APPENDIX G

Section 10

Outfall 009, December 7, 2009

Test America Analytical Laboratory Report

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

LABORATORY REPORT

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

Project: Routine Outfall 009

Sampled: 12/07/09
Received: 12/07/09
Issued: 01/25/10 14:59

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

CASE NARRATIVE

SAMPLE RECEIPT:	Samples were received intact, at 3°C, on ice and with chain of custody documentation.
HOLDING TIMES:	All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.
PRESERVATION:	Samples requiring preservation were verified prior to sample analysis.
QA/QC CRITERIA:	All analyses met method criteria, except as noted in the report with data qualifiers.
COMMENTS:	No significant observations were made.
SUBCONTRACTED:	Refer to the last page for specific subcontract laboratory information included in this report.
ADDITIONAL INFORMATION:	Revised report to provide total Uranium.

LABORATORY ID	CLIENT ID	MATRIX
ISL0771-01	Outfall 009 (Grab)	Water
ISL0771-02	Outfall 009 (Comp)	Water

Reviewed By:

TestAmerica Irvine

Kathleen A. Robb For Joseph Doak
Project Manager

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HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL0771-01 (Outfall 009 (Grab) - Water)									
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	9L10072	4.7	1.3	ND	1	12/10/2009	12/10/2009	

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METALS

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL0771-02 (Outfall 009 (Comp) - Water)									
Reporting Units: ug/l									
Antimony	EPA 200.8	9L09085	2.0	0.30	**0.95**	1	12/9/2009	12/9/2009	J
Cadmium	EPA 200.8	9L09085	1.0	0.10	**0.11**	1	12/9/2009	12/9/2009	J
Copper	EPA 200.8	9L09085	2.0	0.50	**5.7**	1	12/9/2009	12/9/2009	
Lead	EPA 200.8	9L09085	1.0	0.20	**5.7**	1	12/9/2009	12/9/2009	
Thallium	EPA 200.8	9L09085	1.0	0.20	ND	1	12/9/2009	12/9/2009	

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DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL0771-02 (Outfall 009 (Comp) - Water)									
Reporting Units: ug/l									
Antimony	EPA 200.8-Diss	9L11017	2.0	0.30	**0.51**	1	12/11/2009	12/11/2009	J
Cadmium	EPA 200.8-Diss	9L11017	1.0	0.10	ND	1	12/11/2009	12/11/2009	
Copper	EPA 200.8-Diss	9L11017	2.0	0.50	**3.1**	1	12/11/2009	12/11/2009	
Lead	EPA 200.8-Diss	9L11017	1.0	0.20	**0.91**	1	12/11/2009	12/11/2009	J
Thallium	EPA 200.8-Diss	9L11017	1.0	0.20	**0.24**	1	12/11/2009	12/11/2009	J

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INORGANICS

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL0771-02 (Outfall 009 (Comp) - Water)									
Reporting Units: mg/l									
Chloride	EPA 300.0	9L08059	0.50	0.25	**1.2**	1	12/8/2009	12/8/2009	
Nitrate/Nitrite-N	EPA 300.0	9L08059	0.26	0.15	**0.60**	1	12/8/2009	12/8/2009	
Sulfate	EPA 300.0	9L08059	0.50	0.20	**2.1**	1	12/8/2009	12/8/2009	
Total Dissolved Solids	SM2540C	9L11013	10	1.0	**41**	1	12/11/2009	12/11/2009	

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EPA-5 1613B

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL0771-02RE1 (Outfall 009 (Comp) - Water)									
Reporting Units: ug/L									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	9358216	0.000048	0.00000071	**0.00007**	0.96	12/24/2009	12/29/2009	B
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	9358216	0.000048	0.00000083	**0.00002**	0.96	12/24/2009	12/29/2009	J, B
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	9358216	0.000048	0.00000012	**0.0000045**	0.96	12/24/2009	12/29/2009	J, Q, B
1,2,3,4,7,8-HxCDD	EPA-5 1613B	9358216	0.000048	0.00000064	**0.000004**	0.96	12/24/2009	12/29/2009	J, Q, B
1,2,3,4,7,8-HxCDF	EPA-5 1613B	9358216	0.000048	0.00000066	**0.0000049**	0.96	12/24/2009	12/29/2009	J, Q, B
1,2,3,6,7,8-HxCDD	EPA-5 1613B	9358216	0.000048	0.00000058	**0.0000052**	0.96	12/24/2009	12/29/2009	J, B
1,2,3,6,7,8-HxCDF	EPA-5 1613B	9358216	0.000048	0.00000061	**0.0000041**	0.96	12/24/2009	12/29/2009	J, B
1,2,3,7,8,9-HxCDD	EPA-5 1613B	9358216	0.000048	0.00000055	**0.0000056**	0.96	12/24/2009	12/29/2009	J, B
1,2,3,7,8,9-HxCDF	EPA-5 1613B	9358216	0.000048	0.00000070	**0.0000032**	0.96	12/24/2009	12/29/2009	J, B
1,2,3,7,8-PeCDD	EPA-5 1613B	9358216	0.000048	0.00000110	**0.0000023**	0.96	12/24/2009	12/29/2009	J, Q, B
1,2,3,7,8-PeCDF	EPA-5 1613B	9358216	0.000048	0.000001	**0.0000017**	0.96	12/24/2009	12/29/2009	J, Q, B
2,3,4,6,7,8-HxCDF	EPA-5 1613B	9358216	0.000048	0.00000056	**0.0000033**	0.96	12/24/2009	12/29/2009	J, B
2,3,4,7,8-PeCDF	EPA-5 1613B	9358216	0.000048	0.00000110	**0.0000014**	0.96	12/24/2009	12/29/2009	J, Q, B
2,3,7,8-TCDD	EPA-5 1613B	9358216	0.000009	0.00000056	ND	0.96	12/24/2009	12/29/2009	
2,3,7,8-TCDF	EPA-5 1613B	9358216	0.000009	0.0000029	ND	0.96	12/24/2009	12/29/2009	CON
OCDD	EPA-5 1613B	9358216	0.000096	0.0000011	**0.0011**	0.96	12/24/2009	12/29/2009	B
OCDF	EPA-5 1613B	9358216	0.000096	0.00000062	**0.000059**	0.96	12/24/2009	12/29/2009	J, B
Total HpCDD	EPA-5 1613B	9358216	0.000048	0.00000071	**0.00019**	0.96	12/24/2009	12/29/2009	B
Total HpCDF	EPA-5 1613B	9358216	0.000048	0.00000083	**0.000048**	0.96	12/24/2009	12/29/2009	J, Q, B
Total HxCDD	EPA-5 1613B	9358216	0.000048	0.00000055	**0.000031**	0.96	12/24/2009	12/29/2009	J, Q, B
Total HxCDF	EPA-5 1613B	9358216	0.000048	0.00000056	**0.000036**	0.96	12/24/2009	12/29/2009	J, Q, B
Total PeCDD	EPA-5 1613B	9358216	0.000048	0.00000110	**0.0000059**	0.96	12/24/2009	12/29/2009	J, Q, B
Total PeCDF	EPA-5 1613B	9358216	0.000048	0.000001	**0.000011**	0.96	12/24/2009	12/29/2009	J, Q, B
Total TCDD	EPA-5 1613B	9358216	0.000009	0.00000056	ND	0.96	12/24/2009	12/29/2009	
Total TCDF	EPA-5 1613B	9358216	0.000009	0.00000064	**0.0000064**	0.96	12/24/2009	12/29/2009	J, Q, B
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)					*83 %*				
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)					*83 %*				
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)					*79 %*				
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)					*75 %*				
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)					*74 %*				
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)					*79 %*				
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)					*83 %*				
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)					*77 %*				
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)					*62 %*				
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)					*63 %*				
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)					*83 %*				
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)					*66 %*				
Surrogate: 13C-2,3,7,8-TCDD (25-164%)					*72 %*				
Surrogate: 13C-2,3,7,8-TCDF (24-169%)					*78 %*				
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)					*74 %*				
Surrogate: 13C-OCDD (17-157%)					*75 %*				

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MCAWW 245.1

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL0771-02 (Outfall 009 (Comp) - Water)									
Reporting Units: ug/L									
Mercury	MCAWW 245.1	9348214	0.2	0.027	**0.027**	1	12/14/2009	12/14/2009	J

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MCAWW 245.1-DISS

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL0771-02 (Outfall 009 (Comp) - Water)									
Reporting Units: ug/L									
Mercury	MCAWW 245.1-DISS	9348240	0.2	0.027	ND	1	12/14/2009	12/14/2009	

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Sampled: 12/07/09
Received: 12/07/09

ASTM 5174-91

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL0771-02 (Outfall 009 (Comp) - Water)									
Reporting Units: pCi/L									
Total Uranium	ASTM 5174-91	15135	0.677	0.21	**0.443**	1	1/15/2010	1/18/2010	Jc

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EPA 900.0 MOD

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL0771-02 (Outfall 009 (Comp) - Water)									
Reporting Units: pCi/L									
Gross Alpha	EPA 900.0 MOD	9362140	3	0.99	**2.22**	1	12/28/2009	1/2/2010	Jc
Gross Beta	EPA 900.0 MOD	9362140	4		**1.78**	1	12/28/2009	1/2/2010	Jc

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EPA 901.1 MOD

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL0771-02 (Outfall 009 (Comp) - Water)									
Reporting Units: pCi/L									
Cesium 137	EPA 901.1 MOD	9349219	20	16	**3.6**	1	12/15/2009	1/8/2010	U
Potassium 40	EPA 901.1 MOD	9349219	NA	300	**-40**	1	12/15/2009	1/8/2010	U

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EPA 903.0 MOD

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL0771-02 (Outfall 009 (Comp) - Water)									
Reporting Units: pCi/L									
Radium (226)	EPA 903.0 MOD	9345208	1	0.15	**0.096**	1	12/11/2009	1/5/2010	U

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EPA 904 MOD

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL0771-02 (Outfall 009 (Comp) - Water)									
Reporting Units: pCi/L									
Radium 228	EPA 904 MOD	9345210	1	1.1	**0.11**	1	12/11/2009	1/4/2010	U

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EPA 905 MOD

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL0771-02 (Outfall 009 (Comp) - Water)									
Reporting Units: pCi/L									
Strontium 90	EPA 905 MOD	9345211	3	0.58	**-0.05**	1	12/11/2009	12/23/2009	U

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EPA 906.0 MOD

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL0771-02 (Outfall 009 (Comp) - Water)									
Reporting Units: pCi/L									
Tritium	EPA 906.0 MOD	9365109	500	160	**-6**	1	1/4/2010	1/4/2010	U

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SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 009 (Comp) (ISL0771-02) - Water					
EPA 300.0	2	12/07/2009 11:12	12/07/2009 17:55	12/08/2009 20:45	12/08/2009 21:31
Filtration	1	12/07/2009 11:12	12/07/2009 17:55	12/09/2009 13:00	12/09/2009 13:00

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METHOD BLANK/QC DATA

HEXANE EXTRACTABLE MATERIAL

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9L10072 Extracted: 12/10/09										
Blank Analyzed: 12/10/2009 (9L10072-BLK1)										
Hexane Extractable Material (Oil & Grease)	ND	5.0	mg/l							
LCS Analyzed: 12/10/2009 (9L10072-BS1)										
Hexane Extractable Material (Oil & Grease)	20.4	5.0	mg/l	20.0		102	78-114			
LCS Dup Analyzed: 12/10/2009 (9L10072-BSD1)										
Hexane Extractable Material (Oil & Grease)	20.6	5.0	mg/l	20.0		103	78-114	1	11	
Matrix Spike Analyzed: 12/10/2009 (9L10072-MS1)					**Source: ISL1242-01**					
Hexane Extractable Material (Oil & Grease)	22.1	4.7	mg/l	19.0	3.60	98	78-114			

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9L09085 Extracted: 12/09/09										
Blank Analyzed: 12/09/2009 (9L09085-BLK1)										
Antimony	ND	2.0	ug/l							
Cadmium	ND	1.0	ug/l							
Copper	ND	2.0	ug/l							
Lead	ND	1.0	ug/l							
Thallium	ND	1.0	ug/l							
LCS Analyzed: 12/09/2009 (9L09085-BS1)										
Antimony	80.9	2.0	ug/l	80.0		101	85-115			
Cadmium	81.1	1.0	ug/l	80.0		101	85-115			
Copper	79.0	2.0	ug/l	80.0		99	85-115			
Lead	77.4	1.0	ug/l	80.0		97	85-115			
Thallium	76.9	1.0	ug/l	80.0		96	85-115			
Matrix Spike Analyzed: 12/09/2009 (9L09085-MS1)					**Source: ISL0786-07**					
Antimony	81.7	2.0	ug/l	80.0	ND	102	70-130			
Cadmium	79.0	1.0	ug/l	80.0	ND	99	70-130			
Copper	80.3	2.0	ug/l	80.0	ND	100	70-130			
Lead	74.8	1.0	ug/l	80.0	0.219	93	70-130			
Thallium	74.6	1.0	ug/l	80.0	ND	93	70-130			
Matrix Spike Dup Analyzed: 12/09/2009 (9L09085-MSD1)					**Source: ISL0786-07**					
Antimony	81.1	2.0	ug/l	80.0	ND	101	70-130	1	20	
Cadmium	78.5	1.0	ug/l	80.0	ND	98	70-130	1	20	
Copper	76.2	2.0	ug/l	80.0	ND	95	70-130	5	20	
Lead	73.7	1.0	ug/l	80.0	0.219	92	70-130	2	20	
Thallium	73.2	1.0	ug/l	80.0	ND	91	70-130	2	20	

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Project ID: Routine Outfall 009
Report Number: ISL0771

Sampled: 12/07/09
Received: 12/07/09

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9L11017 Extracted: 12/11/09										
Blank Analyzed: 12/11/2009 (9L11017-BLK1)										
Antimony	ND	2.0	ug/l							
Cadmium	ND	1.0	ug/l							
Copper	ND	2.0	ug/l							
Lead	ND	1.0	ug/l							
Thallium	ND	1.0	ug/l							
LCS Analyzed: 12/11/2009 (9L11017-BS1)										
Antimony	74.2	2.0	ug/l	80.0		93	85-115			
Cadmium	73.9	1.0	ug/l	80.0		92	85-115			
Copper	79.0	2.0	ug/l	80.0		99	85-115			
Lead	83.3	1.0	ug/l	80.0		104	85-115			
Thallium	80.2	1.0	ug/l	80.0		100	85-115			
Matrix Spike Analyzed: 12/11/2009 (9L11017-MS1)					**Source: ISL0771-02**					
Antimony	74.9	2.0	ug/l	80.0	0.514	93	70-130			
Cadmium	74.0	1.0	ug/l	80.0	ND	92	70-130			
Copper	82.5	2.0	ug/l	80.0	3.13	99	70-130			
Lead	83.8	1.0	ug/l	80.0	0.913	104	70-130			
Thallium	79.6	1.0	ug/l	80.0	0.238	99	70-130			
Matrix Spike Analyzed: 12/11/2009 (9L11017-MS2)					**Source: ISL1083-01**					
Antimony	76.7	4.0	ug/l	80.0	1.75	94	70-130			
Cadmium	79.9	2.0	ug/l	80.0	5.81	93	70-130			
Copper	207	4.0	ug/l	80.0	136	88	70-130			
Lead	86.6	2.0	ug/l	80.0	9.16	97	70-130			
Thallium	76.4	2.0	ug/l	80.0	ND	95	70-130			
Matrix Spike Dup Analyzed: 12/11/2009 (9L11017-MSD1)					**Source: ISL0771-02**					
Antimony	75.8	2.0	ug/l	80.0	0.514	94	70-130	1	20	
Cadmium	74.6	1.0	ug/l	80.0	ND	93	70-130	1	20	
Copper	82.6	2.0	ug/l	80.0	3.13	99	70-130	0	20	
Lead	82.7	1.0	ug/l	80.0	0.913	102	70-130	1	20	
Thallium	78.8	1.0	ug/l	80.0	0.238	98	70-130	1	20	

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9L08059 Extracted: 12/08/09										
Blank Analyzed: 12/08/2009 (9L08059-BLK1)										
Chloride	ND	0.50	mg/l							
Nitrate/Nitrite-N	ND	0.26	mg/l							
Sulfate	ND	0.50	mg/l							
LCS Analyzed: 12/08/2009 (9L08059-BS1)										
Chloride	5.01	0.50	mg/l	5.00		100	90-110			*M-3*
Sulfate	10.1	0.50	mg/l	10.0		101	90-110			*M-3*
Matrix Spike Analyzed: 12/08/2009 (9L08059-MS1)					**Source: ISL0804-01**					
Chloride	49.4	1.0	mg/l	5.00	44.1	105	80-120			*MHA*
Sulfate	20.6	1.0	mg/l	10.0	11.0	96	80-120			
Matrix Spike Dup Analyzed: 12/08/2009 (9L08059-MSD1)					**Source: ISL0804-01**					
Chloride	49.2	1.0	mg/l	5.00	44.1	102	80-120	0	20	*MHA*
Sulfate	20.7	1.0	mg/l	10.0	11.0	97	80-120	0	20	
Batch: 9L11013 Extracted: 12/11/09										
Blank Analyzed: 12/11/2009 (9L11013-BLK1)										
Total Dissolved Solids	ND	10	mg/l							
LCS Analyzed: 12/11/2009 (9L11013-BS1)										
Total Dissolved Solids	1010	10	mg/l	1000		101	90-110			
Duplicate Analyzed: 12/11/2009 (9L11013-DUP1)					**Source: ISL1190-01**					
Total Dissolved Solids	535	10	mg/l		539			1	10	

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METHOD BLANK/QC DATA

EPA-5 1613B

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9358216 Extracted: 12/24/09										
Blank Analyzed: 12/29/2009 (G9L240000216B)					**Source:**					
1,2,3,4,6,7,8-HpCDD	0.00004	0.00005	ug/L				-			*J*
1,2,3,4,6,7,8-HpCDF	0.000041	0.00005	ug/L				-			*J*
1,2,3,4,7,8,9-HpCDF	0.000038	0.00005	ug/L				-			*J*
1,2,3,4,7,8-HxCDD	0.000032	0.00005	ug/L				-			*J*
1,2,3,4,7,8-HxCDF	0.000033	0.00005	ug/L				-			*J*
1,2,3,6,7,8-HxCDD	0.000031	0.00005	ug/L				-			*J*
1,2,3,6,7,8-HxCDF	0.00003	0.00005	ug/L				-			*J*
1,2,3,7,8,9-HxCDD	0.000033	0.00005	ug/L				-			*J*
1,2,3,7,8,9-HxCDF	0.000031	0.00005	ug/L				-			*J*
1,2,3,7,8-PeCDD	0.000024	0.00005	ug/L				-			*J*
1,2,3,7,8-PeCDF	0.000021	0.00005	ug/L				-			*J*
2,3,4,6,7,8-HxCDF	0.000029	0.00005	ug/L				-			*J*
2,3,4,7,8-PeCDF	0.000025	0.00005	ug/L				-			*J*
2,3,7,8-TCDD	0.0000027	0.00001	ug/L				-			*J, Q*
2,3,7,8-TCDF	ND	0.00001	ug/L				-			*CON*
OCDD	0.000096	0.0001	ug/L				-			*J*
OCDF	0.000085	0.0001	ug/L				-			*J*
Total HpCDD	0.000044	0.00005	ug/L				-			*J*
Total HpCDF	0.000081	0.00005	ug/L				-			*J*
Total HxCDD	0.000096	0.00005	ug/L				-			*J*
Total HxCDF	0.00012	0.00005	ug/L				-			*J, Q*
Total PeCDD	0.000025	0.00005	ug/L				-			*J, Q*
Total PeCDF	0.000047	0.00005	ug/L				-			*J, Q*
Total TCDD	0.0000055	0.00001	ug/L				-			*J, Q*
Total TCDF	0.000012	0.00001	ug/L				-			*J, Q*
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	*0.0014*		*ug/L*	*0.002*		*72*	*23-140*			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	*0.0014*		*ug/L*	*0.002*		*71*	*28-143*			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	*0.0014*		*ug/L*	*0.002*		*70*	*26-138*			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	*0.0013*		*ug/L*	*0.002*		*66*	*32-141*			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	*0.0013*		*ug/L*	*0.002*		*67*	*26-152*			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	*0.0014*		*ug/L*	*0.002*		*68*	*28-130*			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	*0.0014*		*ug/L*	*0.002*		*71*	*26-123*			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	*0.0014*		*ug/L*	*0.002*		*70*	*29-147*			
Surrogate: 13C-1,2,3,7,8-PeCDD	*0.0011*		*ug/L*	*0.002*		*57*	*25-181*			
Surrogate: 13C-1,2,3,7,8-PeCDF	*0.0011*		*ug/L*	*0.002*		*57*	*24-185*			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	*0.0015*		*ug/L*	*0.002*		*73*	*28-136*			

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Project ID: Routine Outfall 009
Report Number: ISL0771

Sampled: 12/07/09
Received: 12/07/09

METHOD BLANK/QC DATA

EPA-5 1613B

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9358216 Extracted: 12/24/09										
Blank Analyzed: 12/29/2009 (G9L240000216B)					**Source:**					
Surrogate: 13C-2,3,4,7,8-PeCDF	*0.0012*		*ug/L*	*0.002*		*59*	*21-178*			
Surrogate: 13C-2,3,7,8-TCDD	*0.0012*		*ug/L*	*0.002*		*61*	*25-164*			
Surrogate: 13C-2,3,7,8-TCDF	*0.0012*		*ug/L*	*0.002*		*62*	*24-169*			
Surrogate: 37Cl4-2,3,7,8-TCDD	*0.00061*		*ug/L*	*0.0008*		*77*	*35-197*			
Surrogate: 13C-OCDD	*0.0028*		*ug/L*	*0.004*		*70*	*17-157*			
LCS Analyzed: 12/29/2009 (G9L240000216C)					**Source:**					
1,2,3,4,6,7,8-HpCDD	0.00093	0.00005	ug/L	0.001		93	70-140			*B*
1,2,3,4,6,7,8-HpCDF	0.000924	0.00005	ug/L	0.001		92	82-122			*B*
1,2,3,4,7,8,9-HpCDF	0.000939	0.00005	ug/L	0.001		94	78-138			*B*
1,2,3,4,7,8-HxCDD	0.000967	0.00005	ug/L	0.001		97	70-164			*B*
1,2,3,4,7,8-HxCDF	0.000987	0.00005	ug/L	0.001		99	72-134			*B*
1,2,3,6,7,8-HxCDD	0.000955	0.00005	ug/L	0.001		95	76-134			*B*
1,2,3,6,7,8-HxCDF	0.000944	0.00005	ug/L	0.001		94	84-130			*B*
1,2,3,7,8,9-HxCDD	0.00098	0.00005	ug/L	0.001		98	64-162			*B*
1,2,3,7,8,9-HxCDF	0.000942	0.00005	ug/L	0.001		94	78-130			*B*
1,2,3,7,8-PeCDD	0.000947	0.00005	ug/L	0.001		95	70-142			*B*
1,2,3,7,8-PeCDF	0.00097	0.00005	ug/L	0.001		97	80-134			*B*
2,3,4,6,7,8-HxCDF	0.00096	0.00005	ug/L	0.001		96	70-156			*B*
2,3,4,7,8-PeCDF	0.000961	0.00005	ug/L	0.001		96	68-160			*B*
2,3,7,8-TCDD	0.000187	0.00001	ug/L	0.0002		93	67-158			*B*
2,3,7,8-TCDF	0.000184	0.00001	ug/L	0.0002		92	75-158			
OCDD	0.00185	0.0001	ug/L	0.002		93	78-144			*B*
OCDF	0.00186	0.0001	ug/L	0.002		93	63-170			*B*
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	*0.00134*		*ug/L*	*0.002*		*67*	*23-140*			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	*0.0014*		*ug/L*	*0.002*		*70*	*28-143*			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	*0.0013*		*ug/L*	*0.002*		*65*	*26-138*			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	*0.0013*		*ug/L*	*0.002*		*65*	*32-141*			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	*0.00133*		*ug/L*	*0.002*		*66*	*26-152*			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	*0.00135*		*ug/L*	*0.002*		*67*	*28-130*			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	*0.00142*		*ug/L*	*0.002*		*71*	*26-123*			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	*0.00135*		*ug/L*	*0.002*		*67*	*29-147*			
Surrogate: 13C-1,2,3,7,8-PeCDD	*0.00113*		*ug/L*	*0.002*		*57*	*25-181*			
Surrogate: 13C-1,2,3,7,8-PeCDF	*0.00115*		*ug/L*	*0.002*		*57*	*24-185*			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	*0.00142*		*ug/L*	*0.002*		*71*	*28-136*			
Surrogate: 13C-2,3,4,7,8-PeCDF	*0.00118*		*ug/L*	*0.002*		*59*	*21-178*			

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METHOD BLANK/QC DATA

EPA-5 1613B

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9358216 Extracted: 12/24/09										
LCS Analyzed: 12/29/2009 (G9L240000216C)					**Source:**					
Surrogate: 13C-2,3,7,8-TCDD	*0.00127*		*ug/L*	*0.002*		*63*	*25-164*			
Surrogate: 13C-2,3,7,8-TCDF	*0.00131*		*ug/L*	*0.002*		*66*	*24-169*			
Surrogate: 37Cl4-2,3,7,8-TCDD	*0.000616*		*ug/L*	*0.0008*		*77*	*35-197*			
Surrogate: 13C-OCDD	*0.00253*		*ug/L*	*0.004*		*63*	*17-157*			

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METHOD BLANK/QC DATA

MCAWW 245.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9348214 Extracted: 12/14/09										
Matrix Spike Dup Analyzed: 12/14/2009 (D9L100591001D)					**Source: ISL0771-02**					
Mercury	1.62	0.2	ug/L	5	0.027	32	90-110	26	10	*N, **
Matrix Spike Analyzed: 12/14/2009 (D9L100591001S)					**Source: ISL0771-02**					
Mercury	2.11	0.2	ug/L	5	0.027	42	90-110			*N*
Blank Analyzed: 12/14/2009 (D9L140000214B)					**Source:**					
Mercury	ND	0.2	ug/L				-			
LCS Analyzed: 12/14/2009 (D9L140000214C)					**Source:**					
Mercury	5.04	0.2	ug/L	5		101	90-110			

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METHOD BLANK/QC DATA

MCAWW 245.1-DISS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9348240 Extracted: 12/14/09										
Matrix Spike Dup Analyzed: 12/14/2009 (D9L100591001D)					**Source: ISL0771-02**					
Mercury	5.13	0.2	ug/L	5	ND	102	90-110	0	10	
Matrix Spike Analyzed: 12/14/2009 (D9L100591001S)					**Source: ISL0771-02**					
Mercury	5.13	0.2	ug/L	5	ND	102	90-110			
Blank Analyzed: 12/14/2009 (D9L140000240B)					**Source:**					
Mercury	ND	0.2	ug/L				-			
LCS Analyzed: 12/14/2009 (D9L140000240C)					**Source:**					
Mercury	5.1	0.2	ug/L	5		102	90-110			

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METHOD BLANK/QC DATA

ASTM 5174-91

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 15135 Extracted: 01/15/10										
Blank Analyzed: 01/18/2010 (F0A150000135B)					**Source:**					
Total Uranium	0.496	0.677	pCi/L				-			*Jc*
LCS Analyzed: 01/18/2010 (F0A150000135C)					**Source:**					
Total Uranium	6.18	0.68	pCi/L	5.42		114	90-120			
Matrix Spike Dup Analyzed: 01/18/2010 (F9L100528001D)					**Source: ISL0771-02**					
Total Uranium	29	0.7	pCi/L	27.1	0.443	105	62-150	2	20	
Matrix Spike Analyzed: 01/18/2010 (F9L100528001S)					**Source: ISL0771-02**					
Total Uranium	29.4	0.7	pCi/L	27.1	0.443	107	62-150			

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METHOD BLANK/QC DATA

EPA 900.0 MOD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9362140 Extracted: 12/28/09										
Matrix Spike Analyzed: 01/02/2010 (F9L100528001S)					**Source: ISL0771-02**					
Gross Alpha	55.4	3	pCi/L	49.4	2.22	108	33-150			
Gross Beta	75.9	4	pCi/L	68.3	1.78	108	71-146			
Duplicate Analyzed: 01/02/2010 (F9L100528001X)					**Source: ISL0771-02**					
Gross Alpha	2.17	3	pCi/L		2.22		-			*Jc*
Gross Beta	2.79	4	pCi/L		1.78		-			*Jc*
Blank Analyzed: 01/02/2010 (F9L280000140B)					**Source:**					
Gross Alpha	0.32	3	pCi/L				-			*U*
Gross Beta	-0.15	4	pCi/L				-			*U*
LCS Analyzed: 01/04/2010 (F9L280000140C)					**Source:**					
Gross Alpha	51.2	3	pCi/L	49.4		103	80-140			
Gross Beta	71.5	4	pCi/L	68.3		105	77-123			

TestAmerica Irvine

Kathleen A. Robb For Joseph Doak
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

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

Project ID: Routine Outfall 009
Report Number: ISL0771

Sampled: 12/07/09
Received: 12/07/09

METHOD BLANK/QC DATA

EPA 901.1 MOD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9349219 Extracted: 12/15/09										
Duplicate Analyzed: 01/08/2010 (F9L100525001X)					**Source: F9L100525001**					
Cesium 137	0	20	pCi/L		0.06		-			*U*
Potassium 40	-130	NA	pCi/L		-60		-			*U*
Blank Analyzed: 01/08/2010 (F9L150000219B)					**Source:**					
Cesium 137	2.7	20	pCi/L				-			*U*
Potassium 40	-60	NA	pCi/L				-			*U*
LCS Analyzed: 01/08/2010 (F9L150000219C)					**Source:**					
Americium 241	130000	NA	pCi/L	141000		92	90-110			
Cobalt 60	79200	NA	pCi/L	87900		90	90-110			
Cesium 137	48500	20	pCi/L	53100		91	90-110			

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Attention: Bronwyn Kelly

Project ID: Routine Outfall 009
Report Number: ISL0771

Sampled: 12/07/09
Received: 12/07/09

METHOD BLANK/QC DATA

EPA 903.0 MOD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9345208 Extracted: 12/11/09										
Blank Analyzed: 01/05/2010 (F9L110000208B)					**Source:**					
Radium (226)	0.059	1	pCi/L				-			*U*
LCS Analyzed: 01/05/2010 (F9L110000208C)					**Source:**					
Radium (226)	10.7	1	pCi/L	11.3		95	45-150			
LCS Dup Analyzed: 01/05/2010 (F9L110000208L)					**Source:**					
Radium (226)	11.2	1	pCi/L	11.3		99	45-150	4	40	

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

Project ID: Routine Outfall 009
Report Number: ISL0771

Sampled: 12/07/09
Received: 12/07/09

METHOD BLANK/QC DATA

EPA 904 MOD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9345210 Extracted: 12/11/09										
Blank Analyzed: 01/04/2010 (F9L110000210B)					**Source:**					
Radium 228	0.32	1	pCi/L				-			*U*
LCS Analyzed: 01/04/2010 (F9L110000210C)					**Source:**					
Radium 228	6.51	1	pCi/L	6.53		100	64-150			
LCS Dup Analyzed: 01/04/2010 (F9L110000210L)					**Source:**					
Radium 228	6.06	1	pCi/L	6.53		93	64-150	7	40	

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Project Manager

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

Project ID: Routine Outfall 009
Report Number: ISL0771

Sampled: 12/07/09
Received: 12/07/09

METHOD BLANK/QC DATA

EPA 905 MOD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9345211 Extracted: 12/11/09										
Blank Analyzed: 12/23/2009 (F9L110000211B)					**Source:**					
Strontium 90	0.02	3	pCi/L				-			*U*
LCS Analyzed: 12/23/2009 (F9L110000211C)					**Source:**					
Strontium 90	6.68	3	pCi/L	6.83		98	90-143			
LCS Dup Analyzed: 12/23/2009 (F9L110000211L)					**Source:**					
Strontium 90	6.57	3	pCi/L	6.83		96	90-143	2	40	

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

Project ID: Routine Outfall 009
Report Number: ISL0771

Sampled: 12/07/09
Received: 12/07/09

METHOD BLANK/QC DATA

EPA 906.0 MOD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9365109 Extracted: 01/04/10										
Duplicate Analyzed: 01/04/2010 (F9L100525001X)					**Source: F9L100525001**					
Tritium	34	500	pCi/L		-26		-			*U*
Matrix Spike Analyzed: 01/04/2010 (F9L100528001S)					**Source: ISL0771-02**					
Tritium	4360	500	pCi/L	4560	-6	96	62-147			
Blank Analyzed: 01/04/2010 (F9L310000109B)					**Source:**					
Tritium	120	500	pCi/L				-			*U*
LCS Analyzed: 01/04/2010 (F9L310000109C)					**Source:**					
Tritium	4380	500	pCi/L	4560		96	85-112			

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

Project ID: Routine Outfall 009
Report Number: ISL0771

Sampled: 12/07/09
Received: 12/07/09

DATA QUALIFIERS AND DEFINITIONS

*****	Relative percent difference (RPD) is outside stated control limits.
B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
CON	Confirmation analysis.
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.
Jc	Result is greater than sample detection limit but less than stated reporting limit.
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.
Q	Estimated maximum possible concentration (EMPC).
U	Result is less than the sample detection limit.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

TestAmerica Irvine

Kathleen A. Robb For Joseph Doak
Project Manager

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

Project ID: Routine Outfall 009

Report Number: ISL0771

Sampled: 12/07/09
Received: 12/07/09

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EDD + Level 4	Water	N/A	N/A
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 Chrnic
Samples: ISL0771-02

Analysis Performed: EDD + Level 4
Samples: ISL0771-02

TestAmerica Denver
4955 Yarrow Street - Arvada, CO 80002

Method Performed: MCAWW 245.1
Samples: ISL0771-02

Method Performed: MCAWW 245.1-DISS
Samples: ISL0771-02

TestAmerica Irvine

Kathleen A. Robb For Joseph Doak
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

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

Project ID: Routine Outfall 009
Report Number: ISL0771

Sampled: 12/07/09
Received: 12/07/09

TestAmerica St. Louis

13715 Rider Trail North - Earth City, MO 63045

Method Performed: ASTM 5174-91
Samples: ISL0771-02

Method Performed: EPA 900.0 MOD
Samples: ISL0771-02

Method Performed: EPA 901.1 MOD
Samples: ISL0771-02

Method Performed: EPA 903.0 MOD
Samples: ISL0771-02

Method Performed: EPA 904 MOD
Samples: ISL0771-02

Method Performed: EPA 905 MOD
Samples: ISL0771-02

Method Performed: EPA 906.0 MOD
Samples: ISL0771-02

TestAmerica West Sacramento

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B
Samples: ISL0771-02RE1

TestAmerica Irvine

Kathleen A. Robb For Joseph Doak
Project Manager

Test America Version 6/29/09

CHAIN OF CUSTODY FORM

Client Name/Address:
MWH-Arcadia
618 Michillinda Ave, Suite 200
Arcadia, CA 91007

Test America Contact: Joseph Doak

Project:
Boeing-SSFL NPDES
Semi-Annual Outfall 009
GRAB
Stormwater at WS-13

Project Manager: Bronwyn Kelly

Sampler: S Dawson

Phone Number:
(626) 568-6691
Fax Number:
(626) 568-6515

ANALYSIS REQUIRED

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Oil & Grease (1664-HEM)
Outfall 009	W	1L Amber	2	12/7/09-1112	HCl	1A, 1B	X

Field readings:

Temp °F = 46.6

pH = 6.84

Time of readings =

1112

Comments

These Samples are the Grab Portion of Outfall 009 for this storm event. Composite samples will follow and are to be added to this work order.

Relinquished By	Date/Time:	Received By	Date/Time:
[signature]	12/7/09 15:35	[signature]	12-7-09 15:35
[signature]	12-7-09 17:55	[signature]	12/7/09 17:55

Turn-around time: (Check)
24 Hour: ____ 72 Hour: ____ 10 Day: X
48 Hour: ____ 5 Day: ____ Normal: ____

Sample Integrity: (Check)
Intact: ✓ On Ice: X 3.2°C #122

Data Requirements: (Check)
No Level IV: ____ All Level IV: ____ NPDES Level IV: X

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Joseph Doak	Boeing-SSFL NPDES **Semi-Annual Outfall 009** ~~COMPOSITE~~ GRAB Stormwater at WS-13
Project Manager: Bronwyn Kelly Sampler: S Dawson	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

ANALYSIS REQUIRED

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Cl, SO_4, NO_3+NO_2-N, Perchlorate	TDS	Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, CS-137 (901.0 or 901.1)	**Chronic Toxicity**	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl	Comments
Outfall 009	W	1L Poly	1	12/7/09 - 1112	HNO_3	2A	X							HOLD Until Notified
Outfall 009 Dup	W	1L Poly	1		HNO_3	2B	X							HOLD ALL
Outfall 009	W	1L Amber	2		None	3A, 3B		X						
Outfall 009	W	500 mL Poly	2		None	4A, 4B			X					
Outfall 009	W	500 mL Poly	1		None	5				X				
Outfall 009	W	2.5 Gal Cube	1		None	6A					X			Unfiltered and unpreserved analysis
		500 ml Amber	1		None	6B								
Outfall 009	W	1 Gal Poly	1		None	7						X		Only test if first or second rain events of the year
Outfall 009	W	1L Poly	1		None	8							X	Filter w/in 24hrs of receipt at lab

GRAB

COC Page 2 of 2 are ~~the composite~~ samples for Outfall 009 for this storm event.

These must be added to the same work order for COC Page 1 of 2 for Outfall 009 for the same event.

Relinquished By	Date/Time:	Received By	Date/Time:
[signature]	12/7/09 15:35	[signature]	12-7-09 15:35
Relinquished By	Date/Time:	Received By	Date/Time:
[signature]	12-7-09 17:57	[signature]	12/7/09 17:55
Relinquished By	Date/Time:	Received By	Date/Time:

Turn-around time: (Check)

24 Hour: ____ 72 Hour: ____ 10 Day: ____

48 Hour: ____ 5 Day: ____ Normal: X

Sample Integrity: (Check)

Intact: ✓ On Ice: X 3.2°C #122

Data Requirements: (Check)

No Level IV: ____ All Level IV: ____ NPDES Level IV: X

CHAIN OF CUSTODY FORM

Client Name/Address:
MWH-Arcadia
618 Michillinda Ave, Suite 200
Arcadia, CA 91007

SD

Test America Contact: Joseph Doak

Project:
Boeing-SSFL NPDES
~~Semi Annual~~ Outfall 009
GRAB Routine
Stormwater at WS-13

Project Manager: Bronwyn Kelly

Sampler: S Dawsen

Phone Number:
(626) 568-6691
Fax Number:
(626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Oil & Grease (1664-HEM)	Field readings:	Comments
Outfall 009	W	1L Amber	2	12/7/09 - 1112	HCl	1A, 1B	X	Temp °F = 46.6 pH = 6.8 Time of readings = 1112	

ANALYSIS REQUIRED

These Samples are the Grab Portion of Outfall 009 for this storm event. Composite samples will follow and are to be added to this work order.

Relinquished By	Date/Time:	Received By	Date/Time:
[signature]	12/7/09 15:35	[signature]	12-7-09 15:35
Relinquished By	Date/Time:	Received By	Date/Time:
Relinquished By	Date/Time:	Received By	Date/Time:

Turn-around time: (Check)
24 Hour: ____ 72 Hour: ____ 10 Day: X
48 Hour: ____ 5 Day: ____ Normal: ____

Sample Integrity: (Check)
Intact: ____ On Ice: X

Data Requirements: (Check)
No Level IV: ____ All Level IV: ____ NPDES Level IV: X

CHAIN OF CUSTODY FORM

Client Name/Address:
MWH-Arcadia
618 Michillinda Ave, Suite 200
Arcadia, CA 91007

Test America Contact: Joseph Doak

Project:
Boeing-SSFL NPDES Routine
~~Semi-Annual~~ Outfall 009
~~COMPOSITE~~ GRAB
Stormwater at WS-13

Project Manager: Bronwyn Kelly

Sampler: S Dawson

Phone Number:
(626) 568-6691
Fax Number:
(626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Cl, SO_4, NO_3+NO_2-N, Perchlorate	TDS	Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, CS-137 (901.0 or 901.1)	Chronic Toxicity	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl	Comments
Outfall 009	W	1L Poly	1	12/7/09 · 1112	HNO_3	2A	X							HOLD
Outfall 009 Dup	W	1L Poly	1		HNO_3	2B	X							ALL
Outfall 009	W	1L Amber	2		None	3A, 3B		X						
Outfall 009	W	500 mL Poly	2		None	4A, 4B			X					
Outfall 009	W	500 mL Poly	1		None	5				X				
Outfall 009	W	2.5 Gal Cube	1		None	6A					X			Unfiltered and unpreserved analysis
		500 ml Amber	1		None	6B								
Outfall 009	W	1 Gal Poly	1		None	7						X		Only test if first or second rain events of the year
Outfall 009	W	1L Poly	1		None	8							X	Filter w/in 24hrs of receipt at lab

HOLD Until Notified

GRAB

COC Page 2 of 2 are ~~the composite~~ samples for Outfall 009 for this storm event.

These must be added to the same work order for COC Page 1 of 2 for Outfall 009 for the same event.

Relinquished By	Date/Time:	Received By	Date/Time:
[signature]	12/7/09 15:35	[signature]	12-7-09 15:35
Relinquished By	Date/Time:	Received By	Date/Time:
Relinquished By	Date/Time:	Received By	Date/Time:

Turn-around time: (Check)
24 ~~Hour~~: ____ 72 Hour: ____ 10 Day: ____
48 Hour: ____ 5 Day: ____ Normal: X

Sample Integrity: (Check)
Intact: ____ On Ice: X

Data Requirements: (Check)
No Level IV: ____ All Level IV: ____ NPDES Level IV: X

LABORATORY REPORT

Aquatic Testing Laboratories

"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: November 15, 2009

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

Laboratory No.: A-09120806-001
Sample I.D.: ISL0771-02 (Outfall 009)

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:	12/07/09
Date Received:	12/08/09
Temp. Received:	2.0°C
Chlorine (TRC):	0.0 mg/l
Date Tested:	12/08/09 to 12/15/09

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:

	NOEC	TUc
Ceriodaphnia Survival:	100%	1.0
Ceriodaphnia Reproduction:	100%	1.0

Quality Control: Reviewed and approved by:

Joseph A. LeMay
Laboratory Director

CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0

Aquatic Testing Laboratories

Lab No.: A-09120806-001
Client/ID: Test America – ISL0771-02 (Outfall 009)

Date Tested: 12/08/09 to 12/15/09

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).
QA/QC Batch No.: RT-091208.

Endpoints: Survival and Reproduction.
Source: In-laboratory culture.
Food: .1 ml YTC, algae per day.
Test solution volume: 15 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%	25.9
100% Sample	100%	27.6
* 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 (25.9 young)
≥60% surviving controls had 3 broods	Pass (100% with 3 broods)
PMSD <47% for reproduction; if >47% and no toxicity at IWC, the test must be repeated	Pass (PMSD = 5.2%)
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:	12/8/2009 15:00	Test ID:	9120806c	Sample ID:	Outfall 009
End Date:	12/15/2009 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	EFF2-Industrial
Sample Date:	12/7/2009 11:12	Protocol:	FWCH EPA	Test Species:	CD-Ceriodaphnia dubia
Comments:					

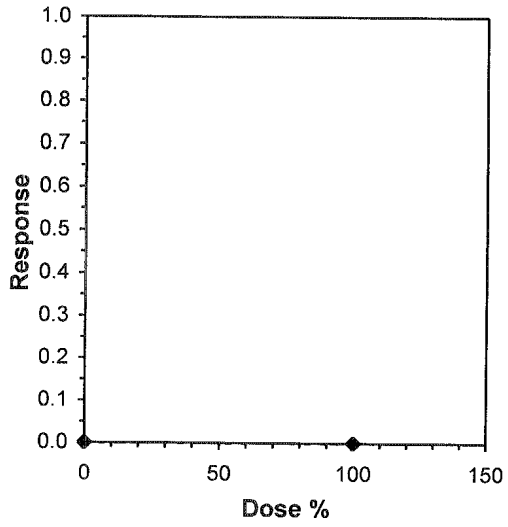
Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Conc-%	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Isotonic Mean	Isotonic 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)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	100	>100		1
Treatments vs D-Control				

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:	12/8/2009 15:00	Test ID:	9120806c	Sample ID:	Outfall 009
End Date:	12/15/2009 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	EFF2-Industrial
Sample Date:	12/7/2009 11:12	Protocol:	FWCH EPA	Test Species:	CD-Ceriodaphnia dubia
Comments:					

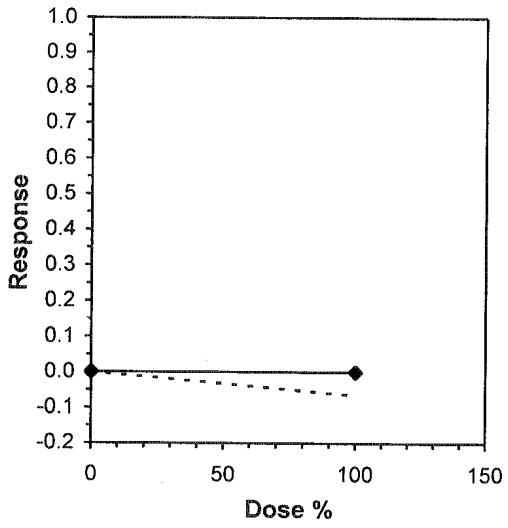
Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	25.000	26.000	26.000	25.000	27.000	25.000	29.000	25.000	25.000	26.000
100	28.000	29.000	29.000	31.000	26.000	26.000	26.000	29.000	24.000	28.000

			Transform: Untransformed					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	25.900	1.0000	25.900	25.000	29.000	4.968	10				26.750	1.0000
100	27.600	1.0656	27.600	24.000	31.000	7.484	10	-2.209	1.734	1.334	26.750	1.0000

Auxiliary Tests	Statistic		Critical		Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.95616		0.905		0.20163	0.40739
F-Test indicates equal variances (p = 0.17)	2.57718		6.54109			
Hypothesis Test (1-tail, 0.05)	**MSDu**	**MSDp**	**MSB**	**MSE**	**F-Prob**	**df**
Homoscedastic t Test indicates no significant differences	1.33447	0.05152	14.45	2.96111	0.04037	1, 18
Treatments vs D-Control						

Linear Interpolation (200 Resamples)

Point	%	SD	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

Aquatic Testing Laboratories

Lab No.: A-09120806-001
Client ID: TestAmerica - Outfall 009
Start Date: 12/08/2009

		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:															
Time of Readings:		1500	1500	1500	1400	1400	1500	1500	1400	1400	1500	1500	1500	1500	1400
Control	DO	8.2	8.2	8.8	8.1	8.8	8.3	9.2	7.9	8.0	8.2	8.2	7.9	8.2	8.2
	pH	7.9	7.7	7.7	7.8	7.8	7.8	7.8	7.7	7.8	7.7	7.9	7.7	7.8	7.6
	Temp	24.2	24.1	24.3	24.9	24.7	25.2	25.1	25.5	26.0	25.6	25.8	24.2	24.4	24.2
100%	DO	10.7	8.1	11.4	8.0	8.2	8.3	10.3	8.0	10.0	8.1	9.8	8.0	9.8	7.7
	pH	6.7	7.4	7.1	7.5	6.9	7.7	6.7	7.2	6.9	7.2	6.9	7.6	7.1	7.6
	Temp	24.2	24.1	24.3	25.1	24.1	25.1	24.9	25.4	25.4	25.4	24.5	24.3	24.4	24.2

Additional Parameters	Control	100% Sample
Conductivity (umohms)	333	38
Alkalinity (mg/l $CaCO_3$)	72	7
Hardness (mg/l $CaCO_3$)	93	20
Ammonia (mg/l NH_3-N)	<0.2	0.6

Source of Neonates

Replicate:	A	B	C	D	E	F	G	H	I	J
Brood ID:	H4	H5	H6	A4	B5	B6	C4	D4	D6	E5

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	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	4	0	0	0	0	0	2	0	2	8	10	
	4	4	0	3	3	4	3	4	0	4	0	25	10	
	5	7	9	8	8	9	7	9	8	7	9	81	10	
	6	14	13	0	0	14	0	0	15	14	0	70	10	
	7	0	0	15	14	0	15	16	0	0	15	75	10	
	Total	25	26	26	25	27	25	29	25	25	26	254	10	
100%	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	5	5	5	3	0	0	0	4	5	27	10	
	4	4	0	0	0	0	3	4	4	0	0	15	10	
	5	7	8	9	9	7	9	8	9	6	8	80	10	
	6	17	14	15	0	16	14	14	0	14	15	121	10	
	7	0	0	0	17	0	(13)	0	16	0	(14)	33	10	
	Total	28	29	29	31	26	26	26	29	24	28	276	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.

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Joseph Doak	Boeing-SSFL NPDES **Semi-Annual Outfall 009** ~~COMPOSITE~~ GRAB Stormwater at WS-13
Project Manager: Bronwyn Kelly Sampler: S Dawson	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	ANALYSIS REQUIRED: Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Cl⁻, SO_4, NO_3+NO_2-N, Perchlorate	TDS	Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, CS-137 (901.0 or 901.1)	Chronic Toxicity	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl							Comments
Outfall 009	W	1L Poly	1	12/7/09 - 1112	HNO_3	2A	X													HOLD
Outfall 009 Dup	W	1L Poly	1		HNO_3	2B	X													ALL
Outfall 009	W	1L Amber	2		None	3A, 3B		X												
Outfall 009	W	500 mL Poly	2		None	4A, 4B			X											
Outfall 009	W	500 mL Poly	1		None	5				X										
Outfall 009	W	2.5 Gal Cube	1		None	6A					X									Unfiltered and unpreserved analysis
		500 ml Amber	1		None	6B														
Outfall 009	W	1 Gal Poly	1		None	7						X								Only test if first or second rain events of the year
Outfall 009	W	1L Poly	1		None	8							X							Filter w/in 24hrs of receipt at lab

GRAB

COC Page 2 of 2 are ~~the composite~~ samples for Outfall 009 for this storm event.

These must be added to the same work order for COC Page 1 of 2 for Outfall 009 for the same event.

Relinquished By	Date/Time:	Received By	Date/Time:
[signature]	12/7/09 15:35	[signature]	12-7-09 15:35
[signature]	12-7-09 17:57	[signature]	12/7/09 17:55
[signature]	12-8-09 11:00	[signature]	12-8-09 1102

Turn-around time: (Check)
24 Hour: ____ 72 Hour: ____ 10 Day: ____
48 Hour: ____ 5 Day: ____ Normal: X

Sample Integrity: (Check)
Intact: ✓ On Ice: X 3.2°C #122

Data Requirements: (Check)
No Level IV: ____ All Level IV: ____ NPDES Level IV: X

SUBCONTRACT ORDER
TestAmerica Irvine

ISL0771

SENDING LABORATORY:

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

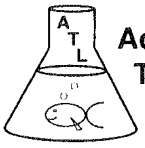
RECEIVING LABORATORY:

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: 2-0 °C Ice: (Y) / N

Standard TAT is requested unless specific due date is requested. => Due Date: _____ Initials: _____

Analysis	Units	Expires	Comments
Sample ID: ISL0771-02 (Outfall 009 (~~Comp~~) - Water)		Sampled: 12/07/09 11:12	
Bioassay-7 dy Chrnic	N/A	12/08/09 23:12	Cerio, EPA/821-R02-013, Sub to Aquatic testing
EDD + Level 4	N/A	01/04/10 11:12	Excel EDD email to pm,Include Std logs for Lvl IV
Containers Supplied:			
1 gal Poly (J)			

Released By	12-8-09 1100 Date/Time	Received By	12-8-09 1100 Date/Time
Released By	Date/Time	Received By	Date/Time



Aquatic
Testing
Laboratories

REFERENCE TOXICANT DATA

CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0
REFERENCE TOXICANT - NaCl

Aquatic Testing Laboratories

QA/QC Batch No.: RT-091208

Date Tested: 12/08/09 to 12/15/09

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%		21.4	
0.25 g/l	100%		24.2	
0.5 g/l	100%		23.7	
1.0 g/l	100%		11.9	*
2.0 g/l	80%		3.4	*
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	2.5 g/l
Reproduction IC25	0.76 g/l

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥80%	Pass (100% Survival)
≥15 young per surviving control female	Pass (21.4 young)
≥60% surviving controls had 3 broods	Pass (100% with 3 broods)
PMSD <47% for reproduction	Pass (PMSD = 10.5%)
Stat. sig. diff. conc. relative difference >13%	Pass (Stat. sig. diff. conc. Relative difference= 44.4%)
Concentration response relationship acceptable	Pass (Response curve normal)

Ceriodaphnia Survival and Reproduction Test-7 Day Survival

Start Date:	12/8/2009 15:00	Test ID:	RT091208c	Sample ID:	REF-Ref Toxicant
End Date:	12/15/2009 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	NACL-Sodium chloride
Sample Date:	12/8/2009	Protocol:	FWCH EPA	Test Species:	CD-Ceriodaphnia dubia
Comments:					

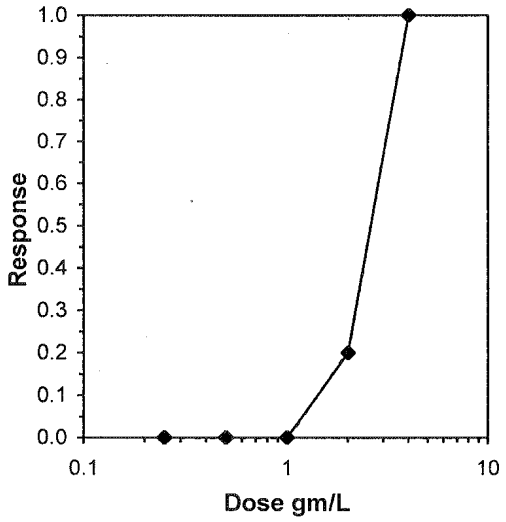
Conc-gm/L	1	2	3	4	5	6	7	8	9	10
B-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.25	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	1.0000	1.0000	0.0000	1.0000	1.0000	0.0000	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
B-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	0.8000	0.8000	2	8	10	10	0.2368	0.0500	2	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 B-Control				

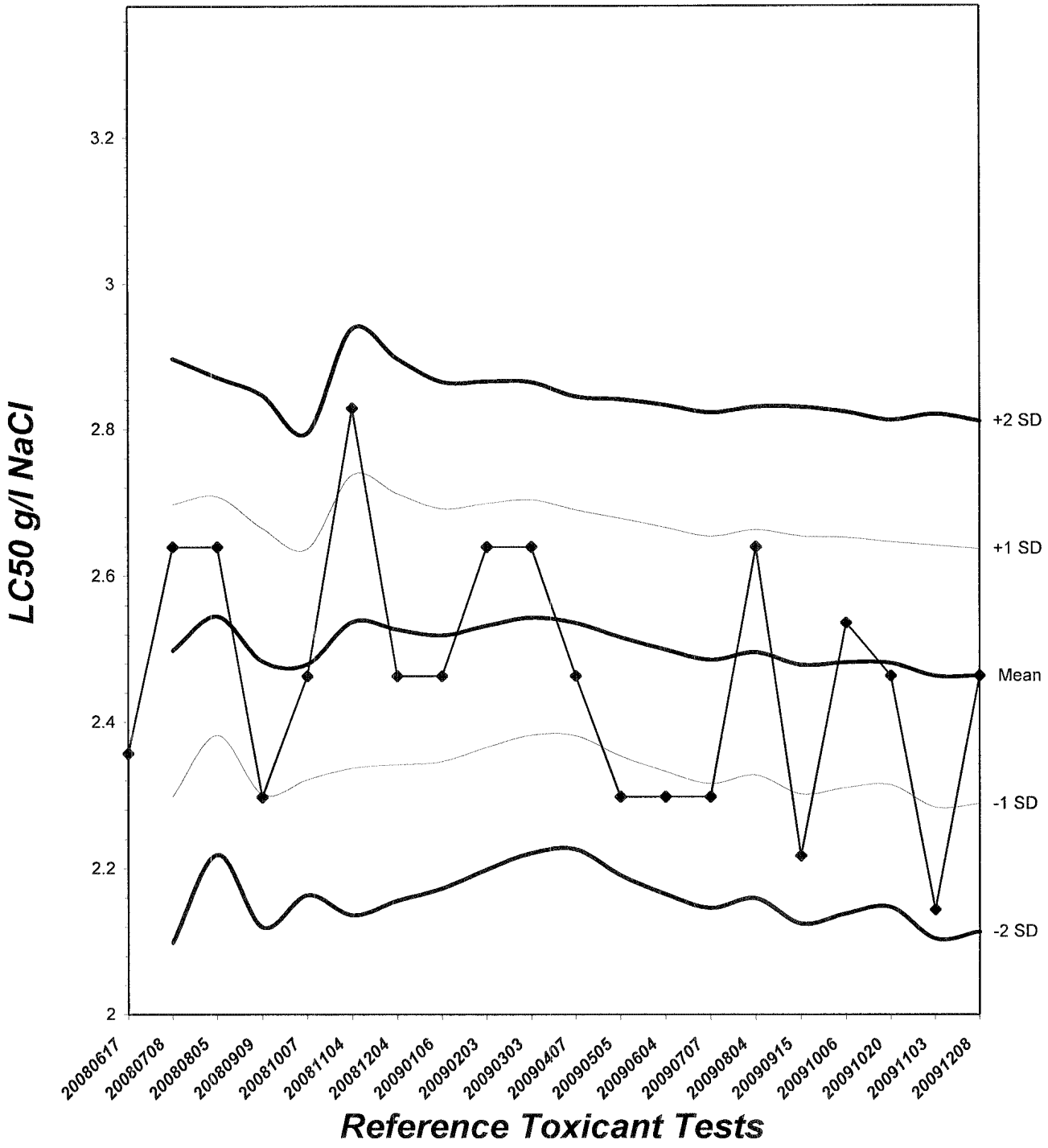
Trimmed Spearman-Karber

Trim Level	EC50	95% CL	
0.0%	2.4623	2.0663	2.9342
5.0%	2.5108	2.0545	3.0683
10.0%	2.5519	1.9976	3.2599
20.0%	2.5937	2.2616	2.9745
Auto-0.0%	2.4623	2.0663	2.9342



Ceriodaphnia Chronic Survival Laboratory Control Chart

CV% = 7.08



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	12/8/2009 15:00	Test ID:	RT091208c	Sample ID:	REF-Ref Toxicant
End Date:	12/15/2009 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	NACL-Sodium chloride
Sample Date:	12/8/2009	Protocol:	FWCH EPA	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Conc-gm/L	1	2	3	4	5	6	7	8	9	10
B-Control	20.000	19.000	20.000	24.000	20.000	21.000	24.000	21.000	23.000	22.000
0.25	27.000	25.000	26.000	24.000	21.000	24.000	26.000	25.000	20.000	24.000
0.5	24.000	20.000	27.000	24.000	25.000	22.000	22.000	25.000	23.000	25.000
1	12.000	13.000	17.000	9.000	15.000	13.000	8.000	8.000	9.000	15.000
2	5.000	3.000	2.000	3.000	7.000	2.000	2.000	2.000	5.000	3.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

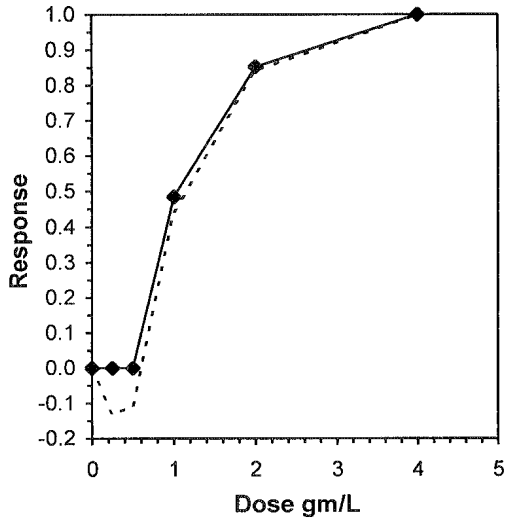
			Transform: Untransformed					1-Tailed			Isotonic	
Conc-gm/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
B-Control	21.400	1.0000	21.400	19.000	24.000	8.301	10				23.100	1.0000
0.25	24.200	1.1308	24.200	20.000	27.000	9.095	10	-2.773	2.223	2.245	23.100	1.0000
0.5	23.700	1.1075	23.700	20.000	27.000	8.451	10	-2.278	2.223	2.245	23.100	1.0000
*1	11.900	0.5561	11.900	8.000	17.000	27.288	10	9.408	2.223	2.245	11.900	0.5152
*2	3.400	0.1589	3.400	2.000	7.000	50.373	10	17.827	2.223	2.245	3.400	0.1472
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)	0.9759	0.947	-0.0043	-0.4159
Bartlett's Test indicates equal variances (p = 0.27)	5.13764	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test Treatments vs B-Control	0.5	1	0.70711		2.24497	0.10491	817.57	5.09778	5.2E-26	4, 45

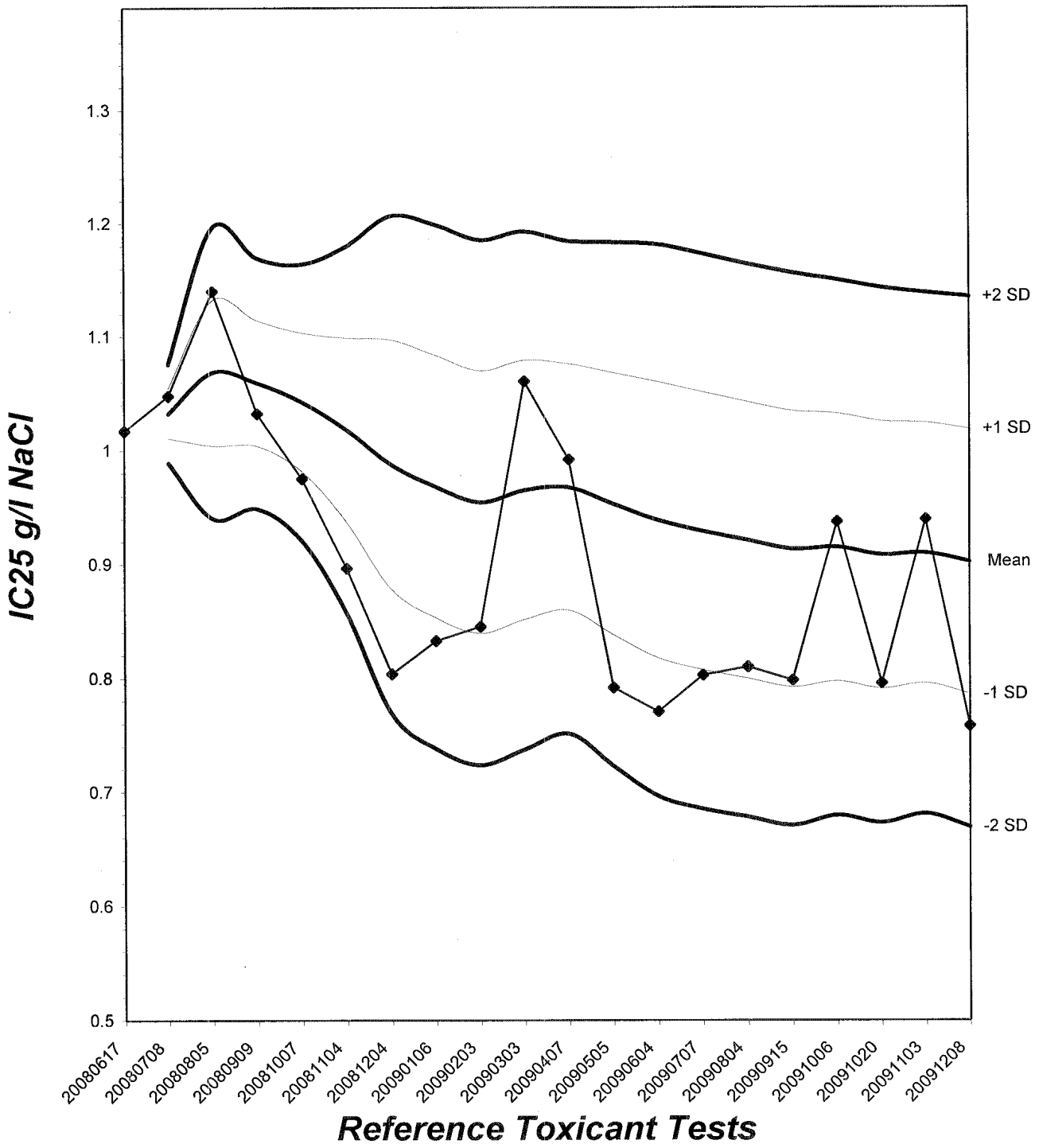
Linear Interpolation (200 Resamples)

Point	gm/L	SD	95% CL		Skew
IC05	0.5516	0.0118	0.5284	0.5608	-5.4562
IC10	0.6031	0.0119	0.5774	0.6216	-1.4663
IC15	0.6547	0.0152	0.6281	0.6825	-0.4551
IC20	0.7063	0.0190	0.6734	0.7433	-0.0416
IC25	0.7578	0.0230	0.7215	0.8041	0.1328
IC40	0.9125	0.0358	0.8551	0.9866	0.3331
IC50	1.0412	0.0766	0.9444	1.2179	0.3935



Ceriodaphnia Chronic Reproduction Laboratory Control Chart

CV% = 12.9



CERIODAPHNIA DUBIA CHRONIC BIOASSAY
Reference Toxicant - NaCl
Reproduction and Survival Raw Data Sheet

Aquatic Testing Laboratories

QA/QC No.: RT-091208

Start Date:12/08/2009

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	
	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	3	4	2	3	4	3	3	4	3	3	32	10	
	5	8	7	6	7	0	0	9	7	8	7	59	10	
	6	9	8	0	0	6	7	12	10	0	12	64	10	
	7	0	(14)	12	14	10	11	0	0	12	0	59	10	
	Total	20	19	20	24	20	21	24	21	23	22	214	10	
0.25 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	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	3	4	4	2	4	3	3	4	0	3	30	10	
	5	0	9	7	8	0	7	8	9	4	8	60	10	
	6	8	12	0	14	6	14	15	12	6	13	100	10	
	7	16	0	15	0	11	0	0	0	10	0	52	10	
	Total	27	25	26	24	21	24	26	25	20	24	242	10	
0.5 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	4	0	0	0	0	0	0	0	0	3	7	10	
	4	0	4	3	3	4	3	2	4	3	0	26	10	
	5	8	0	9	0	7	0	9	0	8	7	48	10	
	6	12	6	15	7	14	7	0	7	0	15	83	10	
	7	0	10	0	14	0	12	11	14	12	0	73	10	
	Total	24	20	27	24	25	22	22	25	23	25	237	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

Aquatic Testing Laboratories

QA/QC No.: RT-091208

Start Date:12/08/2009

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	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	0	0	0	0	0	0	3	3	10	
	4	3	4	2	2	3	4	4	4	3	0	29	10	
	5	0	3	5	0	6	5	0	0	0	4	23	10	
	6	4	0	0	3	0	0	4	4	6	0	21	10	
	7	5	6	10	4	6	4	0	0	0	8	43	10	
	Total	12	13	17	9	15	13	8	8	9	15	169	10	
2.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	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	3	0	0	0	2	2	0	0	3	0	10	10	
	5	0	3	2	0	0	X	2	0	0	3	10	9	
	6	2	0	X	3	2	-	0	2	0	0	9	8	
	7	0	0	-	0	3	-	0	0	2	0	5	8	
	Total	5	3	2	3	7	2	2	2	5	3	34	8	
4.0 g/l	1	X	X	X	X	X	X	X	X	X	X	0	0	
	2	X	X	X	X	X	X	X	X	X	X	—	—	—
	3	—	—	—	—	—	—	—	—	—	—	—	—	—
	4	—	—	—	—	—	—	—	—	—	—	—	—	—
	5	—	—	—	—	—	—	—	—	—	—	—	—	—
	6	—	—	—	—	—	—	—	—	—	—	—	—	—
	7	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	—	—	—	—	—	—	—	—	—	—	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

Aquatic Testing Laboratories

QA/QC No.: RT-091208

Start Date:12/08/2009

		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:															
Time of Readings:		1500	1500	1500	1400	1400	1500	1500	1400	1400	1500	1500	1500	1500	1400
Control	DO	8.1	8.1	8.1	8.5	8.7	8.3	8.4	8.2	8.0	8.3	8.2	7.9	8.0	8.2
	pH	7.8	8.0	7.7	8.0	7.8	8.0	7.8	7.9	7.8	7.9	7.8	7.7	7.8	7.8
	Temp	24.2	24.4	24.4	24.2	24.7	25.1	25.5	25.2	25.9	24.9	25.4	24.2	24.1	24.6
0.25 g/l	DO	8.1	8.1	8.1	8.6	8.7	8.2	8.4	8.0	8.0	8.1	8.2	8.0	8.0	8.3
	pH	7.8	8.0	7.7	8.1	7.8	8.0	7.8	7.9	7.8	7.9	7.8	7.7	7.8	7.9
	Temp	24.2	24.4	24.4	24.4	24.7	25.2	25.6	25.2	25.9	24.8	25.3	24.3	24.1	24.8
0.5 g/l	DO	8.2	8.2	8.1	8.5	8.7	8.3	8.4	7.9	7.9	8.3	8.2	7.9	8.0	8.3
	pH	7.9	8.0	7.8	8.1	7.8	8.0	7.8	7.9	7.9	7.9	7.8	7.7	7.8	7.7
	Temp	24.2	24.5	24.4	24.5	24.7	25.4	25.6	25.3	25.9	24.9	25.4	24.5	24.2	24.9
1.0 g/l	DO	8.2	8.2	8.2	8.4	8.7	8.2	8.5	7.9	7.9	8.2	8.3	8.0	8.1	8.1
	pH	7.9	8.0	7.8	8.1	7.8	8.0	7.8	7.9	7.9	7.9	7.9	7.8	7.8	7.7
	Temp	24.2	24.5	24.5	24.5	24.8	25.3	25.7	25.3	26.0	24.8	25.5	24.3	24.3	25.0
2.0 g/l	DO	8.3	8.2	8.2	8.6	8.6	8.3	8.5	7.8	8.0	8.3	8.2	7.9	8.1	7.7
	pH	7.9	8.0	7.9	8.1	7.9	8.0	7.9	7.9	7.9	7.9	7.9	7.8	7.8	7.7
	Temp	24.2	24.4	24.6	24.4	24.9	25.3	25.9	25.3	26.0	24.9	25.6	24.2	24.2	25.1
4.0 g/l	DO	8.3	8.3	—	—	—	—	—	—	—	—	—	—	—	—
	pH	7.9	8.0	—	—	—	—	—	—	—	—	—	—	—	—
	Temp	24.1	24.4	—	—	—	—	—	—	—	—	—	—	—	—

Dissolved Oxygen (DO) readings are in mg/l O_2; 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)	333	325	328	6290	3700	3850
Alkalinity (mg/l $CaCO_3$)	72	70	71	73	71	73
Hardness (mg/l $CaCO_3$)	93	94	94	94	94	96

Source of Neonates

Replicate:	A	B	C	D	E	F	G	H	I	J
Brood ID:	2A	2B	3B	1D	3D	1E	2E	2F	3I	2J

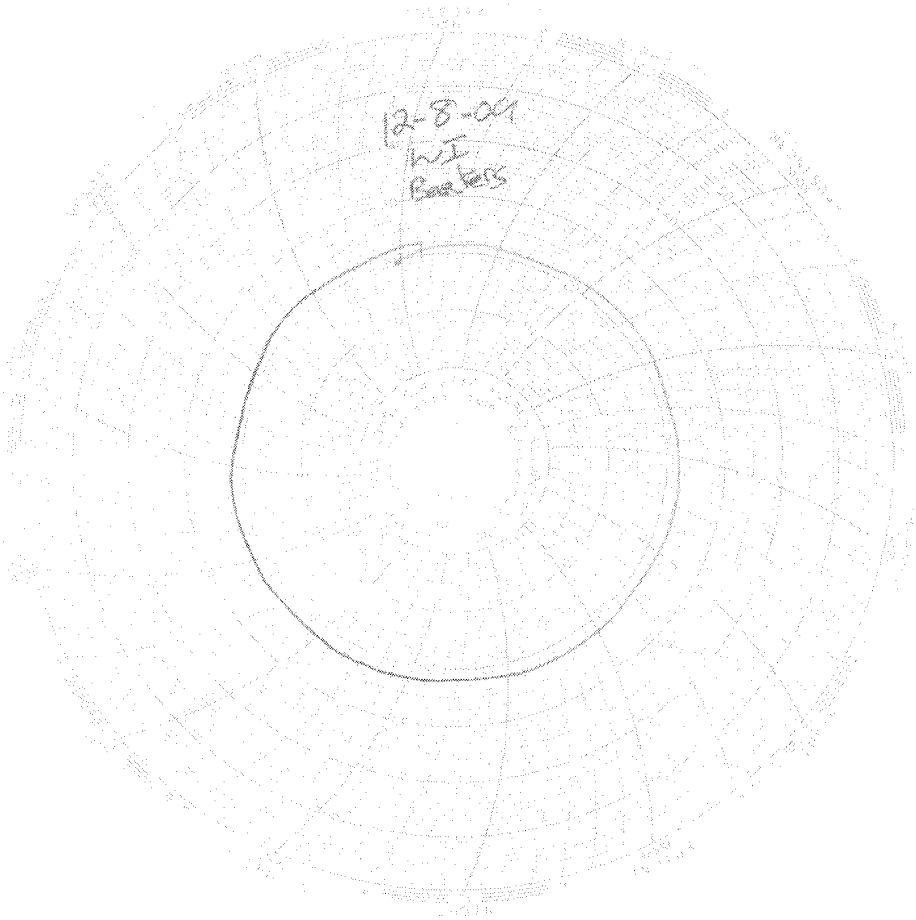
Aquatic Testing Laboratories

Test Temperature Chart

Test No: RT-091208

Date Tested: 12/08/09 to 12/15/09

Acceptable Range: 25+/- 1°C



Lot # D9L100591

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

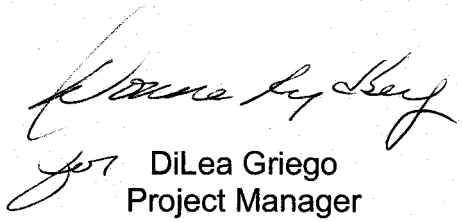
MWH-Pasadena/Boeing

Lot D9L100591

Project ISL0771

Joseph Doak
17461 Derian Avenue
Suite 100
Irvine, CA 92614

TestAmerica Laboratories, Inc.



for DiLea Griego
Project Manager

December 17, 2009

Case Narrative

Enclosed is the report for one sample received at the TestAmerica Laboratory in Denver on December 10, 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 TestAmerica'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.

Quality Control Summary for Lot D9L100591

Sample Receiving

The cooler temperature upon receipt at the laboratory was acceptable at 2.8°C.

Total Mercury- Method 245.1

MS/MSD analyses data performed on sample ISL0771-02 exhibited percent recoveries and an RPD value outside the QC control limits for total Mercury. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action was deemed unnecessary.

No other anomalies were observed.

Dissolved Mercury – Method 245.1

No anomalies were observed.

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.

EXECUTIVE SUMMARY - Detection Highlights

D9L100591

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
ISL0771-02 12/07/09 11:12 001				
Mercury	0.027 J	0.20	ug/L	MCAWW 245.1

METHODS SUMMARY

D9L100591

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
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

D9L100591

ANALYTICAL METHOD	ANALYST	ANALYST ID
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

D9L100591

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
LQWNJ	001	ISL0771-02	12/07/09	11:12

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

D9L100591

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WATER	MCAWW 245.1		9348214	9348126
	WATER	MCAWW 245.1		9348240	9348137

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Total Metals

CLP-Like Forms

Lot ID: D9L100591

Client: TestAmerica-Irvine

Method: 7471A

Associated Samples: -001

Batch: 9348214

Total Metals Analysis

COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: TestAmerica Irvine SDG No.: D9L100591

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

SOW No.: _____

Sample ID.	Lab Sample No.
ISL0771-02	D9L100591-001
ISL0771-02 MS	D9L100591-001S
ISL0771-02 MSD	D9L100591-001SD

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: Janice Collins Name: Janice Collins

Date: 12/16/09 Title: Metals Analyst

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Irvine

Total Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	ISL0771-02
Lot/SDG Number:	D9L100591	**Lab Sample ID:**	D9L100591-001
Matrix:	WATER	**Lab WorkOrder:**	LQWNJ
% Moisture:	N/A	**Date/Time Collected:**	12/07/09 11:12
Basis:	Wet	**Date/Time Received:**	12/10/09 09:30
Analysis Method:	245.1	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	12/14/09 13:00
QC Batch ID:	9348214	**Date/Time Analyzed:**	12/14/09 20:00
Sample Aliquot:	10 mL	**Instrument ID:**	033
Dilution Factor:	1		

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

Total Metals Analysis
-2A-
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9L100591

Initial Calibration Source: Inorganic Ventures

Continuing Calibration Source: Ultra Scientific

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	M
Mercury	7.000	6.895	98.5	5.000	4.927	98.5	5.075	101.5	CV

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

Total Metals Analysis
-2A-
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9L100591

Initial Calibration Source: Inorganic Ventures

Continuing Calibration Source: Ultra Scientific

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	M
Mercury				5.000	5.132	102.6	5.202	104.0	CV

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

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

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: D9L100591

AA CRDL Standard Source: Ultra Scientific

ICP CRDL Standard Source:

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
				Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Mercury	0.200	0.21300	106.5					

Comments:

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Irvine

Total Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	
Lot/SDG Number:	D9L100591	**Lab Sample ID:**	D9L140000-214B
Matrix:	WATER	**Lab WorkOrder:**	LQ24D
% Moisture:		**Date/Time Collected:**	
Basis:	Wet	**Date/Time Received:**	
Analysis Method:	245.1	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	12/14/09 13:00
QC Batch ID:	9348214	**Date/Time Analyzed:**	12/14/09 19:50
Sample Aliquot:	10 mL	**Instrument ID:**	033
Dilution Factor:	1		

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

Total Metals Analysis

-3-

BLANKS

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9L100591

Preparation Blank Matrix (soil/water): WATER

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

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

Comments:

Total Metals Analysis

-3-

BLANKS

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9L100591

Preparation Blank Matrix (soil/water): WATER

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

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

Comments:

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Irvine

Total Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	ISL0771-02
Lot/SDG Number:	D9L100591	**MS Lab Sample ID:**	D9L100591-001S
Matrix:	WATER	**MS Lab WorkOrder:**	LQWNJ
% Moisture:	N/A	**Date/Time Collected:**	12/07/09 11:12
Basis:	Wet	**Date/Time Received:**	12/10/09 09:30
Analysis Method:	245.1	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	12/14/09 13:00
QC Batch ID:	9348214	**Date/Time Analyzed:**	12/14/09 20:02
MS Sample Aliquot:	10 mL	**Instrument ID:**	033
MS Dilution Factor:	1		

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Mercury	5.00	0.027	J	2.11		42	N	90 - 110

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Irvine

Total Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	ISL0771-02
Lot/SDG Number:	D9L100591	**MSD Lab Sample ID:**	D9L100591-001D
Matrix:	WATER	**MSD Lab WorkOrder:**	LQWNJ
% Moisture:	N/A	**Date/Time Collected:**	12/07/09 11:12
Basis:	Wet	**Date/Time Received:**	12/10/09 09:30
Analysis Method:	245.1	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	12/14/09 13:00
QC Batch ID:	9348214	**Date/Time Analyzed:**	12/14/09 20:04
MSD Sample Aliquot:	10 mL	**Instrument ID:**	033
MSD Dilution Factor:	1		

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Mercury	5.00	0.027	J	1.62		32	N	26	*	90 - 110	10

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Irvine

Total Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	
Lot/SDG Number:	D9L100591	**Lab Sample ID:**	D9L140000-214C
Matrix:	WATER	**Lab WorkOrder:**	LQ24D
% Moisture:	N/A	**Date/Time Collected:**	
Basis:	Wet	**Date/Time Received:**	
Analysis Method:	245.1	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	12/14/09 13:00
QC Batch ID:	9348214	**Date/Time Analyzed:**	12/14/09 19:53
Sample Aliquot:	10 mL	**Instrument ID:**	033
Dilution Factor:	1		

Analyte	True	Found	%Rec	Q	Limits
Mercury	5.00	5.04	101		90 - 110

Total Metals Analysis

-10-

DETECTION LIMITS

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9L100591

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

Flame AA ID Number: Cetac M7500-33 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 Analysis

-13-

PREPARATION LOG

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9L100591

Method: CV Prep Method: _____

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
ISL0771-02	12/14/2009	10.0	10.0
ISL0771-02 MS	12/14/2009	10.0	10.0
ISL0771-02 MSD	12/14/2009	10.0	10.0
MB9348214	12/14/2009	10.0	10.0
Check Sample	12/14/2009	10.0	10.0

Comments:

Total Metals Analysis
-14-

ANALYSIS RUN LOG

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: D9L100591

Instrument ID Number: Cetac M7500-33 Hg Method: CV

Start Date: 12/14/2009 End Date: 12/14/2009

Sample ID.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Cal Blank	1.00	15:57																X									
Std1	1.00	15:59																X									
Std2	1.00	16:02																X									
Std3	1.00	16:04																X									
Std4	1.00	16:06																X									
Std5	1.00	16:09																X									
Std6	1.00	16:11																X									
ICB	1.00	16:15																X									
ICV	1.00	16:17																X									
RL	1.00	16:19																X									
CCV	1.00	16:21																X									
CCB	1.00	16:24																X									
CCV	1.00	19:37																X									
CCB	1.00	19:39																X									
MB9348214	1.00	19:50																X									
Check Sample	1.00	19:53																X									
CCV	1.00	19:55																X									
CCB	1.00	19:57																X									
ISL0771-02	1.00	20:00																X									
ISL0771-02 MS	1.00	20:02																X									
ISL0771-02 MSD	1.00	20:04																X									
CCV	1.00	20:14																X									
CCB	1.00	20:16																X									

* - 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: D9L100591

Client: TestAmerica-Irvine

Method: 245.1

Associated Samples: -001

Batch: 9348240

Dissolved Metals Analysis
COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: TestAmerica Irvine SDG No.: D9L100591

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

SOW No.: _____

Sample ID.	Lab Sample No.
ISL0771-02	D9L100591-001
ISL0771-02 MS	D9L100591-001S
ISL0771-02 MSD	D9L100591-001SD

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: Janice Collins Name: Janice Collins

Date: 12/16/09 Title: Metals Analyst

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Irvine

Dissolved Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	ISL0771-02
Lot/SDG Number:	D9L100591	**Lab Sample ID:**	D9L100591-001
Matrix:	WATER	**Lab WorkOrder:**	LQWNJ
% Moisture:	N/A	**Date/Time Collected:**	12/07/09 11:12
Basis:	Wet	**Date/Time Received:**	12/10/09 09:30
Analysis Method:	245.1	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	12/14/09 13:00
QC Batch ID:	9348240	**Date/Time Analyzed:**	12/14/09 19:32
Sample Aliquot:	10 mL	**Instrument ID:**	033
Dilution Factor:	1		

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

Dissolved Metals Analysis
-2A-
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9L100591

Initial Calibration Source: Inorganic Ventures

Continuing Calibration Source: Ultra Scientific

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	M
Mercury	7.000	6.895	98.5	5.000	4.927	98.5	5.251	105.0	CV

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

Dissolved Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9L100591

Initial Calibration Source: Inorganic Ventures

Continuing Calibration Source: Ultra Scientific

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	M
Mercury				5.000	5.075	101.5	5.132	102.6	CV

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

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

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: D9L100591

AA CRDL Standard Source: Ultra Scientific

ICP CRDL Standard Source:

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
				Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Mercury	0.200	0.21300	106.5					

Comments:

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Irvine

Dissolved Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	
Lot/SDG Number:	D9L100591	**Lab Sample ID:**	D9L140000-240B
Matrix:	WATER	**Lab WorkOrder:**	LQ240
% Moisture:		**Date/Time Collected:**	
Basis:	Wet	**Date/Time Received:**	
Analysis Method:	245.1	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	12/14/09 13:00
QC Batch ID:	9348240	**Date/Time Analyzed:**	12/14/09 19:27
Sample Aliquot:	10 mL	**Instrument ID:**	033
Dilution Factor:	1		

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

Dissolved Metals Analysis

-3-

BLANKS

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9L100591

Preparation Blank Matrix (soil/water): WATER

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

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

Comments:

Dissolved Metals Analysis

-3-

BLANKS

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9L100591

Preparation Blank Matrix (soil/water): WATER

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

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

Comments:

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Irvine

Dissolved Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	ISL0771-02
Lot/SDG Number:	D9L100591	**MS Lab Sample ID:**	D9L100591-001S
Matrix:	WATER	**MS Lab WorkOrder:**	LQWNJ
% Moisture:	N/A	**Date/Time Collected:**	12/07/09 11:12
Basis:	Wet	**Date/Time Received:**	12/10/09 09:30
Analysis Method:	245.1	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	12/14/09 13:00
QC Batch ID:	9348240	**Date/Time Analyzed:**	12/14/09 19:34
MS Sample Aliquot:	10 mL	**Instrument ID:**	033
MS Dilution Factor:	1		

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Mercury	5.00	0.027	U	5.13		102		90 - 110

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Irvine

Dissolved Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	ISL0771-02
Lot/SDG Number:	D9L100591	**MSD Lab Sample ID:**	D9L100591-001D
Matrix:	WATER	**MSD Lab WorkOrder:**	LOWNJ
% Moisture:	N/A	**Date/Time Collected:**	12/07/09 11:12
Basis:	Wet	**Date/Time Received:**	12/10/09 09:30
Analysis Method:	245.1	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	12/14/09 13:00
QC Batch ID:	9348240	**Date/Time Analyzed:**	12/14/09 19:41
MSD Sample Aliquot:	10 mL	**Instrument ID:**	033
MSD Dilution Factor:	1		

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Mercury	5.00	0.027	U	5.13		102		0.010		90 - 110	10

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Irvine

Dissolved Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	
Lot/SDG Number:	D9L100591	**Lab Sample ID:**	D9L140000-240C
Matrix:	WATER	**Lab WorkOrder:**	LQ240
% Moisture:	N/A	**Date/Time Collected:**	
Basis:	Wet	**Date/Time Received:**	
Analysis Method:	245.1	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	12/14/09 13:00
QC Batch ID:	9348240	**Date/Time Analyzed:**	12/14/09 19:30
Sample Aliquot:	10 mL	**Instrument ID:**	033
Dilution Factor:	1		

Analyte	True	Found	%Rec	Q	Limits
Mercury	5.00	5.10	102		90 - 110

Dissolved Metals Analysis

-10-

DETECTION LIMITS

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9L100591

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

Flame AA ID Number: Cetac M7500-33 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 Analysis

-13-

PREPARATION LOG

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9L100591

Method: CV Prep Method: _____

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
ISL0771-02	12/14/2009	10.0	10.0
ISL0771-02 MS	12/14/2009	10.0	10.0
ISL0771-02 MSD	12/14/2009	10.0	10.0
MB9348240	12/14/2009	10.0	10.0
Check Sample	12/14/2009	10.0	10.0

Comments:

Dissolved Metals Analysis
-14-

ANALYSIS RUN LOG

Contract: TestAmerica Irvine

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: D9L100591

Instrument ID Number: Cetac M7500-33 Hg Method: CV

Start Date: 12/14/2009 End Date: 12/14/2009

Sample ID.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Cal Blank	1.00	15:57																X									
Std1	1.00	15:59																X									
Std2	1.00	16:02																X									
Std3	1.00	16:04																X									
Std4	1.00	16:06																X									
Std5	1.00	16:09																X									
Std6	1.00	16:11																X									
ICB	1.00	16:15																X									
ICV	1.00	16:17																X									
RL	1.00	16:19																X									
CCV	1.00	16:21																X									
CCB	1.00	16:24																X									
CCV	1.00	19:18																X									
CCB	1.00	19:20																X									
MB9348240	1.00	19:27																X									
Check Sample	1.00	19:30																X									
ISL0771-02	1.00	19:32																X									
ISL0771-02 MS	1.00	19:34																X									
CCV	1.00	19:37																X									
CCB	1.00	19:39																X									
ISL0771-02 MSD	1.00	19:41																X									
CCV	1.00	19:55																X									
CCB	1.00	19:57																X									

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

Test America Denver

Sample Receiving Checklist

Lot #: D9L100591 Date/Time Received: 12/10/09 0930

Company Name & Sampling Site: TA IRVINE - BOEING

	Yes	No		Yes	No		Yes	No
PM to Complete This Section: Residual chlorine check required:	☐	☑	Quarantined :	☐	☑	MIS prep :	☐	☑

Quote #: 72743

Special Instructions:

A/R = 12/16/09

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

Unpacking Checks:

Cooler #(s): _____ _____ _____ _____ _____ _____ _____ _____

Temperatures (°C): 2.8° _____ _____ _____ _____ _____ _____ _____

N/A	Yes	No		Initials
☐	☑	☐	1. Cooler seals intact? (N/A if hand delivered) If no, document on CUR.	NB
	☑	☐	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?	

Sample Receiving Checklist

Lot # D9L100591

Login Checks:

Initials: [illegible]

N/A	Yes	No		
	☑	☐	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: [illegible]

☑	☑	☐	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).

2.8
AC
DM
12/10/9

SUBCONTRACT ORDER
TestAmerica Irvine

ISL0771

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: ISL0771-02 (Outfall 009 (Comp) - Water)			Sampled: **12/07/09 11:12**			
Level 4 + EDD-OUT	N/A	12/16/09	01/04/10 11:12	$0.00	0%	Sub Denver, transfer file EDD
Mercury - 245.1, Diss -OUT	ug/l	12/16/09	01/04/10 11:12	$36.00	0%	Denver, Boeing, J flags
Mercury - 245.1-OUT	ug/l	12/16/09	01/04/10 11:12	$36.00	0%	Denver,Boeing, permit, J flags,
Containers Supplied:						
125 mL Poly w/HNO3 (Dissolved) (M)	125 mL Poly w/HNO3 (N)					

Released By	Date/Time	Received By	Date/Time
Released By	Date/Time	Received By	Date/Time

Metals

Supporting Documentation

Sample Sequence, Instrument Printouts

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Lot ID: D9L100591

Client: TA - Irvine

Batch(es) #: 9348240 + 9348214

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: Lisa Grisdale 12/15/09

Metals Raw Data RoadMap

LotID		*Metal*	*WorkOrder*	*Anal Date*	*TestDesc*	*Batch*	*File Id*	*Instr*
D9L100591	1 D	HG	LQWNJ1A	20091214	M2451DS	9348240	091214AB	033
D9L100591	1 S	HG	LQWNJ1A	20091214	M2451DS	9348240	091214AB	033
D9L100591	1	HG	LQWNJ1A	20091214	M2451DS	9348240	091214AB	033
D9L100591	1 D	HG	LQWNJ1A	20091214	M2451_L	9348214	091214AB	033
D9L100591	1 S	HG	LQWNJ1A	20091214	M2451_L	9348214	091214AB	033
D9L100591	1	HG	LQWNJ1A	20091214	M2451_L	9348214	091214AB	033

METALS
PREPARATION LOGS
ICP

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

SUPPLEMENTAL METALS PREP SHEET

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Denver

Hg PREP & ANALYSIS - WATERS

SOP: DEN-MT-0015 QC Batch #: 9348240

Prep Date: 12/14/09	Prep By: CGG	Analysis Date:12/14/09	Analyst: CGG
Balance ID: H53865		***Thermometer ID:*** MT 4025	

Digestion Cycles	Start Time	Temp °C	End Time	Temp °C
	13:00	94	15:00	95

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

Digestion Tube Lot # :

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

One or more samples were filtered prior to analysis at the instrument. [ ] Yes [X] 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	H14024		0.25
H_2SO_4	Fisher	G35029		0.5
HCl	JT Baker	H39037		used by instrument
10% $SnCl_2$	Fisher	H13584	STD-7504-09	added by instrument
NaCl / NH_2OH	Fisher	H14615	STD-7384-09	0.6
	Fisher	H26621		
$KMnO_4$	Fisher	G45641	STD-7503-09	1.5
$K_2S_2O_8$	Fisher	085907	STD-5798-09	0.8

Parent Calibration Stock Standards

	Lot #	Verification #	Exp. Date
Second Source	B2-HG02064	STD-1957-09	04/02/10
Primary Calibration	K00200	STD-1955-09	04/02/10

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-7171-09

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

Comments Dissolved - Boeing

I certify that all information above is correct and complete.

Signature: Chris Tindall ***Date:*** 12/15/09

REVIEWED BY: [illegible] **Date:** 12/15/09

Batch Number: **9348240**

TestAmerica Laboratories, Inc.
Metals Prep Log/ Batch Summary

Prepared By: CJ

Prep Date: 12/14/09 CJ
Due Date: 12/16/09

Lot	Work Order			Initial Weight/Volume
D9L140000 Water	**LQ240**	B 1	Due Date: SDG:	10 mL
D9L140000 Water	**LQ240**	C 2	Due Date: SDG:	10 mL
D9L100591 Water	**LQWNJ** Dissolved	3	Due Date: 12/16/09 SDG:	10 mL
D9L100591 Water	**LQWNJ** Dissolved	S 4	Due Date: 12/16/09 SDG:	10 mL
D9L100591 Water	**LQWNJ** Dissolved	D 5	Due Date: 12/16/09 SDG:	10 mL
D9L100594 Water	**LQWPH** Dissolved	6	Due Date: 12/16/09 SDG:	10 mL

Comments:

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

* Run MS/D Twice!

SUPPLEMENTAL METALS PREP SHEET

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Denver

Hg PREP & ANALYSIS - WATERS

SOP: DEN-MT-0015 QC Batch #: 9348214

Prep Date: 12/14/09	Prep By: CGG	Analysis Date:12/14/09	Analyst: CGG
Balance ID: H53865		***Thermometer ID:*** MT 4025	

Digestion Cycles	Start Time	Temp °C	End Time	Temp °C
	13:00	94	15:00	95

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

Digestion Tube Lot # :

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

One or more samples were filtered prior to analysis at the instrument. [X] 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: CS

Reagents Used

Reagent	Manufacturer	Lot #	Standards Log #	Vol (mL)
HNO_3	JT Baker	H14024		0.25
H_2SO_4	Fisher	G35029		0.5
HCl	JT Baker	H39037		used by instrument
10% $SnCl_2$	Fisher	H13584	STD-7504-09	added by instrument
NaCl / NH_2OH	Fisher	H14615	STD-7384-09	0.6
	Fisher	H26621		
$KMnO_4$	Fisher	G45641	STD-7503-09	1.5
$K_2S_2O_8$	Fisher	085907	STD-5798-09	0.8

Parent Calibration Stock Standards

	Lot #	Verification #	Exp. Date
Second Source	B2-HG02064	STD-1957-09	04/02/10
Primary Calibration	K00200	STD-1955-09	04/02/10

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-7171-09

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

Comments Total - Boring

I certify that all information above is correct and complete.

Signature: Chris Dardeau ***Date:*** 12/15/09

REVIEWED BY: [illegible] **Date:** 12/15/09

Batch Number: **9348214**

TestAmerica Laboratories, Inc.
Metals Prep Log/ Batch Summary

Prepared By:

Prep Date: 12/14/09 CMJ
Due Date: 12/16/09

Lot	Work Order			Initial Weight/Volume
D9L140000 Water	**LQ24D**	B 1	Due Date: SDG:	10 mL
D9L140000 Water	**LQ24D**	C 2	Due Date: SDG:	10 mL
D9L100591 Water	**LQWNJ** Total	3	Due Date: 12/16/09 SDG:	10 mL
D9L100591 Water	**LQWNJ** Total	S 4	Due Date: 12/16/09 SDG:	10 mL
D9L100591 Water	**LQWNJ** Total	D 5	Due Date: 12/16/09 SDG:	10 mL
D9L100594 Water	**LQWPH** Total	6	Due Date: 12/16/09 SDG:	10 mL

Comments:

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

* Run MS/D Twice!

METALS
SAMPLE DATA
CVAA

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Denver

Standards Preparation Logbook Record

Dec-15-2009

Logbook: \\Densvr06\StdsLog\metals.std

STD1955-09, 1000 mg/L HG Calibration Stock Standard (ULTRA

Analyst: GRISDALEC

Vendor: Ultra (Metals) Lot No.: K00200 Vendor's Expiration Date: 04-02-2010
Solvent: 2% HNO3
Date Prep./Opened: 04-02-2009 Date Received: 04-02-2009
Date Expires(1): 04-02-2010 (1 Year)
Date Expires(2): 04-02-2010 (None)
(METALS)-Inventory ID: 842

Component	Initial Conc (ug/ml)	Final Conc (ug/ml)
HG	1,000.0	1,000.0

STD1957-09, Hg Inorganic Ventures ICV 100PPM std

Analyst: GRISDALEC

Vendor: Inorganic Ventures Lot No.: B2-HG02064 Vendor's Expiration Date: 04-02-2010
Solvent: Neat
Date Prep./Opened: 04-02-2009 Date Received: 04-02-2009
Date Expires(1): 04-02-2010 (1 Year)
Date Expires(2): 04-02-2010 (None)
(METALS)-Inventory ID: 843

Component	Initial Conc (%)	Final Conc (%)
HG	100.00	100.00

STD7170-09, 10 mg/L Hg Calibration Std

Analyst: grisdalec

Solvent: 1% HN03 Lot No.: H12022 Volume (ml): 100.00
Date Prep./Opened: 11-23-2009
Date Expires(1): 12-23-2009 (1 Month)
Date Expires(2): 04-02-2010 (1 Month)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD1955-09, 1000 mg/L HG Calibration Stock Standard (ULTRA) Aliquot Amount (ml): 1.0000
Parent Date Expires(1): 04-02-2010 Parent Date Expires(2): 04-02-2010

Component	Initial Conc (ug/ml)	Final Conc (mg/L)
HG	1,000.0	10.000

STD7448-09, Hg Inorganic Ventures ICV 700ppb

Analyst: grisdalec

Solvent: 1% HNO3 Lot No.: H12022 Volume (ml): 100.00
Date Prep./Opened: 12-07-2009
Date Expires(1): 12-21-2009 (2 Weeks)
Date Expires(2): 04-02-2010 (None)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD1957-09, Hg Inorganic Ventures ICV 100PPM std Aliquot Amount (ml): 0.7000
Parent Date Expires(1): 04-02-2010 Parent Date Expires(2): 04-02-2010

Component	Initial Conc (%)	Final Conc (ug/L)
HG	100.00	7,000,000

STD7598-09, 100 ppb Hg Calibration Std

Analyst: grisdalec

Solvent: 1% HN03 Lot No.: H14024 Volume (ml): 100.00
Date Prep./Opened: 12-14-2009
Date Expires(1): 12-15-2009 (1 Day)
Date Expires(2): 04-02-2010 (None)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD7170-09, 10 mg/L Hg Calibration Std Aliquot Amount (ml): 1.0000
Parent Date Expires(1): 12-23-2009 Parent Date Expires(2): 04-02-2010

Component	Initial Conc (mg/L)	Final Conc (ug/ml)
HG	10.000	0.1000

STD7599-09, Blank Daily Hg Calibration Std

Analyst: grisdalec

Vendor: Baker Lot No.: H14024
Solvent: 1% HN03
Date Prep./Opened: 12-14-2009
Date Expires(1): 06-14-2010 (6 Months)
Date Expires(2): 12-14-2010 (1 Year)
Date Verified: 12-31--4714 by 0 (Verification ID: -)

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

STD7600-09, 0.2 ppb Daily Hg Calibration Std

Analyst: grisdalec

Solvent: 1% HN03 Lot No.: H14024 Volume (ml): 100.00
Date Prep./Opened: 12-14-2009
Date Expires(1): 12-15-2009 (1 Day)
Date Expires(2): 04-02-2010 (None)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD7598-09, 100 ppb Hg Calibration Std Aliquot Amount (ml): 0.2000
Parent Date Expires(1): 12-15-2009 Parent Date Expires(2): 04-02-2010

Component	Initial Conc (ug/ml)	Final Conc (ug/ml)
HG	0.1000	0.0002

STD7601-09, 0.5 ppb Daily Hg Calibration Std

Analyst: grisdalec

Solvent: 1% HN03 Lot No.: H14024 Volume (ml): 100.00
Date Prep./Opened: 12-14-2009
Date Expires(1): 12-15-2009 (1 Day)
Date Expires(2): 04-02-2010 (None)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD7598-09, 100 ppb Hg Calibration Std Aliquot Amount (ml): 0.5000
Parent Date Expires(1): 12-15-2009 Parent Date Expires(2): 04-02-2010

Component	Initial Conc (ug/ml)	Final Conc (ug/ml)
HG	0.1000	0.0005

STD7602-09, 1.0 ppb Daily Hg Calibration Std

Analyst: grisdalec

Solvent: 1% HN03 Lot No.: H14024 Volume (ml): 100.00
Date Prep./Opened: 12-14-2009
Date Expires(1): 12-15-2009 (1 Day)
Date Expires(2): 04-02-2010 (None)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD7598-09, 100 ppb Hg Calibration Std Aliquot Amount (ml): 1.0000
Parent Date Expires(1): 12-15-2009 Parent Date Expires(2): 04-02-2010

Component	Initial Conc (ug/ml)	Final Conc (ug/ml)
HG	0.1000	0.0010

STD7603-09, 2.0 ppb Daily Hg Calibration Std

Analyst: grisdalec

Solvent: 1% HN03 Lot No.: H14024 Volume (ml): 100.00
Date Prep./Opened: 12-14-2009
Date Expires(1): 12-15-2009 (1 Day)
Date Expires(2): 04-02-2010 (None)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD7598-09, 100 ppb Hg Calibration Std Aliquot Amount (ml): 2.0000
Parent Date Expires(1): 12-15-2009 Parent Date Expires(2): 04-02-2010

Component	Initial Conc (ug/ml)	Final Conc (ug/ml)
HG	0.1000	0.0020

STD7604-09, 5.0 ppb Daily Hg Calibration Std — Analyst: grisdalec

Solvent: 1% HN03 Lot No.: H14024 Volume (ml): 100.00
Date Prep./Opened: 12-14-2009
Date Expires(1): 12-15-2009 (1 Day)
Date Expires(2): 04-02-2010 (None)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD7598-09, 100 ppb Hg Calibration Std Aliquot Amount (ml): 5.0000
Parent Date Expires(1): 12-15-2009 Parent Date Expires(2): 04-02-2010

Component	Initial Conc (ug/ml)	Final Conc (ug/ml)
HG	0.1000	0.0050

STD7605-09, 10.0 ppb Daily Hg Calibration Std — Analyst: grisdalec

Solvent: 1% HN03 Lot No.: H14024 Volume (ml): 100.00
Date Prep./Opened: 12-14-2009 Date Consumed: 12-06-2006
Date Expires(1): 12-15-2009 (1 Day)
Date Expires(2): 04-02-2010 (None)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD7598-09, 100 ppb Hg Calibration Std Aliquot Amount (ml): 10.000
Parent Date Expires(1): 12-15-2009 Parent Date Expires(2): 04-02-2010

Component	Initial Conc (ug/ml)	Final Conc (ug/ml)
HG	0.1000	0.0100

STD7606-09, Hg Daily ICV 7ppb Calibration Std — Analyst: grisdalec

Solvent: 1% HNO3 Lot No.: H14024 Volume (ml): 100.00
Date Prep./Opened: 12-14-2009
Date Expires(1): 12-15-2009 (1 Day)
Date Expires(2): 04-02-2010 (None)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD7448-09, Hg Inorganic Ventures ICV 700ppb Aliquot Amount (ml): 1.0000
Parent Date Expires(1): 12-21-2009 Parent Date Expires(2): 04-02-2010

Component	Initial Conc (ug/L)	Final Conc (ug/L)
HG	7,000,000	70,000

Reviewed By: Christopher Grisdale 12/15/09

Denver

RUN SUMMARY

Method: CVHG - Mercury (Cold Vapor Mercury) | Instrument: A (033) | Reported: 12/15/09 11:06:29

Sequence: 091214AB **Date:** 12/14/09 15:57 **Analyst:** CGG **ICV:** _____ **CAL/CCV:** _____

#	Sample ID	Lot No.	Batch	Matrix	Raw	DF	Result	Units	%R	Analyzed Date	Comment	Q
1	Cal Blank				0.00	1.0	0.00	ppb		12/14/09 15:57		☐
2	Std1	= 0.200			0.20	1.0	0.20	ppb	100.0%	12/14/09 15:59		☐
3	Std2	= 0.500			0.50	1.0	0.50	ppb	100.0%	12/14/09 16:02		☐
4	Std3	= 1.00			1.00	1.0	1.00	ppb	100.0%	12/14/09 16:04		☐
5	Std4	= 2.00			2.00	1.0	2.00	ppb	100.0%	12/14/09 16:06		☐
6	Std5	= 5.00			5.00	1.0	5.00	ppb	100.0%	12/14/09 16:09		☐
7	Std6	= 10.0			10.00	1.0	10.00	ppb	100.0%	12/14/09 16:11		☐
8	ICB				0.01	1.0	0.01	ppb		12/14/09 16:15		☐
9	ICV	= 7.00			6.89	1.0	6.89	ppb	98.5%	12/14/09 16:17		☐
10	RL	= 0.200			0.21	1.0	0.21	ppb		12/14/09 16:19		☐
11	CCV	= 5.00			4.93	1.0	4.93	ppb	98.5%	12/14/09 16:21		☐
12	CCB				0.01	1.0	0.01	ppb		12/14/09 16:24		☐
13	~~LQ236B~~	~~D9L140000~~	~~9348211~~		~~0.02~~	~~1.0~~	~~0.02~~	ppb		~~12/14/09 16:26~~		☐
14	LQ236C	D9L140000 = 5.00	9348211		4.84	1.0	4.84	ppb	96.7%	~~12/14/09~~ 16:28		☐
15	LQVMD	D9L100474-1	9348211	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 16:31		☐
16	LQW4T	D9L100644-1	9348211	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 16:33		☐
17	LQW4TS	D9L100644-1 = 5.00	9348211	AQUEOUS	2.75	1.0	2.75	ppb		12/14/09 16:35		☐
18	LQW4TD	D9L100644-1 = 5.00	9348211	AQUEOUS	2.30	1.0	2.30	ppb		12/14/09 16:38		☐
19	LQW4X	D9L100644-2	9348211	AQUEOUS	-0.19	1.0	-0.19	ppb		12/14/09 16:51		☐
20	LQW40	D9L100644-3	9348211	AQUEOUS	-0.01	1.0	-0.01	ppb		12/14/09 16:53	NA Batch reprep 12/15/09	☐
21	LQW41	D9L100644-4	9348211	AQUEOUS	-0.00	1.0	-0.00	ppb		12/14/09 16:55		☐
22	~~LQW42~~	~~D9L100644-5~~	~~9348211~~	~~AQUEOUS~~	~~0.01~~	~~1.0~~	~~0.01~~	ppb		~~12/14/09 16:58~~		☐
23	CCV	= 5.00			5.06	1.0	5.06	ppb	101.3%	12/14/09 17:00		☐
24	CCB				0.00	1.0	0.00	ppb		12/14/09 17:02		☐
25	~~LQV9K~~	~~D9L100542-1~~	~~9348211~~	~~AQUEOUS~~	~~0.01~~	~~1.0~~	~~0.01~~	ppb		~~12/14/09 17:04~~		☐
26	LQV96	D9L100546-1	9348211	AQUEOUS	0.04	1.0	0.04	ppb		12/14/09 17:07		☐
27	LQWAC	D9L100549-1	9348211	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 17:09		☐
28	LQ2K0	D9L120490-1	9348211	AQUEOUS	0.02	1.0	0.02	ppb		12/14/09 17:11		☐
29	LQ2K2	D9L120490-2	9348211	AQUEOUS	4.44	1.0	4.44	ppb		12/14/09 17:14		☐
30	LQ2K2S	D9L120490-2 = 5.00	9348211	AQUEOUS	3.24	1.0	3.24	ppb		12/14/09 17:16	NA, samples rerun below.	☐
31	~~LQ2K2D~~	~~D9L120490-2 = 5.00~~	~~9348211~~	~~AQUEOUS~~	~~0.01~~	~~1.0~~	~~0.01~~	ppb		~~12/14/09 17:18~~		☐
32	~~LQ1QDBT~~	~~D9L110000~~	~~9348246~~		~~4.61~~	~~1.0~~	~~4.61~~	ppb		~~12/14/09 17:21~~		☐
33	LQ25JCT	D9L140000 = 5.00	~~9348246~~		0.45	1.0	0.45	ppb	9.0%	12/14/09 17:23		☐
34	~~LQWWD1~~	~~D9L100612-1~~	~~9348246~~	~~LEACHATE~~	~~0.10~~	~~1.0~~	~~0.10~~	ppb		~~12/14/09 17:25~~		☐

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JVJ 12/15/09

Denver

RUN SUMMARY

Method: CVHG - Mercury (Cold Vapor Mercury) | Instrument: A (033) | Reported: 12/15/09 11:06:29

Sequence: 091214AB **Date:** 12/14/09 15:57 **Analyst:** CGG **ICV:** _____ **CAL/CCV:** _____

#	Sample ID	Lot No.	Batch	Matrix	Raw	DF	Result	Units	%R	Analyzed Date	Comment	Q
35	CCV	= 5.00			5.14	1.0	5.14	ppb	102.7%	12/14/09 17:27		☐
36	CCB				0.00	1.0	0.00	ppb		12/14/09 17:30	NA samples from below. CJS 12/15/09	☐
37	LQWWDP5T	D9L100612	9348246	LEACHATE	5.34	5.0	5.34	ppb		12/14/09 17:32		☐
38	LQWWDST	D9L100612-1 = 5.00	9348246	LEACHATE	5.28	1.0	5.28	ppb		12/14/09 17:34		☐
39	LQWWDDT	D9L100612-1 = 5.00	9348246	LEACHATE	0.01	1.0	0.01	ppb		12/14/09 17:37		☐
40	LQW60BT	D9L100000	9348249		4.66	1.0	4.66	ppb		12/14/09 17:39		☐
41	LQ26ACT	D9L140000 = 5.00	9348249		0.01	1.0	0.01	ppb	0.2%	12/14/09 17:41		☐
42	LQMA1T	D9L070416-1	9348249	LEACHATE	4.73	1.0	4.73	ppb		12/14/09 17:44		☐
43	LQMA1ST	D9L070416-1 = 5.00	9348249	LEACHATE	5.01	1.0	5.01	ppb		12/14/09 17:46		☐
44	LQMA1DT	D9L070416-1 = 5.00	9348249	LEACHATE	0.01	1.0	0.01	ppb		12/14/09 17:48		☐
45	LQMA2T	D9L070416-2	9348249	LEACHATE	0.01	1.0	0.01	ppb		12/14/09 17:50		☐
46	LQMA4T	D9L070416-4	9348249	LEACHATE	0.01	1.0	0.02	ppb		12/14/09 17:53		☐
47	CCV	= 5.00			5.24	1.0	5.24	ppb	104.8%	12/14/09 17:55		☐
48	CCB				0.01	1.0	0.01	ppb		12/14/09 17:57		☐
49	LQMA5T	D9L070416-5	9348249	LEACHATE	0.01	1.0	0.01	ppb		12/14/09 18:00		☐
50	LQMA6T	D9L070416-6	9348249	LEACHATE	0.01	1.0	0.01	ppb		12/14/09 18:02		☐
51	LQMA8T	D9L070416-8	9348249	LEACHATE	0.01	1.0	0.01	ppb		12/14/09 18:04		☐
52	LQMA9T	D9L070416-9	9348249	LEACHATE	0.01	1.0	0.01	ppb		12/14/09 18:07		☐
53	LQMCAT	D9L070416-10	9348249	LEACHATE	0.01	1.0	0.01	ppb		12/14/09 18:09		☐
54	LQMCCT	D9L070416-11	9348249	LEACHATE	0.03	1.0	0.03	ppb		12/14/09 18:11		☐
55	LQMCDT	D9L070416-12	9348249	LEACHATE	0.57	1.0	0.57	ppb		12/14/09 18:14		☐
56	LQMCET	D9L070416-13	9348249	LEACHATE	0.01	1.0	0.01	ppb		12/14/09 18:16		☐
57	LQMCFT	D9L070416-14	9348249	LEACHATE	0.01	1.0	0.01	ppb		12/14/09 18:18		☐
58	LQW66BT	D9L100000	9348253		4.83	1.0	4.83	ppb		12/14/09 18:20		☐
59	CCV	= 5.00			5.16	1.0	5.16	ppb	103.3%	12/14/09 18:23		☐
60	CCB				0.00	1.0	0.00	ppb		12/14/09 18:25		☐
61	LQ26BCT	D9L140000 = 5.00	9348253		0.01	1.0	0.01	ppb	0.2%	12/14/09 18:27		☐
62	LQMA3T	D9L070416-3	9348253	LEACHATE	4.88	1.0	4.88	ppb		12/14/09 18:30		☐
63	LQMA3ST	D9L070416-3 = 5.00	9348253	LEACHATE	4.99	1.0	4.99	ppb		12/14/09 18:32		☐
64	LQMA3DT	D9L070416-3 = 5.00	9348253	LEACHATE	0.01	1.0	0.01	ppb		12/14/09 18:34		☐
65	LQMA7T	D9L070416-7	9348253	LEACHATE	0.02	1.0	0.02	ppb		12/14/09 18:37		☐
66	LQ1P6BK	D9L110000	9348256		5.15	1.0	5.15	ppb		12/14/09 18:39		☐
67	LQ260CK	D9L140000 = 5.00	9348256		0.01	1.0	0.01	ppb	0.2%	12/14/09 18:41		☐
68	LQTDDK	D9L090598-1	9348256	LEACHATE	4.58	1.0	4.58	ppb		12/14/09 18:44		☐

CJS 12/15/09

Denver

RUN SUMMARY

Method: CVHG - Mercury (Cold Vapor Mercury) | Instrument: A (033) | Reported: 12/15/09 11:06:29

Sequence: 091214AB **Date:** 12/14/09 15:57 **Analyst:** CGG **ICV:** _____ **CAL/CCV:** _____

#	Sample ID	Lot No.	Batch	Matrix	Raw	DF	Result	Units	%R	Analyzed Date	Comment	Q
69	~~LQTDDSK~~	~~D9L090598-1 = 5.00~~	~~9348256~~	~~LEACHATE~~	~~4.81~~	~~1.0~~	~~4.81~~	~~ppb~~		~~12/14/09 18:46~~	NA samples rerun	☐
70	~~LQTDDDK~~	~~D9L090598-1 = 5.00~~	~~9348256~~	~~LEACHATE~~	~~0.02~~	~~1.0~~	~~0.02~~	~~ppb~~		~~12/14/09 18:48~~	at end.	☐
71	CCV	= 5.00			5.13	1.0	5.13	ppb	102.6%	12/14/09 18:50		☐
72	CCB				0.00	1.0	0.00	ppb		12/14/09 18:53	CJ 12/15/09	☐
73	LQ1P8BT	D9L110000	9348264		0.01	1.0	0.01	ppb		12/14/09 18:55		☐
74	LQ28FCT	D9L140000 = 5.00	9348264		4.97	1.0	4.97	ppb	99.4%	12/14/09 18:57		☐
75	LQP6FT	D9L080601-1	9348264	LEACHATE	0.02	1.0	0.02	ppb		12/14/09 19:00		☐
76	LQP6FP5T	D9L080601	9348264	LEACHATE	0.01	5.0	0.01	ppb		12/14/09 19:02	NC.	☐
77	LQP6FST	D9L080601-1 = 5.00	9348264	LEACHATE	3.71	1.0	3.71	ppb		12/14/09 19:04		☐
78	LQP6FDT	D9L080601-1 = 5.00	9348264	LEACHATE	3.67	1.0	3.67	ppb	NA	12/14/09 19:07		☐
79	LQP6FZT	D9L080601-1 = 5.00	9348264	LEACHATE	3.56	1.0	3.56	ppb	2.3%	12/14/09 19:09		☐
80	LQ1QKBT	D9L110000	9348265		-0.02	1.0	-0.02	ppb		12/14/09 19:11		☐
81	LQ28KCT	D9L140000 = 5.00	9348265		4.89	1.0	4.90	ppb	97.9%	12/14/09 19:14		☐
82	LQW46T	D9L100645-1	9348265	LEACHATE	0.08	1.0	0.08	ppb		12/14/09 19:16		☐
83	CCV	= 5.00			5.25	1.0	5.25	ppb	105.0%	12/14/09 19:18		☐
84	CCB				0.01	1.0	0.01	ppb		12/14/09 19:20		☐
85	LQW46ST	D9L100645-1 = 5.00	9348265	LEACHATE	2.48	1.0	2.48	ppb		12/14/09 19:23		☐
86	LQW46DT	D9L100645-1 = 5.00	9348265	LEACHATE	3.21	1.0	3.21	ppb		12/14/09 19:25		☐
87	LQ240BF	D9L140000	9348240		0.01	1.0	0.01	ppb		12/14/09 19:27		☐
88	LQ240CF	D9L140000 = 5.00	9348240		5.10	1.0	5.10	ppb	101.9%	12/14/09 19:30		☐
89	LQWNJF	D9L100591-1	9348240	AQUEOUS	0.02	1.0	0.02	ppb		12/14/09 19:32		☐
90	LQWNJSF	D9L100591-1 = 5.00	9348240	AQUEOUS	5.13	1.0	5.13	ppb		12/14/09 19:34		☐
91	CCV	= 5.00			5.07	1.0	5.07	ppb	101.5%	12/14/09 19:37		☐
92	CCB				0.01	1.0	0.01	ppb		12/14/09 19:39		☐
93	LQWNJDF	D9L100591-1 = 5.00	9348240	AQUEOUS	5.13	1.0	5.13	ppb		12/14/09 19:41		☐
94	~~LQWNJSF~~	~~D9L100591-1 = 5.00~~	~~9348240~~	~~AQUEOUS~~	~~5.29~~	~~1.0~~	~~5.29~~	~~ppb~~		~~12/14/09 19:43~~	NA Confirms above.	☐
95	~~LQWNJDF~~	~~D9L100591-1 = 5.00~~	~~9348240~~	~~AQUEOUS~~	~~5.05~~	~~1.0~~	~~5.05~~	~~ppb~~		~~12/14/09 19:46~~		☐
96	LQWPHF	D9L100594-1	9348240	AQUEOUS	0.03	1.0	0.03	ppb		12/14/09 19:48	CJ 12/15/09	☐
97	LQ24DB	D9L140000	9348214		0.01	1.0	0.01	ppb		12/14/09 19:50		☐
98	LQ24DC	D9L140000 = 5.00	9348214		5.03	1.0	5.03	ppb	100.7%	12/14/09 19:53		☐
99	CCV	= 5.00			5.13	1.0	5.13	ppb	102.6%	12/14/09 19:55		☐
100	CCB				0.00	1.0	0.00	ppb		12/14/09 19:57		☐
101	LQWNJ	D9L100591-1	9348214	AQUEOUS	0.03	1.0	0.03	ppb		12/14/09 20:00		☐
102	LQWNJS	D9L100591-1 = 5.00	9348214	AQUEOUS	2.11	1.0	2.11	ppb		12/14/09 20:02		☐

✓ CJ 12/15/09

Denver

RUN SUMMARY

Method: CVHG - Mercury (Cold Vapor Mercury) | Instrument: A (033) | Reported: 12/15/09 11:06:29

Sequence: 091214AB **Date:** 12/14/09 15:57 **Analyst:** CGG **ICV:** _____ **CAL/CCV:** _____

#	Sample ID	Lot No.	Batch	Matrix	Raw	DF	Result	Units	%R	Analyzed Date	Comment	Q
103	LQWNJD	D9L100591-1 = 5.00	9348214	AQUEOUS	1.62	1.0	1.62	ppb		12/14/09 20:04		☐
104	~~LQWNJS~~	~~D9L100591-1 = 5.00~~	~~9348214~~	~~AQUEOUS~~	~~2.13~~	~~1.0~~	~~2.13~~	~~ppb~~		~~12/14/09 20:07~~		☐
105	~~LQWNJD~~	~~D9L100591-1 = 5.00~~	~~9348214~~	~~AQUEOUS~~	~~1.65~~	~~1.0~~	~~1.65~~	~~ppb~~		~~12/14/09 20:09~~	NA confirms above.	☐
106	LQWPH	D9L100594-1	9348214	AQUEOUS	0.05	1.0	0.05	ppb		12/14/09 20:11		☐
107	CCV	= 5.00			5.20	1.0	5.20	ppb	104.0%	12/14/09 20:14	CO 12/15/09	☐
108	CCB				-0.01	1.0	-0.01	ppb		12/14/09 20:16		☐
109	LQ24HB	D9L140000	9348215		0.00	1.0	0.00	ppb		12/14/09 20:18		☐
110	LQ24HC	D9L140000 = 5.00	9348215		5.06	1.0	5.06	ppb	101.2%	12/14/09 20:20		☐
111	LQXX9	D9L110470-1	9348215	AQUEOUS	-0.00	1.0	-0.00	ppb		12/14/09 20:23		☐
112	LQX0A	D9L110470-2	9348215	AQUEOUS	0.36	1.0	0.36	ppb		12/14/09 20:25		☐
113	LQVKL	D9L100464-2	9348215	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 20:27		☐
114	LQVKLS	D9L100464-2 = 5.00	9348215	AQUEOUS	4.62	1.0	4.62	ppb		12/14/09 20:30		☐
115	CCV	= 5.00			5.22	1.0	5.22	ppb	104.3%	12/14/09 20:32		☐
116	CCB				0.00	1.0	0.00	ppb		12/14/09 20:34		☐
117	LQVKLD	D9L100464-2 = 5.00	9348215	AQUEOUS	4.54	1.0	4.54	ppb		12/14/09 20:37		☐
118	LQVKT	D9L100464-3	9348215	AQUEOUS	-0.00	1.0	-0.00	ppb		12/14/09 20:39		☐
119	LQVKW	D9L100464-4	9348215	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 20:41		☐
120	LQVKX	D9L100464-5	9348215	AQUEOUS	0.02	1.0	0.02	ppb		12/14/09 20:44		☐
121	LQVK3	D9L100464-6	9348215	AQUEOUS	0.03	1.0	0.03	ppb		12/14/09 20:46		☐
122	LQVRG	D9L100491-1	9348215	AQUEOUS	0.60	1.0	0.60	ppb		12/14/09 20:48		☐
123	LQVRQ	D9L100491-2	9348215	AQUEOUS	0.02	1.0	0.02	ppb		12/14/09 20:51		☐
124	LQVRR	D9L100491-3	9348215	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 20:53		☐
125	LQVRT	D9L100491-4	9348215	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 20:55		☐
126	LQVRW	D9L100491-5	9348215	AQUEOUS	0.14	1.0	0.14	ppb		12/14/09 20:57		☐
127	CCV	= 5.00			5.16	1.0	5.16	ppb	103.1%	12/14/09 21:00		☐
128	CCB				0.00	1.0	0.00	ppb		12/14/09 21:02		☐
129	LQVRX	D9L100491-6	9348215	AQUEOUS	0.02	1.0	0.02	ppb		12/14/09 21:04		☐
130	LQVR0	D9L100491-7	9348215	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 21:07		☐
131	LQVR1	D9L100491-8	9348215	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 21:09		☐
132	LQVR2	D9L100491-9	9348215	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 21:11		☐
133	LQVR4	D9L100491-10	9348215	AQUEOUS	0.05	1.0	0.05	ppb		12/14/09 21:14		☐
134	LQVR7	D9L100491-11	9348215	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 21:16		☐
135	LQWTE	D9L100608-1	9348215	AQUEOUS	0.03	1.0	0.03	ppb		12/14/09 21:18		☐
136	LQ24LB	D9L140000	9348216		0.01	1.0	0.01	ppb		12/14/09 21:21		☐

✓ CO 12/15/09

Denver

RUN SUMMARY

Method: CVHG - Mercury (Cold Vapor Mercury) Instrument: A (033) Reported: 12/15/09 11:06:29

Sequence: 091214AB **Date:** 12/14/09 15:57 **Analyst:** CGG **ICV:** _____ **CAL/CCV:** _____

#	Sample ID	Lot No.	Batch	Matrix	Raw	DF	Result	Units	%R	Analyzed Date	Comment	Q
137	LQ24LC	D9L140000 = 5.00	9348216		4.89	1.0	4.89	ppb	97.8%	12/14/09 21:23		☐
138	LQXX6	D9L110467-1	9348216	AQUEOUS	2.46	1.0	2.46	ppb		12/14/09 21:25		☐
139	CCV	= 5.00			5.14	1.0	5.14	ppb	102.7%	12/14/09 21:28		☐
140	CCB				0.00	1.0	0.00	ppb		12/14/09 21:30		☐
141	LQXX6S	D9L110467-1 = 5.00	9348216	AQUEOUS	6.92	1.0	6.92	ppb		12/14/09 21:32		☐
142	LQXX6D	D9L110467-1 = 5.00	9348216	AQUEOUS	6.90	1.0	6.90	ppb		12/14/09 21:34		☐
143	LQXX8	D9L110467-2	9348216	AQUEOUS	1.72	1.0	1.72	ppb		12/14/09 21:37		☐
144	LQX0E	D9L110467-3	9348216	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 21:39		☐
145	LQX0F	D9L110467-4	9348216	AQUEOUS	1.04	1.0	1.04	ppb		12/14/09 21:41		☐
146	LQX0H	D9L110467-5	9348216	AQUEOUS	0.13	1.0	0.13	ppb		12/14/09 21:44		☐
147	LQX0K	D9L110467-6	9348216	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 21:46		☐
148	LQX0M	D9L110467-7	9348216	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 21:48		☐
149	LQX0N	D9L110467-8	9348216	AQUEOUS	0.16	1.0	0.16	ppb		12/14/09 21:51		☐
150	LQX0P	D9L110467-9	9348216	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 21:53		☐
151	CCV	= 5.00			5.14	1.0	5.14	ppb	102.7%	12/14/09 21:55		☐
152	CCB				0.00	1.0	0.00	ppb		12/14/09 21:58		☐
153	LQX0R	D9L110467-10	9348216	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 22:00		☐
154	LQX0T	D9L110467-11	9348216	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 22:02		☐
155	LQX0V	D9L110467-12	9348216	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 22:05		☐
156	LQX00	D9L110467-13	9348216	AQUEOUS	0.02	1.0	0.02	ppb		12/14/09 22:07		☐
157	LQX01	D9L110467-14	9348216	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 22:09		☐
158	LQX02	D9L110467-15	9348216	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 22:12		☐
159	LQ17C	D9L120434-1	9348216	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 22:14		☐
160	LQ17M	D9L120434-2	9348216	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 22:16		☐
161	LQ17N	D9L120434-3	9348216	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 22:18		☐
162	LQ17Q	D9L120434-4	9348216	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 22:21		☐
163	CCV	= 5.00			5.14	1.0	5.14	ppb	102.7%	12/14/09 22:23		☐
164	CCB				0.00	1.0	0.00	ppb		12/14/09 22:25		☐
165	LQ24NB	D9L140000	9348228		0.01	1.0	0.01	ppb		12/14/09 22:28		☐
166	LQ24NC	D9L140000 = 5.00	9348228		4.51	1.0	4.51	ppb	90.1%	12/14/09 22:30		☐
167	LQ19J	D9L120449-1	9348228	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 22:32		☐
168	LQ19K	D9L120449-2	9348228	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 22:35		☐
169	LQ19L	D9L120449-3	9348228	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 22:37		☐
170	LQ19M	D9L120449-4	9348228	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 22:39		☐

JCS 12/15/09

Denver

RUN SUMMARY

Method: CVHG - Mercury (Cold Vapor Mercury) Instrument: A (033) Reported: 12/15/09 11:06:29

Sequence: 091214AB **Date:** 12/14/09 15:57 **Analyst:** CGG ICV: _____ CAL/CCV: _____

#	Sample ID	Lot No.	Batch	Matrix	Raw	DF	Result	Units	%R	Analyzed Date	Comment	Q
171	LQ19N	D9L120449-5	9348228	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 22:42		☐
172	LQ19P	D9L120449-6	9348228	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 22:44		☐
173	LQ19Q	D9L120449-7	9348228	AQUEOUS	0.02	1.0	0.02	ppb		12/14/09 22:46		☐
174	LQ19T	D9L120449-8	9348228	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 22:49		☐
175	CCV	= 5.00			5.24	1.0	5.24	ppb	104.8%	12/14/09 22:51		☐
176	CCB				0.00	1.0	0.00	ppb		12/14/09 22:53		☐
177	LQ19V	D9L120449-9	9348228	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 22:56		☐
178	LQ19W	D9L120449-10	9348228	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 22:58		☐
179	LQ19X	D9L120449-11	9348228	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 23:00		☐
180	LQ190	D9L120449-12	9348228	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 23:03		☐
181	LQ12C	D9L120417-1	9348228	AQUEOUS	0.05	1.0	0.05	ppb		12/14/09 23:05		☐
182	LQ12CS	D9L120417-1 = 5.00	9348228	AQUEOUS	3.75	1.0	3.75	ppb		12/14/09 23:07		☐
183	LQ12CD	D9L120417-1 = 5.00	9348228	AQUEOUS	3.82	1.0	3.82	ppb		12/14/09 23:10		☐
184	LQ12E	D9L120417-2	9348228	AQUEOUS	0.03	1.0	0.03	ppb		12/14/09 23:12		☐
185	LQ2KP	D9L120489-1	9348228	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 23:14		☐
186	LQ2KQ	D9L120489-2	9348228	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 23:17		☐
187	CCV	= 5.00			5.14	1.0	5.14	ppb	102.8%	12/14/09 23:19		☐
188	CCB				0.00	1.0	0.00	ppb		12/14/09 23:21		☐
189	LQ2KR	D9L120489-3	9348228	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 23:24		☐
190	LQ2KT	D9L120489-4	9348228	AQUEOUS	0.02	1.0	0.02	ppb		12/14/09 23:26		☐
191	LQ2KV	D9L120489-5	9348228	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 23:28		☐
192	LQ2KW	D9L120489-6	9348228	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 23:30		☐
193	LQ24VB	D9L140000	9348234		0.01	1.0	0.01	ppb		12/14/09 23:33		☐
194	LQ24VC	D9L140000 = 5.00	9348234		5.05	1.0	5.05	ppb	100.9%	12/14/09 23:35		☐
195	LQWD3	D9L100551-12	9348234	AQUEOUS	0.02	1.0	0.02	ppb		12/14/09 23:37		☐
196	LQWD3S	D9L100551-12 = 5.00	9348234	AQUEOUS	5.15	1.0	5.15	ppb		12/14/09 23:40		☐
197	LQWD3D	D9L100551-12 = 5.00	9348234	AQUEOUS	5.01	1.0	5.01	ppb		12/14/09 23:42		☐
198	LQ243BF	D9L140000	9348242		0.01	1.0	0.01	ppb		12/14/09 23:44		☐
199	CCV	= 5.00			5.12	1.0	5.12	ppb	102.5%	12/14/09 23:47		☐
200	CCB				0.00	1.0	0.00	ppb		12/14/09 23:49		☐
201	LQ243CF	D9L140000 = 5.00	9348242		5.01	1.0	5.01	ppb	100.2%	12/14/09 23:51		☐
202	LQ0LNF	D9L110557-2	9348242	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 23:54		☐
203	LQ0LNP5F	D9L110557	9348242	AQUEOUS	0.01	5.0	0.01	ppb		12/14/09 23:56	NC	☐
204	LQ0LWF	D9L110557-6	9348242	AQUEOUS	0.01	1.0	0.01	ppb		12/14/09 23:58		☐

JCS 12/15/09

Denver

RUN SUMMARY

Method: CVHG - Mercury (Cold Vapor Mercury) | Instrument: A (033) | Reported: 12/15/09 11:06:29

Sequence: 091214AB **Date:** 12/14/09 15:57 **Analyst:** CGG **ICV:** _____ **CAL/CCV:** _____

#	Sample ID	Lot No.	Batch	Matrix	Raw	DF	Result	Units	%R	Analyzed Date	Comment	Q
205	LQ0L9F	D9L110557-9	9348242	AQUEOUS	0.01	1.0	0.01	ppb		12/15/09 00:01		☐
206	LQCVJB	D9L020000	9336261		0.01	1.0	0.01	ppb		12/15/09 00:03		☐
207	LQCVJC	D9L020000 = 5.00	9336261		5.05	1.0	5.05	ppb	101.0%	12/15/09 00:05		☐
208	LQCAP	D9L020404-1	9336261	AQUEOUS	0.01	1.0	0.01	ppb		12/15/09 00:08		☐
209	LQCVJL	D9L020000 = 5.00	9336261		5.14	1.0	5.14	ppb	102.8%	12/15/09 00:10		☐
210	CCV	= 5.00			5.03	1.0	5.03	ppb	100.7%	12/15/09 00:12		☐
211	CCB				0.00	1.0	0.00	ppb		12/15/09 00:15		☐
212	LQ1QDBT	D9L110000	9348246		0.01	1.0	0.01	ppb		12/15/09 00:20		☐
213	LQ25JCT	D9L140000 = 5.00	9348246		4.82	1.0	4.82	ppb	96.3%	12/15/09 00:23		☐
214	LQWWDT	D9L100612-1	9348246	LEACHATE	0.47	1.0	0.47	ppb		12/15/09 00:25		☐
215	CCV	= 5.00			5.03	1.0	5.03	ppb	100.5%	12/15/09 00:27		☐
216	CCB				0.00	1.0	0.00	ppb		12/15/09 00:30		☐
217	LQWWDP5T	D9L100612	9348246	LEACHATE	0.10	5.0	0.10	ppb		12/15/09 00:32	NC	☐
218	LQWWDST	D9L100612-1 = 5.00	9348246	LEACHATE	5.28	1.0	5.28	ppb		12/15/09 00:34		☐
219	LQWWDDT	D9L100612-1 = 5.00	9348246	LEACHATE	5.24	1.0	5.24	ppb		12/15/09 00:37		☐
220	LQW60BT	D9L100000	9348249		0.01	1.0	0.01	ppb		12/15/09 00:39		☐
221	LQ26ACT	D9L140000 = 5.00	9348249		4.89	1.0	4.89	ppb	97.7%	12/15/09 00:41		☐
222	LQMA1T	D9L070416-1	9348249	LEACHATE	0.01	1.0	0.01	ppb		12/15/09 00:43		☐
223	LQMA1ST	D9L070416-1 = 5.00	9348249	LEACHATE	4.86	1.0	4.86	ppb		12/15/09 00:46		☐
224	LQMA1DT	D9L070416-1 = 5.00	9348249	LEACHATE	4.82	1.0	4.82	ppb		12/15/09 00:48		☐
225	LQMA2T	D9L070416-2	9348249	LEACHATE	0.00	1.0	0.01	ppb		12/15/09 00:50		☐
226	LQMA4T	D9L070416-4	9348249	LEACHATE	0.01	1.0	0.01	ppb		12/15/09 00:53		☐
227	CCV	= 5.00			5.05	1.0	5.05	ppb	101.1%	12/15/09 00:55		☐
228	CCB				0.00	1.0	0.00	ppb		12/15/09 00:57		☐
229	LQMA5T	D9L070416-5	9348249	LEACHATE	0.01	1.0	0.01	ppb		12/15/09 01:00		☐
230	LQMA6T	D9L070416-6	9348249	LEACHATE	0.01	1.0	0.01	ppb		12/15/09 01:02		☐
231	LQMA8T	D9L070416-8	9348249	LEACHATE	0.01	1.0	0.01	ppb		12/15/09 01:04		☐
232	LQMA9T	D9L070416-9	9348249	LEACHATE	0.01	1.0	0.01	ppb		12/15/09 01:06		☐
233	LQMCAT	D9L070416-10	9348249	LEACHATE	0.01	1.0	0.01	ppb		12/15/09 01:09		☐
234	LQMCCT	D9L070416-11	9348249	LEACHATE	0.01	1.0	0.01	ppb		12/15/09 01:11		☐
235	LQMCDT	D9L070416-12	9348249	LEACHATE	0.02	1.0	0.02	ppb		12/15/09 01:13		☐
236	LQMCET	D9L070416-13	9348249	LEACHATE	0.56	1.0	0.56	ppb		12/15/09 01:16		☐
237	LQMCFT	D9L070416-14	9348249	LEACHATE	0.01	1.0	0.01	ppb		12/15/09 01:18		☐
238	LQW63BT	D9L100000	9348253		0.01	1.0	0.01	ppb		12/15/09 01:20		☐

✓ 12/15/09

Denver

RUN SUMMARY

Method: CVHG - Mercury (Cold Vapor Mercury) | Instrument: A (033) | Reported: 12/15/09 11:06:29

Sequence: 091214AB **Date:** 12/14/09 15:57 **Analyst:** CGG **ICV:** _____ **CAL/CCV:** _____

#	Sample ID	Lot No.	Batch	Matrix	Raw	DF	Result	Units	%R	Analyzed Date	Comment	Q
239	CCV	= 5.00			5.11	1.0	5.11	ppb	102.3%	12/15/09 01:23		☐
240	CCB				0.00	1.0	0.00	ppb		12/15/09 01:25		☐
241	LQ26RCT	D9L140000 = 5.00	9348253		4.84	1.0	4.84	ppb	96.8%	12/15/09 01:27		☐
242	LQMA3T	D9L070416-3	9348253	LEACHATE	0.01	1.0	0.01	ppb		12/15/09 01:29		☐
243	LQMA3ST	D9L070416-3 = 5.00	9348253	LEACHATE	5.05	1.0	5.05	ppb		12/15/09 01:32		☐
244	LQMA3DT	D9L070416-3 = 5.00	9348253	LEACHATE	4.86	1.0	4.86	ppb		12/15/09 01:34		☐
245	LQMA7T	D9L070416-7	9348253	LEACHATE	0.01	1.0	0.01	ppb		12/15/09 01:36		☐
246	LQ1P6BK	D9L110000	9348256		0.01	1.0	0.02	ppb		12/15/09 01:39		☐
247	LQ260CK	D9L140000 = 5.00	9348256		5.12	1.0	5.12	ppb	102.4%	12/15/09 01:41		☐
248	LQTDDK	D9L090598-1	9348256	LEACHATE	0.01	1.0	0.01	ppb		12/15/09 01:43		☐
249	LQTDDSK	D9L090598-1 = 5.00	9348256	LEACHATE	4.83	1.0	4.83	ppb		12/15/09 01:46		☐
250	LQTDDDK	D9L090598-1 = 5.00	9348256	LEACHATE	4.96	1.0	4.96	ppb		12/15/09 01:48		☐
251	CCV	= 5.00			5.04	1.0	5.04	ppb	100.7%	12/15/09 01:50		☐
252	CCB				0.00	1.0	0.00	ppb		12/15/09 01:53		☐

✓ 12/15/09

Report Generated By CETAC QuickTrace
Analyst: GrisdaleC
Worksheet file: C:\Program Files\QuickTrace\Worksheets\091214AB.wsz
Date Started: 12/14/2009 3:50:06 PM
Comment:

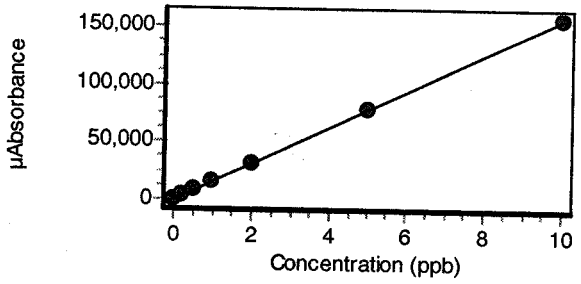
Results

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
Cal Blank	STD	12/14/09 03:57:39 pm	0.000	120	20.59		1.00	1.00	1.00
Std1	STD	12/14/09 03:59:56 pm	0.200	3270	0.52		1.00	1.00	1.00
Std2	STD	12/14/09 04:02:14 pm	0.500	7918	0.64		1.00	1.00	1.00
Std3	STD	12/14/09 04:04:33 pm	1.000	15204	0.49		1.00	1.00	1.00
Std4	STD	12/14/09 04:06:52 pm	2.000	31186	1.49		1.00	1.00	1.00
Std5	STD	12/14/09 04:09:12 pm	5.000	78209	1.78		1.00	1.00	1.00
Std6	STD	12/14/09 04:11:32 pm	10.000	156800	0.12		1.00	1.00	1.00

Calibration

Equation: A = -60.839 + 15675.620C
R2: 0.99999
SEE: 242.1875
Flags:

12/15/09



ICB	ICB	12/14/09 04:15:01 pm	0.008	59	13.49		1.00	1.00	1.00
ICV	ICV	12/14/09 04:17:22 pm	6.895	108025	0.19		1.00	1.00	1.00
% Recovery 98.50									
RL	CRDL	12/14/09 04:19:39 pm	0.213	3282	0.06		1.00	1.00	1.00
% Recovery 106.63									

12/15/09

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol. ODF
CCV	CCV	12/14/09 04:21:59 pm	4.927 ✓	77169	1.24		1.00	1.00
% Recovery 98.54 ✓							1.00	
CCB	CCB	12/14/09 04:24:16 pm	0.008 ✓	67	4.19		1.00	1.00
							1.00	
~~LQ236B~~ NA Batch reprepared.	UNK	12/14/09 04:26:33 pm	0.016	190	3.34		1.00	1.00
							1.00	
LQ236C US 12/15/09	UNK	12/14/09 04:28:50 pm	4.835	75724	0.93		1.00	1.00
							1.00	
LQVMD	UNK	12/14/09 04:31:08 pm	0.011	119	0.66		1.00	1.00
							1.00	
LQW4T	UNK	12/14/09 04:33:26 pm	0.010	96	23.03		1.00	1.00
							1.00	
LQW4TS	UNK	12/14/09 04:35:44 pm	2.750	43049	1.65		1.00	1.00
							1.00	
LQW4TD	UNK	12/14/09 04:38:02 pm	2.300	35986	0.67		1.00	1.00
							1.00	
LQW4X	UNK	12/14/09 04:51:04 pm	-0.188	-3005	0.33		1.00	1.00
							1.00	
LQW40	UNK	12/14/09 04:53:23 pm	-0.008	-194	0.85		1.00	1.00
							1.00	
LQW41	UNK	12/14/09 04:55:42 pm	-0.004	-128	9.54		1.00	1.00
							1.00	
~~LQW42~~	UNK	~~12/14/09 04:58:01 pm~~	~~0.008~~	~~68~~	~~4.00~~		1.00	1.00
							1.00	
CCV	CCV	12/14/09 05:00:21 pm	5.063 ✓	79296	0.19		1.00	1.00
% Recovery 101.25 ✓							1.00	
CCB	CCB	12/14/09 05:02:38 pm	0.004 ✓	5	91.54		1.00	1.00
							1.00	
~~LQV9K~~	UNK	12/14/09 05:04:58 pm	0.013	149	1.41		1.00	1.00
							1.00	
LQV96	UNK	~~12/14/09 05:07:18 pm~~	0.042	593	1.90		1.00	1.00
							1.00	
LQWAC	UNK	12/14/09 05:09:35 pm	0.010	100	3.21		1.00	1.00
							1.00	

✓ US 12/15/09

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol. ODF
LQ2K0	UNK	12/14/09 05:11:52 pm	0.018	223	1.02		1.00	1.00 1.00
LQ2K2	UNK	12/14/09 05:14:09 pm	4.440	69535	1.76		1.00	1.00 1.00
LQ2K2S	UNK	12/14/09 05:16:26 pm	3.245	50802	0.17		1.00	1.00 1.00
LQ2K2D	UNK	12/14/09 05:18:44 pm	0.009	86	9.54		1.00	1.00 1.00
LQ1QDB	UNK	12/14/09 05:21:02 pm	4.612	72231	2.32		1.00	1.00 1.00
LQ25JC	UNK	12/14/09 05:23:20 pm	0.452	7032	0.72		1.00	1.00 1.00
LQWWD	UNK	12/14/09 05:25:39 pm	0.099	1485	1.97		1.00	1.00 1.00
CCV % Recovery 102.70	CCV	12/14/09 05:27:59 pm	5.135	80433	0.19		1.00	1.00 1.00
CCB	CCB	12/14/09 05:30:16 pm	0.005	13	34.06		1.00	1.00 1.00
LQWWDP5	UNK	12/14/09 05:32:35 pm	5.342	83675	2.37		1.00	1.00 1.00
LQWWDS	UNK	12/14/09 05:34:54 pm	5.277	82664	0.86		1.00	1.00 1.00
LQWWDD	UNK	12/14/09 05:37:13 pm	0.011	111	6.43	s	1.00	1.00 1.00
LQW60B	UNK	12/14/09 05:39:33 pm	4.656	72921	1.14		1.00	1.00 1.00
LQ26AC	UNK	12/14/09 05:41:50 pm	0.012	127	9.25	s	1.00	1.00 1.00
LQMA1	UNK	12/14/09 05:44:07 pm	4.728	74054	3.09		1.00	1.00 1.00
LQMA1S	UNK	12/14/09 05:46:24 pm	5.010	78475	1.02		1.00	1.00 1.00
LQMA1D	UNK	12/14/09 05:48:42 pm	0.010	104	2.84		1.00	1.00 1.00

MA Batch reprepared.
CS 12/15/09

MA see reruns below

CS 12/15/09

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol. ODF
LQMA2	UNK	12/14/09 05:50:59 pm	0.011	118	11.71	s	1.00	1.00 1.00
NA, see rerun below.								
LQMA4	UNK	12/14/09 05:53:17 pm	0.015	182	2.88		1.00	1.00 1.00
CJ 12/15/09								
CCV	CCV	12/14/09 05:55:37 pm	5.240	82084	0.25		1.00	1.00 1.00
% Recovery 104.81								
CCB	CCB	12/14/09 05:57:54 pm	0.006	29	11.98		1.00	1.00 1.00
LQMA5	UNK	12/14/09 06:00:12 pm	0.013	135	8.35	s	1.00	1.00 1.00
LQMA6	UNK	12/14/09 06:02:31 pm	0.011	115	2.45		1.00	1.00 1.00
LQMA8	UNK	12/14/09 06:04:50 pm	0.011	105	1.89		1.00	1.00 1.00
LQMA9	UNK	12/14/09 06:07:09 pm	0.010	97	6.83		1.00	1.00 1.00
LQMCA	UNK	12/14/09 06:09:29 pm	0.011	108	1.05		1.00	1.00 1.00
LQMCC	UNK	12/14/09 06:11:48 pm	0.026	351	2.52		1.00	1.00 1.00
LQMCD	UNK	12/14/09 06:14:06 pm	0.575	8955	0.99		1.00	1.00 1.00
LQMCE	UNK	12/14/09 06:16:23 pm	0.013	136	1.90		1.00	1.00 1.00
LQMCF	UNK	12/14/09 06:18:40 pm	0.011	112	3.53		1.00	1.00 1.00
LQW63B	UNK	12/14/09 06:20:57 pm	4.833	75702	1.28		1.00	1.00 1.00
CCV	CCV	12/14/09 06:23:17 pm	5.165	80907	0.18		1.00	1.00 1.00
% Recovery 103.30								
CCB	CCB	12/14/09 06:25:34 pm	0.004	8	43.21		1.00	1.00 1.00
LQ26BC	UNK	12/14/09 06:27:52 pm	0.012	121	1.16		1.00	1.00 1.00

CJ KL 12/15/09

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol. ODF
~~LQMA3~~	UNK	12/14/09 06:30:10 pm	4.881	~~76459~~	~~5.09~~	~~s~~	1.00	1.00 1.00
NA, see rerun below. US 12/15/09								
LQMA3S	UNK	12/14/09 06:32:28 pm	4.986	78102	0.54		1.00	1.00 1.00
LQMA3D	UNK	12/14/09 06:34:47 pm	0.008	68	8.48		1.00	1.00 1.00
LQMA7	UNK	12/14/09 06:37:06 pm	0.017	201	1.09		1.00	1.00 1.00
LQ1P6B	UNK	12/14/09 06:39:25 pm	5.154	80731	0.63		1.00	1.00 1.00
LQ260C	UNK	12/14/09 06:41:45 pm	0.011	109	5.08	s	1.00	1.00 1.00
LQTDD	UNK	12/14/09 06:44:04 pm	4.584	71798	1.14		1.00	1.00 1.00
LQTDDS	UNK	12/14/09 06:46:22 pm	4.813	75389	1.18		1.00	1.00 1.00
~~LQTDDD~~	~~UNK~~	~~12/14/09 06:48:39 pm~~	0.021	275	~~1.08~~		1.00	1.00 1.00
CCV	CCV	12/14/09 06:50:59 pm	5.129	80339	0.52		1.00	1.00 1.00
% Recovery 102.58								
CCB	CCB	12/14/09 06:53:16 pm	0.005	11	8.42		1.00	1.00 1.00
LQ1P8B	UNK	12/14/09 06:55:34 pm	0.009	86	3.67		1.00	1.00 1.00
LQ28FC	UNK	12/14/09 06:57:51 pm	4.971	77867	0.15		1.00	1.00 1.00
LQP6F	UNK	12/14/09 07:00:09 pm	0.017	200	0.88		1.00	1.00 1.00
LQP6FP5	UNK	12/14/09 07:02:27 pm	0.012	120	7.14	s	1.00	1.00 1.00
LQP6FS	UNK	12/14/09 07:04:45 pm	3.711	58117	4.06		1.00	1.00 1.00
LQP6FD	UNK	12/14/09 07:07:04 pm	3.672	57497	0.35		1.00	1.00 1.00

US 12/15/09

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol. ODF
LQP6FZ	UNK	12/14/09 07:09:23 pm	3.559	55720	0.23		1.00	1.00 1.00
LQ1QKB	UNK	12/14/09 07:11:42 pm	-0.022	-410	7.57		1.00	1.00 1.00
LQ28KC	UNK	12/14/09 07:14:01 pm	4.895	76669	0.08		1.00	1.00 1.00
LQW46	UNK	12/14/09 07:16:21 pm	0.075	1108	1.09		1.00	1.00 1.00
CCV % Recovery 105.01	CCV	12/14/09 07:18:41 pm	5.251	82247	0.51		1.00	1.00 1.00
CCB	CCB	12/14/09 07:20:58 pm	0.008	64	7.60		1.00	1.00 1.00
LQW46S	UNK	12/14/09 07:23:16 pm	2.478	38788	0.79		1.00	1.00 1.00
LQW46D	UNK	12/14/09 07:25:34 pm	3.210	50262	0.95		1.00	1.00 1.00
LQ240B	UNK	12/14/09 07:27:52 pm	0.012	122	5.45	s	1.00	1.00 1.00
LQ240C	UNK	12/14/09 07:30:10 pm	5.096	79814	0.05		1.00	1.00 1.00
LQWNJ	UNK	12/14/09 07:32:28 pm	0.021	263	4.13		1.00	1.00 1.00
LQWNJS	UNK	12/14/09 07:34:46 pm	5.128	80329	0.49		1.00	1.00 1.00
CCV % Recovery 101.51	CCV	12/14/09 07:37:05 pm	5.075	79498	0.62		1.00	1.00 1.00
CCB	CCB	12/14/09 07:39:22 pm	0.006	32	15.70		1.00	1.00 1.00
LQWNJD	UNK	12/14/09 07:41:41 pm	5.129	80338	0.39		1.00	1.00 1.00
~~LQWNJS~~	~~UNK~~	~~12/14/09 07:43:59 pm~~	~~5.292~~	~~82888~~	~~1.11~~		~~1.00~~	~~1.00~~ 1.00
~~LQWNJD~~	~~UNK~~	~~12/14/09 07:46:17 pm~~	~~5.055~~	~~79178~~	~~0.77~~		~~1.00~~	~~1.00~~ 1.00

MA, confirms above. CO 12/15/09

√ CO 12/15/09

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol. ODF
LQWPH	UNK	12/14/09 07:48:36 pm	0.026	339	1.07		1.00	1.00 1.00
LQ24DB	UNK	12/14/09 07:50:55 pm	0.010	100	13.36		1.00	1.00 1.00
LQ24DC	UNK	12/14/09 07:53:14 pm	5.035	78858	0.73		1.00	1.00 1.00
CCV % Recovery 102.64	CCV	12/14/09 07:55:34 pm	5.132	80386	0.08		1.00	1.00 1.00
CCB	CCB	12/14/09 07:57:51 pm	0.005	13	17.37		1.00	1.00 1.00
LQWNJ	UNK	12/14/09 08:00:10 pm	0.027	367	0.69		1.00	1.00 1.00
LQWNJS	UNK	12/14/09 08:02:30 pm	2.108	32982	0.28		1.00	1.00 1.00
LQWNJD	UNK	12/14/09 08:04:48 pm	1.619	25314	0.98		1.00	1.00 1.00
~~LQWNJS~~	~~UNK~~	~~12/14/09 08:07:08 pm~~	~~2.128~~	~~33291~~	~~0.17~~		~~1.00~~	1.00 1.00
NA, confirms above cs 12/15/09								
~~LQWNJD~~	~~UNK~~	~~12/14/09 08:09:26 pm~~	~~1.647~~	~~25761~~	~~0.05~~		~~1.00~~	1.00 1.00
LQWPH	UNK	12/14/09 08:11:44 pm	0.053	774	0.25		1.00	1.00 1.00
CCV % Recovery 104.04	CCV	12/14/09 08:14:04 pm	5.202	81487	0.27		1.00	1.00 1.00
CCB	CCB	12/14/09 08:16:21 pm	-0.008	-184	5.00		1.00	1.00 1.00
LQ24HB	UNK	12/14/09 08:18:39 pm	0.000	-63	19.10		1.00	1.00 1.00
LQ24HC	UNK	12/14/09 08:20:57 pm	5.059	79242	0.46		1.00	1.00 1.00
LQXX9	UNK	12/14/09 08:23:16 pm	-0.003	-103	6.35		1.00	1.00 1.00
LQX0A	UNK	12/14/09 08:25:34 pm	0.362	5609	4.08		1.00	1.00 1.00

cs 12/15/09

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt. ODF	Vol.
LQVKL	UNK	12/14/09 08:27:52 pm	0.009	85	9.73		1.00 1.00	1.00
LQVKLS	UNK	12/14/09 08:30:11 pm	4.617	72317	0.22		1.00 1.00	1.00
CCV	CCV	12/14/09 08:32:31 pm	5.217	81723	0.14		1.00 1.00	1.00
% Recovery 104.35								
CCB	CCB	12/14/09 08:34:48 pm	0.004	5	56.83		1.00 1.00	1.00
LQVKLD	UNK	12/14/09 08:37:07 pm	4.543	71158	0.12		1.00 1.00	1.00
LQVKT	UNK	12/14/09 08:39:26 pm	-0.002	-96	8.90		1.00 1.00	1.00
LQVKW	UNK	12/14/09 08:41:45 pm	0.007	51	2.48		1.00 1.00	1.00
LQVKX	UNK	12/14/09 08:44:05 pm	0.018	222	1.35		1.00 1.00	1.00
LQVK3	UNK	12/14/09 08:46:24 pm	0.026	349	0.64		1.00 1.00	1.00
LQVRG	UNK	12/14/09 08:48:42 pm	0.595	9273	1.04		1.00 1.00	1.00
LQVRQ	UNK	12/14/09 08:51:00 pm	0.017	208	1.79		1.00 1.00	1.00
LQVRR	UNK	12/14/09 08:53:19 pm	0.010	102	5.38	s	1.00 1.00	1.00
LQVRT	UNK	12/14/09 08:55:37 pm	0.010	93	4.67		1.00 1.00	1.00
LQVRW	UNK	12/14/09 08:57:56 pm	0.135	2049	0.11		1.00 1.00	1.00
CCV	CCV	12/14/09 09:00:16 pm	5.156	80767	0.19		1.00 1.00	1.00
% Recovery 103.13								
CCB	CCB	12/14/09 09:02:33 pm	0.004	-3	155.31		1.00 1.00	1.00
LQVRX	UNK	12/14/09 09:04:51 pm	0.021	270	1.45		1.00 1.00	1.00

JDS 12/15/09

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol. ODF
LQVR0	UNK	12/14/09 09:07:10 pm	0.011	106	3.29		1.00	1.00
							1.00	
LQVR1	UNK	12/14/09 09:09:29 pm	0.010	100	1.90		1.00	1.00
							1.00	
LQVR2	UNK	12/14/09 09:11:48 pm	0.008	66	2.55		1.00	1.00
							1.00	
LQVR4	UNK	12/14/09 09:14:07 pm	0.045	642	1.07		1.00	1.00
							1.00	
LQVR7	UNK	12/14/09 09:16:27 pm	0.010	100	1.75		1.00	1.00
							1.00	
LQWTE	UNK	12/14/09 09:18:46 pm	0.028	371	0.32		1.00	1.00
							1.00	
LQ24LB	UNK	12/14/09 09:21:04 pm	0.012	130	1.84		1.00	1.00
							1.00	
LQ24LC	UNK	12/14/09 09:23:23 pm	4.888	76569	2.24		1.00	1.00
							1.00	
LQXX6	UNK	12/14/09 09:25:42 pm	2.461	38519	1.43		1.00	1.00
							1.00	
CCV % Recovery 102.74	CCV	12/14/09 09:28:02 pm	5.137	80466	0.47		1.00	1.00
							1.00	
CCB	CCB	12/14/09 09:30:19 pm	0.004	2	132.88		1.00	1.00
							1.00	
LQXX6S	UNK	12/14/09 09:32:37 pm	6.917	108366	0.83		1.00	1.00
							1.00	
LQXX6D	UNK	12/14/09 09:34:56 pm	6.898	108064	1.05		1.00	1.00
							1.00	
LQXX8	UNK	12/14/09 09:37:15 pm	1.719	26882	0.11		1.00	1.00
							1.00	
LQX0E	UNK	12/14/09 09:39:34 pm	0.009	86	13.57		1.00	1.00
							1.00	
LQX0F	UNK	12/14/09 09:41:52 pm	1.042	16279	0.29		1.00	1.00
							1.00	
LQX0H	UNK	12/14/09 09:44:12 pm	0.134	2036	0.28		1.00	1.00
							1.00	

12/15/09

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol. ODF
LQX0K	UNK	12/14/09 09:46:31 pm	0.010	98	3.94		1.00	1.00 1.00
LQX0M	UNK	12/14/09 09:48:51 pm	0.008	69	7.21		1.00	1.00 1.00
LQX0N	UNK	12/14/09 09:51:10 pm	0.158	2410	0.35		1.00	1.00 1.00
LQX0P	UNK	12/14/09 09:53:29 pm	0.010	89	1.02		1.00	1.00 1.00
CCV % Recovery 102.72 ✓	CCV	12/14/09 09:55:49 pm	5.136 ✓	80452	0.11		1.00	1.00 1.00
CCB	CCB	12/14/09 09:58:06 pm	0.003 ✓	-10	15.85		1.00	1.00 1.00
LQX0R	UNK	12/14/09 10:00:26 pm	0.008	60	7.49		1.00	1.00 1.00
LQX0T	UNK	12/14/09 10:02:45 pm	0.006	36	2.91		1.00	1.00 1.00
LQX0V	UNK	12/14/09 10:05:04 pm	0.008	71	4.60		1.00	1.00 1.00
LQX00	UNK	12/14/09 10:07:23 pm	0.023	297	1.09		1.00	1.00 1.00
LQX01	UNK	12/14/09 10:09:42 pm	0.006	39	7.67		1.00	1.00 1.00
LQX02	UNK	12/14/09 10:12:01 pm	0.012	123	3.63		1.00	1.00 1.00
LQ17C	UNK	12/14/09 10:14:20 pm	0.011	109	1.85		1.00	1.00 1.00
LQ17M	UNK	12/14/09 10:16:39 pm	0.012	133	1.15		1.00	1.00 1.00
LQ17N	UNK	12/14/09 10:18:58 pm	0.011	115	2.98		1.00	1.00 1.00
LQ17Q	UNK	12/14/09 10:21:18 pm	0.011	116	5.25	s	1.00	1.00 1.00
CCV % Recovery 102.70 ✓	CCV	12/14/09 10:23:38 pm	5.135 ✓	80435	0.18		1.00	1.00 1.00

✓ JJ 12/15/09

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol. ODF
CCB	CCB	12/14/09 10:25:55 pm	0.004	-4	56.86		1.00	1.00 1.00
LQ24NB	UNK	12/14/09 10:28:14 pm	0.009	78	6.47		1.00	1.00 1.00
LQ24NC	UNK	12/14/09 10:30:34 pm	4.507	70592	0.37		1.00	1.00 1.00
LQ19J	UNK	12/14/09 10:32:53 pm	0.013	147	1.85		1.00	1.00 1.00
LQ19K	UNK	12/14/09 10:35:13 pm	0.008	61	1.36		1.00	1.00 1.00
LQ19L	UNK	12/14/09 10:37:32 pm	0.007	47	12.00		1.00	1.00 1.00
LQ19M	UNK	12/14/09 10:39:52 pm	0.008	69	3.17		1.00	1.00 1.00
LQ19N	UNK	12/14/09 10:42:11 pm	0.008	65	5.34		1.00	1.00 1.00
LQ19P	UNK	12/14/09 10:44:31 pm	0.008	72	3.16		1.00	1.00 1.00
LQ19Q	UNK	12/14/09 10:46:50 pm	0.019	243	0.99		1.00	1.00 1.00
LQ19T	UNK	12/14/09 10:49:09 pm	0.011	107	1.43		1.00	1.00 1.00
CCV % Recovery 104.80	CCV	12/14/09 10:51:29 pm	5.240	82081	0.44		1.00	1.00 1.00
CCB	CCB	12/14/09 10:53:46 pm	0.003	-10	53.07		1.00	1.00 1.00
LQ19V	UNK	12/14/09 10:56:06 pm	0.010	97	4.16		1.00	1.00 1.00
LQ19W	UNK	12/14/09 10:58:26 pm	0.011	109	2.63		1.00	1.00 1.00
LQ19X	UNK	12/14/09 11:00:45 pm	0.009	78	4.04		1.00	1.00 1.00
LQ190	UNK	12/14/09 11:03:05 pm	0.010	98	0.70		1.00	1.00 1.00

12/15/09

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol. ODF
LQ12C	UNK	12/14/09 11:05:25 pm	0.049	705	0.13		1.00	1.00 1.00
LQ12CS	UNK	12/14/09 11:07:44 pm	3.745	58652	0.40		1.00	1.00 1.00
LQ12CD	UNK	12/14/09 11:10:04 pm	3.819	59810	1.09		1.00	1.00 1.00
LQ12E	UNK	12/14/09 11:12:24 pm	0.030	402	1.69		1.00	1.00 1.00
LQ2KP	UNK	12/14/09 11:14:44 pm	0.011	113	1.88		1.00	1.00 1.00
LQ2KQ	UNK	12/14/09 11:17:03 pm	0.012	125	2.32		1.00	1.00 1.00
CCV % Recovery 102.82	CCV	12/14/09 11:19:23 pm	5.141	80530	0.24		1.00	1.00 1.00
CCB	CCB	12/14/09 11:21:40 pm	0.004	10	16.71		1.00	1.00 1.00
LQ2KR	UNK	12/14/09 11:24:00 pm	0.012	125	1.66		1.00	1.00 1.00
LQ2KT	UNK	12/14/09 11:26:20 pm	0.017	200	1.44		1.00	1.00 1.00
LQ2KV	UNK	12/14/09 11:28:39 pm	0.013	146	1.20		1.00	1.00 1.00
LQ2KW	UNK	12/14/09 11:30:59 pm	0.007	55	8.45		1.00	1.00 1.00
LQ24VB	UNK	12/14/09 11:33:19 pm	0.010	92	5.64		1.00	1.00 1.00
LQ24VC	UNK	12/14/09 11:35:39 pm	5.045	79019	0.13		1.00	1.00 1.00
LQWD3	UNK	12/14/09 11:37:59 pm	0.023	302	1.50		1.00	1.00 1.00
LQWD3S	UNK	12/14/09 11:40:19 pm	5.147	80629	0.04		1.00	1.00 1.00
LQWD3D	UNK	12/14/09 11:42:39 pm	5.012	78500	0.85		1.00	1.00 1.00

12/15/09

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol. ODF
LQ243B	UNK	12/14/09 11:44:59 pm	0.006	27	17.08		1.00	1.00 1.00
CCV % Recovery 102.47	CCV	12/14/09 11:47:19 pm	5.124	80254	0.04		1.00	1.00 1.00
CCB	CCB	12/14/09 11:49:36 pm	0.005	10	15.87		1.00	1.00 1.00
LQ243C	UNK	12/14/09 11:51:56 pm	5.008	78436	0.07		1.00	1.00 1.00
LQ0LN	UNK	12/14/09 11:54:16 pm	0.009	84	3.99		1.00	1.00 1.00
LQ0LNP5	UNK	12/14/09 11:56:36 pm	0.008	66	1.57		1.00	1.00 1.00
LQ0LW	UNK	12/14/09 11:58:56 pm	0.011	115	2.91		1.00	1.00 1.00
LQ0L9	UNK	12/15/09 12:01:16 am	0.015	173	1.22		1.00	1.00 1.00
LQCVJB	UNK	12/15/09 12:03:36 am	0.010	98	1.82		1.00	1.00 1.00
LQCVJC	UNK	12/15/09 12:05:56 am	5.048	79068	0.15		1.00	1.00 1.00
~~LQCVJL~~ LQCAP cups switched	UNK	12/15/09 12:08:16 am	0.007	56	4.03		1.00	1.00 1.00
~~LQCAP~~ LQCVJL CS 12/15/09	UNK	12/15/09 12:10:36 am	5.138	80483	0.23		1.00	1.00 1.00
CCV % Recovery 100.71	CCV	12/15/09 12:12:56 am	5.035	78871	0.19		1.00	1.00 1.00
CCB	CCB	12/15/09 12:15:13 am	0.002	-25	5.74		1.00	1.00 1.00
LQ1QDB	UNK	12/15/09 12:20:50 am	0.009	84	5.39		1.00	1.00 1.00
LQ25JC	UNK	12/15/09 12:23:08 am	4.815	75423	0.17		1.00	1.00 1.00
LQWWD	UNK	12/15/09 12:25:27 am	0.475	7387	0.10		1.00	1.00 1.00

CS 12/15/09

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol. ODF
CCV	CCV	12/15/09 12:27:47 am	5.027	78749	1.10		1.00	1.00
% Recovery 100.55							1.00	
CCB	CCB	12/15/09 12:30:04 am	0.003	-21	21.25		1.00	1.00
							1.00	
LQWWDP5	UNK	12/15/09 12:32:22 am	0.097	1464	0.19		1.00	1.00
							1.00	
LQWWDS	UNK	12/15/09 12:34:41 am	5.280	82709	0.30		1.00	1.00
							1.00	
LQWWDD	UNK	12/15/09 12:37:00 am	5.236	82010	2.28		1.00	1.00
							1.00	
LQW60B	UNK	12/15/09 12:39:20 am	0.007	54	4.25		1.00	1.00
							1.00	
LQ26AC	UNK	12/15/09 12:41:39 am	4.887	76552	0.56		1.00	1.00
							1.00	
LQMA1	UNK	12/15/09 12:43:56 am	0.008	64	7.30		1.00	1.00
							1.00	
LQMA1S	UNK	12/15/09 12:46:13 am	4.864	76180	0.26		1.00	1.00
							1.00	
LQMA1D	UNK	12/15/09 12:48:30 am	4.821	75503	0.38		1.00	1.00
							1.00	
LQMA2	UNK	12/15/09 12:50:48 am	0.005	22	10.65		1.00	1.00
							1.00	
LQMA4	UNK	12/15/09 12:53:06 am	0.011	110	2.20		1.00	1.00
							1.00	
CCV	CCV	12/15/09 12:55:25 am	5.053	79143	0.07		1.00	1.00
% Recovery 101.05							1.00	
CCB	CCB	12/15/09 12:57:42 am	0.004	7	48.01		1.00	1.00
							1.00	
LQMA5	UNK	12/15/09 01:00:00 am	0.014	160	1.10		1.00	1.00
							1.00	
LQMA6	UNK	12/15/09 01:02:19 am	0.011	107	1.07		1.00	1.00
							1.00	
LQMA8	UNK	12/15/09 01:04:37 am	0.011	104	2.64		1.00	1.00
							1.00	

DS 12/15/09

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol. ODF
LQMA9	UNK	12/15/09 01:06:56 am	0.010	92	1.09		1.00	1.00 1.00
LQMCA	UNK	12/15/09 01:09:16 am	0.009	86	5.73		1.00	1.00 1.00
LQMCC	UNK	12/15/09 01:11:35 am	0.010	100	2.04		1.00	1.00 1.00
LQMCD	UNK	12/15/09 01:13:55 am	0.023	304	1.47		1.00	1.00 1.00
LQMCE	UNK	12/15/09 01:16:12 am	0.557	8675	0.52		1.00	1.00 1.00
LQMCF	UNK	12/15/09 01:18:29 am	0.013	141	1.49		1.00	1.00 1.00
LQW63B	UNK	12/15/09 01:20:46 am	0.010 ✓	98	2.68		1.00	1.00 1.00
CCV % Recovery 102.25 ✓	CCV	12/15/09 01:23:06 am	5.113 ✓	80082	0.12		1.00	1.00 1.00
CCB	CCB	12/15/09 01:25:23 am	0.005 ✓	23	8.16		1.00	1.00 1.00
LQ26RC	UNK	12/15/09 01:27:41 am	4.839	75788	0.11		1.00	1.00 1.00
LQMA3	UNK	12/15/09 01:29:58 am	0.010	95	3.89		1.00	1.00 1.00
LQMA3S	UNK	12/15/09 01:32:16 am	5.050 ✓	79108	2.16		1.00	1.00 1.00
LQMA3D	UNK	12/15/09 01:34:35 am	4.855 ✓	76044	0.20		1.00	1.00 1.00
LQMA7	UNK	12/15/09 01:36:53 am	0.009	79	3.80		1.00	1.00 1.00
LQ1P6B	UNK	12/15/09 01:39:12 am	0.015 ✓	177	1.74		1.00	1.00 1.00
LQ260C	UNK	12/15/09 01:41:32 am	5.120 ✓	80191	0.90		1.00	1.00 1.00
LQTDD	UNK	12/15/09 01:43:51 am	0.010	97	1.50		1.00	1.00 1.00

✓ LS 12/15/09

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.
							ODF	
LQTDDS	UNK	12/15/09 01:46:11 am	4.827	75612	1.18		1.00	1.00
							1.00	
LQTDDD	UNK	12/15/09 01:48:28 am	4.962	77721	0.14		1.00	1.00
							1.00	
CCV	CCV	12/15/09 01:50:48 am	5.037	78893	0.72		1.00	1.00
% Recovery 100.73							1.00	
CCB	CCB	12/15/09 01:53:05 am	0.005	16	30.57		1.00	1.00
							1.00	

JCS 12/15/09

Analysis Parameters

Instrument M-7500 Mercury Analyzer

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	68.00	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)
26.00	30.00		

Standby Mode

Enabled: Yes

Standby Options: pump slow

Autodilution

Enabled: No

Condition:

Tube # range:

If no autodilution tubes remaining

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

JCO 12/15/09

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

12/15/09

SUBCONTRACT ORDER
TestAmerica Irvine

ISL0771

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 West Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Phone :(916) 373-5600
Fax: (916) 372-1059
Project Location: CA - CALIFORNIA
Receipt Temperature: 1 °C Ice: Y / N

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: ISL0771-02 (Outfall 009 (Comp) - Water)			Sampled: **12/07/09 11:12**			
1613-Dioxin-HR-Alta	ug/l	12/16/09	12/14/09 11:12	$1,400.00	0%	J flags,17 congeners,no TEQ,ug/L,sub=West Sac
Level 4 Data Package - Out	N/A	12/16/09	01/04/10 11:12	$0.00	0%	

Containers Supplied:
1 L Amber (C) 1 L Amber (D)

Olga Omelas 12/9/09 17:00
Released By Date/Time

FedEx 12/9/09 17:00
Received By Date/Time

Released By Date/Time

Received By 12/10/09 0945
Date/Time

TestAmerica

411111 THE LEADER IN ENVIRONMENTAL TESTING

LOT RECEIPT CHECKLIST
TestAmerica West Sacramento

CLIENT TAL-IRVINE PM LL LOG # 6238(

LOT# (QUANTIMS ID) G9L00517 QUOTE# 34779 LOCATION W2B

Checked (✓)

DATE RECEIVED 12/10/09 TIME RECEIVED 0930 ☑

DELIVERED BY ☑ FEDEX ☐ ON TRAC ☐ CLIENT

☐ GOLDENSTATE ☐ UPS ☐ GO-GETTERS ☐ OTHER

☐ TAL COURIER ☐ TAL SF ☐ VALLEY LOGISTICS ☑

CUSTODY SEAL STATUS ☑ INTACT ☐ BROKEN ☐ N/A ☑

CUSTODY SEAL #(S) Seal

SHIPPPING CONTAINER(S) ☑ TAL ☐ CLIENT ☐ N/A ☑

COC #(S) NA ☑

TEMPERATURE BLANK Observed: NA Corrected:

SAMPLE TEMPERATURE - (TEMPERATURES ARE IN °C)

Observed: 1.1.0 Average 1 Corrected Average 1

LABORATORY THERMOMETER ID:

IR UNIT: #4 ☐ #5 ☑ ☐ OTHER ☑

Initials	Date
CV	12/10/09

---

pH MEASURED ☐ YES ☐ ANOMALY ☑ N/A ☑

LABELED BY ☑

LABELS CHECKED BY ☑

PEER REVIEW ☑ NA

SHORT HOLD TEST NOTIFICATION

SAMPLE RECEIVING ☑

WETCHEM ☑ N/A ☑

VOA-ENCORES ☑ N/A ☑

☐ METALS NOTIFIED OF FILTER/PRESERVE VIA VERBAL & EMAIL ☑ N/A ☑

☐ COMPLETE SHIPMENT RECEIVED IN GOOD CONDITION WITH APPROPRIATE TEMPERATURES, CONTAINERS, PRESERVATIVES ☑ N/A ☑

☑ CLOUSEAU ☑ TEMPERATURE EXCEEDED (2 °C – 6 °C)*1 ☐ N/A

☑ WET ICE ☐ BLUE ICE ☐ GEL PACK ☐ NO COOLING AGENTS USED ☑ PM NOTIFIED

Initials	Date
	12/10/09

Notes

*1 Acceptable temperature range for State of Wisconsin samples is ≤4°C.

TestAmerica West Sacramento

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Bottle Lot Inventory

Lot ID: G9L100517

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VOA*																				
VOAh*																				
AGB	2																			
AGBs																				
250AGB																				
250AGBs																				
250AGBn																				
500AGB																				
____AGJ																				
500AGJ																				
250AGJ																				
125AGJ																				
____CGJ																				
500CGJ																				
250CGJ																				
125CGJ																				
PJ																				
PJn																				
500PJ																				
500PJn																				
500PJna																				
500PJzn/na																				
250PJ																				
250PJn																				
250PJna																				
250PJzn/na																				
Acetate Tube																				
____"CT																				
Encore																				
Folder/filter																				
PUF																				
Petri/Filter																				
XAD Trap																				
Ziploc																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

h = hydrochloric acid **s** = sulfuric acid **na** = sodium hydroxide **n** = nitric acid **zn** = zinc acetate

Number of VOAs with air bubbles present / total number of VOA's

QA-185 5/05 EM

Page 3

LEAVE NO SPACES BLANK. USE "NA" IF NOT APPLICABLE.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

REVISED

PROJECT NO. BOEING NPDES

SSFL MWH-Pasadena/Boeing

Lot #: F9L100528

Joseph Doak

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

TESTAMERICA LABORATORIES, INC.

Kay Clay
Project Manager

January 19, 2010

13715 Rider Trail North Earth City, MO 63045 tel 314.298.8566 fax 314.298.8757 www.testamericainc.com

Case Narrative
LOT NUMBER: F9L100528
Revised 01-25-10

This report contains the analytical results for the sample received under chain of custody by TestAmerica St. Louis on December 10, 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 except as noted on the following page.

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. **TestAmerica St. Louis' Florida certification number is E87689.** The case narrative is an integral part of this report.

This report shall not be reproduced, except in full, without the written approval of the laboratory.

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.

Report revised to include uranium results by KPA.

Report revised to remove Iso-uranium results.

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

Strontium Method: 905 MOD

The Strontium carrier recovery is outside the lower control limit (40%). There was physical evidence of matrix interference apparent during the initial preparation of the sample. The QC samples associated with the batch have acceptable carrier recovery indicating the presence of matrix interference.
Affected Sample:
F9L100528 (1): ISL0771-02

METHODS SUMMARY

F9L100528

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
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	
Isotopic Uranium by Alpha Spectroscopy	EML A-01-R 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.

EML "ENVIRONMENTAL MEASUREMENTS LABORATORY PROCEDURES MANUAL" HASL-300 28TH EDITION, VOLUME I and II DEPARTMENT OF ENERGY

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

SAMPLE SUMMARY

F9L100528

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
LQV48	001	ISL0771-02	12/07/09	11:12

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: ISL0771-02

Radiochemistry

Lab Sample ID: F9L100528-001
Work Order: LQV48
Matrix: WATER

Date Collected: 12/07/09 1112
Date Received: 12/10/09 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 # 9349219		Yld %
Cesium 137	3.6	U	8.8	20.0	16	12/15/09	01/08/10
Potassium 40	-40	U	330		300	12/15/09	01/08/10
Gross Alpha/Beta EPA 900				pCi/L	Batch # 9362140		Yld %
Gross Alpha	**2.22**	**J**	**0.94**	3.00	**0.99**	**12/28/09**	**01/02/10**
Gross Beta	**1.78**	**J**	**0.76**	4.00	**1.0**	**12/28/09**	**01/02/10**
Radium 226 by EPA 903.0 MOD				pCi/L	Batch # 9345208		Yld % 70
Radium (226)	0.096	U	0.097	1.00	0.15	12/11/09	01/05/10
Radium 228 by GFPC EPA 904 MOD				pCi/L	Batch # 9345210		Yld % 57
Radium 228	0.11	U	0.66	1.00	1.1	12/11/09	01/04/10
TRITIUM (Distill) by EPA 906.0 MOD				pCi/L	Batch # 9365109		Yld %
Tritium	-6	U	82	500	160	01/04/10	01/04/10
SR-90 BY GFPC EPA-905 MOD				pCi/L	Batch # 9345211		Yld % 85
Strontium 90	-0.05	U	0.33	3.00	0.58	12/11/09	12/23/09
Total Uranium by KPA ASTM 5174-91				pCi/L	Batch # 0015135		Yld %
Total Uranium	0.443	J	0.052	0.677	0.21	01/15/10	01/18/10

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: F9L100528
Matrix: WATER

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC		Prep Date	Analysis Date	Lab Sample ID
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/L	Batch # 9349219		Yld %			F9L150000-219B
Cesium 137	2.7	U	6.4	20.0	11		12/15/09	01/08/10	
Potassium 40	-60	U	200		200		12/15/09	01/08/10	
Radium 226 by EPA 903.0 MOD			pCi/L	Batch # 9345208		Yld % 100			F9L110000-208B
Radium (226)	0.059	U	0.083	1.00	0.14		12/11/09	01/05/10	
Radium 228 by GFPC EPA 904 MOD			pCi/L	Batch # 9345210		Yld % 84			F9L110000-210B
Radium 228	0.32	U	0.46	1.00	0.77		12/11/09	01/04/10	
SR-90 BY GFPC EPA-905 MOD			pCi/L	Batch # 9345211		Yld % 79			F9L110000-211B
Strontium 90	0.02	U	0.23	3.00	0.41		12/11/09	12/23/09	
Total Uranium by KPA ASTM 5174-91			pCi/L	Batch # 0015135		Yld %			F0A150000-135B
Total Uranium	0.496	J	0.060	0.677	0.21		01/15/10	01/18/10	
Gross Alpha/Beta EPA 900			pCi/L	Batch # 9362140		Yld %			F9L280000-140B
Gross Alpha	0.32	U	0.41	3.00	0.66		12/28/09	01/02/10	
Gross Beta	-0.15	U	0.86	4.00	1.5		12/28/09	01/02/10	
TRITIUM (Distill) by EPA 906.0 MOD			pCi/L	Batch # 9365109		Yld %			F9L310000-109B
Tritium	120	U	100	500	160		01/04/10	01/04/10	

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined using 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.

Laboratory Control Sample Report

Radiochemistry

Client Lot ID: F9L100528
Matrix: WATER

Parameter	Spike Amount	Result	Total Uncert. (2 σ+/-)	MDC	% Yld	% Rec	Lab Sample ID QC Control Limits
Total Uranium by KPA ASTM 5174-91		**pCi/L**		**5174-91**			**F0A150000-135C**
Total Uranium	27.1	28.4	3.5	0.2		105	(90 - 120)
	Batch #:	0015135		**Analysis Date:**	01/18/10		
Total Uranium by KPA ASTM 5174-91		**pCi/L**		**5174-91**			**F0A150000-135C**
Total Uranium	5.42	6.18	0.64	0.21		114	(90 - 120)
	Batch #:	0015135		**Analysis Date:**	01/18/10		
Gamma Cs-137 & Hits by EPA 901.1 MOD		**pCi/L**		**901.1 MOD**			**F9L150000-219C**
Americium 241	141000	130000	10000	500		92	(90 - 110)
Cesium 137	53100	48500	2800	200		91	(90 - 110)
Cobalt 60	87900	79200	4400	100		90	(90 - 110)
	Batch #:	9349219		**Analysis Date:**	01/08/10		
Gross Alpha/Beta EPA 900		**pCi/L**		**900.0 MOD**			**F9L280000-140C**
Gross Beta	68.3	71.5	6.0	1.1		105	(77 - 123)
	Batch #:	9362140		**Analysis Date:**	01/04/10		
Gross Alpha/Beta EPA 900		**pCi/L**		**900.0 MOD**			**F9L280000-140C**
Gross Alpha	49.4	51.2	5.9	1.3		103	(80 - 140)
	Batch #:	9362140		**Analysis Date:**	01/04/10		
TRITIUM (Distill) by EPA 906.0 MOD		**pCi/L**		**906.0 MOD**			**F9L310000-109C**
Tritium	4560	4380	460	160		96	(85 - 112)
	Batch #:	9365109		**Analysis Date:**	01/04/10		

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: F9L100528
Matrix: WATER

Parameter		Spike Amount	Result		Total Uncert. (2 σ+/-)	% Yld	% Rec	QC Control Limits	Precision	
Radium 226 by EPA 903.0 MOD				**pCi/L**	**903.0 MOD**				**F9L110000-208C**	
Radium (226)		11.3	10.7		1.0	108	95	(45 - 150)		
	Spk 2	11.3	11.2		1.1	109	99	(45 - 150)	4	%RPD
		Batch #:	9345208			**Analysis Date:**		01/05/10		
Radium 228 by GFPC EPA 904 MOD				**pCi/L**	**904 MOD**				**F9L110000-210C**	
Radium 228		6.53	6.51		0.86	89	100	(64 - 150)		
	Spk 2	6.53	6.06		0.85	86	93	(64 - 150)	7	%RPD
		Batch #:	9345210			**Analysis Date:**		01/04/10		
SR-90 BY GFPC EPA-905 MOD				**pCi/L**	**905 MOD**				**F9L110000-211C**	
Strontium 90		6.83	6.68		0.82	78	98	(90 - 143)		
	Spk 2	6.83	6.57		0.82	77	96	(90 - 143)	2	%RPD
		Batch #:	9345211			**Analysis Date:**		12/23/09		

NOTE(S)

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

DUPLICATE EVALUATION REPORT

Radiochemistry

Client Lot ID: F9L100528
Matrix: WATER

Date Sampled: 12/07/09
Date Received: 12/10/09

Parameter	SAMPLE Result		Total Uncert. (2σ+/-)	% Yld	DUPLICATE Result		Total Uncert. (2 σ+/-)	% Yld	QC Sample ID Precision	
Gross Alpha/Beta EPA 900				**pCi/L**	**900.0 MOD**				**F9L100528-001**	
Gross Alpha	2.22	J	0.94		2.17	J	0.95		2	%RPD
Gross Beta	1.78	J	0.76		2.79	J	0.85		44	%RPD
	Batch #:		9362140 (Sample)		9362140 (Duplicate)					
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/L**	**901.1 MOD**				**F9L100525-001**	
Cesium 137	0.06	U	10		0.0	U	9.6		200	%RPD
Potassium 40	-60	U	380		-130	U	820		72	%RPD
	Batch #:		9349219 (Sample)		9349219 (Duplicate)					
TRITIUM (Distill) by EPA 906.0 MOD				**pCi/L**	**906.0 MOD**				**F9L100525-001**	
Tritium	-26	U	77		34	U	87		1480	%RPD
	Batch #:		9365109 (Sample)		9365109 (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: F9L100528
Matrix: WATER

Date Sampled: 12/07/09 1112
Date Received: 12/10/09 0930

Parameter		Spike Amount	SPIKE Result	Total Uncert. (2 σ+/-)	Spike Yld	SAMPLE Result		Total Uncert. (2σ +/-)	QC Sample ID % Yld	%Rec	QC Control Limits
Total Uranium by KPA ASTM 5				**pCi/L**		**5174-91**				**F9L100528-001**	
Total Uranium		27.1	29.4	3.6		0.443	J	0.052		107	(62 - 150)
	Spk2	27.1	29.0	3.5		0.443	J	0.052		105	(62 - 150)
									Precision:	2	%RPD

Batch #: 0015135 **Analysis date:** 01/18/10

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.

MATRIX SPIKE REPORT

Radiochemistry

Client Lot Id: F9L100528
Matrix: WATER

Date Sampled: 12/07/09
Date Received: 12/10/09

Parameter	Spike Amount	Spike Result	Total Uncert. (2σ +/-)	Spike Yld.	Sample Result	Total Uncert. (2 σ +/-)	QC Sample ID %YLD	QC Sample ID %REC	QC Control Limits
Gross Alpha/Beta EPA 900			**pCi/L**		**900.0 MOD**			**F9L100528-001**	
Gross Beta	68.3	75.9	6.4		1.78	0.76		108	(71 - 146)
	Batch #:	9362140			Analysis Date:	01/02/10			
Gross Alpha/Beta EPA 900			**pCi/L**		**900.0 MOD**			**F9L100528-001**	
Gross Alpha	49.4	55.4	6.0		2.22	0.94		108	(33 - 150)
	Batch #:	9362140			Analysis Date:	01/02/10			
TRITIUM (Distill) by EPA 906.0 MOD			**pCi/L**		**906.0 MOD**			**F9L100528-001**	
Tritium	4560	4360	460		-6	82		96	(62 - 147)
	Batch #:	9365109			Analysis Date:	01/04/10			

NOTE(S)

Data are incomplete without the case narrative.

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

SUBCONTRACT ORDER
TestAmerica Irvine

ISL0771

F9L100528

SENDING LABORATORY:	RECEIVING LABORATORY:
TestAmerica Irvine	TestAmerica St. Louis
17461 Derian Avenue. Suite 100	13715 Rider Trail North
Irvine, CA 92614	Earth City, MO 63045
Phone: (949) 261-1022	Phone :(314) 298-8566
Fax: (949) 260-3297	Fax: (314) 298-8757
Project Manager: Joseph Doak	Project Location: CA - CALIFORNIA
Client: MWH-Pasadena/Boeing	Receipt Temperature: °C Ice: Y / N

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: ISL0771-02 (Outfall 009 (Comp) - Water)			Sampled: 12/07/09 11:12			
Gamma Spec-O	mg/kg	12/16/09	12/07/10 11:12	$250.00	0%	Out St Louis, K-40 and CS-137 only, DO NOT FILTER
Gross Alpha-O	pCi/L	12/16/09	06/05/10 11:12	$100.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	12/16/09	06/05/10 11:12	$100.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Level 4 Data Package	N/A	12/16/09	01/04/10 11:12	$0.00	0%	
Radium, Combined-O	pCi/L	12/16/09	12/07/10 11:12	$238.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	12/16/09	12/07/10 11:12	$155.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	12/16/09	12/07/10 11:12	$80.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	12/16/09	12/07/10 11:12	$120.00	0%	Out St Louis, Boeing permit, DO NOT FILTER!

Containers Supplied:
2.5 gal Poly (H) 500 mL Amber (I)

Released By	Date/Time	Received By	Date/Time
Olga Omelchenko	12/9/09 17:00	Fedex	12/9/09 17:00
Released By	Date/Time	Received By	Date/Time
			12.10.09 / 0930

Page 1 of 1

Test America Version 6/29/09

CHAIN OF CUSTODY FORM

Client Name/Address:
MWH-Arcadia
618 Michillinda Ave, Suite 200
Arcadia, CA 91007

Test America Contact: Joseph Doak

Project:
Boeing-SSFL NPDES
Semi-Annual Outfall 009
~~COMPOSITE~~ GRAB
Stormwater at WS-13

Project Manager: Bronwyn Kelly

Sampler: S Dawson

Phone Number:
(626) 568-6691
Fax Number:
(626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Cl, SO_4, NO_3+NO_2-N, Perchlorate	TDS	Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, Cs-137 (901.0 or 901.1)	Chronic Toxicity	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl							Comments
Outfall 009	W	1L Poly	1	12/7/09-1112	HNO_3	2A	X													HOLD
Outfall 009 Dup	W	1L Poly	1		HNO_3	2B	X													ALL
Outfall 009	W	1L Amber	2		None	3A, 3B		X												
Outfall 009	W	500 mL Poly	2		None	4A, 4B			X											
Outfall 009	W	500 mL Poly	1		None	5				X										
Outfall 009	W	2.5 Gal Cube	1		None	6A					X									Unfiltered and unpreserved analysis
		500 ml Amber	1		None	6B														
Outfall 009	W	1 Gal Poly	1		None	7						X								Only test if first or second rain events of the year
Outfall 009	W	1L Poly	1		None	8							X							Filter w/in 24hrs of receipt at lab

GRAB

COC Page 2 of 2 are ~~the composite~~ samples for Outfall 009 for this storm event.

These must be added to the same work order for COC Page 1 of 2 for Outfall 009 for the same event.

Relinquished By	Date/Time:	Received By	Date/Time:
[signature]	12/7/09 15:35	[signature]	12-7-09 15:35
[signature]	12-7-09 17:55	[signature]	12/7/09 17:55

Turn-around time: (Check)
24 Hour: ____ 72 Hour: ____ 10 Day: ____
48 Hour: ____ 5 Day: ____ Normal: X

Sample Integrity: (Check)
Intact: ✓ On Ice: X 3.2°C #122

Data Requirements: (Check)
No Level IV: ____ All Level IV: ____ NPDES Level IV: X

0.0409
12/8
2:30

Test America Version 6/29/09

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Joseph Doak	Boeing-SSFL NPDES **Semi-Annual Outfall 009** **GRAB** Stormwater at WS-13
Project Manager: Bronwyn Kelly Sampler: S Dawson	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	ANALYSIS REQUIRED: Oil & Grease (1664-HEM)	Comments
Outfall 009	W	1L Amber	2	12/7/09-1112	HCl	1A, 1B	X	

Field readings:

Temp °F = 46.6

pH = 6.84

Time of readings = 1112

These Samples are the Grab Portion of Outfall 009 for this storm event. Composite samples will follow and are to be added to this work order.

Relinquished By	Date/Time:	Received By	Date/Time:
[signature]	12/7/09 15:35	[signature]	12-7-09 15:35
[signature]	12-7-09 17:55	[signature]	12/7/09 17:55
[signature]			

Turn-around time: (Check)

24 Hour: _____ 72 Hour: _____ 10 Day: X

48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)

Intact: ✓ On Ice: X 3.2°C #122

Data Requirements: (Check)

No Level IV: _____ All Level IV: _____ NPDES Level IV: X

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): F9L100441 F9L100528
445 BD 12/10/09
447
448
525
369

CONDITION UPON RECEIPT FORM

Client: TA Dunne
Quote No: 77635
COC/RFA No: dal 060 / a 771 / 077 5
Initiated By: RDD
Date: 12-10-09 Time: 0930

Shipping Information

Shipper: (FedEx) UPS DHL Courier Client Other: _____ Multiple Packages: Y (N)

Shipping # (s):*
1. 428972132823 30
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Sample Temperature (s):**
1. ambient BD for RC
2. BD 12/10/09
3. _____
4. _____
5. _____
8. _____
9. _____
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? BD 12/10/09
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:

Corrective Action:
☐ Client Contact Name: _____ Informed by: _____
☐ Sample(s) processed "as is"
☐ Sample(s) on hold until: _____ If released, notify: _____
Project Management Review: Jaymee Ford Date: 12-13-09

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.
ADMIN-0004, REVISED 10/21/08 \\Slsvr01\QA\FORMS\ST-LOUIS\ADMIN\Admin004 rev11.doc

APPENDIX G

Section 11

Outfall 010, October 14, 2009

MEC^X Data Validation Report

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ISJ1376

Prepared by

MEC^X, LP
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Boeing SSFL NPDES
Contract Task Order:	1261.100D.00
Sample Delivery Group:	ISJ1376
Project Manager:	B. Kelly
Matrix:	Water
QC Level:	IV
No. of Samples:	1
No. of Reanalyses/Dilutions:	0
Laboratory:	TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 010	ISJ1376-01	32137-001, F9J160247-001, D9J160335-001	Water	10/14/2009 8:00:00 AM	1613, 245.1, 900, 901.1, 903.0, 904, 905, 906.0, ASTM 5174-91

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at TestAmerica-Irvine within the temperature limits of 4°C ±2°C. The sample for the Method 1613 analysis was received below the temperature limits at Vista and TestAmerica-Denver; however, the sample was not noted to be frozen or damaged. The sample was received at ambient temperature at TestAmerica-St. Louis; however, due to the nonvolatile nature of the analytes, no qualifications were required. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the samples were transported by courier to TestAmerica-Irvine and Vista, custody seals were not required. Custody seals were intact at TestAmerica-Denver and TestAmerica-St. Louis. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin
Date Reviewed: November 24, 2009

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613*, and the *National Functional Guidelines Chlorinated Dioxin/Furan Data Review* (9/05).

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.

- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.

    - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was not analyzed prior to the initial calibration sequence or at the beginning of each analytical sequence; however, the first and last eluting congeners and isomer specificity compounds were added to the midpoint of the initial calibration and to the continuing calibration standards. The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%.

    - Mass Spectrometer Performance: The mass spectrometer performance was acceptable with the static resolving power greater than 10,000.

- Calibration: Calibration criteria were met.

    - Initial Calibration: Initial calibration criteria were met. The initial calibration was acceptable with %RSDs ≤20% for the 16 native compounds (calibration by isotope dilution) and ≤35% for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the Method 1613 QC limits for all standards.

    - Continuing Calibration: Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VERs were acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits.

- Blanks: The method blank had no target compound detects above the EDL. One peak in the blank reported as an EMPC for total HpCDD was also present in sample Outfall 010

and reported as part of the total HpCDD result. The sample result was qualified as estimated, "J."

- Blank Spikes and Laboratory Control Samples: OPR recoveries were within the acceptance criteria listed in Table 6 of Method 1613.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

- Internal Standards Performance: The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613.

- Compound Identification: Compound identification was verified. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613.

- Compound Quantification and Reported Detection Limits: Compound quantitation was verified by recalculating any sample detects and a representative number of blank spike concentrations. The laboratory calculated and reported compound-specific detection limits. No target compound results were reported as EMPCs by the laboratory. The laboratory does not include EMPCs in the results reported for totals; therefore, no totals were qualified for EMPCs. Any detects between the estimated detection limit (EDL) and the reporting limit (RL) were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Nondetects are valid to the estimated detection limit (EDL).

B. EPA METHOD 245.1—Mercury

Reviewed By: P. Meeks
Date Reviewed: November 23, 2009

The sample listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Method 245.1*, and the *National Functional Guidelines for Inorganic Data Review* (7/02).

- Holding Times: The analytical holding times 28 days for mercury, was met.

- Tuning: Not applicable to this analysis.

- Calibration: Calibration criteria were met. The mercury initial calibration r^2 value was ≥0.995 and all initial and continuing calibration recoveries were within 85-115%.

- Blanks: Mercury was reported in a CCB bracketing the total mercury analysis at -0.028 µg/L; therefore, nondetected total mercury in the sample was qualified as estimated, "UJ." Method blanks and CCBs had no other detects.

- Interference Check Samples: Not applicable to this analysis.

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.

- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on the sample in this SDG. All recoveries were below the control limit; therefore, nondetected total and dissolved mercury in the sample were qualified as estimated, "UJ." The total RPD exceeded the control limit; nondetected total mercury in the sample was qualified as estimated, "UJ."

- Serial Dilution: No serial dilution analyses were performed on the sample in this SDG.

- Internal Standards Performance: Not applicable to this analysis.

- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. Any detects between the method detection limit and the RL were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

C. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks
Date Reviewed: December 3, 2009

The samples listed in Table 1 for these analyses were validated based on the guidelines outlined in the *EPA Methods 900.0, 901.1, 903.1, 904.0, 905.0, 906.0, and ASTM Method D-5174,* and the *National Functional Guidelines for Inorganic Data Review* (10/04).

- Holding Times: The tritium sample was analyzed within 180 days of collection. Aliquots for gross alpha and gross beta and gamma spectroscopy were prepared one day beyond the five-day analytical holding time for unpreserved samples; therefore, results for these analytes were qualified as estimated, "J," for detects and, "UJ," for nondetects.. Aliquots for radium-226, radium-228, strontium-90, and total uranium gamma spectroscopy were prepared within the five-day holding time for unpreserved aqueous samples.

- Calibration: The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability.

  The gross alpha detector efficiency was less than 20%; therefore, nondetected gross alpha in the sample was qualified as estimated, "UJ." The gross beta detector efficiency was greater than 20%.

  The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. The tritium, strontium, and radium-228 detector efficiency for the sample was at least 20% and was considered acceptable. The strontium chemical yield was at least 90% and was considered acceptable. Tha radium-226 and radium-228 barium chemical yields were at least 65% and were considered acceptable. The radium-228 tracer, yttrium oxalate, yield was approximately 100%. The gamma spectroscopy analytes were determined at the maximum photopeak energy. The kinetic phosphorescence analyzer (KPA) was calibrated immediately prior to the sample analysis. All KPA calibration check standard recoveries were within 90-110% and were deemed acceptable.

- Blanks: Strontium was detected in the method blank at 0.47 pCi/L but was not detected in the site sample. There were no other analytes detected in the method blanks.

- Blank Spikes and Laboratory Control Samples: The recoveries and uranium, strontium, radium-226, and radium-228 RPDs were within laboratory-established control limits.

- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.

- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed for the sample in this SDG. Method accuracy and precision was evaluated based on the LCS/LCSD results.

- Sample Result Verification: An EPA Level IV review was performed for the sample in this data package. The sample results and MDAs reported on the sample result form were verified against the raw data and no calculation or transcription errors were noted. Any detects between the MDA and the RL were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDA.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

Outfall 010

Sample ID: ISJ1376-01 **EPA Method 1613**

Client Data		Sample Data		Laboratory Data			
Name:	Test America-Irvine, CA	Matrix:	Aqueous	Lab Sample:	32137-001	Date Received:	16-Oct-09
Project:	ISJ1376	Sample Size:	1.01 L	QC Batch No.:	2469	Date Extracted:	19-Oct-09
Date Collected:	14-Oct-09			Date Analyzed DB-5:	22-Oct-09	Date Analyzed DB-225:	NA
Time Collected:	0800						

Analyte	Conc. (ug/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	0.000000626		
1,2,3,7,8-PeCDD	ND	0.000000775		
1,2,3,4,7,8-HxCDD	ND	0.00000179		
1,2,3,6,7,8-HxCDD	ND	0.00000195		
1,2,3,7,8,9-HxCDD	ND	0.00000192		
1,2,3,4,6,7,8-HpCDD	0.0000114			J
OCDD	0.000141			
2,3,7,8-TCDF	ND	0.000000397		
1,2,3,7,8-PeCDF	ND	0.00000105		
2,3,4,7,8-PeCDF	ND	0.00000103		
1,2,3,4,7,8-HxCDF	ND	0.000000350		
1,2,3,6,7,8-HxCDF	ND	0.000000358		
2,3,4,6,7,8-HxCDF	ND	0.000000396		
1,2,3,7,8,9-HxCDF	ND	0.000000481		
1,2,3,4,6,7,8-HpCDF	0.00000173			J
1,2,3,4,7,8,9-HpCDF	ND	0.000000471		
OCDF	0.0000103			J

Labeled Standard		%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	79.3	25 - 164	
	13C-1,2,3,7,8-PeCDD	88.0	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	70.4	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	61.6	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	77.1	23 - 140	
	13C-OCDD	64.3	17 - 157	
	13C-2,3,7,8-TCDF	82.3	24 - 169	
	13C-1,2,3,7,8-PeCDF	76.7	24 - 185	
	13C-2,3,4,7,8-PeCDF	81.2	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	74.4	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	69.3	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	71.6	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	76.2	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	73.5	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	76.8	26 - 138	
	13C-OCDF	65.8	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	98.6	35 - 197	

Totals		
Total TCDD	ND	0.000000626
Total PeCDD	ND	0.000000775
Total HxCDD	ND	0.00000189
Total HpCDD	0.0000284	
Total TCDF	ND	0.000000397
Total PeCDF	ND	0.00000104
Total HxCDF	ND	0.000000394
Total HpCDF	0.00000575	

Footnotes

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

Analyst: JMH **LEVEL IV** Approved By: Martha M. Maier 27-Oct-2009 10:47

Validated Sample Result Forms: ISJ1376

Analysis Method ASTM 5174-91

Sample Name Outfall 010 **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ISJ1376-01 **Sample Date:** 10/14/2009 8:00:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Uranium	7440-61-1	0.308	0.677	0.21	pCi/L	Ja	J	DNQ

Analysis Method EPA 900.0 MOD

Sample Name Outfall 010 **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ISJ1376-01 **Sample Date:** 10/14/2009 8:00:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587-46-1	0.66	3	1.1	pCi/L	U	UJ	H,C
Gross Beta	12587-47-2	4.4	4	2	pCi/L		J	H

Analysis Method EPA 901.1 MOD

Sample Name Outfall 010 **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ISJ1376-01 **Sample Date:** 10/14/2009 8:00:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium 137	10045-97-3	0	20	14	pCi/L	U	UJ	H
Potassium 40	13966-00-2	-100	0	400	pCi/L	U	UJ	H

Analysis Method EPA 903.0 MOD

Sample Name Outfall 010 **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ISJ1376-01 **Sample Date:** 10/14/2009 8:00:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium (226)	13982-63-3	-0.005	1	0.19	pCi/L	U	U	

Analysis Method EPA 904 MOD

Sample Name Outfall 010 **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ISJ1376-01 **Sample Date:** 10/14/2009 8:00:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium 228	15262-20-1	-0.13	1	0.53	pCi/L	U	U	

Analysis Method EPA 905 MOD

Sample Name Outfall 010 **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ISJ1376-01 **Sample Date:** 10/14/2009 8:00:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium 90	10098-97-2	0.1	3	0.4	pCi/L	U	U	

Analysis Method EPA 906.0 MOD

Sample Name Outfall 010 **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ISJ1376-01 **Sample Date:** 10/14/2009 8:00:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028-17-8	70	500	190	pCi/L	U	U	

Analysis Method MCAWW 245.1

Sample Name Outfall 010 **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ISJ1376-01 **Sample Date:** 10/14/2009 8:00:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	ND	0.2	0.027	ug/L		UJ	B

Analysis Method MCAWW 245.1-DISS

Sample Name Outfall 010 **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ISJ1376-01 **Sample Date:** 10/14/2009 8:00:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury, dissolved	7439-97-6	ND	0.2	0.027	ug/L		U	