

# **APPENDIX G**

## **Section 6**

Outfall 002 - December 19 & 20, 2010

Test America Analytical Laboratory Report

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## LABORATORY REPORT

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

Project: Quarterly Outfall 002 2010  
Routine Outfall 002

Sampled: 12/19/10-12/20/10  
Received: 12/20/10  
Issued: 02/04/11 17:22

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

*The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain(s) of Custody, 3 pages, are included and are an integral part of this report.*

*This entire report was reviewed and approved for release.*

## SAMPLE CROSS REFERENCE

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

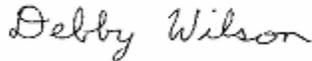
ADDITIONAL INFORMATION: WATER, 1613B, Dioxins/Furans with Totals

Some analytes in these samples and the associated method blank have an ion abundance ratio that is outside of criteria. The analytes are considered as an "estimated maximum possible concentration" (EMPC) because the quantitation is based on the theoretical ion abundance ratio. Analytical results are reported with a "Q" flag.

LABORATORY ID	CLIENT ID	MATRIX
ITL1890-01	Outfall 002 (Grab)	Water
ITL1890-02	Trip Blanks	Water
ITL1890-03	Outfall 002 (Composite)	Water
ITL1890-04	BLANK	Water

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Reviewed By:



**TestAmerica Irvine**

Debby Wilson  
Project Manager

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

Project ID: Quarterly Outfall 002 2010  
Routine Outfall 002  
Report Number: ITL1890

Sampled: 12/19/10-12/20/10  
Received: 12/20/10

## PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL1890-01 (Outfall 002 (Grab) - Water)</b>					<b>Sampled: 12/19/10</b>				
<b>Reporting Units: ug/l</b>									
Benzene	EPA 624	10L2418	0.28	0.50	ND	1	APL	12/21/10	
Carbon tetrachloride	EPA 624	10L2418	0.28	0.50	ND	1	APL	12/21/10	
Chloroform	EPA 624	10L2418	0.33	0.50	ND	1	APL	12/21/10	
1,1-Dichloroethane	EPA 624	10L2418	0.40	0.50	ND	1	APL	12/21/10	
1,2-Dichloroethane	EPA 624	10L2418	0.28	0.50	ND	1	APL	12/21/10	
1,1-Dichloroethene	EPA 624	10L2418	0.42	0.50	ND	1	APL	12/21/10	
Ethylbenzene	EPA 624	10L2418	0.25	0.50	ND	1	APL	12/21/10	
Tetrachloroethene	EPA 624	10L2418	0.32	0.50	ND	1	APL	12/21/10	
Toluene	EPA 624	10L2418	0.36	0.50	ND	1	APL	12/21/10	
1,1,1-Trichloroethane	EPA 624	10L2418	0.30	0.50	ND	1	APL	12/21/10	
1,1,2-Trichloroethane	EPA 624	10L2418	0.30	0.50	ND	1	APL	12/21/10	
Trichloroethene	EPA 624	10L2418	0.26	0.50	ND	1	APL	12/21/10	
Trichlorofluoromethane	EPA 624	10L2418	0.34	0.50	ND	1	APL	12/21/10	
Trichlorotrifluoroethane (Freon 113)	EPA 624	10L2418	0.50	5.0	ND	1	APL	12/21/10	
Vinyl chloride	EPA 624	10L2418	0.40	0.50	ND	1	APL	12/21/10	
Xylenes, Total	EPA 624	10L2418	0.90	1.5	ND	1	APL	12/21/10	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					94 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					98 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					108 %				

### Sample ID: ITL1890-02 (Trip Blanks - Water)

Sampled: 12/19/10

Reporting Units: ug/l

Benzene	EPA 624	10L2418	0.28	0.50	ND	1	APL	12/21/10	
Carbon tetrachloride	EPA 624	10L2418	0.28	0.50	ND	1	APL	12/21/10	
Chloroform	EPA 624	10L2418	0.33	0.50	ND	1	APL	12/21/10	
1,1-Dichloroethane	EPA 624	10L2418	0.40	0.50	ND	1	APL	12/21/10	
1,2-Dichloroethane	EPA 624	10L2418	0.28	0.50	ND	1	APL	12/21/10	
1,1-Dichloroethene	EPA 624	10L2418	0.42	0.50	ND	1	APL	12/21/10	
Ethylbenzene	EPA 624	10L2418	0.25	0.50	ND	1	APL	12/21/10	
Tetrachloroethene	EPA 624	10L2418	0.32	0.50	ND	1	APL	12/21/10	
Toluene	EPA 624	10L2418	0.36	0.50	ND	1	APL	12/21/10	
1,1,1-Trichloroethane	EPA 624	10L2418	0.30	0.50	ND	1	APL	12/21/10	
1,1,2-Trichloroethane	EPA 624	10L2418	0.30	0.50	ND	1	APL	12/21/10	
Trichloroethene	EPA 624	10L2418	0.26	0.50	ND	1	APL	12/21/10	
Trichlorofluoromethane	EPA 624	10L2418	0.34	0.50	ND	1	APL	12/21/10	
Trichlorotrifluoroethane (Freon 113)	EPA 624	10L2418	0.50	5.0	ND	1	APL	12/21/10	
Vinyl chloride	EPA 624	10L2418	0.40	0.50	ND	1	APL	12/21/10	
Xylenes, Total	EPA 624	10L2418	0.90	1.5	ND	1	APL	12/21/10	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					92 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					96 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					105 %				

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Project ID: Quarterly Outfall 002 2010  
 Routine Outfall 002  
 Report Number: ITL1890

Sampled: 12/19/10-12/20/10  
 Received: 12/20/10

## ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL1890-03 (Outfall 002 (Composite) - Water)</b>					<b>Sampled: 12/20/10</b>				
<b>Reporting Units: ug/l</b>									
Bis(2-ethylhexyl)phthalate	EPA 625	10L2492	1.60	4.72	ND	0.943	LB\	12/23/10	
2,4-Dinitrotoluene	EPA 625	10L2492	0.189	4.72	ND	0.943	LB\	12/23/10	
N-Nitrosodimethylamine	EPA 625	10L2492	0.0943	4.72	ND	0.943	LB\	12/23/10	
Pentachlorophenol	EPA 625	10L2492	0.0943	4.72	ND	0.943	LB\	12/23/10	
2,4,6-Trichlorophenol	EPA 625	10L2492	0.0943	5.66	ND	0.943	LB\	12/23/10	
<i>Surrogate: 2,4,6-Tribromophenol (40-120%)</i>					92 %				
<i>Surrogate: 2-Fluorobiphenyl (50-120%)</i>					82 %				
<i>Surrogate: 2-Fluorophenol (30-120%)</i>					63 %				
<i>Surrogate: Nitrobenzene-d5 (45-120%)</i>					71 %				
<i>Surrogate: Phenol-d6 (35-120%)</i>					69 %				
<i>Surrogate: Terphenyl-d14 (50-125%)</i>					81 %				

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## ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL1890-03 (Outfall 002 (Composite) - Water) - cont.</b>					<b>Sampled: 12/20/10</b>				
<b>Reporting Units: ug/l</b>									
alpha-BHC	EPA 608	10L2628	0.0024	0.0094	ND	0.943	CN	12/22/10	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					90 %				
<i>Surrogate: Tetrachloro-m-xylene (35-115%)</i>					75 %				

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Routine Outfall 002  
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Sampled: 12/19/10-12/20/10  
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## HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL1890-01 (Outfall 002 (Grab) - Water)</b>					<b>Sampled: 12/19/10</b>				
<b>Reporting Units: mg/l</b>									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	10L2313	1.3	4.8	ND	1	DA	12/20/10	

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## METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL1890-03 (Outfall 002 (Composite) - Water)</b>					<b>Sampled: 12/20/10</b>				
Reporting Units: mg/l									
Iron	EPA 200.7	10L2484	0.015	0.040	2.7	1	VRS	12/23/10	
<b>Sample ID: ITL1890-03 (Outfall 002 (Composite) - Water)</b>					<b>Sampled: 12/20/10</b>				
Reporting Units: ug/l									
Mercury	EPA 245.1	10L2694	0.10	0.20	ND	1	DB	12/22/10	
Manganese	EPA 200.7	10L2484	7.0	20	43	1	LL	12/23/10	
Cadmium	EPA 200.8	10L2490	0.10	1.0	ND	1	NH	12/21/10	
Zinc	EPA 200.7	10L2484	6.00	20.0	15.3	1	LL	12/23/10	Ja
Copper	EPA 200.8	10L2490	0.500	2.00	4.52	1	NH	12/21/10	
Lead	EPA 200.8	10L2490	0.20	1.0	1.7	1	NH	12/21/10	
Selenium	EPA 200.8	10L2490	0.50	2.0	0.52	1	NH	12/21/10	Ja

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## DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL1890-03 (Outfall 002 (Composite) - Water) - cont.</b>					<b>Sampled: 12/20/10</b>				
Reporting Units: mg/l									
Iron	EPA 200.7-Diss	10L2487	0.015	0.040	0.067	1	VRS	12/23/10	
<b>Sample ID: ITL1890-03 (Outfall 002 (Composite) - Water)</b>					<b>Sampled: 12/20/10</b>				
Reporting Units: ug/l									
Mercury	EPA 245.1-Diss	10L2695	0.10	0.20	ND	1	DB	12/22/10	
Manganese	EPA 200.7-Diss	10L2487	7.0	20	42	1	VRS	12/23/10	
Cadmium	EPA 200.8-Diss	10L2494	0.10	1.0	ND	1	FR	12/21/10	
Zinc	EPA 200.7-Diss	10L2487	6.00	20.0	17.6	1	VRS	12/23/10	Ja
Copper	EPA 200.8-Diss	10L2494	0.500	2.00	2.91	1	FR	12/21/10	
Lead	EPA 200.8-Diss	10L2494	0.20	1.0	0.39	1	FR	12/21/10	Ja
Selenium	EPA 200.8-Diss	10L2494	0.50	2.0	ND	1	FR	12/21/10	

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## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL1890-03 (Outfall 002 (Composite) - Water) - cont.</b>					<b>Sampled: 12/20/10</b>				
<b>Reporting Units: mg/l</b>									
Ammonia-N (Distilled)	SM4500NH3-C	10L2540	0.500	0.500	ND	1	TMK	12/21/10	
<b>Biochemical Oxygen Demand</b>	SM5210B	10L2463	0.50	2.0	<b>2.6</b>	1	XL	12/26/10	
<b>Chloride</b>	EPA 300.0	10L2304	0.25	0.50	<b>8.2</b>	1	NN	12/21/10	
<b>Nitrate-N</b>	EPA 300.0	10L2304	0.060	0.11	<b>1.2</b>	1	NN	12/21/10	
Nitrite-N	EPA 300.0	10L2304	0.090	0.15	ND	1	NN	12/21/10	
<b>Nitrate/Nitrite-N</b>	EPA 300.0	10L2304	0.15	0.26	<b>1.2</b>	1	NN	12/21/10	
<b>Sulfate</b>	EPA 300.0	10L2304	0.20	0.50	<b>35</b>	1	NN	12/21/10	
<b>Surfactants (MBAS)</b>	SM5540-C	10L2543	0.050	0.10	<b>0.052</b>	1	SLA	12/21/10	Ja
<b>Total Dissolved Solids</b>	SM2540C	10L2410	1.0	10	<b>210</b>	1	MC	12/21/10	
<b>Total Suspended Solids</b>	SM 2540D	10L2850	1.0	10	<b>22</b>	1	DC	12/23/10	

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Sampled: 12/19/10-12/20/10  
 Received: 12/20/10

## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL1890-01 (Outfall 002 (Grab) - Water)</b>					<b>Sampled: 12/19/10</b>				
<b>Reporting Units: ml/l</b>									
Total Settleable Solids	SM2540F	10L2308	0.10	0.10	ND	1	RRZ	12/20/10	
<b>Sample ID: ITL1890-03 (Outfall 002 (Composite) - Water)</b>					<b>Sampled: 12/20/10</b>				
<b>Reporting Units: NTU</b>									
Turbidity	EPA 180.1	10L2479	0.40	10	75	10	RRZ	12/21/10	
<b>Sample ID: ITL1890-03 (Outfall 002 (Composite) - Water)</b>					<b>Sampled: 12/20/10</b>				
<b>Reporting Units: ug/l</b>									
Perchlorate	EPA 314.0	10L2485	0.90	4.0	2.2	1	KS	12/21/10	Ja
Total Cyanide	SM4500CN-E	10L2544	2.2	5.0	ND	1	HH	12/21/10	
<b>Sample ID: ITL1890-01 (Outfall 002 (Grab) - Water)</b>					<b>Sampled: 12/19/10</b>				
<b>Reporting Units: umhos/cm @ 25C</b>									
Specific Conductance	EPA 120.1	10L2408	1.0	1.0	110	1	MC	12/21/10	

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Sampled: 12/19/10-12/20/10  
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## EPA-5 1613Bx

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL1890-03 (Outfall 002 (Composite) - Water)</b>					<b>Sampled: 12/20/10</b>				
<b>Reporting Units: ug/L</b>									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	357431	0.00000016	0.00005	6.4e-006	1	SK	12/28/10	J, Q, B
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	357431	0.00000046	0.00005	2.1e-006	1	SK	12/28/10	J, B
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	357431	0.00000058	0.00005	ND	1	SK	12/28/10	
1,2,3,4,7,8-HxCDD	EPA-5 1613B	357431	0.00000036	0.00005	ND	1	SK	12/28/10	
1,2,3,4,7,8-HxCDF	EPA-5 1613B	357431	0.00000011	0.00005	ND	1	SK	12/28/10	
1,2,3,6,7,8-HxCDD	EPA-5 1613B	357431	0.00000031	0.00005	ND	1	SK	12/28/10	
1,2,3,6,7,8-HxCDF	EPA-5 1613B	357431	0.00000001	0.00005	ND	1	SK	12/28/10	
1,2,3,7,8,9-HxCDD	EPA-5 1613B	357431	0.00000031	0.00005	ND	1	SK	12/28/10	
1,2,3,7,8,9-HxCDF	EPA-5 1613B	357431	0.00000009	0.00005	ND	1	SK	12/28/10	
1,2,3,7,8-PeCDD	EPA-5 1613B	357431	0.00000063	0.00005	ND	1	SK	12/28/10	
1,2,3,7,8-PeCDF	EPA-5 1613B	357431	0.00000027	0.00005	ND	1	SK	12/28/10	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	357431	0.00000011	0.00005	ND	1	SK	12/28/10	
2,3,4,7,8-PeCDF	EPA-5 1613B	357431	0.00000034	0.00005	ND	1	SK	12/28/10	
2,3,7,8-TCDD	EPA-5 1613B	357431	0.00000048	0.00001	ND	1	SK	12/28/10	
2,3,7,8-TCDF	EPA-5 1613B	357431	0.00000029	0.00001	ND	1	SK	12/28/10	
OCDD	EPA-5 1613B	357431	0.00000018	0.0001	6.1e-005	1	SK	12/28/10	J, B
OCDF	EPA-5 1613B	357431	0.00000062	0.0001	7.2e-006	1	SK	12/28/10	J, B
Total HpCDD	EPA-5 1613B	357431	0.00000016	0.00005	1.1e-005	1	SK	12/28/10	J, Q, B
Total HpCDF	EPA-5 1613B	357431	0.00000052	0.00005	4.3e-006	1	SK	12/28/10	J, Q, B
Total HxCDD	EPA-5 1613B	357431	0.00000031	0.00005	ND	1	SK	12/28/10	
Total HxCDF	EPA-5 1613B	357431	0.00000009	0.00005	ND	1	SK	12/28/10	
Total PeCDD	EPA-5 1613B	357431	0.00000063	0.00005	ND	1	SK	12/28/10	
Total PeCDF	EPA-5 1613B	357431	0.00000027	0.00005	ND	1	SK	12/28/10	
Total TCDD	EPA-5 1613B	357431	0.00000048	0.00001	ND	1	SK	12/28/10	
Total TCDF	EPA-5 1613B	357431	0.00000029	0.00001	ND	1	SK	12/28/10	

Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)	100 %
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)	88 %
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)	95 %
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)	80 %
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)	77 %
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)	90 %
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)	77 %
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)	73 %
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)	83 %
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)	88 %
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)	78 %
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)	79 %
Surrogate: 13C-2,3,7,8-TCDD (25-164%)	77 %
Surrogate: 13C-2,3,7,8-TCDF (24-169%)	72 %
Surrogate: 13C-OCDD (17-157%)	85 %
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)	98 %

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Attention: Bronwyn Kelly

Project ID: Quarterly Outfall 002 2010  
Routine Outfall 002  
Report Number: ITL1890

Sampled: 12/19/10-12/20/10  
Received: 12/20/10

## 8645

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL1890-03 (Outfall 002 (Composite) - Water) - cont.</b>					<b>Sampled: 12/20/10</b>				
Reporting Units: pCi/L									
Uranium, Total	8645	8645		1	0.279	1	CSS	01/20/11	Jb

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Routine Outfall 002  
Report Number: ITL1890

Sampled: 12/19/10-12/20/10  
Received: 12/20/10

## 8645

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL1890-04 (BLANK - Water)</b>					<b>Sampled: 12/19/10</b>				
<b>Reporting Units: pCi/L</b>									
Uranium, Total	8645	8645		1	ND	1	CSS	01/20/11	U

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Sampled: 12/19/10-12/20/10  
 Received: 12/20/10

## 900

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL1890-03 (Outfall 002 (Composite) - Water)</b>					<b>Sampled: 12/20/10</b>				
Reporting Units: pCi/L									
Gross Alpha	900	8645		3	1.72	1	LS	01/04/11	Jb
Gross Beta	900	8645		4	4.24	1	LS	01/04/11	
<b>Sample ID: ITL1890-04 (BLANK - Water)</b>					<b>Sampled: 12/19/10</b>				
Reporting Units: pCi/L									
Gross Alpha	900	8645		3	0.058	1	KT	01/14/11	U
Gross Beta	900	8645		4	-0.299	1	KT	01/14/11	U

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## 901.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL1890-03 (Outfall 002 (Composite) - Water)</b>					<b>Sampled: 12/20/10</b>				
<b>Reporting Units: pCi/L</b>									
Cesium-137	901.1	8645		20	ND	1	LS	12/31/10	U
Potassium-40	901.1	8645		25	ND	1	LS	12/31/10	U
<b>Sample ID: ITL1890-04 (BLANK - Water)</b>					<b>Sampled: 12/19/10</b>				
<b>Reporting Units: pCi/L</b>									
Cesium-137	901.1	8645		20	ND	1	LS	01/13/11	U
Potassium-40	901.1	8645		25	ND	1	LS	01/13/11	U

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## 903.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL1890-03 (Outfall 002 (Composite) - Water)</b>					<b>Sampled: 12/20/10</b>				
Reporting Units: pCi/L									
Radium-226	903.1	8645		1	0.307	1	TM	01/24/11	U
<b>Sample ID: ITL1890-04 (BLANK - Water)</b>					<b>Sampled: 12/19/10</b>				
Reporting Units: pCi/L									
Radium-226	903.1	8645		1	0.357	1	ASM	01/24/11	U

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## 904

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL1890-03 (Outfall 002 (Composite) - Water)</b>					<b>Sampled: 12/20/10</b>				
Reporting Units: pCi/L									
Radium-228	904	8645		1	0.298	1	ASM	01/21/11	U
<b>Sample ID: ITL1890-04 (BLANK - Water)</b>					<b>Sampled: 12/19/10</b>				
Reporting Units: pCi/L									
Radium-228	904	8645		1	0.102	1	ASM	01/26/11	U

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## 905

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL1890-03 (Outfall 002 (Composite) - Water)</b>					<b>Sampled: 12/20/10</b>				
<b>Reporting Units: pCi/L</b>									
Strontium-90	905	8645		2	-0.202	1	WL	01/06/11	U
<b>Sample ID: ITL1890-04 (BLANK - Water)</b>					<b>Sampled: 12/19/10</b>				
<b>Reporting Units: pCi/L</b>									
Strontium-90	905	8645		2	<b>0.037</b>	1	ASM	01/24/11	U

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## 906

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL1890-03 (Outfall 002 (Composite) - Water)</b>					<b>Sampled: 12/20/10</b>				
<b>Reporting Units: pCi/L</b>									
Tritium	906	8645		500	-133	1	JO	01/13/11	U

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## SHORT HOLD TIME DETAIL REPORT

	<b>Hold Time (in days)</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>	<b>Date/Time Extracted</b>	<b>Date/Time Analyzed</b>
<b>Sample ID: Outfall 002 (Grab) (ITL1890-01) - Water</b>					
SM2540F	2	12/19/2010 14:10	12/20/2010 05:00	12/20/2010 08:30	12/20/2010 08:30
<b>Sample ID: Outfall 002 (Composite) (ITL1890-03) - Water</b>					
EPA 180.1	2	12/20/2010 12:30	12/20/2010 05:00	12/21/2010 08:35	12/21/2010 08:35
EPA 300.0	2	12/20/2010 12:30	12/20/2010 05:00	12/20/2010 19:00	12/21/2010 00:02
Filtration	1	12/20/2010 12:30	12/20/2010 05:00	12/21/2010 00:30	12/21/2010 00:30
SM5210B	2	12/20/2010 12:30	12/20/2010 05:00	12/21/2010 07:15	12/26/2010 10:30
SM5540-C	2	12/20/2010 12:30	12/20/2010 05:00	12/21/2010 15:30	12/21/2010 21:37

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## METHOD BLANK/QC DATA

### PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10L2418 Extracted: 12/21/10</b>										
<b>Blank Analyzed: 12/21/2010 (10L2418-BLK1)</b>										
Benzene	ND	0.50	ug/l							
Carbon tetrachloride	ND	0.50	ug/l							
Chloroform	ND	0.50	ug/l							
1,1-Dichloroethane	ND	0.50	ug/l							
1,2-Dichloroethane	ND	0.50	ug/l							
1,1-Dichloroethene	ND	0.50	ug/l							
Ethylbenzene	ND	0.50	ug/l							
Tetrachloroethene	ND	0.50	ug/l							
Toluene	ND	0.50	ug/l							
1,1,1-Trichloroethane	ND	0.50	ug/l							
1,1,2-Trichloroethane	ND	0.50	ug/l							
Trichloroethene	ND	0.50	ug/l							
Trichlorofluoromethane	ND	0.50	ug/l							
Trichlorotrifluoroethane (Freon 113)	ND	5.0	ug/l							
Vinyl chloride	ND	0.50	ug/l							
Xylenes, Total	ND	1.5	ug/l							
<i>Surrogate: 4-Bromofluorobenzene</i>	23.0		ug/l	25.0		92	80-120			
<i>Surrogate: Dibromofluoromethane</i>	25.4		ug/l	25.0		101	80-120			
<i>Surrogate: Toluene-d8</i>	26.9		ug/l	25.0		108	80-120			
<b>LCS Analyzed: 12/21/2010 (10L2418-BS1)</b>										
Benzene	26.6	0.50	ug/l	25.0		106	70-120			
Carbon tetrachloride	30.4	0.50	ug/l	25.0		122	65-140			
Chloroform	27.4	0.50	ug/l	25.0		109	70-130			
1,1-Dichloroethane	28.1	0.50	ug/l	25.0		112	70-125			
1,2-Dichloroethane	28.1	0.50	ug/l	25.0		112	60-140			
1,1-Dichloroethene	27.7	0.50	ug/l	25.0		111	70-125			
Ethylbenzene	28.5	0.50	ug/l	25.0		114	75-125			
Tetrachloroethene	28.1	0.50	ug/l	25.0		113	70-125			
Toluene	27.8	0.50	ug/l	25.0		111	70-120			
1,1,1-Trichloroethane	29.6	0.50	ug/l	25.0		118	65-135			
1,1,2-Trichloroethane	28.5	0.50	ug/l	25.0		114	70-125			
Trichloroethene	27.2	0.50	ug/l	25.0		109	70-125			
Trichlorofluoromethane	28.7	0.50	ug/l	25.0		115	65-145			
Vinyl chloride	25.8	0.50	ug/l	25.0		103	55-135			
Xylenes, Total	89.8	1.5	ug/l	75.0		120	70-125			

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## METHOD BLANK/QC DATA

### PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10L2418 Extracted: 12/21/10</b>										
<b>LCS Analyzed: 12/21/2010 (10L2418-BS1)</b>										
Surrogate: 4-Bromofluorobenzene	25.1		ug/l	25.0		101	80-120			
Surrogate: Dibromofluoromethane	25.9		ug/l	25.0		104	80-120			
Surrogate: Toluene-d8	26.6		ug/l	25.0		106	80-120			
<b>Matrix Spike Analyzed: 12/21/2010 (10L2418-MS1)</b>					<b>Source: ITL1890-01</b>					
Benzene	24.6	0.50	ug/l	25.0	ND	98	65-125			
Carbon tetrachloride	27.9	0.50	ug/l	25.0	ND	112	65-140			
Chloroform	23.6	0.50	ug/l	25.0	ND	94	65-135			
1,1-Dichloroethane	24.3	0.50	ug/l	25.0	ND	97	65-130			
1,2-Dichloroethane	25.6	0.50	ug/l	25.0	ND	102	60-140			
1,1-Dichloroethene	25.4	0.50	ug/l	25.0	ND	102	60-130			
Ethylbenzene	27.0	0.50	ug/l	25.0	ND	108	65-130			
Tetrachloroethene	26.0	0.50	ug/l	25.0	ND	104	65-130			
Toluene	25.6	0.50	ug/l	25.0	ND	102	70-125			
1,1,1-Trichloroethane	26.3	0.50	ug/l	25.0	ND	105	65-140			
1,1,2-Trichloroethane	26.3	0.50	ug/l	25.0	ND	105	65-130			
Trichloroethene	24.0	0.50	ug/l	25.0	ND	96	65-125			
Trichlorofluoromethane	26.2	0.50	ug/l	25.0	ND	105	60-145			
Vinyl chloride	23.4	0.50	ug/l	25.0	ND	94	45-140			
Xylenes, Total	83.6	1.5	ug/l	75.0	ND	111	60-130			
Surrogate: 4-Bromofluorobenzene	25.2		ug/l	25.0		101	80-120			
Surrogate: Dibromofluoromethane	24.8		ug/l	25.0		99	80-120			
Surrogate: Toluene-d8	27.1		ug/l	25.0		108	80-120			
<b>Matrix Spike Dup Analyzed: 12/21/2010 (10L2418-MSD1)</b>					<b>Source: ITL1890-01</b>					
Benzene	24.3	0.50	ug/l	25.0	ND	97	65-125	1	20	
Carbon tetrachloride	27.6	0.50	ug/l	25.0	ND	110	65-140	1	25	
Chloroform	23.9	0.50	ug/l	25.0	ND	95	65-135	1	20	
1,1-Dichloroethane	24.6	0.50	ug/l	25.0	ND	98	65-130	1	20	
1,2-Dichloroethane	26.0	0.50	ug/l	25.0	ND	104	60-140	2	20	
1,1-Dichloroethene	24.8	0.50	ug/l	25.0	ND	99	60-130	2	20	
Ethylbenzene	27.0	0.50	ug/l	25.0	ND	108	65-130	0.1	20	
Tetrachloroethene	26.8	0.50	ug/l	25.0	ND	107	65-130	3	20	
Toluene	25.0	0.50	ug/l	25.0	ND	100	70-125	2	20	
1,1,1-Trichloroethane	26.1	0.50	ug/l	25.0	ND	104	65-140	0.7	20	
1,1,2-Trichloroethane	26.4	0.50	ug/l	25.0	ND	106	65-130	0.6	25	
Trichloroethene	24.5	0.50	ug/l	25.0	ND	98	65-125	2	20	

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Sampled: 12/19/10-12/20/10  
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## METHOD BLANK/QC DATA

### PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10L2418 Extracted: 12/21/10</b>										
<b>Matrix Spike Dup Analyzed: 12/21/2010 (10L2418-MSD1)</b>					<b>Source: ITL1890-01</b>					
Trichlorofluoromethane	26.0	0.50	ug/l	25.0	ND	104	60-145	0.7	25	
Vinyl chloride	23.3	0.50	ug/l	25.0	ND	93	45-140	0.4	30	
Xylenes, Total	83.5	1.5	ug/l	75.0	ND	111	60-130	0.2	20	
Surrogate: 4-Bromofluorobenzene	25.1		ug/l	25.0		100	80-120			
Surrogate: Dibromofluoromethane	24.5		ug/l	25.0		98	80-120			
Surrogate: Toluene-d8	26.6		ug/l	25.0		107	80-120			

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## METHOD BLANK/QC DATA

### ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10L2492 Extracted: 12/21/10</b>										
<b>Blank Analyzed: 12/23/2010 (10L2492-BLK1)</b>										
Bis(2-ethylhexyl)phthalate	ND	5.00	ug/l							
2,4-Dinitrotoluene	ND	5.00	ug/l							
N-Nitrosodimethylamine	ND	5.00	ug/l							
Pentachlorophenol	ND	5.00	ug/l							
2,4,6-Trichlorophenol	ND	6.00	ug/l							
Surrogate: 2,4,6-Tribromophenol	17.8		ug/l	20.0		89	40-120			
Surrogate: 2-Fluorobiphenyl	9.22		ug/l	10.0		92	50-120			
Surrogate: 2-Fluorophenol	13.4		ug/l	20.0		67	30-120			
Surrogate: Nitrobenzene-d5	7.36		ug/l	10.0		74	45-120			
Surrogate: Phenol-d6	14.7		ug/l	20.0		74	35-120			
Surrogate: Terphenyl-d14	8.88		ug/l	10.0		89	50-125			
<b>LCS Analyzed: 12/23/2010 (10L2492-BS1)</b>										
Bis(2-ethylhexyl)phthalate	8.72	5.00	ug/l	10.0		87	65-130			MNR1
2,4-Dinitrotoluene	8.20	5.00	ug/l	10.0		82	65-120			
N-Nitrosodimethylamine	6.74	5.00	ug/l	10.0		67	45-120			
Pentachlorophenol	5.34	5.00	ug/l	10.0		53	24-121			
2,4,6-Trichlorophenol	8.30	6.00	ug/l	10.0		83	55-120			
Surrogate: 2,4,6-Tribromophenol	17.5		ug/l	20.0		87	40-120			
Surrogate: 2-Fluorobiphenyl	7.76		ug/l	10.0		78	50-120			
Surrogate: 2-Fluorophenol	12.6		ug/l	20.0		63	30-120			
Surrogate: Nitrobenzene-d5	7.04		ug/l	10.0		70	45-120			
Surrogate: Phenol-d6	14.2		ug/l	20.0		71	35-120			
Surrogate: Terphenyl-d14	8.36		ug/l	10.0		84	50-125			
<b>LCS Dup Analyzed: 12/23/2010 (10L2492-BSD1)</b>										
Bis(2-ethylhexyl)phthalate	8.88	5.00	ug/l	10.0		89	65-130	2	20	
2,4-Dinitrotoluene	7.82	5.00	ug/l	10.0		78	65-120	5	20	
N-Nitrosodimethylamine	6.80	5.00	ug/l	10.0		68	45-120	0.9	20	
Pentachlorophenol	5.10	5.00	ug/l	10.0		51	24-121	5	25	
2,4,6-Trichlorophenol	8.46	6.00	ug/l	10.0		85	55-120	2	30	
Surrogate: 2,4,6-Tribromophenol	17.6		ug/l	20.0		88	40-120			
Surrogate: 2-Fluorobiphenyl	8.06		ug/l	10.0		81	50-120			
Surrogate: 2-Fluorophenol	12.6		ug/l	20.0		63	30-120			
Surrogate: Nitrobenzene-d5	7.24		ug/l	10.0		72	45-120			
Surrogate: Phenol-d6	14.5		ug/l	20.0		72	35-120			
Surrogate: Terphenyl-d14	8.46		ug/l	10.0		85	50-125			

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Received: 12/20/10

## METHOD BLANK/QC DATA

### ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10L2628 Extracted: 12/22/10</b>										
<b>Blank Analyzed: 12/22/2010 (10L2628-BLK1)</b>										
alpha-BHC	ND	0.010	ug/l							
Surrogate: Decachlorobiphenyl	0.440		ug/l	0.500		88	45-120			
Surrogate: Tetrachloro-m-xylene	0.401		ug/l	0.500		80	35-115			
<b>LCS Analyzed: 12/22/2010 (10L2628-BS1)</b>										
alpha-BHC	0.460	0.010	ug/l	0.500		92	45-115			
Surrogate: Decachlorobiphenyl	0.448		ug/l	0.500		90	45-120			
Surrogate: Tetrachloro-m-xylene	0.416		ug/l	0.500		83	35-115			
<b>Matrix Spike Analyzed: 12/22/2010 (10L2628-MS1)</b>					<b>Source: ITL1847-01</b>					
alpha-BHC	0.310	0.0094	ug/l	0.472	ND	66	40-120			
Surrogate: Decachlorobiphenyl	0.387		ug/l	0.472		82	45-120			
Surrogate: Tetrachloro-m-xylene	0.212		ug/l	0.472		45	35-115			
<b>Matrix Spike Dup Analyzed: 12/22/2010 (10L2628-MSD1)</b>					<b>Source: ITL1847-01</b>					
alpha-BHC	0.342	0.0094	ug/l	0.472	ND	73	40-120	10	30	
Surrogate: Decachlorobiphenyl	0.436		ug/l	0.472		92	45-120			
Surrogate: Tetrachloro-m-xylene	0.233		ug/l	0.472		49	35-115			

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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
<b>Batch: 10L2313 Extracted: 12/20/10</b>										
<b>Blank Analyzed: 12/20/2010 (10L2313-BLK1)</b>										
Hexane Extractable Material (Oil & Grease)	ND	5.0	mg/l							
<b>LCS Analyzed: 12/20/2010 (10L2313-BS1)</b>										
Hexane Extractable Material (Oil & Grease)	19.5	5.0	mg/l	20.0		98	78-114			MNR1
<b>LCS Dup Analyzed: 12/20/2010 (10L2313-BSD1)</b>										
Hexane Extractable Material (Oil & Grease)	19.1	5.0	mg/l	20.0		96	78-114	2	11	

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## METHOD BLANK/QC DATA

### METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10L2484 Extracted: 12/21/10</b>										
<b>Blank Analyzed: 12/21/2010 (10L2484-BLK1)</b>										
Iron	ND	0.040	mg/l							
Manganese	ND	20	ug/l							
Zinc	ND	20.0	ug/l							
<b>LCS Analyzed: 12/21/2010 (10L2484-BS1)</b>										
Iron	0.536	0.040	mg/l	0.500		107	85-115			
Manganese	527	20	ug/l	500		105	85-115			
Zinc	509	20.0	ug/l	500		102	85-115			
<b>Matrix Spike Analyzed: 12/21/2010 (10L2484-MS1) Source: ITL1829-01</b>										
Iron	1.04	0.040	mg/l	0.500	0.468	114	70-130			
Manganese	3180	20	ug/l	500	2430	151	70-130			MHA
Zinc	527	20.0	ug/l	500	21.9	101	70-130			
<b>Matrix Spike Analyzed: 12/21/2010 (10L2484-MS2) Source: ITL1829-02</b>										
Iron	1.42	0.040	mg/l	0.500	0.874	108	70-130			
Manganese	539	20	ug/l	500	32.5	101	70-130			
Zinc	545	20.0	ug/l	500	62.3	96	70-130			
<b>Matrix Spike Dup Analyzed: 12/21/2010 (10L2484-MSD1) Source: ITL1829-01</b>										
Iron	1.00	0.040	mg/l	0.500	0.468	107	70-130	4	20	
Manganese	3050	20	ug/l	500	2430	124	70-130	4	20	MHA
Zinc	499	20.0	ug/l	500	21.9	95	70-130	6	20	
<b>Batch: 10L2490 Extracted: 12/21/10</b>										
<b>Blank Analyzed: 12/21/2010 (10L2490-BLK1)</b>										
Cadmium	ND	1.0	ug/l							
Copper	ND	2.00	ug/l							
Lead	ND	1.0	ug/l							
Selenium	ND	2.0	ug/l							

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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
<b>Batch: 10L2490 Extracted: 12/21/10</b>										
<b>LCS Analyzed: 12/21/2010 (10L2490-BS1)</b>										
Cadmium	81.5	1.0	ug/l	80.0		102	85-115			
Copper	82.8	2.00	ug/l	80.0		103	85-115			
Lead	83.1	1.0	ug/l	80.0		104	85-115			
Selenium	82.9	2.0	ug/l	80.0		104	85-115			
<b>Matrix Spike Analyzed: 12/21/2010 (10L2490-MS1) Source: ITL1829-03</b>										
Cadmium	77.1	1.0	ug/l	80.0	0.125	96	70-130			
Copper	78.7	2.00	ug/l	80.0	5.15	92	70-130			
Lead	80.1	1.0	ug/l	80.0	4.26	95	70-130			
Selenium	82.5	2.0	ug/l	80.0	4.20	98	70-130			
<b>Matrix Spike Analyzed: 12/21/2010 (10L2490-MS2) Source: ITL1829-04</b>										
Cadmium	78.3	1.0	ug/l	80.0	ND	98	70-130			
Copper	76.3	2.00	ug/l	80.0	ND	95	70-130			
Lead	77.4	1.0	ug/l	80.0	0.729	96	70-130			
Selenium	84.1	2.0	ug/l	80.0	3.40	101	70-130			
<b>Matrix Spike Dup Analyzed: 12/21/2010 (10L2490-MSD1) Source: ITL1829-03</b>										
Cadmium	77.6	1.0	ug/l	80.0	0.125	97	70-130	0.7	20	
Copper	79.4	2.00	ug/l	80.0	5.15	93	70-130	0.8	20	
Lead	81.4	1.0	ug/l	80.0	4.26	96	70-130	2	20	
Selenium	81.6	2.0	ug/l	80.0	4.20	97	70-130	1	20	
<b>Batch: 10L2694 Extracted: 12/22/10</b>										
<b>Blank Analyzed: 12/22/2010 (10L2694-BLK1)</b>										
Mercury	ND	0.20	ug/l							

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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
<b>Batch: 10L2694 Extracted: 12/22/10</b>										
<b>LCS Analyzed: 12/22/2010 (10L2694-BS1)</b>										
Mercury	7.73	0.20	ug/l	8.00		97	85-115			
<b>Matrix Spike Analyzed: 12/22/2010 (10L2694-MS1)</b>										
					<b>Source: ITL1894-01</b>					
Mercury	7.48	0.20	ug/l	8.00	ND	93	70-130			
<b>Matrix Spike Dup Analyzed: 12/22/2010 (10L2694-MSD1)</b>										
					<b>Source: ITL1894-01</b>					
Mercury	7.47	0.20	ug/l	8.00	ND	93	70-130	0.04	20	

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## METHOD BLANK/QC DATA

### DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10L2487 Extracted: 12/21/10</b>										
<b>Blank Analyzed: 12/23/2010 (10L2487-BLK1)</b>										
Iron	ND	0.040	mg/l							
Manganese	ND	20	ug/l							
Zinc	ND	20.0	ug/l							
<b>LCS Analyzed: 12/23/2010 (10L2487-BS1)</b>										
Iron	0.473	0.040	mg/l	0.500		95	85-115			
Manganese	512	20	ug/l	500		102	85-115			
Zinc	510	20.0	ug/l	500		102	85-115			
<b>Matrix Spike Analyzed: 12/23/2010 (10L2487-MS1) Source: ITL1891-03</b>										
Iron	0.594	0.040	mg/l	0.500	0.0946	100	70-130			
Manganese	509	20	ug/l	500	ND	102	70-130			
Zinc	521	20.0	ug/l	500	18.1	101	70-130			
<b>Matrix Spike Analyzed: 12/23/2010 (10L2487-MS2) Source: ITL1877-01</b>										
Iron	0.642	0.040	mg/l	0.500	0.0954	109	70-130			
Manganese	514	20	ug/l	500	13.7	100	70-130			
Zinc	502	20.0	ug/l	500	ND	100	70-130			
<b>Matrix Spike Dup Analyzed: 12/23/2010 (10L2487-MSD1) Source: ITL1891-03</b>										
Iron	0.556	0.040	mg/l	0.500	0.0946	92	70-130	7	20	
Manganese	496	20	ug/l	500	ND	99	70-130	3	20	
Zinc	505	20.0	ug/l	500	18.1	97	70-130	3	20	
<b>Batch: 10L2494 Extracted: 12/21/10</b>										
<b>Blank Analyzed: 12/21/2010 (10L2494-BLK1)</b>										
Cadmium	ND	1.0	ug/l							
Copper	ND	2.00	ug/l							
Lead	ND	1.0	ug/l							
Selenium	ND	2.0	ug/l							

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## METHOD BLANK/QC DATA

### DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10L2494 Extracted: 12/21/10</b>										
<b>LCS Analyzed: 12/21/2010 (10L2494-BS1)</b>										
Cadmium	81.6	1.0	ug/l	80.0		102	85-115			
Copper	85.6	2.00	ug/l	80.0		107	85-115			
Lead	79.1	1.0	ug/l	80.0		99	85-115			
Selenium	80.4	2.0	ug/l	80.0		101	85-115			
<b>Matrix Spike Analyzed: 12/21/2010 (10L2494-MS1)</b>					<b>Source: ITL1890-03</b>					
Cadmium	76.0	1.0	ug/l	80.0	ND	95	70-130			
Copper	79.5	2.00	ug/l	80.0	2.91	96	70-130			
Lead	80.8	1.0	ug/l	80.0	0.391	100	70-130			
Selenium	72.5	2.0	ug/l	80.0	ND	91	70-130			
<b>Matrix Spike Dup Analyzed: 12/21/2010 (10L2494-MSD1)</b>					<b>Source: ITL1890-03</b>					
Cadmium	77.5	1.0	ug/l	80.0	ND	97	70-130	2	20	
Copper	80.8	2.00	ug/l	80.0	2.91	97	70-130	2	20	
Lead	74.6	1.0	ug/l	80.0	0.391	93	70-130	8	20	
Selenium	71.9	2.0	ug/l	80.0	ND	90	70-130	0.9	20	
<b>Batch: 10L2695 Extracted: 12/22/10</b>										
<b>Blank Analyzed: 12/22/2010 (10L2695-BLK1)</b>										
Mercury	ND	0.20	ug/l							
<b>LCS Analyzed: 12/22/2010 (10L2695-BS1)</b>										
Mercury	8.15	0.20	ug/l	8.00		102	85-115			
<b>Matrix Spike Analyzed: 12/22/2010 (10L2695-MS1)</b>					<b>Source: ITL1889-02</b>					
Mercury	7.89	0.20	ug/l	8.00	ND	99	70-130			

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## METHOD BLANK/QC DATA

### DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10L2695 Extracted: 12/22/10</b>										
<b>Matrix Spike Dup Analyzed: 12/22/2010 (10L2695-MSD1)</b>										
Mercury	7.80	0.20	ug/l	8.00	ND	97	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
<b>Batch: 10L2304 Extracted: 12/20/10</b>										
<b>Blank Analyzed: 12/20/2010 (10L2304-BLK1)</b>										
Chloride	ND	0.50	mg/l							
Nitrate-N	ND	0.11	mg/l							
Nitrite-N	ND	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.26	mg/l							
Sulfate	ND	0.50	mg/l							
<b>LCS Analyzed: 12/20/2010 (10L2304-BS1)</b>										
Chloride	4.74	0.50	mg/l	5.00		95	90-110			M-3
Nitrate-N	1.04	0.11	mg/l	1.13		92	90-110			
Nitrite-N	1.46	0.15	mg/l	1.52		96	90-110			
Sulfate	9.52	0.50	mg/l	10.0		95	90-110			
<b>Matrix Spike Analyzed: 12/20/2010 (10L2304-MS1)</b>										
					<b>Source: ITL1981-05</b>					
Nitrate-N	3.31	0.11	mg/l	1.13	2.12	105	80-120			
Nitrite-N	1.87	0.15	mg/l	1.52	ND	123	80-120			MI
Sulfate	37.9	0.50	mg/l	10.0	26.4	114	80-120			
<b>Matrix Spike Analyzed: 12/20/2010 (10L2304-MS2)</b>										
					<b>Source: ITL2011-04</b>					
Nitrate-N	13.4	0.55	mg/l	11.3	2.66	95	80-120			
Nitrite-N	16.7	0.75	mg/l	15.2	ND	110	80-120			
Sulfate	96.9	2.5	mg/l	100	ND	97	80-120			
<b>Matrix Spike Dup Analyzed: 12/20/2010 (10L2304-MSD1)</b>										
					<b>Source: ITL1981-05</b>					
Nitrate-N	3.29	0.11	mg/l	1.13	2.12	103	80-120	0.6	20	
Nitrite-N	1.83	0.15	mg/l	1.52	ND	120	80-120	2	20	
Sulfate	37.8	0.50	mg/l	10.0	26.4	114	80-120	0.09	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
<b>Batch: 10L2408 Extracted: 12/21/10</b>										
<b>Blank Analyzed: 12/21/2010 (10L2408-BLK1)</b>										
Specific Conductance	ND	1.0	umhos/cm @ 25C							
<b>LCS Analyzed: 12/21/2010 (10L2408-BS1)</b>										
Specific Conductance	1430	1.0	umhos/cm @ 25C	1410		101	90-110			
<b>Duplicate Analyzed: 12/21/2010 (10L2408-DUP1)</b>										
Specific Conductance	116	1.0	umhos/cm @ 25C		115			0.8	5	
<b>Source: ITL1890-01</b>										
<b>Batch: 10L2410 Extracted: 12/21/10</b>										
<b>Blank Analyzed: 12/21/2010 (10L2410-BLK1)</b>										
Total Dissolved Solids	ND	10	mg/l							
<b>LCS Analyzed: 12/21/2010 (10L2410-BS1)</b>										
Total Dissolved Solids	1010	10	mg/l	1000		101	90-110			
<b>Duplicate Analyzed: 12/21/2010 (10L2410-DUP1)</b>										
Total Dissolved Solids	226	10	mg/l		224			0.9	10	
<b>Source: ITL1889-02</b>										
<b>Batch: 10L2463 Extracted: 12/21/10</b>										
<b>Blank Analyzed: 12/26/2010 (10L2463-BLK1)</b>										
Biochemical Oxygen Demand	ND	2.0	mg/l							
<b>LCS Analyzed: 12/26/2010 (10L2463-BS1)</b>										
Biochemical Oxygen Demand	208	100	mg/l	198		105	85-115			

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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
<b>Batch: 10L2463 Extracted: 12/21/10</b>										
<b>LCS Dup Analyzed: 12/26/2010 (10L2463-BSD1)</b>										
Biochemical Oxygen Demand	216	100	mg/l	198		109	85-115	4	20	
<b>Batch: 10L2479 Extracted: 12/21/10</b>										
<b>Blank Analyzed: 12/21/2010 (10L2479-BLK1)</b>										
Turbidity	ND	1.0	NTU							
<b>Duplicate Analyzed: 12/21/2010 (10L2479-DUP1)</b>										
Turbidity	183	10	NTU		Source: ITL1877-01 181			0.9	20	
<b>Duplicate Analyzed: 12/21/2010 (10L2479-DUP2)</b>										
Turbidity	0.0400	1.0	NTU		Source: ITL1970-08 ND				20	Ja
<b>Batch: 10L2485 Extracted: 12/21/10</b>										
<b>Blank Analyzed: 12/21/2010 (10L2485-BLK1)</b>										
Perchlorate	ND	4.0	ug/l							
<b>LCS Analyzed: 12/21/2010 (10L2485-BS1)</b>										
Perchlorate	23.3	4.0	ug/l	25.0		93	85-115			
<b>Matrix Spike Analyzed: 12/21/2010 (10L2485-MS1)</b>										
Perchlorate	24.4	4.0	ug/l	25.0	Source: ITL1889-02 1.92	90	80-120			
<b>Matrix Spike Dup Analyzed: 12/21/2010 (10L2485-MSD1)</b>										
Perchlorate	23.9	4.0	ug/l	25.0	Source: ITL1889-02 1.92	88	80-120	2	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
<b>Batch: 10L2540 Extracted: 12/21/10</b>										
<b>Blank Analyzed: 12/21/2010 (10L2540-BLK1)</b>										
Ammonia-N (Distilled)	ND	0.500	mg/l							
<b>LCS Analyzed: 12/21/2010 (10L2540-BS1)</b>										
Ammonia-N (Distilled)	10.1	0.500	mg/l	10.0		101	80-115			
<b>Matrix Spike Analyzed: 12/21/2010 (10L2540-MS1)</b>										
Ammonia-N (Distilled)	9.80	0.500	mg/l	10.0	ND	98	70-120			
<b>Matrix Spike Dup Analyzed: 12/21/2010 (10L2540-MSD1)</b>										
Ammonia-N (Distilled)	9.80	0.500	mg/l	10.0	ND	98	70-120	0	15	
<b>Batch: 10L2543 Extracted: 12/21/10</b>										
<b>Blank Analyzed: 12/21/2010 (10L2543-BLK1)</b>										
Surfactants (MBAS)	ND	0.10	mg/l							
<b>LCS Analyzed: 12/21/2010 (10L2543-BS1)</b>										
Surfactants (MBAS)	0.245	0.10	mg/l	0.250		98	90-110			
<b>Matrix Spike Analyzed: 12/21/2010 (10L2543-MS1)</b>										
Surfactants (MBAS)	0.266	0.10	mg/l	0.250	ND	106	50-125			
<b>Matrix Spike Dup Analyzed: 12/21/2010 (10L2543-MSD1)</b>										
Surfactants (MBAS)	0.249	0.10	mg/l	0.250	ND	99	50-125	7	20	
<b>Batch: 10L2544 Extracted: 12/21/10</b>										
<b>Blank Analyzed: 12/21/2010 (10L2544-BLK1)</b>										
Total Cyanide	ND	5.0	ug/l							

TestAmerica Irvine

Debby Wilson  
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 618 Michillinda Avenue, Suite 200  
 Arcadia, CA 91007  
 Attention: Bronwyn Kelly

Project ID: Quarterly Outfall 002 2010  
 Routine Outfall 002  
 Report Number: ITL1890

Sampled: 12/19/10-12/20/10  
 Received: 12/20/10

## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10L2544 Extracted: 12/21/10</b>										
<b>LCS Analyzed: 12/21/2010 (10L2544-BS1)</b>										
Total Cyanide	192	5.0	ug/l	200		96	90-110			
<b>Matrix Spike Analyzed: 12/21/2010 (10L2544-MS1)</b>										
Total Cyanide	192	5.0	ug/l	200	ND	96	70-115			
<b>Matrix Spike Dup Analyzed: 12/21/2010 (10L2544-MSD1)</b>										
Total Cyanide	187	5.0	ug/l	200	ND	94	70-115	2	15	
<b>Batch: 10L2850 Extracted: 12/23/10</b>										
<b>Blank Analyzed: 12/23/2010 (10L2850-BLK1)</b>										
Total Suspended Solids	ND	10	mg/l							
<b>LCS Analyzed: 12/23/2010 (10L2850-BS1)</b>										
Total Suspended Solids	1000	10	mg/l	1000		100	85-115			
<b>Duplicate Analyzed: 12/23/2010 (10L2850-DUP1)</b>										
Total Suspended Solids	161	10	mg/l		160			0.6	10	

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## METHOD BLANK/QC DATA

### EPA-5 1613Bx

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 357431 Extracted: 12/23/10</b>										
<b>Blank Analyzed: 12/28/2010 (G0L230000431B)</b>					<b>Source:</b>					
1,2,3,4,6,7,8-HpCDD	1.5e-006	0.00005	ug/L				-			J
1,2,3,4,6,7,8-HpCDF	9.5e-007	0.00005	ug/L				-			J, Q
1,2,3,4,7,8,9-HpCDF	9.6e-007	0.00005	ug/L				-			J, Q
1,2,3,4,7,8-HxCDD	ND	0.00005	ug/L				-			
1,2,3,4,7,8-HxCDF	ND	0.00005	ug/L				-			
1,2,3,6,7,8-HxCDD	ND	0.00005	ug/L				-			
1,2,3,6,7,8-HxCDF	ND	0.00005	ug/L				-			
1,2,3,7,8,9-HxCDD	ND	0.00005	ug/L				-			
1,2,3,7,8,9-HxCDF	ND	0.00005	ug/L				-			
1,2,3,7,8-PeCDD	ND	0.00005	ug/L				-			
1,2,3,7,8-PeCDF	ND	0.00005	ug/L				-			
2,3,4,6,7,8-HxCDF	ND	0.00005	ug/L				-			
2,3,4,7,8-PeCDF	ND	0.00005	ug/L				-			
2,3,7,8-TCDD	ND	0.00001	ug/L				-			
2,3,7,8-TCDF	ND	0.00001	ug/L				-			
OCDD	5.9e-006	0.0001	ug/L				-			J
OCDF	2e-006	0.0001	ug/L				-			J
Total HpCDD	2.5e-006	0.00005	ug/L				-			J
Total HpCDF	1.9e-006	0.00005	ug/L				-			J, Q
Total HxCDD	ND	0.00005	ug/L				-			
Total HxCDF	ND	0.00005	ug/L				-			
Total PeCDD	ND	0.00005	ug/L				-			
Total PeCDF	ND	0.00005	ug/L				-			
Total TCDD	ND	0.00001	ug/L				-			
Total TCDF	ND	0.00001	ug/L				-			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.0021		ug/L	0.002		107	23-140			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0018		ug/L	0.002		92	28-143			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.002		ug/L	0.002		100	26-138			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.0017		ug/L	0.002		86	32-141			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.0016		ug/L	0.002		81	26-152			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.002		ug/L	0.002		98	28-130			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.0016		ug/L	0.002		83	26-123			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.0016		ug/L	0.002		81	29-147			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.0018		ug/L	0.002		91	25-181			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.0018		ug/L	0.002		92	24-185			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.0017		ug/L	0.002		85	28-136			

#### TestAmerica Irvine

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Arcadia, CA 91007  
Attention: Bronwyn Kelly

Project ID: Quarterly Outfall 002 2010  
Routine Outfall 002  
Report Number: ITL1890

Sampled: 12/19/10-12/20/10  
Received: 12/20/10

## METHOD BLANK/QC DATA

### EPA-5 1613Bx

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 357431 Extracted: 12/23/10</b>										
<b>Blank Analyzed: 12/28/2010 (G0L230000431B)</b>					<b>Source:</b>					
Surrogate: 13C-2,3,4,7,8-PeCDF	0.0018		ug/L	0.002		89	21-178			
Surrogate: 13C-2,3,7,8-TCDD	0.0017		ug/L	0.002		83	25-164			
Surrogate: 13C-2,3,7,8-TCDF	0.0015		ug/L	0.002		77	24-169			
Surrogate: 13C-OCDD	0.0036		ug/L	0.004		90	17-157			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.0008		ug/L	0.0008		99	35-197			
<b>LCS Analyzed: 12/28/2010 (G0L230000431C)</b>					<b>Source:</b>					
1,2,3,4,6,7,8-HpCDD	0.00102	0.00005	ug/L	0.001		102	70-140			B
1,2,3,4,6,7,8-HpCDF	0.00109	0.00005	ug/L	0.001		109	82-122			B
1,2,3,4,7,8,9-HpCDF	0.00108	0.00005	ug/L	0.001		108	78-138			B
1,2,3,4,7,8-HxCDD	0.00118	0.00005	ug/L	0.001		118	70-164			
1,2,3,4,7,8-HxCDF	0.00102	0.00005	ug/L	0.001		102	72-134			
1,2,3,6,7,8-HxCDD	0.000981	0.00005	ug/L	0.001		98	76-134			
1,2,3,6,7,8-HxCDF	0.00105	0.00005	ug/L	0.001		105	84-130			
1,2,3,7,8,9-HxCDD	0.00108	0.00005	ug/L	0.001		108	64-162			
1,2,3,7,8,9-HxCDF	0.00108	0.00005	ug/L	0.001		108	78-130			
1,2,3,7,8-PeCDD	0.00109	0.00005	ug/L	0.001		109	70-142			
1,2,3,7,8-PeCDF	0.000975	0.00005	ug/L	0.001		98	80-134			
2,3,4,6,7,8-HxCDF	0.00103	0.00005	ug/L	0.001		103	70-156			
2,3,4,7,8-PeCDF	0.000976	0.00005	ug/L	0.001		98	68-160			
2,3,7,8-TCDD	0.000214	0.00001	ug/L	0.0002		107	67-158			
2,3,7,8-TCDF	0.000186	0.00001	ug/L	0.0002		93	75-158			
OCDD	0.00191	0.0001	ug/L	0.002		96	78-144			B
OCDF	0.00182	0.0001	ug/L	0.002		91	63-170			B
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.00221		ug/L	0.002		111	26-166			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.00194		ug/L	0.002		97	21-158			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.00207		ug/L	0.002		104	20-186			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.00166		ug/L	0.002		83	21-193			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00162		ug/L	0.002		81	19-202			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00201		ug/L	0.002		100	25-163			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.00168		ug/L	0.002		84	21-159			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.0016		ug/L	0.002		80	17-205			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00181		ug/L	0.002		91	21-227			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00187		ug/L	0.002		93	21-192			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.00169		ug/L	0.002		85	22-176			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00177		ug/L	0.002		89	13-328			

#### TestAmerica Irvine

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 Routine Outfall 002  
 Report Number: ITL1890

Sampled: 12/19/10-12/20/10  
 Received: 12/20/10

## METHOD BLANK/QC DATA

### EPA-5 1613Bx

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 357431 Extracted: 12/23/10</b>										
<b>LCS Analyzed: 12/28/2010 (G0L230000431C)</b>										
Surrogate: 13C-2,3,7,8-TCDD	0.00171		ug/L	0.002		85	20-175			
Surrogate: 13C-2,3,7,8-TCDF	0.00157		ug/L	0.002		79	22-152			
Surrogate: 13C-OCDD	0.00374		ug/L	0.004		94	13-199			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.000784		ug/L	0.0008		98	31-191			

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## Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
ITL1890-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0	4.8	15
ITL1890-01	624-Boeing 001/002Q (Fr113+X+Fr1,1-Dichloroethene		ug/l	0	0.50	6
ITL1890-01	624-Boeing 001/002Q (Fr113+X+FrTrichloroethene		ug/l	0	0.50	5
ITL1890-01	Settleable Solids - SM2540F	Total Settleable Solids	ml/l	0	0.10	0.3

## Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
ITL1890-02	624-Boeing 001/002Q (Fr113+X+Fr1,1-Dichloroethene		ug/l	0	0.50	6
ITL1890-02	624-Boeing 001/002Q (Fr113+X+FrTrichloroethene		ug/l	0	0.50	5

## Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
ITL1890-03	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0	0.0094	0.03
ITL1890-03	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	5.66	13
ITL1890-03	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	4.72	18
ITL1890-03	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	0.26	4.72	4
ITL1890-03	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	4.72	16
ITL1890-03	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	4.72	16.5
ITL1890-03	Ammonia-N, Titr 4500NH3-C (w/di:Ammonia-N (Distilled)		mg/l	0	0.500	10.1
ITL1890-03	BOD - SM5210B	Biochemical Oxygen Demand	mg/l	2.60	2.0	30
ITL1890-03	Cadmium-200.8	Cadmium	ug/l	0.060	1.0	3.1
ITL1890-03	Chloride - 300.0	Chloride	mg/l	8.20	0.50	150
ITL1890-03	Copper-200.8	Copper	ug/l	4.52	2.00	14
ITL1890-03	Cyanide, Total-4500CN-E (5ppb)	Total Cyanide	ug/l	-2	5.0	8.5
<b>ITL1890-03</b>	<b>Iron-200.7</b>	<b>Iron</b>	<b>mg/l</b>	<b>2.66</b>	<b>0.040</b>	<b>0.3</b>
ITL1890-03	Lead-200.8	Lead	ug/l	1.67	1.0	5.2
ITL1890-03	Manganese-200.7	Manganese	ug/l	43	20	50
ITL1890-03	MBAS - SM5540C	Surfactants (MBAS)	mg/l	0.052	0.10	0.5
ITL1890-03	Nitrate-N, 300.0	Nitrate-N	mg/l	1.25	0.11	8
ITL1890-03	Nitrite-N, 300.0	Nitrite-N	mg/l	0	0.15	1
ITL1890-03	Nitrogen, NO3+NO2 -N EPA 300.0	Nitrate/Nitrite-N	mg/l	1.25	0.26	8

### TestAmerica Irvine

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ITL1890-03	Perchlorate 314.0 - Default	Perchlorate	ug/l	2.16	4.0	6
ITL1890-03	Selenium-200.8	Selenium	ug/l	0.52	2.0	5
ITL1890-03	Sulfate-300.0	Sulfate	mg/l	35	0.50	300
ITL1890-03	TDS - SM2540C	Total Dissolved Solids	mg/l	207	10	950
ITL1890-03	TSS - SM2540D	Total Suspended Solids	mg/l	22	10	45
ITL1890-03	Zinc-200.7	Zinc	ug/l	15	20.0	119

## Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
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**TestAmerica Irvine**

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## DATA QUALIFIERS AND DEFINITIONS

- B** Method blank contamination. The associated method blank contains the target analyte at a reportable level.
- J** Estimated result. Result is less than the reporting limit.
- Ja** 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.
- Jb** The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
- M1** The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- 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).
- MNR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- Q** Estimated maximum possible concentration (EMPC).
- U** The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

**TestAmerica Irvine**

Debby Wilson  
Project Manager

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**ITL1890 <Page 42 of 45>**

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

Project ID: Quarterly Outfall 002 2010  
Routine Outfall 002  
Report Number: ITL1890

Sampled: 12/19/10-12/20/10  
Received: 12/20/10

## Certification Summary

### TestAmerica Irvine

Method	Matrix	Nelac	California
EDD + Level 4	Water	N/A	N/A
EPA 120.1	Water	X	X
EPA 1664A	Water	X	X
EPA 180.1	Water	X	X
EPA 200.7-Diss	Water	X	X
EPA 200.7	Water	X	X
EPA 200.8-Diss	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1-Diss	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	X	X
EPA 608	Water	X	X
EPA 624	Water	X	X
EPA 625	Water	X	X
Filtration	Water	N/A	N/A
SM 2540D	Water	X	X
SM2540C	Water	X	
SM2540F	Water	X	X
SM4500CN-E	Water	X	X
SM4500NH3-C	Water	X	X
SM5210B	Water	X	X
SM5540-C	Water	X	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](http://www.testamericainc.com)*

### Subcontracted Laboratories

#### **Aquatic Testing Laboratories-SUB** *California Cert #1775*

4350 Transport Street, Unit 107 - Ventura, CA 93003

Analysis Performed: Bioassay-7 dy Chrnrc

Samples: ITL1890-03

### TestAmerica Irvine

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Project Manager

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Received: 12/20/10

## Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec  
Samples: ITL1890-03

Analysis Performed: Gross Alpha  
Samples: ITL1890-03

Analysis Performed: Gross Beta  
Samples: ITL1890-03

Analysis Performed: HOLD  
Samples: ITL1890-04

Analysis Performed: Level 4 Data Package  
Samples: ITL1890-03

Analysis Performed: Radium, Combined  
Samples: ITL1890-03

Analysis Performed: Strontium 90  
Samples: ITL1890-03

Analysis Performed: Tritium  
Samples: ITL1890-03

Analysis Performed: Uranium, Combined  
Samples: ITL1890-03

## TestAmerica Irvine

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## TestAmerica Buffalo

10 Hazelwood Drive, Suite 106 - Amherst, NY 14228

Method Performed: 8645  
Samples: ITL1890-03, ITL1890-04

Method Performed: 900  
Samples: ITL1890-03, ITL1890-04

Method Performed: 901.1  
Samples: ITL1890-03, ITL1890-04

Method Performed: 903.1  
Samples: ITL1890-03, ITL1890-04

Method Performed: 904  
Samples: ITL1890-03, ITL1890-04

Method Performed: 905  
Samples: ITL1890-03, ITL1890-04

Method Performed: 906  
Samples: ITL1890-03

## TestAmerica West Sacramento *NELAC Cert #1119CA, Nevada Cert #CA44*

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B  
Samples: ITL1890-03

## TestAmerica Irvine

Debby Wilson  
Project Manager







# 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:** December 28, 2010

**Client:** TestAmerica, Irvine  
17461 Derian Ave., Suite 100  
Irvine, CA 92614  
Attn: Debby Wilson

**Laboratory No.:** A-10122005-001  
**Sample I.D.:** ITL1890-03 (Outfall 002)

**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).

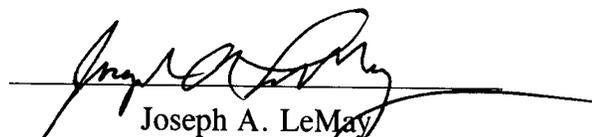
Date Sampled: 12/20/10 - composite  
Date Received: 12/20/10  
Temp. Received: 5.4°C  
Chlorine (TRC): 0.0 mg/l  
Date Tested: 12/20/10 to 12/27/10

**Sample Analysis:** The following analyses were performed on your sample:  
*Ceriodaphnia dubia* Survival and Reproduction Test (EPA Method 1002).  
Attached are the test data generated from the analysis of your sample.

## Result Summary:

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

**Quality Control:** Reviewed and approved by:

  
Joseph A. LeMay  
Laboratory Director

**CERIODAPHNIA CHRONIC BIOASSAY  
EPA METHOD 1002.0**



Lab No.: A-10122005-001  
Client/ID: Test America – ITL1890-03 (Outfall 002)

Date Tested: 12/20/10 to 12/27/10

**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-101207.

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%	24.0
100% Sample	100%	26.1
* 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 (24.0 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: 12/20/2010 18:30 Test ID: 10122005c Sample ID: Outfall 002  
 End Date: 12/27/2010 17:30 Lab ID: CAATL-Aquatic Testing Labs Sample Type: EFF2-Industrial  
 Sample Date: 12/20/2010 12:30 Protocol: FWCH EPA Test Species: CD-Ceriodaphnia dubia

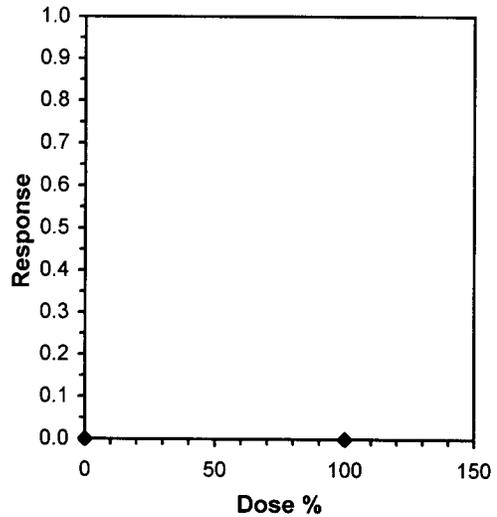
Comments:

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	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**

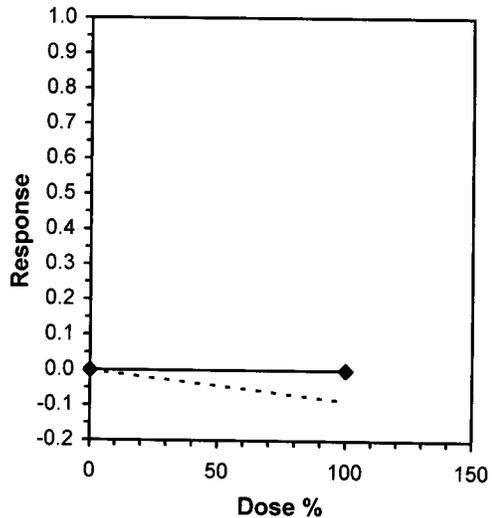
Start Date: 12/20/2010 18:30 Test ID: 10122005c Sample ID: Outfall 002  
 End Date: 12/27/2010 17:30 Lab ID: CAATL-Aquatic Testing Labs Sample Type: EFF2-Industrial  
 Sample Date: 12/20/2010 12:30 Protocol: FWCH EPA Test Species: CD-Ceriodaphnia dubia  
 Comments:

Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	23.000	25.000	24.000	25.000	25.000	21.000	23.000	22.000	26.000	26.000
100	28.000	27.000	27.000	25.000	26.000	26.000	26.000	28.000	23.000	25.000

Conc-%	Mean	N-Mean	Transform: Untransformed					N	t-Stat	1-Tailed		Isotonic	
			Mean	Min	Max	CV%	Critical			MSD	Mean	N-Mean	
D-Control	24.000	1.0000	24.000	21.000	26.000	7.082	10					25.050	1.0000
100	26.100	1.0875	26.100	23.000	28.000	5.839	10	-2.909	1.734	1.252	25.050	1.0000	

Auxiliary Tests		Statistic	Critical	Skew	Kurt		
Shapiro-Wilk's Test indicates normal distribution ( $p > 0.05$ )		0.92424	0.905	-0.532	-0.4963		
F-Test indicates equal variances ( $p = 0.75$ )		1.24402	6.54109				
Hypothesis Test (1-tail, 0.05)		MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences		1.25179	0.05216	22.05	2.60556	0.00936	1, 18
Treatments vs D-Control							

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



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



Lab No.: A-10122005-001

Client ID: TestAmerica - Outfall 002

Start Date: 12/20/2010

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		0 hr	24hr												
Analyst Initials:		[Signature]													
Time of Readings:		1830	1700	1740	1730	1730	1700	1740	1730	1730	1800	1800	1800	1800	1730
Control	DO	8.2	8.5	8.8	8.5	7.9	8.6	8.0	8.4	8.1	8.2	8.4	8.0	8.4	8.1
	pH	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.1	8.2	8.0	8.2	8.0
	Temp	25.1	24.1	24.3	24.0	25.1	24.7	24.2	24.4	24.2	24.3	24.2	24.5	24.2	24.4
100%	DO	9.0	8.4	10.0	8.5	8.6	8.5	10.1	8.4	9.9	8.2	10.1	8.1	9.9	8.0
	pH	7.4	7.8	7.5	8.0	7.7	8.1	7.3	8.1	7.4	8.0	7.4	8.0	7.6	8.0
	Temp	25.6	24.5	24.5	24.9	25.0	25.1	25.0	24.9	24.8	24.3	24.6	24.5	24.4	24.6

Additional Parameters	Control	100% Sample
Conductivity (umohms)	287	198
Alkalinity (mg/l CaCO <sub>3</sub> )	72	52
Hardness (mg/l CaCO <sub>3</sub> )	92	71
Ammonia (mg/l NH <sub>3</sub> -N)	<0.1	0.7

Source of Neonates											
Replicate:	A	B	C	D	E	F	G	H	I	J	
Brood ID:	4B	5C	5D	5E	4F	6F	5G	6H	4I	5J	

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	[Signature]
	2	0	0	0	0	0	0	0	0	0	0	0	10	[Signature]
	3	0	3	0	0	4	0	0	0	0	5	12	10	[Signature]
	4	4	0	3	5	0	2	3	3	4	0	24	10	[Signature]
	5	7	7	6	6	0	7	7	6	0	7	53	10	[Signature]
	6	12	0	15	14	5	0	0	13	8	14	81	10	[Signature]
	7	0	15	0	0	16	12	13	(16)	14	0	70	10	[Signature]
	Total		23	25	24	25	25	21	23	22	26	26	240	10
100%	1	0	0	0	0	0	0	0	0	0	0	0	10	[Signature]
	2	0	0	0	0	0	0	0	0	0	0	0	10	[Signature]
	3	0	0	0	4	5	4	0	0	0	4	17	10	[Signature]
	4	5	4	4	0	0	0	5	3	4	0	25	10	[Signature]
	5	0	0	0	0	6	7	0	7	6	0	26	10	[Signature]
	6	7	8	8	9	0	15	7	0	0	7	61	10	[Signature]
	7	16	15	15	12	15	(1)	14	18	13	14	127	10	[Signature]
	Total		28	27	27	25	26	26	26	29	23	25	246	10

Circled fourth brood not used in statistical analysis.  
 7<sup>th</sup> day only used if <60% of the surviving control females have produced their third brood.



***CHAIN  
OF  
CUSTODY***

**SUBCONTRACT ORDER**

TestAmerica Irvine

**ITL1890**

**SENDING LABORATORY:**

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

**RECEIVING LABORATORY:**

Aquatic Testing Laboratories-SUB  
4350 Transport Street, Unit 107  
Ventura, CA 93003  
Phone : (805) 650-0546  
Fax: (805) 650-0756  
Project Location: California  
Receipt Temperature: 5-4 °C

Ice: Y N

Analysis	Units	Due	Expires	Comments
----------	-------	-----	---------	----------

Sample ID: ITL1890-03 (Outfall 002 (Composite) - Water)

Sampled: 12/20/10 12:30

Bioassay-7 dy Chmic	N/A	12/23/10	12/22/10 00:30	Cerio, EPA/821-R02-013, Sub to Aquatic testing
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Containers Supplied:

1 gal Poly (V)

[Signature] 12/20/10  
Released By Date/Time

[Signature] 12-20-10 1815  
Received By Date/Time

\_\_\_\_\_  
Released By Date/Time

\_\_\_\_\_  
Received By Date/Time





***REFERENCE  
TOXICANT  
DATA***

**CERIODAPHNIA CHRONIC BIOASSAY**  
**EPA METHOD 1002.0**  
**REFERENCE TOXICANT - NaCl**



QA/QC Batch No.: RT-101207

Date Tested: 12/07/10 to 12/13/10

**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: 6 days.  
 Statistics: ToxCalc computer program.

**RESULTS SUMMARY**

Sample Concentration	Percent Survival		Mean Number of Young Per Female	
Control	100%		23.3	
0.25 g/l	100%		25.2	
0.5 g/l	100%		23.7	
1.0 g/l	100%		16.0	*
2.0 g/l	100%		2.9	*
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	2.8 g/l
Reproduction IC25	0.86 mg/l

**QA/QC TEST ACCEPTABILITY**

Parameter	Result
Control survival ≥ 80%	Pass (100% Survival)
≥ 15 young per surviving control female	Pass (23.3 young)
≥ 60% surviving controls had 3 broods	Pass (80% with 3 broods)
PMSD < 47% for reproduction	Pass (PMSD = 18.9%)
Stat. sig. diff. conc. relative difference > 13%	Pass (Stat. sig. diff. conc. Relative difference = 31.3%)
Concentration response relationship acceptable	Pass (Response curve normal)

**Ceriodaphnia Survival and Reproduction Test-Survival Day 6**

Start Date: 12/7/2010 14:00 Test ID: RT101207c Sample ID: REF-Ref Toxicant  
 End Date: 12/13/2010 14:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: NACL-Sodium chloride  
 Sample Date: 12/6/2010 Protocol: FWCH EPA Test Species: CD-Ceriodaphnia dubia

Comments:

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

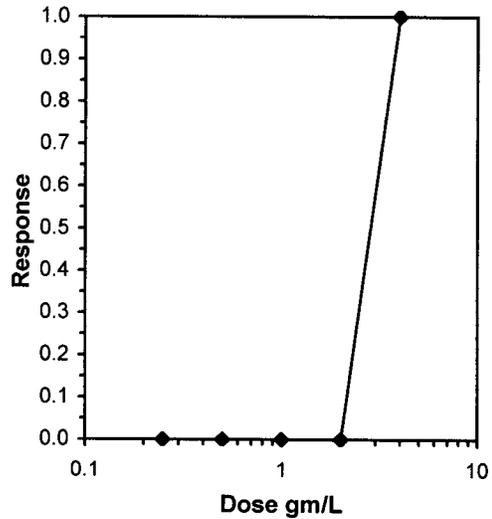
Conc-gm/L	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Number Resp	Total Number
D-Control	1.0000	1.0000	0	10	10	10			0	10
0.25	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
0.5	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
1	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
2	1.0000	1.0000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

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

**Graphical Method**

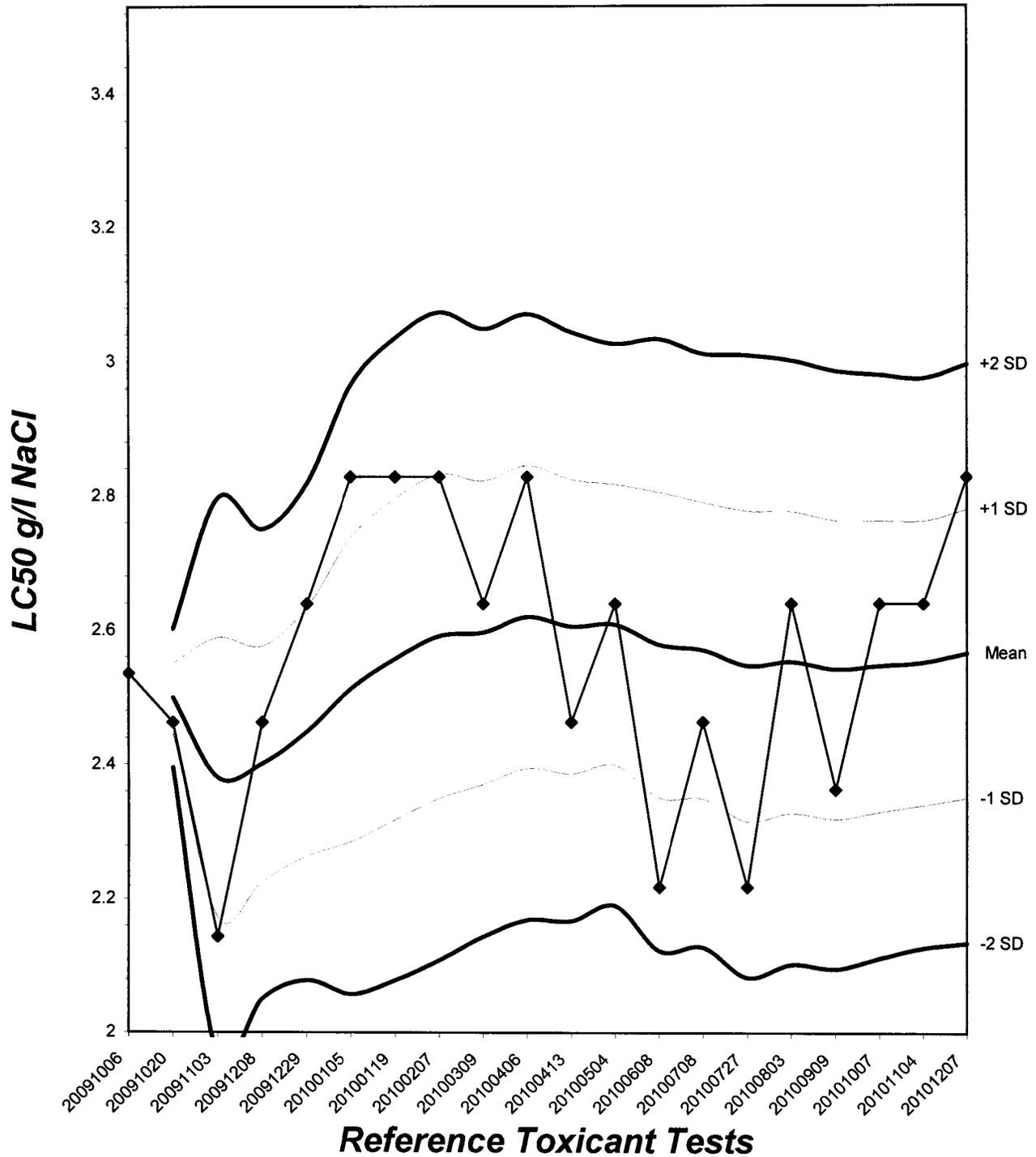
Trim Level	EC50
0.0%	2.8284

2.8284



# Ceriodaphnia Chronic Survival Laboratory Control Chart

CV% = 8.41



**Ceriodaphnia Survival and Reproduction Test-Reproduction**

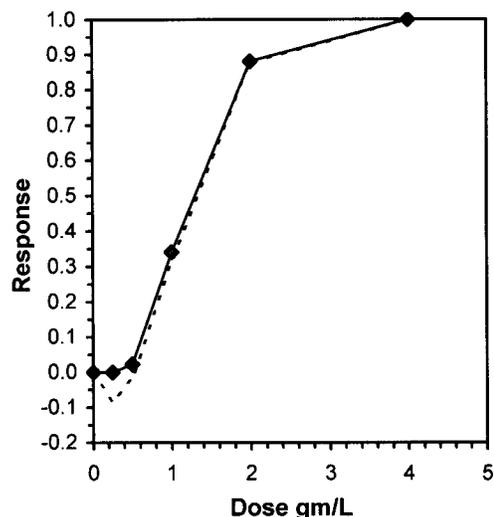
Start Date: 12/7/2010 14:00 Test ID: RT101207c Sample ID: REF-Ref Toxicant  
 End Date: 12/13/2010 14:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: NACL-Sodium chloride  
 Sample Date: 12/6/2010 Protocol: FWCH EPA Test Species: CD-Ceriodaphnia dubia  
 Comments:

Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	22.000	11.000	28.000	27.000	26.000	28.000	21.000	28.000	27.000	15.000
0.25	28.000	29.000	21.000	21.000	28.000	28.000	28.000	25.000	25.000	19.000
0.5	25.000	17.000	20.000	26.000	24.000	29.000	29.000	23.000	25.000	19.000
1	10.000	10.000	20.000	22.000	20.000	11.000	15.000	12.000	24.000	16.000
2	0.000	2.000	7.000	4.000	2.000	4.000	0.000	5.000	2.000	3.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Conc-gm/L	Transform: Untransformed							t-Stat	1-Tailed Critical	MSD	Isotonic	
	Mean	N-Mean	Mean	Min	Max	CV%	N				Mean	N-Mean
D-Control	23.300	1.0000	23.300	11.000	28.000	25.913	10				24.250	1.0000
0.25	25.200	1.0815	25.200	19.000	29.000	14.466	10	-0.959	2.223	4.404	24.250	1.0000
0.5	23.700	1.0172	23.700	17.000	29.000	17.000	10	-0.202	2.223	4.404	23.700	0.9773
*1	16.000	0.6867	16.000	10.000	24.000	32.676	10	3.686	2.223	4.404	16.000	0.6598
*2	2.900	0.1245	2.900	0.000	7.000	75.285	10	10.299	2.223	4.404	2.900	0.1196
4	0.000	0.0000	0.000	0.000	0.000	0.000	10				0.000	0.0000

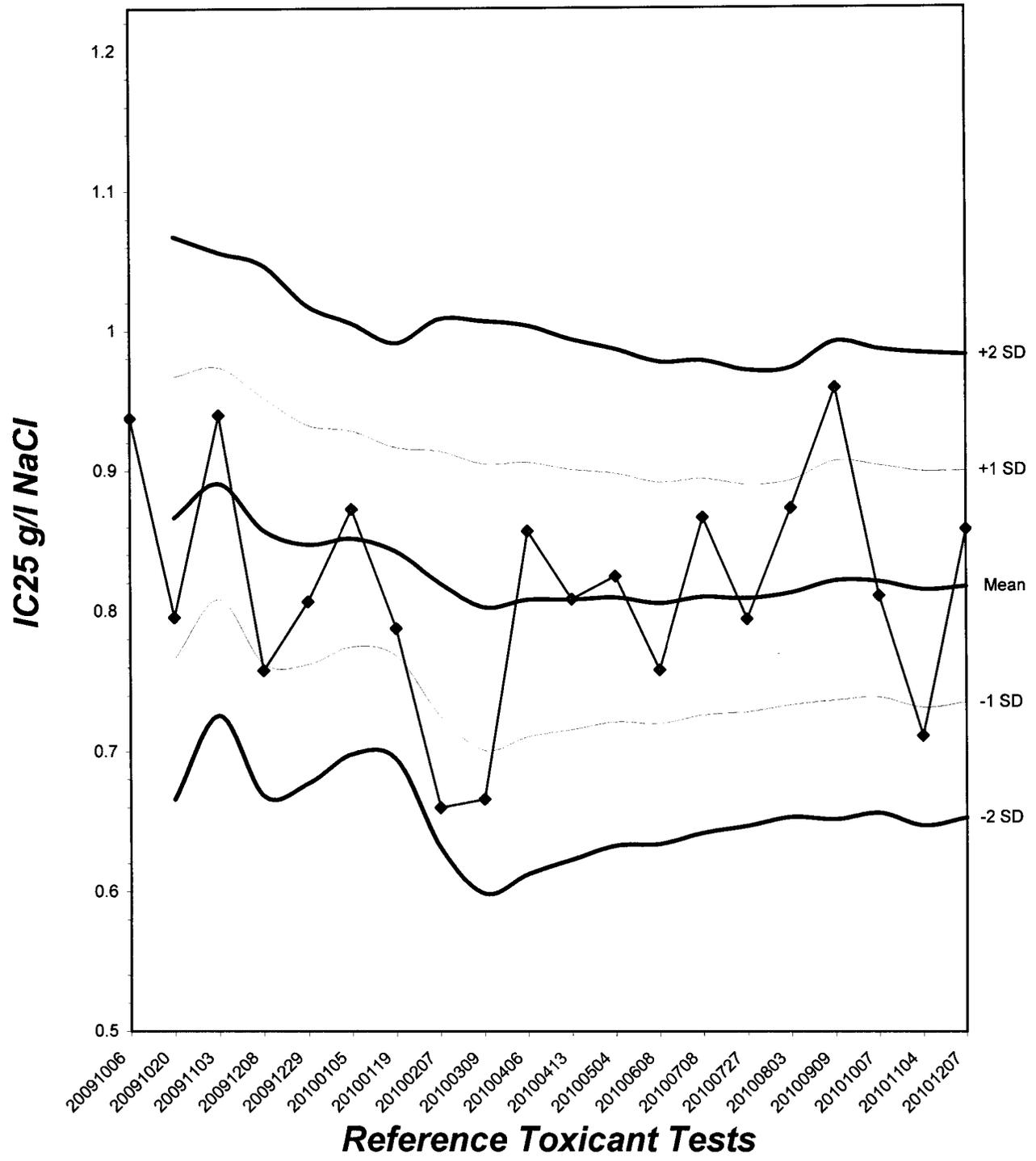
Auxiliary Tests	Statistic	Critical	Skew	Kurt						
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.96459	0.947	-0.5938	0.09413						
Bartlett's Test indicates equal variances (p = 0.06)	8.97697	13.2767								
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test Treatments vs D-Control	0.5	1	0.70711		4.40372	0.189	860.47	19.6156	5.6E-15	4, 45

Linear Interpolation (200 Resamples)				
Point	gm/L	SD	95% CL	Skew
IC05	0.5430	0.1060	0.2194 0.6041	-1.2164
IC10	0.6218	0.0833	0.4101 0.7081	-1.1699
IC15	0.7005	0.0819	0.5141 0.8292	-0.4850
IC20	0.7792	0.0859	0.5998 0.9452	0.1951
IC25	0.8580	0.0903	0.6963 1.0439	0.3636
IC40	1.1107	0.1011	0.9055 1.2772	-0.0498
IC50	1.2958	0.0936	1.0659 1.4429	-0.4534



# Ceriodaphnia Chronic Reproduction Laboratory Control Chart

CV% = 10.1



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



QA/QC No.: RT-101207

Start Date: 12/07/2010

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	R
	2	0	0	0	0	0	0	0	0	0	0	0	10	R
	3	0	0	4	0	0	0	0	0	0	0	4	10	R
	4	3	3	0	5	4	2	3	4	4	3	31	10	R
	5	9	8	6	7	8	9	6	9	7	0	69	10	R
	6	10	0	18	15	14	17	12	15	16	12	129	10	R
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	22	11	28	27	26	28	21	28	27	15	233	10	R
0.25 g/l	1	0	0	0	0	0	0	0	0	0	0	10	R	
	2	0	0	0	0	0	0	0	0	0	0	10	R	
	3	0	0	4	0	0	0	0	0	0	4	10	R	
	4	4	3	0	4	5	4	4	3	4	4	35	10	R
	5	6	9	7	0	8	10	9	7	7	0	63	10	R
	6	18	17	10	17	15	14	15	15	14	15	150	10	R
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	28	29	21	21	28	28	28	25	25	19	252	10	R
0.5 g/l	1	0	0	0	0	0	0	0	0	0	0	10	R	
	2	0	0	0	0	0	0	0	0	0	0	10	R	
	3	0	0	0	4	0	0	0	0	0	4	10	R	
	4	4	3	4	0	5	4	4	3	3	4	34	10	R
	5	6	0	6	8	7	9	7	6	7	0	56	10	R
	6	15	14	10	14	12	16	18	14	15	15	143	10	R
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	25	17	20	26	24	29	29	23	25	19	237	10	R

Circled fourth brood not used in statistical analysis.

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

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



QA/QC No.: RT-101207

Start Date: 12/07/2010

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
1.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	R
	2	0	0	0	0	0	0	0	0	0	0	0	10	R
	3	0	0	0	0	0	0	0	0	0	0	0	10	R
	4	4	3	4	4	5	4	3	4	4	3	38	10	R
	5	0	7	6	6	7	0	0	0	6	6	38	10	R
	6	6	0	10	12	8	7	12	8	14	7	84	10	R
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	10	10	20	22	20	11	15	12	24	16	160	10	R
2.0 g/l	1	0	0	0	0	0	0	0	0	0	0	10	R	
	2	0	0	0	0	0	0	0	0	0	0	10	R	
	3	0	0	0	0	0	0	0	0	0	0	10	R	
	4	0	0	0	0	2	0	0	2	0	0	4	10	R
	5	0	2	3	0	0	4	0	0	2	0	11	10	R
	6	0	0	4	4	0	0	0	3	0	3	14	10	R
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	0	2	7	4	2	4	0	5	2	3	29	10	R
4.0 g/l	1	X	X	X	X	X	X	X	X	X	0	0	R	
	2	-	-	-	-	-	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	-	-	-	-	-	
	4	-	-	-	-	-	-	-	-	-	-	-	-	
	5	-	-	-	-	-	-	-	-	-	-	-	-	
	6	-	-	-	-	-	-	-	-	-	-	-	-	
	7	-	-	-	-	-	-	-	-	-	-	-	-	
	Total	0	0	0	0	0	0	0	0	0	0	0	0	R

Circled fourth brood not used in statistical analysis.  
 7<sup>th</sup> day only used if <60% of the surviving control females have produced their third brood.

# CERIODAPHNIA DUBIA CHRONIC BIOASSAY

Reference Toxicant - NaCl

## Water Chemistries Raw Data Sheet



QA/QC No.: RT-101207

Start Date: 12/07/2010

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		Initial	Final												
Analyst Initials:		R	R	R	R	R	R	R	R	R	R	R	R	R	R
Time of Readings:		1400	1500	1500	1400	1400	1400	1400	1300	1300	1330	1330	1400	—	—
Control	DO	8.4	8.7	8.4	8.6	8.7	8.3	8.2	8.4	8.1	7.9	8.2	7.6	—	—
	pH	8.2	8.3	8.4	7.9	8.2	8.0	8.2	8.0	8.1	7.9	8.2	8.2	—	—
	Temp	25.0	24.3	25.0	24.5	25.0	24.6	24.8	24.7	25.1	25.0	25.3	25.2	—	—
0.25 g/l	DO	8.4	8.8	8.4	8.6	8.6	8.3	8.2	8.4	8.2	7.9	8.2	7.7	—	—
	pH	8.2	8.3	8.3	7.9	8.2	8.0	8.2	8.0	8.1	8.1	8.2	8.2	—	—
	Temp	25.0	24.6	25.0	24.8	25.0	25.0	24.8	24.8	25.1	25.0	25.2	25.2	—	—
0.5 g/l	DO	8.5	8.8	8.4	8.7	8.6	8.4	8.2	8.3	8.2	7.9	8.3	7.6	—	—
	pH	8.2	8.2	8.3	7.9	8.2	8.0	8.2	8.0	8.1	7.9	8.2	8.1	—	—
	Temp	25.0	24.7	25.1	24.8	25.0	25.1	24.9	24.9	25.0	25.1	24.6	25.1	—	—
1.0 g/l	DO	8.5	8.7	8.4	8.7	8.5	8.4	8.2	8.3	8.2	8.3	8.3	7.7	—	—
	pH	8.2	8.2	8.3	7.9	8.2	8.0	8.2	8.0	8.2	7.9	8.2	8.1	—	—
	Temp	24.9	24.6	25.1	24.9	25.1	25.0	24.9	24.9	25.0	25.0	24.5	24.9	—	—
2.0 g/l	DO	8.6	8.6	8.5	8.8	8.3	8.4	8.2	8.5	8.2	8.2	8.2	7.4	—	—
	pH	8.2	8.2	8.3	7.9	8.1	8.0	8.2	8.0	8.2	7.9	8.2	8.1	—	—
	Temp	24.8	24.8	25.2	24.8	25.2	24.9	25.0	24.8	24.9	24.9	24.5	25.2	—	—
4.0 g/l	DO	8.7	8.8	—	—	—	—	—	—	—	—	—	—	—	—
	pH	8.1	8.2	—	—	—	—	—	—	—	—	—	—	—	—
	Temp	24.6	24.8	—	—	—	—	—	—	—	—	—	—	—	—

Dissolved Oxygen (DO) readings are in mg/l O<sub>2</sub>; 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)	325	329	322	6470	3690	3430
Alkalinity (mg/l CaCO <sub>3</sub> )	74	73	73	73	74	74
Hardness (mg/l CaCO <sub>3</sub> )	87	88	89	90	89	89

**Source of Neonates**

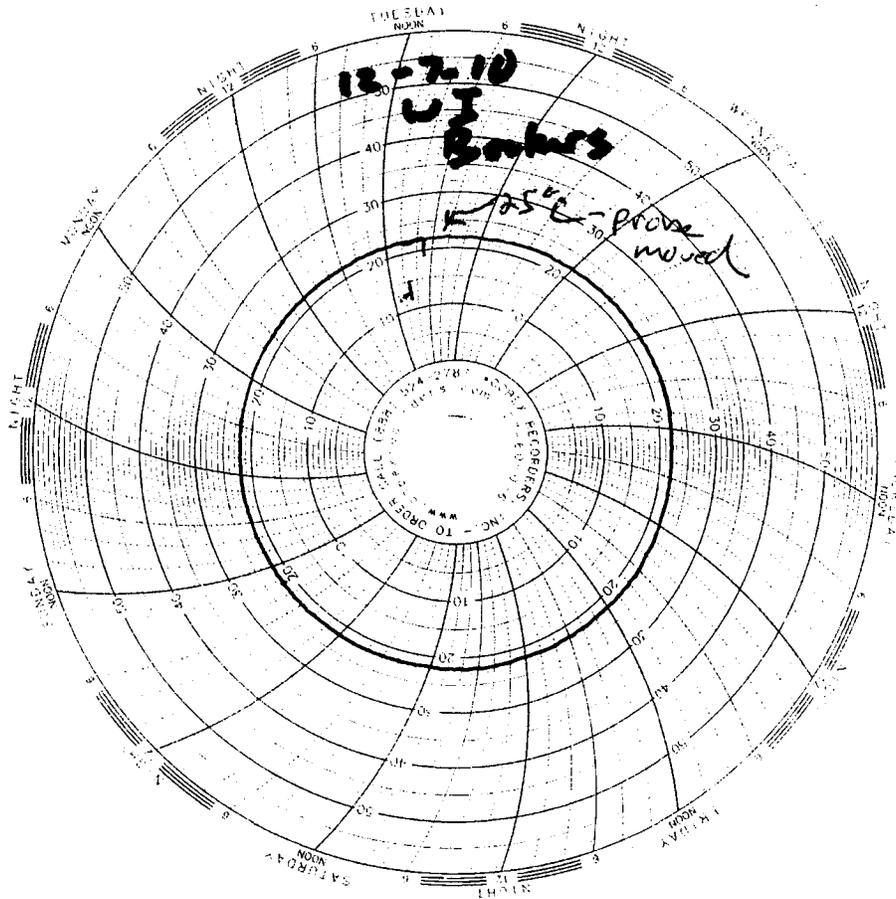
Replicate:	A	B	C	D	E	F	G	H	I	J
Brood ID:	1A	2A	3A	3B	1G	1H	2I	1J	2J	3J

# Test Temperature Chart

Test No: RT-101207

Date Tested: 12/07/10 to 12/13/10

Acceptable Range: 25 $\pm$  1°C





# EBERLINE

SERVICES

EBERLINE ANALYTICAL CORPORATION  
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February 4, 2011

Ms. Debby Wilson  
Test America Irvine  
17461 Derian Ave., Ste. 100  
Irvine, CA 92614

**Reference: Test America-Irvine ITL1890  
Eberline Analytical Report S012307-8645  
Sample Delivery Group 8645**

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for two water samples received under Test America Job No. ITL1890. The samples were received on December 22, 2010.

Please call me, if you have any questions concerning the enclosed report.

Sincerely,

N. Joseph Verville  
Client Services Manager

RM/ljb

Enclosure: Level IV CLP-like Data Package CD

### 1.0 General Comments

Sample delivery group 8645 consists of the analytical results and supporting documentation for two water samples. Sample ID's and reference dates/times are given in the Sample Summary section of the Summary Data report. The sample was received as stated on the chain-of-custody document. Any discrepancies are noted on the Eberline Analytical Sample Receipt Checklist. No holding times were exceeded.

Tritium and gamma analyses were performed on the sample as received i.e. the sample was not filtered. The analytical volumes for all other analyses were subjected to a full nitric acid/hydrofluoric acid dissolution, and analyses were performed on the dissolution volume.

### 2.0 Quality Control

For efficiency of analysis, sample ITL1890-03 was analyzed in a common prep batch with other TA samples. The QC samples from that common prep batch were assigned to SDG 8643 and are reported herein. For efficiency of analysis, sample ITL1881-02 (Trip Blank) was analyzed in a common prep batch with other TA samples. The QC samples from that common prep batch were assigned to SDG 8657 and are reported herein. Quality Control Samples consisted of laboratory control samples (LCS), method blanks, duplicate analyses and matrix spike analyses. Included in the data package are copies of the Eberline Analytical radiometrics data sheets. The radiometrics data sheets for the QC LCS and QC blank samples indicate Eberline Analytical's standard QC aliquot of 1.0 sample; results for those QC types are calculated as pCi/sample. The QC LCS and QC blank sample results reported in the Summary Data Section have been divided by the appropriate method specific aliquot (see the Lab Method Summaries for specific aliquots) in order to make the results comparable to the field sample results. All QC sample results were within required control limits.

### 3.0 Method Errors

The error for each result is an estimate of the significant random uncertainties incurred in the measurement process. These are propagated to each final result. They include the counting (Poisson) uncertainty, as well as those intrinsic errors due to carrier or tracer standardization, aliquoting, counter efficiencies, weights, or volumes. The following method errors were propagated to the count error to calculate the  $2\sigma$  error (Total):

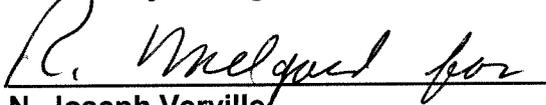
Analysis	Method Error
Gross alpha	20.6%
Gross beta	11.0%
Tritium	10.0%
Sr-90	10.4%
Ra-226	16.4%
Ra-228	10.4%
Uranium, Total	
Gamma Spec.	7.0%

### Analysis Notes

- 3.1 Gross Alpha/Gross Beta Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.2 Tritium Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.3 Strontium-90 Analysis** - The Sr-90 MDA in the QC Method Blank (2.02 pCi/L) was greater than the required detection limit of 2.00 pCi/L. No other problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.4 Radium-226 Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.5 Radium-228 Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.6 Total Uranium Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.7 Gamma Spectroscopy** – The K-40 MDA for the duplicate of sample ITL2724-02 (28.0 pCi/L) was greater than the required detection limit of 25 pCi/L. No other problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

### 5.0 Case Narrative Certification Statement

**"I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data obtained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature."**

  
\_\_\_\_\_  
N. Joseph Verville  
Client Services Manager

2/4/11  
\_\_\_\_\_  
Date

EBERLINE ANALYTICAL  
SDG 8645

SDG 8645  
Contact N. Joseph Verville

Client Test America, Inc.  
Contract ITL1890

S U M M A R Y   D A T A   S E C T I O N

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UB

Prepared by

*R. Muelgard*

Reviewed by

Lab id EAS  
Protocol TA  
Version Ver 1.0  
Form DVD-TOC  
Version 3.06  
Report date 02/04/11

EBERLINE ANALYTICAL

SDG 8645

SDG 8645

Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.

Contract ITL1890

ABOUT THE DATA SUMMARY SECTION

The Data Summary Section of a Data Package has all data, in several useful orders, necessary for first level, routine review of the data package for a Sample Delivery Group (SDG). This section follows the Data Package Narrative, which has an overview of the data package and a discussion of special problems. It is followed by the Raw Data Section, which has full details.

The Data Summary Section has several groups of reports:

SAMPLE SUMMARIES

The Sample and QC Summary Reports show all samples, including QC samples, reported in one SDG. These reports cross-reference client and lab sample identifiers.

PREPARATION BATCH SUMMARY

The Preparation Batch Summary Report shows all preparation batches (lab groupings reflecting how work was organized) relevant to the reported SDG with information necessary to check the completeness and consistency of the SDG.

WORK SUMMARY

The Work Summary Report shows all samples and work done on them relevant to the reported SDG.

METHOD BLANKS

The Method Blank Reports, one for each Method Blank relevant to the SDG, show all results and primary supporting information for the blanks.

LAB CONTROL SAMPLES

The Lab Control Sample Reports, one for each Lab Control Sample relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

DUPLICATES

REPORT GUIDES

Page 1

SUMMARY DATA SECTION

Page 1

Lab id EAS

Protocol TA

Version Ver 1.0

Form DVD-RG

Version 3.06

Report date 02/04/11

EBERLINE ANALYTICAL  
SDG 8645

SDG 8645  
Contact N. Joseph Verville

GUIDE , c o n t .

Client Test America, Inc.  
Contract ITL1890

ABOUT THE DATA SUMMARY SECTION

The Duplicate Reports, one for each Duplicate and Original sample pair relevant to the SDG, show all results, differences and primary supporting information for these QC samples.

MATRIX SPIKES

The Matrix Spike Reports, one for each Spiked and Original sample pair relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

DATA SHEETS

The Data Sheet Reports, one for each client sample in the SDG, show all results and primary supporting information for these samples.

METHOD SUMMARIES

The Method Summary Reports, one for each test used in the SDG, show all results, QC and method performance data for one analyte on one or two pages. (A test is a short code for the method used to do certain work to the client's specification.)

REPORT GUIDES

The Report Guides, one for each of the above groups of reports, have documentation on how to read the associated reports.

REPORT GUIDES

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Page 2

Lab id EAS  
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Report date 02/04/11

**EBERLINE ANALYTICAL**

SDG 8645

**LAB SAMPLE SUMMARY**

SDG 8645  
 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract ITL1890

LAB	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S012300-03	Lab Control Sample		WATER				
S012300-04	Method Blank		WATER				
S012300-05	Duplicate (S012300-01)	Boeing - SSFL	WATER				12/18/10 17:10
S012307-01	ITL1890-03	Boeing - SSFL	WATER			ITL1890	12/20/10 12:30
S012307-02	ITL1890-04 (TRIP-BLANK)	Boeing - SSFL	WATER			ITL1890	12/19/10 14:10
S101004-02	Lab Control Sample		WATER				
S101004-03	Method Blank		WATER				
S101004-04	Duplicate (S101004-01)	Boeing - SSFL	WATER				12/30/10 02:55

LAB SUMMARY

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SUMMARY DATA SECTION

Page 3

Lab id EAS  
 Protocol TA  
 Version Ver 1.0  
 Form DVD-LS  
 Version 3.06  
 Report date 02/04/11

**EBERLINE ANALYTICAL**

SDG 8645

SDG 8645  
 Contact N. Joseph Verville

**QC SUMMARY**

Client Test America, Inc.  
 Contract ITL1890

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	LAB COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
8643		Method Blank	WATER						S012300-04	8643-004
		Lab Control Sample	WATER						S012300-03	8643-003
		Duplicate (S012300-01)	WATER		9.5 L		12/21/10	3	S012300-05	8643-005
8645	ITL1890	ITL1890-03	WATER		9.5 L		12/22/10	2	S012307-01	8645-001
		ITL1890-04 (TRIP-BLANK)	WATER		9.5 L		12/22/10	3	S012307-02	8645-002
8657		Method Blank	WATER						S101004-03	8657-003
		Lab Control Sample	WATER						S101004-02	8657-002
		Duplicate (S101004-01)	WATER		10.0 L		12/31/10	1	S101004-04	8657-004

QC SUMMARY

Page 1

SUMMARY DATA SECTION

Page 4

Lab id EAS  
 Protocol TA  
 Version Ver 1.0  
 Form DVD-QS  
 Version 3.06  
 Report date 02/04/11

# EBERLINE ANALYTICAL

SDG 8645

SDG 8645  
 Contact N. Joseph Verville

## PREP BATCH SUMMARY

Client Test America, Inc.  
 Contract ITL1890

TEST	MATRIX	METHOD	PREPARATION ERROR		PLANCHETS ANALYZED				QUALIFIERS
			BATCH	2σ %	CLIENT	MORE	RE BLANK	LCS	
Beta Counting									
AC	WATER	Radium-228 in Water	7258-155	10.4	1		1	1	1/0/1
			7271-039	10.4	1		1	1	1/0/1
SR									
SR	WATER	Strontium-90 in Water	7258-155	10.4	1		1	1	1/0/1
			7271-039	10.4	1		1	1	1/0/1
Gas Proportional Counting									
80A	WATER	Gross Alpha in Water	7258-155	20.6	1		1	1	1/0/1
			7271-039	20.6	1		1	1	1/0/1
80B	WATER	Gross Beta in Water	7258-155	11.0	1		1	1	1/0/1
			7271-039	11.0	1		1	1	1/0/1
Gamma Spectroscopy									
GAM	WATER	Gamma Emitters in Water	7258-155	7.0	1		1	1	1/0/1
			7271-039	7.0	1		1	1	1/0/1
Kinetic Phosphorimetry, ug									
U_T	WATER	Uranium, Total	7258-155		1		1	1	1/0/1
			7271-039		1		1	1	1/0/1
Liquid Scintillation Counting									
H	WATER	Tritium in Water	7258-155	10.0	1		1	1	1/0/1
Radon Counting									
RA	WATER	Radium-226 in Water	7258-155	16.4	1		1	1	1/0/1
			7271-039	16.4	1		1	1	1/0/1

Blank, LCS, Duplicate and Spike planchets are those in the same preparation batch as some Client sample.  
 In counts like 'a/b/c', 'a' = QC planchets, 'b' = Originals in this SDG, 'c' = Originals in other SDGs.

Lab id EAS  
 Protocol TA  
 Version Ver 1.0  
 Form DVD-PBS  
 Version 3.06  
 Report date 02/04/11

**EBERLINE ANALYTICAL**

SDG 8645

SDG 8645

Contact N. Joseph Verville

Client Test America, Inc.

Contract ITL1890

**LAB WORK SUMMARY**

LAB SAMPLE	CLIENT SAMPLE ID				SUF-					
COLLECTED	LOCATION	MATRIX		TEST	FIX	ANALYZED	REVIEWED	BY	METHOD	
RECEIVED	CUSTODY	SAS no	PLANCHET							
S012300-03	Lab Control Sample	WATER	8643-003	80A/80		01/04/11	01/17/11	BW	Gross Alpha in Water	
			8643-003	80B/80		01/04/11	01/17/11	BW	Gross Beta in Water	
			8643-003	AC		01/21/11	01/27/11	BW	Radium-228 in Water	
			8643-003	GAM		12/29/10	01/14/11	MWT	Gamma Emitters in Water	
			8643-003	H		01/13/11	01/18/11	BW	Tritium in Water	
			8643-003	RA		01/06/11	01/24/11	BW	Radium-226 in Water	
			8643-003	SR		01/06/11	01/26/11	BW	Strontium-90 in Water	
			8643-003	U_T		01/18/11	01/21/11	BW	Uranium, Total	
S012300-04	Method Blank	WATER	8643-004	80A/80		01/04/11	01/17/11	BW	Gross Alpha in Water	
			8643-004	80B/80		01/04/11	01/17/11	BW	Gross Beta in Water	
			8643-004	AC		01/21/11	01/27/11	BW	Radium-228 in Water	
			8643-004	GAM		12/30/10	01/14/11	MWT	Gamma Emitters in Water	
			8643-004	H		01/13/11	01/18/11	BW	Tritium in Water	
			8643-004	RA		01/06/11	01/24/11	BW	Radium-226 in Water	
			8643-004	SR		01/06/11	01/26/11	BW	Strontium-90 in Water	
			8643-004	U_T		01/18/11	01/21/11	BW	Uranium, Total	
S012300-05	Duplicate (S012300-01) 12/18/10 Boeing - SSFL 12/21/10	WATER	8643-005	80A/80		01/04/11	01/17/11	BW	Gross Alpha in Water	
			8643-005	80B/80		01/04/11	01/17/11	BW	Gross Beta in Water	
			8643-005	AC		01/21/11	01/27/11	BW	Radium-228 in Water	
			8643-005	GAM		12/30/10	01/14/11	MWT	Gamma Emitters in Water	
			8643-005	H		01/13/11	01/18/11	BW	Tritium in Water	
			8643-005	RA		01/06/11	01/24/11	BW	Radium-226 in Water	
			8643-005	SR		01/06/11	01/26/11	BW	Strontium-90 in Water	
			8643-005	U_T		01/18/11	01/21/11	BW	Uranium, Total	
S012307-01	ITL1890-03 12/20/10 Boeing - SSFL 12/22/10 ITL1890	WATER	8645-001	80A/80		01/04/11	01/17/11	BW	Gross Alpha in Water	
			8645-001	80B/80		01/04/11	01/17/11	BW	Gross Beta in Water	
			8645-001	AC		01/21/11	01/27/11	BW	Radium-228 in Water	
			8645-001	GAM		12/31/10	01/14/11	MWT	Gamma Emitters in Water	
			8645-001	H		01/13/11	01/18/11	BW	Tritium in Water	
			8645-001	RA		01/24/11	01/24/11	BW	Radium-226 in Water	
			8645-001	SR		01/06/11	01/26/11	BW	Strontium-90 in Water	
			8645-001	U_T		01/20/11	01/21/11	BW	Uranium, Total	

WORK SUMMARY

Page 1

SUMMARY DATA SECTION

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Lab id EAS

Protocol TA

Version Ver 1.0

Form DVD-LWS

Version 3.06

Report date 02/04/11

**EBERLINE ANALYTICAL**

SDG 8645

SDG 8645  
 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract ITL1890

**WORK SUMMARY, cont.**

LAB SAMPLE	CLIENT SAMPLE ID				SUF-					
COLLECTED	LOCATION		MATRIX		FIX	ANALYZED	REVIEWED	BY	METHOD	
RECEIVED	CUSTODY	SAS no		PLANCHET	TEST					
S012307-02	ITL1890-04 (TRIP-BLANK)			8645-002	80A/80	01/14/11	01/17/11	BW	Gross Alpha in Water	
12/19/10	Boeing - SSFL		WATER	8645-002	80B/80	01/14/11	01/17/11	BW	Gross Beta in Water	
12/22/10	ITL1890			8645-002	AC	01/26/11	01/27/11	BW	Radium-228 in Water	
				8645-002	GAM	01/13/11	01/14/11	MWT	Gamma Emitters in Water	
				8645-002	RA	01/24/11	01/24/11	BW	Radium-226 in Water	
				8645-002	SR	01/24/11	01/26/11	BW	Strontium-90 in Water	
				8645-002	U_T	01/20/11	01/21/11	BW	Uranium, Total	
S101004-02	Lab Control Sample			8657-002	80A/80	01/11/11	01/12/11	BW	Gross Alpha in Water	
			WATER	8657-002	80B/80	01/11/11	01/12/11	BW	Gross Beta in Water	
				8657-002	AC	01/26/11	01/31/11	BW	Radium-228 in Water	
				8657-002	GAM	01/10/11	01/31/11	MWT	Gamma Emitters in Water	
				8657-002	RA	01/21/11	01/24/11	BW	Radium-226 in Water	
				8657-002	SR	01/26/11	01/31/11	BW	Strontium-90 in Water	
				8657-002	U_T	01/20/11	01/24/11	BW	Uranium, Total	
S101004-03	Method Blank			8657-003	80A/80	01/11/11	01/12/11	BW	Gross Alpha in Water	
			WATER	8657-003	80B/80	01/11/11	01/12/11	BW	Gross Beta in Water	
				8657-003	AC	01/26/11	01/31/11	BW	Radium-228 in Water	
				8657-003	GAM	01/10/11	01/31/11	MWT	Gamma Emitters in Water	
				8657-003	RA	01/21/11	01/24/11	BW	Radium-226 in Water	
				8657-003	SR	01/26/11	01/31/11	BW	Strontium-90 in Water	
				8657-003	U_T	01/20/11	01/24/11	BW	Uranium, Total	
S101004-04	Duplicate (S101004-01)			8657-004	80A/80	01/11/11	01/12/11	BW	Gross Alpha in Water	
12/30/10	Boeing - SSFL		WATER	8657-004	80B/80	01/11/11	01/12/11	BW	Gross Beta in Water	
12/31/10				8657-004	AC	01/26/11	01/31/11	BW	Radium-228 in Water	
				8657-004	GAM	01/11/11	01/31/11	MWT	Gamma Emitters in Water	
				8657-004	RA	01/21/11	01/24/11	BW	Radium-226 in Water	
				8657-004	SR	01/26/11	01/31/11	BW	Strontium-90 in Water	
				8657-004	U_T	01/20/11	01/24/11	BW	Uranium, Total	

**WORK SUMMARY**

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Lab id EAS  
 Protocol TA  
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EBERLINE ANALYTICAL

SDG 8645

WORK SUMMARY, cont.

SDG 8645

Contact N. Joseph Verville

Client Test America, Inc.

Contract ITL1890

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAS no	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP SPIKE	TOTAL
80A/80		Gross Alpha in Water	900.0	2			2	2	2	8
80B/80		Gross Beta in Water	900.0	2			2	2	2	8
AC		Radium-228 in Water	904.0	2			2	2	2	8
GAM		Gamma Emitters in Water	901.1	2			2	2	2	8
H		Tritium in Water	906.0	1			1	1	1	4
RA		Radium-226 in Water	903.1	2			2	2	2	8
SR		Strontium-90 in Water	905.0	2			2	2	2	8
U_T		Uranium, Total	D5174	2			2	2	2	8
TOTALS				15			15	15	15	60

WORK SUMMARY

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Lab id EAS

Protocol TA

Version Ver 1.0

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Version 3.06

Report date 02/04/11

**EBERLINE ANALYTICAL**  
SDG 8645

8643-004

Method Blank

**METHOD BLANK**

SDG <u>8645</u> Contact <u>N. Joseph Verville</u>	Client <u>Test America, Inc.</u> Contract <u>ITL1890</u>
Lab sample id <u>S012300-04</u> Dept sample id <u>8643-004</u>	Client sample id <u>Method Blank</u> Material/Matrix _____ <u>WATER</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	-0.006	0.27	0.617	3.00	U	80A
Gross Beta	12587472	0.047	0.56	0.950	4.00	U	80B
Tritium	10028178	-94.9	170	294	500	U	H
Radium-226	13982633	0.052	0.48	0.888	1.00	U	RA
Radium-228	15262201	0.032	0.17	0.396	1.00	U	AC
Strontium-90	10098972	-0.110	0.53	1.27	2.00	U	SR
Uranium, Total		0	0.008	0.019	1.00	U	U_T
Potassium-40	13966002	U		24.4	25.0	U	GAM
Cesium-137	10045973	U		2.00	20.0	U	GAM

QC-BLANK #76649

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
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Report date <u>02/04/11</u>

**METHOD BLANKS**

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**EBERLINE ANALYTICAL**

SDG 8645

8643-005

ITL1881-02

**DUPLICATE**

SDG <u>8645</u> Contact <u>N. Joseph Verville</u> DUPLICATE Lab sample id <u>S012300-05</u> Dept sample id <u>8643-005</u>	ORIGINAL Lab sample id <u>S012300-01</u> Dept sample id <u>8643-001</u> Received <u>12/21/10</u>	Client <u>Test America, Inc.</u> Contract <u>ITL1890</u> Client sample id <u>ITL1881-02</u> Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u> Collected/Volume <u>12/18/10 17:10</u> <u>9.5 L</u> Chain of custody id <u>ITL1881</u>
--	---	---

ANALYTE	DUPLICATE		MDA		RDL		QUALI-		ORIGINAL		MDA		QUALI-		RPD		3σ		DER	
	pCi/L	2σ ERR (COUNT)	pCi/L	pCi/L	pCi/L	TEST	FIERS	TEST	pCi/L	2σ ERR (COUNT)	pCi/L	FIERS	%	TOT	σ					
Gross Alpha	1.05	0.34	0.322	3.00	J	80A			1.22	0.35	0.326	J	15	78	0.6					
Gross Beta	1.72	0.54	0.800	4.00	J	80B			1.61	0.57	0.853	J	7	74	0.3					
Tritium	-140	160	295	500	U	H			-81.5	170	294	U	-		0.5					
Radium-226	0.840	0.40	0.558	1.00	J	RA			0.332	0.37	0.604	U	87	144	1.8					
Radium-228	0.187	0.20	0.435	1.00	U	AC			0.118	0.21	0.459	U	-		0.5					
Strontium-90	-0.065	0.41	0.986	2.00	U	SR			0.012	0.48	1.12	U	-		0.2					
Uranium, Total	0.102	0.014	0.019	1.00	J	U_T			0.103	0.014	0.019	J	1	29	0.1					
Potassium-40	U		20.3	25.0	U	GAM			U		17.8	U	-		0.2					
Cesium-137	U		1.86	20.0	U	GAM			U		1.28	U	-		0.5					

QC-DUP#1 76650

**DUPLICATES**

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Protocol <u>TA</u>
Version <u>Ver 1.0</u>
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**EBERLINE ANALYTICAL**

SDG 8645

8657-004

ITL2724-02

**DUPLICATE**

SDG <u>8645</u> Contact <u>N. Joseph Verville</u> DUPLICATE Lab sample id <u>S101004-04</u> Dept sample id <u>8657-004</u>	ORIGINAL Lab sample id <u>S101004-01</u> Dept sample id <u>8657-001</u> Received <u>12/31/10</u>	Client <u>Test America, Inc.</u> Contract <u>ITL1890</u> Client sample id <u>ITL2724-02</u> Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u> Collected/Volume <u>12/30/10 02:55</u> <u>10.0 L</u> Chain of custody id <u>ITL2724</u>
--	---	--

ANALYTE	DUPLICATE		MDA		RDL		QUALI-		ORIGINAL		MDA		QUALI-		RPD		3σ		DER	
	pCi/L	2σ ERR (COUNT)	pCi/L	pCi/L	pCi/L	FIERS	TEST	pCi/L	2σ ERR (COUNT)	pCi/L	FIERS	%	TOT	σ						
Gross Alpha	0.672	0.31	0.372	3.00	J	80A	0.336	0.29	0.412	U	67	134	1.5							
Gross Beta	1.60	0.58	0.884	4.00	J	80B	1.23	0.54	0.835	J	26	87	0.9							
Tritium	N.A.			500		H	N.A.													
Radium-226	0.082	0.32	0.566	1.00	U	RA	0.146	0.31	0.541	U	-		0.3							
Radium-228	0.063	0.29	0.734	1.00	U	AC	0.030	0.21	0.458	U	-		0.2							
Strontium-90	-0.236	0.71	1.75	2.00	U	SR	-0.099	0.80	1.94	U	-		0.3							
Uranium, Total	0.082	0.012	0.017	1.00	J	U_T	0.093	0.013	0.017	J	13	30	1.2							
Potassium-40	U		<u>28.0</u>	25.0	U	GAM	U		16.2	U	-		0.7							
Cesium-137	U		1.50	20.0	U	GAM	U		1.25	U	-		0.3							

QC-DUP#1 76736

**DUPLICATES**

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Protocol <u>TA</u>
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**EBERLINE ANALYTICAL**  
SDG 8645

8645-001

ITL1890-03

**DATA SHEET**

SDG <u>8645</u>	Client <u>Test America, Inc.</u>
Contact <u>N. Joseph Verville</u>	Contract <u>ITL1890</u>
Lab sample id <u>S012307-01</u>	Client sample id <u>ITL1890-03</u>
Dept sample id <u>8645-001</u>	Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u>
Received <u>12/22/10</u>	Collected/Volume <u>12/20/10 12:30</u> <u>9.5 L</u>
	Chain of custody id <u>ITL1890</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	1.72	0.51	0.486	3.00	J	80A
Gross Beta	12587472	4.24	0.65	0.852	4.00		80B
Tritium	10028178	-133	170	298	500	U	H
Radium-226	13982633	0.307	0.32	0.518	1.00	U	RA
Radium-228	15262201	0.298	0.19	0.439	1.00	U	AC
Strontium-90	10098972	-0.202	0.40	1.05	2.00	U	SR
Uranium, Total		0.279	0.031	0.019	1.00	J	U_T
Potassium-40	13966002	U		13.8	25.0	U	GAM
Cesium-137	10045973	U		1.07	20.0	U	GAM

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>02/04/11</u>

EBERLINE ANALYTICAL  
SDG 8645

8645-002

ITL1890-04 (TRIP-BLANK)

DATA SHEET

SDG <u>8645</u>	Client <u>Test America, Inc.</u>
Contact <u>N. Joseph Verville</u>	Contract <u>ITL1890</u>
Lab sample id <u>S012307-02</u>	Client sample id <u>ITL1890-04 (TRIP-BLANK)</u>
Dept sample id <u>8645-002</u>	Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u>
Received <u>12/22/10</u>	Collected/Volume <u>12/19/10 14:10</u> <u>9.5 L</u>
	Chain of custody id <u>ITL1890</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	0.058	0.13	0.263	3.00	U	80A
Gross Beta	12587472	-0.299	0.44	0.755	4.00	U	80B
Radium-226	13982633	0.357	0.30	0.482	1.00	U	RA
Radium-228	15262201	0.102	0.19	0.409	1.00	U	AC
Strontium-90	10098972	0.037	0.31	0.632	2.00	U	SR
Uranium, Total		0	0.007	0.017	1.00	U	U_T
Potassium-40	13966002	U		14.4	25.0	U	GAM
Cesium-137	10045973	U		1.32	20.0	U	GAM

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>02/04/11</u>

**EBERLINE ANALYTICAL**

SDG 8645

Client <u>Test America, Inc.</u>
Contract <u>ITL1890</u>

Test <u>AC</u> Matrix <u>WATER</u>
SDG <u>8645</u>
Contact <u>N. Joseph Verville</u>

**LAB METHOD SUMMARY**

RADIUM-228 IN WATER  
BETA COUNTING

**RESULTS**

LAB	RAW	SUF-			
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID		Radium-228
Preparation batch 7258-155					
S012300-03		8643-003	Lab Control Sample		ok
S012300-04		8643-004	Method Blank		U
S012300-05		8643-005	Duplicate (S012300-01)		- U
S012307-01		8645-001	ITL1890-03		U
Preparation batch 7271-039					
S012307-02		8645-002	ITL1890-04 (TRIP-BLANK)		U
S101004-02		8657-002	Lab Control Sample		ok
S101004-03		8657-003	Method Blank		U
S101004-04		8657-004	Duplicate (S101004-01)		- U
Nominal values and limits from method			RDLs (pCi/L)		1.00

**METHOD PERFORMANCE**

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7258-155      2σ prep error 10.4 %      Reference Lab Notebook No. 7258 pg. 155															
S012300-03		Lab Control Sample	0.391	1.80			88		150				01/21/11	01/21	GRB-202
S012300-04		Method Blank	0.396	1.80			85		150				01/21/11	01/21	GRB-203
S012300-05		Duplicate (S012300-01)	0.435	1.80			78		150			34	01/21/11	01/21	GRB-204
S012307-01		ITL1890-03	0.439	1.80			80		150			32	01/21/11	01/21	GRB-230
Preparation batch 7271-039      2σ prep error 10.4 %      Reference Lab Notebook No. 7271 pg.039															
S012307-02		ITL1890-04 (TRIP-BLANK)	0.409	1.80			83		150			38	01/26/11	01/26	GRB-231
S101004-02		Lab Control Sample	0.438	1.80			85		150				01/26/11	01/26	GRB-204
S101004-03		Method Blank	0.717	1.80			88		150				01/26/11	01/26	GRB-229
S101004-04		Duplicate (S101004-01)	0.734	1.80			78		150			27	01/26/11	01/26	GRB-230
Nominal values and limits from method			1.00	1.80			30-105		50			180			

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-LMS</u>
Version <u>3.06</u>
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METHOD SUMMARIES

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EBERLINE ANALYTICAL

SDG 8645

LAB METHOD SUMMARY, cont.

RADIUM-228 IN WATER  
BETA COUNTING

Test AC Matrix \_\_\_\_\_  
SDG 8645  
Contact N. Joseph Verville

Client Test America, Inc.  
Contract ITL1890

PROCEDURES REFERENCE 904.0  
DWP-894 Sequential Separation of Actinium-228 and  
Radium-226 in Drinking Water (>1 Liter Aliquot),  
rev 5

AVERAGES + 2 SD MDA 0.495 + 0.287  
FOR 8 SAMPLES YIELD 83 + 8

METHOD SUMMARIES

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Lab id EAS  
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**EBERLINE ANALYTICAL**

SDG 8645

**LAB METHOD SUMMARY**

STRONTIUM-90 IN WATER

BETA COUNTING

Test SR Matrix WATER  
 SDG 8645  
 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract ITL1890

**RESULTS**

LAB	RAW	SUF-			
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Strontium-90	
Preparation batch 7258-155					
S012300-03		8643-003	Lab Control Sample	ok	
S012300-04		8643-004	Method Blank	U	
S012300-05		8643-005	Duplicate (S012300-01)	-	U
S012307-01		8645-001	ITL1890-03	U	
Preparation batch 7271-039					
S012307-02		8645-002	ITL1890-04 (TRIP-BLANK)	U	
S101004-02		8657-002	Lab Control Sample	ok	
S101004-03		8657-003	Method Blank	U	
S101004-04		8657-004	Duplicate (S101004-01)	-	U
Nominal values and limits from method			RDLs (pCi/L)	2.00	

**METHOD PERFORMANCE**

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7258-155      2σ prep error 10.4 %      Reference Lab Notebook No. 7258 pg. 155															
S012300-03		Lab Control Sample	0.850	0.500			86		50				01/07/11	<u>01/06</u>	GRB-206
S012300-04		Method Blank	1.27	0.500			69		50				01/07/11	<u>01/06</u>	GRB-221
S012300-05		Duplicate (S012300-01)	0.986	0.500			85		50			20	01/07/11	<u>01/06</u>	GRB-222
S012307-01		ITL1890-03	1.05	0.500			78		50			17	01/06/11	<u>01/06</u>	GRB-222
Preparation batch 7271-039      2σ prep error 10.4 %      Reference Lab Notebook No. 7271 pg.039															
S012307-02		ITL1890-04 (TRIP-BLANK)	0.632	0.500			78		100			36	01/19/11	<u>01/24</u>	GRB-222
S101004-02		Lab Control Sample	1.12	0.500			59		50				01/19/11	<u>01/26</u>	GRB-221
S101004-03		Method Blank	<u>2.02</u>	0.500			44		50				01/19/11	<u>01/26</u>	GRB-230
S101004-04		Duplicate (S101004-01)	1.75	0.500			55		50			27	01/19/11	<u>01/26</u>	GRB-231
Nominal values and limits from method			2.00	0.500			30-105		50			180			

METHOD SUMMARIES

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EBERLINE ANALYTICAL

SDG 8645

LAB METHOD SUMMARY, cont.

STRONTIUM-90 IN WATER

BETA COUNTING

Test SR Matrix \_\_\_\_\_  
SDG 8645  
Contact N. Joseph Verville

Client Test America, Inc.  
Contract ITL1890

PROCEDURES REFERENCE 905.0  
DWP-380 Strontium in Drinking Water, rev 8

AVERAGES  $\pm$  2 SD MDA 1.21  $\pm$  0.925  
FOR 8 SAMPLES YIELD 69  $\pm$  30

Lab id EAS  
Protocol TA  
Version Ver 1.0  
Form DVD-LMS  
Version 3.06  
Report date 02/04/11

**EBERLINE ANALYTICAL**

SDG 8645

**LAB METHOD SUMMARY**

GROSS ALPHA IN WATER

GAS PROPORTIONAL COUNTING

Test 80A Matrix WATER  
 SDG 8645  
 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract ITL1890

**RESULTS**

LAB	RAW	SUF-			Gross Alpha
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID		
Preparation batch 7258-155					
S012300-03	80	8643-003	Lab Control Sample	ok	
S012300-04	80	8643-004	Method Blank	U	
S012300-05	80	8643-005	Duplicate (S012300-01)	ok J	
S012307-01	80	8645-001	ITL1890-03	1.72 J	
Preparation batch 7271-039					
S012307-02	80	8645-002	ITL1890-04 (TRIP-BLANK)	U	
S101004-02	80	8657-002	Lab Control Sample	ok	
S101004-03	80	8657-003	Method Blank	U	
S101004-04	80	8657-004	Duplicate (S101004-01)	ok J	
Nominal values and limits from method			RDLs (pCi/L)	3.00	

**METHOD PERFORMANCE**

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	RESID	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	mg	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7258-155      2σ prep error 20.6 %      Reference Lab Notebook No. 7258 pg. 155															
S012300-03	80	Lab Control Sample	0.575	0.250			54		400				12/31/10	01/04	GRB-103
S012300-04	80	Method Blank	0.617	0.250			56		400				12/31/10	01/04	GRB-104
S012300-05	80	Duplicate (S012300-01)	0.322	0.300			14		400			17	12/31/10	01/04	GRB-109
S012307-01	80	ITL1890-03	0.486	0.300			49		400			15	12/31/10	01/04	GRB-112
Preparation batch 7271-039      2σ prep error 20.6 %      Reference Lab Notebook No. 7271 pg.039															
S012307-02	80	ITL1890-04 (TRIP-BLANK)	0.263	0.300			0		400			26	01/14/11	01/14	GRB-104
S101004-02	80	Lab Control Sample	0.821	0.250			62		400				01/11/11	01/11	GRB-214
S101004-03	80	Method Blank	0.620	0.250			61		400				01/11/11	01/11	GRB-216
S101004-04	80	Duplicate (S101004-01)	0.372	0.300			20		400			12	01/11/11	01/11	GRB-105
Nominal values and limits from method			3.00	0.250			0-200		100			180			

METHOD SUMMARIES

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Lab id EAS  
 Protocol TA  
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 Form DVD-LMS  
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EBERLINE ANALYTICAL

SDG 8645

LAB METHOD SUMMARY, cont.

GROSS ALPHA IN WATER  
GAS PROPORTIONAL COUNTING

Test 80A Matrix \_\_\_\_\_  
SDG 8645  
Contact N. Joseph Verville

Client Test America, Inc.  
Contract ITL1890

PROCEDURES REFERENCE 900.0  
DWP-121 Gross Alpha and Gross Beta in Drinking Water,  
rev 10

AVERAGES  $\pm$  2 SD MDA 0.510  $\pm$  0.371  
FOR 8 SAMPLES RESIDUE 40  $\pm$  49

Lab id EAS  
Protocol TA  
Version Ver 1.0  
Form DVD-LMS  
Version 3.06  
Report date 02/04/11

**EBERLINE ANALYTICAL**

SDG 8645

**LAB METHOD SUMMARY**

GROSS BETA IN WATER

GAS PROPORTIONAL COUNTING

Test 80B Matrix WATER  
 SDG 8645  
 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract ITL1890

**RESULTS**

LAB	RAW	SUF-			
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta	
Preparation batch 7258-155					
S012300-03	80	8643-003	Lab Control Sample	ok	
S012300-04	80	8643-004	Method Blank	U	
S012300-05	80	8643-005	Duplicate (S012300-01)	ok J	
S012307-01	80	8645-001	ITL1890-03	4.24	
Preparation batch 7271-039					
S012307-02	80	8645-002	ITL1890-04 (TRIP-BLANK)	U	
S101004-02	80	8657-002	Lab Control Sample	ok	
S101004-03	80	8657-003	Method Blank	U	
S101004-04	80	8657-004	Duplicate (S101004-01)	ok J	
Nominal values and limits from method			RDLs (pCi/L)	4.00	

**METHOD PERFORMANCE**

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	RESID	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	mg	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7258-155			2σ prep error 11.0 % Reference Lab Notebook No. 7258 pg. 155												
S012300-03	80	Lab Control Sample	1.23	0.250			54		400				12/31/10	01/04	GRB-103
S012300-04	80	Method Blank	0.950	0.250			56		400				12/31/10	01/04	GRB-104
S012300-05	80	Duplicate (S012300-01)	0.800	0.300			14		400			17	12/31/10	01/04	GRB-109
S012307-01	80	ITL1890-03	0.852	0.300			49		400			15	12/31/10	01/04	GRB-112
Preparation batch 7271-039			2σ prep error 11.0 % Reference Lab Notebook No. 7271 pg.039												
S012307-02	80	ITL1890-04 (TRIP-BLANK)	0.755	0.300			0		400			26	01/14/11	01/14	GRB-104
S101004-02	80	Lab Control Sample	1.13	0.250			62		400				01/11/11	01/11	GRB-214
S101004-03	80	Method Blank	1.11	0.250			61		400				01/11/11	01/11	GRB-216
S101004-04	80	Duplicate (S101004-01)	0.884	0.300			20		400			12	01/11/11	01/11	GRB-105
Nominal values and limits from method			4.00	0.250			0-200		100			180			

METHOD SUMMARIES

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SUMMARY DATA SECTION

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Lab id EAS  
 Protocol TA  
 Version Ver 1.0  
 Form DVD-LMS  
 Version 3.06  
 Report date 02/04/11

EBERLINE ANALYTICAL

SDG 8645

Test 80B Matrix \_\_\_\_\_  
SDG 8645  
Contact N. Joseph Verville

LAB METHOD SUMMARY, cont.

GROSS BETA IN WATER  
GAS PROPORTIONAL COUNTING

Client Test America, Inc.  
Contract ITL1890

PROCEDURES REFERENCE 900.0  
DWP-121 Gross Alpha and Gross Beta in Drinking Water,  
rev 10

AVERAGES  $\pm$  2 SD MDA 0.964  $\pm$  0.346  
FOR 8 SAMPLES RESIDUE 40  $\pm$  49

Lab id EAS  
Protocol TA  
Version Ver 1.0  
Form DVD-LMS  
Version 3.06  
Report date 02/04/11

**EBERLINE ANALYTICAL**

SDG 8645

Test GAM Matrix WATER  
 SDG 8645  
 Contact N. Joseph Verville

**LAB METHOD SUMMARY**

GAMMA EMITTERS IN WATER

GAMMA SPECTROSCOPY

Client Test America, Inc.  
 Contract ITL1890

**RESULTS**

LAB	RAW	SUF-				
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt-60	Cesium-137	
Preparation batch 7258-155						
S012300-03		8643-003	Lab Control Sample	ok	ok	
S012300-04		8643-004	Method Blank		U	
S012300-05		8643-005	Duplicate (S012300-01)		- U	
S012307-01		8645-001	ITL1890-03		U	
Preparation batch 7271-039						
S012307-02		8645-002	ITL1890-04 (TRIP-BLANK)		U	
S101004-02		8657-002	Lab Control Sample	ok	ok	
S101004-03		8657-003	Method Blank		U	
S101004-04		8657-004	Duplicate (S101004-01)		- U	
Nominal values and limits from method			RDLs (pCi/L)	10.0	20.0	

**METHOD PERFORMANCE**

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7258-155			2σ prep error 7.0 %			Reference Lab Notebook No. 7258 pg. 155									
S012300-03		Lab Control Sample	2.00										12/22/10	12/29	01,04,00
S012300-04		Method Blank	2.00										12/22/10	12/30	01,01,00
S012300-05		Duplicate (S012300-01)	2.00									12	12/22/10	12/30	01,02,00
S012307-01		ITL1890-03	2.00									11	12/22/10	12/31	MB,08,00
Preparation batch 7271-039			2σ prep error 7.0 %			Reference Lab Notebook No. 7271 pg.039									
S012307-02		ITL1890-04 (TRIP-BLANK)	2.00									25	01/10/11	01/13	01,01,00
S101004-02		Lab Control Sample	2.00										01/10/11	01/10	MB,05,00
S101004-03		Method Blank	2.00										01/10/11	01/10	MB,08,00
S101004-04		Duplicate (S101004-01)	2.00									12	01/10/11	01/11	01,02,00
Nominal values and limits from method			6.00	2.00					400			180			

METHOD SUMMARIES

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SUMMARY DATA SECTION

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Lab id EAS  
 Protocol TA  
 Version Ver 1.0  
 Form DVD-LMS  
 Version 3.06  
 Report date 02/04/11

EBERLINE ANALYTICAL

SDG 8645

LAB METHOD SUMMARY, cont.

GAMMA EMITTERS IN WATER

GAMMA SPECTROSCOPY

Test GAM Matrix \_\_\_\_\_

SDG 8645

Contact N. Joseph Verville

Client Test America, Inc.

Contract ITL1890

PROCEDURES	REFERENCE	901.1
	DWP-100	Preparation of Drinking Water Samples for Gamma Spectroscopy, rev 5

METHOD SUMMARIES

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SUMMARY DATA SECTION

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Lab id EAS

Protocol TA

Version Ver 1.0

Form DVD-LMS

Version 3.06

Report date 02/04/11

**EBERLINE ANALYTICAL**

SDG 8645

Test U T Matrix WATER  
 SDG 8645  
 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract ITL1890

**LAB METHOD SUMMARY**

URANIUM, TOTAL  
 KINETIC PHOSPHORIMETRY, UG

**RESULTS**

LAB	RAW	SUF-		Uranium,	
SAMPLE ID	TEST	FIX	PLANCHET	CLIENT SAMPLE ID	Total
Preparation batch 7258-155					
S012300-03			8643-003	Lab Control Sample	ok
S012300-04			8643-004	Method Blank	U
S012300-05			8643-005	Duplicate (S012300-01)	ok J
S012307-01			8645-001	ITL1890-03	0.279 J
Preparation batch 7271-039					
S012307-02			8645-002	ITL1890-04 (TRIP-BLANK)	U
S101004-02			8657-002	Lab Control Sample	ok
S101004-03			8657-003	Method Blank	U
S101004-04			8657-004	Duplicate (S101004-01)	ok J
Nominal values and limits from method			RDLs (pCi/L)	1.00	

**METHOD PERFORMANCE**

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-			
SAMPLE ID	TEST	FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7258-155			2σ prep error	Reference Lab Notebook No. 7258 pg. 155												
S012300-03			Lab Control Sample	0.188	0.0200								01/18/11	01/18	KPA-001	
S012300-04			Method Blank	0.019	0.0200								01/18/11	01/18	KPA-001	
S012300-05			Duplicate (S012300-01)	0.019	0.0200								31	01/18/11	01/18	KPA-001
S012307-01			ITL1890-03	0.019	0.0200								31	01/11/11	01/20	KPA-001
Preparation batch 7271-039			2σ prep error	Reference Lab Notebook No. 7271 pg.039												
S012307-02			ITL1890-04 (TRIP-BLANK)	0.017	0.0200								32	01/20/11	01/20	KPA-001
S101004-02			Lab Control Sample	0.174	0.0200									01/20/11	01/20	KPA-001
S101004-03			Method Blank	0.017	0.0200									01/20/11	01/20	KPA-001
S101004-04			Duplicate (S101004-01)	0.017	0.0200								21	01/20/11	01/20	KPA-001
Nominal values and limits from method				1.00	0.0200											180

METHOD SUMMARIES

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SUMMARY DATA SECTION

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Lab id EAS  
 Protocol TA  
 Version Ver 1.0  
 Form DVD-LMS  
 Version 3.06  
 Report date 02/04/11

EBERLINE ANALYTICAL

SDG 8645

LAB METHOD SUMMARY, cont.

URANIUM, TOTAL  
KINETIC PHOSPHORIMETRY, UG

Test U T Matrix \_\_\_\_\_  
SDG 8645  
Contact N. Joseph Verville

Client Test America, Inc.  
Contract ITL1890

PROCEDURES REFERENCE D5174

AVERAGES  $\pm$  2 SD MDA 0.059  $\pm$  0.151  
FOR 8 SAMPLES YIELD \_\_\_\_\_  $\pm$  \_\_\_\_\_

METHOD SUMMARIES

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SUMMARY DATA SECTION

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Lab id EAS  
Protocol TA  
Version Ver 1.0  
Form DVD-LMS  
Version 3.06  
Report date 02/04/11

**EBERLINE ANALYTICAL**

SDG 8645

Test H Matrix WATER  
 SDG 8645  
 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract ITL1890

**LAB METHOD SUMMARY**

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

**RESULTS**

LAB RAW SUF- Tritium  
 SAMPLE ID TEST FIX PLANCHET CLIENT SAMPLE ID

Preparation batch 7258-155

S012300-03		8643-003	Lab Control Sample	ok
S012300-04		8643-004	Method Blank	U
S012300-05		8643-005	Duplicate (S012300-01)	- U
S012307-01		8645-001	ITL1890-03	U

Nominal values and limits from method RDLs (pCi/L) 500

**METHOD PERFORMANCE**

LAB RAW SUF- MDA ALIQ PREP DILU- YIELD EFF COUNT FWHM DRIFT DAYS ANAL-  
 SAMPLE ID TEST FIX CLIENT SAMPLE ID pCi/L L FAC TION % % min keV KeV HELD PREPARED YZED DETECTOR

Preparation batch 7258-155 2σ prep error 10.0 % Reference Lab Notebook No. 7258 pg. 155

S012300-03		Lab Control Sample	297	0.100		10	<u>50</u>			01/10/11	01/13	LSC-004
S012300-04		Method Blank	294	0.100		10	<u>50</u>			01/10/11	01/13	LSC-004
S012300-05		Duplicate (S012300-01)	295	0.0100		100	<u>50</u>		26	01/10/11	01/13	LSC-004
S012307-01		ITL1890-03	298	0.0100		100	<u>50</u>		24	01/10/11	01/13	LSC-004

Nominal values and limits from method 500 0.0100 100 180

PROCEDURES REFERENCE 906.0  
 DWP-212 Tritium in Drinking Water by Distillation, rev 8

AVERAGES ± 2 SD MDA 296 ± 3.65  
 FOR 4 SAMPLES YIELD 55 ± 104

METHOD SUMMARIES

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Lab id EAS  
 Protocol TA  
 Version Ver 1.0  
 Form DVD-LMS  
 Version 3.06  
 Report date 02/04/11

**EBERLINE ANALYTICAL**

SDG 8645

Test RA Matrix WATER  
 SDG 8645  
 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract ITL1890

**LAB METHOD SUMMARY**

RADIUM-226 IN WATER

RADON COUNTING

**RESULTS**

LAB RAW SUF-  
 SAMPLE ID TEST FIX PLANCHET CLIENT SAMPLE ID Radium-226

Preparation batch 7258-155

S012300-03	8643-003	Lab Control Sample	ok
S012300-04	8643-004	Method Blank	U
S012300-05	8643-005	Duplicate (S012300-01)	ok J
S012307-01	8645-001	ITL1890-03	U

Preparation batch 7271-039

S012307-02	8645-002	ITL1890-04 (TRIP-BLANK)	U
S101004-02	8657-002	Lab Control Sample	ok
S101004-03	8657-003	Method Blank	U
S101004-04	8657-004	Duplicate (S101004-01)	- U

Nominal values and limits from method RDLs (pCi/L) 1.00

**METHOD PERFORMANCE**

LAB RAW SUF- MDA ALIQ PREP DILU- YIELD EFF COUNT FWHM DRIFT DAYS ANAL-  
 SAMPLE ID TEST FIX CLIENT SAMPLE ID pCi/L L FAC TION % % min keV KeV HELD PREPARED YZED DETECTOR

Preparation batch 7258-155 2σ prep error 16.4 % Reference Lab Notebook No. 7258 pg. 155

S012300-03	Lab Control Sample	0.686	0.100	100	132	01/06/11	01/06	RN-009
S012300-04	Method Blank	0.888	0.100	100	70	01/06/11	01/06	RN-011
S012300-05	Duplicate (S012300-01)	0.558	0.100	100	132	19 01/06/11	01/06	RN-013
S012307-01	ITL1890-03	0.518	0.100	100	150	35 01/24/11	01/24	RN-014

Preparation batch 7271-039 2σ prep error 16.4 % Reference Lab Notebook No. 7271 pg.039

S012307-02	ITL1890-04 (TRIP-BLANK)	0.482	0.100	100	150	36 01/24/11	01/24	RN-015
S101004-02	Lab Control Sample	0.639	0.100	100	106	01/21/11	01/21	RN-011
S101004-03	Method Blank	0.627	0.100	100	106	01/21/11	01/21	RN-015
S101004-04	Duplicate (S101004-01)	0.566	0.100	100	106	22 01/21/11	01/21	RN-014

Nominal values and limits from method 1.00 0.100 100 180

METHOD SUMMARIES

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SUMMARY DATA SECTION

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Lab id EAS  
 Protocol TA  
 Version Ver 1.0  
 Form DVD-LMS  
 Version 3.06  
 Report date 02/04/11

EBERLINE ANALYTICAL

SDG 8645

LAB METHOD SUMMARY, cont.

RADIUM-226 IN WATER

RADON COUNTING

Test RA \_\_\_\_\_ Matrix \_\_\_\_\_  
SDG 8645 \_\_\_\_\_  
Contact N. Joseph Verville \_\_\_\_\_

Client Test America, Inc.  
Contract ITL1890

PROCEDURES REFERENCE 903.1  
DWP-881A Ra-226 Screening in Drinking Water, rev 6

AVERAGES  $\pm$  2 SD MDA 0.620  $\pm$  0.254  
FOR 8 SAMPLES YIELD 100  $\pm$  0

Lab id EAS  
Protocol TA  
Version Ver 1.0  
Form DVD-LMS  
Version 3.06  
Report date 02/04/11

EBERLINE ANALYTICAL

SDG 8645

SDG 8645  
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.  
Contract ITL1890

SAMPLE SUMMARY

The Sample and QC Summary Reports show all samples, including QC samples, reported in one Sample Delivery Group (SDG).

The Sample Summary Report fully identifies client samples and gives the corresponding lab sample identification. The QC Summary Report shows at the sample level how the lab organized the samples into batches and generated QC samples. The Preparation Batch and Method Summary Reports show this at the analysis level.

The following notes apply to these reports:

- \* LAB SAMPLE ID is the lab's primary identification for a sample.
- \* DEPARTMENT SAMPLE ID is an alternate lab id, for example one assigned by a radiochemistry department in a lab.
- \* CLIENT SAMPLE ID is the client's primary identification for a sample. It includes any sample preparation done by the client that is necessary to identify the sample.
- \* QC BATCH is a lab assigned code that groups samples to be processed and QCed together. These samples should have similar matrices.

QC BATCH is not necessarily the same as SDG, which reflects samples received and reported together.

- \* All Lab Control Samples, Method Blanks, Duplicates and Matrix Spikes are shown that QC any of the samples. Due to possible reanalyses, not all results for all these QC samples may be relevant to the SDG. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.

REPORT GUIDES

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SUMMARY DATA SECTION

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Lab id EAS  
Protocol TA  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
Report date 02/04/11

EBERLINE ANALYTICAL

SDG 8645

SDG 8645  
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.  
Contract ITL1890

PREPARATION BATCH SUMMARY

The Preparation Batch Summary Report shows all preparation batches in one Sample Delivery Group (SDG) with information necessary to check the completeness and consistency of the SDG.

The following notes apply to this report:

- \* The preparation batches are shown in the same order as the Method Summary Reports are printed.
- \* Only analyses of planchets relevant to the SDG are included.
- \* Each preparation batch should have at least one Method Blank and LCS in it to validate client sample results.
- \* The QUALIFIERS shown are all qualifiers other than U, J, B, L and H that occur on any analysis in the preparation batch. The Method Summary Report has these qualifiers on a per sample basis.

These qualifiers should be reviewed as follows:

- X Some data has been manually entered or modified. Transcription errors are possible.
- P One or more results are 'preliminary'. The data is not ready for final reporting.
- 2 There were two or more results for one analyte on one planchet imported at one time. The results in DVD may not be the same as on the raw data sheets.

Other lab defined qualifiers may occur. In general, these should be addressed in the SDG narrative.

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SUMMARY DATA SECTION

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Lab id EAS  
Protocol TA  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
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EBERLINE ANALYTICAL

SDG 8645

SDG 8645  
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.  
Contract ITL1890

WORK SUMMARY

The Work Summary Report shows all samples, including QC samples, and all relevant analyses in one Sample Delivery Group (SDG). This report is often useful as supporting documentation for an invoice.

The following notes apply to this report:

- \* TEST is a code for the method used to measure associated analytes. Results and related information for each analyte are on the Data Sheet Report. In special cases, a test code used in the summary data section is not the same as in associated raw data. In this case, both codes are shown on the Work Summary.
- \* SUFFIX is the lab's code to distinguish multiple analyses (recounts, reworks, reanalyses) of a fraction of the sample. The suffix indicates which result is being reported. An empty suffix normally identifies the first attempt to analyze the sample.
- \* The LAB SAMPLE ID, TEST and SUFFIX uniquely identify all supporting data for a result. The Method Summary Report for each TEST has method performance data, such as yield, for each lab sample id and suffix and procedures used in the method.
- \* PLANCHET is an alternate lab identifier for work done for one test. It, combined with the TEST and SUFFIX, may be the best link to raw data.
- \* For QC samples, only analyses that directly QC some regular sample are shown. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.
- \* The SAS (Special Analytical Services) Number is a client or lab assigned code that reflects special processing for samples, such as rapid turn around. Counts of tests done are lists by SAS number since it is likely to affect prices.

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SUMMARY DATA SECTION

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Lab id EAS  
Protocol TA  
Version Ver 1.0  
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**EBERLINE ANALYTICAL**

SDG 8645

SDG 8645  
Contact N. Joseph Verville

**REPORT GUIDE**

Client Test America, Inc.  
Contract ITL1890

**DATA SHEET**

The Data Sheet Report shows all results and primary supporting information for one client sample or Method Blank. This report corresponds to both the CLP Inorganics and Organics Data Sheet.

The following notes apply to this report:

- \* TEST is a code for the method used to measure an analyte. If the TEST is empty, no data is available; the analyte was not analyzed for.
- \* The LAB SAMPLE ID and TEST uniquely identify work within the Summary Data Section of a Data Package. The Work Summary and Method Summary Reports further identify raw data that underlies this work.

The Method Summary Report for each TEST has method performance data, such as yield, for each Lab Sample ID and a list of procedures used in the method.

- \* ERRORS can be labeled TOTAL or COUNT. TOTAL implies a preparation (non-counting method) error has been added, as square root of sum of squares, to the counting error denoted by COUNT. The preparation errors, which may vary by preparation batch, are shown on the Method Summary Report.
- \* A RESULT can be 'N.R.' (Not Reported). This means the lab did this work but chooses not to report it now, possibly because it was reported at another time.
- \* When reporting a Method Blank, a RESULT can be 'N.A.' (Not Applicable). This means there is no reported client sample work in the same preparation batch as the Blank's result. This is likely to occur when the Method Blank is associated with reanalyses of selected work for a few samples in the SDG.

The following qualifiers are defined by the DVD system:

- U The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit.

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**SUMMARY DATA SECTION**

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Lab id EAS  
Protocol TA  
Version Ver 1.0  
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Version 3.06  
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SDG 8645

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Contact N. Joseph Verville

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Contract ITL1890

DATA SHEET

- J The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
- B A Method Blank associated with this sample had a result without a U flag and, after correcting for possibly different aliquots, that result is greater than or equal to the MDA for this sample.
- Normally, B is not assigned if U is. When method blank subtraction is shown on this report, B flags are assigned based on the unsubtracted values while U's are assigned based on the subtracted ones. Both flags can be assigned in this case.
- For each sample result, all Method Blank results in the same preparation batch are compared. The Method Summary Report documents this and other QC relationships.
- L Some Lab Control Sample that QC's this sample had a low recovery. The lab can disable assignment of this qualifier.
- H Similar to 'L' except the recovery was high.
- P The RESULT is 'preliminary'.
- X Some data necessary to compute the RESULT, ERROR or MDA was manually entered or modified.
- 2 There were two or more results available for this analyte. The reported result may not be the same as in the raw data.
- Other qualifiers are lab defined. Definitions should be in the SDG narrative.

The following values are underlined to indicate possible problems:

- \* An MDA is underlined if it is bigger than its RDL.
- \* An ERROR is underlined if the 1.645 sigma counting error is bigger than both the MDA and the RESULT, implying that the MDA

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SUMMARY DATA SECTION

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Lab id EAS  
Protocol TA  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
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EBERLINE ANALYTICAL  
SDG 8645

SDG 8645  
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.  
Contract ITL1890

DATA SHEET

may not be a good estimate of the 'real' minimum detectable activity.

- \* A negative RESULT is underlined if it is less than the negative of its 2 sigma counting ERROR.
- \* When reporting a Method Blank, a RESULT is underlined if greater than its MDA. If the MDA is blank, the 2 sigma counting error is used in the comparison.

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SUMMARY DATA SECTION

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Lab id EAS  
Protocol TA  
Version Ver 1.0  
Form DVD-RG  
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EBERLINE ANALYTICAL

SDG 8645

SDG 8645  
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.  
Contract ITL1890

LAB CONTROL SAMPLE

The Lab Control Sample Report shows all results, recoveries and primary supporting information for one Lab Control Sample.

The following notes apply to this report:

- \* All fields in common with the Data Sheet Report have similar usage. Refer to its Report Guide for details.
- \* An amount ADDED is the lab's value for the actual amount spiked into this sample with its ERROR an estimate of the error of this amount.

An amount added is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

- \* REC (Recovery) is RESULT divided by ADDED expressed as a percent.
- \* The first, computed limits for the recovery reflect:
  1. The error of RESULT, including that introduced by rounding the result prior to printing.  
  
If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.
  2. The error of ADDED.
  3. A lab specified, per analyte bias. The bias changes the center of the computed limits.
- \* The second limits are protocol defined upper and lower QC limits for the recovery.
- \* The recovery is underlined if it is outside either of these ranges.

REPORT GUIDES

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SUMMARY DATA SECTION

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Lab id EAS  
Protocol TA  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
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EBERLINE ANALYTICAL  
SDG 8645

SDG 8645  
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.  
Contract ITL1890

DUPLICATE

The Duplicate Report shows all results, differences and primary supporting information for one Duplicate and associated Original sample.

The following notes apply to this report:

- \* All fields in common with the Data Sheet Report have similar usage. This applies both to the Duplicate and Original sample data. Refer to the Data Sheet Report Guide for details.

If the Duplicate has data for a TEST and the lab did not do this test to the Original, the Original's RESULTS are underlined.

- \* The RPD (Relative Percent Difference) is the absolute value of the difference of the RESULTS divided by their average expressed as a percent.

If both RESULTS are less than their MDAs, no RPD is computed and a '-' is printed.

For an analyte, if the lab did work for both samples but has data for only one, the MDA from the sample with data is used as the other's result in the RPD.

- \* The first, computed limit is the sum, as square root of sum of squares, of the errors of the results divided by the average result as a percent, hence the relative error of the difference rather than the error of the relative difference. The errors include those introduced by rounding the RESULTS prior to printing.

If this limit is labeled TOT, it includes the preparation error in the RESULTS. If labeled CNT, it does not.

This value reported for this limit is at most 999.

- \* The second limit for the RPD is the larger of:
  1. A fixed percentage specified in the protocol.

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SUMMARY DATA SECTION

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Protocol TA  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
Report date 02/04/11

EBERLINE ANALYTICAL

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Contact N. Joseph Verville

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Client Test America, Inc.  
Contract ITL1890

DUPLICATE

2. A protocol factor (typically 2) times the average MDA as a percent of the average result. This limit applies when the results are close to the MDAs.

\* The RPD is underlined if it is greater than either limit.

\* If specified by the lab, the second limit column is replaced by the Difference Error Ratio (DER), which is the absolute value of the difference of the results divided by the quadratic sum of their one sigma errors, the same errors as used in the first limit.

Except for differences due to rounding, the DER is the same as the RPD divided by the first RPD limit with the limit scaled to 1 sigma.

\* The DER is underlined if it is greater than the sigma factor, typically 2 or 3, shown in the header for the first RPD limit.

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MATRIX SPIKE

The Matrix Spike Report shows all results, recoveries and primary supporting information for one Matrix Spike and associated Original sample.

The following notes apply to this report:

- \* All fields in common with the Data Sheet Report have similar usage. This applies both to the Spiked and Original sample data. Refer to the Data Sheet Report Guide for details.

If the Spike has data for a TEST and the lab did not do this test to the Original, the Original's RESULTS are underlined.

- \* An amount ADDED is the lab's value for the actual amount spiked into the Spike sample with its ERROR an estimate of the error of this amount.

An amount is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

- \* REC (Recovery) is the Spike RESULT minus the Original RESULT divided by ADDED expressed as a percent.

- \* The first, computed limits for the recovery reflect:

1. The errors of the two RESULTS, including those introduced by rounding them prior to printing.

If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.

2. The error of ADDED.

3. A lab specified, per analyte bias. The bias changes the center of the computed limits.

- \* The second limits are protocol defined upper and lower QC limits for the recovery.

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MATRIX SPIKE

These limits are left blank if the Original RESULT is more than a protocol defined factor (typically 4) times ADDED. This is a way of accounting for that when the spike is small compared to the amount in the original sample, the recovery is unreliable.

- \* The recovery is underlined (out of spec) if it is outside either of these ranges.

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METHOD SUMMARY

The Method Summary Report has two tables. One shows up to five results measured using one method. The other has performance data for the method. There is one report for each TEST, as used on the Data Sheet Report.

The following notes apply to this report:

- \* Each table is subdivided into sections, one for each preparation batch. A preparation batch is a group of aliquots prepared at roughly the same time in one work area of the lab using the same method.

There should be Lab Control Sample and Method Blank results in each preparation batch since this close correspondence makes the QC meaningful. Depending on lab policy, Duplicates need not occur in each batch since they QC sample dependencies such as matrix effects.

- \* The RAW TEST column shows the test code used in the raw data to identify a particular analysis if it is different than the test code in the header of the report. This occurs in special cases due to method specific details about how the lab labels work.

The Lab Sample or Planchet ID combined with the (Raw) Test Code and Suffix uniquely identify the raw data for each analysis.

- \* If a result is less than both its MDA and RDL, it is replaced by just 'U' on this report. If it is greater than or equal to the RDL but less than the MDA, the result is shown with a 'U' flag.

The J and X flags are as on the data sheet.

- \* Non-U results for Method Blanks are underlined to indicate possible contamination of other samples in the preparation batch. The Method Blank Report has supporting data.
- \* Lab Control Sample and Matrix Spike results are shown as: ok, No data, LOW or HIGH, with the last two underlined. 'No data' means no amount ADDED was specified. 'LOW' and 'HIGH'

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SUMMARY DATA SECTION

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Protocol TA  
Version Ver 1.0  
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METHOD SUMMARY

correspond to when the recovery is underlined on the Lab Control Sample or Matrix Spike Report. See these reports for supporting data.

\* Duplicate sample results are shown as: ok, No data, or OUT, with the last two underlined. 'No data' means there was no original sample data found for this duplicate. 'OUT' corresponds to when the RPD is underlined on the Duplicate Report. See this report for supporting data.

\* If the MDA column is labeled 'MAX MDA', there was more than one result measured by the reported method and the MDA shown is the largest MDA. If not all these results have the same RDL, the MAX MDA reflects only those results with RDL equal to the smallest one.

MDAs are underlined if greater than the printed RDL.

\* Aliquots are underlined if less than the nominal value specified for the method.

\* Preparation factors are underlined if greater than the nominal value specified for the method.

\* Dilution factors are underlined if greater than the nominal value specified for the method.

\* Residues are underlined if outside the range specified for the method. Residues are not printed if yields are.

\* Yields, which may be gravimetric, radiometric or some type of recovery depending on the method, are underlined if outside the range specified for the method.

\* Efficiencies are underlined if outside the range specified for the method. Efficiencies are detector and geometry dependent so this test is only approximate.

\* Count times are underlined if less than the nominal value

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Client Test America, Inc.  
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METHOD SUMMARY

specified for the method.

- \* Resolutions (as FWHM; Full Width at Half Max) are underlined if greater than the method specified limit.
- \* Tracer drifts are underlined if their absolute values are greater than the method specified limit. Tracer drifts are not printed if percent moistures are.
- \* Days Held are underlined if greater than the holding time specified in the protocol.
- \* Analysis dates are underlined if before their planchet's preparation date or, if a limit is specified, too far after it.

For some methods, ratios as percentages and error estimates for them are computed for pairs of results. A ratio column header like '1+3' means the ratio of the first result column and the third result column.

Ratios are not computed for Lab Control Sample, Method Blank or Matrix Spike results since their matrices are not necessarily similar to client samples'.

The error estimate for a ratio of results from one planchet reflects only counting errors since other errors should be correlated. For a ratio involving different planchets, if QC limits are computed based on total errors, the error for the ratio allows for the preparation errors for the planchets.

The ratio is underlined (out of spec) if the absolute value of its difference from the nominal value is greater than its error estimate. If no nominal value is specified, this test is not done.

For Gross Alpha or Gross Beta results, there may be a column showing the sum of other Alpha or Beta emitters. This sum includes all relevant results in the DVD database, whether reported or not. Results in the sum are weighted by a particles/decay value specified by the lab for each relevant analyte. Results less than their MDA are not included.

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SUMMARY DATA SECTION

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METHOD SUMMARY

No sums are computed for Lab Control, Method Blank or Matrix Spike samples since their various planchets may not be physically related.

If a ratio of total isotopic to Gross Alpha or Beta is shown, the error for the ratio reflects both the error in the Gross result and the sum, as square root of sum of squares, of the errors in the isotopic results.

For total elemental uranium or thorium results, there may be a column showing the total weight computed from associated isotopic results. Ignoring results less than their MDAs, this is a weighted sum of the isotopic results. The weights depend on the molecular weight and half-life of each isotope so as to convert activities (decays) to weight (atoms).

If a ratio of total computed to measured elemental uranium or thorium is shown, the error for the ratio reflects the errors in all the measurements.

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Lab id EAS  
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SUBCONTRACT ORDER

TestAmerica Irvine

ITL1890

8645

SENDING LABORATORY:

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

RECEIVING LABORATORY:

Eberline Services  
2030 Wright Avenue  
Richmond, CA 94804  
Phone: (510) 235-2633  
Fax: (510) 235-0438  
Project Location: California  
Receipt Temperature: 7 °C Ice: (Y) / N

Analysis	Units	Due	Expires	Comments
----------	-------	-----	---------	----------

Sample ID: ITL1890-03 (Outfall 002 (Composite) - Water)

Sampled: 12/20/10 12:30

Gamma Spec-O	mg/kg	12/28/10	12/20/11 12:30	Out St Louis, k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	12/28/10	06/18/11 12:30	Out St Louis, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	12/28/10	06/18/11 12:30	Out St Louis, Boeing permit, DO NOT FILTER!
Level 4 Data Package - Out	N/A	12/28/10	01/17/11 12:30	
Radium, Combined-O	pCi/L	12/28/10	12/20/11 12:30	Out St Louis, Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	12/28/10	12/20/11 12:30	Out St Louis, Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	12/28/10	12/20/11 12:30	Out St Louis, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	12/28/10	12/20/11 12:30	Out St Louis, Boeing permit, DO NOT FILTER!

Containers Supplied:

2.5 gal Poly (S)      500 mL Amber (T)

Sample ID: ITL1890-04 (BLANK - Water)

Sampled: 12/19/10 14:10

HOLD-OUT	N/A	12/28/10	12/19/11 14:10
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Containers Supplied:

2.5 gal Poly (K)

~~\_\_\_\_\_~~  
 Released By \_\_\_\_\_ Date/Time 12/21/10 17:00  
 Released By FedEx Date/Time \_\_\_\_\_

FedEx  
 Received By \_\_\_\_\_ Date/Time 12/21/10 17:00  
 Received By \_\_\_\_\_ Date/Time 12/21/10 12:30



# RICHMOND, CA LABORATORY

## SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA  
 Date/Time received 12/22/10 12:30 CoC No. ITL 1889, 1890, 1891  
 Container I.D. No. ICE CHESTS Requested TAT (Days) — P.O. Received Yes [ ] No [ ]

### INSPECTION

1. Custody seals on shipping container intact? Yes [x] No [ ] N/A [ ]
  2. Custody seals on shipping container dated & signed? *different date* Yes [x] No [ ] N/A [ ]
  3. Custody seals on sample containers intact? *check out in* Yes [ ] No [ ] N/A [x]
  4. Custody seals on sample containers dated & signed? *3 samples* Yes [ ] No [ ] N/A [x]
  5. Packing material is: Wet [ ] Dry [x]
  6. Number of samples in shipping container: 4 Sample Matrix W
  7. Number of containers per sample: \_\_\_\_\_ (Or see CoC X)
  8. Samples are in correct container Yes [x] No [ ]
  9. Paperwork agrees with samples? Yes [x] No [ ]
  10. Samples have: Tape [ ] Hazard labels [ ] Rad labels [ ] Appropriate sample labels [x]
  11. Samples are: In good condition [x] Leaking [ ] Broken Container [ ] Missing [ ]
  12. Samples are: Preserved [ ] Not preserved [x] pH < 2 / N/A Preservative \_\_\_\_\_
  13. Describe any anomalies: \_\_\_\_\_
14. Was P.M. notified of any anomalies? Yes [ ] No [ ] Date \_\_\_\_\_
15. Inspected by [Signature] Date: 12/22/10 Time: 1400

Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wipe	Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	wipe
<u>All shapes</u>	<u>262</u>						

Ion Chamber Ser. No. \_\_\_\_\_  
 Alpha Meter Ser. No. \_\_\_\_\_  
 Beta/Gamma Meter Ser. No. 106482

Calibration date \_\_\_\_\_  
 Calibration date \_\_\_\_\_  
 Calibration date 24 SEP 10

# **APPENDIX G**

## **Section 7**

Outfall 002 – December 26, 2010

MEC<sup>X</sup> Data Validation Reports

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# DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ITL2488

Prepared by

MEC<sup>x</sup>, 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: ITL2488  
 Project Manager: B. Kelly  
 Matrix: Water  
 QC Level: IV  
 No. of Samples: 2  
 No. of Reanalyses/Dilutions: 1  
 Laboratory: TestAmerica-Irvine

**Table 1. Sample Identification**

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 002 (Grab)	ITL2488-01	N/A	Water	12/26/2010 9:35:00 AM	SM2510B
Outfall 002 (Composite)	ITL2488-03	G0L290483-001, S012368-01	Water	12/26/2010 8:12:00 PM	1613B, 900, 901.1, 903.1, 904, 905, 906, 245.1, 245.1-diss, SM2130B, D5174
Outfall 002 (Composite)	ITL2488-03RE1	G0L290483-001RE	Water	12/26/2010 8:12:00 PM	EPA-5 1613B

**II. Sample Management**

No anomalies were observed regarding sample management. The temperature upon receipt was not noted by Eberline; however, due to the nonvolatile nature of the analytes, no qualifications were required. The remaining samples in this SDG were received at the laboratories within the temperature limits of 4°C ±2°C. 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 in this SDG were delivered by courier, custody seals were not required.

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**Data Qualifier Reference Table**


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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.**

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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.

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### III. Method Analyses

#### A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin

Date Reviewed: January 19, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC<sup>X</sup> Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0)*, *USEPA Method 1613*, and the *National Functional Guidelines Chlorinated Dioxin/Furan Data Review (8/02)*.

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted, re-extracted (see Blank Spikes and Laboratory Control Samples section,) 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 analyzed prior to the initial calibration sequence and at the beginning of each analytical sequence. 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  $\leq 20\%$  for the 15 native compounds (calibration by isotope dilution) and  $\leq 35\%$  for the two 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 associated with the retained analysis had detects between the EDL and the RL for total HpCDD, OCDD, and OCDF. Total HpCDD and OCDF were reported as EMPCs; however the reviewer considered it appropriate to use the EMPCs to qualify sample results. OCDD and OCDF were qualified as nondetected, "U" at the EDL,

or at the level of contamination in the sample, and total HpCDD was qualified as estimated, "J."

- Blank Spikes and Laboratory Control Samples: OCDD and 1,2,3,4,6,7,8-HpCDF were recovered above the control limits in the LCS associated with the original extraction analysis of the sample. The sample was re-extracted with LCS recoveries within the acceptance criteria listed in Table 6 of Method 1613. The laboratory reported both sets of results. The original extraction analysis was rejected, "R," as duplicate data in favor of the re-extraction analysis associated with improved LCS recoveries.
- 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 in the sample 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 a representative number of reportable sample results. Any individual isomers reported as EMPCs previously qualified as nondetected for method blank contamination were not further qualified as EMPCs. Remaining isomers reported as EMPCs were qualified as estimated nondetects, "UJ," at the level of the EMPC. Any totals including EMPC peaks were qualified as estimated, "J." Any detects reported 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 EDL.

## **B. EPA METHOD 245.1—Mercury**

Reviewed By: P. Meeks

Date Reviewed: January 14, 2011

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *MEC<sup>X</sup> 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 time, 28 days for mercury, was met.
- Tuning: Not applicable to this analysis.
- Calibration: Calibration criteria were met. Initial calibration  $r^2$  values were  $\geq 0.995$  and all initial and continuing calibration recoveries were within 85-115%. CRDL/CRI recoveries were within the control limits of 70-130%.
- Blanks: Method blanks and CCBs had no 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 not performed on the sample in this SDG. Method accuracy was evaluated based on LCS results.
- 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. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit 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: February 8, 2011

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, and 906.0, 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. The remaining aliquots were prepared within the five-day analytical holding time for unpreserved 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 remaining detector efficiencies were greater than 20%.

The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. All chemical yields were at least 40% and were considered acceptable. The gamma spectroscopy analytes were determined at the maximum photopeak energy. The kinetic phosphorescence analyzer (KPA) was calibrated immediately prior to the sample analysis.

- **Blanks:** There were no analytes detected in the method blanks.
- **Blank Spikes and Laboratory Control Samples:** The recoveries were within laboratory-established control limits.
- **Laboratory Duplicates:** There were no laboratory duplicate analyses 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 was evaluated based on the LCS 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 reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDA. Total uranium, normally reported in aqueous units, was converted to pCi/L using the conversion factor of 0.67 for naturally occurring uranium.

A notation in the sample preparation logbook indicated that the aliquots for radium-226, radium-228, and strontium were filtered and that the filter was digested and added to the aliquot.

- 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.

#### **D. VARIOUS EPA METHODS—General Minerals**

Reviewed By: P. Meeks

Date Reviewed: January 17, 2011

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC<sup>X</sup> Data Validation Procedure for General Minerals (DVP-6, Rev. 0)*, *EPA Standard Methods 2130B and 2540D*, and the *National Functional Guidelines for Inorganic Data Review (7/02)*.

- Holding Times: Analytical holding times, 48 hours from collection for turbidity and 28 days for conductivity, were met.
- Calibration: Calibration criteria were met. The initial calibration  $r^2$  values were  $\geq 0.995$  and all initial and continuing calibration recoveries were within 90-110%.
- Blanks: Method blanks and CCBs had no detects.
- 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: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy was evaluated based on LCS results.
- 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. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either “J+” or “J-“;

otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit 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.

# Validated Sample Result Forms ITL2488

## Analysis Method 8653

**Sample Name** Outfall 002 (Composite) **Matrix Type:** WATER **Validation Level:** IV

**Lab Sample Name:** ITL2488-03 **Sample Date:** 12/26/2010 8:12:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total		0.783	1	0.017	pCi/L	Ja	J	DNQ

## Analysis Method 900

**Sample Name** Outfall 002 (Composite) **Matrix Type:** WATER **Validation Level:** IV

**Lab Sample Name:** ITL2488-03 **Sample Date:** 12/26/2010 8:12:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	0.728	3	0.768	pCi/L	U	UJ	C
Gross Beta	12587472	2.76	4	0.814	pCi/L	Ja	J	DNQ

## Analysis Method 901.1

**Sample Name** Outfall 002 (Composite) **Matrix Type:** WATER **Validation Level:** IV

**Lab Sample Name:** ITL2488-03 **Sample Date:** 12/26/2010 8:12:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	ND	20	1.39	pCi/L	U	U	
Potassium-40	13966002	ND	25	28.7	pCi/L	U	U	

## Analysis Method 903.1

**Sample Name** Outfall 002 (Composite) **Matrix Type:** WATER **Validation Level:** IV

**Lab Sample Name:** ITL2488-03 **Sample Date:** 12/26/2010 8:12:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	0.667	1	0.519	pCi/L	Ja	J	DNQ

## Analysis Method 904

**Sample Name** Outfall 002 (Composite) **Matrix Type:** WATER **Validation Level:** IV

**Lab Sample Name:** ITL2488-03 **Sample Date:** 12/26/2010 8:12:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	0.024	1	0.511	pCi/L	U	U	

*Analysis Method* 905

**Sample Name** Outfall 002 (Composite) **Matrix Type:** WATER **Validation Level:** IV  
**Lab Sample Name:** ITL2488-03 **Sample Date:** 12/26/2010 8:12:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	-0.038	2	0.523	pCi/L	U	U	

*Analysis Method* 906

**Sample Name** Outfall 002 (Composite) **Matrix Type:** WATER **Validation Level:** IV  
**Lab Sample Name:** ITL2488-03 **Sample Date:** 12/26/2010 8:12:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	-32.9	500	184	pCi/L	U	U	

*Analysis Method* EPA 245.1

**Sample Name** Outfall 002 (Composite) **Matrix Type:** Water **Validation Level:** IV  
**Lab Sample Name:** ITL2488-03 **Sample Date:** 12/26/2010 8:12:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	ND	0.20	0.10	ug/l		U	

*Analysis Method* EPA 245.1-Diss

**Sample Name** Outfall 002 (Composite) **Matrix Type:** Water **Validation Level:** IV  
**Lab Sample Name:** ITL2488-03 **Sample Date:** 12/26/2010 8:12:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	ND	0.20	0.10	ug/l		U	

*Analysis Method EPA-5 1613B*

**Sample Name** Outfall 002 (Composite) **Matrix Type:** WATER **Validation Level:** IV  
**Lab Sample Name:** ITL2488-03 **Sample Date:** 12/26/2010 8:12:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822-46-9	6.4e-006	0.00005	0.0000008	ug/L	J, B	R	D
1,2,3,4,6,7,8-HpCDD	35822-46-9	5.1e-006	0.00005	0.0000003	ug/L	J	J	DNQ
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.00005	0.0000003	ug/L	J, Q	UJ	*III
1,2,3,4,6,7,8-HpCDF	67562-39-4	2.2e-006	0.00005	0.0000006	ug/L	J, Q, B	R	D
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.00005	0.0000008	ug/L		R	D
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.00005	0.0000004	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.00005	0.0000007	ug/L		R	D
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.00005	0.0000006	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.00005	0.0000003	ug/L		R	D
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.00005	0.0000005	ug/L		U	
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.00005	0.0000005	ug/L		R	D
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.00005	0.0000003	ug/L		U	
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.00005	0.0000001	ug/L		R	D
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.00005	0.0000002	ug/L		U	
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.00005	0.0000012	ug/L		R	D
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.00005	0.0000003	ug/L		U	
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.00005	0.0000008	ug/L		R	D
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.00005	0.0000003	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	0.00005	0.0000012	ug/L		R	D
1,2,3,7,8-PeCDD	40321-76-4	ND	0.00005	0.0000011	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.00005	0.0000008	ug/L		R	D
1,2,3,7,8-PeCDF	57117-41-6	ND	0.00005	0.0000008	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.00005	0.0000001	ug/L		R	D
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.00005	0.0000002	ug/L		U	
2,3,4,7,8-PeCDF	57117-31-4	ND	0.00005	0.0000001	ug/L		R	D
2,3,4,7,8-PeCDF	57117-31-4	ND	0.00005	0.0000009	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.00001	0.0000007	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.00001	0.0000008	ug/L		R	D
2,3,7,8-TCDF	51207-31-9	ND	0.00001	0.0000004	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.00001	0.0000006	ug/L		R	D
OCDD	3268-87-9	ND	0.0001	0.0000009	ug/L	J, B	U	B
OCDD	3268-87-9	6.2e-005	0.0001	0.0000004	ug/L	J, B	R	D
OCDF	39001-02-0	4.1e-006	0.0001	0.0000015	ug/L	J, Q, B	R	D
OCDF	39001-02-0	ND	0.0001	0.0000005	ug/L	J, B	U	B
Total HpCDD	37871-00-4	9.8e-006	0.00005	0.0000003	ug/L	J, B	J	B, DNQ

*Analysis Method*     *EPA-5 1613B*

Total HpCDD	37871-00-4	1.3e-005	0.00005	0.0000008	ug/L	J, B	<b>R</b>	<b>D</b>
Total HpCDF	38998-75-3	4.1e-006	0.00005	0.0000003	ug/L	J, Q	<b>J</b>	<b>DNQ, *III</b>
Total HpCDF	38998-75-3	4.2e-006	0.00005	0.0000007	ug/L	J, Q, B	<b>R</b>	<b>D</b>
Total HxCDD	34465-46-8	ND	0.00005	0.0000005	ug/L		<b>R</b>	<b>D</b>
Total HxCDD	34465-46-8	ND	0.00005	0.0000003	ug/L		<b>U</b>	
Total HxCDF	55684-94-1	ND	0.00005	0.0000002	ug/L		<b>U</b>	
Total HxCDF	55684-94-1	ND	0.00005	0.0000001	ug/L		<b>R</b>	<b>D</b>
Total PeCDD	36088-22-9	ND	0.00005	0.0000012	ug/L		<b>R</b>	<b>D</b>
Total PeCDD	36088-22-9	ND	0.00005	0.0000011	ug/L		<b>U</b>	
Total PeCDF	30402-15-4	ND	0.00005	0.0000008	ug/L		<b>R</b>	<b>D</b>
Total PeCDF	30402-15-4	ND	0.00005	0.0000008	ug/L		<b>U</b>	
Total TCDD	41903-57-5	ND	0.00001	0.0000008	ug/L		<b>R</b>	<b>D</b>
Total TCDD	41903-57-5	ND	0.00001	0.0000007	ug/L		<b>U</b>	
Total TCDF	55722-27-5	ND	0.00001	0.0000006	ug/L		<b>R</b>	<b>D</b>
Total TCDF	55722-27-5	ND	0.00001	0.0000004	ug/L		<b>U</b>	

*Analysis Method*     *SM2130B*

<b>Sample Name</b>	Outfall 002 (Composite)		<b>Matrix Type:</b>	Water		<b>Validation Level:</b>	IV	
<b>Lab Sample Name:</b>	ITL2488-03		<b>Sample Date:</b>	12/26/2010 8:12:00 PM				
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Turbidity	Turb	6.0	1.0	0.040	NTU			

*Analysis Method*     *SM2510B*

<b>Sample Name</b>	Outfall 002 (Grab)		<b>Matrix Type:</b>	Water		<b>Validation Level:</b>	IV	
<b>Lab Sample Name:</b>	ITL2488-01		<b>Sample Date:</b>	12/26/2010 9:35:00 AM				
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Specific Conductance	NA	460	1.0	1.0	umhos/c			

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## **APPENDIX G**

### **Section 8**

Outfall 002 - December 26, 2010

Test America Analytical Laboratory Reports

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## LABORATORY REPORT

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

Project: Routine Outfall 002 2010  
Routine Outfall 002

Sampled: 12/26/10  
Received: 12/27/10  
Issued: 02/02/11 17:13

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

*The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain(s) of Custody, 3 pages, are included and are an integral part of this report.  
This entire report was reviewed and approved for release.*

### CASE NARRATIVE

**SAMPLE RECEIPT:** Samples were received intact, at 2°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:** Results that fall between the MDL and RL are 'J' flagged.

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

**ADDITIONAL INFORMATION:** WATER, 1613B, Dioxins/Furans with Totals

Some analytes in this samples and the associated method blanks have an ion abundance ratio that is outside of criteria. The analytes are considered as an "estimated maximum possible concentration" (EMPC) because the quantitation is based on the theoretical ion abundance ratio. Analytical results are reported with a "Q" flag.

The method blank associated with the initial extraction batch (Batch# 0364133) has a detected concentration of OCDD above the reporting limit (RL). Also, the laboratory control sample (LCS) associated with this extraction batch has percent recoveries for 1,2,3,6,7,8-HxCDD and OCDD above the established control limits. These two anomalies are indicative of a potential high bias in the data. After discussion with the client it was decided to re-extract the sample and both sets of data are to be reported. Additional sample was received on January 5, 2011.

### TestAmerica Irvine

Heather Clark For Debby Wilson  
Project Manager

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

Project ID: Routine Outfall 002 2010  
Routine Outfall 002  
Report Number: ITL2488

Sampled: 12/26/10  
Received: 12/27/10

**LABORATORY ID**

ITL2488-01  
ITL2488-02  
ITL2488-03

**CLIENT ID**

Outfall 002 (Grab)  
Trip Blanks  
Outfall 002 (Composite)

**MATRIX**

Water  
Water  
Water

Reviewed By:



**TestAmerica Irvine**

Heather Clark For Debby Wilson  
Project Manager

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

Project ID: Routine Outfall 002 2010  
 Routine Outfall 002  
 Report Number: ITL2488

Sampled: 12/26/10  
 Received: 12/27/10

## PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2488-01 (Outfall 002 (Grab) - Water)</b>									
<b>Reporting Units: ug/l</b>									
1,2-Dichloroethane	EPA 624	10L3018	0.50	0.28	ND	1	12/28/2010	12/28/2010	
1,1-Dichloroethene	EPA 624	10L3018	2.0	0.42	ND	1	12/28/2010	12/28/2010	
<b>Trichloroethene</b>	EPA 624	10L3018	2.0	0.26	<b>0.48</b>	1	12/28/2010	12/28/2010	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					93 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					96 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					106 %				
<b>Sample ID: ITL2488-02 (Trip Blanks - Water)</b>									
<b>Reporting Units: ug/l</b>									
1,2-Dichloroethane	EPA 624	10L3018	0.50	0.28	ND	1	12/28/2010	12/28/2010	
1,1-Dichloroethene	EPA 624	10L3018	2.0	0.42	ND	1	12/28/2010	12/28/2010	
Trichloroethene	EPA 624	10L3018	2.0	0.26	ND	1	12/28/2010	12/28/2010	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					95 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					95 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					106 %				

### TestAmerica Irvine

Heather Clark For Debby Wilson  
 Project Manager

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

Project ID: Routine Outfall 002 2010  
 Routine Outfall 002  
 Report Number: ITL2488

Sampled: 12/26/10  
 Received: 12/27/10

## ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2488-03 (Outfall 002 (Composite) - Water)</b>									
<b>Reporting Units: ug/l</b>									
Bis(2-ethylhexyl)phthalate	EPA 625	10L3149	4.72	1.60	ND	0.943	12/28/2010	12/31/2010	
2,4-Dinitrotoluene	EPA 625	10L3149	4.72	0.189	ND	0.943	12/28/2010	12/31/2010	
N-Nitrosodimethylamine	EPA 625	10L3149	4.72	0.0943	ND	0.943	12/28/2010	12/31/2010	
Pentachlorophenol	EPA 625	10L3149	4.72	0.0943	ND	0.943	12/28/2010	12/31/2010	
2,4,6-Trichlorophenol	EPA 625	10L3149	5.66	0.0943	ND	0.943	12/28/2010	12/31/2010	
Surrogate: 2,4,6-Tribromophenol (40-120%)									81 %
Surrogate: 2-Fluorobiphenyl (50-120%)									68 %
Surrogate: 2-Fluorophenol (30-120%)									55 %
Surrogate: Nitrobenzene-d5 (45-120%)									66 %
Surrogate: Phenol-d6 (35-120%)									60 %
Surrogate: Terphenyl-d14 (50-125%)									77 %

**TestAmerica Irvine**

Heather Clark For Debby Wilson  
 Project Manager

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

Project ID: Routine Outfall 002 2010  
Routine Outfall 002  
Report Number: ITL2488

Sampled: 12/26/10  
Received: 12/27/10

## ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2488-03 (Outfall 002 (Composite) - Water)</b>									
<b>Reporting Units: ug/l</b>									
alpha-BHC	EPA 608	10L3051	0.0094	0.0024	ND	0.943	12/28/2010	12/28/2010	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					88 %				
<i>Surrogate: Tetrachloro-m-xylene (35-115%)</i>					64 %				

### TestAmerica Irvine

Heather Clark For Debby Wilson  
Project Manager

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

Project ID: Routine Outfall 002 2010  
Routine Outfall 002  
Report Number: ITL2488

Sampled: 12/26/10  
Received: 12/27/10

## HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2488-01 (Outfall 002 (Grab) - Water)</b>									
<b>Reporting Units: mg/l</b>									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	11A0059	4.7	1.3	ND	1	1/3/2011	1/3/2011	

### TestAmerica Irvine

Heather Clark For Debby Wilson  
Project Manager

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

Project ID: Routine Outfall 002 2010  
 Routine Outfall 002  
 Report Number: ITL2488

Sampled: 12/26/10  
 Received: 12/27/10

## METALS

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2488-03 (Outfall 002 (Composite) - Water)</b>									
Reporting Units: mg/l									
<b>Iron</b>	EPA 200.7	10L3131	0.040	0.015	<b>0.24</b>	1	12/28/2010	12/30/2010	
<b>Sample ID: ITL2488-03 (Outfall 002 (Composite) - Water)</b>									
Reporting Units: ug/l									
Mercury	EPA 245.1	10L3468	0.20	0.10	ND	1	12/30/2010	12/30/2010	
<b>Manganese</b>	EPA 200.7	10L3131	20	7.0	<b>8.1</b>	1	12/28/2010	12/30/2010	
Cadmium	EPA 200.8	10L3064	1.0	0.10	ND	1	12/28/2010	12/29/2010	
Zinc	EPA 200.7	10L3131	20.0		ND	1	12/28/2010	12/30/2010	
<b>Copper</b>	EPA 200.8	10L3064	2.0	0.50	<b>2.4</b>	1	12/28/2010	12/29/2010	
Lead	EPA 200.8	10L3064	1.0	0.20	ND	1	12/28/2010	12/29/2010	
Selenium	EPA 200.8	10L3064	2.0	0.50	ND	1	12/28/2010	12/29/2010	

### TestAmerica Irvine

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Project ID: Routine Outfall 002 2010  
 Routine Outfall 002  
 Report Number: ITL2488

Sampled: 12/26/10  
 Received: 12/27/10

## DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2488-03 (Outfall 002 (Composite) - Water)</b>									
<b>Reporting Units: mg/l</b>									
<b>Iron</b>	EPA 200.7-Diss	10L3118	0.040	0.015	<b>0.027</b>	1	12/28/2010	12/28/2010	
<b>Sample ID: ITL2488-03 (Outfall 002 (Composite) - Water)</b>									
<b>Reporting Units: ug/l</b>									
Mercury	EPA 245.1-Diss	10L3474	0.20	0.10	ND	1	12/30/2010	12/30/2010	
Manganese	EPA 200.7-Diss	10L3118	20	7.0	ND	1	12/28/2010	12/28/2010	
Cadmium	EPA 200.8-Diss	10L3120	1.0	0.10	ND	1	12/28/2010	12/29/2010	
<b>Zinc</b>	EPA 200.7-Diss	10L3118	20	6.0	<b>7.3</b>	1	12/28/2010	12/28/2010	
<b>Copper</b>	EPA 200.8-Diss	10L3120	2.0	0.50	<b>1.6</b>	1	12/28/2010	12/28/2010	
Lead	EPA 200.8-Diss	10L3120	1.0	0.20	ND	1	12/28/2010	12/29/2010	
Selenium	EPA 200.8-Diss	10L3120	2.0	0.50	ND	1	12/28/2010	12/29/2010	

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Routine Outfall 002  
Report Number: ITL2488

Sampled: 12/26/10  
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## INORGANICS

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2488-01 (Outfall 002 (Grab) - Water)</b>									
Reporting Units: ml/l									
Total Settleable Solids	SM2540F	10L3092	0.10	0.10	ND	1	12/28/2010	12/28/2010	
<b>Sample ID: ITL2488-01 (Outfall 002 (Grab) - Water)</b>									
Reporting Units: umhos/cm @ 25C									
Specific Conductance	SM2510B	11A0029	1.0	1.0	<b>460</b>	1	1/3/2011	1/3/2011	
<b>Sample ID: ITL2488-03 (Outfall 002 (Composite) - Water)</b>									
Reporting Units: mg/l									
Ammonia-N (Distilled)	SM4500NH3-C	10L3337	0.500	0.500	ND	1	12/29/2010	12/29/2010	
Biochemical Oxygen Demand	SM5210B	10L3057	2.0	0.50	<b>1.0</b>	1	12/28/2010	1/2/2011	
Chloride	EPA 300.0	10L3000	0.50	0.25	<b>18</b>	1	12/27/2010	12/27/2010	
Nitrate-N	EPA 300.0	10L3000	0.11	0.060	<b>0.32</b>	1	12/27/2010	12/27/2010	
Nitrite-N	EPA 300.0	10L3000	0.15	0.090	ND	1	12/27/2010	12/27/2010	
Nitrate/Nitrite-N	EPA 300.0	10L3000	0.26	0.15	<b>0.32</b>	1	12/27/2010	12/27/2010	
Sulfate	EPA 300.0	10L3000	2.5	1.0	<b>81</b>	5	12/27/2010	12/27/2010	
Surfactants (MBAS)	SM5540-C	10L3003	0.10	0.050	<b>0.078</b>	1	12/27/2010	12/27/2010	
Total Dissolved Solids	SM2540C	10L3090	10	1.0	<b>220</b>	1	12/28/2010	12/28/2010	
Total Suspended Solids	SM 2540D	10L3361	10	1.0	<b>6.0</b>	1	12/29/2010	12/29/2010	
<b>Sample ID: ITL2488-03 (Outfall 002 (Composite) - Water)</b>									
Reporting Units: NTU									
Turbidity	SM2130B	10L3072	1.0	0.040	<b>6.0</b>	1	12/28/2010	12/28/2010	
<b>Sample ID: ITL2488-03 (Outfall 002 (Composite) - Water)</b>									
Reporting Units: ug/l									
Perchlorate	EPA 314.0	10L3015	4.0	0.90	ND	1	12/28/2010	12/28/2010	
Total Cyanide	SM4500CN-E	10L3114	5.0		ND	1	12/28/2010	12/28/2010	

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## 8653

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2488-03 (Outfall 002 (Composite) - Water)</b>								
<b>Reporting Units: pCi/L</b>								
Uranium, Total	8653	8653	1	0.783	1	1/11/2011	1/20/2011	Ja

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## 900

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2488-03 (Outfall 002 (Composite) - Water)</b>								
Reporting Units: pCi/L								
Gross Alpha	900	8653	3	0.728	1	1/6/2011	1/6/2011	U
Gross Beta	900	8653	4	2.76	1	1/6/2011	1/6/2011	Ja

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## 901.1

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2488-03 (Outfall 002 (Composite) - Water)</b>								
<b>Reporting Units: pCi/L</b>								
Cesium-137	901.1	8653	20	ND	1	1/5/2011	1/7/2011	U
Potassium-40	901.1	8653	25	ND	1	1/5/2011	1/7/2011	U

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## 903.1

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2488-03 (Outfall 002 (Composite) - Water)</b>								
<b>Reporting Units: pCi/L</b>								
Radium-226	903.1	8653	1	0.667	1	1/22/2011	1/22/2011	Ja

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## 904

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2488-03 (Outfall 002 (Composite) - Water)</b>								
<b>Reporting Units: pCi/L</b>								
Radium-228	904	8653	1	0.024	1	1/24/2011	1/24/2011	U

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## 905

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2488-03 (Outfall 002 (Composite) - Water)</b>								
<b>Reporting Units: pCi/L</b>								
<b>Strontium-90</b>	905	8653	2	<b>-0.038</b>	1	1/8/2011	1/13/2011	U

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## 906

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2488-03 (Outfall 002 (Composite) - Water)</b>								
Reporting Units: pCi/L								
Tritium	906	8653	500	-32.9	1	1/12/2011	1/12/2011	U

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Routine Outfall 002  
Report Number: ITL2488

Sampled: 12/26/10  
Received: 12/27/10

## EPA-5 1613Bx

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2488-03 (Outfall 002 (Composite) - Water)</b>									
<b>Reporting Units: ug/L</b>									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	364133	0.000050	0.0000008	6.4e-006	0.97	12/30/2010	1/3/2011	J, B
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	364133	0.000050	0.0000066	2.2e-006	0.97	12/30/2010	1/3/2011	J, Q, B
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	364133	0.000050	0.0000087	ND	0.97	12/30/2010	1/3/2011	
1,2,3,4,7,8-HxCDD	EPA-5 1613B	364133	0.000050	0.0000007	ND	0.97	12/30/2010	1/3/2011	
1,2,3,4,7,8-HxCDF	EPA-5 1613B	364133	0.000050	0.0000038	ND	0.97	12/30/2010	1/3/2011	
1,2,3,6,7,8-HxCDD	EPA-5 1613B	364133	0.000050	0.0000059	ND	0.97	12/30/2010	1/3/2011	
1,2,3,6,7,8-HxCDF	EPA-5 1613B	364133	0.000050	0.0000019	ND	0.97	12/30/2010	1/3/2011	
1,2,3,7,8,9-HxCDD	EPA-5 1613B	364133	0.000050	0.0000012	ND	0.97	12/30/2010	1/3/2011	
1,2,3,7,8,9-HxCDF	EPA-5 1613B	364133	0.000050	0.0000085	ND	0.97	12/30/2010	1/3/2011	
1,2,3,7,8-PeCDD	EPA-5 1613B	364133	0.000050	0.0000012	ND	0.97	12/30/2010	1/3/2011	
1,2,3,7,8-PeCDF	EPA-5 1613B	364133	0.000050	0.0000086	ND	0.97	12/30/2010	1/3/2011	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	364133	0.000050	0.0000018	ND	0.97	12/30/2010	1/3/2011	
2,3,4,7,8-PeCDF	EPA-5 1613B	364133	0.000050	0.0000001	ND	0.97	12/30/2010	1/3/2011	
2,3,7,8-TCDD	EPA-5 1613B	364133	0.000050	0.0000082	ND	0.97	12/30/2010	1/3/2011	
2,3,7,8-TCDF	EPA-5 1613B	364133	0.000050	0.0000063	ND	0.97	12/30/2010	1/3/2011	
OCDD	EPA-5 1613B	364133	0.000100	0.0000046	6.2e-005	0.97	12/30/2010	1/3/2011	J, B
OCDF	EPA-5 1613B	364133	0.000100	0.0000015	4.1e-006	0.97	12/30/2010	1/3/2011	J, Q, B
Total HpCDD	EPA-5 1613B	364133	0.000050	0.0000008	1.3e-005	0.97	12/30/2010	1/3/2011	J, B
Total HpCDF	EPA-5 1613B	364133	0.000050	0.0000076	4.2e-006	0.97	12/30/2010	1/3/2011	J, Q, B
Total HxCDD	EPA-5 1613B	364133	0.000050	0.0000059	ND	0.97	12/30/2010	1/3/2011	
Total HxCDF	EPA-5 1613B	364133	0.000050	0.0000018	ND	0.97	12/30/2010	1/3/2011	
Total PeCDD	EPA-5 1613B	364133	0.000050	0.0000012	ND	0.97	12/30/2010	1/3/2011	
Total PeCDF	EPA-5 1613B	364133	0.000050	0.0000086	ND	0.97	12/30/2010	1/3/2011	
Total TCDD	EPA-5 1613B	364133	0.000050	0.0000082	ND	0.97	12/30/2010	1/3/2011	
Total TCDF	EPA-5 1613B	364133	0.000050	0.0000063	ND	0.97	12/30/2010	1/3/2011	

Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)	67 %
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)	57 %
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)	60 %
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)	54 %
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)	53 %
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)	67 %
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)	55 %
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)	50 %
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)	60 %
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)	64 %
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)	54 %
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)	61 %
Surrogate: 13C-2,3,7,8-TCDD (25-164%)	58 %
Surrogate: 13C-2,3,7,8-TCDF (24-169%)	57 %
Surrogate: 13C-OCDD (17-157%)	55 %
Surrogate: 37Cl-2,3,7,8-TCDD (35-197%)	98 %

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Project ID: Routine Outfall 002 2010  
Routine Outfall 002  
Report Number: ITL2488

Sampled: 12/26/10  
Received: 12/27/10

## EPA-5 1613Bx

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2488-03RE1 (Outfall 002 (Composite) - Water) - cont.</b>									
<b>Reporting Units: ug/L</b>									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	1006300	0.00005	0.00000345	1.1e-006	1.01	1/6/2011	1/7/2011	J
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	1006300	0.00005	0.00000322	3.3e-006	1.01	1/6/2011	1/7/2011	J, Q
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	1006300	0.00005	0.00000045	ND	1.01	1/6/2011	1/7/2011	
1,2,3,4,7,8-HxCDD	EPA-5 1613B	1006300	0.00005	0.00000064	ND	1.01	1/6/2011	1/7/2011	
1,2,3,4,7,8-HxCDF	EPA-5 1613B	1006300	0.00005	0.00000051	ND	1.01	1/6/2011	1/7/2011	
1,2,3,6,7,8-HxCDD	EPA-5 1613B	1006300	0.00005	0.00000032	ND	1.01	1/6/2011	1/7/2011	
1,2,3,6,7,8-HxCDF	EPA-5 1613B	1006300	0.00005	0.00000027	ND	1.01	1/6/2011	1/7/2011	
1,2,3,7,8,9-HxCDD	EPA-5 1613B	1006300	0.00005	0.00000033	ND	1.01	1/6/2011	1/7/2011	
1,2,3,7,8,9-HxCDF	EPA-5 1613B	1006300	0.00005	0.00000034	ND	1.01	1/6/2011	1/7/2011	
1,2,3,7,8-PeCDD	EPA-5 1613B	1006300	0.000050	0.0000011	ND	1.01	1/6/2011	1/7/2011	
1,2,3,7,8-PeCDF	EPA-5 1613B	1006300	0.00005	0.00000083	ND	1.01	1/6/2011	1/7/2011	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	1006300	0.00005	0.00000026	ND	1.01	1/6/2011	1/7/2011	
2,3,4,7,8-PeCDF	EPA-5 1613B	1006300	0.00005	0.00000094	ND	1.01	1/6/2011	1/7/2011	
2,3,7,8-TCDD	EPA-5 1613B	1006300	0.00001	0.00000079	ND	1.01	1/6/2011	1/7/2011	
2,3,7,8-TCDF	EPA-5 1613B	1006300	0.00001	0.00000048	ND	1.01	1/6/2011	1/7/2011	
OCDD	EPA-5 1613B	1006300	0.00010	0.000000935	1.1e-005	1.01	1/6/2011	1/7/2011	J, B
OCDF	EPA-5 1613B	1006300	0.00010	0.000000584	1.1e-006	1.01	1/6/2011	1/7/2011	J, B
Total HpCDD	EPA-5 1613B	1006300	0.00005	0.000000349	3.8e-006	1.01	1/6/2011	1/7/2011	J, B
Total HpCDF	EPA-5 1613B	1006300	0.00005	0.000000384	1.1e-006	1.01	1/6/2011	1/7/2011	J, Q
Total HxCDD	EPA-5 1613B	1006300	0.00005	0.00000032	ND	1.01	1/6/2011	1/7/2011	
Total HxCDF	EPA-5 1613B	1006300	0.00005	0.00000026	ND	1.01	1/6/2011	1/7/2011	
Total PeCDD	EPA-5 1613B	1006300	0.000050	0.0000011	ND	1.01	1/6/2011	1/7/2011	
Total PeCDF	EPA-5 1613B	1006300	0.00005	0.00000083	ND	1.01	1/6/2011	1/7/2011	
Total TCDD	EPA-5 1613B	1006300	0.00001	0.00000079	ND	1.01	1/6/2011	1/7/2011	
Total TCDF	EPA-5 1613B	1006300	0.00001	0.00000048	ND	1.01	1/6/2011	1/7/2011	

Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)	88 %
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)	84 %
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)	88 %
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)	74 %
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)	77 %
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)	98 %
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)	82 %
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)	78 %
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)	93 %
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)	95 %
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)	81 %
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)	94 %
Surrogate: 13C-2,3,7,8-TCDD (25-164%)	82 %
Surrogate: 13C-2,3,7,8-TCDF (24-169%)	79 %
Surrogate: 13C-OCDD (17-157%)	87 %
Surrogate: 37Cl-2,3,7,8-TCDD (35-197%)	93 %

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Project ID: Routine Outfall 002 2010  
Routine Outfall 002  
Report Number: ITL2488

Sampled: 12/26/10  
Received: 12/27/10

## SHORT HOLD TIME DETAIL REPORT

	<b>Hold Time (in days)</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>	<b>Date/Time Extracted</b>	<b>Date/Time Analyzed</b>
<b>Sample ID: Outfall 002 (Grab) (ITL2488-01) - Water</b>					
SM2540F	2	12/26/2010 09:35	12/27/2010 08:15	12/28/2010 08:15	12/28/2010 08:15
<b>Sample ID: Outfall 002 (Composite) (ITL2488-03) - Water</b>					
EPA 300.0	2	12/26/2010 20:12	12/27/2010 08:15	12/27/2010 18:00	12/27/2010 21:15
Filtration	1	12/26/2010 20:12	12/27/2010 08:15	12/27/2010 20:50	12/27/2010 20:50
SM2130B	2	12/26/2010 20:12	12/27/2010 08:15	12/28/2010 08:25	12/28/2010 08:25
SM5210B	2	12/26/2010 20:12	12/27/2010 08:15	12/28/2010 08:30	01/02/2011 13:00
SM5540-C	2	12/26/2010 20:12	12/27/2010 08:15	12/27/2010 19:00	12/27/2010 19:51

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Arcadia, CA 91007  
Attention: Bronwyn Kelly

Project ID: Routine Outfall 002 2010  
Routine Outfall 002  
Report Number: ITL2488

Sampled: 12/26/10  
Received: 12/27/10

## METHOD BLANK/QC DATA

### PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10L3018 Extracted: 12/28/10</b>										
<b>Blank Analyzed: 12/28/2010 (10L3018-BLK1)</b>										
1,2-Dichloroethane	ND	0.50	ug/l							
1,1-Dichloroethene	ND	2.0	ug/l							
Trichloroethene	ND	2.0	ug/l							
Surrogate: 4-Bromofluorobenzene	23.6		ug/l	25.0		94	80-120			
Surrogate: Dibromofluoromethane	22.8		ug/l	25.0		91	80-120			
Surrogate: Toluene-d8	27.0		ug/l	25.0		108	80-120			
<b>LCS Analyzed: 12/28/2010 (10L3018-BS1)</b>										
1,2-Dichloroethane	24.6	0.50	ug/l	25.0		98	60-140			
1,1-Dichloroethene	22.4	2.0	ug/l	25.0		90	70-125			
Trichloroethene	27.4	2.0	ug/l	25.0		110	70-125			
Surrogate: 4-Bromofluorobenzene	23.9		ug/l	25.0		96	80-120			
Surrogate: Dibromofluoromethane	23.5		ug/l	25.0		94	80-120			
Surrogate: Toluene-d8	26.9		ug/l	25.0		108	80-120			
<b>Matrix Spike Analyzed: 12/28/2010 (10L3018-MS1)</b>					<b>Source: ITL1873-01</b>					
1,2-Dichloroethane	23.4	0.50	ug/l	25.0	ND	94	60-140			
1,1-Dichloroethene	17.4	2.0	ug/l	25.0	ND	70	60-130			
Trichloroethene	24.9	2.0	ug/l	25.0	ND	100	65-125			
Surrogate: 4-Bromofluorobenzene	24.5		ug/l	25.0		98	80-120			
Surrogate: Dibromofluoromethane	23.1		ug/l	25.0		92	80-120			
Surrogate: Toluene-d8	26.6		ug/l	25.0		106	80-120			
<b>Matrix Spike Dup Analyzed: 12/28/2010 (10L3018-MSD1)</b>					<b>Source: ITL1873-01</b>					
1,2-Dichloroethane	23.7	0.50	ug/l	25.0	ND	95	60-140	1	20	
1,1-Dichloroethene	18.3	2.0	ug/l	25.0	ND	73	60-130	5	20	
Trichloroethene	26.1	2.0	ug/l	25.0	ND	104	65-125	4	20	
Surrogate: 4-Bromofluorobenzene	24.0		ug/l	25.0		96	80-120			
Surrogate: Dibromofluoromethane	24.0		ug/l	25.0		96	80-120			
Surrogate: Toluene-d8	27.0		ug/l	25.0		108	80-120			

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## METHOD BLANK/QC DATA

### ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10L3149 Extracted: 12/28/10</b>										
<b>Blank Analyzed: 12/31/2010 (10L3149-BLK1)</b>										
Bis(2-ethylhexyl)phthalate	ND	5.00	ug/l							
2,4-Dinitrotoluene	ND	5.00	ug/l							
N-Nitrosodimethylamine	ND	5.00	ug/l							
Pentachlorophenol	ND	5.00	ug/l							
2,4,6-Trichlorophenol	ND	6.00	ug/l							
Surrogate: 2,4,6-Tribromophenol	15.5		ug/l	20.0		78	40-120			
Surrogate: 2-Fluorobiphenyl	7.84		ug/l	10.0		78	50-120			
Surrogate: 2-Fluorophenol	12.4		ug/l	20.0		62	30-120			
Surrogate: Nitrobenzene-d5	7.26		ug/l	10.0		73	45-120			
Surrogate: Phenol-d6	13.6		ug/l	20.0		68	35-120			
Surrogate: Terphenyl-d14	8.88		ug/l	10.0		89	50-125			
<b>LCS Analyzed: 12/31/2010 (10L3149-BS1)</b>										
Bis(2-ethylhexyl)phthalate	7.88	5.00	ug/l	10.0		79	65-130			MNR1
2,4-Dinitrotoluene	7.54	5.00	ug/l	10.0		75	65-120			
N-Nitrosodimethylamine	6.48	5.00	ug/l	10.0		65	45-120			
Pentachlorophenol	4.28	5.00	ug/l	10.0		43	24-121			
2,4,6-Trichlorophenol	7.52	6.00	ug/l	10.0		75	55-120			
Surrogate: 2,4,6-Tribromophenol	17.5		ug/l	20.0		88	40-120			
Surrogate: 2-Fluorobiphenyl	7.32		ug/l	10.0		73	50-120			
Surrogate: 2-Fluorophenol	12.0		ug/l	20.0		60	30-120			
Surrogate: Nitrobenzene-d5	6.82		ug/l	10.0		68	45-120			
Surrogate: Phenol-d6	13.4		ug/l	20.0		67	35-120			
Surrogate: Terphenyl-d14	8.24		ug/l	10.0		82	50-125			
<b>LCS Dup Analyzed: 12/31/2010 (10L3149-BSD1)</b>										
Bis(2-ethylhexyl)phthalate	8.28	5.00	ug/l	10.0		83	65-130	5	20	
2,4-Dinitrotoluene	8.00	5.00	ug/l	10.0		80	65-120	6	20	
N-Nitrosodimethylamine	6.82	5.00	ug/l	10.0		68	45-120	5	20	
Pentachlorophenol	4.26	5.00	ug/l	10.0		43	24-121	0.5	25	
2,4,6-Trichlorophenol	7.82	6.00	ug/l	10.0		78	55-120	4	30	
Surrogate: 2,4,6-Tribromophenol	17.8		ug/l	20.0		89	40-120			
Surrogate: 2-Fluorobiphenyl	7.80		ug/l	10.0		78	50-120			
Surrogate: 2-Fluorophenol	12.1		ug/l	20.0		60	30-120			
Surrogate: Nitrobenzene-d5	7.20		ug/l	10.0		72	45-120			
Surrogate: Phenol-d6	13.1		ug/l	20.0		65	35-120			
Surrogate: Terphenyl-d14	8.24		ug/l	10.0		82	50-125			

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 Routine Outfall 002  
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## METHOD BLANK/QC DATA

### ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10L3051 Extracted: 12/28/10</b>										
<b>Blank Analyzed: 12/28/2010 (10L3051-BLK1)</b>										
alpha-BHC	ND	0.010	ug/l							
Surrogate: Decachlorobiphenyl	0.430		ug/l	0.500		86	45-120			
Surrogate: Tetrachloro-m-xylene	0.379		ug/l	0.500		76	35-115			
<b>LCS Analyzed: 12/28/2010 (10L3051-BS1)</b>										
alpha-BHC	0.385	0.010	ug/l	0.500		77	45-115			MNR1
Surrogate: Decachlorobiphenyl	0.419		ug/l	0.500		84	45-120			
Surrogate: Tetrachloro-m-xylene	0.360		ug/l	0.500		72	35-115			
<b>LCS Dup Analyzed: 12/28/2010 (10L3051-BSD1)</b>										
alpha-BHC	0.395	0.010	ug/l	0.500		79	45-115	2	30	
Surrogate: Decachlorobiphenyl	0.425		ug/l	0.500		85	45-120			
Surrogate: Tetrachloro-m-xylene	0.363		ug/l	0.500		73	35-115			

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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
<b>Batch: 11A0059 Extracted: 01/03/11</b>										
<b>Blank Analyzed: 01/03/2011 (11A0059-BLK1)</b>										
Hexane Extractable Material (Oil & Grease)	ND	5.0	mg/l							
<b>LCS Analyzed: 01/03/2011 (11A0059-BS1)</b>										
Hexane Extractable Material (Oil & Grease)	20.8	5.0	mg/l	20.0		104	78-114			MNR1
<b>LCS Dup Analyzed: 01/03/2011 (11A0059-BSD1)</b>										
Hexane Extractable Material (Oil & Grease)	21.2	5.0	mg/l	20.0		106	78-114	2	11	

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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
<b>Batch: 10L3064 Extracted: 12/28/10</b>										
<b>Blank Analyzed: 12/29/2010 (10L3064-BLK1)</b>										
Cadmium	ND	1.0	ug/l							
Copper	ND	2.0	ug/l							
Lead	ND	1.0	ug/l							
Selenium	ND	2.0	ug/l							
<b>LCS Analyzed: 12/29/2010 (10L3064-BS1)</b>										
Cadmium	83.4	1.0	ug/l	80.0		104	85-115			
Copper	83.9	2.0	ug/l	80.0		105	85-115			
Lead	83.4	1.0	ug/l	80.0		104	85-115			
Selenium	80.1	2.0	ug/l	80.0		100	85-115			
<b>Matrix Spike Analyzed: 12/29/2010 (10L3064-MS1) Source: ITL2444-01</b>										
Cadmium	78.9	1.0	ug/l	80.0	ND	99	70-130			
Copper	69.9	2.0	ug/l	80.0	0.843	86	70-130			
Lead	73.2	1.0	ug/l	80.0	ND	91	70-130			
Selenium	79.1	2.0	ug/l	80.0	1.25	97	70-130			
<b>Matrix Spike Analyzed: 12/29/2010 (10L3064-MS2) Source: ITL2444-02</b>										
Cadmium	81.7	1.0	ug/l	80.0	ND	102	70-130			
Copper	73.4	2.0	ug/l	80.0	0.584	91	70-130			
Lead	77.7	1.0	ug/l	80.0	ND	97	70-130			
Selenium	72.3	2.0	ug/l	80.0	ND	90	70-130			
<b>Matrix Spike Dup Analyzed: 12/29/2010 (10L3064-MSD1) Source: ITL2444-01</b>										
Cadmium	80.6	1.0	ug/l	80.0	ND	101	70-130	2	20	
Copper	69.9	2.0	ug/l	80.0	0.843	86	70-130	0.05	20	
Lead	75.3	1.0	ug/l	80.0	ND	94	70-130	3	20	
Selenium	80.8	2.0	ug/l	80.0	1.25	99	70-130	2	20	

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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
<b>Batch: 10L3131 Extracted: 12/28/10</b>										
<b>Blank Analyzed: 12/28/2010 (10L3131-BLK1)</b>										
Iron	ND	0.040	mg/l							
Manganese	ND	20	ug/l							
Zinc	ND	20.0	ug/l							
<b>LCS Analyzed: 12/28/2010 (10L3131-BS1)</b>										
Iron	0.512	0.040	mg/l	0.500		102	85-115			
Manganese	499	20	ug/l	500		100	85-115			
Zinc	497	20.0	ug/l	500		99	85-115			
<b>Matrix Spike Analyzed: 12/28/2010 (10L3131-MS1) Source: ITL2185-01</b>										
Iron	0.501	0.040	mg/l	0.500	ND	100	70-130			
Manganese	491	20	ug/l	500	ND	98	70-130			
Zinc	498	20.0	ug/l	500	ND	100	70-130			
<b>Matrix Spike Analyzed: 12/28/2010 (10L3131-MS2) Source: ITL2185-02</b>										
Iron	0.537	0.040	mg/l	0.500	ND	107	70-130			
Manganese	514	20	ug/l	500	ND	103	70-130			
Zinc	535	20.0	ug/l	500	ND	107	70-130			
<b>Matrix Spike Dup Analyzed: 12/28/2010 (10L3131-MSD1) Source: ITL2185-01</b>										
Iron	0.513	0.040	mg/l	0.500	ND	103	70-130	2	20	
Manganese	502	20	ug/l	500	ND	100	70-130	2	20	
Zinc	509	20.0	ug/l	500	ND	102	70-130	2	20	

**Batch: 10L3468 Extracted: 12/30/10**

**Blank Analyzed: 12/30/2010 (10L3468-BLK1)**

Mercury ND 0.20 ug/l

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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
<b>Batch: 10L3468 Extracted: 12/30/10</b>										
<b>LCS Analyzed: 12/30/2010 (10L3468-BS1)</b>										
Mercury	8.62	0.20	ug/l	8.00		108	85-115			
<b>Matrix Spike Analyzed: 12/30/2010 (10L3468-MS1)</b>										
					<b>Source: ITL2438-01</b>					
Mercury	7.80	0.20	ug/l	8.00	ND	98	70-130			
<b>Matrix Spike Dup Analyzed: 12/30/2010 (10L3468-MSD1)</b>										
					<b>Source: ITL2438-01</b>					
Mercury	7.94	0.20	ug/l	8.00	ND	99	70-130	2	20	

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## METHOD BLANK/QC DATA

### DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10L3118 Extracted: 12/28/10</b>										
<b>Blank Analyzed: 12/28/2010 (10L3118-BLK1)</b>										
Iron	ND	0.040	mg/l							
Manganese	ND	20	ug/l							
Zinc	ND	20	ug/l							
<b>LCS Analyzed: 12/28/2010 (10L3118-BS1)</b>										
Iron	0.519	0.040	mg/l	0.500		104	85-115			
Manganese	497	20	ug/l	500		99	85-115			
Zinc	498	20	ug/l	500		100	85-115			
<b>Matrix Spike Analyzed: 12/28/2010 (10L3118-MS1) Source: ITL2272-03</b>										
Iron	0.890	0.040	mg/l	0.500	0.375	103	70-130			
Manganese	509	20	ug/l	500	ND	102	70-130			
Zinc	510	20	ug/l	500	ND	102	70-130			
<b>Matrix Spike Dup Analyzed: 12/28/2010 (10L3118-MSD1) Source: ITL2272-03</b>										
Iron	0.887	0.040	mg/l	0.500	0.375	102	70-130	0.3	20	
Manganese	506	20	ug/l	500	ND	101	70-130	0.5	20	
Zinc	511	20	ug/l	500	ND	102	70-130	0.1	20	
<b>Batch: 10L3120 Extracted: 12/28/10</b>										
<b>Blank Analyzed: 12/28/2010 (10L3120-BLK1)</b>										
Cadmium	ND	1.0	ug/l							
Copper	ND	2.0	ug/l							
Lead	ND	1.0	ug/l							
Selenium	ND	2.0	ug/l							

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## METHOD BLANK/QC DATA

### DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10L3120 Extracted: 12/28/10</b>										
<b>LCS Analyzed: 12/28/2010 (10L3120-BS1)</b>										
Cadmium	82.5	1.0	ug/l	80.0		103	85-115			
Copper	81.0	2.0	ug/l	80.0		101	85-115			
Lead	84.2	1.0	ug/l	80.0		105	85-115			
Selenium	80.5	2.0	ug/l	80.0		101	85-115			
<b>Matrix Spike Analyzed: 12/28/2010 (10L3120-MS1)</b>					<b>Source: ITL2486-02</b>					
Cadmium	80.1	1.0	ug/l	80.0	ND	100	70-130			
Copper	79.5	2.0	ug/l	80.0	3.50	95	70-130			
Lead	81.7	1.0	ug/l	80.0	0.379	102	70-130			
Selenium	81.3	2.0	ug/l	80.0	ND	102	70-130			
<b>Matrix Spike Dup Analyzed: 12/28/2010 (10L3120-MSD1)</b>					<b>Source: ITL2486-02</b>					
Cadmium	81.2	1.0	ug/l	80.0	ND	102	70-130	1	20	
Copper	79.6	2.0	ug/l	80.0	3.50	95	70-130	0.2	20	
Lead	82.9	1.0	ug/l	80.0	0.379	103	70-130	1	20	
Selenium	81.0	2.0	ug/l	80.0	ND	101	70-130	0.4	20	
<b>Batch: 10L3474 Extracted: 12/30/10</b>										
<b>Blank Analyzed: 12/30/2010 (10L3474-BLK1)</b>										
Mercury	ND	0.20	ug/l							
<b>LCS Analyzed: 12/30/2010 (10L3474-BS1)</b>										
Mercury	8.08	0.20	ug/l	8.00		101	85-115			
<b>Matrix Spike Analyzed: 12/30/2010 (10L3474-MS1)</b>					<b>Source: ITL2299-07</b>					
Mercury	8.16	0.20	ug/l	8.00	ND	102	70-130			

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## METHOD BLANK/QC DATA

### DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10L3474 Extracted: 12/30/10</b>										
<b>Matrix Spike Dup Analyzed: 12/30/2010 (10L3474-MSD1)</b>										
Mercury	8.23	0.20	ug/l	8.00	ND	103	70-130	0.9	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
<b>Batch: 10L3000 Extracted: 12/27/10</b>										
<b>Blank Analyzed: 12/27/2010 (10L3000-BLK1)</b>										
Chloride	ND	0.50	mg/l							
Nitrate-N	ND	0.11	mg/l							
Nitrite-N	ND	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.26	mg/l							
Sulfate	ND	0.50	mg/l							
<b>LCS Analyzed: 12/27/2010 (10L3000-BS1)</b>										
Chloride	4.51	0.50	mg/l	5.00		90	90-110			
Nitrate-N	1.04	0.11	mg/l	1.13		92	90-110			
Nitrite-N	1.41	0.15	mg/l	1.52		93	90-110			
Sulfate	9.05	0.50	mg/l	10.0		90	90-110			
<b>Matrix Spike Analyzed: 12/27/2010 (10L3000-MS1)</b>					<b>Source: ITL2459-01</b>					
Chloride	6.01	0.50	mg/l	5.00	1.62	88	80-120			
Nitrate-N	1.31	0.11	mg/l	1.13	0.309	89	80-120			
Nitrite-N	1.45	0.15	mg/l	1.52	ND	96	80-120			
Sulfate	13.5	0.50	mg/l	10.0	4.49	90	80-120			
<b>Matrix Spike Dup Analyzed: 12/27/2010 (10L3000-MSD1)</b>					<b>Source: ITL2459-01</b>					
Chloride	6.15	0.50	mg/l	5.00	1.62	90	80-120	2	20	
Nitrate-N	1.40	0.11	mg/l	1.13	0.309	96	80-120	6	20	
Nitrite-N	1.51	0.15	mg/l	1.52	ND	99	80-120	4	20	
Sulfate	14.1	0.50	mg/l	10.0	4.49	97	80-120	5	20	
<b>Batch: 10L3003 Extracted: 12/27/10</b>										
<b>Blank Analyzed: 12/27/2010 (10L3003-BLK1)</b>										
Surfactants (MBAS)	ND	0.10	mg/l							

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 Routine Outfall 002  
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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
<b>Batch: 10L3003 Extracted: 12/27/10</b>										
<b>LCS Analyzed: 12/27/2010 (10L3003-BS1)</b>										
Surfactants (MBAS)	0.263	0.10	mg/l	0.250		105	90-110			
<b>Matrix Spike Analyzed: 12/27/2010 (10L3003-MS1)</b>										
Surfactants (MBAS)	0.352	0.10	mg/l	0.250	0.0783	109	50-125			
<b>Matrix Spike Dup Analyzed: 12/27/2010 (10L3003-MSD1)</b>										
Surfactants (MBAS)	0.344	0.10	mg/l	0.250	0.0783	106	50-125	2	20	
<b>Batch: 10L3015 Extracted: 12/28/10</b>										
<b>Blank Analyzed: 12/28/2010 (10L3015-BLK1)</b>										
Perchlorate	ND	4.0	ug/l							
<b>LCS Analyzed: 12/28/2010 (10L3015-BS1)</b>										
Perchlorate	22.7	4.0	ug/l	25.0		91	85-115			
<b>Matrix Spike Analyzed: 12/28/2010 (10L3015-MS1)</b>										
Perchlorate	23.1	4.0	ug/l	25.0	ND	92	80-120			
<b>Matrix Spike Dup Analyzed: 12/28/2010 (10L3015-MSD1)</b>										
Perchlorate	23.7	4.0	ug/l	25.0	ND	95	80-120	3	20	
<b>Batch: 10L3057 Extracted: 12/28/10</b>										
<b>Blank Analyzed: 01/02/2011 (10L3057-BLK1)</b>										
Biochemical Oxygen Demand	ND	2.0	mg/l							

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### INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b><u>Batch: 10L3057 Extracted: 12/28/10</u></b>										
<b>LCS Analyzed: 01/02/2011 (10L3057-BS1)</b>										
Biochemical Oxygen Demand	194	100	mg/l	198		98	85-115			
<b>LCS Dup Analyzed: 01/02/2011 (10L3057-BSD1)</b>										
Biochemical Oxygen Demand	202	100	mg/l	198		102	85-115	4	20	
<b><u>Batch: 10L3072 Extracted: 12/28/10</u></b>										
<b>Blank Analyzed: 12/28/2010 (10L3072-BLK1)</b>										
Turbidity	ND	1.0	NTU							
<b>Duplicate Analyzed: 12/28/2010 (10L3072-DUP1)</b>										
Turbidity	3.48	1.0	NTU		Source: ITL2483-01 3.50			0.6	20	
<b>Duplicate Analyzed: 12/28/2010 (10L3072-DUP2)</b>										
Turbidity	ND	1.0	NTU		Source: ITL2525-25 ND				20	
<b><u>Batch: 10L3090 Extracted: 12/28/10</u></b>										
<b>Blank Analyzed: 12/28/2010 (10L3090-BLK1)</b>										
Total Dissolved Solids	ND	10	mg/l							
<b>LCS Analyzed: 12/28/2010 (10L3090-BS1)</b>										
Total Dissolved Solids	992	10	mg/l	1000		99	90-110			
<b>Duplicate Analyzed: 12/28/2010 (10L3090-DUP1)</b>										
Total Dissolved Solids	142	10	mg/l		Source: ITL2477-01 136			4	10	

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### INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10L3090 Extracted: 12/28/10</b>										
<b>Duplicate Analyzed: 12/28/2010 (10L3090-DUP2)</b>										
Total Dissolved Solids	391	10	mg/l		372			5	10	
<b>Batch: 10L3114 Extracted: 12/28/10</b>										
<b>Blank Analyzed: 12/28/2010 (10L3114-BLK1)</b>										
Total Cyanide	ND	5.0	ug/l							
<b>LCS Analyzed: 12/28/2010 (10L3114-BS1)</b>										
Total Cyanide	190	5.0	ug/l	200		95	90-110			
<b>Matrix Spike Analyzed: 12/28/2010 (10L3114-MS1)</b>										
Total Cyanide	188	5.0	ug/l	200	ND	94	70-115			
<b>Matrix Spike Dup Analyzed: 12/28/2010 (10L3114-MSD1)</b>										
Total Cyanide	188	5.0	ug/l	200	ND	94	70-115	0.3	15	
<b>Batch: 10L3337 Extracted: 12/29/10</b>										
<b>Blank Analyzed: 12/29/2010 (10L3337-BLK1)</b>										
Ammonia-N (Distilled)	ND	0.500	mg/l							
<b>LCS Analyzed: 12/29/2010 (10L3337-BS1)</b>										
Ammonia-N (Distilled)	9.80	0.500	mg/l	10.0		98	80-115			
<b>Matrix Spike Analyzed: 12/29/2010 (10L3337-MS1)</b>										
Ammonia-N (Distilled)	9.80	0.500	mg/l	10.0	ND	98	70-120			

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### INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10L3337 Extracted: 12/29/10</b>										
<b>Matrix Spike Dup Analyzed: 12/29/2010 (10L3337-MSD1)</b>					<b>Source: ITL2485-02</b>					
Ammonia-N (Distilled)	9.80	0.500	mg/l	10.0	ND	98	70-120	0	15	
<b>Batch: 10L3361 Extracted: 12/29/10</b>										
<b>Blank Analyzed: 12/29/2010 (10L3361-BLK1)</b>										
Total Suspended Solids	ND	10	mg/l							
<b>LCS Analyzed: 12/29/2010 (10L3361-BS1)</b>										
Total Suspended Solids	1000	10	mg/l	1000		100	85-115			
<b>Duplicate Analyzed: 12/29/2010 (10L3361-DUP1)</b>					<b>Source: ITL2502-01</b>					
Total Suspended Solids	26.0	10	mg/l		27.0			4	10	
<b>Batch: 11A0029 Extracted: 01/03/11</b>										
<b>Blank Analyzed: 01/03/2011 (11A0029-BLK1)</b>										
Specific Conductance	ND	1.0	umhos/cm @ 25C							
<b>LCS Analyzed: 01/03/2011 (11A0029-BS1)</b>										
Specific Conductance	1440	1.0	umhos/cm @ 25C	1410		102	90-110			
<b>Duplicate Analyzed: 01/03/2011 (11A0029-DUP1)</b>					<b>Source: ITL2530-01</b>					
Specific Conductance	890	1.0	umhos/cm @ 25C		888			0.2	5	

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## METHOD BLANK/QC DATA

### EPA-5 1613Bx

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 1006300 Extracted: 01/06/11</b>										
<b>Blank Analyzed: 01/07/2011 (G1A060000300B)</b>					<b>Source:</b>					
1,2,3,4,6,7,8-HpCDD	ND	0.00005	ug/L				-			
1,2,3,4,6,7,8-HpCDF	ND	0.00005	ug/L				-			
1,2,3,4,7,8,9-HpCDF	ND	0.00005	ug/L				-			
1,2,3,4,7,8-HxCDD	ND	0.00005	ug/L				-			
1,2,3,4,7,8-HxCDF	ND	0.00005	ug/L				-			
1,2,3,6,7,8-HxCDD	ND	0.00005	ug/L				-			
1,2,3,6,7,8-HxCDF	ND	0.00005	ug/L				-			
1,2,3,7,8,9-HxCDD	ND	0.00005	ug/L				-			
1,2,3,7,8,9-HxCDF	ND	0.00005	ug/L				-			
1,2,3,7,8-PeCDD	ND	0.00005	ug/L				-			
1,2,3,7,8-PeCDF	ND	0.00005	ug/L				-			
2,3,4,6,7,8-HxCDF	ND	0.00005	ug/L				-			
2,3,4,7,8-PeCDF	ND	0.00005	ug/L				-			
2,3,7,8-TCDD	ND	0.00001	ug/L				-			
2,3,7,8-TCDF	ND	0.00001	ug/L				-			
OCDD	1.8e-006	0.0001	ug/L				-			J
OCDF	1.8e-006	0.0001	ug/L				-			J, Q
Total HpCDD	1.4e-006	0.00005	ug/L				-			J, Q
Total HpCDF	ND	0.00005	ug/L				-			
Total HxCDD	ND	0.00005	ug/L				-			
Total HxCDF	ND	0.00005	ug/L				-			
Total PeCDD	ND	0.00005	ug/L				-			
Total PeCDF	ND	0.00005	ug/L				-			
Total TCDD	ND	0.00001	ug/L				-			
Total TCDF	ND	0.00001	ug/L				-			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.0019		ug/L	0.002		94	23-140			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0018		ug/L	0.002		88	28-143			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.0019		ug/L	0.002		95	26-138			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.0016		ug/L	0.002		82	32-141			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.0017		ug/L	0.002		85	26-152			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.0021		ug/L	0.002		103	28-130			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.0017		ug/L	0.002		85	26-123			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.0017		ug/L	0.002		85	29-147			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.002		ug/L	0.002		102	25-181			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.0021		ug/L	0.002		104	24-185			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.0017		ug/L	0.002		87	28-136			

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## METHOD BLANK/QC DATA

### EPA-5 1613Bx

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 1006300 Extracted: 01/06/11</b>										
<b>Blank Analyzed: 01/07/2011 (G1A060000300B)</b>					<b>Source:</b>					
Surrogate: 13C-2,3,4,7,8-PeCDF	0.0021		ug/L	0.002		105	21-178			
Surrogate: 13C-2,3,7,8-TCDD	0.0017		ug/L	0.002		86	25-164			
Surrogate: 13C-2,3,7,8-TCDF	0.0016		ug/L	0.002		82	24-169			
Surrogate: 13C-OCDD	0.0037		ug/L	0.004		92	17-157			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.00081		ug/L	0.0008		101	35-197			
<b>LCS Analyzed: 01/07/2011 (G1A060000300C)</b>					<b>Source:</b>					
1,2,3,4,6,7,8-HpCDD	0.000924	0.00005	ug/L	0.001		92	70-140			
1,2,3,4,6,7,8-HpCDF	0.000987	0.00005	ug/L	0.001		99	82-122			
1,2,3,4,7,8,9-HpCDF	0.000958	0.00005	ug/L	0.001		96	78-138			
1,2,3,4,7,8-HxCDD	0.000966	0.00005	ug/L	0.001		97	70-164			
1,2,3,4,7,8-HxCDF	0.000893	0.00005	ug/L	0.001		89	72-134			
1,2,3,6,7,8-HxCDD	0.000897	0.00005	ug/L	0.001		90	76-134			
1,2,3,6,7,8-HxCDF	0.000917	0.00005	ug/L	0.001		92	84-130			
1,2,3,7,8,9-HxCDD	0.00093	0.00005	ug/L	0.001		93	64-162			
1,2,3,7,8,9-HxCDF	0.000918	0.00005	ug/L	0.001		92	78-130			
1,2,3,7,8-PeCDD	0.000987	0.00005	ug/L	0.001		99	70-142			
1,2,3,7,8-PeCDF	0.000871	0.00005	ug/L	0.001		87	80-134			
2,3,4,6,7,8-HxCDF	0.000934	0.00005	ug/L	0.001		93	70-156			
2,3,4,7,8-PeCDF	0.00086	0.00005	ug/L	0.001		86	68-160			
2,3,7,8-TCDD	0.000186	0.00001	ug/L	0.0002		93	67-158			
2,3,7,8-TCDF	0.000173	0.00001	ug/L	0.0002		86	75-158			
OCDD	0.00173	0.0001	ug/L	0.002		86	78-144			B
OCDF	0.0017	0.0001	ug/L	0.002		85	63-170			B
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.00183		ug/L	0.002		91	26-166			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0017		ug/L	0.002		85	21-158			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.0018		ug/L	0.002		90	20-186			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.00169		ug/L	0.002		85	21-193			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00159		ug/L	0.002		80	19-202			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.0019		ug/L	0.002		95	25-163			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.00171		ug/L	0.002		85	21-159			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.00163		ug/L	0.002		81	17-205			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00186		ug/L	0.002		93	21-227			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00189		ug/L	0.002		95	21-192			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.00169		ug/L	0.002		84	22-176			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00192		ug/L	0.002		96	13-328			

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### EPA-5 1613Bx

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 1006300 Extracted: 01/06/11</b>										
<b>LCS Analyzed: 01/07/2011 (G1A060000300C)</b>										
Surrogate: 13C-2,3,7,8-TCDD	0.00164		ug/L	0.002		82	20-175			
Surrogate: 13C-2,3,7,8-TCDF	0.00157		ug/L	0.002		79	22-152			
Surrogate: 13C-OCDD	0.00355		ug/L	0.004		89	13-199			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.000739		ug/L	0.0008		92	31-191			
<b>Batch: 364133 Extracted: 12/30/10</b>										
<b>Blank Analyzed: 01/03/2011 (G0L300000133B)</b>										
1,2,3,4,6,7,8-HpCDD	6.9e-006	0.00005	ug/L				-			J
1,2,3,4,6,7,8-HpCDF	2.7e-006	0.00005	ug/L				-			J, Q
1,2,3,4,7,8,9-HpCDF	2.3e-006	0.00005	ug/L				-			J, Q
1,2,3,4,7,8-HxCDD	ND	0.00005	ug/L				-			
1,2,3,4,7,8-HxCDF	ND	0.00005	ug/L				-			
1,2,3,6,7,8-HxCDD	ND	0.00005	ug/L				-			
1,2,3,6,7,8-HxCDF	ND	0.00005	ug/L				-			
1,2,3,7,8,9-HxCDD	ND	0.00005	ug/L				-			
1,2,3,7,8,9-HxCDF	ND	0.00005	ug/L				-			
1,2,3,7,8-PeCDD	ND	0.00005	ug/L				-			
1,2,3,7,8-PeCDF	ND	0.00005	ug/L				-			
2,3,4,6,7,8-HxCDF	ND	0.00005	ug/L				-			
2,3,4,7,8-PeCDF	ND	0.00005	ug/L				-			
2,3,7,8-TCDD	ND	0.00001	ug/L				-			
2,3,7,8-TCDF	ND	0.00001	ug/L				-			
OCDD	0.00018	0.0001	ug/L				-			
OCDF	1.1e-005	0.0001	ug/L				-			J
Total HpCDD	1.4e-005	0.00005	ug/L				-			J
Total HpCDF	4.9e-006	0.00005	ug/L				-			J, Q
Total HxCDD	ND	0.00005	ug/L				-			
Total HxCDF	ND	0.00005	ug/L				-			
Total PeCDD	ND	0.00005	ug/L				-			
Total PeCDF	ND	0.00005	ug/L				-			
Total TCDD	ND	0.00001	ug/L				-			
Total TCDF	ND	0.00001	ug/L				-			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.00085		ug/L	0.002		43	23-140			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.00071		ug/L	0.002		36	28-143			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.00077		ug/L	0.002		39	26-138			

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### EPA-5 1613Bx

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 364133 Extracted: 12/30/10</b>										
<b>Blank Analyzed: 01/03/2011 (G0L300000133B)</b>					<b>Source:</b>					
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.0007		ug/L	0.002		35	32-141			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00066		ug/L	0.002		33	26-152			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00086		ug/L	0.002		43	28-130			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.00069		ug/L	0.002		34	26-123			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.00066		ug/L	0.002		33	29-147			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00077		ug/L	0.002		39	25-181			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00079		ug/L	0.002		40	24-185			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.00068		ug/L	0.002		34	28-136			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00077		ug/L	0.002		39	21-178			
Surrogate: 13C-2,3,7,8-TCDD	0.00071		ug/L	0.002		35	25-164			
Surrogate: 13C-2,3,7,8-TCDF	0.00067		ug/L	0.002		34	24-169			
Surrogate: 13C-OCDD	0.0014		ug/L	0.004		34	17-157			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.00079		ug/L	0.0008		98	35-197			
<b>LCS Analyzed: 01/03/2011 (G0L300000133C)</b>					<b>Source:</b>					
1,2,3,4,6,7,8-HpCDD	0.00118	0.00005	ug/L	0.001		118	70-140			B
1,2,3,4,6,7,8-HpCDF	0.00119	0.00005	ug/L	0.001		119	82-122			B
1,2,3,4,7,8,9-HpCDF	0.00121	0.00005	ug/L	0.001		121	78-138			B
1,2,3,4,7,8-HxCDD	0.00129	0.00005	ug/L	0.001		129	70-164			
1,2,3,4,7,8-HxCDF	0.00112	0.00005	ug/L	0.001		112	72-134			
1,2,3,6,7,8-HxCDD	0.011	0.00005	ug/L	0.001		1100	76-134			a
1,2,3,6,7,8-HxCDF	0.00118	0.00005	ug/L	0.001		118	84-130			
1,2,3,7,8,9-HxCDD	0.00116	0.00005	ug/L	0.001		116	64-162			
1,2,3,7,8,9-HxCDF	0.00116	0.00005	ug/L	0.001		116	78-130			
1,2,3,7,8-PeCDD	0.00123	0.00005	ug/L	0.001		123	70-142			
1,2,3,7,8-PeCDF	0.00115	0.00005	ug/L	0.001		115	80-134			
2,3,4,6,7,8-HxCDF	0.00117	0.00005	ug/L	0.001		117	70-156			
2,3,4,7,8-PeCDF	0.00109	0.00005	ug/L	0.001		109	68-160			
2,3,7,8-TCDD	0.000247	0.00001	ug/L	0.0002		123	67-158			
2,3,7,8-TCDF	0.000218	0.00001	ug/L	0.0002		109	75-158			
OCDD	0.0032	0.0001	ug/L	0.002		160	78-144			a, B
OCDF	0.002	0.0001	ug/L	0.002		100	63-170			B
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.000642		ug/L	0.002		32	26-166			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.000564		ug/L	0.002		28	21-158			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.000567		ug/L	0.002		28	20-186			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.000502		ug/L	0.002		25	21-193			

### TestAmerica Irvine

Heather Clark For Debby Wilson  
Project Manager

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

Project ID: Routine Outfall 002 2010  
 Routine Outfall 002  
 Report Number: ITL2488

Sampled: 12/26/10  
 Received: 12/27/10

## METHOD BLANK/QC DATA

### EPA-5 1613Bx

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 364133 Extracted: 12/30/10</b>										
<b>LCS Analyzed: 01/03/2011 (G0L300000133C)</b>					<b>Source:</b>					
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.000513		ug/L	0.002		26	19-202			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00065		ug/L	0.002		33	25-163			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.000524		ug/L	0.002		26	21-159			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.000487		ug/L	0.002		24	17-205			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00055		ug/L	0.002		28	21-227			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.000562		ug/L	0.002		28	21-192			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.000507		ug/L	0.002		25	22-176			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.000553		ug/L	0.002		28	13-328			
Surrogate: 13C-2,3,7,8-TCDD	0.000517		ug/L	0.002		26	20-175			
Surrogate: 13C-2,3,7,8-TCDF	0.000491		ug/L	0.002		25	22-152			
Surrogate: 13C-OCDD	0.00104		ug/L	0.004		26	13-199			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.00077		ug/L	0.0008		96	31-191			

TestAmerica Irvine

Heather Clark For Debby Wilson  
 Project Manager

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

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

Project ID: Routine Outfall 002 2010  
Routine Outfall 002  
Report Number: ITL2488

Sampled: 12/26/10  
Received: 12/27/10

## Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
ITL2488-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0.095	4.7	15
ITL2488-01	624-(601list)	1,1-Dichloroethene	ug/l	0	2.0	6
ITL2488-01	624-(601list)	1,2-Dichloroethane	ug/l	0	0.50	0.5
ITL2488-01	624-(601list)	Trichloroethene	ug/l	0.48	2.0	5
ITL2488-01	Settleable Solids - SM2540F	Total Settleable Solids	ml/l	0	0.10	0.3

## Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
ITL2488-02	624-(601list)	1,1-Dichloroethene	ug/l	0	2.0	6
ITL2488-02	624-(601list)	1,2-Dichloroethane	ug/l	0	0.50	0.5
ITL2488-02	624-(601list)	Trichloroethene	ug/l	0	2.0	5

## Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
ITL2488-03	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0	0.0094	0.03
ITL2488-03	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	5.66	13
ITL2488-03	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	4.72	18
ITL2488-03	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	0.15	4.72	4
ITL2488-03	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	4.72	16
ITL2488-03	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	4.72	16.5
ITL2488-03	Ammonia-N, Titr 4500NH3-C (w/di	Ammonia-N (Distilled)	mg/l	0	0.500	10.1
ITL2488-03	BOD - SM5210B	Biochemical Oxygen Demand	mg/l	1.03	2.0	30
ITL2488-03	Cadmium-200.8	Cadmium	ug/l	0.040	1.0	3.1
ITL2488-03	Chloride - 300.0	Chloride	mg/l	18	0.50	150
ITL2488-03	Copper-200.8	Copper	ug/l	2.39	2.0	14
ITL2488-03	Cyanide, Total-4500CN-E (5ppb)	Total Cyanide	ug/l	-2	5.0	8.5
ITL2488-03	Iron-200.7	Iron	mg/l	0.24	0.040	0.3
ITL2488-03	Lead-200.8	Lead	ug/l	0.13	1.0	5.2
ITL2488-03	Manganese-200.7	Manganese	ug/l	8.09	20	50
ITL2488-03	MBAS - SM5540C	Surfactants (MBAS)	mg/l	0.078	0.10	0.5
ITL2488-03	Mercury - 245.1	Mercury	ug/l	0.031	0.20	0.1

### TestAmerica Irvine

Heather Clark For Debby Wilson  
Project Manager

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

Project ID: Routine Outfall 002 2010  
 Routine Outfall 002  
 Report Number: ITL2488

Sampled: 12/26/10  
 Received: 12/27/10

ITL2488-03	Nitrate-N, 300.0	Nitrate-N	mg/l	0.32	0.11	8
ITL2488-03	Nitrite-N, 300.0	Nitrite-N	mg/l	0	0.15	1
ITL2488-03	Nitrogen, NO3+NO2 -N EPA 300.0	Nitrate/Nitrite-N	mg/l	0.32	0.26	8
ITL2488-03	Perchlorate 314.0 - Default	Perchlorate	ug/l	0	4.0	6
ITL2488-03	Selenium-200.8	Selenium	ug/l	0.36	2.0	5
ITL2488-03	Sulfate-300.0	Sulfate	mg/l	81	2.5	300
ITL2488-03	TDS - SM2540C	Total Dissolved Solids	mg/l	225	10	950
ITL2488-03	TSS - SM2540D	Total Suspended Solids	mg/l	6.00	10	45
ITL2488-03	Zinc-200.7	Zinc	ug/l	8.54	20.0	119

## Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
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### TestAmerica Irvine

Heather Clark For Debby Wilson  
 Project Manager

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

Project ID: Routine Outfall 002 2010  
Routine Outfall 002  
Report Number: ITL2488

Sampled: 12/26/10  
Received: 12/27/10

## DATA QUALIFIERS AND DEFINITIONS

- a** Spiked analyte recovery is outside stated control limits.
- B** Method blank contamination. The associated method blank contains the target analyte at a reportable level.
- J** Estimated result. Result is less than the reporting limit.
- Ja** The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
- MNR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- Q** Estimated maximum possible concentration (EMPC).
- U** The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

### TestAmerica Irvine

Heather Clark For Debby Wilson  
Project Manager

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

Project ID: Routine Outfall 002 2010  
 Routine Outfall 002  
 Report Number: ITL2488

Sampled: 12/26/10  
 Received: 12/27/10

## Certification Summary

### TestAmerica Irvine

Method	Matrix	Nelac	California
EDD + Level 4	Water	N/A	N/A
EPA 1664A	Water	X	X
EPA 200.7-Diss	Water	X	X
EPA 200.7	Water	X	X
EPA 200.8-Diss	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1-Diss	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	X	X
EPA 608	Water	X	X
EPA 624	Water	X	X
EPA 625	Water	X	X
Filtration	Water	N/A	N/A
SM 2540D	Water	X	X
SM2130B	Water	X	X
SM2510B	Water	X	X
SM2540C	Water	X	
SM2540F	Water	X	X
SM4500CN-E	Water	X	X
SM4500NH3-C	Water	X	X
SM5210B	Water	X	X
SM5540-C	Water	X	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](http://www.testamericainc.com)*

### Subcontracted Laboratories

#### Aquatic Testing Laboratories-SUB *California Cert #1775*

4350 Transport Street, Unit 107 - Ventura, CA 93003

Analysis Performed: Bioassay-7 dy Chrnrc

Samples: ITL2488-03

### TestAmerica Irvine

Heather Clark For Debby Wilson  
 Project Manager

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

Project ID: Routine Outfall 002 2010  
Routine Outfall 002  
Report Number: ITL2488

Sampled: 12/26/10  
Received: 12/27/10

## Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec  
Samples: ITL2488-03

Analysis Performed: Gross Alpha  
Samples: ITL2488-03

Analysis Performed: Gross Beta  
Samples: ITL2488-03

Analysis Performed: Level 4 Data Package  
Samples: ITL2488-03

Analysis Performed: Radium, Combined  
Samples: ITL2488-03

Analysis Performed: Strontium 90  
Samples: ITL2488-03

Analysis Performed: Tritium  
Samples: ITL2488-03

Analysis Performed: Uranium, Combined  
Samples: ITL2488-03

## TestAmerica Irvine

Heather Clark For Debby Wilson  
Project Manager

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

Project ID: Routine Outfall 002 2010  
Routine Outfall 002  
Report Number: ITL2488

Sampled: 12/26/10  
Received: 12/27/10

## TestAmerica Buffalo

10 Hazelwood Drive, Suite 106 - Amherst, NY 14228

Method Performed: 8653  
Samples: ITL2488-03

Method Performed: 900  
Samples: ITL2488-03

Method Performed: 901.1  
Samples: ITL2488-03

Method Performed: 903.1  
Samples: ITL2488-03

Method Performed: 904  
Samples: ITL2488-03

Method Performed: 905  
Samples: ITL2488-03

Method Performed: 906  
Samples: ITL2488-03

## TestAmerica West Sacramento *NELAC Cert #1119CA, Nevada Cert #CA44*

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B  
Samples: ITL2488-03, ITL2488-03RE1

## TestAmerica Irvine

Heather Clark For Debby Wilson  
Project Manager



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

Test America Contact: Debby Wilson

Project:  
 Boeing-SSFL NPDES  
 Routine Outfall 002  
 COMPOSITE - LO W

Project Manager: Bronwyn Kelly  
 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 #
Outfall 002	W	1L Poly	1	12-26-2010 20:12	HNO <sub>3</sub>	6A
Outfall 002 Dup	W	1L Poly	1		HNO <sub>3</sub>	6B
Outfall 002	W	1L Amber	2		None	7A, 7B
Outfall 002	W	1L Poly	1		None	8
Outfall 002	W	500 mL Poly	2		None	9A, 9B
Outfall 002	W	500 mL Poly	2		None	10A, 10B
Outfall 002	W	500 mL Poly	1		None	11
Outfall 002	W	500 mL Poly	2		None	12A, 12B
Outfall 002	W	500 mL Poly	1		H <sub>2</sub> SO <sub>4</sub>	13
Outfall 002	W	1L Amber	2		None	14A, 14B
Outfall 002	W	1L Amber	2		None	15A, 15B

Total Recoverable Metals: Cu, Pb, Hg, Cd, Se, Zn, Fe, Mn	TCDD (and all congeners)	BOD <sub>5</sub> (20 degrees C)	Surfactants (MBAS)	Cl <sup>-</sup> , SO <sub>4</sub> <sup>-</sup> , NO <sub>3</sub> <sup>-</sup> +NO <sub>2</sub> <sup>-</sup> , Perchlorate	Nitrate-N, Nitrite-N	Turbidity, TDS, TSS	Ammonia-N (350.2)	Alpha BHC (608)	2,4,6 TCP, 2,4 Dinitrofluorene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs 625)
X									
X	X								
		X							
			X						
				X					
					X				
						X			
							X		
								X	
									X

COC Page 2 of 3 and Page 3 of 3 are the composite samples for Outfall 002 for this storm event.  
 These must be added to the same work order for COC Page 1 of 3 for Outfall 002 for the same event.

Relinquished By: *[Signature]* Date/Time: 12-27-2010 1300  
 Received By: *[Signature]* Date/Time: 12/27/10 1300

Relinquished By: *[Signature]* Date/Time: 12/27/10 1735  
 Received By: *[Signature]* Date/Time: 12/27/10 1735

Relinquished By: *[Signature]* Date/Time: 12/27/10 1735  
 Received By: *[Signature]* Date/Time: 12/27/10 1735

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

Sample Integrity: (Check)  
 Intact:  On Ice:

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

Comments

*[Handwritten: 12/27/10 18:00]*

*[Handwritten: 39]*



# LABORATORY REPORT



"dedicated to providing quality aquatic toxicity testing"

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

**Date:** January 3, 2011  
**Client:** TestAmerica, Irvine  
17461 Derian Ave., Suite 100  
Irvine, CA 92614  
Attn: Debby Wilson

**Laboratory No.:** A-10122702-001  
**Sample I.D.:** ITL2488-03 (Outfall 002)

**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: 12/26/10 - composite  
Date Received: 12/27/10  
Temp. Received: 5.9°C  
Chlorine (TRC): 0.0 mg/l  
Date Tested: 12/27/10 to 01/03/11

**Sample Analysis:** The following analyses were performed on your sample:  
*Ceriodaphnia dubia* Survival and Reproduction Test (EPA Method 1002).  
Attached are the test data generated from the analysis of your sample.

## Result Summary:

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

**Quality Control:** Reviewed and approved by:

  
Joseph A. LeMay  
Laboratory Director

**CERIODAPHNIA CHRONIC BIOASSAY  
EPA METHOD 1002.0**



Lab No.: A-10122702-001  
Client/ID: Test America - ITL2488-03 (Outfall 002)

Date Tested: 12/27/10 to 01/03/11

**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-101207.

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%	24.1
100% Sample	100%	28.6
* 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 (24.1 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 = 8.4%)
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**

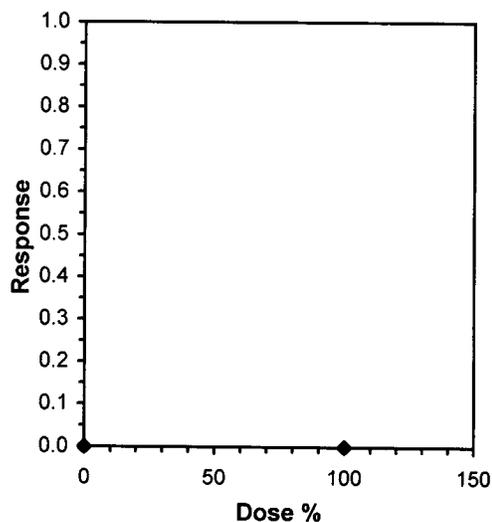
Start Date: 12/27/2010 15:00 Test ID: 10122702c Sample ID: Outfall 002  
 End Date: 1/3/2011 14:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: SRW2-Industrial stormwater  
 Sample Date: 12/26/2010 20:12 Protocol: FWCH EPA Test Species: CD-Ceriodaphnia dubia  
 Comments:

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 1-Tailed		Isotonic	
							Exact P	Critical	Mean	N-Mean
D-Control	1.0000	1.0000	0	10	10	10			1.0000	1.0000
100	1.0000	1.0000	0	10	10	10	1.0000	0.0500	1.0000	1.0000

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	100	>100		1
Treatments vs D-Control				

Point	%	SD	Linear Interpolation (200 Resamples)	
			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: 12/27/2010 15:00 Test ID: 10122702c Sample ID: Outfall 002  
 End Date: 1/3/2011 14:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: SRW2-Industrial stormwater  
 Sample Date: 12/26/2010 20:12 Protocol: FWCH EPA Test Species: CD-Ceriodaphnia dubia  
 Comments:

Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	25.000	20.000	26.000	21.000	23.000	25.000	23.000	30.000	25.000	23.000
100	23.000	31.000	28.000	30.000	28.000	27.000	30.000	28.000	31.000	30.000

Conc-%	Mean	N-Mean	Transform: Untransformed					N	t-Stat	1-Tailed Critical	MSD	Isotonic	
			Mean	Min	Max	CV%	Mean					N-Mean	
D-Control	24.100	1.0000	24.100	20.000	30.000	11.646	10				26.350	1.0000	
100	28.600	1.1867	28.600	23.000	31.000	8.437	10	-3.845	1.734	2.030	26.350	1.0000	

**Auxiliary Tests**

	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution ( $p > 0.05$ )	0.95846	0.905	-0.1159	1.04822
F-Test indicates equal variances ( $p = 0.66$ )	1.35305	6.54109		

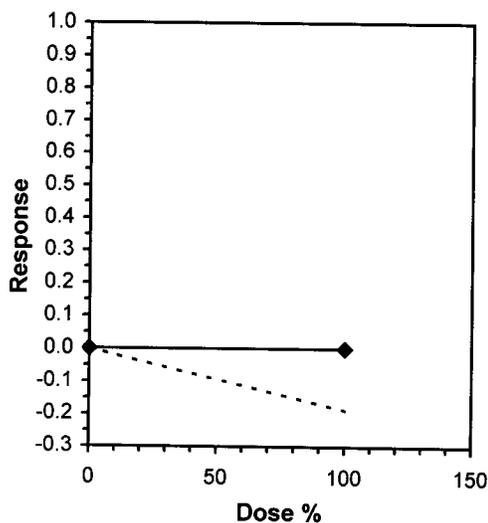
**Hypothesis Test (1-tail, 0.05)**

	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	2.02967	0.08422	101.25	6.85	0.00119	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**



Lab No.: A-10122702-001

Client ID: TestAmerica - Outfall 002

Start Date: 12/27/2010

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		0 hr	24hr												
Analyst Initials:		RL													
Time of Readings:		1500	1400	1400	1400	1400	1400	1400	1500	1500	1400	1500	1500	1500	1400
Control	DO	8.3	8.5	9.0	8.3	8.8	8.1	8.3	8.4	9.3	8.1	8.4	8.0	8.1	8.2
	pH	8.2	8.3	8.2	8.2	8.2	8.2	8.3	8.0	8.2	8.2	8.2	8.2	8.2	8.2
	Temp	24.3	24.0	25.4	24.2	24.3	24.4	25.0	24.1	24.5	24.2	24.7	24.7	24.7	24.2
100%	DO	9.9	8.8	10.8	9.0	11.0	8.6	8.6	8.6	10.0	8.2	9.5	7.9	9.9	8.2
	pH	8.1	8.4	8.1	8.4	8.1	8.4	8.2	8.2	8.0	8.3	8.2	8.4	8.2	8.4
	Temp	24.5	24.2	25.4	24.9	24.6	25.1	24.2	24.1	25.0	24.3	24.2	24.4	24.2	24.3

Additional Parameters	Control	100% Sample
Conductivity (umohms)	310	407
Alkalinity (mg/l CaCO <sub>3</sub> )	77	120
Hardness (mg/l CaCO <sub>3</sub> )	88	167
Ammonia (mg/l NH <sub>3</sub> -N)	0.1	0.2

Source of Neonates											
Replicate:	A	B	C	D	E	F	G	H	I	J	
Brood ID:	1A	2D	2F	2G	1J	4A	5B	6E	5F	6J	

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	0	10	RL
	2	0	0	0	0	0	0	0	0	0	0	0	0	10	RL
	3	4	0	4	2	0	0	3	0	0	0	13	10	RL	
	4	0	3	0	0	3	4	0	5	3	3	21	10	RL	
	5	0	0	9	7	0	0	7	9	0	8	40	10	RL	
	6	9	7	0	12	8	7	13	16	6	0	78	10	RL	
	7	12	10	13	0	12	14	0	0	16	12	89	10	RL	
	Total	25	20	26	21	23	25	23	30	25	23	241	10	RL	
100%	1	0	0	0	0	0	0	0	0	0	0	0	10	RL	
	2	0	0	0	0	0	0	0	0	0	0	0	10	RL	
	3	0	0	3	0	0	0	4	0	0	0	7	10	RL	
	4	4	5	0	4	4	3	0	4	5	4	33	10	RL	
	5	0	9	7	0	0	0	9	0	10	9	44	10	RL	
	6	7	0	18	8	9	12	17	8	16	0	95	10	RL	
	7	12	17	0	18	15	12	0	16	0	17	107	10	RL	
	Total	23	31	28	30	28	27	30	28	31	28	286	10	RL	

Circled fourth brood not used in statistical analysis.  
 7<sup>th</sup> day only used if <60% of the surviving control females have produced their third brood.



***CHAIN  
OF  
CUSTODY***



**SUBCONTRACT ORDER**  
**TestAmerica Irvine**

**ITL2488**

SENDING LABORATORY:

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

RECEIVING LABORATORY:

Aquatic Testing Laboratories-SUB  
4350 Transport Street, Unit 107  
Ventura, CA 93003  
Phone : (805) 650-0546  
Fax: (805) 650-0756  
Project Location: California  
Receipt Temperature: 5.5 °C

Ice: (Y) / N

Analysis	Units	Due	Expires	Comments
----------	-------	-----	---------	----------

Sample ID: ITL2488-03 (Outfall 002 (Composite) - Water)

Sampled: 12/26/10 20:12

Bioassay-7 dy Chrnrc	N/A	01/03/11	12/28/10 08:12	Cerio, EPA/821-R02-013, Sub to Aquatic testing
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Containers Supplied:

1 gal Poly (U)

[Signature] 12/27/10  
Released By Date/Time

[Signature] ATL 12-27-10 14:45  
Received By Date/Time

Released By Date/Time

Received By Date/Time



***REFERENCE  
TOXICANT  
DATA***

**CERIODAPHNIA CHRONIC BIOASSAY**  
**EPA METHOD 1002.0**  
**REFERENCE TOXICANT - NaCl**



QA/QC Batch No.: RT-101207

Date Tested: 12/07/10 to 12/13/10

**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: 6 days.  
 Statistics: ToxCalc computer program.

**RESULTS SUMMARY**

Sample Concentration	Percent Survival		Mean Number of Young Per Female	
Control	100%		23.3	
0.25 g/l	100%		25.2	
0.5 g/l	100%		23.7	
1.0 g/l	100%		16.0	*
2.0 g/l	100%		2.9	*
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	2.8 g/l
Reproduction IC25	0.86 mg/l

**QA/QC TEST ACCEPTABILITY**

Parameter	Result
Control survival ≥80%	Pass (100% Survival)
≥15 young per surviving control female	Pass (23.3 young)
≥60% surviving controls had 3 broods	Pass (80% with 3 broods)
PMSD <47% for reproduction	Pass (PMSD = 18.9%)
Stat. sig. diff. conc. relative difference >13%	Pass (Stat. sig. diff. conc. Relative difference = 31.3%)
Concentration response relationship acceptable	Pass (Response curve normal)

**Ceriodaphnia Survival and Reproduction Test-Survival Day 6**

Start Date: 12/7/2010 14:00 Test ID: RT101207c Sample ID: REF-Ref Toxicant  
 End Date: 12/13/2010 14:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: NACL-Sodium chloride  
 Sample Date: 12/6/2010 Protocol: FWCH EPA Test Species: CD-Ceriodaphnia dubia

Comments:

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

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

**Hypothesis Test (1-tail, 0.05)**      **NOEC**      **LOEC**      **ChV**      **TU**

Fisher's Exact Test                      2              4              2.82843

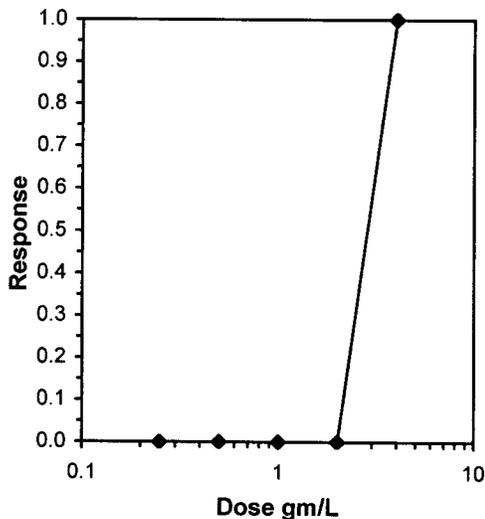
Treatments vs D-Control

**Graphical Method**

**Trim Level**      **EC50**

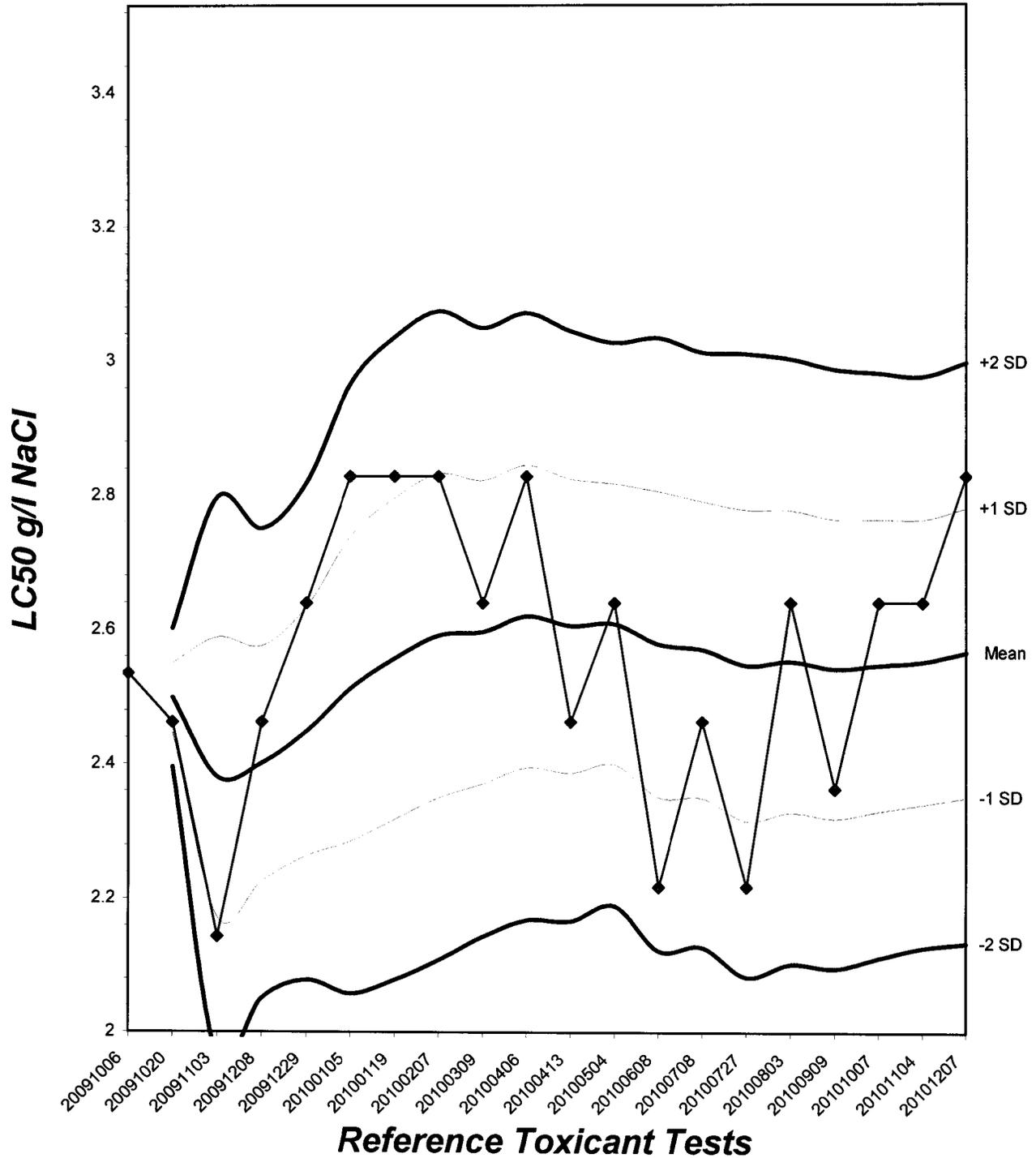
0.0%      2.8284

2.8284



# Ceriodaphnia Chronic Survival Laboratory Control Chart

CV% = 8.41



**Ceriodaphnia Survival and Reproduction Test-Reproduction**

Start Date: 12/7/2010 14:00 Test ID: RT101207c Sample ID: REF-Ref Toxicant  
 End Date: 12/13/2010 14:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: NACL-Sodium chloride  
 Sample Date: 12/6/2010 Protocol: FWCH EPA Test Species: CD-Ceriodaphnia dubia

Comments:

Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	22.000	11.000	28.000	27.000	26.000	28.000	21.000	28.000	27.000	15.000
0.25	28.000	29.000	21.000	21.000	28.000	28.000	28.000	25.000	25.000	19.000
0.5	25.000	17.000	20.000	26.000	24.000	29.000	29.000	23.000	25.000	19.000
1	10.000	10.000	20.000	22.000	20.000	11.000	15.000	12.000	24.000	16.000
2	0.000	2.000	7.000	4.000	2.000	4.000	0.000	5.000	2.000	3.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

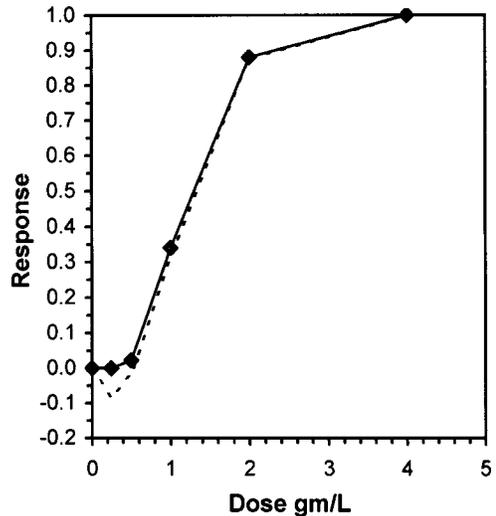
Conc-gm/L	Transform: Untransformed							t-Stat	1-Tailed Critical	MSD	Isotonic	
	Mean	N-Mean	Mean	Min	Max	CV%	N				Mean	N-Mean
D-Control	23.300	1.0000	23.300	11.000	28.000	25.913	10				24.250	1.0000
0.25	25.200	1.0815	25.200	19.000	29.000	14.466	10	-0.959	2.223	4.404	24.250	1.0000
0.5	23.700	1.0172	23.700	17.000	29.000	17.000	10	-0.202	2.223	4.404	23.700	0.9773
*1	16.000	0.6867	16.000	10.000	24.000	32.676	10	3.686	2.223	4.404	16.000	0.6598
*2	2.900	0.1245	2.900	0.000	7.000	75.285	10	10.299	2.223	4.404	2.900	0.1196
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)	0.96459	0.947	-0.5938	0.09413						
Bartlett's Test indicates equal variances (p = 0.06)	8.97697	13.2767								
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	0.5	1	0.70711		4.40372	0.189	860.47	19.6156	5.6E-15	4, 45

Treatments vs D-Control

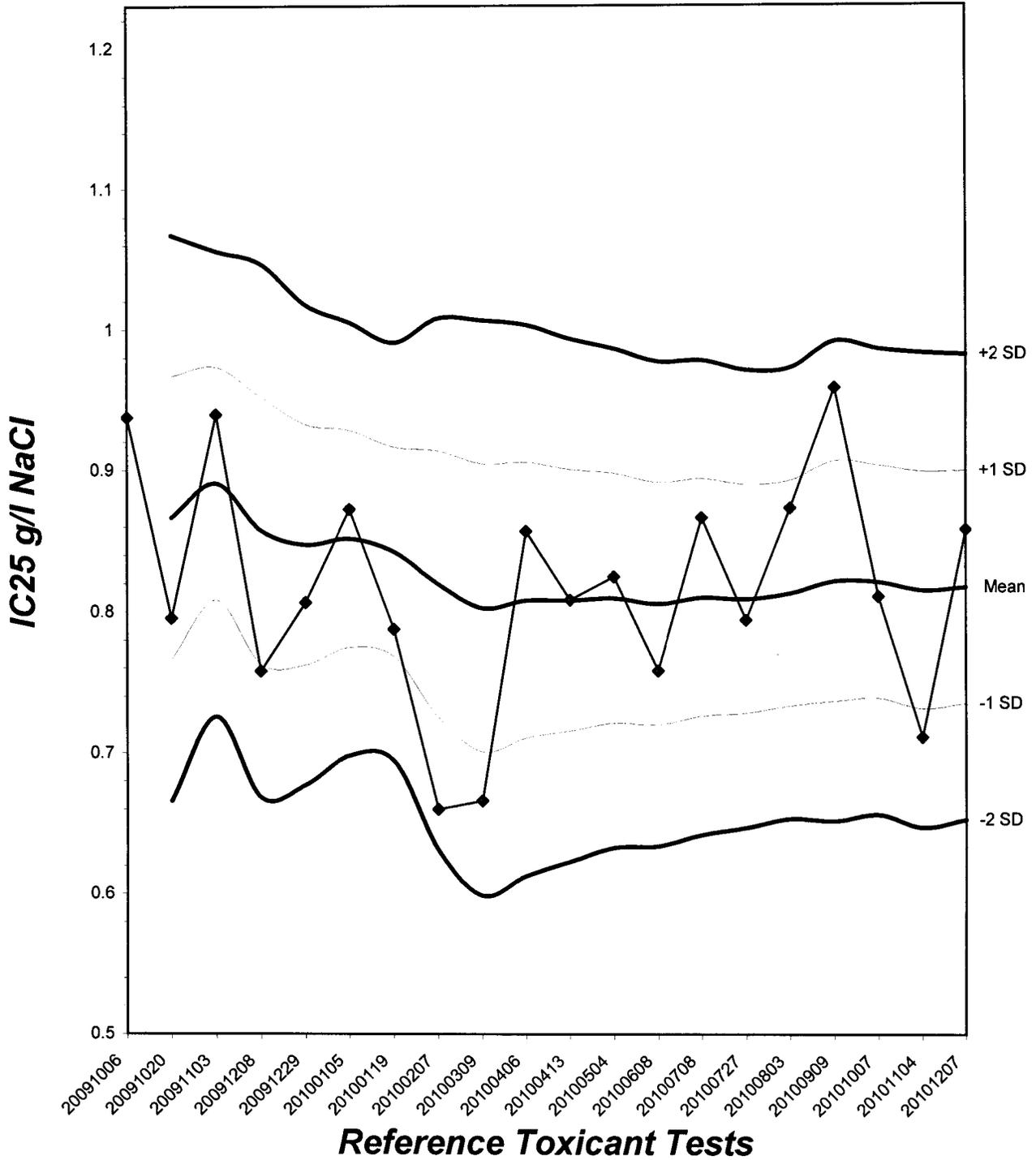
**Linear Interpolation (200 Resamples)**

Point	gm/L	SD	95% CL	Skew
IC05	0.5430	0.1060	0.2194 0.6041	-1.2164
IC10	0.6218	0.0833	0.4101 0.7081	-1.1699
IC15	0.7005	0.0819	0.5141 0.8292	-0.4850
IC20	0.7792	0.0859	0.5998 0.9452	0.1951
IC25	0.8580	0.0903	0.6963 1.0439	0.3636
IC40	1.1107	0.1011	0.9055 1.2772	-0.0498
IC50	1.2958	0.0936	1.0659 1.4429	-0.4534



# Ceriodaphnia Chronic Reproduction Laboratory Control Chart

CV% = 10.1



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



QA/QC No.: RT-101207

Start Date: 12/07/2010

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	R
	2	0	0	0	0	0	0	0	0	0	0	0	10	R
	3	0	0	4	0	0	0	0	0	0	0	4	10	R
	4	3	3	0	5	4	2	3	4	4	3	31	10	R
	5	9	8	6	7	8	9	6	9	7	0	69	10	R
	6	10	0	18	15	14	17	12	15	16	12	129	10	R
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	22	11	28	27	26	28	21	28	27	15	233	10	R
0.25 g/l	1	0	0	0	0	0	0	0	0	0	0	10	R	
	2	0	0	0	0	0	0	0	0	0	0	10	R	
	3	0	0	4	0	0	0	0	0	0	4	10	R	
	4	4	3	0	4	5	4	4	3	4	4	35	10	R
	5	6	9	7	0	8	10	9	7	7	0	63	10	R
	6	18	17	10	17	15	14	15	15	14	15	150	10	R
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	28	29	21	21	28	28	28	25	25	19	252	10	R
0.5 g/l	1	0	0	0	0	0	0	0	0	0	0	10	R	
	2	0	0	0	0	0	0	0	0	0	0	10	R	
	3	0	0	0	4	0	0	0	0	0	4	10	R	
	4	4	3	4	0	5	4	4	3	3	4	34	10	R
	5	6	0	6	8	7	9	7	6	7	0	56	10	R
	6	15	14	10	14	12	16	18	14	15	15	143	10	R
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	25	17	20	26	24	29	29	23	25	19	237	10	R

Circled fourth brood not used in statistical analysis.

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

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



QA/QC No.: RT-101207

Start Date: 12/07/2010

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
1.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	R
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	0	0	0	0	0	0	0	0	10	
	4	4	3	4	4	5	4	3	4	4	3	38	10	
	5	0	7	6	6	7	0	0	0	6	6	38	10	
	6	6	0	10	12	8	7	12	8	14	7	84	10	
	7	-	-	-	-	-	-	-	-	-	-	-	-	
	Total	10	10	20	22	20	11	15	12	24	16	160	10	
2.0 g/l	1	0	0	0	0	0	0	0	0	0	0	10	R	
	2	0	0	0	0	0	0	0	0	0	0	10		
	3	0	0	0	0	0	0	0	0	0	0	10		
	4	0	0	0	0	2	0	0	2	0	0	4		10
	5	0	2	3	0	0	4	0	0	2	0	11		10
	6	0	0	4	4	0	0	0	3	0	3	14		10
	7	-	-	-	-	-	-	-	-	-	-	-		-
	Total	0	2	7	4	2	4	0	5	2	3	29		10
4.0 g/l	1	X	X	X	X	X	X	X	X	X	0	0	R	
	2	-	-	-	-	-	-	-	-	-	-	-		
	3	-	-	-	-	-	-	-	-	-	-	-		
	4	-	-	-	-	-	-	-	-	-	-	-		
	5	-	-	-	-	-	-	-	-	-	-	-		
	6	-	-	-	-	-	-	-	-	-	-	-		
	7	-	-	-	-	-	-	-	-	-	-	-		
	Total	0	0	0	0	0	0	0	0	0	0	0		0

Circled fourth brood not used in statistical analysis.  
 7<sup>th</sup> day only used if <60% of the surviving control females have produced their third brood.

# CERIODAPHNIA DUBIA CHRONIC BIOASSAY

Reference Toxicant - NaCl

Water Chemistries Raw Data Sheet



QA/QC No.: RT-101207

Start Date: 12/07/2010

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		Initial	Final												
Analyst Initials:		RW	RW												
Time of Readings:		1400	1500	1500	1400	1400	1400	1400	1300	1300	1330	1330	1400	—	—
Control	DO	8.4	8.7	8.4	8.6	8.7	8.3	8.2	8.4	8.1	7.9	8.2	7.6	—	—
	pH	8.2	8.3	8.4	7.9	8.2	8.0	8.2	8.0	8.1	7.9	8.2	8.2	—	—
	Temp	25.0	24.3	25.0	24.5	25.0	24.6	24.8	24.7	25.1	25.0	25.3	25.2	—	—
0.25 g/l	DO	8.4	8.8	8.4	8.6	8.6	8.3	8.2	8.4	8.2	7.9	8.2	7.7	—	—
	pH	8.2	8.3	8.3	7.9	8.2	8.0	8.2	8.0	8.1	8.1	8.2	8.2	—	—
	Temp	25.0	24.6	25.0	24.8	25.0	25.0	24.8	24.8	25.1	25.0	25.2	25.2	—	—
0.5 g/l	DO	8.5	8.8	8.4	8.7	8.6	8.4	8.2	8.3	8.2	7.9	8.3	7.6	—	—
	pH	8.2	8.2	8.3	7.9	8.2	8.0	8.2	8.0	8.1	7.4	8.2	8.1	—	—
	Temp	25.0	24.7	25.1	24.8	25.0	25.1	24.9	24.9	25.0	25.1	24.6	25.1	—	—
1.0 g/l	DO	8.5	8.7	8.4	8.7	8.5	8.4	8.2	8.3	8.2	8.3	8.3	7.7	—	—
	pH	8.2	8.2	8.3	7.9	8.2	8.0	8.2	8.0	8.2	7.4	8.2	8.1	—	—
	Temp	24.9	24.6	25.1	24.9	25.1	25.0	24.9	24.9	25.0	25.0	24.5	24.9	—	—
2.0 g/l	DO	8.6	8.6	8.5	8.8	8.3	8.4	8.2	8.5	8.2	8.2	8.2	7.4	—	—
	pH	8.2	8.2	8.3	7.9	8.1	8.0	8.2	8.0	8.2	7.4	8.2	8.1	—	—
	Temp	24.8	24.8	25.2	24.8	25.2	24.9	25.0	24.8	24.9	24.4	24.5	25.2	—	—
4.0 g/l	DO	8.7	8.8	—	—	—	—	—	—	—	—	—	—	—	—
	pH	8.1	8.2	—	—	—	—	—	—	—	—	—	—	—	—
	Temp	24.6	24.8	—	—	—	—	—	—	—	—	—	—	—	—

Dissolved Oxygen (DO) readings are in mg/l O<sub>2</sub>; 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)	325	329	322	6470	3690	3430
Alkalinity (mg/l CaCO <sub>3</sub> )	74	73	73	73	74	74
Hardness (mg/l CaCO <sub>3</sub> )	87	88	89	90	89	89

Source of Neonates

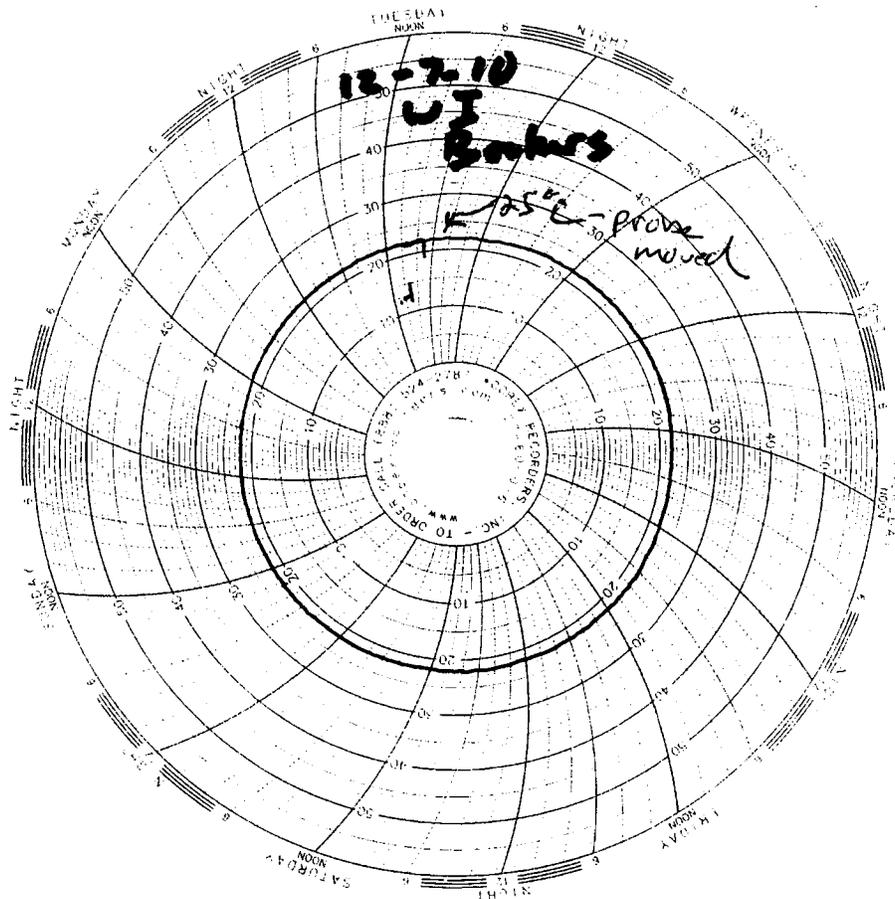
Replicate:	A	B	C	D	E	F	G	H	I	J
Brood ID:	1A	2A	3A	3B	1G	1H	2I	1J	2J	3J

# Test Temperature Chart

Test No: RT-101207

Date Tested: 12/07/10 to 12/13/10

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





# EBERLINE

SERVICES

EBERLINE ANALYTICAL CORPORATION  
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February 1, 2011

Ms. Debby Wilson  
Test America Irvine  
17461 Derian Ave., Ste. 100  
Irvine, CA 92614

**Reference: Test America-Irvine ITL2488  
Eberline Analytical Report S012368-8653  
Sample Delivery Group 8653**

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for one water sample received under Test America Job No. ITL2488. The sample was received on December 29, 2010.

Please call me, if you have any questions concerning the enclosed report.

Sincerely,

N. Joseph Verville  
Client Services Manager

NJV/ljb

Enclosure: Level IV CLP-like Data Package CD

### 1.0 General Comments

Sample delivery group 8653 consists of the analytical results and supporting documentation for one water sample. Sample ID's and reference dates/times are given in the Sample Summary section of the Summary Data report. The sample was received as stated on the chain-of-custody document. Any discrepancies are noted on the Eberline Analytical Sample Receipt Checklist. No holding times were exceeded.

Tritium and gamma analyses were performed on the sample as received i.e. the sample was not filtered. The analytical volumes for all other analyses were subjected to a full nitric acid/hydrofluoric acid dissolution, and analyses were performed on the dissolution volume.

### 2.0 Quality Control

For efficiency of analysis, sample ITL2485-02 was analyzed in a common prep batch with other TA samples. The QC samples from that common prep batch were assigned to SDG 8654 and are reported herein. Quality Control Samples consisted of laboratory control samples (LCS), method blanks, duplicate analyses and matrix spike analyses. Included in the data package are copies of the Eberline Analytical radiometrics data sheets. The radiometrics data sheets for the QC LCS and QC blank samples indicate Eberline Analytical's standard QC aliquot of 1.0 sample; results for those QC types are calculated as pCi/sample. The QC LCS and QC blank sample results reported in the Summary Data Section have been divided by the appropriate method specific aliquot (see the Lab Method Summaries for specific aliquots) in order to make the results comparable to the field sample results. All QC sample results were within required control limits.

### 3.0 Method Errors

The error for each result is an estimate of the significant random uncertainties incurred in the measurement process. These are propagated to each final result. They include the counting (Poisson) uncertainty, as well as those intrinsic errors due to carrier or tracer standardization, aliquoting, counter efficiencies, weights, or volumes. The following method errors were propagated to the count error to calculate the  $2\sigma$  error (Total):

Analysis	Method Error
Gross alpha	20.6%
Gross beta	11.0%
Tritium	10.0%
Sr-90	10.4%
Ra-226	16.4%
Ra-228	10.4%
Uranium, Total	
Gamma Spec.	7.0%

#### 4.0 Analysis Notes

- 4.1 **Gross Alpha/Gross Beta Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.2 **Tritium Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.3 **Strontium-90 Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.4 **Radium-226 Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.5 **Radium-228 Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.6 **Total Uranium Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.7 **Gamma Spectroscopy** – The K-40 MDA for sample ITL2489-03 (53.7 pCi/L), the duplicate of sample ITL2489-03 (53.7 pCi/L) and sample ITL2488-03 (28.7 pCi/L) were greater than the required detection limit of 25 pCi/L, due to an elevated K40 background in the ROI for K40 on the detector used for analysis. No other problems were encountered during the processing of the samples. All other quality control sample results were within required control limits.

#### 5.0 Case Narrative Certification Statement

**"I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data obtained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature."**

  
\_\_\_\_\_  
N. Joseph Verville  
Client Services Manager

2/1/11  
\_\_\_\_\_  
Date

EBERLINE ANALYTICAL  
SDG 8653

SDG 8653  
Contact N. Joseph Verville

Client Test America, Inc.  
Contract ITL2488

S U M M A R Y   D A T A   S E C T I O N

T A B L E   O F   C O N T E N T S

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UB

Prepared by \_\_\_\_\_

Reviewed by \_\_\_\_\_

*N. Joseph Verville*

Lab id EAS  
Protocol TA  
Version Ver 1.0  
Form DVD-TOC  
Version 3.06  
Report date 02/01/11

EBERLINE ANALYTICAL

SDG 8653

SDG 8653  
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.  
Contract ITL2488

ABOUT THE DATA SUMMARY SECTION

The Data Summary Section of a Data Package has all data, in several useful orders, necessary for first level, routine review of the data package for a Sample Delivery Group (SDG). This section follows the Data Package Narrative, which has an overview of the data package and a discussion of special problems. It is followed by the Raw Data Section, which has full details.

The Data Summary Section has several groups of reports:

SAMPLE SUMMARIES

The Sample and QC Summary Reports show all samples, including QC samples, reported in one SDG. These reports cross-reference client and lab sample identifiers.

PREPARATION BATCH SUMMARY

The Preparation Batch Summary Report shows all preparation batches (lab groupings reflecting how work was organized) relevant to the reported SDG with information necessary to check the completeness and consistency of the SDG.

WORK SUMMARY

The Work Summary Report shows all samples and work done on them relevant to the reported SDG.

METHOD BLANKS

The Method Blank Reports, one for each Method Blank relevant to the SDG, show all results and primary supporting information for the blanks.

LAB CONTROL SAMPLES

The Lab Control Sample Reports, one for each Lab Control Sample relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

DUPLICATES

REPORT GUIDES

Page 1

SUMMARY DATA SECTION

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Lab id EAS  
Protocol TA  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
Report date 02/01/11

EBERLINE ANALYTICAL

SDG 8653

SDG 8653  
Contact N. Joseph Verville

GUIDE , c o n t .

Client Test America, Inc.  
Contract ITL2488

ABOUT THE DATA SUMMARY SECTION

The Duplicate Reports, one for each Duplicate and Original sample pair relevant to the SDG, show all results, differences and primary supporting information for these QC samples.

MATRIX SPIKES

The Matrix Spike Reports, one for each Spiked and Original sample pair relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

DATA SHEETS

The Data Sheet Reports, one for each client sample in the SDG, show all results and primary supporting information for these samples.

METHOD SUMMARIES

The Method Summary Reports, one for each test used in the SDG, show all results, QC and method performance data for one analyte on one or two pages. (A test is a short code for the method used to do certain work to the client's specification.)

REPORT GUIDES

The Report Guides, one for each of the above groups of reports, have documentation on how to read the associated reports.

REPORT GUIDES

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SUMMARY DATA SECTION

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Lab id EAS  
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EBERLINE ANALYTICAL

SDG 8653

LAB SAMPLE SUMMARY

SDG 8653

Contact N. Joseph Verville

Client Test America, Inc.

Contract ITL2488

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S012368-01	ITL2488-03	Boeing - SSFL	WATER			ITL2488	12/26/10 20:12
S012369-03	Lab Control Sample		WATER				
S012369-04	Method Blank		WATER				
S012369-05	Duplicate (S012369-01)	Boeing - SSFL	WATER				12/26/10 08:58

LAB SUMMARY

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SUMMARY DATA SECTION

Page 3

Lab id EAS

Protocol TA

Version Ver 1.0

Form DVD-LS

Version 3.06

Report date 02/01/11

**EBERLINE ANALYTICAL**

SDG 8653

SDG 8653  
 Contact N. Joseph Verville

**QC SUMMARY**

Client Test America, Inc.  
 Contract ITL2488

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	LAB COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
8653	ITL2488	ITL2488-03	WATER		10.0 L		12/29/10 3		S012368-01	8653-001
8654		Method Blank	WATER						S012369-04	8654-004
		Lab Control Sample	WATER						S012369-03	8654-003
		Duplicate (S012369-01)	WATER		10.0 L		12/29/10 3		S012369-05	8654-005

QC SUMMARY

Page 1

SUMMARY DATA SECTION

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Lab id EAS  
 Protocol TA  
 Version Ver 1.0  
 Form DVD-QS  
 Version 3.06  
 Report date 02/01/11

**EBERLINE ANALYTICAL**

SDG 8653

SDG 8653  
 Contact N. Joseph Verville

**PREP BATCH SUMMARY**

Client Test America, Inc.  
 Contract ITL2488

TEST	MATRIX	METHOD	PREPARATION ERROR		PLANCHETS ANALYZED				QUALIFIERS
			BATCH	2σ %	CLIENT	MORE	RE BLANK	LCS	
<b>Beta Counting</b>									
AC	WATER	Radium-228 in Water	7271-037	10.4	1		1	1	1/0/1
SR	WATER	Strontium-90 in Water	7271-037	10.4	1		1	1	1/0/1
<b>Gas Proportional Counting</b>									
80A	WATER	Gross Alpha in Water	7271-037	20.6	1		1	1	1/0/1
80B	WATER	Gross Beta in Water	7271-037	11.0	1		1	1	1/0/1
<b>Gamma Spectroscopy</b>									
GAM	WATER	Gamma Emitters in Water	7271-037	7.0	1		1	1	1/0/1
<b>Kinetic Phosphorimetry, ug</b>									
U_T	WATER	Uranium, Total	7271-037		1		1	1	1/0/1
<b>Liquid Scintillation Counting</b>									
H	WATER	Tritium in Water	7271-037	10.0	1		1	1	1/0/1
<b>Radon Counting</b>									
RA	WATER	Radium-226 in Water	7271-037	16.4	1		1	1	1/0/1

Blank, LCS, Duplicate and Spike planchets are those in the same preparation batch as some Client sample.  
 In counts like 'a/b/c', 'a' = QC planchets, 'b' = Originals in this SDG, 'c' = Originals in other SDGs.

Lab id EAS  
 Protocol TA  
 Version Ver 1.0  
 Form DVD-PBS  
 Version 3.06  
 Report date 02/01/11

**EBERLINE ANALYTICAL**

SDG 8653

SDG 8653  
 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract ITL2488

**LAB WORK SUMMARY**

LAB SAMPLE	CLIENT SAMPLE ID				SUF-					
COLLECTED	LOCATION	MATRIX			FIX	ANALYZED	REVIEWED	BY	METHOD	
RECEIVED	CUSTODY	SAS no	PLANCHET	TEST						
S012368-01	ITL2488-03		8653-001	80A/80		01/06/11	01/07/11	BW	Gross Alpha in Water	
12/26/10	Boeing - SSFL	WATER	8653-001	80B/80		01/06/11	01/07/11	BW	Gross Beta in Water	
12/29/10	ITL2488		8653-001	AC		01/24/11	01/25/11	BW	Radium-228 in Water	
			8653-001	GAM		01/07/11	01/11/11	MWT	Gamma Emitters in Water	
			8653-001	H		01/12/11	01/18/11	BW	Tritium in Water	
			8653-001	RA		01/22/11	01/24/11	BW	Radium-226 in Water	
			8653-001	SR		01/13/11	01/25/11	BW	Strontium-90 in Water	
			8653-001	U_T		01/20/11	01/24/11	BW	Uranium, Total	
S012369-03	Lab Control Sample		8654-003	80A/80		01/06/11	01/07/11	BW	Gross Alpha in Water	
		WATER	8654-003	80B/80		01/06/11	01/07/11	BW	Gross Beta in Water	
			8654-003	AC		01/24/11	01/25/11	BW	Radium-228 in Water	
			8654-003	GAM		01/05/11	01/11/11	MWT	Gamma Emitters in Water	
			8654-003	H		01/12/11	01/18/11	BW	Tritium in Water	
			8654-003	RA		01/22/11	01/24/11	BW	Radium-226 in Water	
			8654-003	SR		01/13/11	01/25/11	BW	Strontium-90 in Water	
			8654-003	U_T		01/20/11	01/24/11	BW	Uranium, Total	
S012369-04	Method Blank		8654-004	80A/80		01/06/11	01/07/11	BW	Gross Alpha in Water	
		WATER	8654-004	80B/80		01/06/11	01/07/11	BW	Gross Beta in Water	
			8654-004	AC		01/24/11	01/25/11	BW	Radium-228 in Water	
			8654-004	GAM		01/05/11	01/11/11	MWT	Gamma Emitters in Water	
			8654-004	H		01/12/11	01/18/11	BW	Tritium in Water	
			8654-004	RA		01/22/11	01/24/11	BW	Radium-226 in Water	
			8654-004	SR		01/13/11	01/25/11	BW	Strontium-90 in Water	
			8654-004	U_T		01/20/11	01/24/11	BW	Uranium, Total	
S012369-05	Duplicate (S012369-01)		8654-005	80A/80		01/06/11	01/07/11	BW	Gross Alpha in Water	
12/26/10	Boeing - SSFL	WATER	8654-005	80B/80		01/06/11	01/07/11	BW	Gross Beta in Water	
12/29/10			8654-005	AC		01/24/11	01/25/11	BW	Radium-228 in Water	
			8654-005	GAM		01/05/11	01/11/11	MWT	Gamma Emitters in Water	
			8654-005	H		01/12/11	01/18/11	BW	Tritium in Water	
			8654-005	RA		01/22/11	01/24/11	BW	Radium-226 in Water	
			8654-005	SR		01/13/11	01/25/11	BW	Strontium-90 in Water	
			8654-005	U_T		01/20/11	01/24/11	BW	Uranium, Total	

WORK SUMMARY

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SUMMARY DATA SECTION

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Lab id EAS  
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EBERLINE ANALYTICAL

SDG 8653

WORK SUMMARY, cont.

SDG 8653  
 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract ITL2488

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAS no	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP SPIKE	TOTAL
80A/80		Gross Alpha in Water	900.0	1			1	1	1	4
80B/80		Gross Beta in Water	900.0	1			1	1	1	4
AC		Radium-228 in Water	904.0	1			1	1	1	4
GAM		Gamma Emitters in Water	901.1	1			1	1	1	4
H		Tritium in Water	906.0	1			1	1	1	4
RA		Radium-226 in Water	903.1	1			1	1	1	4
SR		Strontium-90 in Water	905.0	1			1	1	1	4
U_T		Uranium, Total	D5174	1			1	1	1	4
<b>TOTALS</b>				8			8	8	8	32

WORK SUMMARY

Page 2

SUMMARY DATA SECTION

Page 7

Lab id EAS  
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 Version 3.06  
 Report date 02/01/11



**EBERLINE ANALYTICAL**

SDG 8653

8654-003

Lab Control Sample

**LAB CONTROL SAMPLE**

SDG <u>8653</u> Contact <u>N. Joseph Verville</u>	Client <u>Test America, Inc.</u> Contract <u>ITL2488</u>
Lab sample id <u>S012369-03</u> Dept sample id <u>8654-003</u>	Client sample id <u>Lab Control Sample</u> Material/Matrix _____ <u>WATER</u>

ANALYTE	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS TEST	ADDED pCi/L	2σ ERR pCi/L	REC %	2σ LMTS (TOTAL)	PROTOCOL LIMITS
Gross Alpha	36.6	2.4	0.654	3.00	80A	40.4	1.6	91	80-120	70-130
Gross Beta	33.6	1.6	1.58	4.00	80B	35.0	1.4	96	88-112	70-130
Tritium	2420	260	271	500	H	2550	100	95	86-114	80-120
Radium-226	58.4	1.9	0.577	1.00	RA	55.7	2.2	105	82-118	80-120
Radium-228	4.53	0.30	0.432	1.00	AC	4.62	0.18	98	87-113	60-140
Strontium-90	17.9	1.4	0.597	2.00	SR	17.5	0.70	102	86-114	80-120
Uranium, Total	59.8	7.2	0.174	1.00	U_T	62.5	2.5	96	88-112	80-120
Cobalt-60	94.8	4.6	2.23	10.0	GAM	102	4.1	93	91-109	80-120
Cesium-137	114	4.2	2.92	20.0	GAM	110	4.4	104	91-109	80-120

QC-LCS #76728

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-LCS</u>
Version <u>3.06</u>
Report date <u>02/01/11</u>

**EBERLINE ANALYTICAL**

SDG 8653

8654-005

ITL2489-03

**DUPLICATE**

SDG <u>8653</u> Contact <u>N. Joseph Verville</u> DUPLICATE	ORIGINAL Lab sample id <u>S012369-01</u> Dept sample id <u>8654-001</u> Received <u>12/29/10</u>	Client <u>Test America, Inc.</u> Contract <u>ITL2488</u> Client sample id <u>ITL2489-03</u> Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u> Collected/Volume <u>12/26/10 08:58</u> <u>10.0 L</u> Chain of custody id <u>ITL2489</u>
---	---	--

ANALYTE	DUPLICATE		MDA		RDL		QUALI-		ORIGINAL		MDA		QUALI-		RPD		3σ		DER	
	pCi/L	2σ ERR (COUNT)	pCi/L		pCi/L		FIERS	TEST	pCi/L	2σ ERR (COUNT)	pCi/L		FIERS	%	TOT		σ			
Gross Alpha	1.65	0.42	0.342		3.00		J	80A	1.89	0.47	0.400		J	14	69	0.6				
Gross Beta	3.05	0.59	0.819		4.00		J	80B	3.06	0.63	0.885		J	0	48	0				
Tritium	44.4	160	267		500		U	H	-40.3	150	270		U	-		0.8				
Radium-226	-0.022	0.31	0.592		1.00		U	RA	0.097	0.36	0.653		U	-		0.5				
Radium-228	0.035	0.16	0.446		1.00		U	AC	0.109	0.17	0.456		U	-		0.6				
Strontium-90	-0.005	0.29	0.693		2.00		U	SR	0.222	0.33	0.684		U	-		1.0				
Uranium, Total	0.164	0.023	0.017		1.00		J	U_T	0.177	0.022	0.017		J	8	28	0.8				
Potassium-40	U		<u>53.7</u>		25.0		U	GAM	U		<u>53.7</u>		U	-		0				
Cesium-137	U		2.68		20.0		U	GAM	U		2.68		U	-		0				

QC-DUP#1 76730

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DUP</u>
Version <u>3.06</u>
Report date <u>02/01/11</u>

EBERLINE ANALYTICAL  
SDG 8653

8653-001

ITL2488-03

DATA SHEET

SDG <u>8653</u>	Client <u>Test America, Inc.</u>
Contact <u>N. Joseph Verville</u>	Contract <u>ITL2488</u>
Lab sample id <u>S012368-01</u>	Client sample id <u>ITL2488-03</u>
Dept sample id <u>8653-001</u>	Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u>
Received <u>12/29/10</u>	Collected/Volume <u>12/26/10 20:12</u> <u>10.0 L</u>
	Chain of custody id <u>ITL2488</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	0.728	0.47	0.768	3.00	U	80A
Gross Beta	12587472	2.76	0.58	0.814	4.00	J	80B
Tritium	10028178	-32.9	110	184	500	U	H
Radium-226	13982633	0.667	0.37	0.519	1.00	J	RA
Radium-228	15262201	0.024	0.21	0.511	1.00	U	AC
Strontium-90	10098972	-0.038	0.24	0.523	2.00	U	SR
Uranium, Total		0.783	0.089	0.017	1.00	J	U_T
Potassium-40	13966002	U		<u>28.7</u>	25.0	U	GAM
Cesium-137	10045973	U		1.39	20.0	U	GAM

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>02/01/11</u>

**EBERLINE ANALYTICAL**

SDG 8653

**LAB METHOD SUMMARY**

RADIUM-228 IN WATER  
BETA COUNTING

Test AC Matrix WATER  
SDG 8653  
Contact N. Joseph Verville

Client Test America, Inc.  
Contract ITL2488

**RESULTS**

LAB RAW SUP-  
SAMPLE ID TEST FIX PLANCHET CLIENT SAMPLE ID Radium-228

Preparation batch 7271-037

S012368-01	8653-001	ITL2488-03	U
S012369-03	8654-003	Lab Control Sample	ok
S012369-04	8654-004	Method Blank	U
S012369-05	8654-005	Duplicate (S012369-01)	- U

Nominal values and limits from method RDLs (pCi/L) 1.00

**METHOD PERFORMANCE**

LAB RAW SUP- MDA ALIQ PREP DILU- YIELD EFF COUNT FWHM DRIFT DAYS ANAL-  
SAMPLE ID TEST FIX CLIENT SAMPLE ID pCi/L L FAC TION % % min keV KeV HELD PREPARED YZED DETECTOR

Preparation batch 7271-037 2σ prep error 10.4 % Reference Lab Notebook No. 7271 pg.037

S012368-01	ITL2488-03	0.511	1.80	75	150	29	01/24/11	01/24	GRB-224
S012369-03	Lab Control Sample	0.432	1.80	74	150		01/24/11	01/24	GRB-230
S012369-04	Method Blank	0.473	1.80	73	150		01/24/11	01/24	GRB-231
S012369-05	Duplicate (S012369-01)	0.446	1.80	73	150	29	01/24/11	01/24	GRB-232

Nominal values and limits from method 1.00 1.80 30-105 50 180

PROCEDURES REFERENCE 904.0  
DWP-894 Sequential Separation of Actinium-228 and Radium-226 in Drinking Water (>1 Liter Aliquot), rev 5

AVERAGES ± 2 SD MDA 0.466 ± 0.070  
FOR 4 SAMPLES YIELD 74 ± 2

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Form DVD-LMS  
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**EBERLINE ANALYTICAL**

SDG 8653

Test SR Matrix WATER  
 SDG 8653  
 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract ITL2488

**LAB METHOD SUMMARY**

STRONTIUM-90 IN WATER

BETA COUNTING

**RESULTS**

LAB RAW SUF-  
 SAMPLE ID TEST FIX PLANCHET CLIENT SAMPLE ID Strontium-90

Preparation batch 7271-037

S012368-01	8653-001	ITL2488-03	U
S012369-03	8654-003	Lab Control Sample	ok
S012369-04	8654-004	Method Blank	U
S012369-05	8654-005	Duplicate (S012369-01)	- U

Nominal values and limits from method RDLs (pCi/L) 2.00

**METHOD PERFORMANCE**

LAB RAW SUF- MDA ALIQ PREP DILU- YIELD EFF COUNT FWHM DRIFT DAYS ANAL-  
 SAMPLE ID TEST FIX CLIENT SAMPLE ID pCi/L L FAC TION % % min keV KeV HELD PREPARED YZED DETECTOR

Preparation batch 7271-037 2σ prep error 10.4 % Reference Lab Notebook No. 7271 pg.037

S012368-01	ITL2488-03	0.523	0.500	79	78	18	01/08/11	01/13	GRB-223
S012369-03	Lab Control Sample	0.597	0.500	83	50		01/08/11	01/13	GRB-222
S012369-04	Method Blank	0.666	0.500	82	50		01/08/11	01/13	GRB-201
S012369-05	Duplicate (S012369-01)	0.693	0.500	72	50	18	01/08/11	01/13	GRB-202

Nominal values and limits from method 2.00 0.500 30-105 50 180

PROCEDURES REFERENCE 905.0  
 DWP-380 Strontium in Drinking Water, rev 8

AVERAGES ± 2 SD MDA 0.620 ± 0.152  
 FOR 4 SAMPLES YIELD 79 ± 10

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Test 80A Matrix WATER  
 SDG 8653  
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**LAB METHOD SUMMARY**

GROSS ALPHA IN WATER  
 GAS PROPORTIONAL COUNTING

**RESULTS**

LAB	RAW	SUF-			Gross Alpha
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID		
Preparation batch 7271-037					
S012368-01	80	8653-001	ITL2488-03		U
S012369-03	80	8654-003	Lab Control Sample		ok
S012369-04	80	8654-004	Method Blank		U
S012369-05	80	8654-005	Duplicate (S012369-01)		ok J
Nominal values and limits from method			RDLs (pCi/L)		3.00

**METHOD PERFORMANCE**

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	RESID	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	mg	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7271-037			2σ prep error 20.6 % Reference Lab Notebook No. 7271 pg.037												
S012368-01	80	ITL2488-03	0.768	0.300			93		400			11	01/06/11	01/06	GRB-104
S012369-03	80	Lab Control Sample	0.654	0.250			60		400				01/06/11	01/06	GRB-107
S012369-04	80	Method Blank	0.492	0.250			62		400				01/06/11	01/06	GRB-109
S012369-05	80	Duplicate (S012369-01)	0.342	0.300			31		400			11	01/06/11	01/06	GRB-111
Nominal values and limits from method			3.00	0.250			0-200		100						180

PROCEDURES REFERENCE 900.0  
 DWP-121 Gross Alpha and Gross Beta in Drinking Water,  
 rev 10

AVERAGES ± 2 SD MDA 0.564 ± 0.373  
 FOR 4 SAMPLES RESIDUE 62 ± 51

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**LAB METHOD SUMMARY**

GAMMA EMITTERS IN WATER

GAMMA SPECTROSCOPY

Test GAM Matrix WATER  
 SDG 8653  
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**RESULTS**

LAB            RAW    SUF-  
 SAMPLE ID    TEST FIX    PLANCHET    CLIENT SAMPLE ID            Cobalt-60    Cesium-137

Preparation batch 7271-037

S012368-01	8653-001	ITL2488-03			U
S012369-03	8654-003	Lab Control Sample	ok		ok
S012369-04	8654-004	Method Blank			U
S012369-05	8654-005	Duplicate (S012369-01)			-    U

Nominal values and limits from method            RDLs (pCi/L)            10.0            20.0

**METHOD PERFORMANCE**

LAB            RAW    SUF-            MDA            ALIQ    PREP    DILU-    YIELD    EFF    COUNT    FWHM    DRIFT    DAYS            ANAL-  
 SAMPLE ID    TEST FIX    CLIENT SAMPLE ID            pCi/L            L            FAC    TION            %            %            min    keV    KeV    HELD    PREPARED    YZED    DETECTOR

Preparation batch 7271-037            2σ prep error 7.0 %            Reference Lab Notebook No. 7271 pg.037

S012368-01		ITL2488-03	2.00											12	01/05/11	01/07	MB,02,00
S012369-03		Lab Control Sample	2.00												01/05/11	01/05	MB,02,00
S012369-04		Method Blank	2.00												01/05/11	01/05	01,04,00
S012369-05		Duplicate (S012369-01)	2.00											10	01/05/11	01/05	MB,05,00

Nominal values and limits from method            6.00            2.00            400            180

PROCEDURES    REFERENCE    901.1  
 DWP-100            Preparation of Drinking Water Samples for Gamma Spectroscopy, rev 5

Lab id EAS  
 Protocol TA  
 Version Ver 1.0  
 Form DVD-LMS  
 Version 3.06  
 Report date 02/01/11

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SDG 8653

Test U T Matrix WATER  
 SDG 8653  
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**LAB METHOD SUMMARY**

URANIUM, TOTAL  
 KINETIC PHOSPHORIMETRY, UG

**RESULTS**

LAB	RAW	SUF-		Uranium,	
SAMPLE ID	TEST	FIX	PLANCHET	CLIENT SAMPLE ID	Total
Preparation batch 7271-037					
S012368-01				ITL2488-03	0.783 J
S012369-03				Lab Control Sample	ok
S012369-04				Method Blank	U
S012369-05				Duplicate (S012369-01)	ok J

Nominal values and limits from method      RDLs (pCi/L)      1.00

**METHOD PERFORMANCE**

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-				
SAMPLE ID	TEST	FIX	CLIENT	SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7271-037			2σ prep error		Reference Lab Notebook No. 7271 pg.037												
S012368-01			ITL2488-03		0.017	0.0200								25	01/11/11	01/20	KPA-001
S012369-03			Lab Control Sample		0.174	0.0200									01/20/11	01/20	KPA-001
S012369-04			Method Blank		0.017	0.0200									01/20/11	01/20	KPA-001
S012369-05			Duplicate (S012369-01)		0.017	0.0200								25	01/20/11	01/20	KPA-001

Nominal values and limits from method      1.00      0.0200      180

PROCEDURES REFERENCE D5174

AVERAGES ± 2 SD      MDA 0.056 ± 0.157  
 FOR 4 SAMPLES      YIELD \_\_\_\_\_ ± \_\_\_\_\_

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**LAB METHOD SUMMARY**

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Test H Matrix WATER

SDG 8653

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Client Test America, Inc.

Contract ITL2488

**RESULTS**

LAB	RAW	SUF-		
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Tritium

Preparation batch 7271-037

S012368-01		8653-001	ITL2488-03	U
S012369-03		8654-003	Lab Control Sample	ok
S012369-04		8654-004	Method Blank	U
S012369-05		8654-005	Duplicate (S012369-01)	- U

Nominal values and limits from method RDLs (pCi/L) 500

**METHOD PERFORMANCE**

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD PREPARED	YZED DETECTOR

Preparation batch 7271-037 2σ prep error 10.0 % Reference Lab Notebook No. 7271 pg.037

S012368-01		ITL2488-03	184	0.0100			100		100			17 01/12/11	01/12 LSC-004
S012369-03		Lab Control Sample	271	0.100			10		<u>50</u>			01/12/11	01/12 LSC-004
S012369-04		Method Blank	272	0.100			10		<u>50</u>			01/12/11	01/12 LSC-004
S012369-05		Duplicate (S012369-01)	267	0.0100			100		<u>50</u>			17 01/12/11	01/12 LSC-004

Nominal values and limits from method 500 0.0100 100 180

PROCEDURES REFERENCE 906.0  
DWP-212 Tritium in Drinking Water by Distillation, rev 8

AVERAGES ± 2 SD MDA 248 ± 86.1  
FOR 4 SAMPLES YIELD 55 ± 104

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SDG 8653

Test RA Matrix WATER  
 SDG 8653  
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**LAB METHOD SUMMARY**

RADIUM-226 IN WATER  
 RADON COUNTING

**RESULTS**

LAB RAW SUF-  
 SAMPLE ID TEST FIX PLANCHET CLIENT SAMPLE ID Radium-226

Preparation batch 7271-037

S012368-01	8653-001	ITL2488-03	0.667 J
S012369-03	8654-003	Lab Control Sample	ok
S012369-04	8654-004	Method Blank	U
S012369-05	8654-005	Duplicate (S012369-01)	- U

Nominal values and limits from method RDLs (pCi/L) 1.00

**METHOD PERFORMANCE**

LAB RAW SUF- MDA ALIQ PREP DILU- YIELD EFF COUNT FWHM DRIFT DAYS ANAL-  
 SAMPLE ID TEST FIX CLIENT SAMPLE ID pCi/L L FAC TION % % min keV KeV HELD PREPARED YZED DETECTOR

Preparation batch 7271-037 2σ prep error 16.4 % Reference Lab Notebook No. 7271 pg.037

S012368-01	ITL2488-03	0.519	0.100	100	104	27	01/22/11	01/22	RN-013
S012369-03	Lab Control Sample	0.577	0.100	100	178		01/22/11	01/22	RN-009
S012369-04	Method Blank	0.640	0.100	100	<u>87</u>		01/22/11	01/22	RN-010
S012369-05	Duplicate (S012369-01)	0.592	0.100	100	<u>87</u>	27	01/22/11	01/22	RN-012

Nominal values and limits from method 1.00 0.100 100 180

PROCEDURES REFERENCE 903.1  
 DWP-881A Ra-226 Screening in Drinking Water, rev 6

AVERAGES ± 2 SD MDA 0.582 ± 0.100  
 FOR 4 SAMPLES YIELD 100 ± 0

Lab id EAS  
 Protocol TA  
 Version Ver 1.0  
 Form DVD-LMS  
 Version 3.06  
 Report date 02/01/11

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REPORT GUIDE

Client Test America, Inc.  
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SAMPLE SUMMARY

The Sample and QC Summary Reports show all samples, including QC samples, reported in one Sample Delivery Group (SDG).

The Sample Summary Report fully identifies client samples and gives the corresponding lab sample identification. The QC Summary Report shows at the sample level how the lab organized the samples into batches and generated QC samples. The Preparation Batch and Method Summary Reports show this at the analysis level.

The following notes apply to these reports:

- \* LAB SAMPLE ID is the lab's primary identification for a sample.
- \* DEPARTMENT SAMPLE ID is an alternate lab id, for example one assigned by a radiochemistry department in a lab.
- \* CLIENT SAMPLE ID is the client's primary identification for a sample. It includes any sample preparation done by the client that is necessary to identify the sample.
- \* QC BATCH is a lab assigned code that groups samples to be processed and QCed together. These samples should have similar matrices.

QC BATCH is not necessarily the same as SDG, which reflects samples received and reported together.

- \* All Lab Control Samples, Method Blanks, Duplicates and Matrix Spikes are shown that QC any of the samples. Due to possible reanalyses, not all results for all these QC samples may be relevant to the SDG. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.

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PREPARATION BATCH SUMMARY

The Preparation Batch Summary Report shows all preparation batches in one Sample Delivery Group (SDG) with information necessary to check the completeness and consistency of the SDG.

The following notes apply to this report:

- \* The preparation batches are shown in the same order as the Method Summary Reports are printed.
- \* Only analyses of planchets relevant to the SDG are included.
- \* Each preparation batch should have at least one Method Blank and LCS in it to validate client sample results.
- \* The QUALIFIERS shown are all qualifiers other than U, J, B, L and H that occur on any analysis in the preparation batch. The Method Summary Report has these qualifiers on a per sample basis.

These qualifiers should be reviewed as follows:

- X Some data has been manually entered or modified. Transcription errors are possible.
- P One or more results are 'preliminary'. The data is not ready for final reporting.
- 2 There were two or more results for one analyte on one planchet imported at one time. The results in DVD may not be the same as on the raw data sheets.

Other lab defined qualifiers may occur. In general, these should be addressed in the SDG narrative.

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WORK SUMMARY

The Work Summary Report shows all samples, including QC samples, and all relevant analyses in one Sample Delivery Group (SDG). This report is often useful as supporting documentation for an invoice.

The following notes apply to this report:

- \* TEST is a code for the method used to measure associated analytes. Results and related information for each analyte are on the Data Sheet Report. In special cases, a test code used in the summary data section is not the same as in associated raw data. In this case, both codes are shown on the Work Summary.
- \* SUFFIX is the lab's code to distinguish multiple analyses (recounts, reworks, reanalyses) of a fraction of the sample. The suffix indicates which result is being reported. An empty suffix normally identifies the first attempt to analyze the sample.
- \* The LAB SAMPLE ID, TEST and SUFFIX uniquely identify all supporting data for a result. The Method Summary Report for each TEST has method performance data, such as yield, for each lab sample id and suffix and procedures used in the method.
- \* PLANCHET is an alternate lab identifier for work done for one test. It, combined with the TEST and SUFFIX, may be the best link to raw data.
- \* For QC samples, only analyses that directly QC some regular sample are shown. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.
- \* The SAS (Special Analytical Services) Number is a client or lab assigned code that reflects special processing for samples, such as rapid turn around. Counts of tests done are lists by SAS number since it is likely to affect prices.

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DATA SHEET

The Data Sheet Report shows all results and primary supporting information for one client sample or Method Blank. This report corresponds to both the CLP Inorganics and Organics Data Sheet.

The following notes apply to this report:

- \* TEST is a code for the method used to measure an analyte. If the TEST is empty, no data is available; the analyte was not analyzed for.
- \* The LAB SAMPLE ID and TEST uniquely identify work within the Summary Data Section of a Data Package. The Work Summary and Method Summary Reports further identify raw data that underlies this work.

The Method Summary Report for each TEST has method performance data, such as yield, for each Lab Sample ID and a list of procedures used in the method.

- \* ERRORS can be labeled TOTAL or COUNT. TOTAL implies a preparation (non-counting method) error has been added, as square root of sum of squares, to the counting error denoted by COUNT. The preparation errors, which may vary by preparation batch, are shown on the Method Summary Report.
- \* A RESULT can be 'N.R.' (Not Reported). This means the lab did this work but chooses not to report it now, possibly because it was reported at another time.
- \* When reporting a Method Blank, a RESULT can be 'N.A.' (Not Applicable). This means there is no reported client sample work in the same preparation batch as the Blank's result. This is likely to occur when the Method Blank is associated with reanalyses of selected work for a few samples in the SDG.

The following qualifiers are defined by the DVD system:

- U The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit.

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DATA SHEET

J The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.

B A Method Blank associated with this sample had a result without a U flag and, after correcting for possibly different aliquots, that result is greater than or equal to the MDA for this sample.

Normally, B is not assigned if U is. When method blank subtraction is shown on this report, B flags are assigned based on the unsubtracted values while U's are assigned based on the subtracted ones. Both flags can be assigned in this case.

For each sample result, all Method Blank results in the same preparation batch are compared. The Method Summary Report documents this and other QC relationships.

L Some Lab Control Sample that QC's this sample had a low recovery. The lab can disable assignment of this qualifier.

H Similar to 'L' except the recovery was high.

P The RESULT is 'preliminary'.

X Some data necessary to compute the RESULT, ERROR or MDA was manually entered or modified.

2 There were two or more results available for this analyte. The reported result may not be the same as in the raw data.

Other qualifiers are lab defined. Definitions should be in the SDG narrative.

The following values are underlined to indicate possible problems:

- \* An MDA is underlined if it is bigger than its RDL.
- \* An ERROR is underlined if the 1.645 sigma counting error is bigger than both the MDA and the RESULT, implying that the MDA

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DATA SHEET

may not be a good estimate of the 'real' minimum detectable activity.

- \* A negative RESULT is underlined if it is less than the negative of its 2 sigma counting ERROR.
- \* When reporting a Method Blank, a RESULT is underlined if greater than its MDA. If the MDA is blank, the 2 sigma counting error is used in the comparison.

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LAB CONTROL SAMPLE

The Lab Control Sample Report shows all results, recoveries and primary supporting information for one Lab Control Sample.

The following notes apply to this report:

- \* All fields in common with the Data Sheet Report have similar usage. Refer to its Report Guide for details.
- \* An amount ADDED is the lab's value for the actual amount spiked into this sample with its ERROR an estimate of the error of this amount.

An amount added is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

- \* REC (Recovery) is RESULT divided by ADDED expressed as a percent.
- \* The first, computed limits for the recovery reflect:
  1. The error of RESULT, including that introduced by rounding the result prior to printing.  
  
If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.
  2. The error of ADDED.
  3. A lab specified, per analyte bias. The bias changes the center of the computed limits.
- \* The second limits are protocol defined upper and lower QC limits for the recovery.
- \* The recovery is underlined if it is outside either of these ranges.

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DUPLICATE

The Duplicate Report shows all results, differences and primary supporting information for one Duplicate and associated Original sample.

The following notes apply to this report:

- \* All fields in common with the Data Sheet Report have similar usage. This applies both to the Duplicate and Original sample data. Refer to the Data Sheet Report Guide for details.

If the Duplicate has data for a TEST and the lab did not do this test to the Original, the Original's RESULTS are underlined.

- \* The RPD (Relative Percent Difference) is the absolute value of the difference of the RESULTS divided by their average expressed as a percent.

If both RESULTS are less than their MDAs, no RPD is computed and a '-' is printed.

For an analyte, if the lab did work for both samples but has data for only one, the MDA from the sample with data is used as the other's result in the RPD.

- \* The first, computed limit is the sum, as square root of sum of squares, of the errors of the results divided by the average result as a percent, hence the relative error of the difference rather than the error of the relative difference. The errors include those introduced by rounding the RESULTS prior to printing.

If this limit is labeled TOT, it includes the preparation error in the RESULTS. If labeled CNT, it does not.

This value reported for this limit is at most 999.

- \* The second limit for the RPD is the larger of:
  1. A fixed percentage specified in the protocol.

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DUPLICATE

2. A protocol factor (typically 2) times the average MDA as a percent of the average result. This limit applies when the results are close to the MDAs.

- \* The RPD is underlined if it is greater than either limit.
- \* If specified by the lab, the second limit column is replaced by the Difference Error Ratio (DER), which is the absolute value of the difference of the results divided by the quadratic sum of their one sigma errors, the same errors as used in the first limit.

Except for differences due to rounding, the DER is the same as the RPD divided by the first RPD limit with the limit scaled to 1 sigma.

- \* The DER is underlined if it is greater than the sigma factor, typically 2 or 3, shown in the header for the first RPD limit.

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MATRIX SPIKE

The Matrix Spike Report shows all results, recoveries and primary supporting information for one Matrix Spike and associated Original sample.

The following notes apply to this report:

- \* All fields in common with the Data Sheet Report have similar usage. This applies both to the Spiked and Original sample data. Refer to the Data Sheet Report Guide for details.

If the Spike has data for a TEST and the lab did not do this test to the Original, the Original's RESULTS are underlined.

- \* An amount ADDED is the lab's value for the actual amount spiked into the Spike sample with its ERROR an estimate of the error of this amount.

An amount is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

- \* REC (Recovery) is the Spike RESULT minus the Original RESULT divided by ADDED expressed as a percent.

- \* The first, computed limits for the recovery reflect:

1. The errors of the two RESULTS, including those introduced by rounding them prior to printing.

If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.

2. The error of ADDED.

3. A lab specified, per analyte bias. The bias changes the center of the computed limits.

- \* The second limits are protocol defined upper and lower QC limits for the recovery.

REPORT GUIDES

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SUMMARY DATA SECTION

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Lab id EAS  
Protocol TA  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
Report date 02/01/11

EBERLINE ANALYTICAL

SDG 8653

SDG 8653  
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.  
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MATRIX SPIKE

These limits are left blank if the Original RESULT is more than a protocol defined factor (typically 4) times ADDED. This is a way of accounting for that when the spike is small compared to the amount in the original sample, the recovery is unreliable.

- \* The recovery is underlined (out of spec) if it is outside either of these ranges.

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SUMMARY DATA SECTION

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Lab id EAS  
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EBERLINE ANALYTICAL

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REPORT GUIDE

Client Test America, Inc.

Contract ITL2488

METHOD SUMMARY

The Method Summary Report has two tables. One shows up to five results measured using one method. The other has performance data for the method. There is one report for each TEST, as used on the Data Sheet Report.

The following notes apply to this report:

- \* Each table is subdivided into sections, one for each preparation batch. A preparation batch is a group of aliquots prepared at roughly the same time in one work area of the lab using the same method.

There should be Lab Control Sample and Method Blank results in each preparation batch since this close correspondence makes the QC meaningful. Depending on lab policy, Duplicates need not occur in each batch since they QC sample dependencies such as matrix effects.

- \* The RAW TEST column shows the test code used in the raw data to identify a particular analysis if it is different than the test code in the header of the report. This occurs in special cases due to method specific details about how the lab labels work.

The Lab Sample or Planchet ID combined with the (Raw) Test Code and Suffix uniquely identify the raw data for each analysis.

- \* If a result is less than both its MDA and RDL, it is replaced by just 'U' on this report. If it is greater than or equal to the RDL but less than the MDA, the result is shown with a 'U' flag.

The J and X flags are as on the data sheet.

- \* Non-U results for Method Blanks are underlined to indicate possible contamination of other samples in the preparation batch. The Method Blank Report has supporting data.
- \* Lab Control Sample and Matrix Spike results are shown as: ok, No data, LOW or HIGH, with the last two underlined. 'No data' means no amount ADDED was specified. 'LOW' and 'HIGH'

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SUMMARY DATA SECTION

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Lab id EAS

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METHOD SUMMARY

correspond to when the recovery is underlined on the Lab Control Sample or Matrix Spike Report. See these reports for supporting data.

\* Duplicate sample results are shown as: ok, No data, or OUT, with the last two underlined. 'No data' means there was no original sample data found for this duplicate. 'OUT' corresponds to when the RPD is underlined on the Duplicate Report. See this report for supporting data.

\* If the MDA column is labeled 'MAX MDA', there was more than one result measured by the reported method and the MDA shown is the largest MDA. If not all these results have the same RDL, the MAX MDA reflects only those results with RDL equal to the smallest one.

MDAs are underlined if greater than the printed RDL.

\* Aliquots are underlined if less than the nominal value specified for the method.

\* Preparation factors are underlined if greater than the nominal value specified for the method.

\* Dilution factors are underlined if greater than the nominal value specified for the method.

\* Residues are underlined if outside the range specified for the method. Residues are not printed if yields are.

\* Yields, which may be gravimetric, radiometric or some type of recovery depending on the method, are underlined if outside the range specified for the method.

\* Efficiencies are underlined if outside the range specified for the method. Efficiencies are detector and geometry dependent so this test is only approximate.

\* Count times are underlined if less than the nominal value

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SUMMARY DATA SECTION

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Client Test America, Inc.

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METHOD SUMMARY

specified for the method.

- \* Resolutions (as FWHM; Full Width at Half Max) are underlined if greater than the method specified limit.
- \* Tracer drifts are underlined if their absolute values are greater than the method specified limit. Tracer drifts are not printed if percent moistures are.
- \* Days Held are underlined if greater than the holding time specified in the protocol.
- \* Analysis dates are underlined if before their planchet's preparation date or, if a limit is specified, too far after it.

For some methods, ratios as percentages and error estimates for them are computed for pairs of results. A ratio column header like '1+3' means the ratio of the first result column and the third result column.

Ratios are not computed for Lab Control Sample, Method Blank or Matrix Spike results since their matrices are not necessarily similar to client samples'.

The error estimate for a ratio of results from one planchet reflects only counting errors since other errors should be correlated. For a ratio involving different planchets, if QC limits are computed based on total errors, the error for the ratio allows for the preparation errors for the planchets.

The ratio is underlined (out of spec) if the absolute value of its difference from the nominal value is greater than its error estimate. If no nominal value is specified, this test is not done.

For Gross Alpha or Gross Beta results, there may be a column showing the sum of other Alpha or Beta emitters. This sum includes all relevant results in the DVD database, whether reported or not. Results in the sum are weighted by a particles/decay value specified by the lab for each relevant analyte. Results less than their MDA are not included.

REPORT GUIDES

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SUMMARY DATA SECTION

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Lab id EAS

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METHOD SUMMARY

No sums are computed for Lab Control, Method Blank or Matrix Spike samples since their various planchets may not be physically related.

If a ratio of total isotopic to Gross Alpha or Beta is shown, the error for the ratio reflects both the error in the Gross result and the sum, as square root of sum of squares, of the errors in the isotopic results.

For total elemental uranium or thorium results, there may be a column showing the total weight computed from associated isotopic results. Ignoring results less than their MDAs, this is a weighted sum of the isotopic results. The weights depend on the molecular weight and half-life of each isotope so as to convert activities (decays) to weight (atoms).

If a ratio of total computed to measured elemental uranium or thorium is shown, the error for the ratio reflects the errors in all the measurements.

REPORT GUIDES

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SUMMARY DATA SECTION

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Lab id EAS  
Protocol TA  
Version Ver 1.0  
Form DVD-RG  
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SUBCONTRACT ORDER  
TestAmerica Irvine

ITL2488

8653

**SENDING LABORATORY:**

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

**RECEIVING LABORATORY:**

Eberline Services  
2030 Wright Avenue  
Richmond, CA 94804  
Phone : (510) 235-2633  
Fax: (510) 235-0438  
Project Location: California  
Receipt Temperature: \_\_\_\_\_ °C      Ice: Y / N

Analysis	Units	Due	Expires	Comments
<b>Sample ID: ITL2488-03 (Outfall 002 (Composite) - Water)</b> Sampled: 12/26/10 20:12				
Gamma Spec-O	mg/kg	01/03/11	12/26/11 20:12	jflags; Cs 137 + K 40; do not filter
Gross Alpha-O	pCi/L	01/03/11	06/24/11 20:12	jflags; do not filter
Gross Beta-O	pCi/L	01/03/11	06/24/11 20:12	jflags; do not filter
Level 4 Data Package - Out	N/A	01/03/11	01/23/11 20:12	
Radium, Combined-O	pCi/L	01/03/11	12/26/11 20:12	jflags; do not filter
Strontium 90-O	pCi/L	01/03/11	12/26/11 20:12	jflags; do not filter
Tritium-O	pCi/L	01/03/11	12/26/11 20:12	jflags; do not filter
Uranium, Combined-O	pCi/L	01/03/11	12/26/11 20:12	jflags; do not filter
<i>Containers Supplied:</i>				
2.5 gal Poly (S)	500 mL Amber (T)			

Stephanie Avila  
Released By  
FEDEX  
Released By

\_\_\_\_\_  
Date/Time  
12/29/10  
Date/Time

\_\_\_\_\_  
Received By  
Alex Keleny  
Received By  
\_\_\_\_\_  
Date/Time  
12/29/10 10:50  
Date/Time      Page 1 of 1



# RICHMOND, CA LABORATORY

## SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA

Date/Time received 12/29/10 10:00 CoC No. ITL 2272, 2485, 2486, 2487, 2488, 2489

Container I.D. No. N/A Requested TAT (Days) STAND P.O. Received Yes [ ] No [ ]

### INSPECTION

1. Custody seals on shipping container intact? Yes [  ] No [ ] N/A [ ]
2. Custody seals on shipping container dated & signed? Yes [  ] No [ ] N/A [ ]
3. Custody seals on sample containers intact? Yes [  ] No [ ] N/A [ ]
4. Custody seals on sample containers dated & signed? Yes [ ] No [ ] N/A [  ]
5. Packing material is: Wet [ ] Dry [ ] N/A [  ]
6. Number of samples in shipping container: 8 Sample Matrix WATER
7. Number of containers per sample: ≠ (Or see CoC  )
8. Samples are in correct container Yes [  ] No [ ]
9. Paperwork agrees with samples? Yes [  ] No [  ]
10. Samples have: Tape [ ] Hazard labels [ ] Rad labels [ ] Appropriate sample labels [  ]
11. Samples are: In good condition [  ] Leaking [ ] Broken Container [ ] Missing [ ]
12. Samples are: Preserved [  ] Not preserved [ ] pH 2 Preservative HNO3
13. Describe any anomalies:  
two client TRIP BLANKS not included  
in CoC
14. Was P.M. notified of any anomalies? Yes [ ] No [ ] Date \_\_\_\_\_
15. Inspected by JHK Date: 12/29/10 Time: 14:20

Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wipe	Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	wipe
<u>All Sample</u>	<u>&lt; 60</u>						

Ion Chamber Ser. No. \_\_\_\_\_ Calibration date \_\_\_\_\_  
 Alpha Meter Ser. No. \_\_\_\_\_ Calibration date \_\_\_\_\_  
 Beta/Gamma Meter Ser. No. 100482 Calibration date 29 Sep 2010

# **APPENDIX G**

## **Section 9**

Outfall 002 – December 29 & 30, 2010

MEC<sup>X</sup> Data Validation Report

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# DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ITL2721

Prepared by

MEC<sup>x</sup>, 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: ITL2721  
 Project Manager: B. Kelly  
 Matrix: Water  
 QC Level: IV  
 No. of Samples: 3  
 No. of Reanalyses/Dilutions: 0  
 Laboratory: TestAmerica-Irvine

**Table 1. Sample Identification**

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 002 (Grab)	ITL2721-01	N/A	Water	12/29/2010 8:45:00 AM	SM2510B
Outfall 002 Composite	ITL2721-03	G1A030430-001, S101002-01	Water	12/30/2010 3:32:00 AM	245.1, 900, 901.1, 903.1, 904, 905, 906, 1613B, D5174
Outfall 002 (Grab)	ITL2721-04	N/A	Water	12/30/2010 9:00:00 AM	245.1-Diss, SM2130B

## II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at TestAmerica-Irvine and TestAmerica-West Sacramento below the control limit; however, the samples were not noted to be frozen or damaged. The temperature upon receipt was not noted by Eberline; however, due to the nonvolatile nature of the analytes, no qualifications were required. The remaining samples were received at the laboratories within the temperature limits of 4°C ±2°C. 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 in this SDG were delivered by courier, custody seals were not required. If necessary, the client ID was added to the sample result summary by the reviewer.

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**Data Qualifier Reference Table**


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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.**

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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.

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### III. Method Analyses

#### A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin

Date Reviewed: January 21, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC<sup>x</sup> Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0)*, *USEPA Method 1613*, and the *National Functional Guidelines Chlorinated Dioxin/Furan Data Review (8/02)*.

- 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 analyzed prior to the initial calibration sequence and at the beginning of each analytical sequence. 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  $\leq 20\%$  for the 15 native compounds (calibration by isotope dilution) and  $\leq 35\%$  for the two 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 detects between the EDL and the RL for several isomers and totals. Most method blank detects were reported as EMPCs; however, due to the extent of the method blank contamination, the reviewer considered it appropriate to use the EMPCs to qualify sample results. All individual isomers detected in both the method blank and site sample were qualified as nondetected, "U" at the EDL, or at the level of

contamination in the sample. The sample totals containing one or more peaks detected in the method blank were qualified as estimated, "J."

- Blank Spikes and Laboratory Control Samples: LCS 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 in the sample 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 a representative number of reportable sample results. Any individual isomers reported as EMPCs previously qualified as nondetected for method blank contamination were not further qualified as EMPCs. Remaining isomers reported as EMPCs were qualified as estimated nondetects, "UJ," at the level of the EMPC. Any totals including EMPC peaks were qualified as estimated, "J." Any detects reported 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 EDL.

## **B. EPA METHOD 245.1—Mercury**

Reviewed By: P. Meeks

Date Reviewed: January 20, 2011

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *MEC<sup>X</sup> 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 time, 28 days for mercury, was met.
- Tuning: Not applicable to this analysis.

- Calibration: Calibration criteria were met. Mercury initial calibration  $r^2$  values were  $\geq 0.995$  and all initial and continuing calibration recoveries were within 85-115%. CRA recoveries were within the control limits of 70-130%.
- Blanks: Method blanks and CCBs had no 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 both the dissolved and total fractions. Recoveries and RPDs were within laboratory-established QC limits.
- 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. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit 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: February 8, 2011

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, and 906.0*, *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. The remaining aliquots were prepared within the five-day analytical holding time for unpreserved 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, gross alpha detected in the sample was qualified as estimated, "J." The remaining detector efficiencies were greater than 20%.

The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. All chemical yields were at least 40% and were considered acceptable. The gamma spectroscopy analytes were determined at the maximum photopeak energy. The kinetic phosphorescence analyzer (KPA) was calibrated immediately prior to the sample analysis.

- **Blanks:** There were no analytes detected in the method blanks.
- **Blank Spikes and Laboratory Control Samples:** The recoveries were within laboratory-established control limits.
- **Laboratory Duplicates:** There were no laboratory duplicate analyses 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 was evaluated based on the LCS 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 reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDA. Total uranium, normally reported in aqueous units, was converted to pCi/L using the conversion factor of 0.67 for naturally occurring uranium.

A notation in the sample preparation logbook indicated that the aliquots for radium-226, radium-228, and strontium were filtered and that the filter was digested and added to the aliquot.

- 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.

#### **D. VARIOUS EPA METHODS—General Minerals**

Reviewed By: P. Meeks

Date Reviewed: January 20, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC<sup>X</sup> Data Validation Procedure for General Minerals (DVP-6, Rev. 0)*, *Standard Methods 2130B and SM2510B*, and the *National Functional Guidelines for Inorganic Data Review (7/02)*.

- Holding Times: Analytical holding times, 48 hours from collection for turbidity and 28 days from collection for conductivity, were met.
- Calibration: Calibration criteria were met. The turbidity initial calibration  $r^2$  value was  $\geq 0.995$  and all initial and continuing calibration recoveries were within 90-110%.
- Blanks: Method blanks and CCBs had no detects.
- 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: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy was evaluated based on LCS results.
- 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. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either “J+” or “J-”; otherwise, bias was not indicated in the qualification. Any detects between the method

detection limit and the reporting limit 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.

---

# Validated Sample Result Forms ITL2721

---

## *Analysis Method* 8655

**Sample Name** Outfall 002 Composite **Matrix Type:** WATER **Validation Level:** IV

**Lab Sample Name:** ITL2721-03 **Sample Date:** 12/30/2010 3:32:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total		1.46	1	0.017	pCi/L			

## *Analysis Method* 900

**Sample Name** Outfall 002 Composite **Matrix Type:** WATER **Validation Level:** IV

**Lab Sample Name:** ITL2721-03 **Sample Date:** 12/30/2010 3:32:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	1.21	3	0.84	pCi/L	Jb	J	C, DNQ
Gross Beta	12587472	4.02	4	1.21	pCi/L			

## *Analysis Method* 901.1

**Sample Name** Outfall 002 Composite **Matrix Type:** WATER **Validation Level:** IV

**Lab Sample Name:** ITL2721-03 **Sample Date:** 12/30/2010 3:32:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	ND	20	1.23	pCi/L	U	U	
Potassium-40	13966002	ND	25	27.2	pCi/L	U	U	

## *Analysis Method* 903.1

**Sample Name** Outfall 002 Composite **Matrix Type:** WATER **Validation Level:** IV

**Lab Sample Name:** ITL2721-03 **Sample Date:** 12/30/2010 3:32:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	0.296	1	0.64	pCi/L	U	U	

## *Analysis Method* 904

**Sample Name** Outfall 002 Composite **Matrix Type:** WATER **Validation Level:** IV

**Lab Sample Name:** ITL2721-03 **Sample Date:** 12/30/2010 3:32:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	0.126	1	0.442	pCi/L	U	U	

*Analysis Method* 905

---

<b>Sample Name</b>	Outfall 002 Composite	<b>Matrix Type:</b>	WATER	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	ITL2721-03	<b>Sample Date:</b>	12/30/2010 3:32:00 AM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Strontium-90	10098972	-0.29	2	1.65	pCi/L	U	U	

---

*Analysis Method* 906

---

<b>Sample Name</b>	Outfall 002 Composite	<b>Matrix Type:</b>	WATER	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	ITL2721-03	<b>Sample Date:</b>	12/30/2010 3:32:00 AM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Tritium	10028178	-60.3	500	331	pCi/L	U	U	

---

*Analysis Method* EPA 245.1

---

<b>Sample Name</b>	Outfall 002 Composite	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	ITL2721-03	<b>Sample Date:</b>	12/30/2010 3:32:00 AM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Mercury	7439-97-6	ND	0.20	0.10	ug/l		U	

---

*Analysis Method* EPA 245.1-Diss

---

<b>Sample Name</b>	Outfall 002 (Grab)	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	ITL2721-04	<b>Sample Date:</b>	12/30/2010 9:00:00 AM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Mercury	7439-97-6	ND	0.20	0.10	ug/l		U	

---

*Analysis Method EPA-5 1613B*

**Sample Name** Outfall 002 Composite      **Matrix Type:** WATER      **Validation Level:** IV  
**Lab Sample Name:** ITL2721-03      **Sample Date:** 12/30/2010 3:32:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822-46-9	ND	0.00005	0.0000006	ug/L	J, B	U	B
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.00005	0.0000004	ug/L	J, B	U	B
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.00005	0.0000005	ug/L	J, Q	UJ	*III
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.00005	0.0000004	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.00005	0.0000002	ug/L		U	
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.00005	0.0000003	ug/L		U	
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.00005	0.0000002	ug/L		U	
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.00005	0.0000004	ug/L		U	
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.00005	0.0000003	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	0.00005	0.0000011	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.00005	0.0000003	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.00005	0.0000002	ug/L		U	
2,3,4,7,8-PeCDF	57117-31-4	ND	0.00005	0.0000003	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.00001	0.0000005	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.00001	0.0000007	ug/L		U	
OCDD	3268-87-9	ND	0.0001	0.0000011	ug/L	J, B	U	B
OCDF	39001-02-0	ND	0.0001	0.0000005	ug/L	J, B	U	B
Total HpCDD	37871-00-4	4.9e-006	0.00005	0.0000006	ug/L	J, B	J	B, DNQ
Total HpCDF	38998-75-3	1.4e-006	0.00005	0.0000004	ug/L	J, Q, B	J	B, DNQ, *III
Total HxCDD	34465-46-8	ND	0.00005	0.0000003	ug/L		U	
Total HxCDF	55684-94-1	ND	0.00005	0.0000002	ug/L		U	
Total PeCDD	36088-22-9	ND	0.00005	0.0000011	ug/L		U	
Total PeCDF	30402-15-4	ND	0.00005	0.0000003	ug/L		U	
Total TCDD	41903-57-5	1.8e-006	0.00001	0.0000005	ug/L	J, Q	J	DNQ, *III
Total TCDF	55722-27-5	ND	0.00001	0.0000007	ug/L		U	

*Analysis Method SM2130B*

**Sample Name** Outfall 002 (Grab)      **Matrix Type:** Water      **Validation Level:** IV  
**Lab Sample Name:** ITL2721-04      **Sample Date:** 12/30/2010 9:00:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Turbidity	Turb	0.85	1.0	0.040	NTU	Ja	J	DNQ

*Analysis Method*    **SM2510B**

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**Sample Name**      Outfall 002 (Grab)                      **Matrix Type:**    Water                      **Validation Level:**    IV

**Lab Sample Name:**    ITL2721-01                      **Sample Date:**    12/29/2010 8:45:00 AM

---

<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Specific Conductance	NA	660	1.0	1.0	umhos/c			

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## **APPENDIX G**

### **Section 10**

Outfall 002 - December 29 & 30, 2010

Test America Analytical Laboratory Report

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## LABORATORY REPORT

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

Project: Routine Outfall 002 2010  
Routine Outfall 002

Sampled: 12/29/10-12/30/10  
Received: 12/29/10  
Issued: 02/04/11 18:12

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

*The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain(s) of Custody, 3 pages, are included and are an integral part of this report.  
This entire report was reviewed and approved for release.*

### 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:** Results that fall between the MDL and RL are 'J' flagged.

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

**ADDITIONAL INFORMATION:** WATER, 1613B, Dioxins/Furans with Totals

Some analytes in this sample and the associated method blank have an ion abundance ratio that is outside of criteria. The analytes are considered as an "estimated maximum possible concentration" (EMPC) because the quantitation is based on the theoretical ion abundance ratio. Analytical results are reported with a "Q" flag.

Some analytes are reported at a concentration below the estimated detection limit (EDL). The data is reported as a positive detection because the peaks elute at the correct retention time for both characteristic ions and have a signal to noise ratio greater than the method required 2.5:1.

There are no other anomalies associated with this project.

**TestAmerica Irvine**

Debby Wilson  
Project Manager

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

Project ID: Routine Outfall 002 2010  
Routine Outfall 002  
Report Number: ITL2721

Sampled: 12/29/10-12/30/10  
Received: 12/29/10

**LABORATORY ID**

ITL2721-01  
ITL2721-02  
ITL2721-03  
ITL2721-04

**CLIENT ID**

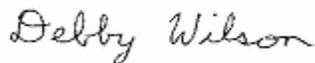
Outfall 002 (Grab)  
Trip Blanks  
Outfall 002 Composite  
Outfall 002 (Grab)

**MATRIX**

Water  
Water  
Water  
Water

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Reviewed By:



**TestAmerica Irvine**

Debby Wilson  
Project Manager

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

Project ID: Routine Outfall 002 2010  
 Routine Outfall 002  
 Report Number: ITL2721

Sampled: 12/29/10-12/30/10  
 Received: 12/29/10

## PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2721-01 (Outfall 002 (Grab) - Water)</b>					<b>Sampled: 12/29/10</b>				
<b>Reporting Units: ug/l</b>									
1,2-Dichloroethane	EPA 624	10L3234	0.28	0.50	ND	1	ALE	12/29/10	
1,1-Dichloroethene	EPA 624	10L3234	0.42	2.0	ND	1	ALE	12/29/10	
Trichloroethene	EPA 624	10L3234	0.26	2.0	ND	1	ALE	12/29/10	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					92 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					106 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					98 %				
<b>Sample ID: ITL2721-02 (Trip Blanks - Water)</b>					<b>Sampled: 12/29/10</b>				
<b>Reporting Units: ug/l</b>									
1,2-Dichloroethane	EPA 624	10L3234	0.28	0.50	ND	1	ALE	12/29/10	
1,1-Dichloroethene	EPA 624	10L3234	0.42	2.0	ND	1	ALE	12/29/10	
Trichloroethene	EPA 624	10L3234	0.26	2.0	ND	1	ALE	12/29/10	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					90 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					104 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					97 %				

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 Project Manager

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 Attention: Bronwyn Kelly

Project ID: Routine Outfall 002 2010  
 Routine Outfall 002  
 Report Number: ITL2721

Sampled: 12/29/10-12/30/10  
 Received: 12/29/10

## ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2721-04 (Outfall 002 (Grab) - Water)</b>					<b>Sampled: 12/30/10</b>				
<b>Reporting Units: ug/l</b>									
Bis(2-ethylhexyl)phthalate	EPA 625	11A0020	1.62	4.76	ND	0.952	LB\	01/04/11	
2,4-Dinitrotoluene	EPA 625	11A0020	0.190	4.76	ND	0.952	LB\	01/04/11	
N-Nitrosodimethylamine	EPA 625	11A0020	0.0952	4.76	ND	0.952	LB\	01/04/11	
Pentachlorophenol	EPA 625	11A0020	0.0952	4.76	ND	0.952	LB\	01/04/11	
2,4,6-Trichlorophenol	EPA 625	11A0020	0.0952	5.71	ND	0.952	LB\	01/04/11	
<i>Surrogate: 2,4,6-Tribromophenol (40-120%)</i>					91 %				
<i>Surrogate: 2-Fluorobiphenyl (50-120%)</i>					72 %				
<i>Surrogate: 2-Fluorophenol (30-120%)</i>					71 %				
<i>Surrogate: Nitrobenzene-d5 (45-120%)</i>					74 %				
<i>Surrogate: Phenol-d6 (35-120%)</i>					74 %				
<i>Surrogate: Terphenyl-d14 (50-125%)</i>					86 %				

**TestAmerica Irvine**

Debby Wilson  
 Project Manager

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

Project ID: Routine Outfall 002 2010  
Routine Outfall 002  
Report Number: ITL2721

Sampled: 12/29/10-12/30/10  
Received: 12/29/10

## ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2721-04 (Outfall 002 (Grab) - Water) - cont.</b>					<b>Sampled: 12/30/10</b>				
<b>Reporting Units: ug/l</b>									
alpha-BHC	EPA 608	11A0061	0.0024	0.0096	ND	0.957	DXD	01/03/11	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					<i>100 %</i>				
<i>Surrogate: Tetrachloro-m-xylene (35-115%)</i>					<i>81 %</i>				

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Project Manager

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**ITL2721 <Page 5 of 42>**

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

Project ID: Routine Outfall 002 2010  
Routine Outfall 002  
Report Number: ITL2721

Sampled: 12/29/10-12/30/10  
Received: 12/29/10

## HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2721-01 (Outfall 002 (Grab) - Water)</b>					<b>Sampled: 12/29/10</b>				
<b>Reporting Units: mg/l</b>									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	11A0167	1.3	4.7	ND	1	DA	01/04/11	

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Project Manager

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**ITL2721 <Page 6 of 42>**

MWH-Pasadena/Boeing  
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 Attention: Bronwyn Kelly

Project ID: Routine Outfall 002 2010  
 Routine Outfall 002  
 Report Number: ITL2721

Sampled: 12/29/10-12/30/10  
 Received: 12/29/10

## METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2721-03 (Outfall 002 Composite - Water)</b>					<b>Sampled: 12/30/10</b>				
Reporting Units: mg/l									
<b>Iron</b>	EPA 200.7	11A0077	0.015	0.040	<b>0.071</b>	1	VRS	01/03/11	
<b>Sample ID: ITL2721-03 (Outfall 002 Composite - Water)</b>					<b>Sampled: 12/30/10</b>				
Reporting Units: ug/l									
Mercury	EPA 245.1	11A0093	0.10	0.20	ND	1	DB	01/03/11	
Manganese	EPA 200.7	11A0077	7.0	20	ND	1	VRS	01/03/11	
Cadmium	EPA 200.8	11A0078	0.10	1.0	ND	1	RDC	01/03/11	
Zinc	EPA 200.7	11A0077	6.00	20.0	ND	1	VRS	01/03/11	
<b>Copper</b>	EPA 200.8	11A0078	0.50	2.0	<b>2.0</b>	1	RDC	01/03/11	
Lead	EPA 200.8	11A0078	0.20	1.0	ND	1	RDC	01/03/11	
Selenium	EPA 200.8	11A0078	0.50	2.0	ND	1	RDC	01/03/11	

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Project ID: Routine Outfall 002 2010  
 Routine Outfall 002  
 Report Number: ITL2721

Sampled: 12/29/10-12/30/10  
 Received: 12/29/10

## DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2721-04 (Outfall 002 (Grab) - Water)</b>					<b>Sampled: 12/30/10</b>				
<b>Reporting Units: mg/l</b>									
Iron	EPA 200.7-Diss	11A0063	0.015	0.040	ND	1	VRS	01/03/11	
<b>Sample ID: ITL2721-04 (Outfall 002 (Grab) - Water)</b>					<b>Sampled: 12/30/10</b>				
<b>Reporting Units: ug/l</b>									
Mercury	EPA 245.1-Diss	11A0094	0.10	0.20	ND	1	DB	01/03/11	
Manganese	EPA 200.7-Diss	11A0063	7.0	20	ND	1	VRS	01/03/11	
Cadmium	EPA 200.8-Diss	11A0064	0.10	1.0	ND	1	RDC	01/03/11	
Zinc	EPA 200.7-Diss	11A0063	6.00	20.0	ND	1	VRS	01/03/11	
<b>Copper</b>	EPA 200.8-Diss	11A0064	0.50	2.0	<b>1.7</b>	1	RDC	01/03/11	Ja
Lead	EPA 200.8-Diss	11A0064	0.20	1.0	ND	1	RDC	01/03/11	
Selenium	EPA 200.8-Diss	11A0064	0.50	2.0	ND	1	RDC	01/03/11	

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 Project Manager

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 618 Michillinda Avenue, Suite 200  
 Arcadia, CA 91007  
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 002 2010  
 Routine Outfall 002  
 Report Number: ITL2721

Sampled: 12/29/10-12/30/10  
 Received: 12/29/10

## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2721-04 (Outfall 002 (Grab) - Water) - cont.</b>					<b>Sampled: 12/30/10</b>				
<b>Reporting Units: mg/l</b>									
Ammonia-N (Distilled)	SM4500NH3-C	11A0108	0.500	0.500	ND	1	TMK	01/03/11	
<b>Biochemical Oxygen Demand</b>	SM5210B	10L3508	0.50	2.0	<b>1.3</b>	1	XL	01/04/11	Ja
<b>Chloride</b>	EPA 300.0	10L3421	1.2	2.5	<b>25</b>	5	NN	12/30/10	
<b>Nitrate-N</b>	EPA 300.0	10L3421	0.060	0.11	<b>0.11</b>	1	NN	12/30/10	
Nitrite-N	EPA 300.0	10L3421	0.090	0.15	ND	1	NN	12/30/10	
Nitrate/Nitrite-N	EPA 300.0	10L3421	0.15	0.26	ND	1	NN	12/30/10	
<b>Sulfate</b>	EPA 300.0	10L3421	1.0	2.5	<b>120</b>	5	NN	12/30/10	
Surfactants (MBAS)	SM5540-C	10L3513	0.050	0.10	ND	1	SLA	12/30/10	
<b>Total Dissolved Solids</b>	SM2540C	11A0030	1.0	10	<b>390</b>	1	MC	01/03/11	
Total Suspended Solids	SM 2540D	10L3516	1.0	10	ND	1	DC	12/30/10	
<b>Sample ID: ITL2721-01 (Outfall 002 (Grab) - Water)</b>					<b>Sampled: 12/29/10</b>				
<b>Reporting Units: ml/l</b>									
Total Settleable Solids	SM2540F	10L3485	0.10	0.10	ND	1	RRZ	12/30/10	
<b>Sample ID: ITL2721-04 (Outfall 002 (Grab) - Water)</b>					<b>Sampled: 12/30/10</b>				
<b>Reporting Units: NTU</b>									
<b>Turbidity</b>	SM2130B	10L3506	0.040	1.0	<b>0.85</b>	1	AC1	12/30/10	Ja
<b>Sample ID: ITL2721-04 (Outfall 002 (Grab) - Water)</b>					<b>Sampled: 12/30/10</b>				
<b>Reporting Units: ug/l</b>									
Perchlorate	EPA 314.0	11A0037	0.90	4.0	ND	1	MN	01/03/11	
Total Cyanide	SM4500CN-E	11A0118	2.2	5.0	ND	1	HH	01/03/11	
<b>Sample ID: ITL2721-01 (Outfall 002 (Grab) - Water)</b>					<b>Sampled: 12/29/10</b>				
<b>Reporting Units: umhos/cm @ 25C</b>									
<b>Specific Conductance</b>	SM2510B	11A0032	1.0	1.0	<b>660</b>	1	MC	01/03/11	

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Project ID: Routine Outfall 002 2010  
Routine Outfall 002  
Report Number: ITL2721

Sampled: 12/29/10-12/30/10  
Received: 12/29/10

## 8655

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: ITL2721-03 (Outfall 002 Composite - Water)					Sampled: 12/30/10				
Reporting Units: pCi/L									
Uranium, Total	8655	8655		1	1.46	1	CSS	01/20/11	

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Routine Outfall 002  
Report Number: ITL2721

Sampled: 12/29/10-12/30/10  
Received: 12/29/10

## 900

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: ITL2721-03 (Outfall 002 Composite - Water) - cont.					Sampled: 12/30/10				
Reporting Units: pCi/L									
Gross Alpha	900	8655		3	1.21	1	KT	01/11/11	Jb
Gross Beta	900	8655		4	4.02	1	KT	01/11/11	

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Routine Outfall 002  
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Sampled: 12/29/10-12/30/10  
Received: 12/29/10

## 901.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2721-03 (Outfall 002 Composite - Water) - cont.</b>					<b>Sampled: 12/30/10</b>				
<b>Reporting Units: pCi/L</b>									
Cesium-137	901.1	8655		20	ND	1	LS	01/10/11	U
Potassium-40	901.1	8655		25	ND	1	LS	01/10/11	U

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Sampled: 12/29/10-12/30/10  
Received: 12/29/10

## 903.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2721-03 (Outfall 002 Composite - Water) - cont.</b>					<b>Sampled: 12/30/10</b>				
Reporting Units: pCi/L									
Radium-226	903.1	8655		1	0.296	1	TM	01/21/11	U

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Routine Outfall 002  
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Sampled: 12/29/10-12/30/10  
Received: 12/29/10

## 904

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2721-03 (Outfall 002 Composite - Water) - cont.</b>					<b>Sampled: 12/30/10</b>				
Reporting Units: pCi/L									
Radium-228	904	8655		1	0.126	1	ASM	01/26/11	U

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Routine Outfall 002  
Report Number: ITL2721

Sampled: 12/29/10-12/30/10  
Received: 12/29/10

## 905

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2721-03 (Outfall 002 Composite - Water) - cont.</b>					<b>Sampled: 12/30/10</b>				
<b>Reporting Units: pCi/L</b>									
Strontium-90	905	8655		2	-0.29	1	ASM	01/26/11	U

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Routine Outfall 002  
Report Number: ITL2721

Sampled: 12/29/10-12/30/10  
Received: 12/29/10

## 906

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2721-03 (Outfall 002 Composite - Water) - cont.</b>					<b>Sampled: 12/30/10</b>				
<b>Reporting Units: pCi/L</b>									
Tritium	906	8655		500	-60.3	1	JO	01/18/11	U

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 Routine Outfall 002  
 Report Number: ITL2721

Sampled: 12/29/10-12/30/10  
 Received: 12/29/10

## EPA-5 1613Bx

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: ITL2721-03 (Outfall 002 Composite - Water) - cont.</b>					<b>Sampled: 12/30/10</b>				
<b>Reporting Units: ug/L</b>									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	1012285	0.00000064	0.00005	2.3e-006	0.97	GV	01/13/11	J, B
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	1012285	0.00000042	0.00005	9e-007	0.97	GV	01/13/11	J, B
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	1012285	0.00000057	0.00005	4.6e-007	0.97	GV	01/13/11	J, Q
1,2,3,4,7,8-HxCDD	EPA-5 1613B	1012285	0.00000043	0.00005	ND	0.97	GV	01/13/11	
1,2,3,4,7,8-HxCDF	EPA-5 1613B	1012285	0.00000029	0.00005	ND	0.97	GV	01/13/11	
1,2,3,6,7,8-HxCDD	EPA-5 1613B	1012285	0.00000038	0.00005	ND	0.97	GV	01/13/11	
1,2,3,6,7,8-HxCDF	EPA-5 1613B	1012285	0.00000025	0.00005	ND	0.97	GV	01/13/11	
1,2,3,7,8,9-HxCDD	EPA-5 1613B	1012285	0.00000043	0.00005	ND	0.97	GV	01/13/11	
1,2,3,7,8,9-HxCDF	EPA-5 1613B	1012285	0.00000032	0.00005	ND	0.97	GV	01/13/11	
1,2,3,7,8-PeCDD	EPA-5 1613B	1012285	0.0000011	0.00005	ND	0.97	GV	01/13/11	
1,2,3,7,8-PeCDF	EPA-5 1613B	1012285	0.00000036	0.00005	ND	0.97	GV	01/13/11	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	1012285	0.00000026	0.00005	ND	0.97	GV	01/13/11	
2,3,4,7,8-PeCDF	EPA-5 1613B	1012285	0.00000039	0.00005	ND	0.97	GV	01/13/11	
2,3,7,8-TCDD	EPA-5 1613B	1012285	0.00000057	0.00001	ND	0.97	GV	01/13/11	
2,3,7,8-TCDF	EPA-5 1613B	1012285	0.0000007	0.00001	ND	0.97	GV	01/13/11	
OCDD	EPA-5 1613B	1012285	0.0000011	0.0001	2.1e-005	0.97	GV	01/13/11	J, B
OCDF	EPA-5 1613B	1012285	0.00000053	0.0001	2e-006	0.97	GV	01/13/11	J, B
Total HpCDD	EPA-5 1613B	1012285	0.00000064	0.00005	4.9e-006	0.97	GV	01/13/11	J, B
Total HpCDF	EPA-5 1613B	1012285	0.00000049	0.00005	1.4e-006	0.97	GV	01/13/11	J, Q, B
Total HxCDD	EPA-5 1613B	1012285	0.00000038	0.00005	ND	0.97	GV	01/13/11	
Total HxCDF	EPA-5 1613B	1012285	0.00000025	0.00005	ND	0.97	GV	01/13/11	
Total PeCDD	EPA-5 1613B	1012285	0.0000011	0.00005	ND	0.97	GV	01/13/11	
Total PeCDF	EPA-5 1613B	1012285	0.00000036	0.00005	ND	0.97	GV	01/13/11	
Total TCDD	EPA-5 1613B	1012285	0.00000057	0.00001	1.8e-006	0.97	GV	01/13/11	J, Q
Total TCDF	EPA-5 1613B	1012285	0.0000007	0.00001	ND	0.97	GV	01/13/11	

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%) 86 %  
 Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%) 86 %  
 Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%) 71 %  
 Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%) 76 %  
 Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%) 91 %  
 Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%) 88 %  
 Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%) 78 %  
 Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%) 72 %  
 Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%) 75 %  
 Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%) 80 %  
 Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%) 76 %  
 Surrogate: 13C-2,3,7,8-TCDD (25-164%) 67 %  
 Surrogate: 13C-2,3,7,8-TCDF (24-169%) 70 %  
 Surrogate: 13C-OCDD (17-157%) 84 %  
 Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%) 83 %

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Project ID: Routine Outfall 002 2010  
Routine Outfall 002  
Report Number: ITL2721

Sampled: 12/29/10-12/30/10  
Received: 12/29/10

## SHORT HOLD TIME DETAIL REPORT

	<b>Hold Time (in days)</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>	<b>Date/Time Extracted</b>	<b>Date/Time Analyzed</b>
<b>Sample ID: Outfall 002 (Grab) (ITL2721-01) - Water</b>					
SM2540F	2	12/29/2010 08:45	12/29/2010 16:55	12/30/2010 13:00	12/30/2010 13:00
<b>Sample ID: Outfall 002 (Grab) (ITL2721-04) - Water</b>					
EPA 300.0	2	12/30/2010 09:00	12/29/2010 16:55	12/30/2010 14:00	12/30/2010 20:23
Filtration	1	12/30/2010 09:00	12/29/2010 16:55	12/30/2010 20:31	12/30/2010 20:32
SM2130B	2	12/30/2010 09:00	12/29/2010 16:55	12/30/2010 17:30	12/30/2010 17:30
SM5210B	2	12/30/2010 09:00	12/29/2010 16:55	12/30/2010 19:40	01/04/2011 09:30
SM5540-C	2	12/30/2010 09:00	12/29/2010 16:55	12/30/2010 19:50	12/30/2010 20:17

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Sampled: 12/29/10-12/30/10  
Received: 12/29/10

## METHOD BLANK/QC DATA

### PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10L3234 Extracted: 12/29/10</b>										
<b>Blank Analyzed: 12/29/2010 (10L3234-BLK1)</b>										
1,2-Dichloroethane	ND	0.50	ug/l							
1,1-Dichloroethene	ND	2.0	ug/l							
Trichloroethene	ND	2.0	ug/l							
Surrogate: 4-Bromofluorobenzene	22.4		ug/l	25.0		90	80-120			
Surrogate: Dibromofluoromethane	24.6		ug/l	25.0		98	80-120			
Surrogate: Toluene-d8	23.9		ug/l	25.0		96	80-120			
<b>LCS Analyzed: 12/29/2010 (10L3234-BS1)</b>										
1,2-Dichloroethane	26.3	0.50	ug/l	25.0		105	60-140			
1,1-Dichloroethene	21.5	2.0	ug/l	25.0		86	70-125			
Trichloroethene	25.4	2.0	ug/l	25.0		102	70-125			
Surrogate: 4-Bromofluorobenzene	22.9		ug/l	25.0		92	80-120			
Surrogate: Dibromofluoromethane	25.8		ug/l	25.0		103	80-120			
Surrogate: Toluene-d8	23.7		ug/l	25.0		95	80-120			
<b>Matrix Spike Analyzed: 12/29/2010 (10L3234-MS1)</b>					<b>Source: ITL2650-01</b>					
1,2-Dichloroethane	26.6	0.50	ug/l	25.0	ND	107	60-140			
1,1-Dichloroethene	21.0	2.0	ug/l	25.0	ND	84	60-130			
Trichloroethene	24.6	2.0	ug/l	25.0	ND	99	65-125			
Surrogate: 4-Bromofluorobenzene	23.1		ug/l	25.0		92	80-120			
Surrogate: Dibromofluoromethane	25.4		ug/l	25.0		102	80-120			
Surrogate: Toluene-d8	24.1		ug/l	25.0		96	80-120			
<b>Matrix Spike Dup Analyzed: 12/29/2010 (10L3234-MSD1)</b>					<b>Source: ITL2650-01</b>					
1,2-Dichloroethane	26.4	0.50	ug/l	25.0	ND	105	60-140	1	20	
1,1-Dichloroethene	21.0	2.0	ug/l	25.0	ND	84	60-130	0.2	20	
Trichloroethene	26.4	2.0	ug/l	25.0	ND	106	65-125	7	20	
Surrogate: 4-Bromofluorobenzene	22.7		ug/l	25.0		91	80-120			
Surrogate: Dibromofluoromethane	25.8		ug/l	25.0		103	80-120			
Surrogate: Toluene-d8	24.4		ug/l	25.0		98	80-120			

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Sampled: 12/29/10-12/30/10  
Received: 12/29/10

## METHOD BLANK/QC DATA

### ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11A0020 Extracted: 01/02/11</b>										
<b>Blank Analyzed: 01/04/2011 (11A0020-BLK1)</b>										
Bis(2-ethylhexyl)phthalate	ND	5.00	ug/l							
2,4-Dinitrotoluene	ND	5.00	ug/l							
N-Nitrosodimethylamine	ND	5.00	ug/l							
Pentachlorophenol	ND	5.00	ug/l							
2,4,6-Trichlorophenol	ND	6.00	ug/l							
Surrogate: 2,4,6-Tribromophenol	17.7		ug/l	20.0		88	40-120			
Surrogate: 2-Fluorobiphenyl	8.54		ug/l	10.0		85	50-120			
Surrogate: 2-Fluorophenol	15.0		ug/l	20.0		75	30-120			
Surrogate: Nitrobenzene-d5	8.02		ug/l	10.0		80	45-120			
Surrogate: Phenol-d6	15.9		ug/l	20.0		79	35-120			
Surrogate: Terphenyl-d14	9.82		ug/l	10.0		98	50-125			
<b>LCS Analyzed: 01/04/2011 (11A0020-BS1)</b>										
Bis(2-ethylhexyl)phthalate	9.30	5.00	ug/l	10.0		93	65-130			MNR1
2,4-Dinitrotoluene	8.48	5.00	ug/l	10.0		85	65-120			
N-Nitrosodimethylamine	7.68	5.00	ug/l	10.0		77	45-120			
Pentachlorophenol	6.28	5.00	ug/l	10.0		63	24-121			
2,4,6-Trichlorophenol	8.10	6.00	ug/l	10.0		81	55-120			
Surrogate: 2,4,6-Tribromophenol	18.7		ug/l	20.0		94	40-120			
Surrogate: 2-Fluorobiphenyl	7.48		ug/l	10.0		75	50-120			
Surrogate: 2-Fluorophenol	13.1		ug/l	20.0		66	30-120			
Surrogate: Nitrobenzene-d5	7.54		ug/l	10.0		75	45-120			
Surrogate: Phenol-d6	14.7		ug/l	20.0		74	35-120			
Surrogate: Terphenyl-d14	8.88		ug/l	10.0		89	50-125			
<b>LCS Dup Analyzed: 01/04/2011 (11A0020-BSD1)</b>										
Bis(2-ethylhexyl)phthalate	8.64	5.00	ug/l	10.0		86	65-130	7	20	
2,4-Dinitrotoluene	7.72	5.00	ug/l	10.0		77	65-120	9	20	
N-Nitrosodimethylamine	7.66	5.00	ug/l	10.0		77	45-120	0.3	20	
Pentachlorophenol	5.82	5.00	ug/l	10.0		58	24-121	8	25	
2,4,6-Trichlorophenol	8.66	6.00	ug/l	10.0		87	55-120	7	30	
Surrogate: 2,4,6-Tribromophenol	18.3		ug/l	20.0		92	40-120			
Surrogate: 2-Fluorobiphenyl	7.98		ug/l	10.0		80	50-120			
Surrogate: 2-Fluorophenol	13.5		ug/l	20.0		68	30-120			
Surrogate: Nitrobenzene-d5	7.96		ug/l	10.0		80	45-120			
Surrogate: Phenol-d6	15.5		ug/l	20.0		77	35-120			
Surrogate: Terphenyl-d14	8.94		ug/l	10.0		89	50-125			

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 Routine Outfall 002  
 Report Number: ITL2721

Sampled: 12/29/10-12/30/10  
 Received: 12/29/10

## METHOD BLANK/QC DATA

### ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11A0061 Extracted: 01/03/11</b>										
<b>Blank Analyzed: 01/03/2011 (11A0061-BLK1)</b>										
alpha-BHC	ND	0.010	ug/l							
Surrogate: Decachlorobiphenyl	0.470		ug/l	0.500		94	45-120			
Surrogate: Tetrachloro-m-xylene	0.395		ug/l	0.500		79	35-115			
<b>LCS Analyzed: 01/03/2011 (11A0061-BS1)</b>										
alpha-BHC	0.401	0.010	ug/l	0.500		80	45-115			MNR1
Surrogate: Decachlorobiphenyl	0.459		ug/l	0.500		92	45-120			
Surrogate: Tetrachloro-m-xylene	0.360		ug/l	0.500		72	35-115			
<b>LCS Dup Analyzed: 01/03/2011 (11A0061-BSD1)</b>										
alpha-BHC	0.406	0.010	ug/l	0.500		81	45-115	1	30	
Surrogate: Decachlorobiphenyl	0.470		ug/l	0.500		94	45-120			
Surrogate: Tetrachloro-m-xylene	0.368		ug/l	0.500		74	35-115			

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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
<b>Batch: 11A0167 Extracted: 01/04/11</b>										
<b>Blank Analyzed: 01/04/2011 (11A0167-BLK1)</b>										
Hexane Extractable Material (Oil & Grease)	ND	5.0	mg/l							
<b>LCS Analyzed: 01/04/2011 (11A0167-BS1)</b>										
Hexane Extractable Material (Oil & Grease)	18.8	5.0	mg/l	20.0		94	78-114			MNR1
<b>LCS Dup Analyzed: 01/04/2011 (11A0167-BSD1)</b>										
Hexane Extractable Material (Oil & Grease)	19.5	5.0	mg/l	20.0		98	78-114	4	11	

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 Routine Outfall 002  
 Report Number: ITL2721

Sampled: 12/29/10-12/30/10  
 Received: 12/29/10

## METHOD BLANK/QC DATA

### METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11A0077 Extracted: 01/03/11</b>										
<b>Blank Analyzed: 01/03/2011 (11A0077-BLK1)</b>										
Iron	ND	0.040	mg/l							
Manganese	ND	20	ug/l							
Zinc	ND	20.0	ug/l							
<b>LCS Analyzed: 01/03/2011 (11A0077-BS1)</b>										
Iron	0.520	0.040	mg/l	0.500		104	85-115			
Manganese	509	20	ug/l	500		102	85-115			
Zinc	514	20.0	ug/l	500		103	85-115			
<b>Matrix Spike Analyzed: 01/03/2011 (11A0077-MS1) Source: ITL2721-03</b>										
Iron	0.587	0.040	mg/l	0.500	0.0712	103	70-130			
Manganese	509	20	ug/l	500	ND	102	70-130			
Zinc	511	20.0	ug/l	500	ND	102	70-130			
<b>Matrix Spike Dup Analyzed: 01/03/2011 (11A0077-MSD1) Source: ITL2721-03</b>										
Iron	0.588	0.040	mg/l	0.500	0.0712	103	70-130	0.2	20	
Manganese	516	20	ug/l	500	ND	103	70-130	1	20	
Zinc	518	20.0	ug/l	500	ND	104	70-130	1	20	
<b>Batch: 11A0078 Extracted: 01/03/11</b>										
<b>Blank Analyzed: 01/03/2011 (11A0078-BLK1)</b>										
Cadmium	ND	1.0	ug/l							
Copper	ND	2.0	ug/l							
Lead	ND	1.0	ug/l							
Selenium	ND	2.0	ug/l							

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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
<b>Batch: 11A0078 Extracted: 01/03/11</b>										
<b>LCS Analyzed: 01/03/2011 (11A0078-BS1)</b>										
Cadmium	82.6	1.0	ug/l	80.0		103	85-115			
Copper	81.0	2.0	ug/l	80.0		101	85-115			
Lead	82.3	1.0	ug/l	80.0		103	85-115			
Selenium	81.7	2.0	ug/l	80.0		102	85-115			
<b>Matrix Spike Analyzed: 01/03/2011 (11A0078-MS1)</b>					<b>Source: ITL2724-02</b>					
Cadmium	81.3	1.0	ug/l	80.0	ND	102	70-130			
Copper	79.8	2.0	ug/l	80.0	3.47	95	70-130			
Lead	90.9	1.0	ug/l	80.0	1.50	112	70-130			
Selenium	81.1	2.0	ug/l	80.0	ND	101	70-130			
<b>Matrix Spike Dup Analyzed: 01/03/2011 (11A0078-MSD1)</b>					<b>Source: ITL2724-02</b>					
Cadmium	80.5	1.0	ug/l	80.0	ND	101	70-130	1	20	
Copper	78.5	2.0	ug/l	80.0	3.47	94	70-130	2	20	
Lead	85.2	1.0	ug/l	80.0	1.50	105	70-130	6	20	
Selenium	81.4	2.0	ug/l	80.0	ND	102	70-130	0.4	20	
<b>Batch: 11A0093 Extracted: 01/03/11</b>										
<b>Blank Analyzed: 01/03/2011 (11A0093-BLK1)</b>										
Mercury	ND	0.20	ug/l							
<b>LCS Analyzed: 01/03/2011 (11A0093-BS1)</b>										
Mercury	7.96	0.20	ug/l	8.00		99	85-115			
<b>Matrix Spike Analyzed: 01/03/2011 (11A0093-MS1)</b>					<b>Source: ITL2721-03</b>					
Mercury	8.05	0.20	ug/l	8.00	ND	101	70-130			

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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
<b>Batch: 11A0093 Extracted: 01/03/11</b>										
<b>Matrix Spike Dup Analyzed: 01/03/2011 (11A0093-MSD1)</b>										
Mercury	8.07	0.20	ug/l	8.00	ND	101	70-130	0.2	20	

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## METHOD BLANK/QC DATA

### DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11A0063 Extracted: 01/03/11</b>										
<b>Blank Analyzed: 01/03/2011 (11A0063-BLK1)</b>										
Iron	ND	0.040	mg/l							
Manganese	ND	20	ug/l							
Zinc	ND	20.0	ug/l							
<b>LCS Analyzed: 01/03/2011 (11A0063-BS1)</b>										
Iron	0.506	0.040	mg/l	0.500		101	85-115			
Manganese	494	20	ug/l	500		99	85-115			
Zinc	496	20.0	ug/l	500		99	85-115			
<b>Matrix Spike Analyzed: 01/03/2011 (11A0063-MS1) Source: ITL2295-01</b>										
Iron	0.520	0.040	mg/l	0.500	ND	104	70-130			
Manganese	648	20	ug/l	500	150	100	70-130			
Zinc	786	20.0	ug/l	500	287	100	70-130			
<b>Matrix Spike Analyzed: 01/03/2011 (11A0063-MS2) Source: ITL2299-01</b>										
Iron	0.710	0.040	mg/l	0.500	0.176	107	70-130			
Manganese	516	20	ug/l	500	ND	103	70-130			
Zinc	520	20.0	ug/l	500	6.20	103	70-130			
<b>Matrix Spike Dup Analyzed: 01/03/2011 (11A0063-MSD1) Source: ITL2295-01</b>										
Iron	0.523	0.040	mg/l	0.500	ND	105	70-130	0.6	20	
Manganese	653	20	ug/l	500	150	101	70-130	0.8	20	
Zinc	794	20.0	ug/l	500	287	101	70-130	1	20	

**Batch: 11A0064 Extracted: 01/03/11**

**Blank Analyzed: 01/03/2011 (11A0064-BLK1)**

Cadmium	ND	1.0	ug/l
Copper	ND	2.0	ug/l
Lead	ND	1.0	ug/l
Selenium	ND	2.0	ug/l

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## METHOD BLANK/QC DATA

### DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11A0064 Extracted: 01/03/11</b>										
<b>LCS Analyzed: 01/03/2011 (11A0064-BS1)</b>										
Cadmium	79.2	1.0	ug/l	80.0		99	85-115			
Copper	82.4	2.0	ug/l	80.0		103	85-115			
Lead	80.2	1.0	ug/l	80.0		100	85-115			
Selenium	80.6	2.0	ug/l	80.0		101	85-115			
<b>Matrix Spike Analyzed: 01/03/2011 (11A0064-MS1)</b>					<b>Source: ITL2724-02</b>					
Cadmium	81.2	1.0	ug/l	80.0	ND	102	70-130			
Copper	84.8	2.0	ug/l	80.0	3.50	102	70-130			
Lead	82.3	1.0	ug/l	80.0	0.404	102	70-130			
Selenium	79.6	2.0	ug/l	80.0	ND	100	70-130			
<b>Matrix Spike Analyzed: 01/03/2011 (11A0064-MS2)</b>					<b>Source: ITL2299-02</b>					
Cadmium	81.6	1.0	ug/l	80.0	ND	102	70-130			
Copper	81.2	2.0	ug/l	80.0	1.94	99	70-130			
Lead	82.1	1.0	ug/l	80.0	0.209	102	70-130			
Selenium	79.5	2.0	ug/l	80.0	ND	99	70-130			
<b>Matrix Spike Dup Analyzed: 01/03/2011 (11A0064-MSD1)</b>					<b>Source: ITL2724-02</b>					
Cadmium	77.9	1.0	ug/l	80.0	ND	97	70-130	4	20	
Copper	82.5	2.0	ug/l	80.0	3.50	99	70-130	3	20	
Lead	81.6	1.0	ug/l	80.0	0.404	102	70-130	0.8	20	
Selenium	78.6	2.0	ug/l	80.0	ND	98	70-130	1	20	
<b>Batch: 11A0094 Extracted: 01/03/11</b>										
<b>Blank Analyzed: 01/03/2011 (11A0094-BLK1)</b>										
Mercury	ND	0.20	ug/l							

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## METHOD BLANK/QC DATA

### DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11A0094 Extracted: 01/03/11</b>										
<b>LCS Analyzed: 01/03/2011 (11A0094-BS1)</b>										
Mercury	8.07	0.20	ug/l	8.00		101	85-115			
<b>Matrix Spike Analyzed: 01/03/2011 (11A0094-MS1)</b>										
					<b>Source: ITL2721-04</b>					
Mercury	8.25	0.20	ug/l	8.00	ND	103	70-130			
<b>Matrix Spike Dup Analyzed: 01/03/2011 (11A0094-MSD1)</b>										
					<b>Source: ITL2721-04</b>					
Mercury	8.13	0.20	ug/l	8.00	ND	102	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
<b>Batch: 10L3421 Extracted: 12/30/10</b>										
<b>Blank Analyzed: 12/30/2010 (10L3421-BLK1)</b>										
Chloride	ND	0.50	mg/l							
Nitrate-N	ND	0.11	mg/l							
Nitrite-N	ND	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.26	mg/l							
Sulfate	ND	0.50	mg/l							
<b>LCS Analyzed: 12/30/2010 (10L3421-BS1)</b>										
Chloride	5.09	0.50	mg/l	5.00		102	90-110			M-3
Nitrate-N	1.13	0.11	mg/l	1.13		100	90-110			
Nitrite-N	1.58	0.15	mg/l	1.52		104	90-110			
Sulfate	10.2	0.50	mg/l	10.0		102	90-110			
<b>Matrix Spike Analyzed: 12/30/2010 (10L3421-MS1) Source: ITL2761-02</b>										
Nitrate-N	6.04	0.55	mg/l	1.13	4.86	105	80-120			MHA
Nitrite-N	1.92	0.75	mg/l	1.52	ND	126	80-120			MI
Sulfate	34.6	2.5	mg/l	10.0	25.2	94	80-120			
<b>Matrix Spike Dup Analyzed: 12/30/2010 (10L3421-MSD1) Source: ITL2761-02</b>										
Nitrate-N	6.37	0.55	mg/l	1.13	4.86	134	80-120	5	20	MHA
Nitrite-N	1.92	0.75	mg/l	1.52	ND	126	80-120	0.02	20	MI
Sulfate	34.5	2.5	mg/l	10.0	25.2	93	80-120	0.3	20	
<b>Batch: 10L3506 Extracted: 12/30/10</b>										
<b>Blank Analyzed: 12/30/2010 (10L3506-BLK1)</b>										
Turbidity	ND	1.0	NTU							

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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
<b>Batch: 10L3506 Extracted: 12/30/10</b>										
<b>Duplicate Analyzed: 12/30/2010 (10L3506-DUP1)</b>										
Turbidity	8.04	1.0	NTU		8.09			0.6	20	
<b>Batch: 10L3508 Extracted: 12/30/10</b>										
<b>Blank Analyzed: 01/04/2011 (10L3508-BLK1)</b>										
Biochemical Oxygen Demand	ND	2.0	mg/l							
<b>LCS Analyzed: 01/04/2011 (10L3508-BS1)</b>										
Biochemical Oxygen Demand	198	100	mg/l	198		100	85-115			
<b>LCS Dup Analyzed: 01/04/2011 (10L3508-BSD1)</b>										
Biochemical Oxygen Demand	201	100	mg/l	198		102	85-115	2	20	
<b>Batch: 10L3513 Extracted: 12/30/10</b>										
<b>Blank Analyzed: 12/30/2010 (10L3513-BLK1)</b>										
Surfactants (MBAS)	ND	0.10	mg/l							
<b>LCS Analyzed: 12/30/2010 (10L3513-BS1)</b>										
Surfactants (MBAS)	0.256	0.10	mg/l	0.250		102	90-110			
<b>Matrix Spike Analyzed: 12/30/2010 (10L3513-MS1)</b>										
Surfactants (MBAS)	0.380	0.10	mg/l	0.250	0.120	104	50-125			
<b>Matrix Spike Dup Analyzed: 12/30/2010 (10L3513-MSD1)</b>										
Surfactants (MBAS)	0.375	0.10	mg/l	0.250	0.120	102	50-125	2	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
<b>Batch: 10L3516 Extracted: 12/30/10</b>										
<b>Blank Analyzed: 12/30/2010 (10L3516-BLK1)</b>										
Total Suspended Solids	ND	10	mg/l							
<b>LCS Analyzed: 12/30/2010 (10L3516-BS1)</b>										
Total Suspended Solids	996	10	mg/l	1000		100	85-115			
<b>Duplicate Analyzed: 12/30/2010 (10L3516-DUP1)</b>										
Total Suspended Solids	3.00	10	mg/l		3.00			0	10	Ja
<b>Source: ITL2841-01</b>										
<b>Batch: 11A0030 Extracted: 01/03/11</b>										
<b>Blank Analyzed: 01/03/2011 (11A0030-BLK1)</b>										
Total Dissolved Solids	ND	10	mg/l							
<b>LCS Analyzed: 01/03/2011 (11A0030-BS1)</b>										
Total Dissolved Solids	986	10	mg/l	1000		99	90-110			
<b>Duplicate Analyzed: 01/03/2011 (11A0030-DUP1)</b>										
Total Dissolved Solids	580	10	mg/l		582			0.3	10	
<b>Source: ITL2530-01</b>										
<b>Batch: 11A0032 Extracted: 01/03/11</b>										
<b>Blank Analyzed: 01/03/2011 (11A0032-BLK1)</b>										
Specific Conductance	ND	1.0	umhos/cm @ 25C							
<b>LCS Analyzed: 01/03/2011 (11A0032-BS1)</b>										
Specific Conductance	1430	1.0	umhos/cm @ 25C	1410		101	90-110			

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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
<b>Batch: 11A0032 Extracted: 01/03/11</b>										
<b>Duplicate Analyzed: 01/03/2011 (11A0032-DUP1)</b>										
Specific Conductance	1580	1.0	umhos/cm @ 25C		1580			0.06	5	
<b>Source: ITL2536-01</b>										
<b>Batch: 11A0037 Extracted: 01/03/11</b>										
<b>Blank Analyzed: 01/03/2011 (11A0037-BLK1)</b>										
Perchlorate	ND	4.0	ug/l							
<b>LCS Analyzed: 01/03/2011 (11A0037-BS1)</b>										
Perchlorate	24.1	4.0	ug/l	25.0		96	85-115			
<b>Matrix Spike Analyzed: 01/03/2011 (11A0037-MS1)</b>										
Perchlorate	26.4	4.0	ug/l	25.0	1.25	101	80-120			
<b>Source: ITL2774-03</b>										
<b>Matrix Spike Dup Analyzed: 01/03/2011 (11A0037-MSD1)</b>										
Perchlorate	26.5	4.0	ug/l	25.0	1.25	101	80-120	0.3	20	
<b>Source: ITL2774-03</b>										
<b>Batch: 11A0108 Extracted: 01/03/11</b>										
<b>Blank Analyzed: 01/03/2011 (11A0108-BLK1)</b>										
Ammonia-N (Distilled)	ND	0.500	mg/l							
<b>LCS Analyzed: 01/03/2011 (11A0108-BS1)</b>										
Ammonia-N (Distilled)	10.1	0.500	mg/l	10.0		101	80-115			
<b>Matrix Spike Analyzed: 01/03/2011 (11A0108-MS1)</b>										
Ammonia-N (Distilled)	9.80	0.500	mg/l	10.0	ND	98	70-120			
<b>Source: ITL2721-04</b>										

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## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b><u>Batch: 11A0108 Extracted: 01/03/11</u></b>										
<b>Matrix Spike Dup Analyzed: 01/03/2011 (11A0108-MSD1)</b>					<b>Source: ITL2721-04</b>					
Ammonia-N (Distilled)	9.80	0.500	mg/l	10.0	ND	98	70-120	0	15	
<b><u>Batch: 11A0118 Extracted: 01/03/11</u></b>										
<b>Blank Analyzed: 01/03/2011 (11A0118-BLK1)</b>										
Total Cyanide	ND	5.0	ug/l							
<b>LCS Analyzed: 01/03/2011 (11A0118-BS1)</b>										
Total Cyanide	192	5.0	ug/l	200		96	90-110			
<b>Matrix Spike Analyzed: 01/03/2011 (11A0118-MS1)</b>					<b>Source: ITL2724-02</b>					
Total Cyanide	163	5.0	ug/l	200	ND	81	70-115			
<b>Matrix Spike Dup Analyzed: 01/03/2011 (11A0118-MSD1)</b>					<b>Source: ITL2724-02</b>					
Total Cyanide	163	5.0	ug/l	200	ND	81	70-115	0.1	15	

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## METHOD BLANK/QC DATA

### EPA-5 1613Bx

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 1012285 Extracted: 01/12/11</b>										
<b>Blank Analyzed: 01/13/2011 (G1A120000285B)</b>					<b>Source:</b>					
1,2,3,4,6,7,8-HpCDD	8.4e-007	0.00005	ug/L				-			J, Q
1,2,3,4,6,7,8-HpCDF	9.6e-007	0.00005	ug/L				-			J, Q
1,2,3,4,7,8,9-HpCDF	ND	0.00005	ug/L				-			
1,2,3,4,7,8-HxCDD	ND	0.00005	ug/L				-			
1,2,3,4,7,8-HxCDF	ND	0.00005	ug/L				-			
1,2,3,6,7,8-HxCDD	ND	0.00005	ug/L				-			
1,2,3,6,7,8-HxCDF	ND	0.00005	ug/L				-			
1,2,3,7,8,9-HxCDD	ND	0.00005	ug/L				-			
1,2,3,7,8,9-HxCDF	ND	0.00005	ug/L				-			
1,2,3,7,8-PeCDD	ND	0.00005	ug/L				-			
1,2,3,7,8-PeCDF	ND	0.00005	ug/L				-			
2,3,4,6,7,8-HxCDF	ND	0.00005	ug/L				-			
2,3,4,7,8-PeCDF	ND	0.00005	ug/L				-			
2,3,7,8-TCDD	ND	0.00001	ug/L				-			
2,3,7,8-TCDF	ND	0.00001	ug/L				-			
OCDD	4.6e-006	0.0001	ug/L				-			J, Q
OCDF	1e-006	0.0001	ug/L				-			J, Q
Total HpCDD	1.9e-006	0.00005	ug/L				-			J, Q
Total HpCDF	9.6e-007	0.00005	ug/L				-			J, Q
Total HxCDD	ND	0.00005	ug/L				-			
Total HxCDF	ND	0.00005	ug/L				-			
Total PeCDD	ND	0.00005	ug/L				-			
Total PeCDF	ND	0.00005	ug/L				-			
Total TCDD	ND	0.00001	ug/L				-			
Total TCDF	ND	0.00001	ug/L				-			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.0018		ug/L	0.002		89	23-140			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0019		ug/L	0.002		94	28-143			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.0019		ug/L	0.002		95	26-138			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.0015		ug/L	0.002		73	32-141			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.0016		ug/L	0.002		82	26-152			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.0021		ug/L	0.002		104	28-130			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.0017		ug/L	0.002		88	26-123			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.0016		ug/L	0.002		82	29-147			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.0016		ug/L	0.002		82	25-181			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.0016		ug/L	0.002		78	24-185			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.0017		ug/L	0.002		87	28-136			

### TestAmerica Irvine

Debby Wilson  
 Project Manager

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

Project ID: Routine Outfall 002 2010  
Routine Outfall 002  
Report Number: ITL2721

Sampled: 12/29/10-12/30/10  
Received: 12/29/10

## METHOD BLANK/QC DATA

### EPA-5 1613Bx

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 1012285 Extracted: 01/12/11</b>										
<b>Blank Analyzed: 01/13/2011 (G1A120000285B)</b>					<b>Source:</b>					
Surrogate: 13C-2,3,4,7,8-PeCDF	0.0017		ug/L	0.002		84	21-178			
Surrogate: 13C-2,3,7,8-TCDD	0.0014		ug/L	0.002		71	25-164			
Surrogate: 13C-2,3,7,8-TCDF	0.0013		ug/L	0.002		68	24-169			
Surrogate: 13C-OCDD	0.0038		ug/L	0.004		95	17-157			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.00073		ug/L	0.0008		92	35-197			
<b>LCS Analyzed: 01/14/2011 (G1A120000285C)</b>					<b>Source:</b>					
1,2,3,4,6,7,8-HpCDD	0.00111	0.00005	ug/L	0.001		111	70-140			B
1,2,3,4,6,7,8-HpCDF	0.00106	0.00005	ug/L	0.001		106	82-122			B
1,2,3,4,7,8,9-HpCDF	0.00102	0.00005	ug/L	0.001		102	78-138			
1,2,3,4,7,8-HxCDD	0.00111	0.00005	ug/L	0.001		111	70-164			
1,2,3,4,7,8-HxCDF	0.001	0.00005	ug/L	0.001		100	72-134			
1,2,3,6,7,8-HxCDD	0.00112	0.00005	ug/L	0.001		112	76-134			
1,2,3,6,7,8-HxCDF	0.00109	0.00005	ug/L	0.001		109	84-130			
1,2,3,7,8,9-HxCDD	0.00118	0.00005	ug/L	0.001		118	64-162			
1,2,3,7,8,9-HxCDF	0.00105	0.00005	ug/L	0.001		105	78-130			
1,2,3,7,8-PeCDD	0.00111	0.00005	ug/L	0.001		111	70-142			
1,2,3,7,8-PeCDF	0.00107	0.00005	ug/L	0.001		107	80-134			
2,3,4,6,7,8-HxCDF	0.000997	0.00005	ug/L	0.001		100	70-156			
2,3,4,7,8-PeCDF	0.00106	0.00005	ug/L	0.001		106	68-160			
2,3,7,8-TCDD	0.000216	0.00001	ug/L	0.0002		108	67-158			
2,3,7,8-TCDF	0.000206	0.00001	ug/L	0.0002		103	75-158			
OCDD	0.00196	0.0001	ug/L	0.002		98	78-144			B
OCDF	0.00223	0.0001	ug/L	0.002		111	63-170			B
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.00157		ug/L	0.002		79	26-166			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0018		ug/L	0.002		90	21-158			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.00188		ug/L	0.002		94	20-186			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.00133		ug/L	0.002		66	21-193			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00162		ug/L	0.002		81	19-202			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00176		ug/L	0.002		88	25-163			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.00168		ug/L	0.002		84	21-159			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.00168		ug/L	0.002		84	17-205			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00143		ug/L	0.002		72	21-227			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00161		ug/L	0.002		81	21-192			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.00176		ug/L	0.002		88	22-176			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00167		ug/L	0.002		83	13-328			

### TestAmerica Irvine

Debby Wilson  
Project Manager

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

Project ID: Routine Outfall 002 2010  
 Routine Outfall 002  
 Report Number: ITL2721

Sampled: 12/29/10-12/30/10  
 Received: 12/29/10

## METHOD BLANK/QC DATA

### EPA-5 1613Bx

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 1012285 Extracted: 01/12/11</b>										
<b>LCS Analyzed: 01/14/2011 (G1A120000285C)</b>										
Surrogate: 13C-2,3,7,8-TCDD	0.00135		ug/L	0.002		68	20-175			
Surrogate: 13C-2,3,7,8-TCDF	0.00145		ug/L	0.002		73	22-152			
Surrogate: 13C-OCDD	0.00276		ug/L	0.004		69	13-199			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.000714		ug/L	0.0008		89	31-191			

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Routine Outfall 002  
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## Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
ITL2721-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0	4.7	15
ITL2721-01	624-(601list)	1,1-Dichloroethene	ug/l	0	2.0	6
ITL2721-01	624-(601list)	1,2-Dichloroethane	ug/l	0	0.50	0.5
ITL2721-01	624-(601list)	Trichloroethene	ug/l	0	2.0	5
ITL2721-01	Settleable Solids - SM2540F	Total Settleable Solids	ml/l	0	0.10	0.3

## Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
ITL2721-02	624-(601list)	1,1-Dichloroethene	ug/l	0	2.0	6
ITL2721-02	624-(601list)	1,2-Dichloroethane	ug/l	0	0.50	0.5
ITL2721-02	624-(601list)	Trichloroethene	ug/l	0	2.0	5

## Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
ITL2721-03	Cadmium-200.8	Cadmium	ug/l	0	1.0	3.1
ITL2721-03	Copper-200.8	Copper	ug/l	2.05	2.0	14
ITL2721-03	Iron-200.7	Iron	mg/l	0.071	0.040	0.3
ITL2721-03	Lead-200.8	Lead	ug/l	0.11	1.0	5.2
ITL2721-03	Manganese-200.7	Manganese	ug/l	5.96	20	50
ITL2721-03	Mercury - 245.1	Mercury	ug/l	0	0.20	0.1
ITL2721-03	Selenium-200.8	Selenium	ug/l	0.49	2.0	5
ITL2721-03	Zinc-200.7	Zinc	ug/l	2.55	20.0	119

## Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
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TestAmerica Irvine

Debby Wilson  
Project Manager

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

Project ID: Routine Outfall 002 2010  
 Routine Outfall 002  
 Report Number: ITL2721

Sampled: 12/29/10-12/30/10  
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ITL2721-04	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0.00040	0.0096	0.03
ITL2721-04	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	5.71	13
ITL2721-04	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	4.76	18
ITL2721-04	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	0.27	4.76	4
ITL2721-04	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	4.76	16
ITL2721-04	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	4.76	16.5
ITL2721-04	Ammonia-N, Titr 4500NH3-C (w/di:Ammonia-N (Distilled)		mg/l	0	0.500	10.1
ITL2721-04	BOD - SM5210B	Biochemical Oxygen Demand	mg/l	1.31	2.0	30
ITL2721-04	Chloride - 300.0	Chloride	mg/l	25	2.5	150
ITL2721-04	Cyanide, Total-4500CN-E (5ppb)	Total Cyanide	ug/l	-1	5.0	8.5
ITL2721-04	MBAS - SM5540C	Surfactants (MBAS)	mg/l	0.044	0.10	0.5
ITL2721-04	Nitrate-N, 300.0	Nitrate-N	mg/l	0.11	0.11	8
ITL2721-04	Nitrite-N, 300.0	Nitrite-N	mg/l	0	0.15	1
ITL2721-04	Nitrogen, NO3+NO2 -N EPA 300.0	Nitrate/Nitrite-N	mg/l	0.11	0.26	8
ITL2721-04	Perchlorate 314.0 - Default	Perchlorate	ug/l	0	4.0	6
ITL2721-04	Sulfate-300.0	Sulfate	mg/l	119	2.5	300
ITL2721-04	TDS - SM2540C	Total Dissolved Solids	mg/l	391	10	950
ITL2721-04	TSS - SM2540D	Total Suspended Solids	mg/l	0	10	45

## TestAmerica Irvine

Debby Wilson  
 Project Manager

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

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

Project ID: Routine Outfall 002 2010  
Routine Outfall 002  
Report Number: ITL2721

Sampled: 12/29/10-12/30/10  
Received: 12/29/10

## DATA QUALIFIERS AND DEFINITIONS

- B** Method blank contamination. The associated method blank contains the target analyte at a reportable level.
- J** Estimated result. Result is less than the reporting limit.
- Ja** 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.
- Jb** The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
- M1** The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- 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).
- MNR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- Q** Estimated maximum possible concentration (EMPC).
- U** The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

### TestAmerica Irvine

Debby Wilson  
Project Manager

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

Project ID: Routine Outfall 002 2010  
 Routine Outfall 002  
 Report Number: ITL2721

Sampled: 12/29/10-12/30/10  
 Received: 12/29/10

## Certification Summary

### TestAmerica Irvine

Method	Matrix	Nelac	California
EDD + Level 4	Water	N/A	N/A
EPA 1664A	Water	X	X
EPA 200.7-Diss	Water	X	X
EPA 200.7	Water	X	X
EPA 200.8-Diss	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1-Diss	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	X	X
EPA 608	Water	X	X
EPA 624	Water	X	X
EPA 625	Water	X	X
Filtration	Water	N/A	N/A
SM 2540D	Water	X	X
SM2130B	Water	X	X
SM2510B	Water	X	X
SM2540C	Water	X	
SM2540F	Water	X	X
SM4500CN-E	Water	X	X
SM4500NH3-C	Water	X	X
SM5210B	Water	X	X
SM5540-C	Water	X	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](http://www.testamericainc.com)*

### Subcontracted Laboratories

### TestAmerica Irvine

Debby Wilson  
 Project Manager

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

Project ID: Routine Outfall 002 2010  
Routine Outfall 002  
Report Number: ITL2721

Sampled: 12/29/10-12/30/10  
Received: 12/29/10

## Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec  
Samples: ITL2721-03

Analysis Performed: Gross Alpha  
Samples: ITL2721-03

Analysis Performed: Gross Beta  
Samples: ITL2721-03

Analysis Performed: Level 4 Data Package  
Samples: ITL2721-03

Analysis Performed: Radium, Combined  
Samples: ITL2721-03

Analysis Performed: Strontium 90  
Samples: ITL2721-03

Analysis Performed: Tritium  
Samples: ITL2721-03

Analysis Performed: Uranium, Combined  
Samples: ITL2721-03

## TestAmerica Irvine

Debby Wilson  
Project Manager

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

Project ID: Routine Outfall 002 2010  
Routine Outfall 002  
Report Number: ITL2721

Sampled: 12/29/10-12/30/10  
Received: 12/29/10

## TestAmerica Buffalo

10 Hazelwood Drive, Suite 106 - Amherst, NY 14228

Method Performed: 8655  
Samples: ITL2721-03

Method Performed: 900  
Samples: ITL2721-03

Method Performed: 901.1  
Samples: ITL2721-03

Method Performed: 903.1  
Samples: ITL2721-03

Method Performed: 904  
Samples: ITL2721-03

Method Performed: 905  
Samples: ITL2721-03

Method Performed: 906  
Samples: ITL2721-03

## TestAmerica West Sacramento NELAC Cert #1119CA, Nevada Cert #CA44

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B  
Samples: ITL2721-03

## TestAmerica Irvine

Debby Wilson  
Project Manager









**EBERLINE ANALYTICAL CORPORATION**  
2030 Wright Avenue  
Richmond, California 94804-3849  
Phone (510) 235-2633 Fax (510) 235-0438  
Toll Free (800) 841-5487  
[www.eberlineservices.com](http://www.eberlineservices.com)

February 2, 2011

Ms. Debby Wilson  
Test America Irvine  
17461 Derian Ave., Ste. 100  
Irvine, CA 92614

**Reference: Test America-Irvine ITL2721  
Eberline Analytical Report S101002-8655  
Sample Delivery Group 8655**

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for one water sample received under Test America Job No. ITL2727. The sample was received on December 31, 2010.

Please call me, if you have any questions concerning the enclosed report.

Sincerely,

N. Joseph Verville  
Client Services Manager

NJV/ljb

*Enclosure: Level IV CLP-like Data Package CD*

### 1.0 General Comments

Sample delivery group 8655 consists of the analytical results and supporting documentation for one water sample. Sample ID's and reference dates/times are given in the Sample Summary section of the Summary Data report. The sample was received as stated on the chain-of-custody document. Any discrepancies are noted on the Eberline Analytical Sample Receipt Checklist. No holding times were exceeded.

Tritium and gamma analyses were performed on the sample as received i.e. the sample was not filtered. The analytical volumes for all other analyses were subjected to a full nitric acid/hydrofluoric acid dissolution, and analyses were performed on the dissolution volume.

### 2.0 Quality Control

For efficiency of analysis, sample ITL2721-03 was analyzed in a common prep batch with other TA samples. The QC samples from that common prep batch were assigned to SDG 8657 and are reported herein. Quality Control Samples consisted of laboratory control samples (LCS), method blanks, duplicate analyses and matrix spike analyses. Included in the data package are copies of the Eberline Analytical radiometrics data sheets. The radiometrics data sheets for the QC LCS and QC blank samples indicate Eberline Analytical's standard QC aliquot of 1.0 sample; results for those QC types are calculated as pCi/sample. The QC LCS and QC blank sample results reported in the Summary Data Section have been divided by the appropriate method specific aliquot (see the Lab Method Summaries for specific aliquots) in order to make the results comparable to the field sample results. All QC sample results were within required control limits.

### 3.0 Method Errors

The error for each result is an estimate of the significant random uncertainties incurred in the measurement process. These are propagated to each final result. They include the counting (Poisson) uncertainty, as well as those intrinsic errors due to carrier or tracer standardization, aliquoting, counter efficiencies, weights, or volumes. The following method errors were propagated to the count error to calculate the  $2\sigma$  error (Total):

Analysis	Method Error
Gross alpha	20.6%
Gross beta	11.0%
Tritium	10.0%
Sr-90	10.4%
Ra-226	16.4%
Ra-228	10.4%
Uranium, Total	
Gamma Spec.	7.0%

#### 4.0 Analysis Notes

- 4.1 **Gross Alpha/Gross Beta Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.2 **Tritium Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.3 **Strontium-90 Analysis** - The Sr-90 MDA in the QC Method blank is 2.02 pCi/L, greater than the required detection limit of 2.00 pCi/L. No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.4 **Radium-226 Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.5 **Radium-228 Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.6 **Total Uranium Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.7 **Gamma Spectroscopy** – The K-40 MDA for the duplicate of sample ITL2724-02 (28.0 pCi/L) and sample ITL2721-03 (27.2 pCi/L) were greater than the required detection limit of 25 pCi/L due to an elevated K40 background in the ROI for K40 on the detector used for analysis. No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

#### 5.0 Case Narrative Certification Statement

**“I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data obtained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.”**

  
\_\_\_\_\_  
N. Joseph Verville  
Client Services Manager

2/2/11  
\_\_\_\_\_  
Date

EBERLINE ANALYTICAL  
SDG 8655

SDG 8655  
Contact N. Joseph Verville

Client Test America, Inc.  
Contract I TL2721

S U M M A R Y   D A T A   S E C T I O N

T A B L E   O F   C O N T E N T S				
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UB

Prepared by \_\_\_\_\_

Reviewed by \_\_\_\_\_

*N. Joseph Verville*

Lab id EAS  
Protocol TA  
Version Ver 1.0  
Form DVD-TOC  
Version 3.06  
Report date 02/01/11

EBERLINE ANALYTICAL

SDG 8655

SDG 8655  
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.  
Contract ITL2721

ABOUT THE DATA SUMMARY SECTION

The Data Summary Section of a Data Package has all data, in several useful orders, necessary for first level, routine review of the data package for a Sample Delivery Group (SDG). This section follows the Data Package Narrative, which has an overview of the data package and a discussion of special problems. It is followed by the Raw Data Section, which has full details.

The Data Summary Section has several groups of reports:

SAMPLE SUMMARIES

The Sample and QC Summary Reports show all samples, including QC samples, reported in one SDG. These reports cross-reference client and lab sample identifiers.

PREPARATION BATCH SUMMARY

The Preparation Batch Summary Report shows all preparation batches (lab groupings reflecting how work was organized) relevant to the reported SDG with information necessary to check the completeness and consistency of the SDG.

WORK SUMMARY

The Work Summary Report shows all samples and work done on them relevant to the reported SDG.

METHOD BLANKS

The Method Blank Reports, one for each Method Blank relevant to the SDG, show all results and primary supporting information for the blanks.

LAB CONTROL SAMPLES

The Lab Control Sample Reports, one for each Lab Control Sample relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

DUPLICATES

REPORT GUIDES

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SUMMARY DATA SECTION

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EBERLINE ANALYTICAL

SDG 8655

SDG 8655  
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.  
Contract ITL2721

ABOUT THE DATA SUMMARY SECTION

The Duplicate Reports, one for each Duplicate and Original sample pair relevant to the SDG, show all results, differences and primary supporting information for these QC samples.

MATRIX SPIKES

The Matrix Spike Reports, one for each Spiked and Original sample pair relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

DATA SHEETS

The Data Sheet Reports, one for each client sample in the SDG, show all results and primary supporting information for these samples.

METHOD SUMMARIES

The Method Summary Reports, one for each test used in the SDG, show all results, QC and method performance data for one analyte on one or two pages. (A test is a short code for the method used to do certain work to the client's specification.)

REPORT GUIDES

The Report Guides, one for each of the above groups of reports, have documentation on how to read the associated reports.

REPORT GUIDES

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EBERLINE ANALYTICAL

SDG 8655

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Client Test America, Inc.  
Contract ITL2721

LAB SAMPLE SUMMARY

LAB	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S101002-01	ITL2721-03	Boeing - SSFL	WATER			ITL2721	12/30/10 03:32
S101004-02	Lab Control Sample		WATER				
S101004-03	Method Blank		WATER				
S101004-04	Duplicate (S101004-01)	Boeing - SSFL	WATER				12/30/10 02:55

LAB SUMMARY

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SUMMARY DATA SECTION

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Lab id EAS  
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Version Ver 1.0  
Form DVD-LS  
Version 3.06  
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**EBERLINE ANALYTICAL**

SDG 8655

SDG 8655  
 Contact N. Joseph Verville

**QC SUMMARY**

Client Test America, Inc.  
 Contract ITL2721

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	LAB COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
8655	ITL2721	ITL2721-03	WATER		10.0 L		12/31/10	1	S101002-01	8655-001
8657		Method Blank	WATER						S101004-03	8657-003
		Lab Control Sample	WATER						S101004-02	8657-002
		Duplicate (S101004-01)	WATER		10.0 L		12/31/10	1	S101004-04	8657-004

Lab id EAS  
 Protocol TA  
 Version Ver 1.0  
 Form DVD-QS  
 Version 3.06  
 Report date 02/01/11

**EBERLINE ANALYTICAL**

SDG 8655

SDG 8655  
Contact N. Joseph Verville

**PREP BATCH SUMMARY**

Client Test America, Inc.  
Contract ITL2721

TEST	MATRIX	METHOD	PREPARATION ERROR		PLANCHETS ANALYZED				QUALI- FIERS
			BATCH	2σ %	CLIENT	MORE	RE BLANK	LCS	
<b>Beta Counting</b>									
AC	WATER	Radium-228 in Water	7271-039	10.4	1		1	1	1/0/1
SR	WATER	Strontium-90 in Water	7271-039	10.4	1		1	1	1/0/1
<b>Gas Proportional Counting</b>									
80A	WATER	Gross Alpha in Water	7271-039	20.6	1		1	1	1/0/1
80B	WATER	Gross Beta in Water	7271-039	11.0	1		1	1	1/0/1
<b>Gamma Spectroscopy</b>									
GAM	WATER	Gamma Emitters in Water	7271-039	7.0	1		1	1	1/0/1
<b>Kinetic Phosphorimetry, ug</b>									
U_T	WATER	Uranium, Total	7271-039		1		1	1	1/0/1
<b>Liquid Scintillation Counting</b>									
H	WATER	Tritium in Water	7271-039	10.0	1		1	1	1/0/1
<b>Radon Counting</b>									
RA	WATER	Radium-226 in Water	7271-039	16.4	1		1	1	1/0/1

Blank, LCS, Duplicate and Spike planchets are those in the same preparation batch as some Client sample.  
In counts like 'a/b/c', 'a' = QC planchets, 'b' = Originals in this SDG, 'c' = Originals in other SDGs.

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**EBERLINE ANALYTICAL**

SDG 8655

**LAB WORK SUMMARY**

SDG 8655  
Contact N. Joseph Verville

Client Test America, Inc.  
Contract ITL2721

LAB SAMPLE	CLIENT SAMPLE ID				SUF-					
COLLECTED	LOCATION	MATRIX	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD	
RECEIVED	CUSTODY	SAS no								
S101002-01	ITL2721-03		8655-001	80A/80		01/11/11	01/12/11	BW	Gross Alpha in Water	
12/30/10	Boeing - SSFL	WATER	8655-001	80B/80		01/11/11	01/12/11	BW	Gross Beta in Water	
12/31/10	ITL2721		8655-001	AC		01/26/11	01/31/11	BW	Radium-228 in Water	
			8655-001	GAM		01/10/11	01/31/11	MWT	Gamma Emitters in Water	
			8655-001	H		01/18/11	01/24/11	BW	Tritium in Water	
			8655-001	RA		01/21/11	01/24/11	BW	Radium-226 in Water	
			8655-001	SR		01/26/11	01/31/11	BW	Strontium-90 in Water	
			8655-001	U_T		01/20/11	01/24/11	BW	Uranium, Total	
S101004-02	Lab Control Sample		8657-002	80A/80		01/11/11	01/12/11	BW	Gross Alpha in Water	
		WATER	8657-002	80B/80		01/11/11	01/12/11	BW	Gross Beta in Water	
			8657-002	AC		01/26/11	01/31/11	BW	Radium-228 in Water	
			8657-002	GAM		01/10/11	01/31/11	MWT	Gamma Emitters in Water	
			8657-002	H		01/18/11	01/24/11	BW	Tritium in Water	
			8657-002	RA		01/21/11	01/24/11	BW	Radium-226 in Water	
			8657-002	SR		01/26/11	01/31/11	BW	Strontium-90 in Water	
			8657-002	U_T		01/20/11	01/24/11	BW	Uranium, Total	
S101004-03	Method Blank		8657-003	80A/80		01/11/11	01/12/11	BW	Gross Alpha in Water	
		WATER	8657-003	80B/80		01/11/11	01/12/11	BW	Gross Beta in Water	
			8657-003	AC		01/26/11	01/31/11	BW	Radium-228 in Water	
			8657-003	GAM		01/10/11	01/31/11	MWT	Gamma Emitters in Water	
			8657-003	H		01/18/11	01/24/11	BW	Tritium in Water	
			8657-003	RA		01/21/11	01/24/11	BW	Radium-226 in Water	
			8657-003	SR		01/26/11	01/31/11	BW	Strontium-90 in Water	
			8657-003	U_T		01/20/11	01/24/11	BW	Uranium, Total	
S101004-04	Duplicate (S101004-01)		8657-004	80A/80		01/11/11	01/12/11	BW	Gross Alpha in Water	
12/30/10	Boeing - SSFL	WATER	8657-004	80B/80		01/11/11	01/12/11	BW	Gross Beta in Water	
12/31/10			8657-004	AC		01/26/11	01/31/11	BW	Radium-228 in Water	
			8657-004	GAM		01/11/11	01/31/11	MWT	Gamma Emitters in Water	
			8657-004	H		01/18/11	01/24/11	BW	Tritium in Water	
			8657-004	RA		01/21/11	01/24/11	BW	Radium-226 in Water	
			8657-004	SR		01/26/11	01/31/11	BW	Strontium-90 in Water	
			8657-004	U_T		01/20/11	01/24/11	BW	Uranium, Total	

WORK SUMMARY

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SDG 8655

SDG 8655  
 Contact N. Joseph Verville

WORK SUMMARY, cont.

Client Test America, Inc.  
 Contract ITL2721

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAS no	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP SPIKE	TOTAL
80A/80		Gross Alpha in Water	900.0	1			1	1	1	4
80B/80		Gross Beta in Water	900.0	1			1	1	1	4
AC		Radium-228 in Water	904.0	1			1	1	1	4
GAM		Gamma Emitters in Water	901.1	1			1	1	1	4
H		Tritium in Water	906.0	1			1	1	1	4
RA		Radium-226 in Water	903.1	1			1	1	1	4
SR		Strontium-90 in Water	905.0	1			1	1	1	4
U_T		Uranium, Total	D5174	1			1	1	1	4
TOTALS				8			8	8	8	32

WORK SUMMARY

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**EBERLINE ANALYTICAL**

SDG 8655

8657-002

Lab Control Sample

**LAB CONTROL SAMPLE**

SDG <u>8655</u> Contact <u>N. Joseph Verville</u>	Client <u>Test America, Inc.</u> Contract <u>ITL2721</u>
Lab sample id <u>S101004-02</u> Dept sample id <u>8657-002</u>	Client sample id <u>Lab Control Sample</u> Material/Matrix _____ <u>WATER</u>

ANALYTE	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS TEST	ADDED pCi/L	2σ ERR pCi/L	REC %	2σ LMTS (TOTAL)	PROTOCOL LIMITS
Gross Alpha	36.1	2.2	0.821	3.00	80A	40.4	1.6	89	80-120	70-130
Gross Beta	33.7	1.4	1.13	4.00	80B	35.0	1.4	96	88-112	70-130
Tritium	2470	300	327	500	H	2540	100	97	84-116	80-120
Radium-226	59.0	2.5	0.639	1.00	RA	55.7	2.2	106	82-118	80-120
Radium-228	4.07	0.98	0.438	1.00	AC	4.62	0.18	88	77-123	60-140
Strontium-90	17.8	1.9	1.12	2.00	SR	17.5	0.70	102	84-116	80-120
Uranium, Total	60.8	7.3	0.174	1.00	U_T	62.5	2.5	97	88-112	80-120
Cobalt-60	104	5.2	2.76	10.0	GAM	102	4.1	102	90-110	80-120
Cesium-137	117	4.6	3.40	20.0	GAM	110	4.4	106	91-109	80-120

QC-LCS #76734

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-LCS</u>
Version <u>3.06</u>
Report date <u>02/01/11</u>

**EBERLINE ANALYTICAL**

SDG 8655

8657-004

ITL2724-02

**DUPLICATE**

SDG <u>8655</u> Contact <u>N. Joseph Verville</u> Duplicates Lab sample id <u>S101004-04</u> Dept sample id <u>8657-004</u>	ORIGINAL Lab sample id <u>S101004-01</u> Dept sample id <u>8657-001</u> Received <u>12/31/10</u>	Client <u>Test America, Inc.</u> Contract <u>ITL2721</u> Client sample id <u>ITL2724-02</u> Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u> Collected/Volume <u>12/30/10 02:55</u> <u>10.0 L</u> Chain of custody id <u>ITL2724</u>
---	---	--

ANALYTE	DUPLICATE		MDA		RDL		QUALI- FIERS	TEST	ORIGINAL		MDA		QUALI- FIERS	RPD %	3σ TOT	DER σ
	pCi/L	2σ ERR (COUNT)	pCi/L	pCi/L	pCi/L	pCi/L			pCi/L	2σ ERR (COUNT)	pCi/L	pCi/L				
Gross Alpha	0.672	0.31	0.372	3.00	J	80A		0.336	0.29	0.412	U	67	134	1.5		
Gross Beta	1.60	0.58	0.884	4.00	J	80B		1.23	0.54	0.835	J	26	87	0.9		
Tritium	-26.6	180	321	500	U	H		80.3	190	323	U	-		0.8		
Radium-226	0.082	0.32	0.566	1.00	U	RA		0.146	0.31	0.541	U	-		0.3		
Radium-228	0.063	0.29	0.734	1.00	U	AC		0.030	0.21	0.458	U	-		0.2		
Strontium-90	-0.236	0.71	1.75	2.00	U	SR		-0.099	0.80	1.94	U	-		0.3		
Uranium, Total	0.082	0.012	0.017	1.00	J	U_T		0.093	0.013	0.017	J	13	30	1.2		
Potassium-40	U		<u>28.0</u>	25.0	U	GAM		U		16.2	U	-		0.7		
Cesium-137	U		1.50	20.0	U	GAM		U		1.25	U	-		0.3		

QC-DUP#1 76736

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DUP</u>
Version <u>3.06</u>
Report date <u>02/01/11</u>

**EBERLINE ANALYTICAL**  
SDG 8655

8655-001

ITL2721-03

**DATA SHEET**

SDG <u>8655</u> Contact <u>N. Joseph Verville</u>	Client <u>Test America, Inc.</u> Contract <u>ITL2721</u>
Lab sample id <u>S101002-01</u> Dept sample id <u>8655-001</u> Received <u>12/31/10</u>	Client sample id <u>ITL2721-03</u> Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u> Collected/Volume <u>12/30/10 03:32</u> <u>10.0 L</u> Chain of custody id <u>ITL2721</u>

ANALYTE	CAS NO	RESULT pCi/L	2 $\sigma$ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	1.21	0.70	0.840	3.00	J	80A
Gross Beta	12587472	4.02	0.86	1.21	4.00		80B
Tritium	10028178	-60.3	190	331	500	U	H
Radium-226	13982633	0.296	0.38	0.640	1.00	U	RA
Radium-228	15262201	0.126	0.28	0.442	1.00	U	AC
Strontium-90	10098972	-0.290	0.64	1.65	2.00	U	SR
Uranium, Total		1.46	0.17	0.017	1.00		U T
Potassium-40	13966002	U		<u>27.2</u>	25.0	U	GAM
Cesium-137	10045973	U		1.23	20.0	U	GAM

Lab id <u>EAS</u>
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Form <u>DVD-DS</u>
Version <u>3.06</u>
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**EBERLINE ANALYTICAL**

SDG 8655

Test AC Matrix WATER  
 SDG 8655  
 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract ITL2721

**LAB METHOD SUMMARY**

RADIUM-228 IN WATER

BETA COUNTING

**RESULTS**

**LAB**            **RAW** **SUF-**  
**SAMPLE ID**   **TEST FIX**   **PLANCHET**   **CLIENT SAMPLE ID**            **Radium-228**

Preparation batch 7271-039

S101002-01		8655-001	ITL2721-03	U
S101004-02		8657-002	Lab Control Sample	ok
S101004-03		8657-003	Method Blank	U
S101004-04		8657-004	Duplicate (S101004-01)	- U

Nominal values and limits from method            RDLs (pCi/L)            1.00

**METHOD PERFORMANCE**

**LAB**            **RAW** **SUF-**            **MDA**    **ALIQ**   **PREP**   **DILU-**   **YIELD**   **EFF**   **COUNT**   **FWHM**   **DRIFT**   **DAYS**            **ANAL-**  
**SAMPLE ID**   **TEST FIX**   **CLIENT SAMPLE ID**            **pCi/L**    **L**        **FAC**    **TION**        **%**    **%**    **min**   **keV**   **KeV**   **HELD**   **PREPARED**   **YZED**   **DETECTOR**

Preparation batch 7271-039            2σ prep error 10.4 %    Reference Lab Notebook No. 7271 pg.039

S101002-01		ITL2721-03	0.442	1.80				76	150		27	01/26/11	01/26	GRB-222
S101004-02		Lab Control Sample	0.438	1.80				85	150			01/26/11	01/26	GRB-204
S101004-03		Method Blank	0.717	1.80				88	150			01/26/11	01/26	GRB-229
S101004-04		Duplicate (S101004-01)	0.734	1.80				78	150		27	01/26/11	01/26	GRB-230

Nominal values and limits from method            1.00    1.80            30-105            50            180

**PROCEDURES**    **REFERENCE**    904.0  
 DWP-894        Sequential Separation of Actinium-228 and  
 Radium-226 in Drinking Water (>1 Liter Aliquot),  
 rev 5

**AVERAGES ± 2 SD**            **MDA** 0.583 ± 0.330  
**FOR 4 SAMPLES**            **YIELD** 82 ± 11

**METHOD SUMMARIES**

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**SUMMARY DATA SECTION**

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**EBERLINE ANALYTICAL**

SDG 8655

**LAB METHOD SUMMARY**

STRONTIUM-90 IN WATER

BETA COUNTING

Test SR Matrix WATER  
 SDG 8655  
 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract ITL2721

**RESULTS**

LAB	RAW	SUF-	CLIENT SAMPLE ID	Strontium-90
SAMPLE ID	TEST FIX	PLANCHET		
Preparation batch 7271-039				
S101002-01		8655-001	ITL2721-03	U
S101004-02		8657-002	Lab Control Sample	ok
S101004-03		8657-003	Method Blank	U
S101004-04		8657-004	Duplicate (S101004-01)	- U
Nominal values and limits from method			RDLs (pCi/L)	2.00

**METHOD PERFORMANCE**

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7271-039      2σ prep error 10.4 %      Reference Lab Notebook No. 7271 pg.039															
S101002-01		ITL2721-03	1.65	0.500			55		50			27	01/19/11	01/26	GRB-232
S101004-02		Lab Control Sample	1.12	0.500			59		50				01/19/11	01/26	GRB-221
S101004-03		Method Blank	<u>2.02</u>	0.500			44		50				01/19/11	01/26	GRB-230
S101004-04		Duplicate (S101004-01)	1.75	0.500			55		50			27	01/19/11	01/26	GRB-231
Nominal values and limits from method			2.00	0.500			30-105		50						180

PROCEDURES REFERENCE 905.0  
 DWP-380 Strontium in Drinking Water, rev 8

AVERAGES ± 2 SD      MDA 1.64 ± 0.754  
 FOR 4 SAMPLES      YIELD 53 ± 13

Lab id EAS  
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**EBERLINE ANALYTICAL**

SDG 8655

**LAB METHOD SUMMARY**

GROSS ALPHA IN WATER

GAS PROPORTIONAL COUNTING

Test 80A Matrix WATER

SDG 8655

Contact N. Joseph Verville

Client Test America, Inc.

Contract ITL2721

**RESULTS**

LAB RAW SUF-  
 SAMPLE ID TEST FIX PLANCHET CLIENT SAMPLE ID Gross Alpha

Preparation batch 7271-039

S101002-01	80	8655-001	ITL2721-03	1.21 J
S101004-02	80	8657-002	Lab Control Sample	ok
S101004-03	80	8657-003	Method Blank	U
S101004-04	80	8657-004	Duplicate (S101004-01)	ok J

Nominal values and limits from method RDLs (pCi/L) 3.00

**METHOD PERFORMANCE**

LAB RAW SUF- MDA ALIQ PREP DILU- RESID EFF COUNT FWHM DRIFT DAYS ANAL-  
 SAMPLE ID TEST FIX CLIENT SAMPLE ID pCi/L L FAC TION mg % min keV KeV HELD PREPARED YZED DETECTOR

Preparation batch 7271-039 2σ prep error 20.6 % Reference Lab Notebook No. 7271 pg.039

S101002-01	80	ITL2721-03	0.840	0.210	93	400	12	01/11/11	01/11	GRB-109
S101004-02	80	Lab Control Sample	0.821	0.250	62	400		01/11/11	01/11	GRB-214
S101004-03	80	Method Blank	0.620	0.250	61	400		01/11/11	01/11	GRB-216
S101004-04	80	Duplicate (S101004-01)	0.372	0.300	20	400	12	01/11/11	01/11	GRB-105

Nominal values and limits from method 3.00 0.250 0-200 100 180

PROCEDURES REFERENCE 900.0  
 DWP-121 Gross Alpha and Gross Beta in Drinking Water,  
 rev 10

AVERAGES ± 2 SD MDA 0.663 ± 0.436  
 FOR 4 SAMPLES RESIDUE 59 ± 60

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**EBERLINE ANALYTICAL**

SDG 8655

**LAB METHOD SUMMARY**

GROSS BETA IN WATER

GAS PROPORTIONAL COUNTING

Test 80B Matrix WATER  
SDG 8655  
Contact N. Joseph Verville

Client Test America, Inc.  
Contract ITL2721

**RESULTS**

LAB	RAW	SUF-			
SAMPLE ID	TEST	FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta
Preparation batch 7271-039					
S101002-01	80		8655-001	ITL2721-03	4.02
S101004-02	80		8657-002	Lab Control Sample	ok
S101004-03	80		8657-003	Method Blank	U
S101004-04	80		8657-004	Duplicate (S101004-01)	ok J
Nominal values and limits from method				RDLs (pCi/L)	4.00

**METHOD PERFORMANCE**

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	RESID	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-			
SAMPLE ID	TEST	FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	mg	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7271-039      2σ prep error 11.0 %      Reference Lab Notebook No. 7271 pg.039																
S101002-01	80		ITL2721-03	1.21	<u>0.210</u>			93		400			12	01/11/11	01/11	GRB-109
S101004-02	80		Lab Control Sample	1.13	0.250			62		400				01/11/11	01/11	GRB-214
S101004-03	80		Method Blank	1.11	0.250			61		400				01/11/11	01/11	GRB-216
S101004-04	80		Duplicate (S101004-01)	0.884	0.300			20		400			12	01/11/11	01/11	GRB-105
Nominal values and limits from method				4.00	0.250			0-200		100						180

PROCEDURES REFERENCE 900.0  
DWP-121 Gross Alpha and Gross Beta in Drinking Water,  
rev 10

AVERAGES ± 2 SD      MDA 1.08 ± 0.280  
FOR 4 SAMPLES      RESIDUE 59 ± 60

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Contract ITL2721

**LAB METHOD SUMMARY**

GAMMA EMITTERS IN WATER  
GAMMA SPECTROSCOPY

Test GAM Matrix WATER  
SDG 8655  
Contact N. Joseph Verville

**RESULTS**

LAB	RAW	SUF-				
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt-60	Cesium-137	
Preparation batch 7271-039						
S101002-01		8655-001	ITL2721-03		U	
S101004-02		8657-002	Lab Control Sample	ok	ok	
S101004-03		8657-003	Method Blank		U	
S101004-04		8657-004	Duplicate (S101004-01)		- U	
Nominal values and limits from method						
			RDLs (pCi/L)	10.0	20.0	

**METHOD PERFORMANCE**

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7271-039    2σ prep error 7.0 %    Reference Lab Notebook No. 7271 pg.039															
S101002-01		ITL2721-03		2.00						946		11	01/10/11	01/10	01,01,00
S101004-02		Lab Control Sample		2.00						946			01/10/11	01/10	MB,05,00
S101004-03		Method Blank		2.00						924			01/10/11	01/10	MB,08,00
S101004-04		Duplicate (S101004-01)		2.00						596		12	01/10/11	01/11	01,02,00
Nominal values and limits from method															
			6.00	2.00						400					180

PROCEDURES REFERENCE 901.1  
DWP-100 Preparation of Drinking Water Samples for Gamma Spectroscopy, rev 5

Lab id EAS  
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**EBERLINE ANALYTICAL**

SDG 8655

**LAB METHOD SUMMARY**

URANIUM, TOTAL  
KINETIC PHOSPHORIMETRY, UG

Test U T Matrix WATER  
SDG 8655  
Contact N. Joseph Verville

Client Test America, Inc.  
Contract ITL2721

**RESULTS**

LAB	RAW	SUF-			Uranium,
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID		Total
Preparation batch 7271-039					
S101002-01		8655-001	ITL2721-03		1.46
S101004-02		8657-002	Lab Control Sample		ok
S101004-03		8657-003	Method Blank		U
S101004-04		8657-004	Duplicate (S101004-01)		ok J
Nominal values and limits from method			RDLs (pCi/L)		1.00

**METHOD PERFORMANCE**

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7271-039			2σ prep error		Reference Lab Notebook No. 7271 pg.039										
S101002-01		ITL2721-03	0.017	0.0200								21	01/20/11	01/20	KPA-001
S101004-02		Lab Control Sample	0.174	0.0200									01/20/11	01/20	KPA-001
S101004-03		Method Blank	0.017	0.0200									01/20/11	01/20	KPA-001
S101004-04		Duplicate (S101004-01)	0.017	0.0200								21	01/20/11	01/20	KPA-001
Nominal values and limits from method			1.00	0.0200									180		

PROCEDURES REFERENCE D5174

AVERAGES ± 2 SD      MDA 0.056 ± 0.157  
FOR 4 SAMPLES      YIELD \_\_\_\_\_ ± \_\_\_\_\_

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Test H Matrix WATER  
 SDG 8655  
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Client Test America, Inc.  
 Contract ITL2721

**LAB METHOD SUMMARY**

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

**RESULTS**

LAB RAW SUF- Tritium  
 SAMPLE ID TEST FIX PLANCHET CLIENT SAMPLE ID

Preparation batch 7271-039

S101002-01		8655-001	ITL2721-03	U
S101004-02		8657-002	Lab Control Sample	ok
S101004-03		8657-003	Method Blank	U
S101004-04		8657-004	Duplicate (S101004-01)	- U

Nominal values and limits from method RDLs (pCi/L) 500

**METHOD PERFORMANCE**

LAB RAW SUF- ANAL-  
 SAMPLE ID TEST FIX CLIENT SAMPLE ID MDA ALIQ PREP DILU- YIELD EFF COUNT FWHM DRIFT DAYS HELD PREPARED YZED DETECTOR  
 pCi/L L FAC TION % % min keV KeV

Preparation batch 7271-039 2σ prep error 10.0 % Reference Lab Notebook No. 7271 pg.039

S101002-01		ITL2721-03	331	0.0100				100				19	01/18/11	01/18	LSC-006
S101004-02		Lab Control Sample	327	0.100			10						01/18/11	01/18	LSC-006
S101004-03		Method Blank	319	0.100			10						01/18/11	01/18	LSC-006
S101004-04		Duplicate (S101004-01)	321	0.0100			100					19	01/18/11	01/18	LSC-006

Nominal values and limits from method 500 0.0100 100 180

PROCEDURES REFERENCE 906.0  
 DWP-212 Tritium in Drinking Water by Distillation, rev 8

AVERAGES ± 2 SD MDA 324 ± 11.0  
 FOR 4 SAMPLES YIELD 55 ± 104

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**LAB METHOD SUMMARY**

RADIUM-226 IN WATER  
RADON COUNTING

Test RA Matrix WATER  
SDG 8655  
Contact N. Joseph Verville

Client Test America, Inc.  
Contract ITL2721

**RESULTS**

LAB RAW SUP- Radium-226  
SAMPLE ID TEST FIX PLANCHET CLIENT SAMPLE ID

Preparation batch 7271-039

S101002-01	8655-001	ITL2721-03	U
S101004-02	8657-002	Lab Control Sample	ok
S101004-03	8657-003	Method Blank	U
S101004-04	8657-004	Duplicate (S101004-01)	- U

Nominal values and limits from method RDLs (pCi/L) 1.00

**METHOD PERFORMANCE**

LAB RAW SUP- MDA ALIQ PREP DILU- YIELD EFF COUNT FWHM DRIFT DAYS ANAL-  
SAMPLE ID TEST FIX CLIENT SAMPLE ID pCi/L L FAC TION % % min keV KeV HELD PREPARED YZED DETECTOR

Preparation batch 7271-039 2σ prep error 16.4 % Reference Lab Notebook No. 7271 pg.039

S101002-01	ITL2721-03	0.640	0.100	100	86	22	01/21/11	01/21	RN-014
S101004-02	Lab Control Sample	0.639	0.100	100	106		01/21/11	01/21	RN-011
S101004-03	Method Blank	0.627	0.100	100	106		01/21/11	01/21	RN-015
S101004-04	Duplicate (S101004-01)	0.566	0.100	100	106	22	01/21/11	01/21	RN-014

Nominal values and limits from method 1.00 0.100 100 180

PROCEDURES REFERENCE 903.1  
DWP-881A Ra-226 Screening in Drinking Water, rev 6

AVERAGES ± 2 SD MDA 0.618 ± 0.070  
FOR 4 SAMPLES YIELD 100 ± 0

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SAMPLE SUMMARY

The Sample and QC Summary Reports show all samples, including QC samples, reported in one Sample Delivery Group (SDG).

The Sample Summary Report fully identifies client samples and gives the corresponding lab sample identification. The QC Summary Report shows at the sample level how the lab organized the samples into batches and generated QC samples. The Preparation Batch and Method Summary Reports show this at the analysis level.

The following notes apply to these reports:

- \* LAB SAMPLE ID is the lab's primary identification for a sample.
- \* DEPARTMENT SAMPLE ID is an alternate lab id, for example one assigned by a radiochemistry department in a lab.
- \* CLIENT SAMPLE ID is the client's primary identification for a sample. It includes any sample preparation done by the client that is necessary to identify the sample.
- \* QC BATCH is a lab assigned code that groups samples to be processed and QCed together. These samples should have similar matrices.

QC BATCH is not necessarily the same as SDG, which reflects samples received and reported together.

- \* All Lab Control Samples, Method Blanks, Duplicates and Matrix Spikes are shown that QC any of the samples. Due to possible reanalyses, not all results for all these QC samples may be relevant to the SDG. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.

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**PREPARATION BATCH SUMMARY**

The Preparation Batch Summary Report shows all preparation batches in one Sample Delivery Group (SDG) with information necessary to check the completeness and consistency of the SDG.

The following notes apply to this report:

- \* The preparation batches are shown in the same order as the Method Summary Reports are printed.
- \* Only analyses of planchets relevant to the SDG are included.
- \* Each preparation batch should have at least one Method Blank and LCS in it to validate client sample results.
- \* The QUALIFIERS shown are all qualifiers other than U, J, B, L and H that occur on any analysis in the preparation batch. The Method Summary Report has these qualifiers on a per sample basis.

These qualifiers should be reviewed as follows:

- X Some data has been manually entered or modified. Transcription errors are possible.
- P One or more results are 'preliminary'. The data is not ready for final reporting.
- 2 There were two or more results for one analyte on one planchet imported at one time. The results in DVD may not be the same as on the raw data sheets.

Other lab defined qualifiers may occur. In general, these should be addressed in the SDG narrative.

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WORK SUMMARY

The Work Summary Report shows all samples, including QC samples, and all relevant analyses in one Sample Delivery Group (SDG). This report is often useful as supporting documentation for an invoice.

The following notes apply to this report:

- \* TEST is a code for the method used to measure associated analytes. Results and related information for each analyte are on the Data Sheet Report. In special cases, a test code used in the summary data section is not the same as in associated raw data. In this case, both codes are shown on the Work Summary.
- \* SUFFIX is the lab's code to distinguish multiple analyses (recounts, reworks, reanalyses) of a fraction of the sample. The suffix indicates which result is being reported. An empty suffix normally identifies the first attempt to analyze the sample.
- \* The LAB SAMPLE ID, TEST and SUFFIX uniquely identify all supporting data for a result. The Method Summary Report for each TEST has method performance data, such as yield, for each lab sample id and suffix and procedures used in the method.
- \* PLANCHET is an alternate lab identifier for work done for one test. It, combined with the TEST and SUFFIX, may be the best link to raw data.
- \* For QC samples, only analyses that directly QC some regular sample are shown. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.
- \* The SAS (Special Analytical Services) Number is a client or lab assigned code that reflects special processing for samples, such as rapid turn around. Counts of tests done are lists by SAS number since it is likely to affect prices.

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DATA SHEET

The Data Sheet Report shows all results and primary supporting information for one client sample or Method Blank. This report corresponds to both the CLP Inorganics and Organics Data Sheet.

The following notes apply to this report:

- \* TEST is a code for the method used to measure an analyte. If the TEST is empty, no data is available; the analyte was not analyzed for.
- \* The LAB SAMPLE ID and TEST uniquely identify work within the Summary Data Section of a Data Package. The Work Summary and Method Summary Reports further identify raw data that underlies this work.

The Method Summary Report for each TEST has method performance data, such as yield, for each Lab Sample ID and a list of procedures used in the method.

- \* ERRORS can be labeled TOTAL or COUNT. TOTAL implies a preparation (non-counting method) error has been added, as square root of sum of squares, to the counting error denoted by COUNT. The preparation errors, which may vary by preparation batch, are shown on the Method Summary Report.
- \* A RESULT can be 'N.R.' (Not Reported). This means the lab did this work but chooses not to report it now, possibly because it was reported at another time.
- \* When reporting a Method Blank, a RESULT can be 'N.A.' (Not Applicable). This means there is no reported client sample work in the same preparation batch as the Blank's result. This is likely to occur when the Method Blank is associated with reanalyses of selected work for a few samples in the SDG.

The following qualifiers are defined by the DVD system:

- U The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit.

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DATA SHEET

J The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.

B A Method Blank associated with this sample had a result without a U flag and, after correcting for possibly different aliquots, that result is greater than or equal to the MDA for this sample.

Normally, B is not assigned if U is. When method blank subtraction is shown on this report, B flags are assigned based on the unsubtracted values while U's are assigned based on the subtracted ones. Both flags can be assigned in this case.

For each sample result, all Method Blank results in the same preparation batch are compared. The Method Summary Report documents this and other QC relationships.

L Some Lab Control Sample that QC's this sample had a low recovery. The lab can disable assignment of this qualifier.

H Similar to 'L' except the recovery was high.

P The RESULT is 'preliminary'.

X Some data necessary to compute the RESULT, ERROR or MDA was manually entered or modified.

2 There were two or more results available for this analyte. The reported result may not be the same as in the raw data.

Other qualifiers are lab defined. Definitions should be in the SDG narrative.

The following values are underlined to indicate possible problems:

\* An MDA is underlined if it is bigger than its RDL.

\* An ERROR is underlined if the 1.645 sigma counting error is bigger than both the MDA and the RESULT, implying that the MDA

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DATA SHEET

may not be a good estimate of the 'real' minimum detectable activity.

- \* A negative RESULT is underlined if it is less than the negative of its 2 sigma counting ERROR.
- \* When reporting a Method Blank, a RESULT is underlined if greater than its MDA. If the MDA is blank, the 2 sigma counting error is used in the comparison.

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LAB CONTROL SAMPLE

The Lab Control Sample Report shows all results, recoveries and primary supporting information for one Lab Control Sample.

The following notes apply to this report:

- \* All fields in common with the Data Sheet Report have similar usage. Refer to its Report Guide for details.
- \* An amount ADDED is the lab's value for the actual amount spiked into this sample with its ERROR an estimate of the error of this amount.

An amount added is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

- \* REC (Recovery) is RESULT divided by ADDED expressed as a percent.
- \* The first, computed limits for the recovery reflect:
  1. The error of RESULT, including that introduced by rounding the result prior to printing.  
  
If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.
  2. The error of ADDED.
  3. A lab specified, per analyte bias. The bias changes the center of the computed limits.
- \* The second limits are protocol defined upper and lower QC limits for the recovery.
- \* The recovery is underlined if it is outside either of these ranges.

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DUPLICATE

The Duplicate Report shows all results, differences and primary supporting information for one Duplicate and associated Original sample.

The following notes apply to this report:

- \* All fields in common with the Data Sheet Report have similar usage. This applies both to the Duplicate and Original sample data. Refer to the Data Sheet Report Guide for details.

If the Duplicate has data for a TEST and the lab did not do this test to the Original, the Original's RESULTS are underlined.

- \* The RPD (Relative Percent Difference) is the absolute value of the difference of the RESULTS divided by their average expressed as a percent.

If both RESULTS are less than their MDAs, no RPD is computed and a '-' is printed.

For an analyte, if the lab did work for both samples but has data for only one, the MDA from the sample with data is used as the other's result in the RPD.

- \* The first, computed limit is the sum, as square root of sum of squares, of the errors of the results divided by the average result as a percent, hence the relative error of the difference rather than the error of the relative difference. The errors include those introduced by rounding the RESULTS prior to printing.

If this limit is labeled TOT, it includes the preparation error in the RESULTS. If labeled CNT, it does not.

This value reported for this limit is at most 999.

- \* The second limit for the RPD is the larger of:
  1. A fixed percentage specified in the protocol.

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DUPLICATE

2. A protocol factor (typically 2) times the average MDA as a percent of the average result. This limit applies when the results are close to the MDAs.

- \* The RPD is underlined if it is greater than either limit.
- \* If specified by the lab, the second limit column is replaced by the Difference Error Ratio (DER), which is the absolute value of the difference of the results divided by the quadratic sum of their one sigma errors, the same errors as used in the first limit.

Except for differences due to rounding, the DER is the same as the RPD divided by the first RPD limit with the limit scaled to 1 sigma.

- \* The DER is underlined if it is greater than the sigma factor, typically 2 or 3, shown in the header for the first RPD limit.

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MATRIX SPIKE

The Matrix Spike Report shows all results, recoveries and primary supporting information for one Matrix Spike and associated Original sample.

The following notes apply to this report:

- \* All fields in common with the Data Sheet Report have similar usage. This applies both to the Spiked and Original sample data. Refer to the Data Sheet Report Guide for details.

If the Spike has data for a TEST and the lab did not do this test to the Original, the Original's RESULTS are underlined.

- \* An amount ADDED is the lab's value for the actual amount spiked into the Spike sample with its ERROR an estimate of the error of this amount.

An amount is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

- \* REC (Recovery) is the Spike RESULT minus the Original RESULT divided by ADDED expressed as a percent.

- \* The first, computed limits for the recovery reflect:

1. The errors of the two RESULTS, including those introduced by rounding them prior to printing.

If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.

2. The error of ADDED.

3. A lab specified, per analyte bias. The bias changes the center of the computed limits.

- \* The second limits are protocol defined upper and lower QC limits for the recovery.

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MATRIX SPIKE

These limits are left blank if the Original RESULT is more than a protocol defined factor (typically 4) times ADDED. This is a way of accounting for that when the spike is small compared to the amount in the original sample, the recovery is unreliable.

- \* The recovery is underlined (out of spec) if it is outside either of these ranges.

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METHOD SUMMARY

The Method Summary Report has two tables. One shows up to five results measured using one method. The other has performance data for the method. There is one report for each TEST, as used on the Data Sheet Report.

The following notes apply to this report:

- \* Each table is subdivided into sections, one for each preparation batch. A preparation batch is a group of aliquots prepared at roughly the same time in one work area of the lab using the same method.

There should be Lab Control Sample and Method Blank results in each preparation batch since this close correspondence makes the QC meaningful. Depending on lab policy, Duplicates need not occur in each batch since they QC sample dependencies such as matrix effects.

- \* The RAW TEST column shows the test code used in the raw data to identify a particular analysis if it is different than the test code in the header of the report. This occurs in special cases due to method specific details about how the lab labels work.

The Lab Sample or Planchet ID combined with the (Raw) Test Code and Suffix uniquely identify the raw data for each analysis.

- \* If a result is less than both its MDA and RDL, it is replaced by just 'U' on this report. If it is greater than or equal to the RDL but less than the MDA, the result is shown with a 'U' flag.

The J and X flags are as on the data sheet.

- \* Non-U results for Method Blanks are underlined to indicate possible contamination of other samples in the preparation batch. The Method Blank Report has supporting data.

- \* Lab Control Sample and Matrix Spike results are shown as: ok, No data, LOW or HIGH, with the last two underlined. 'No data' means no amount ADDED was specified. 'LOW' and 'HIGH'

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 Version Ver 1.0  
 Form DVD-RG  
 Version 3.06  
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EBERLINE ANALYTICAL

SDG 8655

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Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.  
Contract ITL2721

METHOD SUMMARY

correspond to when the recovery is underlined on the Lab Control Sample or Matrix Spike Report. See these reports for supporting data.

- \* Duplicate sample results are shown as: ok, No data, or OUT, with the last two underlined. 'No data' means there was no original sample data found for this duplicate. 'OUT' corresponds to when the RPD is underlined on the Duplicate Report. See this report for supporting data.
- \* If the MDA column is labeled 'MAX MDA', there was more than one result measured by the reported method and the MDA shown is the largest MDA. If not all these results have the same RDL, the MAX MDA reflects only those results with RDL equal to the smallest one.

MDAs are underlined if greater than the printed RDL.

- \* Aliquots are underlined if less than the nominal value specified for the method.
- \* Preparation factors are underlined if greater than the nominal value specified for the method.
- \* Dilution factors are underlined if greater than the nominal value specified for the method.
- \* Residues are underlined if outside the range specified for the method. Residues are not printed if yields are.
- \* Yields, which may be gravimetric, radiometric or some type of recovery depending on the method, are underlined if outside the range specified for the method.
- \* Efficiencies are underlined if outside the range specified for the method. Efficiencies are detector and geometry dependent so this test is only approximate.
- \* Count times are underlined if less than the nominal value

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METHOD SUMMARY

specified for the method.

- \* Resolutions (as FWHM; Full Width at Half Max) are underlined if greater than the method specified limit.
- \* Tracer drifts are underlined if their absolute values are greater than the method specified limit. Tracer drifts are not printed if percent moistures are.
- \* Days Held are underlined if greater than the holding time specified in the protocol.
- \* Analysis dates are underlined if before their planchet's preparation date or, if a limit is specified, too far after it.

For some methods, ratios as percentages and error estimates for them are computed for pairs of results. A ratio column header like '1+3' means the ratio of the first result column and the third result column.

Ratios are not computed for Lab Control Sample, Method Blank or Matrix Spike results since their matrices are not necessarily similar to client samples'.

The error estimate for a ratio of results from one planchet reflects only counting errors since other errors should be correlated. For a ratio involving different planchets, if QC limits are computed based on total errors, the error for the ratio allows for the preparation errors for the planchets.

The ratio is underlined (out of spec) if the absolute value of its difference from the nominal value is greater than its error estimate. If no nominal value is specified, this test is not done.

For Gross Alpha or Gross Beta results, there may be a column showing the sum of other Alpha or Beta emitters. This sum includes all relevant results in the DVD database, whether reported or not. Results in the sum are weighted by a particles/decay value specified by the lab for each relevant analyte. Results less than their MDA are not included.

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METHOD SUMMARY

No sums are computed for Lab Control, Method Blank or Matrix Spike samples since their various planchets may not be physically related.

If a ratio of total isotopic to Gross Alpha or Beta is shown, the error for the ratio reflects both the error in the Gross result and the sum, as square root of sum of squares, of the errors in the isotopic results.

For total elemental uranium or thorium results, there may be a column showing the total weight computed from associated isotopic results. Ignoring results less than their MDAs, this is a weighted sum of the isotopic results. The weights depend on the molecular weight and half-life of each isotope so as to convert activities (decays) to weight (atoms).

If a ratio of total computed to measured elemental uranium or thorium is shown, the error for the ratio reflects the errors in all the measurements.

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**SUBCONTRACT ORDER**

TestAmerica Irvine

ITL2721

8655

SENDING LABORATORY:

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

RECEIVING LABORATORY:

Eberline Services  
 2030 Wright Avenue  
 Richmond, CA 94804  
 Phone : (510) 235-2633  
 Fax: (510) 235-0438  
 Project Location: California  
 Receipt Temperature: \_\_\_\_\_ °C      Ice: Y / N

Analysis	Units	Due	Expires	Comments
Sample ID: ITL2721-03 (Outfall 002 Composite - Water)		Sampled: 12/30/10 03:32		
Gamma Spec-O	mg/kg	01/04/11	12/30/11 03:32	jflags; Cs 137 + K 40; do not filter
Gross Alpha-O	pCi/L	01/04/11	06/28/11 03:32	jflags; do not filter
Gross Beta-O	pCi/L	01/04/11	06/28/11 03:32	jflags; do not filter
Level 4 Data Package - Out	N/A	01/04/11	01/27/11 03:32	
Radium, Combined-O	pCi/L	01/04/11	12/30/11 03:32	jflags; do not filter
Strontium 90-O	pCi/L	01/04/11	12/30/11 03:32	jflags; do not filter
Tritium-O	pCi/L	01/04/11	12/30/11 03:32	jflags; do not filter
Uranium, Combined-O	pCi/L	01/04/11	12/30/11 03:32	jflags; do not filter
Containers Supplied:				
2.5 gal Poly (E)	500 mL Amber (F)			

  
 Released By \_\_\_\_\_ Date/Time 12/30/10  
 Released By FEDEX Date/Time 12/31/10

Received By \_\_\_\_\_ Date/Time 12/31/10  
  
 Received By KELEN Date/Time 12/31/10



# RICHMOND, CA LABORATORY

## SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA

Date/Time received 12/31/10 10:00 CoC No. ITL 2721, ITL 2723, ITL-2724

Container I.D. No. L 706 Requested TAT (Days) \_\_\_\_\_ P.O. Received Yes [ ] No [ ]

### INSPECTION

1. Custody seals on shipping container intact? Yes [ ] No [ ] N/A [  ]
2. Custody seals on shipping container dated & signed? Yes [ ] No [ ] N/A [  ]
3. Custody seals on sample containers intact? Yes [ ] No [ ] N/A [  ]
4. Custody seals on sample containers dated & signed? Yes [ ] No [ ] N/A [  ]
5. Packing material is: Wet [ ] Dry [ ] N/A [  ]
6. Number of samples in shipping container: 3 Sample Matrix WATER
7. Number of containers per sample: 2 (Or see CoC \_\_\_\_\_)
8. Samples are in correct container Yes [  ] No [ ]
9. Paperwork agrees with samples? Yes [  ] No [ ]
10. Samples have: Tape [ ] Hazard labels [ ] Rad labels [ ] Appropriate sample labels [  ]
11. Samples are: In good condition [  ] Leaking [ ] Broken Container [ ] Missing [ ]
12. Samples are: Preserved [  ] Not preserved [ ] pH 2 Preservative HNO3
13. Describe any anomalies: \_\_\_\_\_

14. Was P.M. notified of any anomalies? Yes [ ] No [ ] Date \_\_\_\_\_

15. Inspected by JR Date: 12/30/10 Time: 12:30

Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wipe	Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	wipe
<u>All samples &lt; 60</u>							

Ion Chamber Ser. No. \_\_\_\_\_ Calibration date \_\_\_\_\_  
 Alpha Meter Ser. No. \_\_\_\_\_ Calibration date \_\_\_\_\_  
 Beta/Gamma Meter Ser. No. 100482 Calibration date 24 Sep. 2010

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