Matrix:	Water

INITIAL CALIBRATION DATA Calibration Date: 10/30/2008

Conc (mg/L)	Absorb	RF
0.000	0.0000	
0.027	0.0100	0.3704
0.053	0.0214	0.4038
0.213	0.1007	0.4728
0.444	0.2101	0.4732
0.889	0.4171	0.4692
1.778	0.8169	0.4594

Correlation Coefficient (r):	0.9999
Avg Rf:	0.4415
%RSD:	9.9

Note: Average Rf used to calculate sample results.

CONTINUING CALIBRATION DATA

	Absorb	Conc (mg/L)	True (mg/L)	Recovery	CV Limits
ICV/ LCS	0.3538	0.8014	0.8533	**94%**	90 - 110%
ICB/ MB	0.0001	0.000	0.00		
CCV	0.3535	0.8008	0.8533	**94%**	90 - 110%
CCB	0.0000	0.000	0.00		

Reviewed by / date: 1/12/09

Analysis: **DISSOLVED SULFIDE**
Method: SMWW 4500S2-D / EPA 376.2

Prep Date: **1/12/09**
Analysis Date: **1/12/09**
Batch: **146867**
Matrix: Water

Sample & Batch QC	Sample Vol (mL)	D.F.	Sample Absorb	Color Blk Absorb	Report mg/L	Reporting Limit (mg/L)	Vol Spike Added (mL)	Std Conc. (mg/L)	Spiked @ (mg/L)	% Rec	% RPD
MB	7.5000	1.0000	0.0001		ND	0.040					
LCS / BS	7.5000	1.0000	0.3538		0.8014	0.040	0.0500	128.00	0.853	94	
209072-001	7.5000	1.0000	-0.0020		ND	0.040					
MS	7.5000	1.0000	0.3342		0.7570	0.040	0.0500	128.000	0.853	89	
MSD	7.5000	1.0000	0.3285		0.7441	0.040	0.0500	128.000	0.853	87	2
209072-001	7.5000	1.0000	-0.0020		ND	0.040					
209072-002	7.5000	1.0000	-0.0040		ND	0.040					
209107-001	7.5000	1.0000	0.0000		ND	0.040					
209108-001	7.5000	1.0000	-0.0030		ND	0.040					
209109-001	7.5000	1.0000	-0.0040		ND	0.040					
209151-001	7.5000	1.0000	0.1597		0.3618	0.040					
209191-018	7.5000	1.0000	-0.0050		ND	0.040					

Normality = [((Vi * Ni)-(Vna * Nna))*16000]/Vs

Vi	5.00
Ni	0.0250
Vna	4.20
Nna	0.0250
Vs	0.10
Concentration	3200 mg/L
	128 (25x dil'n used for spiking)

Vi , Ni are the volume and normality of the iodine solution
Vna, Nna are the volume and normality of the sodium thiosulfate solution
Vs is the volume of the sulfide standard (1.0mL)

QC Limits	RPD	Recovery
LCS/ BS/ BSD	20	90 - 110
MS/ MSD	20	51 - 127

Reviewed by / date: 1/12/09

Concentration Results

Date: 1/12/2009 Time: 5:28:21 PM
Instrument: PerkinElmer Lambda 25 Serial No: 101N5091105
Method: SULF1008
Ordinate mode: Single wavelength
Slit: UV/VIS: 1.00 nm
Baseline: No correction (0.00 0.00)
Result Filename: 146867.RCO
Autozero performed: 1/12/2009 5:28:20 PM
Analyst: 0.00 [analyst]

Wavelength(s)		Sample ID	Ordinate	Factor	Concentration		Sample Info
626.0	0.0	ICB-MB	0.0001	1.0000	0.0003	mg/L	
626.0	0.0	ICV-LCS	0.3538	1.0000	0.7658	mg/L	
626.0	0.0	072-1	-0.002	1.0000	-0.006*	mg/L	
626.0	0.0	072-1MS	0.3342	1.0000	0.7232	mg/L	
626.0	0.0	072-1MSD	0.3285	1.0000	0.7110	mg/L	
626.0	0.0	072-2	-0.004	1.0000	-0.009*	mg/L	
626.0	0.0	107-1	-0.000	1.0000	-0.000*	mg/L	
626.0	0.0	108-1	-0.003	1.0000	-0.007*	mg/L	
626.0	0.0	109-1	-0.004	1.0000	-0.010*	mg/L	
626.0	0.0	151-1	0.1597	1.0000	0.3457	mg/L	
626.0	0.0	191-18	-0.005	1.0000	-0.012*	mg/L	
626.0	0.0	CCV	0.3535	1.0000	0.7651	mg/L	
626.0	0.0	CCB	-0.000	1.0000	-0.001*	mg/L	

Date : 1/12/2009 Time : 17:28:24

CALIBRATION

Date: 1/12/2009 Time: 5:28:20 PM
Instrument: PerkinElmer Lambda 25 Serial No: 101N5091105
Method: SULF1008
Ordinate mode: Single wavelength
Baseline: No correction (0.00 0.00)
Analyst: WETCHEM

Wavelength(s)		Sample ID	Concentration		Ord. value	Comment
626.0	0.0	1.A01	0.0000	mg/L	-0.000	EMD 48196839
626.0	0.0	2.A02	0.0270	mg/L	0.0100	EMD 48196839
626.0	0.0	3.A03	0.0530	mg/L	0.0214	EMD 48196839
626.0	0.0	4.A04	0.2130	mg/L	0.1007	EMD 48196839
626.0	0.0	5.A05	0.4440	mg/L	0.2101	EMD 48196839
626.0	0.0	6.A06	0.8890	mg/L	0.4171	EMD 48196839
626.0	0.0	7.A07	1.7780	mg/L	0.8169	EMD 48196839

Equation: y = 4.620356e-01 * x

Residual error: 0.004219
Correlation coefficient: 0.999901

PROJECT Diss Sulfide Batch 146867 Notebook No. BK 2794

Continued From Page

Sample		Vol. colored (1/12/09)	DF	ABS
ICB/MB		7.5 mL	1x	See data
☆ ICV/LCS				
209072-1	B			
☆ -1 MS				
☆ -1 MSD				
-2	D			
209107-1	I			
209108-1	G			
209109-1	G			
209151-1	A			
209191-18	J			
☆ CCV				
CCB				

☆ Plus 0.050 mL of 128 mg/L Std (SG655) (See EXCEL)
Filter VWR 28145-503, Lot 193388

Continued on Page

Read and Understood By

Signed	Date	Signed	Date
[illegible]	1/12/09	[illegible]	1/12/09

Curtis & Tompkins, Ltd.

pH

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	METHOD
Project#:	Y0239-04.A3	Analysis:	EPA 9040C
Analyte:	pH	Diln Fac:	1.000
Field ID:	E074	Batch#:	146883
Lab ID:	209191-018	Sampled:	01/12/09 12:00
Matrix:	Water	Received:	01/12/09
Units:	SU	Analyzed:	01/12/09 17:31

Result	RL
6.4	1.0

RL= Reporting Limit

24.0

Curtis & Tompkins, Ltd.

Batch QC Report

pH

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	METHOD
Project#:	Y0239-04.A3	Analysis:	EPA 9040C
Analyte:	pH	Units:	SU
Field ID:	E074	Diln Fac:	1.000
Type:	SDUP	Batch#:	146883
MSS Lab ID:	209191-018	Sampled:	01/12/09 12:00
Lab ID:	QC479056	Received:	01/12/09
Matrix:	Water	Analyzed:	01/12/09 17:31

MSS Result	Result	RL	RPD	Lim
6.400	6.430	1.000	0	20

RL= Reporting Limit
RPD= Relative Percent Difference

Curtis & Tompkins Laboratories Sample Batch Report

Batch Number: 146883
Date Started: 12-JAN-2009
Batched by : Shu Ting Liu

Analysis : PH
Bgroup : N/A
Department : Wet Chemistry

Sample	Type		Client	Matrix	Analyses	Due Date
209191-018			Baseline Environme	Water	PH	16-JAN-2009
QC479056	SDUP	of 209191-018		Water	PH	

pH Analysis Benchbook **Curtis & Tompkins, Ltd.**

LIMS Batch #: 146883 Date: 1/12/09 Benchbook#: **BK 2829**
Matrix: water Time: 17:31 Page: **8**
Analyst: SL

Method (check one): ☑ Water (EPA 9040c/ SM4500H+B) ☐ Soil (EPA 9045c)

Cal Std-1 ph: 4 LIMS#: 510608 Slope: 101.1
Cal Std-2 ph: 7 LIMS#: 59872 (slope limits: 92 - 102)
Cal Std-3 ph: 10 LIMS#: 511168

Sample #	Container ID	pH (S.U.)	2nd Reading* (water only)	Soil Prep Wt(g)/Vol(mL)	Comments
ICV		7.00			ICV/CCV ⇒ 510496
209191-018	G	6.40	6.41		
SOUR-018	G	6.43	6.43		KBP ⇒ 0.4680
CCV		7.01			

1/12/09

* 2nd aliquot must be within 0.1 SU

SL 1/12/09 SL 1/12/09
Analyst / Date

1/12/09
Reviewed by / Date

Curtis & Tompkins, Ltd.

Total Suspended Solids (TSS)

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	METHOD
Project#:	Y0239-04.A3	Analysis:	SM2540D
Analyte:	Total Suspended Solids	Batch#:	146990
Field ID:	E074	Sampled:	01/12/09
Matrix:	Water	Received:	01/12/09
Units:	mg/L	Analyzed:	01/15/09

Type	Lab ID	Result	RL	Diln Fac
SAMPLE	209191-018	25,300	100	20.00
BLANK	QC479509	ND	5	1.000

ND= Not Detected
RL= Reporting Limit

34.0

Curtis & Tompkins, Ltd.

Batch QC Report

Total Suspended Solids (TSS)

Lab #:	209191	Location:	Doyle Drive Replacement Project
Client:	Baseline Environmental	Prep:	METHOD
Project#:	Y0239-04.A3	Analysis:	SM2540D
Analyte:	Total Suspended Solids	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	146990
MSS Lab ID:	209253-001	Sampled:	01/14/09
Matrix:	Water	Received:	01/14/09
Units:	mg/L	Analyzed:	01/15/09

Type	Lab ID	MSS Result	Spiked	Result	RL	%REC	Limits	RPD	Lim
BS	QC479510		50.00	49.00		98	75-125		
BSD	QC479511		50.00	48.00		96	75-125	2	20
SSPIKE	QC479512	29.00	50.00	80.00		102	39-151		
SDUP	QC479513	29.00		28.00	5.000			4	20

RL= Reporting Limit
RPD= Relative Percent Difference

35.0

Curtis & Tompkins Laboratories Sample Batch Report

Batch Number: 146990
Date Started: 15-JAN-2009
Batched by : Shu Ting Liu

Analysis : TSS
Bgroup : N/A
Department : Wet Chemistry

Sample	Type	Client	Matrix	Analyses	Due Date
209191-018		Baseline Environme	Water	TSS	16-JAN-2009
209253-001		Acme Fill Corp.	Water	TSS	26-JAN-2009
209258-003		Weiss Associates	Water	TSS	20-JAN-2009
209258-004		Weiss Associates	Water	TSS	20-JAN-2009
209266-015		Baseline Environme	Water	TSS	20-JAN-2009
QC479509	BLANK		Water	TSS	
QC479510	BS		Water	TSS	
QC479511	BSD		Water	TSS	
QC479512	SSPIKE of 209253-001		Water	TSS	
QC479513	SDUP of 209253-001		Water	TSS	

Analysis: **Total Suspended Solids**
Method: **SMWW 2540D / EPA 160.2**

Analyst: STL
Analysis Date: **15-Jan-09**
Batch #: **146990**

Matrix: Water
SOP#: TSS_rv6

Sample	Sample Vol (mL)	DF (100/vol)	Filter Mass (g)	Constant Mass (g)	Residue Mass (g)	Report (mg/L)	Reporting Limit (mg/L)	Spike Std Conc.(mg/L)	Spike Vol Used (mL)	Spiked @ (mg/L)	Recovery,%	RPD,%
MB	100	1	0.1167	0.1167	0.0000	**ND**	5					
BS	100	1	0.1170	0.1219	0.0049	**49**	5	500	10	50	**98**	
BSD	100	1	0.1186	0.1234	0.0048	**48**	5	500	10	50	**96**	**2**
209253-001	100	1	0.1151	0.1180	0.0029	**29**	5					
								500	10			
SSPIKE	100	1	0.1193	0.1273	0.0080	**80**	5	500	10	50	**102**	
SDUP	100	1	0.1147	0.1175	0.0028	**28**	5					**4**
209191-018	5	20	0.1147	0.2410	0.1263	**25,260**	100					
209253-001	100	1	0.1151	0.1180	0.0029	**29**	5					
209258-003	100	1	0.1162	0.1196	0.0034	**34**	5					
209258-004	40	3	0.1154	0.1322	0.0168	**420**	13					
209266-015	5	20	0.1157	0.1507	0.0350	**7,000**	100					

QC Limits	RPD	Recovery
LCS/ BS/ BSD	20	80 - 120
MS/ MSD	45	39 - 151

Note: Because the regulatory holding time is based on the prep date, the analysis date referenced above is the prep date.

Reviewed by / date: 1/16/09

Curtis & Tompkins, Ltd
F:\inorgan\data\January 2009\tss-146990

Version 6.6, Effective 1/28/08

TSS (Total Suspended Solids)
SM 2540D / EPA 160.2

Curtis & Tompkins, Ltd.

LIMS Batch #: 146990
Filtered by (initials): STL

Prep Date: 1/15/09
Prep Time: 14:35

Benchbook#: **BK2814**
Page: **19**

Filter Mfg/ Lot#: E.E. 756130R
Spike Std LIMS#: 511018

Spike Std Conc (mg/L): 500
Spike Std Vol Added (mL): 10

	In	Out	In-2	Out-2	In-3	Out-3
Date:	1/15/09	1/15/09	1/15/09	1/15/09		
Time:	14:55	15:55	~~16:55~~ 17:00	18:00		
Temp (C):	105°	105°	105°	105°		
Weighed by:		STL		STL		

	Sample #	Container ID	Sample Vol. Filtered (mL)	Dish ID	Dish Wt (g)	1st Dry Wt.(g)	2nd Dry Wt (g)*	3rd Dry Wt (g)*
1	MB		100	P2075	0.1167	0.1168	0.1167	
	BS		↓	76	0.1170	0.1218	0.1219	
	BSD		↓	77	0.1186	0.1236	0.1234	
	209191-018	I	5	78	0.1147	0.2408	0.2410	
5	209253-001	B	100	79	0.1151	0.1180	0.1180	
	~~SSPIKE-001~~	↓	↓	80	0.1193	0.1273	0.1273	
	~~SDUP-001~~	↓	↓	81	0.1147	0.1173	0.1175	
	209258-004	B		82	0.1162	0.1196	0.1196	
5	~~209266-015-004~~	B	40	83	0.1154	0.1323	0.1322	
10	209266-015	G	5	84	0.1157	0.1505	0.1507	
15								
20								

1/16/09

* Constant weight must be within 0.0005 from previous reading.

1/15/09
Analyst / Date

1-16-09
Reviewed by / Date

Laboratory Job Number 209191

ANALYTICAL REPORT

Wet Chemistry

Matrix: Soil

Percent Moisture Summary Report

Batch: 146925
Date: 01/13/09
Method: CLP SOW 390
Analyst: BPB

Sample	Tare (g)	Wet (g)	Dry (g)	Percent Solids	Percent Moisture
209191-001	11.2878	16.9077	16.6154	95	5
209191-002	11.3914	17.0391	16.7420	95	5
209191-010	11.3411	16.5507	15.4745	79	21
209191-011	11.3422	17.7307	16.8736	87	13
209241-001	11.4906	17.8357	14.8712	53	47
209241-002	11.1063	18.6926	17.9619	90	10
209241-003	11.3328	19.2980	16.9516	71	29
209241-004	11.1206	16.3210	15.2342	79	21
209241-005	10.9767	18.0490	16.0311	71	29
209241-006	11.2753	16.9964	16.2283	87	13
209241-007	11.2473	16.7539	15.6038	79	21
209241-008	11.0792	17.8329	14.8839	56	44
209242-001	11.0408	16.9710	15.6562	78	22
209242-002	11.2709	16.5660	14.7911	66	34
209242-003	11.3339	18.8323	17.1828	78	22
209242-004	10.9534	16.6825	14.8386	68	32
209242-005	11.5491	20.3845	18.4693	78	22
209242-006	11.1814	16.3718	13.4230	43	57
209243-001	11.2432	16.6737	16.2461	92	8
QC479236	11.5028	17.9379	15.0535	55	45
of 209241-008			RPD:	2.1%	2.6%

11/17/09

BH 146925

SAMPLE	SC	DISH	DISHWT	SAMPLEWT	FINALWT	comments
BLANK	—	MAD	10.8805	0	10.8805	
209191-001	B	CT16	11.2878	16.9077	16.6154	
-002	B	A02	11.3914	17.0391	16.7420	
-010	B	E09	11.2441	16.5507	15.4745	
-011	B	D32	11.3422	17.7307	16.8736	
209242-001	A	JTL	11.0408	16.9710	15.6562	
-002	A	JNH	11.2709	16.5660	14.7911	
-003	A	B191	11.3339	18.8323	17.1828	
-004	A	JL0	10.9539	16.6825	14.8386	
-005	A	K03	11.5491	20.3845	18.4693	
~~209243~~-006	A	AAA	11.1814	16.3718	13.4230	
209243-001	G	JP8	11.2432	16.6737	16.2461	
209241-001	D	E05	11.4906	17.8357	14.8712	
-002	D	12B	11.1067	18.6926	17.9619	
-003	D	C30	11.3328	19.2980	16.9516	
-004	D	USA	11.1206	16.3210	15.2342	
-005	D	ACT	10.9767	18.0490	16.0311	
-006	D	E07	11.2753	16.9964	16.2183	
-007	D	CT19	11.2473	16.7539	15.6038	
-008	D	B100	11.0792	17.8329	14.8839	
EOUP -008	D	B20	11.5028	17.9379	15.0535	

TIME IN 10 PM
OUT 11 AM
OVEN TEMP 105 °C

Continued on Page

Read and Understood By

Signed 11/17/09 Date Signed 11/24/09 Date

12
PROJECT AE 163 Balance

Notebook No. 2394
Continued From Page ∅

Date	Analyst					
1-11-09	✓✓	0.2000	0.5000	5.0000	10.0000	49.9997
1-12-09	BPB	0.2000	0.5000	5.0001	10.0002	49.9996
1-13-09	BPB	0.1999	0.5000	5.0000	9.9999	50.0001
1-14-09	BPB	0.2000	0.5001	5.0001	9.9999	49.9998

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Read and Understood By

Signed Date Signed Date