

APPENDIX G

Section 10

Outfall 004, February 16, 2009

Test America Analytical Laboratory Report

LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project: Routine Outfall 004

Sampled: 02/16/09
Received: 02/16/09
Issued: 03/18/09 11:47

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.

LABORATORY ID
ISB1808-01

CLIENT ID
Outfall 004

MATRIX
Water

Reviewed By:



TestAmerica Irvine

Joseph Doak
Project Manager

MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Routine Outfall 004

Report Number: ISB1808

Sampled: 02/16/09

Received: 02/16/09

HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISB1808-01 (Outfall 004 - Water)									
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	9B24074	1.5	5.2	1.5	1	02/24/09	02/24/09	J

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NPDES - 857

MWH-Pasadena/Boeing
 618 Michillinda Avenue, Suite 200
 Arcadia, CA 91007
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 004

Report Number: ISB1808

Sampled: 02/16/09

Received: 02/16/09

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISB1808-01 (Outfall 004 - Water) - cont.									
Reporting Units: ug/l									
Antimony	EPA 200.8	9B24103	0.20	2.0	0.41	1	02/24/09	02/25/09	J
Cadmium	EPA 200.8	9B24103	0.11	1.0	ND	1	02/24/09	02/25/09	
Copper	EPA 200.8	9B24103	0.75	2.0	2.8	1	02/24/09	02/25/09	
Lead	EPA 200.8	9B24103	0.30	1.0	1.9	1	02/24/09	02/25/09	
Thallium	EPA 200.8	9B24103	0.20	1.0	ND	1	02/24/09	02/25/09	C

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 Project Manager

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Sampled: 02/16/09

Received: 02/16/09

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISB1808-01 (Outfall 004 - Water) - cont.									
Reporting Units: ug/l									
Antimony	EPA 200.8-Diss	9B21041	0.20	2.0	0.57	1	02/21/09	02/23/09	J
Cadmium	EPA 200.8-Diss	9B21041	0.11	1.0	ND	1	02/21/09	02/23/09	
Copper	EPA 200.8-Diss	9B21041	0.75	2.0	1.0	1	02/21/09	02/23/09	J
Lead	EPA 200.8-Diss	9B21041	0.30	1.0	ND	1	02/21/09	02/23/09	
Thallium	EPA 200.8-Diss	9B21041	0.20	1.0	ND	1	02/21/09	02/23/09	C

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Project ID: Routine Outfall 004

Report Number: ISB1808

Sampled: 02/16/09
Received: 02/16/09

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISB1808-01 (Outfall 004 - Water) - cont.									
Reporting Units: mg/l									
Chloride	EPA 300.0	9B16058	0.25	0.50	18	1	02/16/09	02/17/09	
Nitrate/Nitrite-N	EPA 300.0	9B16058	0.15	0.26	0.41	1	02/16/09	02/17/09	
Sulfate	EPA 300.0	9B16058	0.20	0.50	6.0	1	02/16/09	02/17/09	
Total Dissolved Solids	SM2540C	9B18065	10	10	100	1	02/18/09	02/18/09	

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Project ID: Routine Outfall 004

Report Number: ISB1808

Sampled: 02/16/09

Received: 02/16/09

MCAWW 245.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISB1808-01 (Outfall 004 - Water) - cont.									
Reporting Units: ug/L									
Mercury	MCAWW 245.1	9050174	0.027	0.2	0.034	1	02/19/09	02/19/09	J

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NPDES - 861

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Report Number: ISB1808

Sampled: 02/16/09

Received: 02/16/09

MCAWW 245.1-DISS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISB1808-01 (Outfall 004 - Water) - cont.									
Reporting Units: ug/L									
Mercury	MCAWW 245.1-DISS	9050182	0.027	0.2	ND	1	02/19/09	02/19/09	

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Report Number: ISB1808

Sampled: 02/16/09

Received: 02/16/09

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 004 (ISB1808-01) - Water					
EPA 300.0	2	02/16/2009 12:00	02/16/2009 18:20	02/16/2009 21:30	02/17/2009 03:42
Filtration	1	02/16/2009 12:00	02/16/2009 18:20	02/17/2009 00:29	02/17/2009 00:33

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NPDES - 863

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Project ID: Routine Outfall 004

Report Number: ISB1808

Sampled: 02/16/09
 Received: 02/16/09

METHOD BLANK/QC DATA

HEXANE EXTRACTABLE MATERIAL

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9B24074 Extracted: 02/24/09											
Blank Analyzed: 02/24/2009 (9B24074-BLK1)											
Hexane Extractable Material (Oil & Grease)	ND	5.0	1.4	mg/l							
LCS Analyzed: 02/24/2009 (9B24074-BS1)											
Hexane Extractable Material (Oil & Grease)	19.2	5.0	1.4	mg/l	20.0		96	78-114			
LCS Dup Analyzed: 02/24/2009 (9B24074-BSD1)											
Hexane Extractable Material (Oil & Grease)	18.8	5.0	1.4	mg/l	20.0		94	78-114	2	11	
Matrix Spike Analyzed: 02/24/2009 (9B24074-MS1)											
Hexane Extractable Material (Oil & Grease)	21.1	4.8	1.3	mg/l	19.1	3.73	90	78-114			

Source: ISB2624-01

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 9B24103 Extracted: 02/24/09											
Blank Analyzed: 02/25/2009 (9B24103-BLK1)											
Antimony	ND	2.0	0.20	ug/l							
Cadmium	ND	1.0	0.11	ug/l							
Copper	ND	2.0	0.75	ug/l							
Lead	ND	1.0	0.30	ug/l							
Thallium	ND	1.0	0.20	ug/l							
LCS Analyzed: 02/25/2009 (9B24103-BS1)											
Antimony	86.0	2.0	0.20	ug/l	80.0		107	85-115			
Cadmium	84.2	1.0	0.11	ug/l	80.0		105	85-115			
Copper	84.9	2.0	0.75	ug/l	80.0		106	85-115			
Lead	85.2	1.0	0.30	ug/l	80.0		106	85-115			
Thallium	79.3	1.0	0.20	ug/l	80.0		99	85-115			
Matrix Spike Analyzed: 02/25/2009 (9B24103-MS1) Source: ISB1943-01											
Antimony	77.6	2.0	0.20	ug/l	80.0	0.237	97	70-130			
Cadmium	69.9	1.0	0.11	ug/l	80.0	0.135	87	70-130			
Copper	81.9	2.0	0.75	ug/l	80.0	2.72	99	70-130			
Lead	69.0	1.0	0.30	ug/l	80.0	ND	86	70-130			
Thallium	71.0	1.0	0.20	ug/l	80.0	ND	89	70-130			
Matrix Spike Analyzed: 02/25/2009 (9B24103-MS2) Source: ISB2089-01											
Antimony	90.4	2.0	0.20	ug/l	80.0	0.372	113	70-130			
Cadmium	85.4	1.0	0.11	ug/l	80.0	ND	107	70-130			
Copper	80.6	2.0	0.75	ug/l	80.0	3.40	97	70-130			
Lead	85.9	1.0	0.30	ug/l	80.0	ND	107	70-130			
Thallium	76.3	1.0	0.20	ug/l	80.0	0.367	95	70-130			
Matrix Spike Dup Analyzed: 02/25/2009 (9B24103-MSD1) Source: ISB1943-01											
Antimony	79.4	2.0	0.20	ug/l	80.0	0.237	99	70-130	2	20	
Cadmium	71.3	1.0	0.11	ug/l	80.0	0.135	89	70-130	2	20	
Copper	83.3	2.0	0.75	ug/l	80.0	2.72	101	70-130	2	20	
Lead	69.7	1.0	0.30	ug/l	80.0	ND	87	70-130	1	20	
Thallium	71.8	1.0	0.20	ug/l	80.0	ND	90	70-130	1	20	

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Sampled: 02/16/09

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METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 9B21041 Extracted: 02/21/09											
Blank Analyzed: 02/23/2009 (9B21041-BLK1)											
Antimony	ND	2.0	0.20	ug/l							
Cadmium	ND	1.0	0.11	ug/l							
Copper	ND	2.0	0.75	ug/l							
Lead	ND	1.0	0.30	ug/l							
Thallium	ND	1.0	0.20	ug/l							
LCS Analyzed: 02/23/2009 (9B21041-BS1)											
Antimony	88.3	2.0	0.20	ug/l	80.0		110	85-115			
Cadmium	86.3	1.0	0.11	ug/l	80.0		108	85-115			
Copper	78.4	2.0	0.75	ug/l	80.0		98	85-115			
Lead	85.3	1.0	0.30	ug/l	80.0		107	85-115			
Thallium	84.2	1.0	0.20	ug/l	80.0		105	85-115			
Matrix Spike Analyzed: 02/23/2009 (9B21041-MS1) Source: ISB1808-01											
Antimony	86.5	2.0	0.20	ug/l	80.0	0.571	107	70-130			
Cadmium	82.4	1.0	0.11	ug/l	80.0	ND	103	70-130			
Copper	79.9	2.0	0.75	ug/l	80.0	1.02	99	70-130			
Lead	82.2	1.0	0.30	ug/l	80.0	ND	103	70-130			
Thallium	82.5	1.0	0.20	ug/l	80.0	ND	103	70-130			
Matrix Spike Dup Analyzed: 02/23/2009 (9B21041-MSD1) Source: ISB1808-01											
Antimony	86.1	2.0	0.20	ug/l	80.0	0.571	107	70-130	1	20	
Cadmium	81.9	1.0	0.11	ug/l	80.0	ND	102	70-130	1	20	
Copper	78.2	2.0	0.75	ug/l	80.0	1.02	96	70-130	2	20	
Lead	82.5	1.0	0.30	ug/l	80.0	ND	103	70-130	0	20	
Thallium	83.4	1.0	0.20	ug/l	80.0	ND	104	70-130	1	20	

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9B16058 Extracted: 02/16/09											
Blank Analyzed: 02/16/2009 (9B16058-BLK1)											
Chloride	ND	0.50	0.25	mg/l							
Nitrate/Nitrite-N	ND	0.26	0.15	mg/l							
Sulfate	ND	0.50	0.20	mg/l							
LCS Analyzed: 02/16/2009 (9B16058-BS1)											
Chloride	4.76	0.50	0.25	mg/l	5.00		95	90-110			M-3
Sulfate	9.85	0.50	0.20	mg/l	10.0		99	90-110			M-3
Matrix Spike Analyzed: 02/17/2009 (9B16058-MS2)											
						Source: ISB1799-01					
Chloride	124	2.5	1.2	mg/l	5.00	123	18	80-120			MHA
Sulfate	126	2.5	1.0	mg/l	10.0	120	56	80-120			MHA
Batch: 9B18065 Extracted: 02/18/09											
Blank Analyzed: 02/18/2009 (9B18065-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 02/18/2009 (9B18065-BS1)											
Total Dissolved Solids	982	10	10	mg/l	1000		98	90-110			
Duplicate Analyzed: 02/18/2009 (9B18065-DUP1)											
						Source: ISB1930-01					
Total Dissolved Solids	177	10	10	mg/l		172			3	10	

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Sampled: 02/16/09
 Received: 02/16/09

METHOD BLANK/QC DATA

MCAWW 245.1

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9050174 Extracted: 02/19/09											
Blank Analyzed: 02/19/2009 (D9B190000174B)						Source:					
Mercury	ND	0.2	0.027	ug/L				-			
LCS Analyzed: 02/19/2009 (D9B190000174C)						Source:					
Mercury	4.78	0.2	0.027	ug/L	5		96	90-110			
Matrix Spike Dup Analyzed: 02/19/2009 (D9B190119001D)						Source: D9B190119001					
Mercury	4.29	0.2	0.027	ug/L	5	0.032	85	90-110	0	10	N
Matrix Spike Analyzed: 02/19/2009 (D9B190119001S)						Source: D9B190119001					
Mercury	4.29	0.2	0.027	ug/L	5	0.032	85	90-110	0	10	N

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 Received: 02/16/09

METHOD BLANK/QC DATA

MCAWW 245.1-DISS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9050182 Extracted: 02/19/09											
Blank Analyzed: 02/19/2009 (D9B190000182B)						Source:					
Mercury	ND	0.2	0.027	ug/L				-			
LCS Analyzed: 02/19/2009 (D9B190000182C)						Source:					
Mercury	4.63	0.2	0.027	ug/L	5		93	90-110			
Matrix Spike Dup Analyzed: 02/19/2009 (D9B190119001D)						Source: D9B190119001					
Mercury	4.55	0.2	0.027	ug/L	5	0.03	90	90-110	0	10	
Matrix Spike Analyzed: 02/19/2009 (D9B190119001S)						Source: D9B190119001					
Mercury	4.57	0.2	0.027	ug/L	5	0.03	91	90-110	0	10	

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Sampled: 02/16/09
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Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits appear in bold on this page.

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
ISB1808-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	1.46	5.2	15
ISB1808-01	Antimony-200.8	Antimony	ug/l	0.41	2.0	6
ISB1808-01	Cadmium-200.8	Cadmium	ug/l	0.047	1.0	4
ISB1808-01	Chloride - 300.0	Chloride	mg/l	18	0.50	150
ISB1808-01	Copper-200.8	Copper	ug/l	2.80	2.0	14
ISB1808-01	Lead-200.8	Lead	ug/l	1.88	1.0	5.2
ISB1808-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.41	0.26	10
ISB1808-01	Sulfate-300.0	Sulfate	mg/l	5.97	0.50	250
ISB1808-01	TDS - SM2540C	Total Dissolved Solids	mg/l	100	10	850
ISB1808-01	Thallium-200.8	Thallium	ug/l	0.11	1.0	2

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NPDES - 870

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Sampled: 02/16/09
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DATA QUALIFIERS AND DEFINITIONS

- C** Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- M-3** Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).
- MHA** Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
- N** Spike sample recovery is outside control limits.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

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Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 1664A	Water	X	X
EPA 200.8-Diss	Water	X	X
EPA 200.8	Water	X	X
EPA 300.0	Water	X	X
Filtration	Water	N/A	N/A
SM2540C	Water	X	

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

Subcontracted Laboratories

Aquatic Testing Laboratories-SUB *California Cert #1775*

4350 Transport Street, Unit 107 - Ventura, CA 93003

Analysis Performed: Bioassay-7 dy Chrnrc
Samples: ISB1808-01

TestAmerica Denver

4955 Yarrow Street - Arvada, CO 80002

Method Performed: MCAWW 245.1
Samples: ISB1808-01

Method Performed: MCAWW 245.1-DISS
Samples: ISB1808-01

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Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Routine Outfall 004

Report Number: ISB1808

Sampled: 02/16/09
Received: 02/16/09

TestAmerica St. Louis

13715 Rider Trail North - Earth City, MO 63045

Analysis Performed: Gamma Spec
Samples: ISB1808-01

Analysis Performed: Gross Alpha
Samples: ISB1808-01

Analysis Performed: Gross Beta
Samples: ISB1808-01

Analysis Performed: Radium, Combined
Samples: ISB1808-01

Analysis Performed: Strontium 90
Samples: ISB1808-01

Analysis Performed: Tritium
Samples: ISB1808-01

Analysis Performed: Uranium, Combined
Samples: ISB1808-01

Vista Analytical *NELAC Cert #02102CA, California Cert #1640, Nevada Cert #CA-413*

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta
Samples: ISB1808-01

TestAmerica Irvine

Joseph Doak
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

ISB1808

CHAIN OF CUSTODY FORM

Test America Version 12/20/07

Client Name/Address:		Project:		ANALYSIS REQUIRED		Field readings:					
MWH-Arcadia 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Test America Contact: Joseph Doak		Boeing-SSFL NPDES Routine Outfall 004 Stormwater at SRE-1		Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl TCDD (and all congeners) Oil & Grease (1664-HEM) Cl, SO ₄ , NO ₃ +NO ₂ -N TDS		Temp = 46.6 pH = 6.6 Time of readings = 12:00					
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Comments				
Outfall 004	W	1L Poly	1	2-16-07 12:00	HNO ₃	1A	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl Chronic Toxicity (901.0 or 901.1) (908.0), K-40, CS-137 228 (904.0), Uranium (903.0 or 903.1) & Radium Combined Radium 226 (906.0), Sr-90 (905.0), Total Beta(900.0), Tritium (H-3) Gross Alpha(900.0), Gross Combed Radium 226 X Unfiltered and unpreserved analysis Test first and second rain event of the season Filter w/in 24hrs of receipt at lab				
Outfall 004-Dup	W	1L Poly	1		HNO ₃	1B					
Outfall 004	W	1L Amber	2		None	2A, 2B					
Outfall 004	W	1L Amber	2		HCl	3A, 3B					
Outfall 004	W	500 ml Poly	2		None	4A, 4B					
Outfall 004	W	500 ml Poly	1		None	5					
Outfall 004	W	2.5 Gal Cube 500 ml Amber	1		None None	6A 6B					
Outfall 004	W	1 Gal Poly	1		None	7					
Outfall 004	W	1L Poly	1	2-16-07 12:00	None	8					
Relinquished By	Kari B. King		2-16-07	Date/Time:	2/16/07	1549	Received By	[Signature]	Date/Time:	2/16/07	1549
Relinquished By	[Signature]		2/16/07	Date/Time:			Received By	[Signature]	Date/Time:		
Relinquished By	[Signature]		2/16/07	Date/Time:			Received By	[Signature]	Date/Time:		

LABORATORY REPORT



"dedicated to providing quality aquatic toxicity testing"

4350 Transport Street, Unit 107
Ventura, CA 93003
(805) 650-0546 FAX (805) 650-0756
CA DOHS ELAP Cert. No.: 1775

Date: February 25, 2009
Client: TestAmerica, Irvine
17461 Derian Ave., Suite 100
Irvine, CA 92614
Attn: Joseph Doak

Laboratory No.: A-09021708
Sample I.D.: ISB1808-01 (Outfall 004)

Sample Control: The sample was received by ATL within the recommended hold time, chilled and with the chain of custody record attached. Testing conducted on only one sample per client instruction (rain runoff sample).

Date Sampled: 02/16/09
Date Received: 02/17/09
Temp. Received: 0.5°C
Chlorine (TRC): 0.0 mg/l
Date Tested: 02/17/09 to 02/24/09

Sample Analysis: The following analyses were performed on your sample:

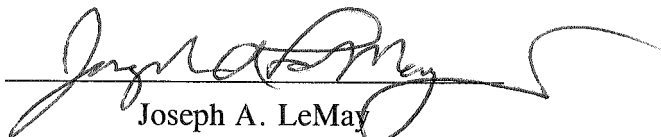
Ceriodaphnia dubia Survival and Reproduction Test (EPA Method 1002).

Attached are the test data generated from the analysis of your sample.

Result Summary:

	<u>NOEC</u>	<u>TUc</u>
<i>Ceriodaphnia</i> Survival:	100%	1.0
<i>Ceriodaphnia</i> Reproduction:	100%	1.0

Quality Control: Reviewed and approved by:


Joseph A. LeMay
Laboratory Director

**CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0**



Lab No.: A-09021708-001
Client/ID: Test America – ISB1808-01 (Outfall 004)

Date Tested: 02/17/09 to 02/24/09

TEST SUMMARY

Test type: Daily static-renewal.	Endpoints: Survival and Reproduction.
Species: <i>Ceriodaphnia dubia</i> .	Source: In-laboratory culture.
Age: < 24 hrs; all released within 8 hrs.	Food: .1 ml YTC, algae per day.
Test vessel size: 30 ml.	Test solution volume: 15 ml.
Number of test organisms per vessel: 1.	Number of replicates: 10.
Temperature: 25 +/- 1°C.	Photoperiod: 16/8 hrs. light/dark cycle.
Dilution water: Mod. hard reconstituted (MHRW).	Test duration: 7 days.
QA/QC Batch No.: RT-090203.	Statistics: ToxCalc computer program.

RESULTS SUMMARY

Sample Concentration	Percent Survival	Mean Number of Young Per Female
Control	100%	17.4
100% Sample	100%	19.7
* Sample not statistically significantly less than Control.		

CHRONIC TOXICITY

Survival NOEC	100%
Survival TUc	1.0
Reproduction NOEC	100%
Reproduction TUc	1.0

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥ 80%	Pass (100% survival)
≥ 15 young per surviving control female	Pass (17.4 young)
≥ 60% surviving controls had 3 broods	Pass (80% with 3 broods)
PMSD < 47% for reproduction; if > 47% and no toxicity at IWC, the test must be repeated	Pass (PMSD = 19.7%)
Statistically significantly different concentrations relative difference > 13%	Pass (no concentration significantly different)
Concentration response relationship acceptable	Pass (no significant response at concentration tested)

Ceriodaphnia Survival and Reproduction Test-7 Day Survival

Start Date: 2/17/2009 15:00 Test ID: 9021708c Sample ID: ISB1808-01
 End Date: 2/24/2009 15:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: EFF2-Industrial
 Sample Date: 2/16/2009 12:00 Protocol: FWCH 4TH-EPA-821-R-02-0 Test Species: CD-Ceriodaphnia dubia

Comments:

Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Conc-%	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Isotonic Mean	N-Mean
D-Control	1.0000	1.0000	0	10	10	10			1.0000	1.0000
100	1.0000	1.0000	0	10	10	10	1.0000	0.0500	1.0000	1.0000

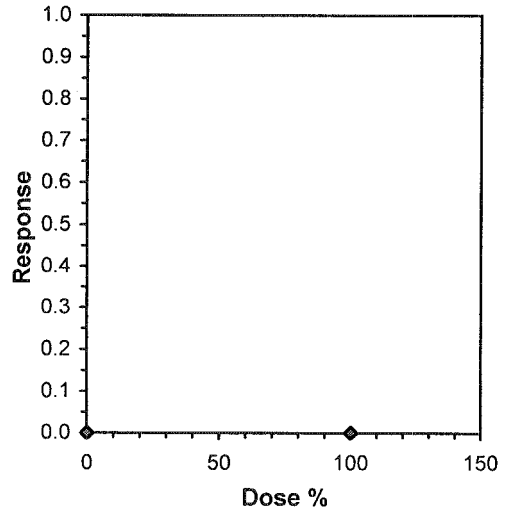
Hypothesis Test (1-tail, 0.05)

Fisher's Exact Test NOEC LOEC ChV TU

Treatments vs D-Control 100 >100 1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date: 2/17/2009 15:00 Test ID: 9021708c Sample ID: ISB1808-01
 End Date: 2/24/2009 15:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: EFF2-Industrial
 Sample Date: 2/16/2009 12:00 Protocol: FWCH 4TH-EPA-821-R-02-0 Test Species: CD-Ceriodaphnia dubia

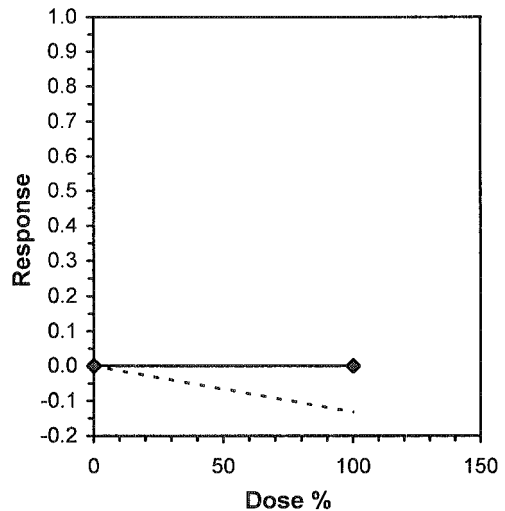
Comments:

Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	27.000	18.000	18.000	11.000	17.000	20.000	16.000	16.000	12.000	19.000
100	11.000	24.000	22.000	24.000	23.000	24.000	18.000	17.000	16.000	18.000

Conc-%	Mean	N-Mean	Transform: Untransformed					N	t-Stat	1-Tailed Critical	MSD	Isotonic	
			Mean	Min	Max	CV%	Mean					N-Mean	
D-Control	17.400	1.0000	17.400	11.000	27.000	25.444	10				18.550	1.0000	
100	19.700	1.1322	19.700	11.000	24.000	22.326	10	-1.165	1.734	3.422	18.550	1.0000	

Auxiliary Tests	Statistic	Critical	Skew	Kurt		
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.98251	0.905	0.02188	0.33277		
F-Test indicates equal variances (p = 0.98)	1.01321	6.54109				
Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences Treatments vs D-Control	3.42206	0.19667	26.45	19.4722	0.25904	1, 18

Point	%	SD	Linear Interpolation (200 Resamples)	
			95% CL	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



**CERIODAPHNIA DUBIA CHRONIC BIOASSAY
EPA METHOD 1002.0 Raw Data Sheet**



Lab No.: A-09021708-001

Client ID: TestAmerica - ISB1808-01

Start Date: 02/17/2009

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr
Analyst Initials:		Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm
Time of Readings:		1500	1400	1400	1500	1500	1500	1500	1600	1600	1500	1500	1600	1500	1500
Control	DO	9.0	9.6	9.2	9.0	8.9	9.4	9.4	9.1	9.6	9.3	8.9	8.8	8.9	8.5
	pH	7.9	7.7	7.7	7.8	7.7	7.8	7.6	7.9	7.6	7.8	7.6	8.0	7.7	7.7
	Temp	25.7	25.1	25.4	24.9	25.4	25.0	25.1	24.4	25.4	24.1	25.4	24.4	25.2	24.2
100%	DO	10.6	9.7	10.6	8.8	9.9	9.6	10.5	9.4	10.6	8.5	9.4	8.3	9.8	8.8
	pH	6.3	7.1	6.3	7.2	6.4	7.3	6.4	7.3	6.9	7.5	6.6	7.4	6.6	7.1
	Temp	25.9	24.5	25.8	24.5	25.7	25.0	25.4	24.4	25.7	24.2	25.1	24.3	24.6	24.2

Additional Parameters	Control	100% Sample
Conductivity (umohms)	300	121
Alkalinity (mg/l CaCO ₃)	61	22
Hardness (mg/l CaCO ₃)	94	21
Ammonia (mg/l NH ₃ -N)	<0.1	0.4

Source of Neonates											
Replicate:	A	B	C	D	E	F	G	H	I	J	
Brood ID:	A1	B2	C3	D2	E1	F2	G3	H1	I1	J3	

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
Control	1	0	0	0	0	0	0	0	0	0	0	0	10	Rm
	2	0	0	0	0	0	0	0	0	0	0	0	10	Rm
	3	0	0	0	0	0	0	0	0	0	0	0	10	Rm
	4	4	4	4	0	0	2	3	2	0	3	22	10	Rm
	5	0	0	0	5	4	0	4	5	4	6	28	10	Rm
	6	8	4	6	0	4	6	0	0	0	10	38	10	Rm
	7	15	10	8	6	9	12	9	9	8	0	86	10	Rm
	Total	27	18	18	11	17	20	16	16	12	19	174	10	Rm
100%	1	0	0	0	0	0	0	0	0	0	0	0	10	Rm
	2	0	0	0	0	0	0	0	0	0	0	0	10	Rm
	3	0	0	0	0	4	0	0	0	0	0	4	10	Rm
	4	0	0	4	2	0	3	2	0	0	3	14	10	Rm
	5	4	3	0	8	8	9	6	6	8	7	59	10	Rm
	6	7	8	6	0	0	12	10	0	8	8	59	10	Rm
	7	0	13	12	14	11	0	0	11	0	0	61	10	Rm
	Total	11	24	22	24	23	24	18	17	16	18	197	10	Rm

Circled fourth brood not used in statistical analysis.

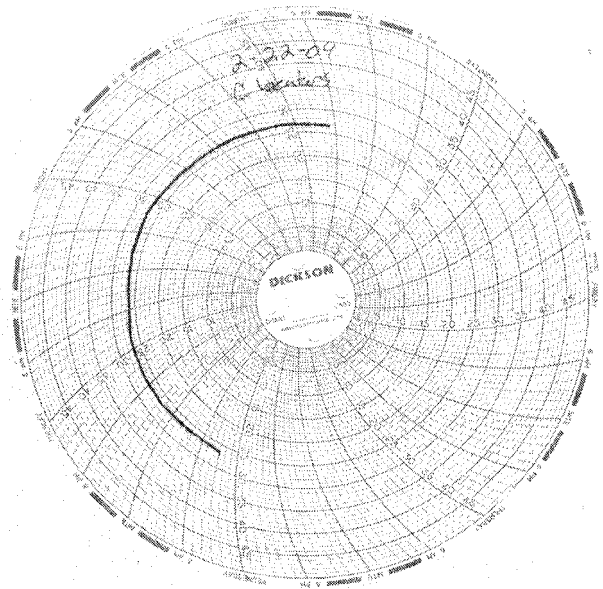
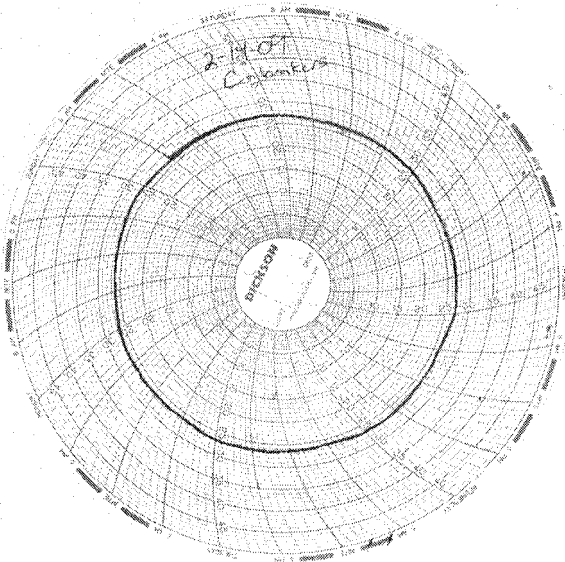
7th day only used if <60% of the surviving control females have produced their third brood.

Test Temperature Chart

Test No: A-090217

Date Tested: 02/17/09 to 02/24/09

Acceptable Range: 25 \pm 1 $^{\circ}$ C





CHAIN OF CUSTODY

SUBCONTRACT ORDER

TestAmerica Irvine

ISB1808



SENDING LABORATORY:


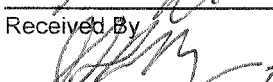
TestAmerica Irvine
17461 Derian Avenue, Suite 100
Irvine, CA 92614
Phone: (949) 261-1022
Fax: (949) 260-3297
Project Manager: Joseph Doak

RECEIVING LABORATORY:

Aquatic Testing Laboratories-SUB
4350 Transport Street, Unit 107
Ventura, CA 93003
Phone : (805) 650-0546
Fax: (805) 650-0756
Project Location: CA - CALIFORNIA
Receipt Temperature: 15 °C Ice: Y N

Analysis	Units	Due	Expires	Comments
Sample ID: ISB1808-01	Water		Sampled: 02/16/09 12:00	
Bioassay-7 dy Chrnrc	N/A	02/25/09	02/18/09 00:00	Cerio, EPA/821-R02-013, Sub to AqTox Labs
Level 4 Data Package	N/A	02/25/09	03/16/09 12:00	
Containers Supplied: 1 gal Poly (L)				


Released By _____ Date/Time _____
 2-17-09 1142
Released By _____ Date/Time _____

 2-17-09 745
Received By _____ Date/Time _____
 2-17-09 1142
Received By _____ Date/Time _____



***REFERENCE
TOXICANT
DATA***

CERIODAPHNIA CHRONIC BIOASSAY

EPA METHOD 1002.0

REFERENCE TOXICANT - NaCl



QA/QC Batch No.: RT-090203

Date Tested: 02/03/09 to 02/10/09

TEST SUMMARY

Test type: Daily static-renewal.
 Species: *Ceriodaphnia dubia*.
 Age: < 24 hrs; all released within 8 hrs.
 Test vessel size: 30 ml.
 Number of test organisms per vessel: 1.
 Temperature: 25 +/- 1°C.
 Dilution water: Mod. hard reconstituted (MHRW).
 Reference Toxicant: Sodium chloride (NaCl).

Endpoints: Survival and Reproduction.
 Source: In-laboratory culture.
 Food: .1 ml YTC, algae per day.
 Test solution volume: 20 ml.
 Number of replicates: 10.
 Photoperiod: 16/8 hrs. light/dark cycle.
 Test duration: 7 days.
 Statistics: ToxCalc computer program.

RESULTS SUMMARY

Sample Concentration	Percent Survival		Mean Number of Young Per Female	
Control	100%		24.1	
0.25 g/l	100%		25.5	
0.5 g/l	100%		23.5	
1.0 g/l	100%		16.4	*
2.0 g/l	90%		3.5	*
4.0 g/l	0%	*	0	**

* Statistically significantly less than control at P = 0.05 level
 ** Reproduction data from concentrations greater than survival NOEC are excluded from statistical analysis.

CHRONIC TOXICITY

Survival LC50	2.6 g/l
Reproduction IC25	0.85 g/l

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥ 80%	Pass (100% Survival)
≥ 15 young per surviving control female	Pass (24.1 young)
≥ 60% surviving controls had 3 broods	Pass (90% with 3 broods)
PMSD < 47% for reproduction	Pass (PMSD = 9.6%)
Stat. sig. diff. conc. relative difference > 13%	Pass (Stat. sig. diff. conc. relative difference = 31.9%)
Concentration response relationship acceptable	Pass (Response curve normal)

Ceriodaphnia Survival and Reproduction Test-7 Day Survival

Start Date: 2/3/2009 16:00 Test ID: RT-090203c Sample ID: REF-Ref Toxicant
 End Date: 2/10/2009 15:30 Lab ID: CAATL-Aquatic Testing Labs Sample Type: NACL-Sodium chloride
 Sample Date: 2/3/2009 Protocol: FWCH 4TH-EPA-821-R-02-0 Test Species: CD-Ceriodaphnia dubia

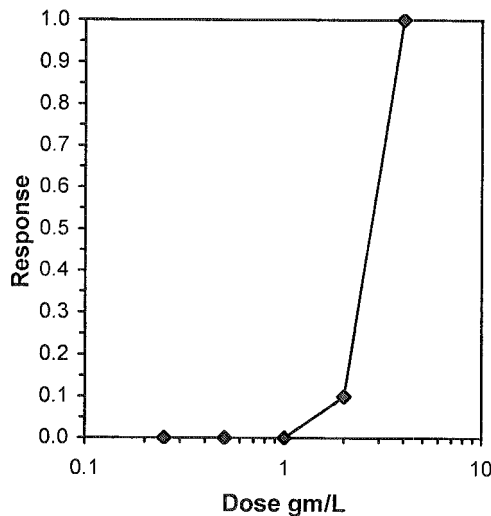
Comments:

Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.25	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Conc-gm/L	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Number Resp	Total Number
D-Control	1.0000	1.0000	0	10	10	10			0	10
0.25	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
0.5	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
1	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
2	0.9000	0.9000	1	9	10	10	0.5000	0.0500	1	10
4	0.0000	0.0000	10	0	10	10			10	10

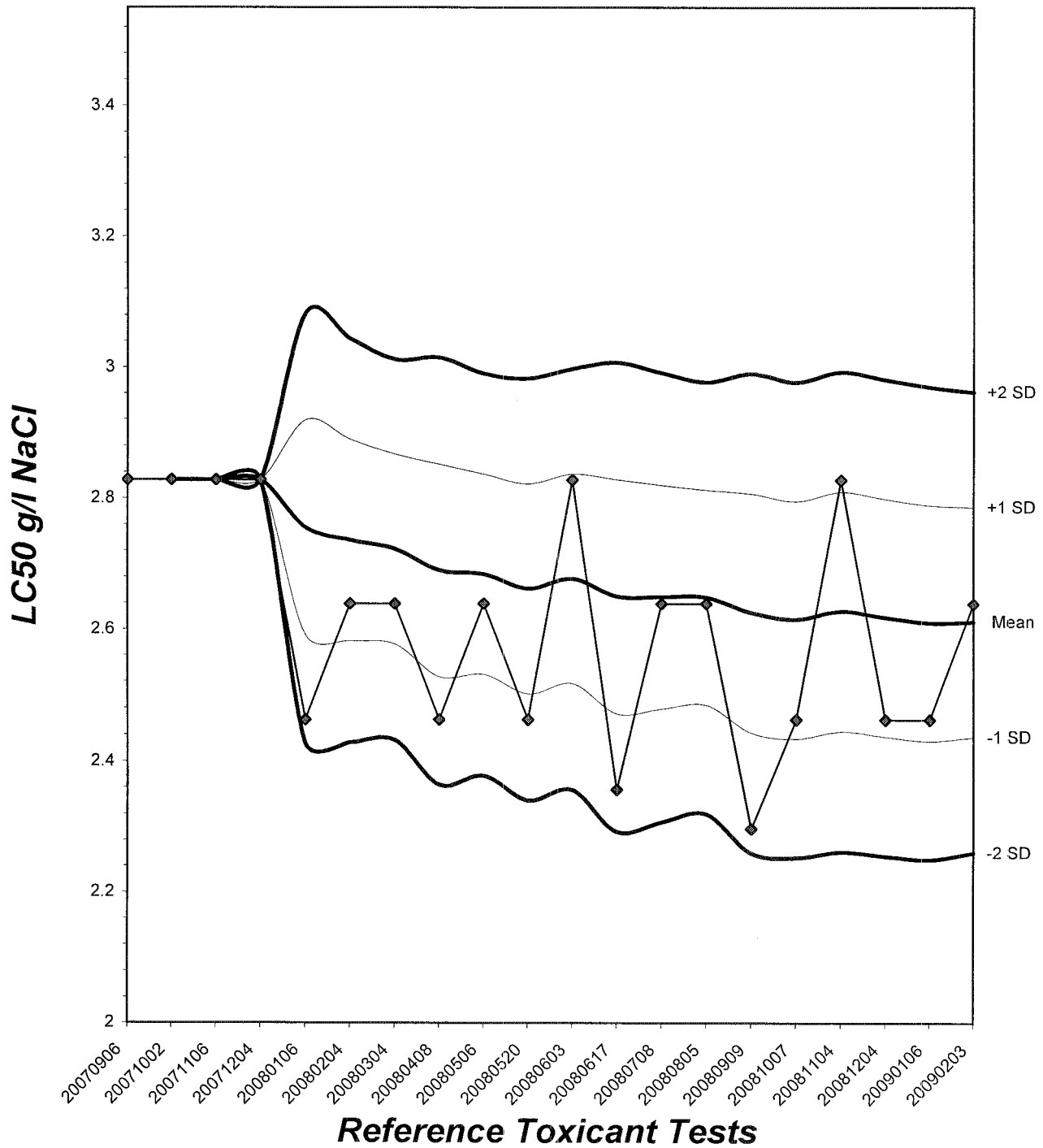
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	2	4	2.82843	
Treatments vs D-Control				

Trimmed Spearman-Kärber			
Trim Level	EC50	95% CL	
0.0%	2.6390	2.3138	3.0099
5.0%	2.6984	2.2899	3.1798
10.0%	2.7216	2.5094	2.9517
20.0%	2.7216	2.5094	2.9517
Auto-0.0%	2.6390	2.3138	3.0099



Ceriodaphnia Chronic Survival Laboratory Control Chart

CV% = 6.71



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date: 2/3/2009 16:00 Test ID: RT-090203c Sample ID: REF-Ref Toxicant
 End Date: 2/10/2009 15:30 Lab ID: CAATL-Aquatic Testing Labs Sample Type: NACL-Sodium chloride
 Sample Date: 2/3/2009 Protocol: FWCH 4TH-EPA-821-R-02-0 Test Species: CD-Ceriodaphnia dubia

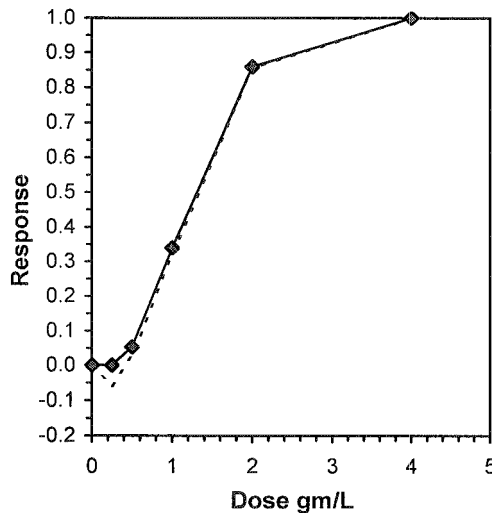
Comments:

Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	25.000	19.000	26.000	25.000	24.000	25.000	24.000	25.000	22.000	26.000
0.25	20.000	26.000	29.000	30.000	26.000	25.000	26.000	24.000	25.000	24.000
0.5	26.000	18.000	20.000	22.000	23.000	25.000	27.000	24.000	30.000	20.000
1	10.000	9.000	20.000	21.000	23.000	20.000	10.000	22.000	19.000	10.000
2	2.000	2.000	4.000	2.000	5.000	5.000	2.000	6.000	5.000	2.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Conc-gm/L	Transform: Untransformed							Rank Sum	1-Tailed Critical	Isotonic	
	Mean	N-Mean	Mean	Min	Max	CV%	N			Mean	N-Mean
D-Control	24.100	1.0000	24.100	19.000	26.000	8.846	10			24.800	1.0000
0.25	25.500	1.0581	25.500	20.000	30.000	10.819	10	121.00	76.00	24.800	1.0000
0.5	23.500	0.9751	23.500	18.000	30.000	15.571	10	98.50	76.00	23.500	0.9476
*1	16.400	0.6805	16.400	9.000	23.000	35.578	10	62.00	76.00	16.400	0.6613
*2	3.500	0.1452	3.500	2.000	6.000	47.140	10	55.00	76.00	3.500	0.1411
4	0.000	0.0000	0.000	0.000	0.000	0.000	10			0.000	0.0000

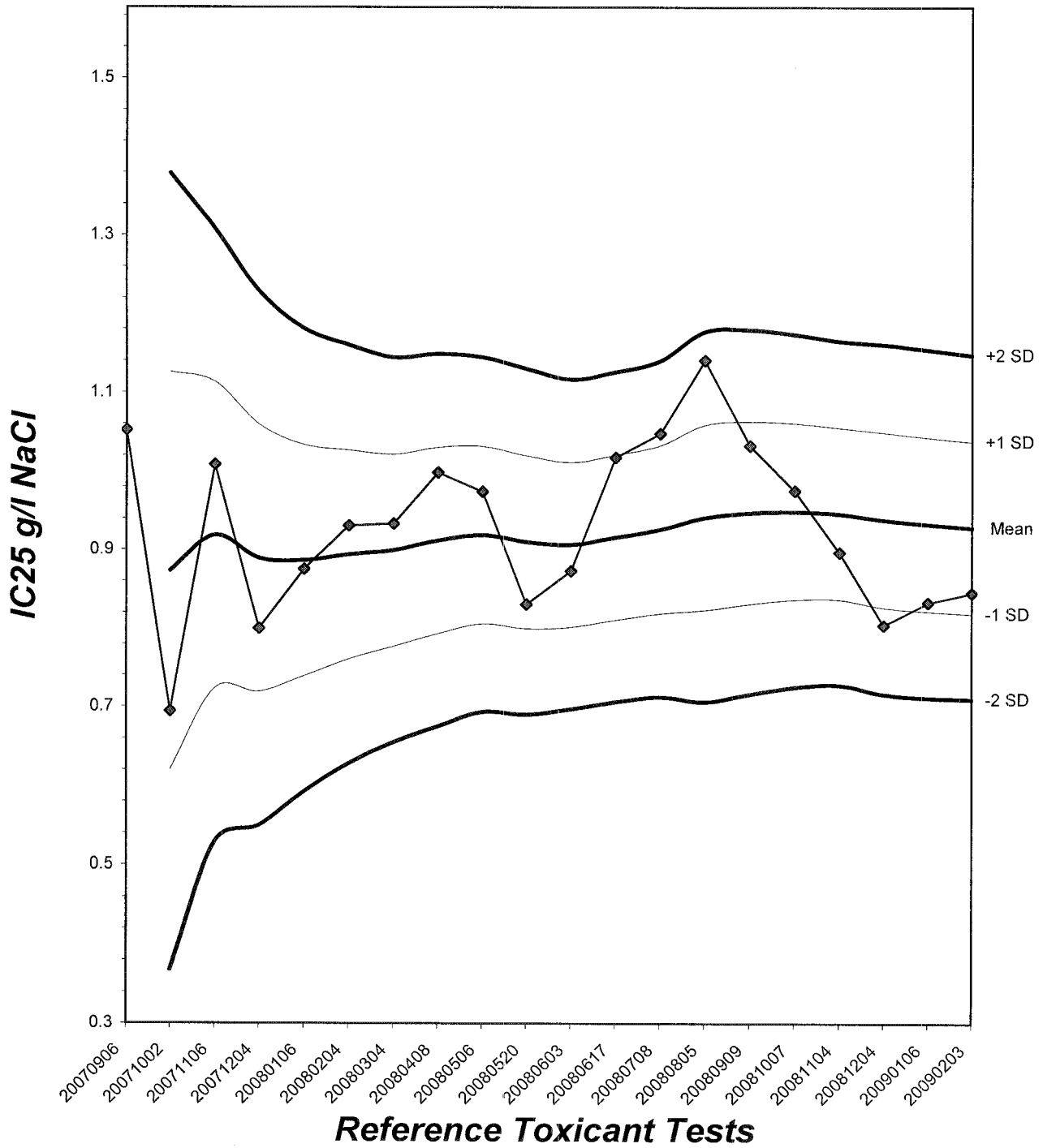
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.95819	0.947	-0.3265	-0.1582
Bartlett's Test indicates unequal variances (p = 2.14E-03)	16.7726	13.2767		
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	0.5	1	0.70711	
Treatments vs D-Control				

Point	Linear Interpolation (200 Resamples)				
	gm/L	SD	95% CL	Skew	
IC05	0.4885	0.0860	0.3398	0.6005	-0.0581
IC10	0.5831	0.0780	0.4322	0.7065	0.2232
IC15	0.6704	0.0835	0.5271	0.8274	0.7408
IC20	0.7577	0.0888	0.6245	0.9501	0.7504
IC25	0.8451	0.0959	0.7133	1.0505	0.6224
IC40	1.1178	0.1068	0.9221	1.2861	-0.1220
IC50	1.3101	0.0961	1.0946	1.4453	-0.6206



Ceriodaphnia Chronic Reproduction Laboratory Control Chart

CV% = 11.8



CERIODAPHNIA DUBIA CHRONIC BIOASSAY

Reference Toxicant - NaCl

Reproduction and Survival Raw Data Sheet



QA/QC No.: RT-090203

Start Date: 02/03/2009

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
Control	1	0	0	0	0	0	0	0	0	0	0	0	10	[Handwritten initials]
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	3	0	0	5	4	4	3	4	3	4	30	10	
	4	8	3	4	7	6	7	0	6	0	7	48	10	
	5	0	0	10	10	0	14	7	0	6	0	37	10	
	6	14	16	0	13	0	0	0	0	0	15	58	10	
	7	19	0	12	0	14	12	14	15	13	0	68	10	
	Total	25	19	26	25	24	25	24	25	22	26	241	10	
0.25 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	[Handwritten initials]
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	3	0	0	0	5	0	4	3	0	0	15	10	
	4	7	4	3	4	0	3	0	7	4	3	35	10	
	5	0	8	11	10	7	12	7	14	7	6	82	10	
	6	0	0	15	16	0	0	0	0	0	0	31	10	
	7	10	14	0	0	14	10	15	12	14	15	92	10	
	Total	20	26	29	30	26	25	26	24	25	24	255	10	
0.5 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	[Handwritten initials]
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	0	4	4	0	4	3	0	15	10	
	4	5	6	5	4	0	0	4	0	0	3	27	10	
	5	7	0	0	8	6	7	9	6	11	7	61	10	
	6	0	0	0	0	0	14	0	0	16	10	40	10	
	7	14	12	15	10	13	0	14	14	0	0	92	10	
	Total	26	18	20	22	23	25	27	24	30	20	235	10	

Circled fourth brood not used in statistical analysis.

7th day only used if <60% of the surviving control females have produced their third brood.

CERIODAPHNIA DUBIA CHRONIC BIOASSAY

Reference Toxicant - NaCl

Reproduction and Survival Raw Data Sheet



QA/QC No.: RT-090203

Start Date: 02/03/2009

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
1.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	R
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	0	0	0	0	0	0	0	0	10	
	4	4	3	4	3	2	4	3	2	3	4	32	10	
	5	0	0	0	11	10	7	0	11	0	0	53	10	
	6	6	0	0	0	11	0	7	0	0	6	30	10	
	7	0	6	10	7	0	9	0	9	8	0	49	10	
	Total	10	9	20	21	23	20	10	22	19	10	164	10	
2.0 g/l	1	0	0	0	0	0	0	0	0	0	0	10	R	
	2	0	0	0	0	0	0	0	0	0	0	10		
	3	0	0	0	0	0	0	0	0	0	0	10		
	4	2	0	0	0	0	0	0	2	3	0	7		10
	5	0	2	2	0	3	2	2	0	0	0	11		10
	6	0	0	0	2	0	0	0	4	2	0	8		10
	7	0	X	2	0	2	3	0	0	0	2	9		10
	Total	2	2	4	2	5	5	2	6	5	2	36		9
4.0 g/l	1	X	X	X	X	X	X	X	X	X	0	0	R	
	2	-	-	-	-	-	-	-	-	-	-	-		
	3	-	-	-	-	-	-	-	-	-	-	-		
	4	-	-	-	-	-	-	-	-	-	-	-		
	5	-	-	-	-	-	-	-	-	-	-	-		
	6	-	-	-	-	-	-	-	-	-	-	-		
	7	-	-	-	-	-	-	-	-	-	-	-		
	Total	0	0	0	0	0	0	0	0	0	0	0		0

Circled fourth brood not used in statistical analysis.

7th day only used if <60% of the surviving control females have produced their third brood.

CERIODAPHNIA DUBIA CHRONIC BIOASSAY

Reference Toxicant - NaCl Water Chemistries Raw Data Sheet



QA/QC No.: RT-090203

Start Date: 02/03/2009

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7		
		Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	
Analyst Initials:		Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Jr	Rm	Rm	Rm	Jr	
Time of Readings:		1100	1500	1500	1500	1500	1500	1500	1700	1700	1500	1500	1530	1530	1530	1530
Control	DO	8.3	8.8	8.8	9.2	8.4	8.8	8.5	8.7	8.4	8.1	8.3	8.5	8.5	8.4	
	pH	7.8	8.1	8.2	8.0	7.7	7.8	7.7	7.8	7.7	7.7	7.7	7.8	7.7	7.8	
	Temp	25.0	24.1	24.2	24.0	25.5	24.1	25.5	24.0	25.0	24.1	24.7	24.6	25.0	24.1	
0.25 g/l	DO	8.4	8.7	8.8	9.1	8.4	8.7	8.5	8.6	8.4	8.3	8.4	8.2	8.5	8.3	
	pH	7.8	8.1	8.2	8.0	7.7	7.8	7.7	7.8	7.7	7.7	7.8	7.8	7.7	7.8	
	Temp	25.0	24.2	24.2	24.1	25.5	24.3	25.5	24.2	25.0	24.3	24.8	24.2	24.8	24.4	
0.5 g/l	DO	8.4	8.7	8.7	9.1	8.5	8.7	8.4	8.6	8.3	8.2	8.3	8.3	8.4	8.2	
	pH	7.8	8.2	8.2	8.0	7.8	7.8	7.7	7.9	7.8	7.7	7.8	7.8	7.7	7.7	
	Temp	25.0	24.0	24.2	24.0	25.5	24.1	25.4	24.0	25.0	24.2	24.9	24.4	24.7	24.2	
1.0 g/l	DO	8.4	8.8	8.7	9.0	8.5	8.8	8.4	8.7	8.3	8.1	8.4	8.4	8.2	8.3	
	pH	7.8	8.2	8.2	8.1	7.8	7.8	7.8	7.9	7.8	7.8	7.9	7.8	7.7	7.7	
	Temp	25.0	24.0	24.1	24.3	25.4	24.2	25.3	24.1	25.0	24.3	24.9	24.3	24.6	24.1	
2.0 g/l	DO	8.4	8.9	8.7	9.1	8.5	8.9	8.3	8.9	8.3	8.2	8.5	8.2	8.3	8.4	
	pH	7.9	8.2	8.2	8.1	7.8	7.9	7.8	7.9	7.8	7.8	7.8	7.8	7.8	7.7	
	Temp	24.9	24.3	24.0	24.0	25.3	24.2	25.1	24.2	25.0	24.4	25.0	24.4	24.3	24.2	
4.0 g/l	DO	8.5	9.0	-	-	-	-	-	-	-	-	-	-	-	-	
	pH	7.9	8.2	-	-	-	-	-	-	-	-	-	-	-	-	
	Temp	24.8	24.2	-	-	-	-	-	-	-	-	-	-	-	-	

Dissolved Oxygen (DO) readings are in mg/l O₂; Temperature (Temp) readings are in °C.

Additional Parameters	Control			High Concentration		
	Day 1	Day 3	Day 5	Day 1	Day 3	Day 5
Conductivity (µS)	312	300	305	6420	3350	3500
Alkalinity (mg/l CaCO ₃)	70	60	60	71	64	63
Hardness (mg/l CaCO ₃)	92	93	92	93	93	93

Source of Neonates

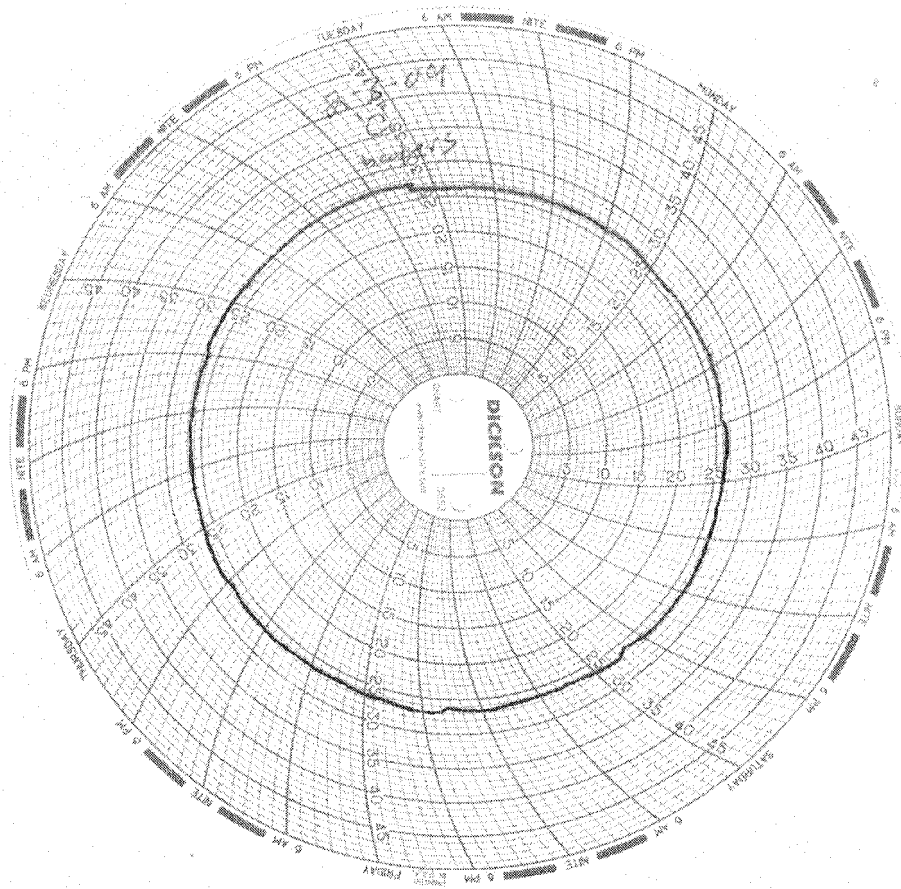
Replicate:	A	B	C	D	E	F	G	H	I	J
Brood ID:	A1	B2	C3	D2	E3	F2	G1	H3	I1	J2

Test Temperature Chart

Test No: RT-090203

Date Tested: 02/03/09 to 02/10/09

Acceptable Range: 25 \pm 1 $^{\circ}$ C





TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

MWH-Pasadena / Boeing

Lot D9B190138

Project ISB1808

Joseph Doak
17461 Derian Avenue
Suite 100
Irvine, CA 92614

TestAmerica Laboratories, Inc.

Lori Parsons For:
DiLea Griego
Project Manager

February 25, 2009

Table of Contents

Standard Deliverables with Supporting Documentation

Report Contents

Number of Pages

Standard Deliverables

(The Cover Letter and the Report Cover page are considered integral parts of this Standard Deliverable package. This report is incomplete unless all pages indicated in this Table of Contents are included.)

- **Table of Contents**
- **Case Narrative**
- **Executive Summary – Detection Highlights**
- **Methods Summary**
- **Method/Analyst Summary**
- **Lot Sample Summary**
- **QC Data Association Summary**
- **Analytical Results**
- **Sample Receiving Checklist**
- **Chain-of-Custody**

Supporting Documentation

(Note: A one-page "Description of Supporting Documentation" is provided at the beginning of this section.)

Check below when supporting documentation is present.

- **Volatile GC/MS**
- **Semivolatile GC/MS**
- **Volatile GC**
- **Semivolatile GC**
- **LC/MS or HPLC**
- **Metals**
- **General Chemistry**
- **Subcontracted Data**

Quality Control Definitions of Qualifiers

Qualifier	Definition
U	Result is less than the method detection limit (MDL).
B	Organics: Method blank contamination. The associated method blank contains the target analyte at a reportable level. Inorganics: Estimated result. Result is less than the RL
J	Organics: Estimated result. Result is less than RL Inorganics: Method blank contamination. The associated method blank contains the target analyte at a reportable level.
E	Estimated result. Result concentrations exceed the calibration range.
p	Relative Percent Difference (RPD) is outside control limits.
*	Surrogate or Relative Percent Difference (RPD) is outside control limits.
DIL	The concentration is estimated or not reported due to dilution.
COL	More than 40% difference between the primary and confirmation detector results. The lower of the two results is reported.
CHI	More than 40% difference between the primary and confirmation detector results. The higher of the two results is reported.
L	Serial dilution of a digestate in the analytical batch indicates that physical and chemical interferences are present.
a	Spiked analyte recovery is outside stated control limits.
N	Spiked analyte recovery is outside stated control limits.
NC	The recovery and/or RPD were not calculated.
MSB	The recovery and/or RPD were not calculated because the sample amount was greater than four times the spike amount.

Case Narrative

Enclosed is the report for one sample received at TestAmerica Laboratories, Inc. – Denver laboratory on February 18, 2009. The results included in this report relate only to the samples in this report and have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC. All data have been found to be compliant with laboratory protocol, with the exception of any items noted below.

This report may include reporting limits (RLs) less than the Denver laboratory's standard reporting limits. The reported sample results and associated reporting limits are being used specifically to meet the needs of this project. Note that data are not normally reported to these levels without qualification because they are inherently less reliable and potentially less defensible than required by the latest industry standards.

Dilution factors and footnotes have been provided to assist in the interpretation of the results. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at concentrations above the linear calibration curve, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Laboratories, Inc. utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameters listed on the analytical methods summary page in accordance with the methods indicated. A summary of quality control parameters is provided below.

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Quality Control Summary for Lot D9B190138

Sample Receiving

The cooler temperature upon receipt at the laboratory was acceptable at 2.6°C.

Total Mercury –Method 245.1

MS/MSD (Matrix Spike/Matrix Spike Duplicate) analyses were performed on a sample from another client and/or lot. The MS/MSD for method 245.1 exhibited spike compound recoveries below the QC limits for Mercury. The acceptable LCS (Laboratory Control Sample) analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

No anomalies were observed.

Dissolved Mercury –Method 245.1

No anomalies were observed.

EXECUTIVE SUMMARY - Detection Highlights

D9B190138

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
ISB1808-01 02/16/09 12:00 001				
Mercury	0.034 J	0.20	ug/L	MCAWW 245.1

METHODS SUMMARY

D9B190138

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
Dissolved Mercury (CVAA)	MCAWW 245.1	MCAWW 245.1
Mercury (Manual Cold Vapor Technique)	MCAWW 245.1	MCAWW 245.1

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes",
EPA-600/4-79-020, March 1983 and subsequent revisions.

METHOD / ANALYST SUMMARY

D9B190138

<u>ANALYTICAL METHOD</u>	<u>ANALYST</u>	<u>ANALYST ID</u>
MCAWW 245.1	Christopher Grisdale	9582

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes",
EPA-600/4-79-020, March 1983 and subsequent revisions.

SAMPLE SUMMARY

D9B190138

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
K7EKX	001	ISB1808-01	02/16/09	12:00

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

QC DATA ASSOCIATION SUMMARY

D9B190138

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	WATER	MCAWW 245.1		9050174	9050101
	WATER	MCAWW 245.1		9050182	9050105

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Total Metals

CLP-Like Forms

Lot ID: D9B190138

Client: TestAmerica-Irvine

Method: 245.1

Associated Samples: -001

Batch: 9050174

Total Metals
COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: TestAmerica Irvine

SDG No.: D9B190138

Lab Code: _____ Case No.: _____

SAS No.: _____

SOW No.: _____

Sample ID.
ISB1808-01

Lab Sample No.
D9B190138-001

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Yongming Ding

Name: Yongming Ding

Date: 2/24/2009

Title: Analyst V

TestAmerica Irvine

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9B190138
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 245.1
Unit: ug/L
QC Batch ID: 9050174
Sample Aliquot: 10 mL
Dilution Factor: 1

Client Sample ID: ISB1808-01
Lab Sample ID: D9B190138-001
Lab WorkOrder: K7EKX
Date/Time Collected: 02/16/09 12:00
Date/Time Received: 02/18/09 10:15
Date Leached:
Date/Time Extracted: 02/19/09 13:30
Date/Time Analyzed: 02/19/09 18:11
Instrument ID: 023

CAS No.	Analyte	Conc.	MDL	RL	Q
7439-97-6	Mercury	0.034	0.027	0.20	J

Total Metals

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9B190138

Initial Calibration Source: Inorganic Ventures

Continuing Calibration Source: Ultra Scientific

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Mercury	7.000	7.087	101.2	5.000	4.879	97.6	4.931	98.6	CV

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

Total Metals

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9B190138

Initial Calibration Source: Inorganic Ventures

Continuing Calibration Source: Ultra Scientific

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Mercury				5.000	4.924	98.5	4.963	99.3	CV

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

Total Metals
-2B-
CRDL STANDARD FOR AA AND ICP

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: D9B190138

AA CRDL Standard Source: Ultra Scientific

ICP CRDL Standard Source: _____

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	Initial		Final		
	True	Found	%R	True	Found	%R	Found	%R
Mercury	0.200	0.19300	96.5					

Comments:

TestAmerica Irvine

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9B190138
Matrix: WATER
% Moisture:
Basis: Wet
Analysis Method: 245.1
Unit: ug/L
QC Batch ID: 9050174
Sample Aliquot: 10 mL
Dilution Factor: 1

Client Sample ID:
Lab Sample ID: D9B190000-174B
Lab WorkOrder: K7EN8
Date/Time Collected:
Date/Time Received:
Date Leached:
Date/Time Extracted: 02/19/09 13:30
Date/Time Analyzed: 02/19/09 17:16
Instrument ID: 023

CAS No.	Analyte	Conc.	MDL	RL	Q
7439-97-6	Mercury	0.027	0.027	0.20	U

Total Metals

-3-

BLANKS

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9B190138

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank	M
		1	2	3	C	C	C		
Mercury	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	CV	

Comments:

Total Metals

-3-

BLANKS

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9B190138

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank	M
		1	2	3					
Mercury		0.027							CV

Comments:

TestAmerica Irvine

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9B190138
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 245.1
Unit: ug/L
QC Batch ID: 9050174
MS Sample Aliquot: 10 mL
MS Dilution Factor: 1

Client Sample ID: LAB MS/MSD
MS Lab Sample ID: D9B190119-001S
MS Lab WorkOrder: K7EHT
Date/Time Collected: 02/16/09 09:30
Date/Time Received: 02/18/09 10:15
Date Leached:
Date/Time Extracted: 02/19/09 13:30
Date/Time Analyzed: 02/19/09 17:23
Instrument ID: 023

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Mercury	5.00	0.032	J	4.29		85	N	90 - 110

TestAmerica Irvine

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9B190138
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 245.1
Unit: ug/L
QC Batch ID: 9050174
MSD Sample Aliquot: 10 mL
MSD Dilution Factor: 1

Client Sample ID: LAB MS/MSD
MSD Lab Sample ID: D9B190119-001D
MSD Lab WorkOrder: K7EHT
Date/Time Collected: 02/16/09 09:30
Date/Time Received: 02/18/09 10:15
Date Leached:
Date/Time Extracted: 02/19/09 13:30
Date/Time Analyzed: 02/19/09 17:25
Instrument ID: 023

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Mercury	5.00	0.032	J	4.29		85	N	0.0		90 - 110	10

TestAmerica Irvine

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9B190138
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 245.1
Unit: ug/L
QC Batch ID: 9050174
Sample Aliquot: 10 mL
Dilution Factor: 1

Client Sample ID:
Lab Sample ID: D9B190000-174C
Lab WorkOrder: K7EN8
Date/Time Collected:
Date/Time Received:
Date Leached:
Date/Time Extracted: 02/19/09 13:30
Date/Time Analyzed: 02/19/09 17:18
Instrument ID: 023

Analyte	True	Found	%Rec	Q	Limits
Mercury	5.00	4.78	96		90 - 110

Total Metals
-10-
DETECTION LIMITS

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9B190138

ICP ID Number: _____ Date: 12/26/2008

Flame AA ID Number: Cetac M7500 Hg

Furnace AA ID Number: _____

Analyte	Wave-length (nm)	Back-ground	PQL (ug/L)	MDL (ug/L)	M
Mercury	253.70		0.20	0.027	CV

Comments: _____

Total Metals

-13-

PREPARATION LOG

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9B190138

Method: CV Prep Method: _____

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
MB9050174	2/19/2009	10.0	10.0
Check Sample	2/19/2009	10.0	10.0
INTRA-LAB QC	2/19/2009	10.0	10.0
LAB MS	2/19/2009	10.0	10.0
LAB MSD	2/19/2009	10.0	10.0
ISB1808-01	2/19/2009	10.0	10.0

Comments:

Total Metals

-14-

ANALYSIS RUN LOG

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: D9B190138

Instrument ID Number: Cetac M7500 Hg Method: CV

Start Date: 2/19/2009 End Date: 2/19/2009

Sample ID.	D/F	Time	% R	Analytes																									
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T A	V L	Z N	C N		
Cal Blank	1.00	15:48																X											
Std1	1.00	15:50																X											
Std2	1.00	15:52																X											
Std3	1.00	15:54																X											
Std4	1.00	15:57																X											
Std5	1.00	15:59																X											
Std6	1.00	16:01																X											
ICB	1.00	16:04																X											
ICV	1.00	16:07																X											
RL	1.00	16:09																X											
CCV	1.00	17:02																X											
CCB	1.00	17:04																X											
ZZZZZZ	1.00	17:07																											
ZZZZZZ	1.00	17:09																											
ZZZZZZ	1.00	17:11																											
ZZZZZZ	1.00	17:14																											
MB9050174	1.00	17:16																X											
Check Sample	1.00	17:18																X											
INTRA-LAB QC	1.00	17:21																X											
LAB MS	1.00	17:23																X											
LAB MSD	1.00	17:25																X											
CCV	1.00	17:28																X											
CCB	1.00	17:30																X											
CCV	1.00	17:53																X											
CCB	1.00	17:55																X											
ZZZZZZ	1.00	17:57																											
ZZZZZZ	1.00	18:00																											
ZZZZZZ	1.00	18:02																											
ZZZZZZ	1.00	18:04																											
ZZZZZZ	1.00	18:07																											
ZZZZZZ	1.00	18:09																											
ISB1808-01	1.00	18:11																X											
ZZZZZZ	1.00	18:14																											

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Dissolved Metals

CLP-Like Forms

Lot ID: D9B190138

Client: TestAmerica-Irvine

Method: 245.1

Associated Samples: -001

Batch: 9050182

Dissolved Metals
COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: TestAmerica Irvine

SDG No.: D9B190138

Lab Code: _____ Case No.: _____

SAS No.: _____

SOW No.: _____

Sample ID.
ISB1808-01

Lab Sample No.
D9B190138-001

Were ICP interelement corrections applied?

Yes/No YES

Were ICP background corrections applied?

Yes/No YES

If yes-were raw data generated before
application of background corrections?

Yes/No NO

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Yongming Ding

Name: Yongming Ding

Date: 2/24/2009

Title: Analyst V

TestAmerica Irvine

Dissolved Metals Analysis Data Sheet

Lab Name:	<u>TESTAMERICA DENVER</u>	Client Sample ID:	<u>ISB1808-01</u>
Lot/SDG Number:	<u>D9B190138</u>	Lab Sample ID:	<u>D9B190138-001</u>
Matrix:	<u>WATER</u>	Lab WorkOrder:	<u>K7EKX</u>
% Moisture:	<u>N/A</u>	Date/Time Collected:	<u>02/16/09 12:00</u>
Basis:	<u>Wet</u>	Date/Time Received:	<u>02/18/09 10:15</u>
Analysis Method:	<u>245.1</u>	Date Leached:	
Unit:	<u>ug/L</u>	Date/Time Extracted:	<u>02/19/09 13:30</u>
QC Batch ID:	<u>9050182</u>	Date/Time Analyzed:	<u>02/19/09 17:14</u>
Sample Aliquot:	<u>10 mL</u>	Instrument ID:	<u>023</u>
Dilution Factor:	<u>1</u>		

CAS No.	Analyte	Conc.	MDL	RL	Q
7439-97-6	Mercury	0.027	0.027	0.20	U

Dissolved Metals

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9B190138

Initial Calibration Source: Inorganic Ventures

Continuing Calibration Source: Ultra Scientific

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Mercury	7.000	7.087	101.2	5.000	5.110	102.2	4.974	99.5	CV

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

Dissolved Metals

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9B190138

Initial Calibration Source: Inorganic Ventures

Continuing Calibration Source: Ultra Scientific

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Mercury				5.000	4.879	97.6	4.931	98.6	CV

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

Dissolved Metals

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9B190138

Initial Calibration Source: Inorganic Ventures

Continuing Calibration Source: Ultra Scientific

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Mercury				5.000	5.127	102.5	5.097	101.9	CV

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

Dissolved Metals
-2B-
CRDL STANDARD FOR AA AND ICP

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: D9B190138

AA CRDL Standard Source: Ultra Scientific

ICP CRDL Standard Source: _____

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	Initial		Final		
	True	Found	%R	True	Found	%R	Found	%R
Mercury	0.200	0.19300	96.5					

Comments:

TestAmerica Irvine

Dissolved Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9B190138
Matrix: WATER
% Moisture:
Basis: Wet
Analysis Method: 245.1
Unit: ug/L
QC Batch ID: 9050182
Sample Aliquot: 10 mL
Dilution Factor: 1

Client Sample ID:
Lab Sample ID: D9B190000-182B
Lab WorkOrder: K7EPP
Date/Time Collected:
Date/Time Received:
Date Leached:
Date/Time Extracted: 02/19/09 13:30
Date/Time Analyzed: 02/19/09 16:16
Instrument ID: 023

CAS No.	Analyte	Conc.	MDL	RL	Q
7439-97-6	Mercury	0.027	0.027	0.20	U

Dissolved Metals

-3-

BLANKS

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9B190138

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank	M
		1	2	3	4	5	6		
Mercury	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	CV	

Comments:

Dissolved Metals

-3-

BLANKS

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9B190138

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank	M
		1	C	2	C	3	C		
Mercury		0.027	U	0.027	U	0.027	U		CV

Comments:

TestAmerica Irvine

Dissolved Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9B190138
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 245.1
Unit: ug/L
QC Batch ID: 9050182
MS Sample Aliquot: 10 mL
MS Dilution Factor: 1

Client Sample ID: LAB MS/MSD
MS Lab Sample ID: D9B190119-001S
MS Lab WorkOrder: K7EHT
Date/Time Collected: 02/16/09 09:30
Date/Time Received: 02/18/09 10:15
Date Leached:
Date/Time Extracted: 02/19/09 13:30
Date/Time Analyzed: 02/19/09 16:23
Instrument ID: 023

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Mercury	5.00	0.030	J	4.57		91		90 - 110

TestAmerica Irvine

Dissolved Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9B190138
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 245.1
Unit: ug/L
QC Batch ID: 9050182
MSD Sample Aliquot: 10 mL
MSD Dilution Factor: 1

Client Sample ID: LAB MS/MSD
MSD Lab Sample ID: D9B190119-001D
MSD Lab WorkOrder: K7EHT
Date/Time Collected: 02/16/09 09:30
Date/Time Received: 02/18/09 10:15
Date Leached:
Date/Time Extracted: 02/19/09 13:30
Date/Time Analyzed: 02/19/09 16:25
Instrument ID: 023

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Mercury	5.00	0.030	J	4.55		90		0.37		90 - 110	10

TestAmerica Irvine

Dissolved Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9B190138
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 245.1
Unit: ug/L
QC Batch ID: 9050182
Sample Aliquot: 10 mL
Dilution Factor: 1

Client Sample ID:
Lab Sample ID: D9B190000-182C
Lab WorkOrder: K7EPP
Date/Time Collected:
Date/Time Received:
Date Leached:
Date/Time Extracted: 02/19/09 13:30
Date/Time Analyzed: 02/19/09 20:18
Instrument ID: 023

Analyte	True	Found	%Rec	Q	Limits
Mercury	5.00	4.63	93		90 - 110

Dissolved Metals
-10-
DETECTION LIMITS

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9B190138

ICP ID Number: _____ Date: 12/26/2008

Flame AA ID Number: Cetac M7500 Hg

Furnace AA ID Number: _____

Analyte	Wave-length (nm)	Back-ground	PQL (ug/L)	MDL (ug/L)	M
Mercury	253.70		0.20	0.027	CV

Comments: _____

Dissolved Metals

-13-

PREPARATION LOG

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9B190138

Method: CV Prep Method: _____

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
MB9050182	2/19/2009	10.0	10.0
Check Sample	2/19/2009	10.0	10.0
INTRA-LAB QC	2/19/2009	10.0	10.0
LAB MS	2/19/2009	10.0	10.0
LAB MSD	2/19/2009	10.0	10.0
ISB1808-01	2/19/2009	10.0	10.0

Comments:

Dissolved Metals

-14-

ANALYSIS RUN LOG

Contract: TestAmerica Irvine
 Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: D9B190138
 Instrument ID Number: Cetac M7500 Hg Method: CV
 Start Date: 2/19/2009 End Date: 2/19/2009

Sample ID.	D/F	Time	% R	Analytes																											
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T A	V L	Z N	C N				
Cal Blank	1.00	15:48																X													
Std1	1.00	15:50																X													
Std2	1.00	15:52																X													
Std3	1.00	15:54																X													
Std4	1.00	15:57																X													
Std5	1.00	15:59																X													
Std6	1.00	16:01																X													
ICB	1.00	16:04																X													
ICV	1.00	16:07																X													
RL	1.00	16:09																X													
CCV	1.00	16:11																X													
CCB	1.00	16:14																X													
MB9050182	1.00	16:16																X													
ZZZZZZ	1.00	16:18																													
INTRA-LAB QC	1.00	16:21																X													
LAB MS	1.00	16:23																X													
LAB MSD	1.00	16:25																X													
ZZZZZZ	1.00	16:27																													
ZZZZZZ	1.00	16:30																													
ZZZZZZ	1.00	16:32																													
ZZZZZZ	1.00	16:34																													
CCV	1.00	16:37																X													
CCB	1.00	16:39																X													
CCV	1.00	17:02																X													
CCB	1.00	17:04																X													
ZZZZZZ	1.00	17:07																													
ZZZZZZ	1.00	17:09																													
ZZZZZZ	1.00	17:11																													
ISB1808-01	1.00	17:14																X													
ZZZZZZ	1.00	17:16																													
ZZZZZZ	1.00	17:18																													
ZZZZZZ	1.00	17:21																													
ZZZZZZ	1.00	17:23																													

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Dissolved Metals
-14-

ANALYSIS RUN LOG

Contract: TestAmerica Irvine
 Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: D9B190138
 Instrument ID Number: Cetac M7500 Hg Method: CV
 Start Date: 2/19/2009 End Date: 2/19/2009

Sample ID.	D/F	Time	% R	Analytes																											
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T A	V L	Z N	C N				
ZZZZZZ	1.00	17:25																													
CCV	1.00	17:28																										X			
CCB	1.00	17:30																										X			
CCV	1.00	20:14																										X			
CCB	1.00	20:16																										X			
Check Sample	1.00	20:18																										X			
CCV	1.00	20:21																										X			
CCB	1.00	20:23																										X			

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

TestAmerica Denver
Sample Receiving Checklist

Lot #: D9B190138 Date/Time Received: 2/18/09 1015

Company Name & Sampling Site: TA Irvine

PM to Complete This Section: *Yes* *No* Quarantined: *Yes* *No*

Residual chlorine check required:

Quote #: 72743

Special Instructions:

Time Zone:
 • EDT/EST • CDT/CST • MDT/MST • PDT/PST • OTHER

Unpacking Checks:

Cooler #(s): 1
 Temperatures (°C): 2-6

- | | | | |
|-----|-----|----|-----------------|
| N/A | Yes | No | <i>Initials</i> |
|-----|-----|----|-----------------|
- 1. Cooler seals intact? (N/A if hand delivered) If no, document on CUR.
 - 2. Coolers scanned for radiation. Is the reading ≤ to background levels? Yes: No:
 - 3. Chain of custody present? If no, document on CUR.
 - 4. Bottles broken and/or are leaking? If yes, document on CUR.
 - 5. Multiphasic samples obvious? If yes, document on CUR.
 - 6. Proper container & preservatives used? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR.
 - 7. pH of all samples checked and meet requirements? If no, document on CUR.
 - 8. Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR, and contact PM before proceeding.
 - 9. Did chain of custody agree with labels ID and samples received? If no, document on CUR.
 - 10. Were VOA samples without headspace? If no, document on CUR.
 - 11. Were VOA vials preserved? Preservative HCl 4±2°C Sodium Thiosulfate Ascorbic Acid
 - 12. Did samples require preservation with sodium thiosulfate?
 - 13. If yes to #11, did the samples contain residual chlorine? If yes, document on CUR.
 - 14. Sediment present in dissolved/filtered bottles? If yes, document on CUR.
 - 15. Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.
 - 16. Receipt date(s) > 48 hours past the collection date(s)? If yes, notify PA/PM.
 - 17. Are analyses with short holding times requested?
 - 18. Was a quick Turn Around (TAT) requested?

TestAmerica Denver
Sample Receiving Checklist

Lot # D9B190138

Login Checks:

Initials

N/A Yes No

AB

- 19. Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR, and contact PM before proceeding.
- 20. Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.
- 21. Did the chain of custody includes "received by" and "relinquished" by signatures, dates, and times?
- 22. Were special log in instructions read and followed?
- 23. Were AFCEE metals logged for refrigerated storage?
- 24. Were tests logged checked against the COC? Which samples were confirmed? 1
- 25. Was a Rush form completed for quick TAT?
- 26. Was a Short Hold form completed for any short holds?
- 27. Were special archiving instructions indicated in the General Comments? If so, what were they?

Labeling and Storage Checks:

Initials

AB

- 28. Was the subcontract COC signed and sent with samples to bottle prep?
- 29. Were sample labels double-checked by a second person?
- 30. Were sample bottles and COC double checked for dissolved/filtered metals by a second person?
- 31. Did the sample ID, Date, and Time from label match what was logged?
- 32. Were stickers for special archiving instructions affixed to each box? See #27
- 33. Were AFCEE metals stored refrigerated?

Document any problems or discrepancies and the actions taken to resolve them on a Condition Upon Receipt Anomaly Report (CUR).

DIC
AL6
IRI
2/18/9

SUBCONTRACT ORDER

TestAmerica Irvine

ISB1808


SENDING LABORATORY:

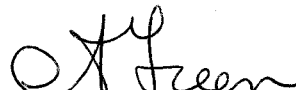
TestAmerica Irvine
17461 Derian Avenue. Suite 100
Irvine, CA 92614
Phone: (949) 261-1022
Fax: (949) 260-3297
Project Manager: Joseph Doak
Client: MWH-Pasadena/Boeing

RECEIVING LABORATORY:

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone : (303) 736-0100
Fax: (303) 431-7171
Project Location: CA - CALIFORNIA
Receipt Temperature: _____ °C Ice: Y / N

Analysis	Units	Due	Expires	Interlab Price Surch	Comments
Sample ID: ISB1808-01		Water		Sampled: 02/16/09 12:00	
Level 4 Data Package - Out	N/A	02/25/09	03/16/09 12:00	\$0.00 0%	Denver
Mercury - 245.1, Diss -OUT	ug/l	02/25/09	03/16/09 12:00	\$36.00 0%	Boeing, J flags/ Out to Denver
Mercury - 245.1-OUT	ug/l	02/25/09	03/16/09 12:00	\$36.00 0%	Boeing, permit, J flags/ Out to Denver
Containers Supplied:					
1 L Poly w/HNO3 (B)	125 mL Poly (N)				


Released By _____ Date/Time 02-17-09 16:05


Received By _____ Date/Time 2/18/9 10:15

Released By _____ Date/Time _____
TestAmerica

Received By _____ Date/Time _____

Metals

Supporting Documentation

Sample Sequence, Instrument Printouts

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Lot ID: DB190138

Client: TA-Irvine - Boeing

Batch(es) #: 9050182 + 9050174

Associated Samples: 1

I certify that, to the best of my knowledge, the attached package represents a complete and accurate copy of the original data.

Signature/Date: Christopher Trisdale 2/20/09

Metals Raw Data RoadMap

<i>LotID</i>		<i>Metal</i>	<i>WorkOrder</i>	<i>Anal Date</i>	<i>TestDesc</i>	<i>Batch</i>	<i>File Id</i>	<i>Instr</i>
D9B190138	1	HG	K7EKX1AC	20090219	M2451DS	9050182	090219AA	023
D9B190138	1	HG	K7EKX1AA	20090219	M2451_L	9050174	090219AA	023

**METALS
PREPARATION LOGS
CVAA**

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

SUPPLEMENTAL METALS PREP SHEET

(Used in conjunction with METALS PREP LOG/BATCH SUMMARY)



THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Denver

Hg PREP & ANALYSIS - WATERS

SOP: DEN-MT-0015 QC Batch #: 9050182

Prep Date: 02/19/09	Prep By: CGG	Analysis Date: 02/19/09	Analyst: CGG
---------------------	--------------	-------------------------	--------------

Balance ID: H53865	Thermometer ID: MT 4025
---------------------------	--------------------------------

Digestion Cycles	Start Time	Temp °C	End Time	Temp °C
	13:30	93	15:30	93

Purple color persists or black ppt present: Yes No If "No", explain in Comments below.

Digestion Tube Lot # :

For dissolved mercury only, were samples filtered in the lab? Yes No

One or more samples were filtered prior to analysis at the instrument. Yes No

If "yes", then the method blank and the LCS were also filtered in the same manner using the same type of filter.

Analyst(s) Initials:

Reagents Used

Reagent	Manufacturer	Lot #	Standards Log #	Vol (mL)
HNO ₃	JT Baker	G25032		0.25
H ₂ SO ₄	Fisher	E49F06		0.5
HCl	JT Baker	G36024		used by instrument
10% SnCl ₂	Fisher	G20637	STD-1027-09	added by instrument
NaCl / NH ₂ OH	Fisher	G28617	STD-1026-09	0.6
	Fisher	G06476		
KMnO ₄	Fisher	G10662	STD-0920-09	1.5
K ₂ S ₂ O ₈	Fisher	083661	STD-0351-09	0.8

Parent Calibration Stock Standards

	Lot #	Verification #	Exp. Date
Second Source	A2-HG02056	STD-2364-08	06/01/09
Primary Calibration	H00091	STD-1683-08	05/01/09

Standards Preparation Final digestate volume = 10 ml

Standards	Final Conc	Parent Standard	Standards Log #	Vol (mL)	Pipette
Cal Working	10 mg/L	Primary Cal	See Attached Standards Log Printouts	1.00	7
Daily Cal Working	100 ug/L	Cal Working		1.00	7
ICAL 0.2	0.2 ug/L	Daily Cal Working		0.2	7
ICAL 0.5	0.5 ug/L	Daily Cal Working		0.5	7
ICAL 1	1.0 ug/L	Daily Cal Working		1.0	7
ICAL 2	2.0 ug/L	Daily Cal Working		2.0	7
ICAL 5	5.0 ug/L	Daily Cal Working		5.0	24
ICAL 10	10 ug/L	Daily Cal Working		10.0	24
CCV	5 ug/L	Daily Cal Working		5.0	7
ICV Intermed	700 ug/L	ICV Stock		0.70	7
ICV Daily Working	7.0 ug/L	ICV Intermed		1.00	7
LCS	5 ug/L	Daily Cal Working		0.5	7
MS/MSD	5 ug/L	Daily Cal Working		0.5	7
RL	0.2 ug/L	Daily Cal Working		0.2	7

Second Source ICV Intermediate Stock Standard Prep Standards Log #: STD-0993-09

NOTE: Details for each reagent & standard prep are documented in the attached Standards Preparation Logbook Record.

Comments Dissolved - 245.1 Boeing

I certify that all information above is correct and complete.

Signature: Chris Gradale Date: 2/20/09

REVIEWED BY: [Signature] Date: 2/20/09

TestAmerica Laboratories, Inc.
Metals Prep Log/ Batch Summary

Prep Date: 02/19/09 *MS*
Due Date: 02/24/09

Lot	Work Order		Due Date: SDG:	Initial Weight/Volume
D9B190000 Water	K7EPP	B 1	Due Date: SDG:	<u>10 mL</u>
D9B190000 Water	K7EPP	C 2	Due Date: SDG:	<u>10 mL</u>
D9B190119 Water	K7EHT Dissolved	3	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190119 Water	K7EHT Dissolved	S 4	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190119 Water	K7EHT Dissolved	D 5	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190121 Water	K7EH5 Dissolved	6	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190123 Water	K7EH6 Dissolved	7	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190125 Water	K7EJJ Dissolved	8	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190126 Water	K7EJ6 Dissolved	9	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190127 Water	K7EJ8 Dissolved	10	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190128 Water	K7EJ9 Dissolved	11	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190129 Water	K7EKA Dissolved	12	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190130 Water	K7EKD Dissolved	13	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190131 Water	K7EKE Dissolved	14	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190132 Water	K7EKK Dissolved	15	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190133 Water	K7EKJ Dissolved	16	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190134 Water	K7EKN Dissolved	17	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190135 Water	K7EKM Dissolved	18	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190137 Water	K7EKW Dissolved	19	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190138 Water	K7EKX Dissolved	20	Due Date: 02/24/09 SDG:	<u>10 mL</u>

MS
2/20/09

Batch Number: 9050182

TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By:

JB

Prep Date: 02/19/09 *EM*
Due Date: 02/24/09

Lot

Work Order

Initial Weight/Volume

Comments:

B-BLANK; C-CHECK SAMPLE; L-CHECK SAMPLE DUPLICATE; P-SERIAL DILUTION; S-MATRIX SPIKE SAMPLE; D-MATRIX SPIKE DUPLICATE SAMPLE

SUPPLEMENTAL METALS PREP SHEET

(Used in conjunction with METALS PREP LOG/BATCH SUMMARY)



THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Denver

Hg PREP & ANALYSIS - WATERS

SOP: DEN-MT-0015 QC Batch #: 9050174

Prep Date: 02/19/09	Prep By: CGG	Analysis Date: 02/19/09	Analyst: CGG
---------------------	--------------	-------------------------	--------------

Balance ID: H53865	Thermometer ID: MT 4025
---------------------------	--------------------------------

Digestion Cycles	Start Time	Temp °C	End Time	Temp °C
	13:30	93	15:30	93

Purple color persists or black ppt present: Yes No If "No", explain in Comments below.

Digestion Tube Lot # :

For dissolved mercury only, were samples filtered in the lab? Yes No

One or more samples were filtered prior to analysis at the instrument. Yes No

If "yes", then the method blank and the LCS were also filtered in the same manner using the same type of filter.

Analyst(s) Initials: CG

Reagents Used

Reagent	Manufacturer	Lot #	Standards Log #	Vol (mL)
HNO ₃	JT Baker	G25032		0.25
H ₂ SO ₄	Fisher	E49F06		0.5
HCl	JT Baker	G36024		used by instrument
10% SnCl ₂	Fisher	G20637	STD-1027-09	added by instrument
NaCl / NH ₂ OH	Fisher	G28617	STD-1026-09	0.6
	Fisher	G06476		
KMnO ₄	Fisher	G10662	STD-0920-09	1.5
K ₂ S ₂ O ₈	Fisher	083661	STD-0351-09	0.8

Parent Calibration Stock Standards

	Lot #	Verification #	Exp. Date
Second Source	A2-HG02056	STD-2364-08	06/01/09
Primary Calibration	H00091	STD-1683-08	05/01/09

Standards Preparation Final digestate volume = 10 mls

Standards	Final Conc	Parent Standard	Standards Log #	Vol (mL)	Pipette
Cal Working	10 mg/L	Primary Cal	See Attached Standards Log Printouts	1.00	7
Daily Cal Working	100 ug/L	Cal Working		1.00	7
ICAL 0.2	0.2 ug/L	Daily Cal Working		0.2	7
ICAL 0.5	0.5 ug/L	Daily Cal Working		0.5	7
ICAL 1	1.0 ug/L	Daily Cal Working		1.0	7
ICAL 2	2.0 ug/L	Daily Cal Working		2.0	7
ICAL 5	5.0 ug/L	Daily Cal Working		5.0	24
ICAL 10	10 ug/L	Daily Cal Working		10.0	24
CCV	5 ug/L	Daily Cal Working		5.0	7
ICV Intermed	700 ug/L	ICV Stock		0.70	7
ICV Daily Working	7.0 ug/L	ICV Intermed		1.00	7
LCS	5 ug/L	Daily Cal Working		0.5	7
MS/MSD	5 ug/L	Daily Cal Working		0.5	7
RL	0.2 ug/L	Daily Cal Working		0.2	7

Second Source ICV Intermediate Stock Standard Prep Standards Log #: STD-0993-09

NOTE: Details for each reagent & standard prep are documented in the attached Standards Preparation Logbook Record.

Comments Total - 245.1 - Boiling

I certify that all information above is correct and complete.

Signature: Chris Grisdale Date: 2/20/09

REVIEWED BY: L Date: 2/20/09

TestAmerica Laboratories, Inc.
Metals Prep Log/ Batch Summary

Prep Date: 02/19/09 *CS*
Due Date: 02/24/09

Lot	Work Order		Due Date:	Initial Weight/Volume
D9B190000 Water	K7EN8	B 1	SDG:	<u>10 mL</u>
D9B190000 Water	K7EN8	C 2	SDG:	<u>10 mL</u>
D9B190119 Water	K7EHT	3	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190119 Water	K7EHT	S 4	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190119 Water	K7EHT	D 5	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190121 Water	K7EH5	6	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190123 Water	K7EH6	7	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190125 Water	K7EJJ	8	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190126 Water	K7EJ6	9	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190127 Water	K7EJ8	10	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190128 Water	K7EJ9	11	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190129 Water	K7EKA	12	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190130 Water	K7EKD	13	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190131 Water	K7EKE	14	Due Date: 02/24/09 SDG:	10 mL
D9B190132 Water	K7EKK	15	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190133 Water	K7EKJ	16	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190134 Water	K7EKN	17	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190135 Water	K7EKM	18	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190137 Water	K7EKW	19	Due Date: 02/24/09 SDG:	<u>10 mL</u>
D9B190138 Water	K7EKX	20	Due Date: 02/24/09 SDG:	<u>10 mL</u>

MA,
No total
Vol. Received
CS 2/18/09

✓
2/20/09

Batch Number: 9050174

TestAmerica Laboratories, Inc.
Metals Prep Log/ Batch Summary

Prepared By:

OS

Prep Date: 02/19/09 OS
Due Date: 02/24/09

Lot

Work Order

Initial Weight/Volume

Comments:

B-BLANK; C-CHECK SAMPLE; L-CHECK SAMPLE DUPLICATE; P-SERIAL DILUTION; S-MATRIX SPIKE SAMPLE; D-MATRIX SPIKE DUPLICATE SAMPLE

**METALS
SAMPLE DATA
CVAA**

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Denver

Standards Preparation Logbook Record

Feb-20-2009

Logbook: \\Densvr06\StdsLog\metals.std

STD1683-08, 1000 mg/L Hg Calibration Stock Standard (Ultra)

Analyst: grisdalec

Vendor: Ultra Scientific (Metals) Lot No.: H00091 Vendor's Expiration Date: 05-01-2009
Solvent: 2% HN03
Date Prep./Opened: 04-03-2008 Date Received: 03-31-2008
Date Expires(1): 04-03-2009 (1 Year)
Date Expires(2): 05-01-2009 (None)
Date Verified: 12-31--4714 by 0 (Verification ID: -)

<u>Component</u>	<u>Initial Conc (%)</u>	<u>Final Conc (%)</u>
Mercuric Nitrate	100.00	100.00

STD2364-08, Hg Inorganic Ventures ICV 100ppm Std

Analyst: grisdalec

Vendor: Inorganic Ventures Lot No.: A2-HG02056 Vendor's Expiration Date: 06-01-2009
Solvent: 3.3%HCl
Date Prep./Opened: 05-01-2008 Date Received: 05-02-2007
Date Expires(1): 05-01-2009 (1 Year)
Date Expires(2): 06-01-2009 (None)
Date Verified: 12-31--4714 by 0 (Verification ID: -)

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Hg	100.00	100.00

STD0437-09, 10 mg/L Hg Calibration Std

Analyst: wellsld

Solvent: 1% HN03 Lot No.: G02058 Volume (ml): 100.00
Date Prep./Opened: 01-26-2009
Date Expires(1): 02-26-2009 (1 Month)
Date Expires(2): 02-26-2009 (1 Month)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD1683-08, 1000 mg/L Hg Calibration Stock Standard (Ultra) Aliquot Amount (ml): 1.0000
Parent Date Expires(1): 04-03-2009 Parent Date Expires(2): 05-01-2009

<u>Component</u>	<u>Initial Conc (%)</u>	<u>Final Conc (mg/L)</u>
Mercuric Nitrate	100.00	10,000

STD0993-09, Hg Inorganic Ventures ICV 700ppb

Analyst: GRISDALEC

Solvent: 1% HNO3 Lot No.: G02058
Date Prep./Opened: 02-18-2009
Date Expires(1): 03-04-2009 (2 Weeks)
Date Expires(2): 06-01-2009 (None)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Volume (ml): 100.00

Parent Std No.: STD2364-08, Hg Inorganic Ventures ICV 100ppm Std
Parent Date Expires(1): 05-01-2009 Parent Date Expires(2): 06-01-2009

Aliquot Amount (ml): 0.7000

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Hg	100.00	700.00

STD1017-09, 100 ppb Hg Calibration Std

Analyst: GRISDALEC

Solvent: 1% HN03 Lot No.: G17027
Date Prep./Opened: 02-19-2009
Date Expires(1): 02-20-2009 (1 Day)
Date Expires(2): 05-01-2009 (None)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Volume (ml): 100.00

Parent Std No.: STD0437-09, 10 mg/L Hg Calibration Std
Parent Date Expires(1): 02-26-2009 Parent Date Expires(2): 02-26-2009

Aliquot Amount (ml): 1.0000

Component	Initial Conc (mg/L)	Final Conc (ug/ml)
Mercuric Nitrate	10,000	100.00

STD1018-09, Blank Daily Hg Calibration Std

Analyst: GRISDALEC

Vendor: Baker Lot No.: G17027
Solvent: 1% HN03
Date Prep./Opened: 02-19-2009
Date Expires(1): 08-19-2009 (6 Months)
Date Expires(2): 02-19-2010 (1 Year)
Date Verified: 12-31--4714 by 0 (Verification ID:-)

Component	Initial Conc (%)	Final Conc (%)
Nitric Acid	1.0000	1.0000

STD1019-09, 0.2 ppb Daily Hg Calibration Std

Analyst: GRISDALEC

Solvent: 1% HN03 Lot No.: G17027
Date Prep./Opened: 02-19-2009
Date Expires(1): 02-20-2009 (1 Day)
Date Expires(2): 05-01-2009 (None)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Volume (ml): 100.00

Parent Std No.: STD1017-09, 100 ppb Hg Calibration Std Aliquot Amount (ml): 0.2000
 Parent Date Expires(1): 02-20-2009 Parent Date Expires(2): 05-01-2009

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/ml)</u>
Mercuric Nitrate	100.00	0.2000

STD1020-09, 0.5 ppb Daily Hg Calibration Std Analyst: GRISDALEC
 Solvent: 1% HN03 Lot No.: G17027 Volume (ml): 100.00
 Date Prep./Opened: 02-19-2009
 Date Expires(1): 02-20-2009 (1 Day)
 Date Expires(2): 05-01-2009 (None)
 Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD1017-09, 100 ppb Hg Calibration Std Aliquot Amount (ml): 0.5000
 Parent Date Expires(1): 02-20-2009 Parent Date Expires(2): 05-01-2009

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/ml)</u>
Mercuric Nitrate	100.00	0.5000

STD1021-09, 1.0 ppb Daily Hg Calibration Std Analyst: GRISDALEC
 Solvent: 1% HN03 Lot No.: G17027 Volume (ml): 100.00
 Date Prep./Opened: 02-19-2009
 Date Expires(1): 02-20-2009 (1 Day)
 Date Expires(2): 05-01-2009 (None)
 Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD1017-09, 100 ppb Hg Calibration Std Aliquot Amount (ml): 1.0000
 Parent Date Expires(1): 02-20-2009 Parent Date Expires(2): 05-01-2009

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/ml)</u>
Mercuric Nitrate	100.00	1.0000

STD1022-09, 2.0 ppb Daily Hg Calibration Std Analyst: GRISDALEC
 Solvent: 1% HN03 Lot No.: G17027 Volume (ml): 100.00
 Date Prep./Opened: 02-19-2009
 Date Expires(1): 02-20-2009 (1 Day)
 Date Expires(2): 05-01-2009 (None)
 Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD1017-09, 100 ppb Hg Calibration Std Aliquot Amount (ml): 2.0000
 Parent Date Expires(1): 02-20-2009 Parent Date Expires(2): 05-01-2009

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/ml)</u>
Mercuric Nitrate	100.00	2.0000

STD1023-09, 5.0 ppb Daily Hg Calibration Std

Analyst: GRISDALEC

Solvent: 1% HN03 Lot No.: G17027
Date Prep./Opened: 02-19-2009
Date Expires(1): 02-20-2009 (1 Day)
Date Expires(2): 05-01-2009 (None)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Volume (ml): 100.00

Parent Std No.: STD1017-09, 100 ppb Hg Calibration Std
Parent Date Expires(1): 02-20-2009 Parent Date Expires(2): 05-01-2009

Aliquot Amount (ml): 5.0000

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/ml)</u>
Mercuric Nitrate	100.00	5.0000

STD1024-09, 10.0 ppb Daily Hg Calibration Std

Analyst: GRISDALEC

Solvent: 1% HN03 Lot No.: G17027
Date Prep./Opened: 02-19-2009
Date Expires(1): 02-20-2009 (1 Day)
Date Expires(2): 05-01-2009 (None)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Volume (ml): 100.00

Date Consumed: 12-06-2006

Parent Std No.: STD1017-09, 100 ppb Hg Calibration Std
Parent Date Expires(1): 02-20-2009 Parent Date Expires(2): 05-01-2009

Aliquot Amount (ml): 10.000

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/ml)</u>
Mercuric Nitrate	100.00	10.000

STD1025-09, Hg Daily ICV 7ppb Calibration Std

Analyst: GRISDALEC

Solvent: 1% HNO3 Lot No.: G17027
Date Prep./Opened: 02-19-2009
Date Expires(1): 02-20-2009 (1 Day)
Date Expires(2): 06-01-2009 (None)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Volume (ml): 100.00

Parent Std No.: STD0993-09, Hg Inorganic Ventures ICV 700ppb
Parent Date Expires(1): 03-04-2009 Parent Date Expires(2): 06-01-2009

Aliquot Amount (ml): 1.0000

<u>Component</u>	<u>Initial Conc (ug/L)</u>	<u>Final Conc (ug/L)</u>
Hg	700.00	7.0000

Reviewed By:

Christopher Grisdale 2/20/09

Denver

RUN SUMMARY

Method: CVHG - Mercury (Cold Vapor Mercury)

Instrument: A (023)

Reported: 02/20/09 07:53:42

Sequence: 090219AA Date: 02/19/09 15:48 Analyst: CGG ICV: CAL/CCV: Comment

#	Sample ID	Lot No.	Batch	Matrix	Raw	DF	Result	Units	%R	Analyzed Date	Q
1	Cal Blank				0.00	1.0	0.00	ppb		02/19/09 15:48	
2	Std1 = 0.200				0.20	1.0	0.20	ppb	100.0%	02/19/09 15:50	
3	Std2 = 0.500				0.50	1.0	0.50	ppb	100.0%	02/19/09 15:52	
4	Std3 = 1.00				1.00	1.0	1.00	ppb	100.0%	02/19/09 15:54	
5	Std4 = 2.00				2.00	1.0	2.00	ppb	100.0%	02/19/09 15:57	
6	Std5 = 5.00				5.00	1.0	5.00	ppb	100.0%	02/19/09 15:59	
7	Std6 = 10.0				10.00	1.0	10.00	ppb	100.0%	02/19/09 16:01	
8	ICB				-0.00	1.0	-0.00	ppb		02/19/09 16:04	
9	ICV = 7.00				7.09	1.0	7.09	ppb	101.2%	02/19/09 16:07	
10	RL = 0.200				0.19	1.0	0.19	ppb		02/19/09 16:09	
11	CCV = 5.00				5.11	1.0	5.11	ppb	102.2%	02/19/09 16:11	
12	CCB				0.00	1.0	0.00	ppb		02/19/09 16:14	
13	K7EPPBF D9B190000		9050182		0.00	1.0	0.00	ppb		02/19/09 16:16	
14	K7EPPCF D9B190000 = 5.00		9050182		4.37	1.0	4.37	ppb	87.5%	02/19/09 16:18	NA Bad read, see return later.
15	K7EHTF D9B190119-1		9050182	AQUEOUS	0.03	1.0	0.03	ppb		02/19/09 16:21	
16	K7EHTSF D9B190119-1 = 5.00		9050182	AQUEOUS	4.57	1.0	4.57	ppb		02/19/09 16:23	
17	K7EHTDF D9B190119-1 = 5.00		9050182	AQUEOUS	4.55	1.0	4.55	ppb		02/19/09 16:25	
18	K7EHTSE D9B190119-1 = 5.00		9050182	AQUEOUS	4.65	1.0	4.65	ppb		02/19/09 16:27	
19	K7EHTDF D9B190119-1 = 5.00		9050182	AQUEOUS	4.65	1.0	4.65	ppb		02/19/09 16:30	NA Confirms above
20	K7EH5F D9B190121-1		9050182	AQUEOUS	0.02	1.0	0.02	ppb		02/19/09 16:32	
21	K7EH6F D9B190123-1		9050182	AQUEOUS	0.01	1.0	0.01	ppb		02/19/09 16:34	
22	CCV = 5.00				4.97	1.0	4.97	ppb	99.5%	02/19/09 16:37	
23	CCB				0.00	1.0	0.00	ppb		02/19/09 16:39	
24	K7EJF D9B190125-1		9050182	AQUEOUS	0.01	1.0	0.01	ppb		02/19/09 16:41	
25	K7EJ6F D9B190126-1		9050182	AQUEOUS	0.01	1.0	0.01	ppb		02/19/09 16:44	
26	K7EJ8F D9B190127-1		9050182	AQUEOUS	0.01	1.0	0.01	ppb		02/19/09 16:46	
27	K7EJ9F D9B190128-1		9050182	AQUEOUS	0.01	1.0	0.01	ppb		02/19/09 16:48	
28	K7EKAF D9B190129-1		9050182	AQUEOUS	0.01	1.0	0.01	ppb		02/19/09 16:51	
29	K7EKDF D9B190130-1		9050182	AQUEOUS	0.01	1.0	0.01	ppb		02/19/09 16:53	
30	K7EKEF D9B190131-1		9050182	AQUEOUS	0.01	1.0	0.01	ppb		02/19/09 16:55	
31	K7EKKF D9B190132-1		9050182	AQUEOUS	0.00	1.0	0.00	ppb		02/19/09 16:57	
32	K7EKJ D9B190133-1		9050182	AQUEOUS	0.00	1.0	0.00	ppb		02/19/09 17:00	
33	CCV = 5.00				4.88	1.0	4.88	ppb	97.6%	02/19/09 17:02	
34	CCB				-0.00	1.0	-0.00	ppb		02/19/09 17:04	

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02/20/09

Denver

RUN SUMMARY

Method: CVHG - Mercury (Cold Vapor Mercury)

Instrument: A (023)

Reported: 02/20/09 07:53:42

Sequence: 090219AA

Date: 02/19/09 15:48

Analyst: CGG

ICV:

CAL/CCV:

#	Sample ID	Lot No.	Batch	Matrix	Raw	DF	Result	Units	%R	Analyzed Date	Comment	Q
35	K7EKNF	D9B190134-1	9050182	AQUEOUS	0.01	1.0	0.01	ppb		02/19/09 17:07		
36	K7EKMF	D9B190135-1	9050182	AQUEOUS	0.00	1.0	0.00	ppb		02/19/09 17:09		
37	K7EKWF	D9B190137-1	9050182	AQUEOUS	0.01	1.0	0.01	ppb		02/19/09 17:11		
38	K7EKXF	D9B190138-1	9050182	AQUEOUS	0.01	1.0	0.01	ppb		02/19/09 17:14		
39	K7EN8B	D9B190000	9050174		0.00	1.0	0.00	ppb		02/19/09 17:16		
40	K7EN8C	D9B190000 = 5.00	9050174		4.78	1.0	4.78	ppb	95.6%	02/19/09 17:18		
41	K7EHT	D9B190119-1	9050174	AQUEOUS	0.03	1.0	0.03	ppb		02/19/09 17:21		
42	K7EHTS	D9B190119-1 = 5.00	9050174	AQUEOUS	4.29	1.0	4.29	ppb		02/19/09 17:23		
43	K7EHTD	D9B190119-1 = 5.00	9050174	AQUEOUS	4.29	1.0	4.29	ppb		02/19/09 17:25		
44	CCV	= 5.00			4.93	1.0	4.93	ppb	98.6%	02/19/09 17:28		
45	CCB				-0.00	1.0	-0.00	ppb		02/19/09 17:30		
46	K7EHTS	D9B190119-1 = 5.00	9050174	AQUEOUS	4.25	1.0	4.25	ppb		02/19/09 17:32	NA Confirms above	
47	K7EHTD	D9B190119-1 = 5.00	9050174	AQUEOUS	4.29	1.0	4.29	ppb		02/19/09 17:34	ms/MSD low.	
48	K7EH5	D9B190121-1	9050174	AQUEOUS	0.04	1.0	0.04	ppb		02/19/09 17:37	02/20/09	
49	K7EH6	D9B190123-1	9050174	AQUEOUS	0.01	1.0	0.01	ppb		02/19/09 17:39		
50	K7EJJ	D9B190125-1	9050174	AQUEOUS	0.05	1.0	0.05	ppb		02/19/09 17:41		
51	K7EJ6	D9B190126-1	9050174	AQUEOUS	0.04	1.0	0.04	ppb		02/19/09 17:44		
52	K7EJ8	D9B190127-1	9050174	AQUEOUS	0.02	1.0	0.02	ppb		02/19/09 17:46		
53	K7EJ9	D9B190128-1	9050174	AQUEOUS	0.05	1.0	0.05	ppb		02/19/09 17:48		
54	K7EKA	D9B190129-1	9050174	AQUEOUS	0.05	1.0	0.05	ppb		02/19/09 17:51		
55	CCV	= 5.00			4.92	1.0	4.92	ppb	98.5%	02/19/09 17:53		
56	CCB				-0.00	1.0	-0.00	ppb		02/19/09 17:55		
57	K7EKD	D9B190130-1	9050174	AQUEOUS	0.03	1.0	0.03	ppb		02/19/09 17:57		
58	K7EKK	D9B190132-1	9050174	AQUEOUS	0.11	1.0	0.11	ppb		02/19/09 18:00		
59	K7EKJ	D9B190133-1	9050174	AQUEOUS	0.03	1.0	0.03	ppb		02/19/09 18:02		
60	K7EKN	D9B190134-1	9050174	AQUEOUS	0.02	1.0	0.02	ppb		02/19/09 18:04		
61	K7EKM	D9B190135-1	9050174	AQUEOUS	0.00	1.0	0.00	ppb		02/19/09 18:07		
62	K7EKW	D9B190137-1	9050174	AQUEOUS	0.07	1.0	0.07	ppb		02/19/09 18:09		
63	K7EKX	D9B190138-1	9050174	AQUEOUS	0.03	1.0	0.03	ppb		02/19/09 18:11		
64	K7EN3B	D9B190000	9050173		-0.00	1.0	-0.00	ppb		02/19/09 18:14		
65	K7EN3C	D9B190000 = 5.00	9050173		4.83	1.0	4.83	ppb	96.6%	02/19/09 18:16		
66	CCV	= 5.00			4.96	1.0	4.96	ppb	99.3%	02/19/09 18:18		
67	CCB				-0.00	1.0	-0.00	ppb		02/19/09 18:20		
68	K7DXC	D9B180282-1	9050173	AQUEOUS	0.16	1.0	0.16	ppb		02/19/09 18:23		

Jan 2/20/09

Denver

RUN SUMMARY

Method: CVHG - Mercury (Cold Vapor Mercury)

Instrument: A (023)

Reported: 02/20/09 07:53:42

Sequence: 090219AA

Date: 02/19/09 15:48

Analyst: CGG

ICV:

CAL/CCV:

#	Sample ID	Lot No.	Batch	Matrix	Raw	DF	Result	Units	%R	Analyzed Date	Comment	Q
69	K7DXCS	D9B180282-1 = 5.00	9050173	AQUEOUS	4.55	1.0	4.55	ppb		02/19/09 18:25		<input type="checkbox"/>
70	K7DXCD	D9B180282-1 = 5.00	9050173	AQUEOUS	4.91	1.0	4.91	ppb		02/19/09 18:27		<input type="checkbox"/>
71	K7EF3	D9B190114-1	9050173	AQUEOUS	-0.00	1.0	-0.00	ppb		02/19/09 18:30		<input type="checkbox"/>
72	K7EGE	D9B190114-3	9050173	AQUEOUS	0.09	1.0	0.09	ppb		02/19/09 18:32		<input type="checkbox"/>
73	K7EGM	D9B190114-5	9050173	AQUEOUS	0.01	1.0	0.01	ppb		02/19/09 18:34		<input type="checkbox"/>
74	K7EGQ	D9B190114-7	9050173	AQUEOUS	-0.00	1.0	-0.00	ppb		02/19/09 18:37		<input type="checkbox"/>
75	K7EG3	D9B190114-9	9050173	AQUEOUS	-0.00	1.0	-0.00	ppb		02/19/09 18:39		<input type="checkbox"/>
76	K7EHD	D9B190114-11	9050173	AQUEOUS	0.80	1.0	0.80	ppb		02/19/09 18:41		<input type="checkbox"/>
77	CCV	= 5.00			4.97	1.0	4.97	ppb	99.4%	02/19/09 18:44		<input type="checkbox"/>
78	CCB				0.00	1.0	0.00	ppb		02/19/09 18:46		<input type="checkbox"/>
79	K7D19BT	D9B180000	9050172		0.00	1.0	0.00	ppb		02/19/09 18:48		<input type="checkbox"/>
80	K7ENVCT	D9B190000 = 5.00	9050172		4.92	1.0	4.92	ppb	98.4%	02/19/09 18:50		<input type="checkbox"/>
81	K7A6XT	D9B170257-1	9050172	LEACHATE	0.05	1.0	0.05	ppb		02/19/09 18:53		<input type="checkbox"/>
82	K7A6XP5T	D9B170257	9050172	LEACHATE	0.01	5.0	0.01	ppb		02/19/09 18:55		<input type="checkbox"/>
83	K7A6XST	D9B170257-1 = 5.00	9050172	LEACHATE	4.78	1.0	4.78	ppb		02/19/09 18:57		<input type="checkbox"/>
84	K7A6XDT	D9B170257-1 = 5.00	9050172	LEACHATE	4.19	1.0	4.19	ppb		02/19/09 19:00		<input type="checkbox"/>
85	K7D2VBT	D9B180000	9050170		0.00	1.0	0.01	ppb		02/19/09 19:02		<input type="checkbox"/>
86	K7ENRCT	D9B190000 = 5.00	9050170		4.98	1.0	4.98	ppb	99.5%	02/19/09 19:04		<input type="checkbox"/>
87	K7A62T	D9B170257-2	9050170	LEACHATE	0.00	1.0	0.00	ppb		02/19/09 19:07		<input type="checkbox"/>
88	CCV	= 5.00			5.10	1.0	5.10	ppb	101.9%	02/19/09 19:09		<input type="checkbox"/>
89	CCB				-0.00	1.0	-0.00	ppb		02/19/09 19:11		<input type="checkbox"/>
90	K7A62P5T	D9B170257	9050170	LEACHATE	0.00	5.0	0.01	ppb		02/19/09 19:14		<input type="checkbox"/>
91	K7A62ST	D9B170257-2 = 5.00	9050170	LEACHATE	5.27	1.0	5.27	ppb		02/19/09 19:16		<input type="checkbox"/>
92	K7A62DT	D9B170257-2 = 5.00	9050170	LEACHATE	4.85	1.0	4.85	ppb		02/19/09 19:18		<input type="checkbox"/>
93	K7EPWBF	D9B190000	9050183		-0.00	1.0	-0.00	ppb		02/19/09 19:21		<input type="checkbox"/>
94	K7EPWCF	D9B190000 = 5.00	9050183		5.06	1.0	5.06	ppb	101.3%	02/19/09 19:23		<input type="checkbox"/>
95	K7D51			AQUEOUS	-0.00	1.0	-0.00	ppb		02/19/09 19:25		<input type="checkbox"/>
96	K7D51SF	D9B180302-2 = 5.00	9050183	AQUEOUS	5.21	1.0	5.21	ppb		02/19/09 19:27		<input type="checkbox"/>
97	K7D51DF	D9B180302-2 = 5.00	9050183	AQUEOUS	5.06	1.0	5.06	ppb		02/19/09 19:30		<input type="checkbox"/>
98	K7D55F	D9B180302-4	9050183	AQUEOUS	-0.00	1.0	-0.00	ppb		02/19/09 19:32		<input type="checkbox"/>
99	CCV	= 5.00			5.10	1.0	5.10	ppb	101.9%	02/19/09 19:34		<input type="checkbox"/>
100	CCB				0.00	1.0	0.00	ppb		02/19/09 19:37		<input type="checkbox"/>
101	K7D57F	D9B180302-6	9050183	AQUEOUS	0.00	1.0	0.00	ppb		02/19/09 19:39		<input type="checkbox"/>
102	K7D59F	D9B180302-8	9050183	AQUEOUS	-0.00	1.0	-0.00	ppb		02/19/09 19:41		<input type="checkbox"/>

Scanned 2/20/09

Denver

RUN SUMMARY

Method: CVHG - Mercury (Cold Vapor Mercury)

Instrument: A (023)

Reported: 02/20/09 07:53:42

Sequence: 090219AA Date: 02/19/09 15:48 Analyst: CGG ICV: CAL/CCV:

#	Sample ID	Lot No.	Batch	Matrix	Raw	DF	Result	Units	%R	Analyzed Date	Comment	Q
103	K7D6FF	D9B180302-10	9050183	AQUEOUS	-0.00	1.0	-0.00	ppb		02/19/09 19:44		
104	K7D6HF	D9B180302-12	9050183	AQUEOUS	-0.00	1.0	-0.00	ppb		02/19/09 19:46		
105	K7D6LF	D9B180302-14	9050183	AQUEOUS	0.00	1.0	0.00	ppb		02/19/09 19:48		
106	K7EPKB	D9B190000	9050181		-0.00	1.0	-0.00	ppb		02/19/09 19:51		
107	K7EPKC	D9B190000 = 5.00	9050181		4.97	1.0	4.97	ppb	99.4%	02/19/09 19:53		
108	K7D5W	D9B180302-1	9050181	AQUEOUS	0.01	1.0	0.01	ppb		02/19/09 19:55		
109	K7D5WS	D9B180302-1 = 5.00	9050181	AQUEOUS	4.67	1.0	4.67	ppb		02/19/09 19:57		
110	CCV	= 5.00			5.13	1.0	5.13	ppb	102.6%	02/19/09 20:00		
111	CCB				-0.00	1.0	-0.00	ppb		02/19/09 20:02		
112	K7D5WD	D9B180302-1 = 5.00	9050181	AQUEOUS	4.66	1.0	4.66	ppb		02/19/09 20:04		
113	K7D52	D9B180302-3	9050181	AQUEOUS	0.01	1.0	0.01	ppb		02/19/09 20:07		
114	K7D56	D9B180302-5	9050181	AQUEOUS	0.01	1.0	0.01	ppb		02/19/09 20:09		
115	CCV	= 5.00			5.13	1.0	5.13	ppb	102.5%	02/19/09 20:14		
116	CCB				0.00	1.0	0.00	ppb		02/19/09 20:16		
117	K7EPPCF	D9B190000 = 5.00	9050182		4.63	1.0	4.63	ppb	92.5%	02/19/09 20:18		
118	CCV	= 5.00			5.10	1.0	5.10	ppb	101.9%	02/19/09 20:21		
119	CCB				0.00	1.0	0.00	ppb		02/19/09 20:23		
120	K7D58	D9B180302-7	9050181	AQUEOUS	-0.00	1.0	-0.00	ppb		02/19/09 20:25		
121	K7D6E	D9B180302-9	9050181	AQUEOUS	-0.00	1.0	-0.00	ppb		02/19/09 20:28		
122	K7D6G	D9B180302-11	9050181	AQUEOUS	0.00	1.0	0.00	ppb		02/19/09 20:30		
123	K7D6K	D9B180302-13	9050181	AQUEOUS	0.00	1.0	0.00	ppb		02/19/09 20:32		
124	K7EPFB	D9B190000	9050177		-0.00	1.0	-0.00	ppb		02/19/09 20:35		
125	K7EPFC	D9B190000 = 5.00	9050177		5.06	1.0	5.06	ppb	101.2%	02/19/09 20:37		
126	CCV	= 5.00			5.16	1.0	5.16	ppb	103.2%	02/19/09 20:39		
127	CCB				-0.00	1.0	-0.00	ppb		02/19/09 20:42		
128	K7C9X	D9B180183-1	9050177	AQUEOUS	-0.00	1.0	-0.00	ppb		02/19/09 20:44		
129	K7C9XS	D9B180183-1 = 5.00	9050177	AQUEOUS	4.99	1.0	4.99	ppb		02/19/09 20:46		
130	K7C9XD	D9B180183-1 = 5.00	9050177	AQUEOUS	5.03	1.0	5.03	ppb		02/19/09 20:49		
131	K7C90	D9B180183-2	9050177	AQUEOUS	-0.00	1.0	-0.00	ppb		02/19/09 20:51		
132	K7C91	D9B180183-3	9050177	AQUEOUS	0.00	1.0	0.00	ppb		02/19/09 20:53		
133	K7C92	D9B180183-4	9050177	AQUEOUS	0.00	1.0	0.00	ppb		02/19/09 20:55		
134	K7C93	D9B180183-5	9050177	AQUEOUS	-0.00	1.0	-0.00	ppb		02/19/09 20:58		
135	K7C95	D9B180183-7	9050177	AQUEOUS	-0.00	1.0	-0.00	ppb		02/19/09 21:00		
136	K7DA9	D9B180189-1	9050177	AQUEOUS	0.08	1.0	0.08	ppb		02/19/09 21:02		

ok

Jan 2/20/09

Denver

RUN SUMMARY

Method: CVHG - Mercury (Cold Vapor Mercury)

Instrument: A (023)

Reported: 02/20/09 07:53:42

Sequence: 090219AA Date: 02/19/09 15:48 Analyst: CGG ICV: CAL/CCV:

#	Sample ID	Lot No.	Batch	Matrix	Raw	DF	Result	Units	%R	Analyzed Date	Comment	Q
137	CCV	= 5.00			5.03	1.0	5.03	ppb	100.7%	02/19/09 21:05		
138	CCB				0.00	1.0	0.00	ppb		02/19/09 21:07		
139	K7DQ6	D9B180260-1	9050177	AQUEOUS	0.00	1.0	0.00	ppb		02/19/09 21:09		
140	K7DRC	D9B180260-2	9050177	AQUEOUS	0.24	1.0	0.24	ppb		02/19/09 21:12		
141	K7DRW	D9B180264-1	9050177	AQUEOUS	-0.00	1.0	-0.00	ppb		02/19/09 21:14		
142	K7DRX	D9B180264-2	9050177	AQUEOUS	-0.00	1.0	-0.00	ppb		02/19/09 21:16		
143	K7DR0	D9B180264-3	9050177	AQUEOUS	0.00	1.0	0.00	ppb		02/19/09 21:19		
144	K7EPHB	D9B190000	9050178		-0.00	1.0	-0.00	ppb		02/19/09 21:21		
145	K7EPHC	D9B190000 = 5.00	9050178		5.07	1.0	5.07	ppb	101.4%	02/19/09 21:23		
146	K7DCL	D9B180192-1	9050178	AQUEOUS	-0.00	1.0	-0.00	ppb		02/19/09 21:26		
147	K7DCLS	D9B180192-1 = 5.00	9050178	AQUEOUS	4.99	1.0	4.99	ppb		02/19/09 21:28		
148	CCV	= 5.00			5.11	1.0	5.11	ppb	102.3%	02/19/09 21:30		
149	CCB				0.00	1.0	0.00	ppb		02/19/09 21:32		
150	K7DCLD	D9B180192-1 = 5.00	9050178	AQUEOUS	5.04	1.0	5.04	ppb		02/19/09 21:35		
151	K7DCV	D9B180192-2	9050178	AQUEOUS	0.01	1.0	0.01	ppb		02/19/09 21:37		
152	K7DCW	D9B180192-3	9050178	AQUEOUS	0.00	1.0	0.00	ppb		02/19/09 21:39		
153	K7DCX	D9B180192-4	9050178	AQUEOUS	0.01	1.0	0.01	ppb		02/19/09 21:42		
154	K7DC0	D9B180192-5	9050178	AQUEOUS	0.01	1.0	0.01	ppb		02/19/09 21:44		
155	K7DC1	D9B180192-6	9050178	AQUEOUS	0.01	1.0	0.01	ppb		02/19/09 21:46		
156	K7DC5	D9B180192-7	9050178	AQUEOUS	0.00	1.0	0.00	ppb		02/19/09 21:49		
157	CCV	= 5.00			5.11	1.0	5.11	ppb	102.1%	02/19/09 21:51		
158	CCB				0.00	1.0	0.00	ppb		02/19/09 21:53		
159	K7DC9	D9B180192-8	9050178	AQUEOUS	0.01	1.0	0.01	ppb		02/19/09 21:56		
160	K7DDD	D9B180192-9	9050178	AQUEOUS	0.01	1.0	0.01	ppb		02/19/09 21:58		
161	K7DDG	D9B180192-10	9050178	AQUEOUS	0.00	1.0	0.00	ppb		02/19/09 22:00		
162	K7DDL	D9B180192-11	9050178	AQUEOUS	0.00	1.0	0.00	ppb		02/19/09 22:03		
163	K7DDQ	D9B180192-12	9050178	AQUEOUS	0.00	1.0	0.00	ppb		02/19/09 22:05		
164	K7DLC	D9B180238-1	9050178	AQUEOUS	0.01	1.0	0.01	ppb		02/19/09 22:07		
165	K7DLK	D9B180238-3	9050178	AQUEOUS	0.00	1.0	0.00	ppb		02/19/09 22:10		
166	K7DLM	D9B180238-5	9050178	AQUEOUS	0.00	1.0	0.01	ppb		02/19/09 22:12		
167	K7DLR	D9B180238-7	9050178	AQUEOUS	0.00	1.0	0.00	ppb		02/19/09 22:14		
168	CCV	= 5.00			5.11	1.0	5.11	ppb	102.3%	02/19/09 22:17		
169	CCB				-0.00	1.0	-0.00	ppb		02/19/09 22:19		

Jan 2/20/09

CETAC Hg Analysis Report

Analyst: grisdalec

Worksheet file: C:\Program Files\QuickTrace\Worksheets\090219AA.wsz

Date Started: 2/19/2009 2:59:16 PM

Comment:

Results

Sample Name	Type	Date/Time	Conc (ppb)	μ Abs	%RSD	Flags	Wt.	Vol.	ODF
Cal Blank	STD	02/19/09 03:48:02 pm	0.000	14	18.60	✓	1.00	1.00	1.00
Std1	STD	02/19/09 03:50:20 pm	0.200	1787	0.12	✓	1.00	1.00	1.00
Std2	STD	02/19/09 03:52:38 pm	0.500	4635	0.61	✓	1.00	1.00	1.00
Std3	STD	02/19/09 03:54:57 pm	1.000	9314	0.41	✓	1.00	1.00	1.00
Std4	STD	02/19/09 03:57:16 pm	2.000	18476	0.80	✓	1.00	1.00	1.00
Std5	STD	02/19/09 03:59:36 pm	5.000	45013	0.78	✓	1.00	1.00	1.00
Std6	STD	02/19/09 04:01:57 pm	10.000	91311	0.59	✓	1.00	1.00	1.00

Calibration

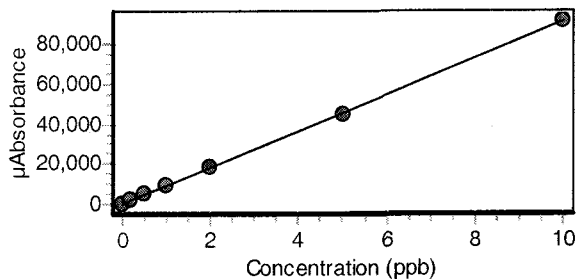
Equation: $A = 39.070 + 9105.741C$

R2: 0.99993

SEE: 296.9909

Flags:

*Checked
2/20/09*



ICB ✓	ICB	02/19/09 04:04:55 pm	-0.002	25	14.57	✓	1.00	1.00	1.00
ICV	ICV	02/19/09 04:07:16 pm	7.087	64572	0.59	✓	1.00	1.00	1.00
% Recovery 101.24 ✓									
RL	CRDL	02/19/09 04:09:34 pm	0.193	1799	0.58	✓	1.00	1.00	1.00
% Recovery 96.66 ✓									

Sample Name	Type	Date/Time	Conc (ppb)	μAbs	%RSD	Flags	Wt.	Vol.	ODF
CCV % Recovery 102.20 ✓	CCV	02/19/09 04:11:54 pm	5.110 ✓	46567	0.20		1.00	1.00	1.00
CCB	CCB	02/19/09 04:14:11 pm	0.000 ✓	42	6.48		1.00	1.00	1.00
K7EPPB	UNK	02/19/09 04:16:28 pm	0.001 ✓	45	4.22		1.00	1.00	1.00
K7EPPC	UNK	02/19/09 04:18:46 pm	4.374	39865	1.19		1.00	1.00	1.00
<i>NA, Bad read see term below. CS 2/20/09</i>									
K7EHT	UNK	02/19/09 04:21:03 pm	0.030	316	1.36		1.00	1.00	1.00
K7EHTS	UNK	02/19/09 04:23:21 pm	4.566 ✓	41619	2.55		1.00	1.00	1.00
K7EHTD	UNK	02/19/09 04:25:40 pm	4.549 ✓	41460	0.52		1.00	1.00	1.00
K7EHTS	UNK	02/19/09 04:27:57 pm	4.652	42398	2.56		1.00	1.00	1.00
<i>NA, Confirms above CS 2/20/09</i>									
K7EHTD	UNK	02/19/09 04:30:16 pm	4.650	42381	1.77		1.00	1.00	1.00
K7EH5	UNK	02/19/09 04:32:34 pm	0.019	208	1.56		1.00	1.00	1.00
K7EH6	UNK	02/19/09 04:34:53 pm	0.010	133	2.27		1.00	1.00	1.00
CCV % Recovery 99.49 ✓	CCV	02/19/09 04:37:13 pm	4.974 ✓	45335	0.38		1.00	1.00	1.00
CCB	CCB	02/19/09 04:39:30 pm	0.000 ✓	43	5.83		1.00	1.00	1.00
K7EJJ	UNK	02/19/09 04:41:49 pm	0.007	102	0.79		1.00	1.00	1.00
K7EJ6	UNK	02/19/09 04:44:09 pm	0.007	104	3.75		1.00	1.00	1.00
K7EJ8	UNK	02/19/09 04:46:28 pm	0.012	149	4.73		1.00	1.00	1.00
K7EJ9	UNK	02/19/09 04:48:48 pm	0.007	99	1.47		1.00	1.00	1.00

Sample Name	Type	Date/Time	Conc (ppb)	μAbs	%RSD	Flags	Wt.	Vol. ODF
K7EKA	UNK	02/19/09 04:51:08 pm	0.008	109	4.30		1.00	1.00 1.00
K7EKD	UNK	02/19/09 04:53:25 pm	0.012	147	1.74		1.00	1.00 1.00
K7EKE	UNK	02/19/09 04:55:42 pm	0.010	127	1.45		1.00	1.00 1.00
K7EKK	UNK	02/19/09 04:57:59 pm	0.005	87	1.20		1.00	1.00 1.00
K7EKJ	UNK	02/19/09 05:00:17 pm	0.004	76	3.46		1.00	1.00 1.00
CCV % Recovery 97.58 ✓	CCV	02/19/09 05:02:37 pm	4.879 ✓	44465	0.80		1.00	1.00 1.00
CCB	CCB	02/19/09 05:04:54 pm	-0.001 ✓	28	10.33		1.00	1.00 1.00
K7EKN	UNK	02/19/09 05:07:12 pm	0.009	118	7.20 s		1.00	1.00 1.00
K7EKM	UNK	02/19/09 05:09:30 pm	0.003	64	3.94		1.00	1.00 1.00
K7EKW	UNK	02/19/09 05:11:48 pm	0.008	108	2.37		1.00	1.00 1.00
K7EKX	UNK	02/19/09 05:14:07 pm	0.010	130	2.53		1.00	1.00 1.00
K7EN8B	UNK	02/19/09 05:16:26 pm	0.000 ✓	37	10.65		1.00	1.00 1.00
K7ENCC	UNK	02/19/09 05:18:45 pm	4.781 ✓	43578	0.86		1.00	1.00 1.00
K7EHT	UNK	02/19/09 05:21:05 pm	0.032	332	0.65		1.00	1.00 1.00
K7EHTS	UNK	02/19/09 05:23:25 pm	4.293 ✓	39128	0.81		1.00	1.00 1.00
K7EHTD	UNK	02/19/09 05:25:41 pm	4.292 ✓	39125	0.66		1.00	1.00 1.00
CCV % Recovery 98.61 ✓	CCV	02/19/09 05:28:01 pm	4.931 ✓	44936	0.74		1.00	1.00 1.00

Sample Name	Type	Date/Time	Conc (ppb)	μAbs	%RSD	Flags	Wt.	Vol. ODF	
CCB	CCB	02/19/09 05:30:18 pm	-0.001 ✓	33	10.11		1.00	1.00 1.00	
K7EHTS	UNK	02/19/09 05:32:38 pm	4.254	38775	0.99		1.00	1.00	
			<i>NA, Confirms above results as 2/20/09</i>						
K7EHTD	UNK	02/19/09 05:34:55 pm	4.294	39140	0.61		1.00	1.00	
K7EH5	UNK	02/19/09 05:37:12 pm	0.039	390	0.72		1.00	1.00 1.00	
K7EH6	UNK	02/19/09 05:39:29 pm	0.013	154	1.58		1.00	1.00 1.00	
K7EJJ	UNK	02/19/09 05:41:47 pm	0.045	453	0.64		1.00	1.00 1.00	
K7EJ6	UNK	02/19/09 05:44:05 pm	0.043	427	0.22		1.00	1.00 1.00	
K7EJ8	UNK	02/19/09 05:46:23 pm	0.022	238	1.12		1.00	1.00 1.00	
K7EJ9	UNK	02/19/09 05:48:41 pm	0.054	528	0.58		1.00	1.00 1.00	
K7EKA	UNK	02/19/09 05:51:00 pm	0.051	502	0.31		1.00	1.00 1.00	
CCV	CCV	02/19/09 05:53:20 pm	4.924 ✓	44873	0.82		1.00	1.00 1.00	
% Recovery		98.47 ✓							
CCB	CCB	02/19/09 05:55:37 pm	-0.002 ✓	22	26.75		1.00	1.00 1.00	
K7EKD	UNK	02/19/09 05:57:56 pm	0.033	341	0.84		1.00	1.00 1.00	
K7EKK	UNK	02/19/09 06:00:15 pm	0.106	1003	0.82		1.00	1.00 1.00	
K7EKJ	UNK	02/19/09 06:02:35 pm	0.027	287	0.63		1.00	1.00 1.00	
K7EKN	UNK	02/19/09 06:04:55 pm	0.019	208	2.50		1.00	1.00 1.00	
K7EKM	UNK	02/19/09 06:07:12 pm	0.000	40	8.88		1.00	1.00 1.00	

Sample Name	Type	Date/Time	Conc (ppb)	μAbs	%RSD	Flags	Wt.	Vol. ODF
K7EKW	UNK	02/19/09 06:09:29 pm	0.071	687	0.46		1.00	1.00 1.00
K7EKX	UNK	02/19/09 06:11:46 pm	0.034	345	1.00		1.00	1.00 1.00
K7EN3B	UNK	02/19/09 06:14:04 pm	-0.002 ✓	18	16.76		1.00	1.00 1.00
K7EN3C	UNK	02/19/09 06:16:22 pm	4.832 ✓	44036	0.35		1.00	1.00 1.00
CCV % Recovery 99.25 ✓	CCV	02/19/09 06:18:42 pm	4.963 ✓	45227	0.80		1.00	1.00 1.00
CCB	CCB	02/19/09 06:20:59 pm	-0.002 ✓	24	10.51		1.00	1.00 1.00
K7DXC	UNK	02/19/09 06:23:17 pm	0.158	1478	0.31		1.00	1.00 1.00
K7DXCS	UNK	02/19/09 06:25:35 pm	4.549 ✓	41463	0.42		1.00	1.00 1.00
K7DXCD	UNK	02/19/09 06:27:54 pm	4.908 ✓	44730	0.75		1.00	1.00 1.00
K7EF3	UNK	02/19/09 06:30:13 pm	-0.003	9	38.34		1.00	1.00 1.00
K7EGE	UNK	02/19/09 06:32:32 pm	0.093	886	0.78		1.00	1.00 1.00
K7EGM	UNK	02/19/09 06:34:52 pm	0.008	116	1.35		1.00	1.00 1.00
K7EGQ	UNK	02/19/09 06:37:12 pm	-0.003	9	23.09		1.00	1.00 1.00
K7EG3	UNK	02/19/09 06:39:30 pm	-0.001	30	14.88		1.00	1.00 1.00
K7EHD	UNK	02/19/09 06:41:47 pm	0.803	7348	0.54		1.00	1.00 1.00
CCV % Recovery 99.44 ✓	CCV	02/19/09 06:44:07 pm	4.972 ✓	45315	0.75		1.00	1.00 1.00
CCB	CCB	02/19/09 06:46:24 pm	0.000 ✓	38	11.14		1.00	1.00 1.00

Sample Name	Type	Date/Time	Conc (ppb)	μAbs	%RSD	Flags	Wt.	Vol. ODF
K7D19B	UNK	02/19/09 06:48:42 pm	0.004 ✓	79	3.02		1.00	1.00 1.00
K7ENVC	UNK	02/19/09 06:50:59 pm	4.922 ✓	44856	0.42		1.00	1.00 1.00
K7A6X	UNK	02/19/09 06:53:17 pm	0.049 -	486	0.49		1.00	1.00 1.00
K7A6XP5	UNK	02/19/09 06:55:35 pm	0.014 ✓	168	2.55		1.00	1.00 1.00
K7A6XS	UNK	02/19/09 06:57:54 pm	4.780 ✓	43561	1.25		1.00	1.00 1.00
K7A6XD	UNK	02/19/09 07:00:12 pm	4.189 ✓	38184	0.32		1.00	1.00 1.00
K7D2VB	UNK	02/19/09 07:02:31 pm	0.005 ✓	81	4.30		1.00	1.00 1.00
K7ENRC	UNK	02/19/09 07:04:51 pm	4.976 ✓	45352	1.24		1.00	1.00 1.00
K7A62	UNK	02/19/09 07:07:10 pm	0.004	74	4.95		1.00	1.00 1.00
CCV	CCV	02/19/09 07:09:30 pm	5.097 ✓	46452	0.61		1.00	1.00 1.00
% Recovery 101.94 ✓								
CCB	CCB	02/19/09 07:11:47 pm	-0.001 ✓	33	8.51		1.00	1.00 1.00
K7A62P5	UNK	02/19/09 07:14:07 pm	0.005 -	88	5.26		1.00	1.00 1.00
K7A62S	UNK	02/19/09 07:16:25 pm	5.268 ✓	48011	1.22		1.00	1.00 1.00
K7A62D	UNK	02/19/09 07:18:43 pm	4.851 ✓	44208	0.89		1.00	1.00 1.00
K7EPWB	UNK	02/19/09 07:21:01 pm	-0.004 ✓	3	207.49		1.00	1.00 1.00
K7EPWC	UNK	02/19/09 07:23:19 pm	5.063 ✓	46142	0.66		1.00	1.00 1.00
K7D51	UNK	02/19/09 07:25:37 pm	-0.002	23	12.80		1.00	1.00 1.00

Sample Name	Type	Date/Time	Conc (ppb)	μAbs	%RSD	Flags	Wt.	Vol. ODF
K7D51S	UNK	02/19/09 07:27:55 pm	5.210 ✓	47482	0.67		1.00	1.00 1.00
K7D51D	UNK	02/19/09 07:30:14 pm	5.058 ✓	46093	0.75		1.00	1.00 1.00
K7D55	UNK	02/19/09 07:32:32 pm	-0.003	14	25.57		1.00	1.00 1.00
CCV % Recovery 101.94 ✓	CCV	02/19/09 07:34:52 pm	5.097 ✓	46449	0.80		1.00	1.00 1.00
CCB	CCB	02/19/09 07:37:09 pm	0.000 ✓	40	13.91		1.00	1.00 1.00
K7D57	UNK	02/19/09 07:39:28 pm	0.000	39	14.47		1.00	1.00 1.00
K7D59	UNK	02/19/09 07:41:48 pm	-0.002	24	15.86		1.00	1.00 1.00
K7D6F	UNK	02/19/09 07:44:07 pm	-0.001	27	3.96		1.00	1.00 1.00
K7D6H	UNK	02/19/09 07:46:27 pm	-0.002	24	7.75		1.00	1.00 1.00
K7D6L	UNK	02/19/09 07:48:45 pm	0.002	58	4.69		1.00	1.00 1.00
K7EPKB	UNK	02/19/09 07:51:04 pm	-0.002 ✓	24	18.98		1.00	1.00 1.00
K7EPKC	UNK	02/19/09 07:53:22 pm	4.972 ✓	45313	0.50		1.00	1.00 1.00
K7D5W	UNK	02/19/09 07:55:40 pm	0.015	174	0.65		1.00	1.00 1.00
K7D5WS	UNK	02/19/09 07:57:58 pm	4.666 ✓	42523	0.80		1.00	1.00 1.00
CCV % Recovery 102.56 ✓	CCV	02/19/09 08:00:18 pm	5.128 ✓	46731	1.13		1.00	1.00 1.00
CCB	CCB	02/19/09 08:02:35 pm	-0.002 ✓	18	17.35		1.00	1.00 1.00
K7D5WD	UNK	02/19/09 08:04:54 pm	4.655 ✓	42423	0.43		1.00	1.00 1.00

✓ NPDES 3/20/09

Sample Name	Type	Date/Time	Conc (ppb)	μAbs	%RSD	Flags	Wt.	Vol. ODF
K7D52	UNK	02/19/09 08:07:12 pm	0.008	108	2.06		1.00	1.00 1.00
K7D56	UNK	02/19/09 08:09:31 pm	0.011	138	1.50		1.00	1.00 1.00
CCV % Recovery 102.55 ✓	CCV	02/19/09 08:14:22 pm	5.127 ✓	46728	0.66		1.00	1.00 1.00
CCB	CCB	02/19/09 08:16:39 pm	0.000 ✓	37	5.75		1.00	1.00 1.00
<u>K7EPPC</u> RR ✓ vs 2/20/09	UNK	02/19/09 08:18:56 pm	4.626 ✓	42165	2.04		1.00	1.00 1.00
CCV % Recovery 101.94 ✓	CCV	02/19/09 08:21:16 pm	5.097 ✓	46453	0.72		1.00	1.00 1.00
CCB	CCB	02/19/09 08:23:33 pm	0.000 ✓	38	10.78		1.00	1.00 1.00
K7D58	UNK	02/19/09 08:25:52 pm	-0.002	17	6.63		1.00	1.00 1.00
K7D6E	UNK	02/19/09 08:28:11 pm	-0.001	33	9.16		1.00	1.00 1.00
K7D6G	UNK	02/19/09 08:30:31 pm	0.001	46	7.28		1.00	1.00 1.00
K7D6K	UNK	02/19/09 08:32:51 pm	0.001	45	6.70		1.00	1.00 1.00
K7EPFB	UNK	02/19/09 08:35:09 pm	-0.002 ✓	24	10.63		1.00	1.00 1.00
K7EPFC	UNK	02/19/09 08:37:28 pm	5.062 ✓	46132	0.91		1.00	1.00 1.00
CCV % Recovery 103.16 ✓	CCV	02/19/09 08:39:48 pm	5.158 ✓	47006	0.65		1.00	1.00 1.00
CCB	CCB	02/19/09 08:42:05 pm	-0.001 ✓	29	10.40		1.00	1.00 1.00
K7C9X	UNK	02/19/09 08:44:23 pm	-0.002	25	8.94		1.00	1.00 1.00
K7C9XS	UNK	02/19/09 08:46:42 pm	4.989 ✓	45471	0.90		1.00	1.00 1.00

Sample Name	Type	Date/Time	Conc (ppb)	μ Abs	%RSD	Flags	Wt.	Vol.
							ODF	
K7C9XD	UNK	02/19/09 08:49:00 pm	5.027 ✓	45813	1.26		1.00	1.00
							1.00	
K7C90	UNK	02/19/09 08:51:19 pm	-0.003	9	59.84		1.00	1.00
							1.00	
K7C91	UNK	02/19/09 08:53:37 pm	0.000	41	8.43		1.00	1.00
							1.00	
K7C92	UNK	02/19/09 08:55:56 pm	0.000	36	3.61		1.00	1.00
							1.00	
K7C93	UNK	02/19/09 08:58:15 pm	-0.001	29	16.78		1.00	1.00
							1.00	
K7C95	UNK	02/19/09 09:00:34 pm	-0.001	30	5.00		1.00	1.00
							1.00	
K7DA9	UNK	02/19/09 09:02:54 pm	0.081	781	2.18		1.00	1.00
							1.00	
CCV	CCV	02/19/09 09:05:14 pm	5.035 ✓	45890	0.76		1.00	1.00
% Recovery	100.71 ✓						1.00	
CCB	CCB	02/19/09 09:07:31 pm	0.000 ✓	35	7.19		1.00	1.00
							1.00	
K7DQ6	UNK	02/19/09 09:09:51 pm	0.005	81	2.80		1.00	1.00
							1.00	
K7DRC	UNK	02/19/09 09:12:10 pm	0.242	2246	0.60		1.00	1.00
							1.00	
K7DRW	UNK	02/19/09 09:14:29 pm	-0.001	30	12.33		1.00	1.00
							1.00	
K7DRX	UNK	02/19/09 09:16:47 pm	-0.002	19	10.16		1.00	1.00
							1.00	
K7DR0	UNK	02/19/09 09:19:06 pm	0.000	39	8.64		1.00	1.00
							1.00	
K7EPHB	UNK	02/19/09 09:21:25 pm	-0.003 ✓	11	51.66		1.00	1.00
							1.00	
K7EPHC	UNK	02/19/09 09:23:44 pm	5.070 ✓	46207	0.75		1.00	1.00
							1.00	
K7DCL	UNK	02/19/09 09:26:03 pm	-0.003	16	32.38		1.00	1.00
							1.00	

Sample Name	Type	Date/Time	Conc (ppb)	μAbs	%RSD	Flags	Wt.	Vol. ODF
K7DCLS	UNK	02/19/09 09:28:22 pm	4.995 ✓	45527	1.34		1.00	1.00 1.00
CCV % Recovery 102.25 ✓	CCV	02/19/09 09:30:42 pm	5.113 ✓	46594	1.70		1.00	1.00 1.00
CCB	CCB	02/19/09 09:32:59 pm	0.000 ✓	35	3.49		1.00	1.00 1.00
K7DCLD	UNK	02/19/09 09:35:18 pm	5.042 ✓	45954	0.83		1.00	1.00 1.00
K7DCV	UNK	02/19/09 09:37:37 pm	0.006	97	4.19		1.00	1.00 1.00
K7DCW	UNK	02/19/09 09:39:56 pm	0.005	89	2.05		1.00	1.00 1.00
K7DCX	UNK	02/19/09 09:42:16 pm	0.007	101	3.18		1.00	1.00 1.00
K7DC0	UNK	02/19/09 09:44:35 pm	0.006	96	5.53		1.00	1.00 1.00
K7DC1	UNK	02/19/09 09:46:54 pm	0.006	94	4.57		1.00	1.00 1.00
K7DC5	UNK	02/19/09 09:49:13 pm	0.000	39	2.72		1.00	1.00 1.00
CCV % Recovery 102.12 ✓	CCV	02/19/09 09:51:33 pm	5.106 ✓	46532	0.90		1.00	1.00 1.00
CCB	CCB	02/19/09 09:53:51 pm	0.000 ✓	38	6.18		1.00	1.00 1.00
K7DC9	UNK	02/19/09 09:56:10 pm	0.013	155	1.19		1.00	1.00 1.00
K7DDD	UNK	02/19/09 09:58:29 pm	0.006	93	2.63		1.00	1.00 1.00
K7DDG	UNK	02/19/09 10:00:48 pm	0.003	70	4.21		1.00	1.00 1.00
K7DDL	UNK	02/19/09 10:03:07 pm	0.002	58	4.97		1.00	1.00 1.00
K7DDQ	UNK	02/19/09 10:05:26 pm	0.003	63	2.08		1.00	1.00 1.00

Sample Name	Type	Date/Time	Conc (ppb)	μAbs	%RSD	Flags	Wt. ODF	Vol.
K7DLC	UNK	02/19/09 10:07:45 pm	0.006	90	5.92		1.00 1.00	1.00
K7DLK	UNK	02/19/09 10:10:04 pm	0.003	67	3.64		1.00 1.00	1.00
K7DLM	UNK	02/19/09 10:12:24 pm	0.005	86	1.69		1.00 1.00	1.00
K7DLR	UNK	02/19/09 10:14:44 pm	0.003	65	3.33		1.00 1.00	1.00
CCV % Recovery 102.26 ✓	CCV	02/19/09 10:17:03 pm	5.113 ✓	46599	0.95		1.00 1.00	1.00
CCB	CCB	02/19/09 10:19:20 pm	-0.002 ✓	24	15.52		1.00 1.00	1.00

Analysis Parameters

Instrument

Conditions

Gas flow (mL/min)	Sample Uptake (s)	Rinse (s)	Read delay (s)	Replicates (#)	Replicate time (s)	Pump speed (%)	Wavelength (nm)
100	40.00	90.00	50.00	4	1.50	50	253.65

Instrumental Zero

Zero before first sample: No

Zero periodically: Yes
Before each calibration.

Baseline Correction

#1 Start time (s)	#1 End time (s)	#2 Start time (s)	#2 End time (s)
25.00	29.00		

Standby Mode

Enabled: Yes

Standby Options: pump slow

Autodilution

Enabled: Yes

Condition: Saturate

Tube # range: 4:1 - 4:60

If no autodilution tubes remaining continue undiluted

Calibration

Settings

Algorithm	Through blank	Weighted fit	Cal. Type	Racalibration rate	Reslope rate	Reslope standard
Linear	No	No	Normal	0	0	N/A

Limits

Calibration slope		Reslope		Coeff. of Determination
Lower (%)	Upper (%)	Lower (%)	Upper (%)	
20	150	75	125	0.99500

Error action: Flag and continue

QC

GLP Override: Yes

QC Tests

CCB

Concentration
(ppb)
0.2000

Failure flag: Q

Error action for manually inserted QC: Stop analysis

ICB

Concentration
(ppb)
0.2000

Failure flag: Z

Error action for manually inserted QC: Stop analysis

CCV

Concentration (ppb)	Low Limit %	High Limit %
5.0000	80.0000	120.0000

Failure flag: Q

Error action for manually inserted QC: Stop analysis

ICV

Concentration (ppb)	Low Limit %	High Limit %
7.0000	90.0000	110.0000

Failure flag: Q

Error action for manually inserted QC: Stop analysis

CRDL

Concentration (ppb)	Low Limit %	High Limit %
0.2000	70.0000	130.0000

Failure flag: Y

Error action for manually inserted QC: Stop analysis

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. BOEING NPDES

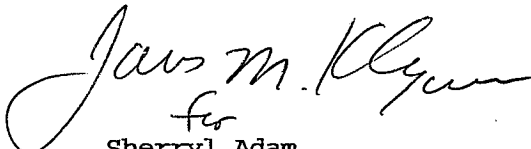
SSFL MWH-Pasadena/Boeing

Lot #: F9B180228

Joseph Doak

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817

TESTAMERICA LABORATORIES, INC.


for
Sherryl Adam
Project Manager

March 17, 2009

Case Narrative
LOT NUMBER: F9B180228

This report contains the analytical results for the sample received under chain of custody by TestAmerica St. Louis on February 18, 2009. This sample is associated with your SSFL MWH-Pasadena/Boeing project.

The analytical results included in this report meet all applicable quality control procedure requirements.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by TestAmerica St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of this report.

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

There were no observations or non-conformances associated with this project.

METHODS SUMMARY

F9B180228

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
Gamma Spectroscopy - Cesium-137 & Hits	EPA 901.1 MOD	
Gross Alpha/Beta EPA 900	EPA 900.0 MOD	EPA 900.0
H-3 by Distillation & LSC	EPA 906.0 MOD	
Radium-226 by GFPC	EPA 903.0 MOD	EPA 903.0
Radium-228 by GFPC	EPA 904 MOD	EPA 904
Strontium 90 by GFPC	EPA 905 MOD	
Total Uranium By Laser Ph osphorimetry	ASTM 5174-91	

References:

ASTM Annual Book Of ASTM Standards.

EPA "EASTERN ENVIRONMENTAL RADIATION FACILITY RADIOCHEMISTRY
PROCEDURES MANUAL" US EPA EPA 520/5-84-006 AUGUST 1984

SAMPLE SUMMARY

F9B180228

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
K7DJ5	001	ISB1808-01	02/16/09	12:00

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

TestAmerica Irvine

Client Sample ID: ISB1808-01

Radiochemistry

Lab Sample ID: F9B180228-001
 Work Order: K7DJ5
 Matrix: WATER

Date Collected: 02/16/09 1200
 Date Received: 02/18/09 0930

Parameter	Result	Qual	Total Uncert. (2 σ +/-)	RL	mdc	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD				pCi/L		Batch # 9058211	Yld %
Cesium 137	1.1	U	7.0	20.0	13	02/27/09	03/15/09
Potassium 40	-90	U	3400		200	02/27/09	03/15/09
Gross Alpha/Beta EPA 900				pCi/L		Batch # 9050133	Yld %
Gross Alpha	1.4	U	1.1	3.0	1.6	02/24/09	03/04/09
Gross Beta	7.2		1.2	4.0	1.1	02/24/09	03/04/09
Radium 226 by EPA 903.0 MOD				pCi/L		Batch # 9049439	Yld % 91
Radium (226)	0.17	J	0.12	1.00	0.17	02/18/09	03/13/09
Radium 228 by GFPC EPA 904 MOD				pCi/L		Batch # 9049441	Yld % 80
Radium 228	0.14	U	0.31	1.00	0.52	02/18/09	03/13/09
TRITIUM (Distill) by EPA 906.0 MOD				pCi/L		Batch # 9066052	Yld %
Tritium	-10	U	170	500	310	03/07/09	03/13/09
SR-90 BY GFPC EPA-905 MOD				pCi/L		Batch # 9049442	Yld % 68
Strontium 90	0.14	U	0.25	3.00	0.43	02/18/09	02/28/09
Total Uranium by KPA ASTM 5174-91				pCi/L		Batch # 9050413	Yld %
Total Uranium	0.594	J	0.071	0.677	0.21	02/19/09	03/08/09

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC.

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

METHOD BLANK REPORT

Radiochemistry

Client Lot ID: F9B180228
 Matrix: WATER

Parameter	Result	Qual	Total Uncert. (2 σ +/-)	RL	MDC	Prep Date	Lab Sample ID Analysis Date
TRITIUM (Distill) by EPA 906.0 MOD			pCi/L	Batch #	9066052	Yld %	F9C070000-052B
Tritium	290	U	200	500	300	03/07/09	03/13/09
Radium 226 by EPA 903.0 MOD			pCi/L	Batch #	9049439	Yld %	99 F9B180000-439B
Radium (226)	-0.02	U	0.10	1.00	0.21	02/18/09	03/13/09
Radium 228 by GFPC EPA 904 MOD			pCi/L	Batch #	9049441	Yld %	89 F9B180000-441B
Radium 228	-0.11	U	0.24	1.00	0.44	02/18/09	03/13/09
SR-90 BY GFPC EPA-905 MOD			pCi/L	Batch #	9049442	Yld %	73 F9B180000-442B
Strontium 90	-0.06	U	0.25	3.00	0.46	02/18/09	02/28/09
Total Uranium by KPA ASTM 5174-91			pCi/L	Batch #	9050413	Yld %	F9B190000-413B
Total Uranium	0.124	U	0.015	0.677	0.21	02/19/09	03/08/09
Gross Alpha/Beta EPA 900			pCi/L	Batch #	9050133	Yld %	F9B190000-133B
Gross Alpha	-0.13	U	0.47	3.00	0.99	02/24/09	03/04/09
Gross Beta	-0.71	U	0.61	4.00	1.2	02/24/09	03/04/09
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/L	Batch #	9058211	Yld %	F9B270000-211B
Cesium 137	4.7	U	9.8	20.0	17	02/27/09	03/13/09
Potassium 40	-1	U	150		280	02/27/09	03/13/09

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined using instrument performance only
 Bold results are greater than the MDC.

U Result is less than the sample detection limit.

Laboratory Control Sample Report

Radiochemistry

Client Lot ID: F9B180228
 Matrix: WATER

Parameter	Spike Amount	Result	Total Uncert. (2 σ +/-)	MDC	% Yld	% Rec	Lab Sample ID QC Control Limits
Gross Alpha/Beta EPA 900							
Gross Alpha/Beta EPA 900			pCi/L	900.0 MOD			F9B190000-133C
Gross Beta	67.6	56.3	4.9	1		83	(73 - 122)
	Batch #:	9050133			Analysis Date:	03/04/09	
Gross Alpha/Beta EPA 900							
Gross Alpha/Beta EPA 900			pCi/L	900.0 MOD			F9B190000-133C
Gross Alpha	49.4	53.2	6.0	1.6		108	(73 - 136)
	Batch #:	9050133			Analysis Date:	03/04/09	
Total Uranium by KPA ASTM 5174-91							
Total Uranium by KPA ASTM 5174-91			pCi/L	5174-91			F9B190000-413C
Total Uranium	27.1	29.7	3.5	0.2		110	(90 - 118)
	Batch #:	9050413			Analysis Date:	03/08/09	
Total Uranium by KPA ASTM 5174-91							
Total Uranium by KPA ASTM 5174-91			pCi/L	5174-91			F9B190000-413C
Total Uranium	5.42	5.86	0.61	0.21		108	(90 - 118)
	Batch #:	9050413			Analysis Date:	03/08/09	
Gamma Cs-137 & Hits by EPA 901.1 MOD							
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/L	901.1 MOD			F9B270000-211C
Americium 241	141000	137000	11000	500		97	(90 - 110)
Cesium 137	53100	51600	3000	200		97	(90 - 110)
Cobalt 60	87900	85500	4800	200		97	(90 - 110)
	Batch #:	9058211			Analysis Date:	03/13/09	
TRITIUM (Distill) by EPA 906.0 MOD							
TRITIUM (Distill) by EPA 906.0 MOD			pCi/L	906.0 MOD			F9C070000-052C
Tritium	4770	4330	460	300		91	(77 - 110)
	Batch #:	9066052			Analysis Date:	03/13/09	

NOTE(S)

MDC is determined by instrument performance only
 Calculations are performed before rounding to avoid round-off error in calculated results

Laboratory Control Sample/LCS Duplicate Report

Radiochemistry

Client Lot ID: F9B180228

Matrix: WATER

Parameter	Spike Amount	Result	Total Uncert. (2 σ +/-)	% Yld	% Rec	Lab Sample ID	
						QC Control Limits	Precision
Radium 226 by EPA	903.0 MOD		pCi/L	903.0 MOD			F9B180000-439C
Radium (226)	11.3	13.0	1.3	92	115	(52 - 150)	
Spk 2	11.3	11.2	1.2	96	99	(52 - 150)	15 %RPD
	Batch #:	9049439		Analysis Date:	03/13/09		
Radium 228 by GFPC EPA	904 MOD		pCi/L	904 MOD			F9B180000-441C
Radium 228	7.20	8.01	0.93	82	111	(64 - 140)	
Spk 2	7.20	8.65	0.97	84	120	(64 - 140)	8 %RPD
	Batch #:	9049441		Analysis Date:	03/13/09		
SR-90 BY GFPC EPA-905	MOD		pCi/L	905 MOD			F9B180000-442C
Strontium 90	6.97	8.15	0.94	68	117	(78 - 146)	
Spk 2	6.97	8.20	0.94	69	118	(78 - 146)	0.5 %RPD
	Batch #:	9049442		Analysis Date:	02/28/09		

NOTE(S)

Calculations are performed before rounding to avoid round-off error in calculated results

DUPLICATE EVALUATION REPORT

Radiochemistry

Client Lot ID: F9B180228
 Matrix: WATER

Date Sampled: 02/13/09
 Date Received: 02/17/09

Parameter	SAMPLE Result	Total Uncert. (2σ +/-)	% Yld	DUPLICATE Result	Total Uncert. (2σ +/-)	% Yld	QC Sample ID	
							Precision	
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/L	901.1 MOD			F9B170209-001	
Cesium 137	-0.9 U	7.9		-3.1 U	9.9		112	%RPD
Potassium 40	-60 U	680		-90 U	3500		35	%RPD
	Batch #:	9058211 (Sample)		9058211 (Duplicate)				
TRITIUM (Distill) by EPA 906.0 MOD			pCi/L	906.0 MOD			F9B180215-001	
Tritium	230 U	190		170 U	190		31	%RPD
	Batch #:	9066052 (Sample)		9066052 (Duplicate)				
Gross Alpha/Beta EPA 900			pCi/L	900.0 MOD			F9B200166-001	
Gross Alpha	1.86 J	0.97		1.9 J	1.0		4	%RPD
Gross Beta	4.2	1.2		4.1	1.2		3	%RPD
	Batch #:	9050133 (Sample)		9050133 (Duplicate)				

NOTE(S)

Data are incomplete without the case narrative.
 Calculations are performed before rounding to avoid round-off error in calculated results

- J Result is greater than sample detection limit but less than stated reporting limit.
- U Result is less than the sample detection limit.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE REPORT

Radiochemistry

Client Lot ID: F9B170209
 Matrix: WATER

Date Sampled: 02/13/09 1525
 Date Received: 02/17/09 0900

Parameter	Spike Amount	SPIKE Result	Total Uncert. (2 σ +/-)	Spike Yld	SAMPLE Result	Total Uncert. (2 σ +/-)	QC Sample ID		QC Control Limits
							% Yld	% Rec	
Total Uranium by KPA ASTM 5			pCi/L	5174-91		F9B170209-001			
Total Uranium	27.1	30.1	3.6		0.435 J	0.051	110		(90 - 121)
	Spk2 27.1	29.8	3.6		0.435 J	0.051	108		(90 - 121)
						Precision:	1		%RPD
	Batch #:	9050413		Analysis date:	03/08/09				

NOTE(S)

Data are incomplete without the case narrative.

Calculations are performed before rounding to avoid round-off error in calculated results

J Result is greater than sample detection limit but less than stated reporting

MATRIX SPIKE REPORT

Radiochemistry

Client Lot Id: F9B180218
 Matrix: WATER

Date Sampled: 02/16/09
 Date Received: 02/18/09

Parameter	Spike Amount	Spike Result	Total Uncert. (2σ +/-)	Spike Yld.	Sample Result	Total Uncert. (2σ +/-)	QC Sample ID		QC Control Limits
							%YLD	%REC	
TRITIUM (Distill) by EPA	906.0	MOD	pCi/L		906.0	MOD	F9B180218-001		
Tritium	4770	4280	450		300	200		83	(47 - 150)
	Batch #:	9066052			Analysis Date:	03/13/09			
Gross Alpha/Beta EPA	900		pCi/L		900.0	MOD	F9B200166-001		
Gross Beta	67.5	73.3	6.2		4.2	1.2		102	(66 - 147)
	Batch #:	9050133			Analysis Date:	03/04/09			
Gross Alpha/Beta EPA	900		pCi/L		900.0	MOD	F9B200166-001		
Gross Alpha	49.4	39.8	5.0		1.86	0.97		77	(44 - 150)
	Batch #:	9050133			Analysis Date:	03/04/09			

NOTE(S)

Data are incomplete without the case narrative.

Calculations are performed before rounding to avoid round-off errors in calculated results.

*CR
331*

SUBCONTRACT ORDER

TestAmerica Irvine

ISB1808

SENDING LABORATORY:

TestAmerica Irvine
 17461 Derian Avenue. Suite 100
 Irvine, CA 92614
 Phone: (949) 261-1022
 Fax: (949) 260-3297
 Project Manager: Joseph Doak
 Client: MWH-Pasadena/Boeing


RECEIVING LABORATORY:

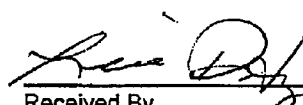
TestAmerica St. Louis
 13715 Rider Trail North
 Earth City, MO 63045
 Phone : (314) 298-8566
 Fax: (314) 298-8757
 Project Location: CA - CALIFORNIA
 Receipt Temperature: _____ °C Ice: Y / N

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: ISB1808-01 Water Sampled: 02/16/09 12:00						
Gamma Spec-O	mg/kg	02/25/09	02/16/10 12:00	\$250.00	0%	Out St Louis, K-40 and CS-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	02/25/09	08/15/09 12:00	\$100.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	02/25/09	08/15/09 12:00	\$100.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Level 4 + EDD-OUT	N/A	02/25/09	03/16/09 12:00	\$0.00	0%	
Radium, Combined-O	pCi/L	02/25/09	02/16/10 12:00	\$238.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	02/25/09	02/16/10 12:00	\$155.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	02/25/09	02/16/10 12:00	\$80.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	02/25/09	02/16/10 12:00	\$120.00	0%	Out St Louis, Boeing permit, DO NOT FILTER!

Containers Supplied:

2.5 gal Poly (J) 500 mL Amber (K)


 Released By _____ Date/Time _____

 2-18-09 0950
 Received By _____ Date/Time _____

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): F9B180 215
218
222
- 331 - 223
224

227
228
230
225

CONDITION UPON RECEIPT FORM

Client: TA Irvine

Quote No: 81594

COC/RFA No: See Below

Initiated By: LTD

Date: 2-18-09
2-18-08:30

Time: 0930

Shipping Information

Shipper: FedEx UPS DHL Courier Client Other:

Multiple Packages: (Y) N

Shipping # (s):*

Sample Temperature (s):**

1. 7963 4985 0273	6.	1. 4	6.
2. 7973 4020 4448	7.	2. 3	7.
3. 7963 4985 0332	8.	3. 4	8.
4. 7963 4985 0240	9.	4. 2	9.
5. 7973 4020 4253	10.	5. 3	10.

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1. (Y) N	Are there custody seals present on the cooler?	8. Y (N)	Are there custody seals present on bottles?
2. Y (N) N/A	Do custody seals on cooler appear to be tampered with?	9. Y N (N/A)	Do custody seals on bottles appear to be tampered with?
3. (Y) N	Were contents of cooler frisked after opening, but before unpacking?	10. Y N (N/A)	Was sample received with proper pH? (If not, make note below)
4. (Y) N	Sample received with Chain of Custody?	11. (Y) N	Sample received in proper containers?
5. (Y) N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12. Y N (N/A)	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
6. Y (N)	Was sample received broken?	13. (Y) N N/A	Was Internal COC/Workshare received?
7. (Y) N	Is sample volume sufficient for analysis?	14. (Y) N N/A	Was pH taken by original TestAmerica lab?

For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes: ISB 1796

1787

1802

1786

1785

1839

1834

1808

1874

Corrective Action:

- Client Contact Name:
- Sample(s) processed "as is"
- Sample(s) on hold until:
- Project Management Review: Sherry A. Aden

Informed by:

If released, notify:

Date: 2-19-09

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

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ADMIN-0004, REVISED 10/21/08 \\Slsvr01\QA\FORMS\SIST-LOUIS\ADMIN\Aadmin004 rev11.doc

March 07, 2009

Vista Project I.D.: 31444

Mr. Joseph Doak
Test America-Irvine, CA
17461 Derian Avenue
Suite 100
Irvine, CA 92614

Dear Mr. Doak,

Enclosed are the results for the one aqueous sample received at Vista Analytical Laboratory on February 18, 2009 under your Project Name "ISB1808". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Vista's current certifications, and copies of the raw data (if requested).

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com. Thank you for choosing Vista as part of your analytical support team.

Sincerely,



Martha M. Maier
Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAC for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista Analytical Laboratory.



Section I: Sample Inventory Report

Date Received: 2/18/2009

Vista Lab. ID

Client Sample ID

31444-001

ISB1808-01

SECTION II

Method Blank					EPA Method 1613				
Matrix:	Aqueous	QC Batch No.:	1907	Lab Sample:	0-MB001	Date Analyzed DB-5:	24-Feb-09	Date Analyzed DB-225:	NA
Sample Size:	1.00 L	Date Extracted:	21-Feb-09						
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers	
2,3,7,8-TCDD	ND	0.000000484			IS 13C-2,3,7,8-TCDD	84.7	25 - 164		
1,2,3,7,8-PeCDD	ND	0.000000938			13C-1,2,3,7,8-PeCDD	76.5	25 - 181		
1,2,3,4,7,8-HxCDD	ND	0.00000107			13C-1,2,3,4,7,8-HxCDD	82.7	32 - 141		
1,2,3,6,7,8-HxCDD	ND	0.00000110			13C-1,2,3,6,7,8-HxCDD	79.3	28 - 130		
1,2,3,7,8,9-HxCDD	ND	0.00000105			13C-1,2,3,4,6,7,8-HpCDD	83.7	23 - 140		
1,2,3,4,6,7,8-HpCDD	ND	0.00000347			13C-OCDD	74.0	17 - 157		
OCDD	ND	0.00000193			13C-2,3,7,8-TCDF	93.7	24 - 169		
2,3,7,8-TCDF	ND	0.000000369			13C-1,2,3,7,8-PeCDF	80.7	24 - 185		
1,2,3,7,8-PeCDF	ND	0.000000467			13C-2,3,4,7,8-PeCDF	79.8	21 - 178		
2,3,4,7,8-PeCDF	ND	0.000000467			13C-1,2,3,4,7,8-HxCDF	83.9	26 - 152		
1,2,3,4,7,8-HxCDF	ND	0.000000652			13C-1,2,3,6,7,8-HxCDF	80.2	26 - 123		
1,2,3,6,7,8-HxCDF	ND	0.000000635			13C-2,3,4,6,7,8-HxCDF	83.8	28 - 136		
2,3,4,6,7,8-HxCDF	ND	0.000000697			13C-1,2,3,7,8,9-HxCDF	81.6	29 - 147		
1,2,3,7,8,9-HxCDF	ND	0.00000100			13C-1,2,3,4,6,7,8-HpCDF	80.1	28 - 143		
1,2,3,4,6,7,8-HpCDF	ND	0.00000223			13C-1,2,3,4,7,8,9-HpCDF	85.3	26 - 138		
1,2,3,4,7,8,9-HpCDF	ND	0.00000241			13C-OCDF	69.3	17 - 157		
OCDF	ND	0.00000157			CRS 37Cl-2,3,7,8-TCDD	90.8	35 - 197		
Totals					Footnotes				
Total TCDD	ND	0.000000484			a. Sample specific estimated detection limit.				
Total PeCDD	ND	0.000000938			b. Estimated maximum possible concentration.				
Total HxCDD	ND	0.00000107			c. Method detection limit.				
Total HpCDD	ND	0.00000347			d. Lower control limit - upper control limit.				
Total TCDF	ND	0.000000369							
Total PeCDF	ND	0.000000467							
Total HxCDF	ND	0.000000746							
Total HpCDF	ND	0.00000232							

Analyst: JMH

Approved By: Martha M. Maier 07-Mar-2009 08:13

OPR Results				EPA Method 1613			
Matrix:	Aqueous	QC Batch No.:	1907	Lab Sample:	0-OPR001		
Sample Size:	1.00 L	Date Extracted:	21-Feb-09	Date Analyzed DB-5:	24-Feb-09	Date Analyzed DB-225:	NA
Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL	Qualifier
2,3,7,8-TCDD	10.0	10.3	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	86.0	25 - 164	
1,2,3,7,8-PeCDD	50.0	52.1	35 - 71	13C-1,2,3,7,8-PeCDD	78.7	25 - 181	
1,2,3,4,7,8-HxCDD	50.0	51.0	35 - 82	13C-1,2,3,4,7,8-HxCDD	84.9	32 - 141	
1,2,3,6,7,8-HxCDD	50.0	50.0	38 - 67	13C-1,2,3,6,7,8-HxCDD	81.1	28 - 130	
1,2,3,7,8,9-HxCDD	50.0	49.9	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	79.5	23 - 140	
1,2,3,4,6,7,8-HpCDD	50.0	50.9	35 - 70	13C-OCDD	71.0	17 - 157	
OCDD	100	102	78 - 144	13C-2,3,7,8-TCDF	90.8	24 - 169	
2,3,7,8-TCDF	10.0	10.2	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	83.2	24 - 185	
1,2,3,7,8-PeCDF	50.0	50.9	40 - 67	13C-2,3,4,7,8-PeCDF	81.4	21 - 178	
2,3,4,7,8-PeCDF	50.0	50.9	34 - 80	13C-1,2,3,4,7,8-HxCDF	84.8	26 - 152	
1,2,3,4,7,8-HxCDF	50.0	50.9	36 - 67	13C-1,2,3,6,7,8-HxCDF	81.8	26 - 123	
1,2,3,6,7,8-HxCDF	50.0	51.5	42 - 65	13C-2,3,4,6,7,8-HxCDF	84.2	28 - 136	
2,3,4,6,7,8-HxCDF	50.0	50.1	35 - 78	13C-1,2,3,7,8,9-HxCDF	81.1	29 - 147	
1,2,3,7,8,9-HxCDF	50.0	51.3	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	76.4	28 - 143	
1,2,3,4,6,7,8-HpCDF	50.0	51.0	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	81.1	26 - 138	
1,2,3,4,7,8,9-HpCDF	50.0	50.6	39 - 69	13C-OCDF	67.5	17 - 157	
OCDF	100	105	63 - 170	CRS 37Cl-2,3,7,8-TCDD	90.9	35 - 197	

Analyst: JMH

Approved By: Martha M. Maier 07-Mar-2009 08:13

Sample ID: ISB1808-01					EPA Method 1613			
Client Data			Sample Data		Laboratory Data			
Name:	Test America-Irvine, CA		Matrix:	Aqueous	Lab Sample:	31444-001	Date Received:	18-Feb-09
Project:	ISB1808		Sample Size:	0.970 L	QC Batch No.:	1907	Date Extracted:	21-Feb-09
Date Collected:	16-Feb-09				Date Analyzed DB-5:	25-Feb-09	Date Analyzed DB-225:	NA
Time Collected:	1200							
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.00000446			IS 13C-2,3,7,8-TCDD	90.3	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000838			13C-1,2,3,7,8-PeCDD	82.1	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000132			13C-1,2,3,4,7,8-HxCDD	86.9	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000127			13C-1,2,3,6,7,8-HxCDD	82.1	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000125			13C-1,2,3,4,6,7,8-HpCDD	76.8	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.0000312				13C-OCDD	62.6	17 - 157	
OCDD	0.000488				13C-2,3,7,8-TCDF	99.2	24 - 169	
2,3,7,8-TCDF	ND	0.000000350			13C-1,2,3,7,8-PeCDF	88.4	24 - 185	
1,2,3,7,8-PeCDF	ND	0.000000487			13C-2,3,4,7,8-PeCDF	85.1	21 - 178	
2,3,4,7,8-PeCDF	ND	0.000000475			13C-1,2,3,4,7,8-HxCDF	90.6	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000604			13C-1,2,3,6,7,8-HxCDF	80.8	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000662			13C-2,3,4,6,7,8-HxCDF	87.3	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000716			13C-1,2,3,7,8,9-HxCDF	81.8	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000103			13C-1,2,3,4,6,7,8-HpCDF	77.1	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.00000419			J	13C-1,2,3,4,7,8,9-HpCDF	76.6	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000142			13C-OCDF	62.4	17 - 157	
OCDF	0.0000147			J	CRS 37Cl-2,3,7,8-TCDD	91.2	35 - 197	
Totals					Footnotes			
Total TCDD	ND	0.00000446			a. Sample specific estimated detection limit.			
Total PeCDD	ND	0.00000838			b. Estimated maximum possible concentration.			
Total HxCDD	0.00000395				c. Method detection limit.			
Total HpCDD	0.0000610				d. Lower control limit - upper control limit.			
Total TCDF	ND	0.000000350						
Total PeCDF	ND	0.000000481						
Total HxCDF	0.00000393							
Total HpCDF	0.00000419		0.0000159					

Analyst: JMH

Approved By: Martha M. Maier 07-Mar-2009 08:13

APPENDIX

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	Dilution
E	The amount detected is above the High Calibration Limit.
P	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
H	The signal-to-noise ratio is greater than 10:1.
I	Chemical Interference
J	The amount detected is below the Low Calibration Limit.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated detection limit
MDL	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.
EMPC	Estimated Maximum Possible Concentration
NA	Not applicable
RL	Reporting Limit – concentrations that correspond to low calibration point
ND	Not Detected
TEQ	Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
State of Alaska, DEC	CA413-2008
State of Arizona	AZ0639
State of Arkansas, DEQ	08-043-0
State of Arkansas, DOH	Reciprocity through CA
State of California – NELAP Primary AA	02102CA
State of Colorado	N/A
State of Connecticut	PH-0182
State of Florida, DEP	E87777
State of Indiana Department of Health	C-CA-02
Commonwealth of Kentucky	90063
State of Louisiana, Health and Hospitals	LA08000
State of Louisiana, DEQ	01977
State of Maine	2008024
State of Michigan	9932
State of Mississippi	Reciprocity through CA
Naval Facilities Engineering Service Center	NFESC413
State of Nevada	CA004132007A
State of New Jersey	CA003
State of New Mexico	Reciprocity through CA
State of New York, DOH	11411
State of North Carolina	06700
State of North Dakota, DOH	R-078
State of Oklahoma	D9919
State of Oregon	CA200001-006
State of Pennsylvania	68-00490
State of South Carolina	87002001
State of Tennessee	TN02996
State of Texas	T104704189-08-TX
U.S. Army Corps of Engineers	N/A
State of Utah	CA16400
Commonwealth of Virginia	00013
State of Washington	C1285
State of Wisconsin	998036160
State of Wyoming	8TMS-Q

SUBCONTRACT ORDER

TestAmerica Irvine

ISB1808

3444

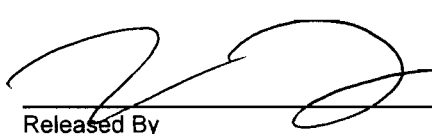
SENDING LABORATORY:

TestAmerica Irvine
17461 Derian Avenue. Suite 100
Irvine, CA 92614
Phone: (949) 261-1022
Fax: (949) 260-3297
Project Manager: Joseph Doak

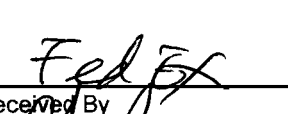
RECEIVING LABORATORY:

Vista Analytical Laboratory- SUB
1104 Windfield Way
El Dorado Hills, CA 95762
Phone : (916) 673-1520
Fax: (916) 673-0106
Project Location: CA - CALIFORNIA
Receipt Temperature: 2.3 °C Ice: (Y) / N

Analysis	Units	Due	Expires	Comments
Sample ID: ISB1808-01				
Water		Sampled: 02/16/09 12:00		
1613-Dioxin-HR-Alta	ug/l	02/25/09	02/23/09 12:00	J flags, 17 congeners, no TEQ, ug/L, sub=Vista
EDD + Level 4	N/A	02/25/09	03/16/09 12:00	Excel EDD email to pm, Include Std logs for Lvl IV
<i>Containers Supplied:</i>				
1 L Amber (C)	1 L Amber (D)			

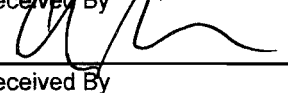
 2/17/09 17:00

Released By _____ Date/Time _____

FedEx  2/17/09 17:00

Received By _____ Date/Time _____

Released By 44 _____ Date/Time _____

 2/18/09 1459
Received By _____ Date/Time _____

SAMPLE LOG-IN CHECKLIST



Vista Project #: 31444

TAT unspecified

Samples Arrival:	Date/Time <u>2/18/09 0950</u>	Initials: <u>CV</u>	Location: <u>WR2</u>
			Shelf/Rack: <u>N/A</u>
Logged In:	Date/Time <u>2/18/09 1459</u>	Initials: <u>CV</u>	Location: <u>WR2</u>
			Shelf/Rack: <u>C4</u>
Delivered By:	<u>FedEx</u>	UPS	Cal
		DHL	Hand Delivered
		Other	
Preservation:	<u>Ice</u>	Blue Ice	Dry Ice
		None	
Temp °C	<u>23°</u>	Time: <u>0956</u>	Thermometer ID: IR-1

	YES	NO	NA
Adequate Sample Volume Received? <u>(A + B bottles)</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Holding Time Acceptable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Container(s) Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Custody Seals Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Documentation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Airbill	Trk # <u>7973 4681 8451</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sample Container Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample Custody Seals Intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Chain of Custody / Sample Documentation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC Anomaly/Sample Acceptance Form completed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If Chlorinated or Drinking Water Samples, Acceptable Preservation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Na ₂ S ₂ O ₃ Preservation Documented?	COC	Sample Container	<u>None</u>
Shipping Container	Vista	<u>Client</u>	Retain
		<u>Return</u>	Dispose

Comments: