

Lab H

April 14, 2009

Fritz Grothkopp
King County Environmental Laboratory
322 West Ewing Street
Seattle, WA/USA 98119

RE: Inter-calibration Study

Enclosed are the results of analyses for samples received by the laboratory on 04/02/09 15:30.
The following list is a summary of the Work Orders contained in this report, generated on 04/14/09
14:54.

If you have any questions concerning this report, please feel free to contact me.

<u>Work Order</u>	<u>Project</u>	<u>ProjectNumber</u>
BSD0042	Inter-calibration Study	421973

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Project Manager

Lab H

King County Environmental Laboratory

322 West Ewing Street
Seattle, WA/USA 98119

Project Name: **Inter-calibration Study**
Project Number: 421973
Project Manager: Fritz Grothkopp

Report Created:
04/14/09 14:54

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
L47719-1	BSD0042-01	Water	03/25/09 17:00	04/02/09 15:30
L47719-2	BSD0042-02	Water	03/25/09 17:00	04/02/09 15:30
L47719-3	BSD0042-03	Water	03/25/09 17:00	04/02/09 15:30
L47719-4	BSD0042-04	Water	03/25/09 17:00	04/02/09 15:30
L47719-5	BSD0042-05	Water	03/25/09 17:00	04/02/09 15:30
L47719-6	BSD0042-06	Water	03/25/09 17:00	04/02/09 15:30
L47719-7	BSD0042-07	Water	03/25/09 17:00	04/02/09 15:30
L47719-8	BSD0042-08	Water	03/25/09 17:00	04/02/09 15:30
L47719-9	BSD0042-09	Water	03/25/09 17:00	04/02/09 15:30
L47719-10	BSD0042-10	Water	03/25/09 17:00	04/02/09 15:30
L47719-11	BSD0042-11	Water	03/25/09 17:00	04/02/09 15:30
L47719-12	BSD0042-12	Water	03/25/09 17:00	04/02/09 15:30
L47719-13	BSD0042-13	Water	03/25/09 17:00	04/02/09 15:30
L47719-14	BSD0042-14	Water	03/25/09 17:00	04/02/09 15:30
L47719-15	BSD0042-15	Water	03/25/09 17:00	04/02/09 15:30
L47719-16	BSD0042-16	Water	03/25/09 17:00	04/02/09 15:30
L47719-17	BSD0042-17	Water	03/25/09 17:00	04/02/09 15:30
L47719-18	BSD0042-18	Water	03/25/09 17:00	04/02/09 15:30
L47719-19	BSD0042-19	Water	03/25/09 17:00	04/02/09 15:30
L47719-20	BSD0042-20	Water	03/25/09 17:00	04/02/09 15:30
L47719-21	BSD0042-21	Water	03/25/09 17:00	04/02/09 15:30
L47719-22	BSD0042-22	Water	03/25/09 17:00	04/02/09 15:30
L47719-23	BSD0042-23	Water	03/25/09 17:00	04/02/09 15:30
L47719-24	BSD0042-24	Water	03/25/09 17:00	04/02/09 15:30
L47719-25	BSD0042-25	Water	03/25/09 17:00	04/02/09 15:30
L47719-26	BSD0042-26	Water	03/25/09 17:00	04/02/09 15:30
L47719-27	BSD0042-27	Water	03/25/09 17:00	04/02/09 15:30
L47719-28	BSD0042-28	Water	03/25/09 17:00	04/02/09 15:30
L47719-29	BSD0042-29	Water	03/25/09 17:00	04/02/09 15:30
L47719-30	BSD0042-30	Water	03/25/09 17:00	04/02/09 15:30
L47719-31	BSD0042-31	Water	03/25/09 17:00	04/02/09 15:30
L47719-32	BSD0042-32	Water	03/25/09 17:00	04/02/09 15:30
L47719-33	BSD0042-33	Water	03/25/09 17:00	04/02/09 15:30
L47719-34	BSD0042-34	Water	03/25/09 17:00	04/02/09 15:30
L47719-35	BSD0042-35	Water	03/25/09 17:00	04/02/09 15:30

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Project Number: 421973
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Report Created:
04/14/09 14:54

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
L47719-36	BSD0042-36	Water	03/25/09 17:00	04/02/09 15:30

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Project Number: 421973
Project Manager: Fritz Grothkopp

Report Created:
04/14/09 14:54

Metals by SM Series Methods

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BSD0042-04 (L47719-4)		Water			Sampled: 03/25/09 17:00					
Mercury	EPA 245.1	ND	----	0.200	ug/l	1x	9D06019	04/06/09 11:50	04/06/09 16:49	
BSD0042-05 (L47719-5)		Water			Sampled: 03/25/09 17:00					
Mercury	EPA 245.1	ND	----	0.200	ug/l	1x	9D06019	04/06/09 11:50	04/06/09 16:52	
BSD0042-06 (L47719-6)		Water			Sampled: 03/25/09 17:00					
Mercury	EPA 245.1	ND	----	0.200	ug/l	1x	9D06019	04/06/09 11:50	04/06/09 16:54	
BSD0042-10 (L47719-10)		Water			Sampled: 03/25/09 17:00					
Mercury	EPA 245.1	ND	----	0.200	ug/l	1x	9D06019	04/06/09 11:50	04/06/09 16:57	
BSD0042-11 (L47719-11)		Water			Sampled: 03/25/09 17:00					
Mercury	EPA 245.1	ND	----	0.200	ug/l	1x	9D06019	04/06/09 11:50	04/06/09 16:59	
BSD0042-12 (L47719-12)		Water			Sampled: 03/25/09 17:00					
Mercury	EPA 245.1	ND	----	0.200	ug/l	1x	9D06019	04/06/09 11:50	04/06/09 17:01	
BSD0042-16 (L47719-16)		Water			Sampled: 03/25/09 17:00					
Mercury	EPA 245.1	ND	----	0.200	ug/l	1x	9D06019	04/06/09 11:50	04/06/09 17:04	
BSD0042-17 (L47719-17)		Water			Sampled: 03/25/09 17:00					
Mercury	EPA 245.1	ND	----	0.200	ug/l	1x	9D06019	04/06/09 11:50	04/06/09 17:06	
BSD0042-18 (L47719-18)		Water			Sampled: 03/25/09 17:00					
Mercury	EPA 245.1	ND	----	0.200	ug/l	1x	9D06019	04/06/09 11:50	04/06/09 17:09	

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Project Name: **Inter-calibration Study**
Project Number: 421973
Project Manager: Fritz Grothkopp

Report Created:
04/14/09 14:54

Total Metals by EPA 200 Series Methods

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BSD0042-01 (L47719-1)		Water			Sampled: 03/25/09 17:00					
Copper	EPA 200.8	15.9	----	1.00	ug/l	1x	9D03041	04/03/09 21:12	04/06/09 18:15	
Lead	"	8.91	----	1.00	"	"	"	"	"	
Zinc	"	74.9	----	10.0	"	"	"	"	"	
BSD0042-02 (L47719-2)		Water			Sampled: 03/25/09 17:00					
Copper	EPA 200.8	15.3	----	1.00	ug/l	1x	9D03041	04/03/09 21:12	04/06/09 18:40	
Lead	"	8.24	----	1.00	"	"	"	"	"	
Zinc	"	72.9	----	10.0	"	"	"	"	"	
BSD0042-03 (L47719-3)		Water			Sampled: 03/25/09 17:00					
Copper	EPA 200.8	16.6	----	1.00	ug/l	1x	9D03041	04/03/09 21:12	04/06/09 18:46	
Lead	"	9.13	----	1.00	"	"	"	"	"	
Zinc	"	75.2	----	10.0	"	"	"	"	"	
BSD0042-07 (L47719-7)		Water			Sampled: 03/25/09 17:00					
Copper	EPA 200.8	41.1	----	1.00	ug/l	1x	9D03041	04/03/09 21:12	04/06/09 18:53	
Lead	"	25.6	----	1.00	"	"	"	"	"	
Zinc	"	164	----	10.0	"	"	"	"	"	
BSD0042-08 (L47719-8)		Water			Sampled: 03/25/09 17:00					
Copper	EPA 200.8	42.1	----	1.00	ug/l	1x	9D03041	04/03/09 21:12	04/06/09 18:59	
Lead	"	26.4	----	1.00	"	"	"	"	"	
Zinc	"	167	----	10.0	"	"	"	"	"	
BSD0042-09 (L47719-9)		Water			Sampled: 03/25/09 17:00					
Copper	EPA 200.8	43.8	----	1.00	ug/l	1x	9D03041	04/03/09 21:12	04/06/09 19:05	
Lead	"	26.9	----	1.00	"	"	"	"	"	
Zinc	"	170	----	10.0	"	"	"	"	"	
BSD0042-13 (L47719-13)		Water			Sampled: 03/25/09 17:00					
Copper	EPA 200.8	2.80	----	1.00	ug/l	1x	9D03041	04/03/09 21:12	04/06/09 19:12	
Lead	"	1.75	----	1.00	"	"	"	"	"	
Zinc	"	13.4	----	10.0	"	"	"	"	"	

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04/14/09 14:54

Total Metals by EPA 200 Series Methods

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BSD0042-14 (L47719-14)		Water			Sampled: 03/25/09 17:00					
Copper	EPA 200.8	2.74	----	1.00	ug/l	1x	9D03041	04/03/09 21:12	04/06/09 19:18	
Lead	"	2.22	----	1.00	"	"	"	"	"	
Zinc	"	11.5	----	10.0	"	"	"	"	"	
BSD0042-15 (L47719-15)		Water			Sampled: 03/25/09 17:00					
Copper	EPA 200.8	2.91	----	1.00	ug/l	1x	9D03041	04/03/09 21:12	04/06/09 19:25	
Lead	"	1.86	----	1.00	"	"	"	"	"	
Zinc	"	11.4	----	10.0	"	"	"	"	"	

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04/14/09 14:54

Dissolved Metals by EPA 200 Series Methods

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BSD0042-19 (L47719-19)		Water			Sampled: 03/25/09 17:00					
Copper	EPA 200.8 - Diss	4.96	----	1.00	ug/l	1x	9D06002	04/06/09 06:02	04/06/09 15:30	
Lead	"	ND	----	1.00	"	"	"	"	"	
Zinc	"	14.4	----	10.0	"	"	"	"	"	
BSD0042-20 (L47719-20)		Water			Sampled: 03/25/09 17:00					
Copper	EPA 200.8 - Diss	4.90	----	1.00	ug/l	1x	9D06002	04/06/09 06:02	04/06/09 15:56	
Lead	"	ND	----	1.00	"	"	"	"	"	
Zinc	"	14.3	----	10.0	"	"	"	"	"	
BSD0042-21 (L47719-21)		Water			Sampled: 03/25/09 17:00					
Copper	EPA 200.8 - Diss	4.95	----	1.00	ug/l	1x	9D06002	04/06/09 06:02	04/06/09 16:02	
Lead	"	ND	----	1.00	"	"	"	"	"	
Zinc	"	14.2	----	10.0	"	"	"	"	"	
BSD0042-22 (L47719-22)		Water			Sampled: 03/25/09 17:00					
Mercury	EPA 245.1 - Diss	ND	----	0.200	ug/l	1x	9D06020	04/06/09 11:52	04/06/09 15:49	
BSD0042-23 (L47719-23)		Water			Sampled: 03/25/09 17:00					
Mercury	EPA 245.1 - Diss	ND	----	0.200	ug/l	1x	9D06020	04/06/09 11:52	04/06/09 15:51	
BSD0042-24 (L47719-24)		Water			Sampled: 03/25/09 17:00					
Mercury	EPA 245.1 - Diss	ND	----	0.200	ug/l	1x	9D06020	04/06/09 11:52	04/06/09 15:54	
BSD0042-25 (L47719-25)		Water			Sampled: 03/25/09 17:00					
Copper	EPA 200.8 - Diss	9.60	----	1.00	ug/l	1x	9D06002	04/06/09 06:02	04/06/09 16:08	
Lead	"	1.17	----	1.00	"	"	"	"	"	
Zinc	"	32.5	----	10.0	"	"	"	"	"	
BSD0042-26 (L47719-26)		Water			Sampled: 03/25/09 17:00					
Copper	EPA 200.8 - Diss	9.65	----	1.00	ug/l	1x	9D06002	04/06/09 06:02	04/06/09 16:15	
Lead	"	1.20	----	1.00	"	"	"	"	"	
Zinc	"	32.7	----	10.0	"	"	"	"	"	

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Report Created:
04/14/09 14:54

Dissolved Metals by EPA 200 Series Methods

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BSD0042-27 (L47719-27)		Water			Sampled: 03/25/09 17:00					
Copper	EPA 200.8 - Diss	9.84	----	1.00	ug/l	1x	9D06002	04/06/09 06:02	04/06/09 16:21	
Lead	"	1.24	----	1.00	"	"	"	"	"	
Zinc	"	33.2	----	10.0	"	"	"	"	"	
BSD0042-28 (L47719-28)		Water			Sampled: 03/25/09 17:00					
Mercury	EPA 245.1 - Diss	ND	----	0.200	ug/l	1x	9D06020	04/06/09 11:52	04/06/09 15:56	
BSD0042-29 (L47719-29)		Water			Sampled: 03/25/09 17:00					
Mercury	EPA 245.1 - Diss	ND	----	0.200	ug/l	1x	9D06020	04/06/09 11:52	04/06/09 15:59	
BSD0042-30 (L47719-30)		Water			Sampled: 03/25/09 17:00					
Mercury	EPA 245.1 - Diss	ND	----	0.200	ug/l	1x	9D06020	04/06/09 11:52	04/06/09 16:01	
BSD0042-31 (L47719-31)		Water			Sampled: 03/25/09 17:00					
Copper	EPA 200.8 - Diss	1.74	----	1.00	ug/l	1x	9D06002	04/06/09 06:02	04/06/09 16:27	
Lead	"	ND	----	1.00	"	"	"	"	"	
Zinc	"	ND	----	10.0	"	"	"	"	"	
BSD0042-32 (L47719-32)		Water			Sampled: 03/25/09 17:00					
Copper	EPA 200.8 - Diss	1.74	----	1.00	ug/l	1x	9D06002	04/06/09 06:02	04/06/09 16:34	
Lead	"	ND	----	1.00	"	"	"	"	"	
Zinc	"	ND	----	10.0	"	"	"	"	"	
BSD0042-33 (L47719-33)		Water			Sampled: 03/25/09 17:00					
Copper	EPA 200.8 - Diss	1.76	----	1.00	ug/l	1x	9D06002	04/06/09 06:02	04/06/09 16:40	
Lead	"	ND	----	1.00	"	"	"	"	"	
Zinc	"	ND	----	10.0	"	"	"	"	04/07/09 08:02	
BSD0042-34 (L47719-34)		Water			Sampled: 03/25/09 17:00					
Mercury	EPA 245.1 - Diss	ND	----	0.200	ug/l	1x	9D06020	04/06/09 11:52	04/06/09 16:04	

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Project Name: **Inter-calibration Study**
Project Number: 421973
Project Manager: Fritz Grothkopp

Report Created:
04/14/09 14:54

Dissolved Metals by EPA 200 Series Methods

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BSD0042-35 (L47719-35)		Water			Sampled: 03/25/09 17:00					
Mercury	EPA 245.1 - Diss	ND	----	0.200	ug/l	1x	9D06020	04/06/09 11:52	04/06/09 16:06	
BSD0042-36 (L47719-36)		Water			Sampled: 03/25/09 17:00					
Mercury	EPA 245.1 - Diss	ND	----	0.200	ug/l	1x	9D06020	04/06/09 11:52	04/06/09 16:09	

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Project Name: **Inter-calibration Study**
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Report Created:
04/14/09 14:54

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BSD0042-01 (L47719-1)		Water		Sampled: 03/25/09 17:00						
Hardness	SM 2340B	13000	----	3000	ug/l	1x	9D06014	04/06/09 10:22	04/07/09 09:50	
BSD0042-02 (L47719-2)		Water		Sampled: 03/25/09 17:00						
Hardness	SM 2340B	13000	----	3000	ug/l	1x	9D06014	04/06/09 10:22	04/07/09 09:53	
BSD0042-03 (L47719-3)		Water		Sampled: 03/25/09 17:00						
Hardness	SM 2340B	13800	----	3000	ug/l	1x	9D06014	04/06/09 10:22	04/07/09 10:07	
BSD0042-07 (L47719-7)		Water		Sampled: 03/25/09 17:00						
Hardness	SM 2340B	39600	----	3000	ug/l	1x	9D06014	04/06/09 10:22	04/07/09 10:10	
BSD0042-08 (L47719-8)		Water		Sampled: 03/25/09 17:00						
Hardness	SM 2340B	38200	----	3000	ug/l	1x	9D06014	04/06/09 10:22	04/07/09 10:14	
BSD0042-09 (L47719-9)		Water		Sampled: 03/25/09 17:00						
Hardness	SM 2340B	38300	----	3000	ug/l	1x	9D06014	04/06/09 10:22	04/07/09 10:17	
BSD0042-13 (L47719-13)		Water		Sampled: 03/25/09 17:00						
Hardness	SM 2340B	133000	----	3000	ug/l	1x	9D06014	04/06/09 10:22	04/07/09 10:20	
BSD0042-14 (L47719-14)		Water		Sampled: 03/25/09 17:00						
Hardness	SM 2340B	132000	----	3000	ug/l	1x	9D06014	04/06/09 10:22	04/07/09 10:24	
BSD0042-15 (L47719-15)		Water		Sampled: 03/25/09 17:00						
Hardness	SM 2340B	133000	----	3000	ug/l	1x	9D06014	04/06/09 10:22	04/07/09 10:27	

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Project Name: **Inter-calibration Study**
Project Number: 421973
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Report Created:
04/14/09 14:54

Metals by SM Series Methods - Laboratory Quality Control Results

QC Batch: 9D06019 Water Preparation Method: EPA 7470A

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9D06019-BLK1)								Extracted: 04/06/09 11:50						
Mercury	EPA 245.1	ND	---	0.200	ug/l	1x	--	--	--	--	--	--	04/06/09 16:16	
LCS (9D06019-BS1)								Extracted: 04/06/09 11:50						
Mercury	EPA 245.1	4.82	---	0.200	ug/l	1x	--	5.00	96.4%	(85-115)	--	--	04/06/09 16:19	
LCS Dup (9D06019-BSD1)								Extracted: 04/06/09 11:50						
Mercury	EPA 245.1	4.86	---	0.200	ug/l	1x	--	5.00	97.2%	(85-115)	0.875% (20)	--	04/06/09 16:21	
Matrix Spike (9D06019-MS1)				QC Source: BSC0327-01				Extracted: 04/06/09 11:50						
Mercury	EPA 245.1	4.85	---	0.200	ug/l	1x	ND	5.00	97.0%	(75-125)	--	--	04/06/09 16:24	
Matrix Spike Dup (9D06019-MSD1)				QC Source: BSC0327-01				Extracted: 04/06/09 11:50						
Mercury	EPA 245.1	4.90	---	0.200	ug/l	1x	ND	5.00	98.0%	(75-125)	1.02% (20)	--	04/06/09 16:26	

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04/14/09 14:54

Total Metals by EPA 200 Series Methods - Laboratory Quality Control Results

QC Batch: 9D03041 Water Preparation Method: EPA 200 Series

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes					
Blank (9D03041-BLK1)										Extracted: 04/03/09 21:12									
Lead	EPA 200.8	ND	---	1.00	ug/l	1x	--	--	--	--	--	--	04/06/09 17:49						
Copper	"	ND	---	1.00	"	"	--	--	--	--	--	--	"						
Zinc	"	ND	---	10.0	"	"	--	--	--	--	--	--	"						
LCS (9D03041-BS1)										Extracted: 04/03/09 21:12									
Lead	EPA 200.8	81.2	---	1.00	ug/l	1x	--	80.0	101%	(85-115)	--	--	04/06/09 17:56						
Zinc	"	75.2	---	10.0	"	"	--	"	94.0%	"	--	--	04/07/09 08:09						
Copper	"	80.3	---	1.00	"	"	--	"	100%	"	--	--	04/06/09 17:56						
Duplicate (9D03041-DUP1)										QC Source: BSD0042-07					Extracted: 04/03/09 21:12				
Lead	EPA 200.8	28.1	---	1.00	ug/l	1x	25.6	--	--	--	9.23%	(20)	04/06/09 18:08						
Zinc	"	172	---	10.0	"	"	164	--	--	--	4.63%	"	"						
Copper	"	43.7	---	1.00	"	"	41.1	--	--	--	6.25%	"	"						
Matrix Spike (9D03041-MS1)										QC Source: BSD0042-07					Extracted: 04/03/09 21:12				
Copper	EPA 200.8	120	---	1.00	ug/l	1x	41.1	80.0	98.9%	(75-125)	--	--	04/06/09 18:02						
Lead	"	106	---	1.00	"	"	25.6	"	101%	"	--	--	"						
Zinc	"	247	---	10.0	"	"	164	"	103%	"	--	--	"						

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Project Manager

Lab H

King County Environmental Laboratory

322 West Ewing Street
Seattle, WA/USA 98119

Project Name: **Inter-calibration Study**
Project Number: 421973
Project Manager: Fritz Grothkopp

Report Created:
04/14/09 14:54

Dissolved Metals by EPA 200 Series Methods - Laboratory Quality Control Results

QC Batch: 9D06002 Water Preparation Method: EPA 200 Series

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

Blank (9D06002-BLK1)

Extracted: 04/06/09 06:02

Zinc	EPA 200.8 - Diss	ND	---	10.0	ug/l	1x	--	--	--	--	--	--	04/06/09 15:05	
Lead	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Copper	"	ND	---	1.00	"	"	--	--	--	--	--	--	04/07/09 07:56	

LCS (9D06002-BS1)

Extracted: 04/06/09 06:02

Lead	EPA 200.8 - Diss	226	---	1.00	ug/l	1x	--	200	113%	(85-115)	--	--	04/06/09 15:12	
Copper	"	225	---	1.00	"	"	--	"	112%	"	--	--	"	
Zinc	"	224	---	10.0	"	"	--	"	112%	"	--	--	"	

Duplicate (9D06002-DUP1)

QC Source: BSD0042-25

Extracted: 04/06/09 06:02

Zinc	EPA 200.8 - Diss	32.5	---	10.0	ug/l	1x	32.5	--	--	--	0.185% (20)	--	04/06/09 15:24	
Copper	"	9.76	---	1.00	"	"	9.60	--	--	--	1.65%	"	"	
Lead	"	1.21	---	1.00	"	"	1.17	--	--	--	3.36%	"	"	

Matrix Spike (9D06002-MS1)

QC Source: BSD0042-25

Extracted: 04/06/09 06:02

Copper	EPA 200.8 - Diss	115	---	1.00	ug/l	1x	9.60	100	105%	(80-120)	--	--	04/06/09 15:18	
Zinc	"	146	---	10.0	"	"	32.5	"	113%	(75-120)	--	--	"	
Lead	"	106	---	1.00	"	"	1.17	"	105%	(75-125)	--	--	"	

QC Batch: 9D06020 Water Preparation Method: EPA 7470A

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
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Blank (9D06020-BLK1)

Extracted: 04/06/09 11:52

Mercury	EPA 245.1 - Diss	ND	---	0.200	ug/l	1x	--	--	--	--	--	--	04/06/09 15:29	
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LCS (9D06020-BS1)

Extracted: 04/06/09 11:52

Mercury	EPA 245.1 - Diss	4.93	---	0.200	ug/l	1x	--	5.00	98.5%	(85-115)	--	--	04/06/09 15:31	
---------	------------------	------	-----	-------	------	----	----	------	-------	----------	----	----	----------------	--

LCS Dup (9D06020-BSD1)

Extracted: 04/06/09 11:52

Mercury	EPA 245.1 - Diss	4.83	---	0.200	ug/l	1x	--	5.00	96.5%	(85-115)	2.04% (20)	--	04/06/09 15:34	
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Matrix Spike (9D06020-MS1)

QC Source: BSD0042-24

Extracted: 04/06/09 11:52

Mercury	EPA 245.1 - Diss	4.95	---	0.200	ug/l	1x	ND	5.00	99.1%	(75-125)	--	--	04/06/09 15:36	
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Matrix Spike Dup (9D06020-MSD1)

QC Source: BSD0042-24

Extracted: 04/06/09 11:52

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Project Manager

Lab H

King County Environmental Laboratory

322 West Ewing Street
Seattle, WA/USA 98119

Project Name: **Inter-calibration Study**
Project Number: 421973
Project Manager: Fritz Grothkopp

Report Created:
04/14/09 14:54

Dissolved Metals by EPA 200 Series Methods - Laboratory Quality Control Results

QC Batch: 9D06020

Water Preparation Method: EPA 7470A

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Mercury	EPA 245.1 - Diss	4.85	---	0.200	ug/l	1x	ND	5.00	97.0%	(75-125)	2.12%	(20)	04/06/09 15:46	

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Project Manager

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King County Environmental Laboratory

322 West Ewing Street
Seattle, WA/USA 98119

Project Name: **Inter-calibration Study**
Project Number: 421973
Project Manager: Fritz Grothkopp

Report Created:
04/14/09 14:54

Conventional Chemistry Parameters by APHA/EPA Methods - Laboratory Quality Control Results

QC Batch: 9D06014

Water Preparation Method: EPA 3010A

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9D06014-BLK1)								Extracted: 04/06/09 10:22						
Hardness	SM 2340B	ND	---	3000	ug/l	1x	--	--	--	--	--	--	04/07/09 09:34	
LCS (9D06014-BS1)								Extracted: 04/06/09 10:22						
Hardness	SM 2340B	33000	---	3000	ug/l	1x	--	33100	99.6%	(85-115)	--	--	04/07/09 09:37	
Duplicate (9D06014-DUP1)				QC Source: BSD0042-07				Extracted: 04/06/09 10:22						
Hardness	SM 2340B	38800	---	3000	ug/l	1x	39600	--	--	--	2.09% (20)	--	04/07/09 09:43	
Matrix Spike (9D06014-MS1)				QC Source: BSD0042-07				Extracted: 04/06/09 10:22						
Hardness	SM 2340B	70900	---	3000	ug/l	1x	39600	33100	94.6%	(80-120)	--	--	04/07/09 09:40	

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Project Manager

Lab H

King County Environmental Laboratory

322 West Ewing Street
Seattle, WA/USA 98119

Project Name: **Inter-calibration Study**
Project Number: 421973
Project Manager: Fritz Grothkopp

Report Created:
04/14/09 14:54

CERTIFICATION SUMMARY

TestAmerica Seattle

Method	Matrix	Nelac	Washington
EPA 200.8 - Diss	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1 - Diss	Water	X	X
EPA 245.1	Water	X	X
SM 2340B	Water	X	X

Any abnormalities or departures from sample acceptance policy shall be documented on the 'Sample Receipt and Temperature Log Form' and 'Sample Non-conformance Form' (if applicable) included with this report.

For information concerning certifications of this facility or another TestAmerica facility, please visit our website at www.TestAmericaInc.com

Samples collected by TestAmerica Field Services personnel are noted on the Chain of Custody (COC) .

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Project Manager

Lab H

King County Environmental Laboratory

322 West Ewing Street
Seattle, WA/USA 98119

Project Name: **Inter-calibration Study**
Project Number: 421973
Project Manager: Fritz Grothkopp

Report Created:
04/14/09 14:54

Notes and Definitions

Report Specific Notes:

None

Laboratory Reporting Conventions:

- DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
- ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
- NR/NA - Not Reported / Not Available
- dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
- wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
- RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
- MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
- MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
- Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
- Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
- Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Project Manager

EL-09-17

LABORATORY WORK ORDER

Lab H

Project Name: King County Intercalibration Study

Project Number: 421973

Samplers: _____

Laboratory Project Manager: Fritz Grothkopp, 206-684-2327

BSD0042

Sample #	Locator	Matrix	Collect Date	Parameters					No. of Containers	Notes
				Total Cu, Pb, Zn	Total Mercury	Dissolved Cu, Pb, Zn	Dissolved Mercury	Hardness		
L47719-1	Ewing St.	Water	25-Mar-09	x			x			Aliquot 1
L47719-2	Ewing St.	Water	25-Mar-09	x			x			Aliquot 2
L47719-3	Ewing St.	Water	25-Mar-09	x			x			Aliquot 3
L47719-4	Ewing St.	Water	25-Mar-09		x					Aliquot 1
L47719-5	Ewing St.	Water	25-Mar-09		x					Aliquot 2
L47719-6	Ewing St.	Water	25-Mar-09		x					Aliquot 3
L47719-7	GL2-3	Water	25-Mar-09	x			x			Aliquot 1
L47719-8	GL2-3	Water	25-Mar-09	x			x			Aliquot 2
L47719-9	GL2-3	Water	25-Mar-09	x			x			Aliquot 3
L47719-10	GL2-3	Water	25-Mar-09		x					Aliquot 1
L47719-11	GL2-3	Water	25-Mar-09		x					Aliquot 2
L47719-12	GL2-3	Water	25-Mar-09		x					Aliquot 3
L47719-13	C370	Water	25-Mar-09	x			x			Aliquot 1
L47719-14	C370	Water	25-Mar-09	x			x			Aliquot 2
L47719-15	C370	Water	25-Mar-09	x			x			Aliquot 3
L47719-16	C370	Water	25-Mar-09		x					Aliquot 1
L47719-17	C370	Water	25-Mar-09		x					Aliquot 2
L47719-18	C370	Water	25-Mar-09		x					Aliquot 3
L47719-19	Ewing St.	Water	25-Mar-09			x				Aliquot 1
L47719-20	Ewing St.	Water	25-Mar-09			x				Aliquot 2
L47719-21	Ewing St.	Water	25-Mar-09			x				Aliquot 3
L47719-22	Ewing St.	Water	25-Mar-09				x			Aliquot 1
L47719-23	Ewing St.	Water	25-Mar-09				x			Aliquot 2
L47719-24	Ewing St.	Water	25-Mar-09				x			Aliquot 3
L47719-25	GL2-3	Water	25-Mar-09			x				Aliquot 1
L47719-26	GL2-3	Water	25-Mar-09			x				Aliquot 2
L47719-27	GL2-3	Water	25-Mar-09			x				Aliquot 3
L47719-28	GL2-3	Water	25-Mar-09				x			Aliquot 1
L47719-29	GL2-3	Water	25-Mar-09				x			Aliquot 2
L47719-30	GL2-3	Water	25-Mar-09				x			Aliquot 3
L47719-31	C370	Water	25-Mar-09			x				Aliquot 1
L47719-32	C370	Water	25-Mar-09			x				Aliquot 2
L47719-33	C370	Water	25-Mar-09			x				Aliquot 3
L47719-34	C370	Water	25-Mar-09				x			Aliquot 1
L47719-35	C370	Water	25-Mar-09				x			Aliquot 2
L47719-36	C370	Water	25-Mar-09				x			Aliquot 3

Additional Comments:

Total Number of Bottles: _____

TAT = 14 days

Use EPA 200.8 or SM3125 for Copper, Lead & Zinc
Use EPA 245.1 or 245.2 for Mercury

Use Sample L47719-7, 10, 25, 28 for QC analysis

RELINQUISHED BY	Date	RECEIVED BY	Date
Signature <i>[Signature]</i>	4-2-09	Signature <i>[Signature]</i>	4/2/09 9.3°C w/cs
Printed Name Jason Kinnard	Time 0900	Printed Name Francisco Luna, Jr.	Time 1530
Organization KCEL		Organization TA-SEA	

TAT: _____

Paperwork to PM - Date: _____ Time: _____

Non-Conformances?

Page Time & Initials: _____

Circle Y or N

(If Y, see other side)

Lab H



SAMPLE RECEIPT CHECKLIST

Received By:
(applies to temp at receipt)

Logged-in By:

Unpacked/Labeled By:

Cooler ID: 397

Date: 4/2/09

Date: 04-03

Date: 04-03

Work Order No. BSD0042

Time: 1530

Time: 0803

Time: 0730

Client: _____

Initials: EL

Initials: CW

Initials: CW

Project: _____

Container Type:

COC Seals:

Packing Material:

Cooler
 Box
 None/Other _____

Ship Container ? Sign By
 On Bottles 4/2/09 Date
 None

Bubble Bags Styrofoam
 Foam Packs
 None/other Air Bags

Refrigerant:

Soil Stir Bars/Encores:

Received Via: Bill#:

Gel Ice Pack _____
 Loose Ice _____
 None/Other _____

Placed in freezer #46:
Y or N or NA
Initial/date/time _____

Fed Ex Client
 UPS TA Courier
 DHL Mid Valley
 Senvoy TDP
 GS Other _____

Cooler Temperature (IR): 9.3 °C Plastic Glass (Frozen filters, Tedlars and aqueous Metals exempt)
(circle one)

Temperature Blank? _____ °C or NA comments _____ Trip Blank? Y or N or NA

BP, OPLC, ARCO-Temperature monitoring every 15 minutes:

(initial/date/time): _____

Comments: _____

Sample Containers:

ID

ID

Intact? or N _____

Metals Preserved? or N or NA _____

Provided by TA? Y or client

Client QAPP Preserved? or N or NA

Correct Type? or N _____

Adequate Volume? or N _____
(for tests requested)

#Containers match COC? Y or N not indicated

Water VOAs: Headspace? Y or N or NA

IDs/time/date match COC? or N _____

Comments: _____

Hold Times in hold? or N _____

PROJECT MANAGEMENT

Is the Chain of Custody complete?

Y or N If N, circle the items that were incomplete

Comments, Problems _____

Total access set up?

Y or N

Has client been contacted regarding non-conformances?

Y or N

If Y, _____ / _____
Date Time

PM Initials: _____ Date: _____ Time: _____