

LABORATORY REPORT

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

Project: Quarterly Outfall 019
Quarterly Outfall 019

Sampled: 08/10/11-08/12/11
Received: 08/10/11
Issued: 09/15/11 12:05

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

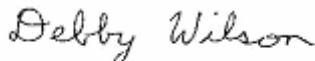
SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.

ADDITIONAL INFORMATION: The Laboratory Control Sample (LCS) exhibited elevated noise for 2,3,7,8-TCDF; and 2,3,7,8-TCDD requiring the detection limits to be raised appropriately. These analytes were flagged with the "H" qualifier.

LABORATORY ID	CLIENT ID	MATRIX
IUH1217-01	Outfall 019 (Grab)	Water
IUH1217-02	Trip Blanks	Water
IUH1217-03	Outfall 019 (Composite)	Water
IUH1217-04	Trip 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 019
Quarterly Outfall 019
Report Number: IUH1217

Sampled: 08/10/11-08/12/11
Received: 08/10/11

PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUH1217-01 (Outfall 019 (Grab) - Water)					Sampled: 08/10/11				
Reporting Units: ug/l									
Benzene	EPA 624	11H2085	0.28	0.50	ND	1	SS	08/16/11	
Carbon tetrachloride	EPA 624	11H2085	0.28	0.50	ND	1	SS	08/16/11	
Chloroform	EPA 624	11H2085	0.33	0.50	ND	1	SS	08/16/11	
1,1-Dichloroethane	EPA 624	11H2085	0.40	0.50	ND	1	SS	08/16/11	
1,2-Dichloroethane	EPA 624	11H2085	0.28	0.50	ND	1	SS	08/16/11	
1,1-Dichloroethene	EPA 624	11H2085	0.42	0.50	ND	1	SS	08/16/11	
Ethylbenzene	EPA 624	11H2085	0.25	0.50	ND	1	SS	08/16/11	
Tetrachloroethene	EPA 624	11H2085	0.32	0.50	ND	1	SS	08/16/11	
Toluene	EPA 624	11H2085	0.36	0.50	ND	1	SS	08/16/11	
1,1,1-Trichloroethane	EPA 624	11H2085	0.30	0.50	ND	1	SS	08/16/11	
1,1,2-Trichloroethane	EPA 624	11H2085	0.30	0.50	ND	1	SS	08/16/11	
Trichloroethene	EPA 624	11H2085	0.26	0.50	ND	1	SS	08/16/11	
Trichlorofluoromethane	EPA 624	11H2085	0.34	0.50	ND	1	SS	08/16/11	
Trichlorotrifluoroethane (Freon 113)	EPA 624	11H2085	0.50	5.0	ND	1	SS	08/16/11	
Vinyl chloride	EPA 624	11H2085	0.40	0.50	ND	1	SS	08/16/11	
Xylenes, Total	EPA 624	11H2085	0.90	1.5	ND	1	SS	08/16/11	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					99 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					102 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					106 %				

Sample ID: IUH1217-02 (Trip Blanks - Water)

Sampled: 08/10/11

Reporting Units: ug/l

Benzene	EPA 624	11H2085	0.28	0.50	ND	1	SS	08/16/11	
Carbon tetrachloride	EPA 624	11H2085	0.28	0.50	ND	1	SS	08/16/11	
Chloroform	EPA 624	11H2085	0.33	0.50	ND	1	SS	08/16/11	
1,1-Dichloroethane	EPA 624	11H2085	0.40	0.50	ND	1	SS	08/16/11	
1,2-Dichloroethane	EPA 624	11H2085	0.28	0.50	ND	1	SS	08/16/11	
1,1-Dichloroethene	EPA 624	11H2085	0.42	0.50	ND	1	SS	08/16/11	
Ethylbenzene	EPA 624	11H2085	0.25	0.50	ND	1	SS	08/16/11	
Tetrachloroethene	EPA 624	11H2085	0.32	0.50	ND	1	SS	08/16/11	
Toluene	EPA 624	11H2085	0.36	0.50	ND	1	SS	08/16/11	
1,1,1-Trichloroethane	EPA 624	11H2085	0.30	0.50	ND	1	SS	08/16/11	
1,1,2-Trichloroethane	EPA 624	11H2085	0.30	0.50	ND	1	SS	08/16/11	
Trichloroethene	EPA 624	11H2085	0.26	0.50	ND	1	SS	08/16/11	
Trichlorofluoromethane	EPA 624	11H2085	0.34	0.50	ND	1	SS	08/16/11	
Trichlorotrifluoroethane (Freon 113)	EPA 624	11H2085	0.50	5.0	ND	1	SS	08/16/11	
Vinyl chloride	EPA 624	11H2085	0.40	0.50	ND	1	SS	08/16/11	
Xylenes, Total	EPA 624	11H2085	0.90	1.5	ND	1	SS	08/16/11	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					99 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					100 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					107 %				

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Project Manager

MWH-Pasadena/Boeing
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Sampled: 08/10/11-08/12/11
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ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUH1217-03 (Outfall 019 (Composite) - Water)					Sampled: 08/11/11				
Reporting Units: ug/l									
Bis(2-ethylhexyl)phthalate	EPA 625	11H1854	1.70	5.00	ND	1	UP\	08/15/11	
2,4-Dinitrotoluene	EPA 625	11H1854	0.200	5.00	ND	1	UP\	08/15/11	
N-Nitrosodimethylamine	EPA 625	11H1854	0.100	5.00	ND	1	UP\	08/15/11	
Pentachlorophenol	EPA 625	11H1854	0.100	5.00	ND	1	UP\	08/15/11	
2,4,6-Trichlorophenol	EPA 625	11H1854	0.100	6.00	ND	1	UP\	08/15/11	
<i>Surrogate: 2,4,6-Tribromophenol (40-120%)</i>					117 %				
<i>Surrogate: 2-Fluorobiphenyl (50-120%)</i>					99 %				
<i>Surrogate: 2-Fluorophenol (30-120%)</i>					83 %				
<i>Surrogate: Nitrobenzene-d5 (45-120%)</i>					104 %				
<i>Surrogate: Phenol-d6 (35-120%)</i>					92 %				
<i>Surrogate: Terphenyl-d14 (50-125%)</i>					112 %				

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ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUH1217-03 (Outfall 019 (Composite) - Water) - cont.					Sampled: 08/11/11				
Reporting Units: ug/l									
alpha-BHC	EPA 608	11H1644	0.0024	0.0094	ND	0.943	CN	08/13/11	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					82 %				
<i>Surrogate: Tetrachloro-m-xylene (35-115%)</i>					72 %				

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HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUH1217-01 (Outfall 019 (Grab) - Water)					Sampled: 08/10/11				
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	11H3062	1.3	4.7	ND	1	DA	08/23/11	

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METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUH1217-03 (Outfall 019 (Composite) - Water)					Sampled: 08/11/11				
Reporting Units: mg/l									
Hardness (as CaCO3)	SM2340B	[CALC]		0.33	390	1	TK	08/18/11	
Calcium	EPA 200.7	11H2183	0.050	0.10	120	1	NH	08/16/11	MHA
Magnesium	EPA 200.7	11H2183	0.012	0.020	21	1	TK	08/18/11	MHA
Sample ID: IUH1217-03 (Outfall 019 (Composite) - Water)					Sampled: 08/11/11				
Reporting Units: ug/l									
Mercury	EPA 245.1	11H1983	0.10	0.20	ND	1	DB	08/17/11	
Cadmium	EPA 200.8	11H2524	0.10	1.0	ND	1	LL	08/18/11	
Zinc	EPA 200.7	11H2183	6.00	20.0	ND	1	NH	08/16/11	
Copper	EPA 200.8	11H2524	0.500	2.00	ND	1	kb1	08/19/11	
Lead	EPA 200.8	11H2524	0.20	1.0	ND	1	LL	08/18/11	
Selenium	EPA 200.8	11H2524	0.50	2.0	ND	1	LL	08/18/11	

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DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUH1217-03 (Outfall 019 (Composite) - Water) - cont.					Sampled: 08/11/11				
Reporting Units: mg/l									
Hardness as CaCO3	SM2340B-Diss	[CALC]		0.33	430	1	TK	08/18/11	
Calcium	EPA 200.7-Diss	11H2150	0.050	0.10	130	1	TK	08/18/11	
Magnesium	EPA 200.7-Diss	11H2150	0.012	0.020	24	1	TK	08/18/11	
Sample ID: IUH1217-03 (Outfall 019 (Composite) - Water)					Sampled: 08/11/11				
Reporting Units: ug/l									
Mercury	EPA 245.1-Diss	11H1985	0.10	0.20	ND	1	DB	08/17/11	
Cadmium	EPA 200.8-Diss	11H2553	0.10	1.0	ND	1	RDC	08/18/11	
Zinc	EPA 200.7-Diss	11H2150	6.00	20.0	6.79	1	TK	08/18/11	Ja
Copper	EPA 200.8-Diss	11H2553	0.500	2.00	0.613	1	RDC	08/18/11	Ja
Lead	EPA 200.8-Diss	11H2553	0.20	1.0	ND	1	RDC	08/18/11	
Selenium	EPA 200.8-Diss	11H2553	0.50	2.0	ND	1	RDC	08/18/11	

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INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUH1217-03 (Outfall 019 (Composite) - Water) - cont.					Sampled: 08/11/11				
Reporting Units: mg/l									
Ammonia-N (Distilled)	SM4500NH3-C	11H2384	0.500	0.500	ND	1	NCP	08/17/11	
Biochemical Oxygen Demand	SM5210B	11H1767	0.50	2.0	ND	1	XL	08/17/11	
Chloride	EPA 300.0	11H1592	6.0	10	120	20	NN	08/12/11	
Nitrate-N	EPA 300.0	11H1592	0.060	0.11	0.13	1	NN	08/12/11	
Nitrite-N	EPA 300.0	11H1592	0.090	0.15	ND	1	NN	08/12/11	
Nitrate/Nitrite-N	EPA 300.0	11H1592	0.15	0.26	ND	1	NN	08/12/11	
Sulfate	EPA 300.0	11H1592	6.0	10	120	20	NN	08/12/11	
Surfactants (MBAS)	SM5540-C	11H1778	0.050	0.10	ND	1	SLA	08/12/11	
Total Dissolved Solids	SM2540C	11H1636	1.0	10	650	1	MC	08/12/11	
Total Organic Carbon	SM5310B	11H2889	0.50	1.0	5.1	1	FZ	08/22/11	
Total Suspended Solids	SM 2540D	11H1781	1.0	10	ND	1	DK1	08/12/11	

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Sampled: 08/10/11-08/12/11
 Received: 08/10/11

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUH1217-01 (Outfall 019 (Grab) - Water)					Sampled: 08/10/11				
Reporting Units: ml/l									
Total Settleable Solids	SM2540F	11H1531	0.10	0.10	ND	1	RRZ	08/11/11	
Sample ID: IUH1217-03 (Outfall 019 (Composite) - Water)					Sampled: 08/11/11				
Reporting Units: NTU									
Turbidity	EPA 180.1	11H1701	0.040	1.0	ND	1	RRZ	08/12/11	
Sample ID: IUH1217-03 (Outfall 019 (Composite) - Water)					Sampled: 08/11/11				
Reporting Units: ug/l									
Perchlorate	EPA 314.0	11H1642	0.95	4.0	ND	1	mn	08/12/11	
Total Cyanide	SM4500CN-E	11H2754	2.2	5.0	ND	1	SLA	08/19/11	
Sample ID: IUH1217-01 (Outfall 019 (Grab) - Water)					Sampled: 08/10/11				
Reporting Units: umhos/cm @ 25C									
Specific Conductance	EPA 120.1	11H1451	1.0	1.0	930	1	MC	08/11/11	

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Sampled: 08/10/11-08/12/11
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EPA-5 1613Bx

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUH1217-03 (Outfall 019 (Composite) - Water)					Sampled: 08/11/11				
Reporting Units: ug/L									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	1231082	0.0000054	0.00005	ND	1	GV	08/22/11	
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	1231082	0.0000061	0.00005	8e-006	1	GV	08/22/11	J, B
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	1231082	0.0000092	0.00005	ND	1	GV	08/22/11	
1,2,3,4,7,8-HxCDD	EPA-5 1613B	1231082	0.0000072	0.00005	ND	1	GV	08/22/11	
1,2,3,4,7,8-HxCDF	EPA-5 1613B	1231082	0.0000047	0.00005	5.8e-006	1	GV	08/22/11	J, B
1,2,3,6,7,8-HxCDD	EPA-5 1613B	1231082	0.0000069	0.00005	ND	1	GV	08/22/11	
1,2,3,6,7,8-HxCDF	EPA-5 1613B	1231082	0.0000045	0.00005	ND	1	GV	08/22/11	
1,2,3,7,8,9-HxCDD	EPA-5 1613B	1231082	0.0000059	0.00005	ND	1	GV	08/22/11	
1,2,3,7,8,9-HxCDF	EPA-5 1613B	1231082	0.0000056	0.00005	ND	1	GV	08/22/11	
1,2,3,7,8-PeCDD	EPA-5 1613B	1231082	0.000019	0.00005	ND	1	GV	08/22/11	
1,2,3,7,8-PeCDF	EPA-5 1613B	1231082	0.000024	0.00005	ND	1	GV	08/22/11	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	1231082	0.0000041	0.00005	ND	1	GV	08/22/11	
2,3,4,7,8-PeCDF	EPA-5 1613B	1231082	0.000023	0.00005	ND	1	GV	08/22/11	
2,3,7,8-TCDD	EPA-5 1613B	1231082	0.000005	0.000013	ND	1	GV	08/22/11	
2,3,7,8-TCDF	EPA-5 1613B	1231082	0.0000032	0.000029	ND	1	GV	08/22/11	
OCDD	EPA-5 1613B	1231082	0.000011	0.0001	1.1e-005	1	GV	08/22/11	J, B
OCDF	EPA-5 1613B	1231082	0.000012	0.0001	1.2e-005	1	GV	08/22/11	J, Q, B
Total HpCDD	EPA-5 1613B	1231082	0.0000054	0.00005	ND	1	GV	08/22/11	
Total HpCDF	EPA-5 1613B	1231082	0.0000074	0.00005	8e-006	1	GV	08/22/11	
Total HxCDD	EPA-5 1613B	1231082	0.0000059	0.00005	ND	1	GV	08/22/11	
Total HxCDF	EPA-5 1613B	1231082	0.0000047	0.00005	1.1e-005	1	GV	08/22/11	J, Q, B
Total PeCDD	EPA-5 1613B	1231082	0.000019	0.00005	ND	1	GV	08/22/11	
Total PeCDF	EPA-5 1613B	1231082	0.000023	0.00005	ND	1	GV	08/22/11	
Total TCDD	EPA-5 1613B	1231082	0.000005	0.00001	ND	1	GV	08/22/11	
Total TCDF	EPA-5 1613B	1231082	0.0000032	0.00001	ND	1	GV	08/22/11	

Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)	63 %
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)	80 %
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)	73 %
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)	66 %
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)	81 %
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)	55 %
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)	70 %
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)	77 %
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)	31 %
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)	32 %
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)	77 %
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)	37 %
Surrogate: 13C-2,3,7,8-TCDD (25-164%)	37 %
Surrogate: 13C-2,3,7,8-TCDF (24-169%)	39 %
Surrogate: 13C-OCDD (17-157%)	54 %
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)	82 %

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Sampled: 08/10/11-08/12/11
Received: 08/10/11

900

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUH1217-03 (Outfall 019 (Composite) - Water) - cont.					Sampled: 08/11/11				
Reporting Units: pCi/L									
Gross Alpha	900	8689		3	0.472	1	DVP	09/04/11	U
Gross Beta	900	8689		4	6.82	1	DVP	09/04/11	

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

Project ID: Quarterly Outfall 019
Quarterly Outfall 019
Report Number: IUH1217

Sampled: 08/10/11-08/12/11
Received: 08/10/11

900

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUH1217-04 (Trip Blank - Water)					Sampled: 08/12/11				
Reporting Units: pCi/L									
Gross Alpha	900	8689		3	-0.069	1	DVP	09/04/11	U
Gross Beta	900	8689		4	-0.181	1	DVP	09/04/11	U

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

Project ID: Quarterly Outfall 019
 Quarterly Outfall 019
 Report Number: IUH1217

Sampled: 08/10/11-08/12/11
 Received: 08/10/11

901.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUH1217-03 (Outfall 019 (Composite) - Water)					Sampled: 08/11/11				
Reporting Units: pCi/L									
Cesium-137	901.1	8689		20	ND	1	LS	09/03/11	U
Potassium-40	901.1	8689		25	ND	1	LS	09/03/11	U
Sample ID: IUH1217-04 (Trip Blank - Water)					Sampled: 08/12/11				
Reporting Units: pCi/L									
Cesium-137	901.1	8689		20	ND	1	LS	09/03/11	U
Potassium-40	901.1	8689		25	ND	1	LS	09/03/11	U

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Project ID: Quarterly Outfall 019
Quarterly Outfall 019
Report Number: IUH1217

Sampled: 08/10/11-08/12/11
Received: 08/10/11

903.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUH1217-03 (Outfall 019 (Composite) - Water)					Sampled: 08/11/11				
Reporting Units: pCi/L									
Radium-226	903.1	8689		1	0.039	1	TM	09/12/11	U
Sample ID: IUH1217-04 (Trip Blank - Water)					Sampled: 08/12/11				
Reporting Units: pCi/L									
Radium-226	903.1	8689		1	0.3	1	TM	09/12/11	U

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Project ID: Quarterly Outfall 019
 Quarterly Outfall 019
 Report Number: IUH1217

Sampled: 08/10/11-08/12/11
 Received: 08/10/11

904

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUH1217-03 (Outfall 019 (Composite) - Water)					Sampled: 08/11/11				
Reporting Units: pCi/L									
Radium-228	904	8689		1	0.247	1	ASM	09/09/11	U
Sample ID: IUH1217-04 (Trip Blank - Water)					Sampled: 08/12/11				
Reporting Units: pCi/L									
Radium-228	904	8689		1	-0.015	1	ASM	09/09/11	U

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Project ID: Quarterly Outfall 019
Quarterly Outfall 019
Report Number: IUH1217

Sampled: 08/10/11-08/12/11
Received: 08/10/11

905

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUH1217-03 (Outfall 019 (Composite) - Water)					Sampled: 08/11/11				
Reporting Units: pCi/L									
Strontium-90	905	8689		2	-0.073	1	LS	09/01/11	U
Sample ID: IUH1217-04 (Trip Blank - Water)					Sampled: 08/12/11				
Reporting Units: pCi/L									
Strontium-90	905	8689		2	-0.074	1	LS	09/01/11	U

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Project ID: Quarterly Outfall 019
Quarterly Outfall 019
Report Number: IUH1217

Sampled: 08/10/11-08/12/11
Received: 08/10/11

906

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUH1217-03 (Outfall 019 (Composite) - Water)					Sampled: 08/11/11				
Reporting Units: pCi/L									
Tritium	906	8689		500	13.7	1	WL	08/31/11	U

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Project ID: Quarterly Outfall 019
 Quarterly Outfall 019
 Report Number: IUH1217

Sampled: 08/10/11-08/12/11
 Received: 08/10/11

ASTM-D5174

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUH1217-03 (Outfall 019 (Composite) - Water) - cont.					Sampled: 08/11/11				
Reporting Units: pCi/L									
Uranium, Total	D5174	8689		1	0.115	1	LS	09/05/11	Jb
Sample ID: IUH1217-04 (Trip Blank - Water)					Sampled: 08/12/11				
Reporting Units: pCi/L									
Uranium, Total	D5174	8689		1	ND	1	LS	09/05/11	U

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Project ID: Quarterly Outfall 019
Quarterly Outfall 019
Report Number: IUH1217

Sampled: 08/10/11-08/12/11
Received: 08/10/11

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 019 (Grab) (IUH1217-01) - Water					
SM2540F	2	08/10/2011 12:00	08/10/2011 18:15	08/11/2011 09:10	08/11/2011 09:10
Sample ID: Outfall 019 (Composite) (IUH1217-03) - Water					
EPA 180.1	2	08/11/2011 12:15	08/10/2011 18:15	08/12/2011 10:57	08/12/2011 10:57
EPA 300.0	2	08/11/2011 12:15	08/10/2011 18:15	08/11/2011 22:00	08/12/2011 07:06
Filtration	1	08/11/2011 12:15	08/10/2011 18:15	08/12/2011 14:59	08/12/2011 15:01
SM5210B	2	08/11/2011 12:15	08/10/2011 18:15	08/12/2011 15:00	08/17/2011 15:30
SM5540-C	2	08/11/2011 12:15	08/10/2011 18:15	08/12/2011 19:06	08/12/2011 21:28

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MWH-Pasadena/Boeing
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Project ID: Quarterly Outfall 019
Quarterly Outfall 019
Report Number: IUH1217

Sampled: 08/10/11-08/12/11
Received: 08/10/11

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting			Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
		Limit	MDL	Units							
Batch: 11H2085 Extracted: 08/16/11											
Blank Analyzed: 08/16/2011 (11H2085-BLK1)											
Benzene	ND	0.50	0.28	ug/l	SS						
Carbon tetrachloride	ND	0.50	0.28	ug/l	SS						
Chloroform	ND	0.50	0.33	ug/l	SS						
1,1-Dichloroethane	ND	0.50	0.40	ug/l	SS						
1,2-Dichloroethane	ND	0.50	0.28	ug/l	SS						
1,1-Dichloroethene	ND	0.50	0.42	ug/l	SS						
Ethylbenzene	ND	0.50	0.25	ug/l	SS						
Tetrachloroethene	ND	0.50	0.32	ug/l	SS						
Toluene	ND	0.50	0.36	ug/l	SS						
1,1,1-Trichloroethane	ND	0.50	0.30	ug/l	SS						
1,1,2-Trichloroethane	ND	0.50	0.30	ug/l	SS						
Trichloroethene	ND	0.50	0.26	ug/l	SS						
Trichlorofluoromethane	ND	0.50	0.34	ug/l	SS						
Trichlorotrifluoroethane (Freon 113)	ND	5.0	0.50	ug/l	SS						
Vinyl chloride	ND	0.50	0.40	ug/l	SS						
Xylenes, Total	ND	1.5	0.90	ug/l	SS						
Surrogate: 4-Bromofluorobenzene	24.8			ug/l	SS	25.0	99	80-120			
Surrogate: Dibromofluoromethane	23.5			ug/l	SS	25.0	94	80-120			
Surrogate: Toluene-d8	26.5			ug/l	SS	25.0	106	80-120			
LCS Analyzed: 08/16/2011 (11H2085-BS1)											
Benzene	23.0	0.50	0.28	ug/l	SS	25.0	92	70-120			
Carbon tetrachloride	26.2	0.50	0.28	ug/l	SS	25.0	105	65-140			
Chloroform	23.6	0.50	0.33	ug/l	SS	25.0	94	70-130			
1,1-Dichloroethane	23.2	0.50	0.40	ug/l	SS	25.0	93	70-125			
1,2-Dichloroethane	25.2	0.50	0.28	ug/l	SS	25.0	101	60-140			
1,1-Dichloroethene	23.7	0.50	0.42	ug/l	SS	25.0	95	70-125			
Ethylbenzene	26.0	0.50	0.25	ug/l	SS	25.0	104	75-125			
Tetrachloroethene	26.9	0.50	0.32	ug/l	SS	25.0	107	70-125			
Toluene	24.7	0.50	0.36	ug/l	SS	25.0	99	70-120			
1,1,1-Trichloroethane	25.8	0.50	0.30	ug/l	SS	25.0	103	65-135			
1,1,2-Trichloroethane	26.0	0.50	0.30	ug/l	SS	25.0	104	70-125			
Trichloroethene	26.4	0.50	0.26	ug/l	SS	25.0	105	70-125			
Trichlorofluoromethane	28.0	0.50	0.34	ug/l	SS	25.0	112	65-145			
Vinyl chloride	29.6	0.50	0.40	ug/l	SS	25.0	118	55-135			
Xylenes, Total	81.2	1.5	0.90	ug/l	SS	75.0	108	70-125			

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Project Manager

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618 Michillinda Avenue, Suite 200
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Attention: Bronwyn Kelly

Project ID: Quarterly Outfall 019
Quarterly Outfall 019
Report Number: IUH1217

Sampled: 08/10/11-08/12/11
Received: 08/10/11

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
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Batch: 11H2085 Extracted: 08/16/11

LCS Analyzed: 08/16/2011 (11H2085-BS1)

Surrogate: 4-Bromofluorobenzene	25.2			ug/l	SS	25.0		101	80-120			
Surrogate: Dibromofluoromethane	24.8			ug/l	SS	25.0		99	80-120			
Surrogate: Toluene-d8	26.5			ug/l	SS	25.0		106	80-120			

Matrix Spike Analyzed: 08/16/2011 (11H2085-MS1)

Source: IUH1179-07

Benzene	23.4	0.50	0.28	ug/l	SS	25.0	ND	94	65-125			
Carbon tetrachloride	26.5	0.50	0.28	ug/l	SS	25.0	ND	106	65-140			
Chloroform	24.6	0.50	0.33	ug/l	SS	25.0	ND	99	65-135			
1,1-Dichloroethane	24.6	0.50	0.40	ug/l	SS	25.0	0.510	96	65-130			
1,2-Dichloroethane	25.6	0.50	0.28	ug/l	SS	25.0	ND	102	60-140			
1,1-Dichloroethene	24.9	0.50	0.42	ug/l	SS	25.0	0.560	97	60-130			
Ethylbenzene	25.6	0.50	0.25	ug/l	SS	25.0	ND	103	65-130			
Tetrachloroethene	26.6	0.50	0.32	ug/l	SS	25.0	ND	106	65-130			
Toluene	25.5	0.50	0.36	ug/l	SS	25.0	0.540	100	70-125			
1,1,1-Trichloroethane	26.6	0.50	0.30	ug/l	SS	25.0	ND	106	65-140			
1,1,2-Trichloroethane	26.7	0.50	0.30	ug/l	SS	25.0	ND	107	65-130			
Trichloroethene	51.0	0.50	0.26	ug/l	SS	25.0	27.4	94	65-125			
Trichlorofluoromethane	28.9	0.50	0.34	ug/l	SS	25.0	ND	116	60-145			
Vinyl chloride	29.8	0.50	0.40	ug/l	SS	25.0	ND	119	45-140			
Xylenes, Total	79.3	1.5	0.90	ug/l	SS	75.0	ND	106	60-130			
Surrogate: 4-Bromofluorobenzene	25.1			ug/l	SS	25.0		100	80-120			
Surrogate: Dibromofluoromethane	25.9			ug/l	SS	25.0		104	80-120			
Surrogate: Toluene-d8	26.5			ug/l	SS	25.0		106	80-120			

Matrix Spike Dup Analyzed: 08/16/2011 (11H2085-MSD1)

Source: IUH1179-07

Benzene	25.0	0.50	0.28	ug/l	SS	25.0	ND	100	65-125	6	20	
Carbon tetrachloride	29.5	0.50	0.28	ug/l	SS	25.0	ND	118	65-140	11	25	
Chloroform	26.7	0.50	0.33	ug/l	SS	25.0	ND	107	65-135	8	20	
1,1-Dichloroethane	26.2	0.50	0.40	ug/l	SS	25.0	0.510	103	65-130	6	20	
1,2-Dichloroethane	28.0	0.50	0.28	ug/l	SS	25.0	ND	112	60-140	9	20	
1,1-Dichloroethene	26.5	0.50	0.42	ug/l	SS	25.0	0.560	104	60-130	6	20	
Ethylbenzene	27.5	0.50	0.25	ug/l	SS	25.0	ND	110	65-130	7	20	
Tetrachloroethene	28.6	0.50	0.32	ug/l	SS	25.0	ND	114	65-130	7	20	
Toluene	27.4	0.50	0.36	ug/l	SS	25.0	0.540	107	70-125	7	20	
1,1,1-Trichloroethane	28.6	0.50	0.30	ug/l	SS	25.0	ND	114	65-140	7	20	
1,1,2-Trichloroethane	29.5	0.50	0.30	ug/l	SS	25.0	ND	118	65-130	10	25	

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Project ID: Quarterly Outfall 019
 Quarterly Outfall 019
 Report Number: IUH1217

Sampled: 08/10/11-08/12/11
 Received: 08/10/11

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting		MDL	Units	Analyst	Spike Level	Source		%REC		RPD	RPD Limit	Data Qualifiers
		Limit						Result	%REC	Limits	RPD			
Batch: 11H2085 Extracted: 08/16/11														
Matrix Spike Dup Analyzed: 08/16/2011 (11H2085-MSD1)							Source: IUH1179-07							
Trichloroethene	54.9	0.50		0.26	ug/l	SS	25.0	27.4	110	65-125	7		20	
Trichlorofluoromethane	30.5	0.50		0.34	ug/l	SS	25.0	ND	122	60-145	5		25	
Vinyl chloride	31.7	0.50		0.40	ug/l	SS	25.0	ND	127	45-140	6		30	
Xylenes, Total	84.3	1.5		0.90	ug/l	SS	75.0	ND	112	60-130	6		20	
Surrogate: 4-Bromofluorobenzene	25.4				ug/l	SS	25.0		102	80-120				
Surrogate: Dibromofluoromethane	25.8				ug/l	SS	25.0		103	80-120				
Surrogate: Toluene-d8	26.6				ug/l	SS	25.0		106	80-120				

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Report Number: IUH1217

Sampled: 08/10/11-08/12/11
Received: 08/10/11

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11H1854 Extracted: 08/14/11												
Blank Analyzed: 08/15/2011 (11H1854-BLK1)												
Bis(2-ethylhexyl)phthalate	ND	5.00	1.70	ug/l	UP\							
2,4-Dinitrotoluene	ND	5.00	0.200	ug/l	UP\							
N-Nitrosodimethylamine	ND	5.00	0.100	ug/l	UP\							
Pentachlorophenol	ND	5.00	0.100	ug/l	UP\							
2,4,6-Trichlorophenol	ND	6.00	0.100	ug/l	UP\							
Surrogate: 2,4,6-Tribromophenol	17.6			ug/l	UP\	20.0		88	40-120			
Surrogate: 2-Fluorobiphenyl	7.32			ug/l	UP\	10.0		73	50-120			
Surrogate: 2-Fluorophenol	14.5			ug/l	UP\	20.0		72	30-120			
Surrogate: Nitrobenzene-d5	7.40			ug/l	UP\	10.0		74	45-120			
Surrogate: Phenol-d6	14.5			ug/l	UP\	20.0		72	35-120			
Surrogate: Terphenyl-d14	9.04			ug/l	UP\	10.0		90	50-125			
LCS Analyzed: 08/15/2011 (11H1854-BS1)												
Bis(2-ethylhexyl)phthalate	11.0	5.00	1.70	ug/l	UP\	10.0		110	65-130			
2,4-Dinitrotoluene	9.82	5.00	0.200	ug/l	UP\	10.0		98	65-120			
N-Nitrosodimethylamine	8.70	5.00	0.100	ug/l	UP\	10.0		87	45-120			
Pentachlorophenol	10.9	5.00	0.100	ug/l	UP\	10.0		109	24-121			
2,4,6-Trichlorophenol	10.8	6.00	0.100	ug/l	UP\	10.0		108	55-120			
Surrogate: 2,4,6-Tribromophenol	23.0			ug/l	UP\	20.0		115	40-120			
Surrogate: 2-Fluorobiphenyl	9.30			ug/l	UP\	10.0		93	50-120			
Surrogate: 2-Fluorophenol	15.9			ug/l	UP\	20.0		80	30-120			
Surrogate: Nitrobenzene-d5	9.10			ug/l	UP\	10.0		91	45-120			
Surrogate: Phenol-d6	16.5			ug/l	UP\	20.0		83	35-120			
Surrogate: Terphenyl-d14	10.5			ug/l	UP\	10.0		105	50-125			
Matrix Spike Analyzed: 08/15/2011 (11H1854-MS1)						Source: IUH1255-01						
Bis(2-ethylhexyl)phthalate	9.63	4.90	1.67	ug/l	UP\	9.80	ND	98	65-130			
2,4-Dinitrotoluene	8.04	4.90	0.196	ug/l	UP\	9.80	ND	82	65-120			
N-Nitrosodimethylamine	6.94	4.90	0.0980	ug/l	UP\	9.80	ND	71	45-120			
Pentachlorophenol	10.6	4.90	0.0980	ug/l	UP\	9.80	ND	109	24-121			
2,4,6-Trichlorophenol	9.61	5.88	0.0980	ug/l	UP\	9.80	ND	98	55-120			
Surrogate: 2,4,6-Tribromophenol	19.1			ug/l	UP\	19.6		97	40-120			
Surrogate: 2-Fluorobiphenyl	7.35			ug/l	UP\	9.80		75	50-120			
Surrogate: 2-Fluorophenol	13.3			ug/l	UP\	19.6		68	30-120			
Surrogate: Nitrobenzene-d5	7.20			ug/l	UP\	9.80		73	45-120			
Surrogate: Phenol-d6	13.5			ug/l	UP\	19.6		69	35-120			

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Project ID: Quarterly Outfall 019
 Quarterly Outfall 019
 Report Number: IUH1217

Sampled: 08/10/11-08/12/11
 Received: 08/10/11

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11H1854 Extracted: 08/14/11												
Matrix Spike Analyzed: 08/15/2011 (11H1854-MS1)						Source: IUH1255-01						
Surrogate: Terphenyl-d14	8.76			ug/l	UP\	9.80		89	50-125			
Matrix Spike Dup Analyzed: 08/15/2011 (11H1854-MSD1)						Source: IUH1255-01						
Bis(2-ethylhexyl)phthalate	10.5	4.90	1.67	ug/l	UP\	9.80	ND	107	65-130	9	25	
2,4-Dinitrotoluene	8.53	4.90	0.196	ug/l	UP\	9.80	ND	87	65-120	6	25	
N-Nitrosodimethylamine	7.37	4.90	0.0980	ug/l	UP\	9.80	ND	75	45-120	6	25	
Pentachlorophenol	11.3	4.90	0.0980	ug/l	UP\	9.80	ND	115	24-121	6	25	
2,4,6-Trichlorophenol	9.98	5.88	0.0980	ug/l	UP\	9.80	ND	102	55-120	4	30	
Surrogate: 2,4,6-Tribromophenol	20.5			ug/l	UP\	19.6		104	40-120			
Surrogate: 2-Fluorobiphenyl	7.86			ug/l	UP\	9.80		80	50-120			
Surrogate: 2-Fluorophenol	13.1			ug/l	UP\	19.6		67	30-120			
Surrogate: Nitrobenzene-d5	7.90			ug/l	UP\	9.80		81	45-120			
Surrogate: Phenol-d6	13.6			ug/l	UP\	19.6		70	35-120			
Surrogate: Terphenyl-d14	9.67			ug/l	UP\	9.80		99	50-125			

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 Quarterly Outfall 019
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METHOD BLANK/QC DATA

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Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11H1644 Extracted: 08/12/11												
Blank Analyzed: 08/12/2011 (11H1644-BLK1)												
alpha-BHC	ND	0.010	0.0025	ug/l	CN							
Surrogate: Decachlorobiphenyl	0.412			ug/l	CN	0.500		82	45-120			
Surrogate: Tetrachloro-m-xylene	0.373			ug/l	CN	0.500		75	35-115			
LCS Analyzed: 08/12/2011 (11H1644-BS1)												
alpha-BHC	0.394	0.010	0.0025	ug/l	CN	0.500		79	45-115			
Surrogate: Decachlorobiphenyl	0.444			ug/l	CN	0.500		89	45-120			
Surrogate: Tetrachloro-m-xylene	0.434			ug/l	CN	0.500		87	35-115			
Matrix Spike Analyzed: 08/13/2011 (11H1644-MS1)						Source: IUH1255-01						
alpha-BHC	0.285	0.0095	0.0024	ug/l	CN	0.474	ND	60	40-120			
Surrogate: Decachlorobiphenyl	0.360			ug/l	CN	0.474		76	45-120			
Surrogate: Tetrachloro-m-xylene	0.307			ug/l	CN	0.474		65	35-115			
Matrix Spike Dup Analyzed: 08/13/2011 (11H1644-MSD1)						Source: IUH1255-01						
alpha-BHC	0.304	0.0095	0.0024	ug/l	CN	0.474	ND	64	40-120	6	30	
Surrogate: Decachlorobiphenyl	0.385			ug/l	CN	0.474		81	45-120			
Surrogate: Tetrachloro-m-xylene	0.322			ug/l	CN	0.474		68	35-115			

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METHOD BLANK/QC DATA

HEXANE EXTRACTABLE MATERIAL

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11H3062 Extracted: 08/23/11												
Blank Analyzed: 08/23/2011 (11H3062-BLK1)												
Hexane Extractable Material (Oil & Grease)	ND	5.0	1.4	mg/l	DA							
LCS Analyzed: 08/23/2011 (11H3062-BS1)												
Hexane Extractable Material (Oil & Grease)	19.1	5.0	1.4	mg/l	DA	20.0		96	78-114			
LCS Dup Analyzed: 08/23/2011 (11H3062-BSD1)												
Hexane Extractable Material (Oil & Grease)	18.9	5.0	1.4	mg/l	DA	20.0		94	78-114	1	11	
Matrix Spike Analyzed: 08/23/2011 (11H3062-MS1)												
Hexane Extractable Material (Oil & Grease)	17.7	4.8	1.3	mg/l	DA	19.1	ND	92	78-114			

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METALS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11H1983 Extracted: 08/15/11												
Blank Analyzed: 08/17/2011 (11H1983-BLK1)												
Mercury	ND	0.20	0.10	ug/l	DB							
LCS Analyzed: 08/17/2011 (11H1983-BS1)												
Mercury	7.75	0.20	0.10	ug/l	DB	8.00		97	85-115			
Matrix Spike Analyzed: 08/17/2011 (11H1983-MS1)												
						Source: IUH1445-01						
Mercury	7.48	0.20	0.10	ug/l	DB	8.00	ND	93	70-130			
Matrix Spike Dup Analyzed: 08/17/2011 (11H1983-MSD1)												
						Source: IUH1445-01						
Mercury	7.43	0.20	0.10	ug/l	DB	8.00	ND	93	70-130	0.6	20	
Batch: 11H2183 Extracted: 08/16/11												
Blank Analyzed: 08/16/2011 (11H2183-BLK1)												
Calcium	ND	0.10	0.050	mg/l	NH							
Magnesium	ND	0.020	0.012	mg/l	NH							
Zinc	ND	20.0	6.00	ug/l	NH							
LCS Analyzed: 08/16/2011 (11H2183-BS1)												
Calcium	2.50	0.10	0.050	mg/l	NH	2.50		100	85-115			
Magnesium	2.54	0.020	0.012	mg/l	NH	2.50		102	85-115			
Zinc	493	20.0	6.00	ug/l	NH	500		99	85-115			
Matrix Spike Analyzed: 08/16/2011-08/18/2011 (11H2183-MS1)												
						Source: IUH1217-03						
Calcium	124	0.10	0.050	mg/l	NH	2.50	123	49	70-130			MHA
Magnesium	24.2	0.020	0.012	mg/l	TK	2.50	21.2	122	70-130			MHA
Zinc	501	20.0	6.00	ug/l	NH	500	ND	100	70-130			

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METALS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11H2183 Extracted: 08/16/11												
Matrix Spike Dup Analyzed: 08/16/2011-08/18/2011 (11H2183-MSD1)						Source: IUH1217-03						
Calcium	120	0.10	0.050	mg/l	NH	2.50	123	-99	70-130	3	20	MHA
Magnesium	23.7	0.020	0.012	mg/l	TK	2.50	21.2	101	70-130	2	20	MHA
Zinc	497	20.0	6.00	ug/l	NH	500	ND	99	70-130	0.7	20	

Batch: 11H2524 Extracted: 08/18/11

Blank Analyzed: 08/18/2011-08/19/2011 (11H2524-BLK1)

Cadmium	ND	1.0	0.10	ug/l	LL							
Copper	ND	2.00	0.500	ug/l	kb1							
Lead	ND	1.0	0.20	ug/l	LL							
Selenium	ND	2.0	0.50	ug/l	LL							

LCS Analyzed: 08/18/2011-08/19/2011 (11H2524-BS1)

Cadmium	83.3	1.0	0.10	ug/l	LL	80.0		104	85-115			
Copper	82.0	2.00	0.500	ug/l	kb1	80.0		102	85-115			
Lead	82.0	1.0	0.20	ug/l	LL	80.0		103	85-115			
Selenium	85.6	2.0	0.50	ug/l	LL	80.0		107	85-115			

Matrix Spike Analyzed: 08/18/2011-08/19/2011 (11H2524-MS1)

Source: IUH1446-01

Cadmium	82.0	1.0	0.10	ug/l	LL	80.0	ND	103	70-130			
Copper	81.0	2.00	0.500	ug/l	kb1	80.0	1.82	99	70-130			
Lead	82.0	1.0	0.20	ug/l	LL	80.0	1.34	101	70-130			
Selenium	83.5	2.0	0.50	ug/l	LL	80.0	ND	104	70-130			

Matrix Spike Analyzed: 08/18/2011-08/19/2011 (11H2524-MS2)

Source: IUH1217-03

Cadmium	83.3	1.0	0.10	ug/l	LL	80.0	ND	104	70-130			
Copper	77.5	2.00	0.500	ug/l	kb1	80.0	ND	97	70-130			
Lead	81.7	1.0	0.20	ug/l	LL	80.0	ND	102	70-130			
Selenium	84.7	2.0	0.50	ug/l	LL	80.0	ND	106	70-130			

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting		MDL	Units	Analyst	Spike Level	Source		%REC		RPD	Limit	Data Qualifiers
		Limit						Result	%REC	Limits	RPD			
Batch: 11H2524 Extracted: 08/18/11														
Matrix Spike Dup Analyzed: 08/18/2011-08/19/2011 (11H2524-MSD1)							Source: IUH1446-01							
Cadmium	80.7	1.0		0.10	ug/l	LL	80.0	ND	101	70-130	2		20	
Copper	79.2	2.00		0.500	ug/l	kb1	80.0	1.82	97	70-130	2		20	
Lead	81.4	1.0		0.20	ug/l	LL	80.0	1.34	100	70-130	0.7		20	
Selenium	84.8	2.0		0.50	ug/l	LL	80.0	ND	106	70-130	2		20	

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METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11H1985 Extracted: 08/15/11												
Blank Analyzed: 08/17/2011 (11H1985-BLK1)												
Mercury	ND	0.20	0.10	ug/l	DB							
LCS Analyzed: 08/17/2011 (11H1985-BS1)												
Mercury	8.02	0.20	0.10	ug/l	DB	8.00		100	85-115			
Matrix Spike Analyzed: 08/17/2011 (11H1985-MS1)												
						Source: IUH1374-06						
Mercury	8.29	0.20	0.10	ug/l	DB	8.00	ND	104	70-130			
Matrix Spike Dup Analyzed: 08/17/2011 (11H1985-MSD1)												
						Source: IUH1374-06						
Mercury	8.25	0.20	0.10	ug/l	DB	8.00	ND	103	70-130	0.5	20	
Batch: 11H2150 Extracted: 08/16/11												
Blank Analyzed: 08/18/2011 (11H2150-BLK1)												
Calcium	0.0793	0.10	0.050	mg/l	TK							Ja
Magnesium	0.0129	0.020	0.012	mg/l	TK							Ja
Zinc	ND	20.0	6.00	ug/l	TK							
LCS Analyzed: 08/18/2011 (11H2150-BS1)												
Calcium	2.58	0.10	0.050	mg/l	TK	2.50		103	85-115			
Magnesium	2.58	0.020	0.012	mg/l	TK	2.50		103	85-115			
Zinc	495	20.0	6.00	ug/l	TK	500		99	85-115			
Matrix Spike Analyzed: 08/18/2011 (11H2150-MS1)												
						Source: IUH1243-06						
Calcium	34.0	0.10	0.050	mg/l	TK	2.50	32.2	70	70-130			MHA
Magnesium	18.4	0.020	0.012	mg/l	TK	2.50	16.1	93	70-130			MHA
Zinc	617	20.0	6.00	ug/l	TK	500	12.5	121	70-130			

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METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11H2150 Extracted: 08/16/11												
Matrix Spike Dup Analyzed: 08/18/2011 (11H2150-MSD1)						Source: IUH1243-06						
Calcium	34.5	0.10	0.050	mg/l	TK	2.50	32.2	91	70-130	2	20	MHA
Magnesium	18.6	0.020	0.012	mg/l	TK	2.50	16.1	102	70-130	1	20	MHA
Zinc	513	20.0	6.00	ug/l	TK	500	12.5	100	70-130	18	20	

Batch: 11H2553 Extracted: 08/18/11

Blank Analyzed: 08/18/2011 (11H2553-BLK1)

Cadmium	ND	1.0	0.10	ug/l	RDC							
Copper	ND	2.00	0.500	ug/l	RDC							
Lead	ND	1.0	0.20	ug/l	RDC							
Selenium	ND	2.0	0.50	ug/l	RDC							

LCS Analyzed: 08/18/2011 (11H2553-BS1)

Cadmium	82.1	1.0	0.10	ug/l	RDC	80.0		103	85-115			
Copper	81.6	2.00	0.500	ug/l	RDC	80.0		102	85-115			
Lead	79.3	1.0	0.20	ug/l	RDC	80.0		99	85-115			
Selenium	81.1	2.0	0.50	ug/l	RDC	80.0		101	85-115			

Matrix Spike Analyzed: 08/18/2011 (11H2553-MS1)

Source: IUH1357-01

Cadmium	78.3	1.0	0.10	ug/l	RDC	80.0	ND	98	70-130			
Copper	74.3	2.00	0.500	ug/l	RDC	80.0	0.895	92	70-130			
Lead	77.4	1.0	0.20	ug/l	RDC	80.0	ND	97	70-130			
Selenium	84.2	2.0	0.50	ug/l	RDC	80.0	4.70	99	70-130			

Matrix Spike Dup Analyzed: 08/18/2011 (11H2553-MSD1)

Source: IUH1357-01

Cadmium	81.1	1.0	0.10	ug/l	RDC	80.0	ND	101	70-130	4	20	
Copper	75.0	2.00	0.500	ug/l	RDC	80.0	0.895	93	70-130	0.8	20	
Lead	77.4	1.0	0.20	ug/l	RDC	80.0	ND	97	70-130	0.06	20	
Selenium	86.5	2.0	0.50	ug/l	RDC	80.0	4.70	102	70-130	3	20	

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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11H1451 Extracted: 08/11/11												
Blank Analyzed: 08/11/2011 (11H1451-BLK1)												
Specific Conductance	ND	1.0	1.0	µs/cm @	MC							
LCS Analyzed: 08/11/2011 (11H1451-BS1)												
Specific Conductance	1370	1.0	1.0	µs/cm @	MC	1410		97	90-110			
Duplicate Analyzed: 08/11/2011 (11H1451-DUP1)												
Specific Conductance	903	1.0	1.0	µs/cm @	MC		892			1	5	
Source: IUH1170-01												
Batch: 11H1592 Extracted: 08/11/11												
Blank Analyzed: 08/11/2011 (11H1592-BLK1)												
Chloride	ND	0.50	0.30	mg/l	NN							
Nitrate-N	ND	0.11	0.060	mg/l	NN							
Nitrite-N	ND	0.15	0.090	mg/l	NN							
Nitrate/Nitrite-N	ND	0.26	0.15	mg/l	NN							
Sulfate	ND	0.50	0.30	mg/l	NN							
LCS Analyzed: 08/11/2011 (11H1592-BS1)												
Chloride	5.00	0.50	0.30	mg/l	NN	5.00		100	90-110			
Nitrate-N	1.14	0.11	0.060	mg/l	NN	1.13		101	90-110			
Nitrite-N	1.50	0.15	0.090	mg/l	NN	1.52		99	90-110			
Sulfate	10.0	0.50	0.30	mg/l	NN	10.0		100	90-110			
Matrix Spike Analyzed: 08/12/2011 (11H1592-MS1)												
Chloride	67.2	5.0	3.0	mg/l	NN	50.0	18.1	98	80-120			
Nitrate-N	21.4	1.1	0.60	mg/l	NN	11.3	9.34	107	80-120			
Nitrite-N	15.0	1.5	0.90	mg/l	NN	15.2	ND	99	80-120			
Sulfate	179	5.0	3.0	mg/l	NN	100	71.7	107	80-120			

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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11H1592 Extracted: 08/11/11</u>												
Matrix Spike Analyzed: 08/12/2011 (11H1592-MS2)						Source: IUH1360-01						
Chloride	141	10	6.0	mg/l	NN	50.0	100	82	80-120			
Nitrate-N	10.2	2.2	1.2	mg/l	NN	11.3	0.330	87	80-120			
Nitrite-N	14.3	3.0	1.8	mg/l	NN	15.2	ND	94	80-120			
Sulfate	274	10	6.0	mg/l	NN	100	183	91	80-120			
Matrix Spike Dup Analyzed: 08/12/2011 (11H1592-MSD1)						Source: IUH1317-01						
Chloride	67.3	5.0	3.0	mg/l	NN	50.0	18.1	98	80-120	0.1	20	
Nitrate-N	21.4	1.1	0.60	mg/l	NN	11.3	9.34	107	80-120	0.02	20	
Nitrite-N	15.1	1.5	0.90	mg/l	NN	15.2	ND	99	80-120	0.7	20	
Sulfate	179	5.0	3.0	mg/l	NN	100	71.7	107	80-120	0.1	20	
<u>Batch: 11H1636 Extracted: 08/12/11</u>												
Blank Analyzed: 08/12/2011 (11H1636-BLK1)												
Total Dissolved Solids	ND	10	1.0	mg/l	MC							
LCS Analyzed: 08/12/2011 (11H1636-BS1)												
Total Dissolved Solids	1000	10	1.0	mg/l	MC	1000		100	90-110			
Duplicate Analyzed: 08/12/2011 (11H1636-DUP1)						Source: IUH1316-01						
Total Dissolved Solids	162	10	1.0	mg/l	MC		160			1	10	
<u>Batch: 11H1642 Extracted: 08/12/11</u>												
Blank Analyzed: 08/12/2011 (11H1642-BLK1)												
Perchlorate	ND	4.0	0.95	ug/l	mn							

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Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11H1642 Extracted: 08/12/11</u>												
LCS Analyzed: 08/12/2011 (11H1642-BS1)												
Perchlorate	26.6	4.0	0.95	ug/l	mn	25.0		106	85-115			
Matrix Spike Analyzed: 08/12/2011 (11H1642-MS1)												
Perchlorate	57.3	4.0	0.95	ug/l	mn	25.0	30.6	107	80-120			
Matrix Spike Dup Analyzed: 08/12/2011 (11H1642-MSD1)												
Perchlorate	56.5	4.0	0.95	ug/l	mn	25.0	30.6	104	80-120	1	20	
<u>Batch: 11H1701 Extracted: 08/12/11</u>												
Blank Analyzed: 08/12/2011 (11H1701-BLK1)												
Turbidity	ND	1.0	0.040	NTU	RRZ							
Duplicate Analyzed: 08/12/2011 (11H1701-DUP1)												
Turbidity	ND	1.0	0.040	NTU	RRZ		ND				20	
<u>Batch: 11H1767 Extracted: 08/12/11</u>												
Blank Analyzed: 08/17/2011 (11H1767-BLK1)												
Biochemical Oxygen Demand	ND	2.0	0.50	mg/l	XL							
LCS Analyzed: 08/17/2011 (11H1767-BS1)												
Biochemical Oxygen Demand	205	100	25	mg/l	XL	198		104	85-115			
LCS Dup Analyzed: 08/17/2011 (11H1767-BSD1)												
Biochemical Oxygen Demand	211	100	25	mg/l	XL	198		107	85-115	3	20	

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Project ID: Quarterly Outfall 019
 Quarterly Outfall 019
 Report Number: IUH1217

Sampled: 08/10/11-08/12/11
 Received: 08/10/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11H1778 Extracted: 08/12/11</u>												
Blank Analyzed: 08/12/2011 (11H1778-BLK1)												
Surfactants (MBAS)	ND	0.10	0.050	mg/l	SLA							
LCS Analyzed: 08/12/2011 (11H1778-BS1)												
Surfactants (MBAS)	0.258	0.10	0.050	mg/l	SLA	0.250		103	90-110			
Matrix Spike Analyzed: 08/12/2011 (11H1778-MS1)												
Surfactants (MBAS)	0.247	0.10	0.050	mg/l	SLA	0.250	ND	99	50-125			
Matrix Spike Dup Analyzed: 08/12/2011 (11H1778-MSD1)												
Surfactants (MBAS)	0.244	0.10	0.050	mg/l	SLA	0.250	ND	98	50-125	1	20	
<u>Batch: 11H1781 Extracted: 08/12/11</u>												
Blank Analyzed: 08/12/2011 (11H1781-BLK1)												
Total Suspended Solids	ND	10	1.0	mg/l	DK1							
LCS Analyzed: 08/12/2011 (11H1781-BS1)												
Total Suspended Solids	1000	10	1.0	mg/l	DK1	1000		100	85-115			
Duplicate Analyzed: 08/12/2011 (11H1781-DUP1)												
Total Suspended Solids	26.0	10	1.0	mg/l	DK1		25.0			4	10	
<u>Batch: 11H2384 Extracted: 08/17/11</u>												
Blank Analyzed: 08/17/2011 (11H2384-BLK1)												
Ammonia-N (Distilled)	ND	0.500	0.500	mg/l	NCP							

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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11H2384 Extracted: 08/17/11												
LCS Analyzed: 08/17/2011 (11H2384-BS1)												
Ammonia-N (Distilled)	9.52	0.500	0.500	mg/l	NCP	10.0		95	80-115			
Matrix Spike Analyzed: 08/17/2011 (11H2384-MS1)												
Ammonia-N (Distilled)	9.80	0.500	0.500	mg/l	NCP	10.0	ND	98	70-120			
Matrix Spike Dup Analyzed: 08/17/2011 (11H2384-MSD1)												
Ammonia-N (Distilled)	9.80	0.500	0.500	mg/l	NCP	10.0	ND	98	70-120	0	15	
Batch: 11H2754 Extracted: 08/19/11												
Blank Analyzed: 08/19/2011 (11H2754-BLK1)												
Total Cyanide	ND	5.0	2.2	ug/l	SLA							
LCS Analyzed: 08/19/2011 (11H2754-BS1)												
Total Cyanide	106	5.0	2.2	ug/l	SLA	100		106	90-110			
Matrix Spike Analyzed: 08/19/2011 (11H2754-MS1)												
Total Cyanide	101	5.0	2.2	ug/l	SLA	100	ND	101	70-115			
Matrix Spike Dup Analyzed: 08/19/2011 (11H2754-MSD1)												
Total Cyanide	93.7	5.0	2.2	ug/l	SLA	100	ND	94	70-115	7	15	
Batch: 11H2889 Extracted: 08/22/11												
Blank Analyzed: 08/22/2011 (11H2889-BLK1)												
Total Organic Carbon	ND	1.0	0.50	mg/l	FZ							

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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11H2889 Extracted: 08/22/11</u>												
LCS Analyzed: 08/22/2011 (11H2889-BS1)												
Total Organic Carbon	9.70	1.0	0.50	mg/l	FZ	10.0		97	90-110			
Matrix Spike Analyzed: 08/22/2011 (11H2889-MS1)												
Total Organic Carbon	14.2	1.0	0.50	mg/l	FZ	5.00	11.7	50	80-120			M2
Matrix Spike Dup Analyzed: 08/22/2011 (11H2889-MSD1)												
Total Organic Carbon	13.6	1.0	0.50	mg/l	FZ	5.00	11.7	38	80-120	4	20	M2

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Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1231082 Extracted: 08/19/11												
Blank Analyzed: 08/22/2011 (G1H190000082B)						Source:						
1,2,3,4,6,7,8-HpCDD	ND	0.00005	0.000009	ug/L	GV			-				
1,2,3,4,6,7,8-HpCDF	7.8e-006	0.00005	0.000009	ug/L	GV			-				J, Q
1,2,3,4,7,8,9-HpCDF	ND	0.00005	0.000013	ug/L	GV			-				
1,2,3,4,7,8-HxCDD	ND	0.00005	0.000008	ug/L	GV			-				
1,2,3,4,7,8-HxCDF	1.3e-005	0.00005	0.000006	ug/L	GV			-				J
1,2,3,6,7,8-HxCDD	ND	0.00005	0.000007	ug/L	GV			-				
1,2,3,6,7,8-HxCDF	ND	0.00005	0.000006	ug/L	GV			-				
1,2,3,7,8,9-HxCDD	ND	0.00005	0.000006	ug/L	GV			-				
1,2,3,7,8,9-HxCDF	ND	0.00005	0.000007	ug/L	GV			-				
1,2,3,7,8-PeCDD	ND	0.00005	0.000026	ug/L	GV			-				
1,2,3,7,8-PeCDF	ND	0.00005	0.000025	ug/L	GV			-				
2,3,4,6,7,8-HxCDF	ND	0.00005	0.000005	ug/L	GV			-				
2,3,4,7,8-PeCDF	ND	0.00005	0.000025	ug/L	GV			-				
2,3,7,8-TCDD	ND	0.000015	0.000003	ug/L	GV			-				
2,3,7,8-TCDF	ND	0.000036	0.000006	ug/L	GV			-				
OCDD	2.5e-005	0.0001	0.000015	ug/L	GV			-				J, Q
OCDF	1.5e-005	0.0001	0.000014	ug/L	GV			-				J, Q
Total HpCDD	ND	0.00005	0.000009	ug/L	GV			-				
Total HpCDF	7.8e-006	0.00005	0.000011	ug/L	GV			-				J, Q
Total HxCDD	ND	0.00005	0.000006	ug/L	GV			-				
Total HxCDF	1.6e-005	0.00005	0.000006	ug/L	GV			-				J, Q
Total PeCDD	ND	0.00005	0.000026	ug/L	GV			-				
Total PeCDF	ND	0.00005	0.000025	ug/L	GV			-				
Total TCDD	ND	0.00001	0.000003	ug/L	GV			-				
Total TCDF	ND	0.00001	0.000006	ug/L	GV			-				
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.00093			ug/L	GV	0.002		47		23-140		
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0011			ug/L	GV	0.002		54		28-143		
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.0011			ug/L	GV	0.002		54		26-138		
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.001			ug/L	GV	0.002		52		32-141		
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.0012			ug/L	GV	0.002		58		26-152		
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00081			ug/L	GV	0.002		41		28-130		
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.001			ug/L	GV	0.002		52		26-123		
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.0012			ug/L	GV	0.002		59		29-147		
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00048			ug/L	GV	0.002		24		25-181		*
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00056			ug/L	GV	0.002		28		24-185		

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Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 1231082 Extracted: 08/19/11												
Blank Analyzed: 08/22/2011 (G1H190000082B)						Source:						
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.0012			ug/L	GV	0.002		60		28-136		
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00061			ug/L	GV	0.002		31		21-178		
Surrogate: 13C-2,3,7,8-TCDD	0.00065			ug/L	GV	0.002		32		25-164		
Surrogate: 13C-2,3,7,8-TCDF	0.00067			ug/L	GV	0.002		33		24-169		
Surrogate: 13C-OCDD	0.0015			ug/L	GV	0.004		37		17-157		
Surrogate: 37Cl4-2,3,7,8-TCDD	0.00069			ug/L	GV	0.0008		87		35-197		
LCS Analyzed: 08/22/2011 (G1H190000082C)						Source:						
1,2,3,4,6,7,8-HpCDD	0.00114	0.00005	0.000016	ug/L	GV	0.001		114		70-140		
1,2,3,4,6,7,8-HpCDF	0.00105	0.00005	0.000016	ug/L	GV	0.001		105		82-122		
1,2,3,4,7,8,9-HpCDF	0.00103	0.00005	0.000022	ug/L	GV	0.001		103		78-138		
1,2,3,4,7,8-HxCDD	0.00122	0.00005	0.000015	ug/L	GV	0.001		122		70-164		
1,2,3,4,7,8-HxCDF	0.0011	0.00005	0.000011	ug/L	GV	0.001		110		72-134		
1,2,3,6,7,8-HxCDD	0.00121	0.00005	0.000014	ug/L	GV	0.001		121		76-134		
1,2,3,6,7,8-HxCDF	0.00109	0.00005	0.00001	ug/L	GV	0.001		109		84-130		
1,2,3,7,8,9-HxCDD	0.00126	0.00005	0.000012	ug/L	GV	0.001		126		64-162		
1,2,3,7,8,9-HxCDF	0.00112	0.00005	0.000012	ug/L	GV	0.001		112		78-130		
1,2,3,7,8-PeCDD	0.00123	0.00005	0.000031	ug/L	GV	0.001		123		70-142		
1,2,3,7,8-PeCDF	0.00117	0.00005	0.000041	ug/L	GV	0.001		117		80-134		
2,3,4,6,7,8-HxCDF	0.00108	0.00005	0.000009	ug/L	GV	0.001		108		70-156		
2,3,4,7,8-PeCDF	0.00111	0.00005	0.000038	ug/L	GV	0.001		111		68-160		
2,3,7,8-TCDD	0.00021	0.00002	0.00002	ug/L	GV	0.0002		105		67-158		H
2,3,7,8-TCDF	0.00024	0.000048	0.000048	ug/L	GV	0.0002		120		75-158		H
OCDD	0.00239	0.0001	0.000034	ug/L	GV	0.002		120		78-144		
OCDF	0.00295	0.0001	0.000028	ug/L	GV	0.002		148		63-170		
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.000683			ug/L	GV	0.002		34		26-166		
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.000811			ug/L	GV	0.002		41		21-158		
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.000826			ug/L	GV	0.002		41		20-186		
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.000696			ug/L	GV	0.002		35		21-193		
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.000876			ug/L	GV	0.002		44		19-202		
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.000651			ug/L	GV	0.002		33		25-163		
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.000822			ug/L	GV	0.002		41		21-159		
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.000902			ug/L	GV	0.002		45		17-205		
Surrogate: 13C-1,2,3,7,8-PeCDD	0.000364			ug/L	GV	0.002		18		21-227		*
Surrogate: 13C-1,2,3,7,8-PeCDF	0.000391			ug/L	GV	0.002		20		21-192		*

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Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 1231082 Extracted: 08/19/11												
LCS Analyzed: 08/22/2011 (G1H19000082C)						Source:						
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.00091			ug/L	GV	0.002		46	22-176			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.000439			ug/L	GV	0.002		22	13-328			
Surrogate: 13C-2,3,7,8-TCDD	0.000531			ug/L	GV	0.002		27	20-175			
Surrogate: 13C-2,3,7,8-TCDF	0.000583			ug/L	GV	0.002		29	22-152			
Surrogate: 13C-OCDD	0.00111			ug/L	GV	0.004		28	13-199			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.000659			ug/L	GV	0.0008		82	31-191			
LCS Dup Analyzed: 08/23/2011 (G1H19000082L)						Source:						
1,2,3,4,6,7,8-HpCDD	0.0011	0.00005	0.000005	ug/L	GV	0.001	110	70-140	3.6	50		
1,2,3,4,6,7,8-HpCDF	0.0011	0.00005	0.000004	ug/L	GV	0.001	110	82-122	5.3	50		
1,2,3,4,7,8,9-HpCDF	0.00106	0.00005	0.000006	ug/L	GV	0.001	106	78-138	2.8	50		
1,2,3,4,7,8-HxCDD	0.00113	0.00005	0.000003	ug/L	GV	0.001	113	70-164	7.7	50		
1,2,3,4,7,8-HxCDF	0.00103	0.00005	0.000002	ug/L	GV	0.001	103	72-134	6	50		
1,2,3,6,7,8-HxCDD	0.00118	0.00005	0.000002	ug/L	GV	0.001	118	76-134	2.7	50		
1,2,3,6,7,8-HxCDF	0.0011	0.00005	0.000002	ug/L	GV	0.001	110	84-130	1.1	50		
1,2,3,7,8,9-HxCDD	0.00121	0.00005	0.000003	ug/L	GV	0.001	121	64-162	3.9	50		
1,2,3,7,8,9-HxCDF	0.00104	0.00005	0.000002	ug/L	GV	0.001	104	78-130	7.3	50		
1,2,3,7,8-PeCDD	0.0011	0.00005	0.000004	ug/L	GV	0.001	110	70-142	11	50		
1,2,3,7,8-PeCDF	0.00104	0.00005	0.000004	ug/L	GV	0.001	104	80-134	11	50		
2,3,4,6,7,8-HxCDF	0.00101	0.00005	0.000002	ug/L	GV	0.001	101	70-156	6.1	50		
2,3,4,7,8-PeCDF	0.00106	0.00005	0.000004	ug/L	GV	0.001	106	68-160	4.8	50		
2,3,7,8-TCDD	0.000208	0.00001	0.000001	ug/L	GV	0.0002	104	67-158	0.72	50		
2,3,7,8-TCDF	0.000209	0.00001	0.000001	ug/L	GV	0.0002	105	75-158	14	50		
OCDD	0.00226	0.0001	0.000007	ug/L	GV	0.002	113	78-144	5.6	50		
OCDF	0.0022	0.0001	0.000005	ug/L	GV	0.002	110	63-170	29	50		
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.00119			ug/L	GV	0.002		60	26-166			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.00115			ug/L	GV	0.002		57	21-158			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.00117			ug/L	GV	0.002		59	20-186			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.00103			ug/L	GV	0.00183		56	21-193			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00115			ug/L	GV	0.002		57	19-202			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00103			ug/L	GV	0.002		52	25-163			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.001			ug/L	GV	0.002		50	21-159			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.00122			ug/L	GV	0.002		61	17-205			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00108			ug/L	GV	0.002		54	21-227			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00109			ug/L	GV	0.002		54	21-192			

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Analyte	Result	Reporting		MDL	Units	Analyst	Spike Level	Source		%REC		RPD		Data Qualifiers
		Limit						Result	%REC	Limits	RPD	Limit		
Batch: 1231082 Extracted: 08/19/11														
LCS Dup Analyzed: 08/23/2011 (G1H19000082L)							Source:							
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.00119				ug/L	GV	0.002	59	22-176					
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00113				ug/L	GV	0.002	56	13-328					
Surrogate: 13C-2,3,7,8-TCDD	0.001				ug/L	GV	0.002	50	20-175					
Surrogate: 13C-2,3,7,8-TCDF	0.000979				ug/L	GV	0.002	49	22-152					
Surrogate: 13C-OCDD	0.00235				ug/L	GV	0.004	59	13-199					
Surrogate: 37Cl4-2,3,7,8-TCDD	0.000788				ug/L	GV	0.0008	99	31-191					

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Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8689 Extracted: 08/31/11												
LCS Analyzed: 09/04/2011 (S108113-03)						Source:						
Gross Alpha	52.8	3	N/A	pCi/L	DVP	44.4		119	70-130			
Gross Beta	38.5	4	N/A	pCi/L	DVP	41.6		93	70-130			
Blank Analyzed: 09/04/2011 (S108113-04)						Source:						
Gross Alpha	-0.277	3	N/A	pCi/L	DVP				-			U
Gross Beta	-0.124	4	N/A	pCi/L	DVP				-			U
Duplicate Analyzed: 09/04/2011 (S108113-05)						Source: IUH1217-03						
Gross Alpha	-0.619	3	N/A	pCi/L	DVP		0.472		-	0		U
Gross Beta	7.03	4	N/A	pCi/L	DVP		6.82		-	3		

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METHOD BLANK/QC DATA

901.1

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8689 Extracted: 08/31/11												
LCS Analyzed: 09/03/2011 (S108113-03)						Source:						
Cobalt-60	114	10	N/A	pCi/L	LS	118		97	80-120			
Cesium-137	128	20	N/A	pCi/L	LS	124		103	80-120			
Blank Analyzed: 09/03/2011 (S108113-04)						Source:						
Cesium-137	ND	20	N/A	pCi/L	LS				-			U
Potassium-40	ND	25	N/A	pCi/L	LS				-			U
Duplicate Analyzed: 09/04/2011 (S108113-05)						Source: IUH1217-03						
Cesium-137	ND	20	N/A	pCi/L	LS		0		-	0		U
Potassium-40	ND	25	N/A	pCi/L	LS		0		-	0		U

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Quarterly Outfall 019
 Quarterly Outfall 019
 Report Number: IUH1217

Sampled: 08/10/11-08/12/11
 Received: 08/10/11

METHOD BLANK/QC DATA

903.1

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8689 Extracted: 09/12/11												
LCS Analyzed: 09/12/2011 (S108113-03)						Source:						
Radium-226	45.5	1	N/A	pCi/L	TM	50.1		91	80-120			
Blank Analyzed: 09/12/2011 (S108113-04)						Source:						
Radium-226	0.132	1	N/A	pCi/L	TM				-			U
Duplicate Analyzed: 09/12/2011 (S108113-05)						Source: IUH1217-03						
Radium-226	0.341	1	N/A	pCi/L	TM		0.039		-	0		U

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 Project Manager

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

Project ID: Quarterly Outfall 019
 Quarterly Outfall 019
 Report Number: IUH1217

Sampled: 08/10/11-08/12/11
 Received: 08/10/11

METHOD BLANK/QC DATA

904

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8689 Extracted: 09/09/11												
LCS Analyzed: 09/09/2011 (S108113-03)						Source:						
Radium-228	4.24	1	N/A	pCi/L	ASM	4.76		89	60-140			
Blank Analyzed: 09/09/2011 (S108113-04)						Source:						
Radium-228	-0.097	1	N/A	pCi/L	ASM				-			U
Duplicate Analyzed: 09/09/2011 (S108113-05)						Source: IUH1217-03						
Radium-228	0.068	1	N/A	pCi/L	ASM		0.247		-	0		U

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 Project Manager

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

Project ID: Quarterly Outfall 019
 Quarterly Outfall 019
 Report Number: IUH1217

Sampled: 08/10/11-08/12/11
 Received: 08/10/11

METHOD BLANK/QC DATA

905

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8689 Extracted: 09/01/11												
LCS Analyzed: 09/01/2011 (S108113-03)						Source:						
Strontium-90	19.6	2	N/A	pCi/L	LS	17.3	113	80-120				
Blank Analyzed: 09/01/2011 (S108113-04)						Source:						
Strontium-90	-0.1	2	N/A	pCi/L	LS			-				U
Duplicate Analyzed: 09/01/2011 (S108113-05)						Source: IUH1217-03						
Strontium-90	0.194	2	N/A	pCi/L	LS	-0.073		-		0		U

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Debby Wilson
 Project Manager

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

Project ID: Quarterly Outfall 019
 Quarterly Outfall 019
 Report Number: IUH1217

Sampled: 08/10/11-08/12/11
 Received: 08/10/11

METHOD BLANK/QC DATA

906

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8689 Extracted: 08/30/11												
LCS Analyzed: 08/31/2011 (S108113-03)						Source:						
Tritium	2320	500	N/A	pCi/L	WL	2520		92	80-120			
Blank Analyzed: 08/31/2011 (S108113-04)						Source:						
Tritium	-22.5	500	N/A	pCi/L	WL				-			U
Duplicate Analyzed: 08/31/2011 (S108113-05)						Source: IUH1217-03						
Tritium	-32	500	N/A	pCi/L	WL		13.7		-	0		U

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Quarterly Outfall 019
 Quarterly Outfall 019
 Report Number: IUH1217

Sampled: 08/10/11-08/12/11
 Received: 08/10/11

METHOD BLANK/QC DATA

ASTM-D5174

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8689 Extracted: 09/05/11												
LCS Analyzed: 09/05/2011 (S108113-03)						Source:						
Uranium, Total	55	1	N/A	pCi/L	LS	56.5		97	80-120			
Blank Analyzed: 09/05/2011 (S108113-04)						Source:						
Uranium, Total	ND	1	N/A	pCi/L					-			U
Duplicate Analyzed: 09/05/2011 (S108113-05)						Source: IUH1217-03						
Uranium, Total	0.104	1	N/A	pCi/L	LS		0.115		-	10		Jb

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Quarterly Outfall 019
Quarterly Outfall 019
Report Number: IUH1217

Sampled: 08/10/11-08/12/11
Received: 08/10/11

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
IUH1217-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0	4.7	15
IUH1217-01	624-Boeing 001/002Q (Fr113+X+Fr1,1-Dichloroethene		ug/l	0	0.50	6
IUH1217-01	624-Boeing 001/002Q (Fr113+X+FrTrichloroethene		ug/l	0	0.50	5
IUH1217-01	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
IUH1217-02	624-Boeing 001/002Q (Fr113+X+Fr1,1-Dichloroethene		ug/l	0	0.50	6
IUH1217-02	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
IUH1217-03	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0.00040	0.0094	0.03
IUH1217-03	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	6.00	13
IUH1217-03	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	5.00	18
IUH1217-03	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	0.44	5.00	4
IUH1217-03	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	5.00	16
IUH1217-03	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	5.00	16.5
IUH1217-03	Ammonia-N, Titr 4500NH3-C (w/di:Ammonia-N (Distilled)		mg/l	0.28	0.500	10.1
IUH1217-03	BOD - SM5210B	Biochemical Oxygen Demand	mg/l	0.18	2.0	30
IUH1217-03	Cadmium-200.8	Cadmium	ug/l	0.044	1.0	3.1
IUH1217-03	Chloride - 300.0	Chloride	mg/l	125	10	150
IUH1217-03	Copper-200.8	Copper	ug/l	0.21	2.00	14
IUH1217-03	Cyanide, Total-4500CN-E (5ppb)	Total Cyanide	ug/l	-2	5.0	8.5
IUH1217-03	Lead-200.8	Lead	ug/l	0.17	1.0	5.2
IUH1217-03	MBAS - SM5540C	Surfactants (MBAS)	mg/l	0.011	0.10	0.5
IUH1217-03	Mercury - 245.1	Mercury	ug/l	0	0.20	0.1
IUH1217-03	Nitrate-N, 300.0	Nitrate-N	mg/l	0.13	0.11	8
IUH1217-03	Nitrite-N, 300.0	Nitrite-N	mg/l	0	0.15	1
IUH1217-03	Nitrogen, NO3+NO2 -N EPA 300.0	Nitrate/Nitrite-N	mg/l	0.13	0.26	8
IUH1217-03	Perchlorate 314.0 - Default	Perchlorate	ug/l	0	4.0	6

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Quarterly Outfall 019
 Quarterly Outfall 019
 Report Number: IUH1217

Sampled: 08/10/11-08/12/11
 Received: 08/10/11

IUH1217-03	Selenium-200.8	Selenium	ug/l	0.31	2.0	5
IUH1217-03	Sulfate-300.0	Sulfate	mg/l	124	10	300
IUH1217-03	TDS - SM2540C	Total Dissolved Solids	mg/l	649	10	950
IUH1217-03	TSS - SM2540D	Total Suspended Solids	mg/l	0	10	45
IUH1217-03	Zinc-200.7	Zinc	ug/l	5.91	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: Quarterly Outfall 019
Quarterly Outfall 019
Report Number: IUH1217

Sampled: 08/10/11-08/12/11
Received: 08/10/11

DATA QUALIFIERS AND DEFINITIONS

- *** Surrogate recovery is outside stated control limits.
- B** Method blank contamination. The associated method blank contains the target analyte at a reportable level.
- H** see narrative
- J** Estimated result. Result is less than the reporting limit.
- Ja** Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
- Jb** The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
- M2** The MS and/or MSD were below the acceptance limits due to sample matrix interference. See 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).
- 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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IUH1217 <Page 51 of 54>

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

Project ID: Quarterly Outfall 019
 Quarterly Outfall 019
 Report Number: IUH1217

Sampled: 08/10/11-08/12/11
 Received: 08/10/11

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	N/A
EPA 200.7-Diss	Water	X	N/A
EPA 200.7	Water	X	N/A
EPA 200.8-Diss	Water	X	N/A
EPA 200.8	Water	X	N/A
EPA 245.1-Diss	Water	X	N/A
EPA 245.1	Water	X	N/A
EPA 300.0	Water	X	N/A
EPA 314.0	Water	X	N/A
EPA 608	Water	X	X
EPA 624	Water	X	X
EPA 625	Water	X	X
Filtration	Water	N/A	N/A
Level 4	Water		
SM 2540D	Water	X	X
SM2340B-Diss	Water		
SM2340B	Water	X	N/A
SM2540C	Water	X	N/A
SM2540F	Water	X	X
SM4500CN-E	Water	X	N/A
SM4500NH3-C	Water	X	X
SM5210B	Water	X	X
SM5310B	Water	X	X
SM5540-C	Water	X	N/A

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

Subcontracted Laboratories

Aquatic Testing Laboratories-SUB California Cert #1775

4350 Transport Street, Unit 107 - Ventura, CA 93003

Analysis Performed: Bioassay-Acute 96hr

Samples: IUH1217-03

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Quarterly Outfall 019
Quarterly Outfall 019
Report Number: IUH1217

Sampled: 08/10/11-08/12/11
Received: 08/10/11

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec
Samples: IUH1217-03, IUH1217-04

Analysis Performed: Gross Alpha
Samples: IUH1217-03, IUH1217-04

Analysis Performed: Gross Beta
Samples: IUH1217-03, IUH1217-04

Analysis Performed: Radium, Combined
Samples: IUH1217-03, IUH1217-04

Analysis Performed: Strontium 90
Samples: IUH1217-03, IUH1217-04

Analysis Performed: Tritium
Samples: IUH1217-03

Analysis Performed: Uranium, Combined
Samples: IUH1217-03, IUH1217-04

Method Performed: 900
Samples: IUH1217-03, IUH1217-04

Method Performed: 901.1
Samples: IUH1217-03, IUH1217-04

Method Performed: 903.1
Samples: IUH1217-03, IUH1217-04

Method Performed: 904
Samples: IUH1217-03, IUH1217-04

Method Performed: 905
Samples: IUH1217-03, IUH1217-04

Method Performed: 906
Samples: IUH1217-03

Method Performed: D5174
Samples: IUH1217-03, IUH1217-04

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Quarterly Outfall 019
Quarterly Outfall 019
Report Number: IUH1217

Sampled: 08/10/11-08/12/11
Received: 08/10/11

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

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B
Samples: IUH1217-03

TestAmerica Irvine

Debby Wilson
Project Manager

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IUH1217 <Page 54 of 54>

IUH1217

Client Name/Address: MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007		Project: Boeing-SSFL NPDES Quarterly Outfall 019 COMPOSITE		ANALYSIS REQUIRED														Comments
Test America Contact: Debby Wilson		Phone Number: (626) 568-6691		Total Recoverable Metals: Cu, Pb, Hg, Cd, Se, Zn, Hardness as CaCO ₃	TCDD (and all congeners)	BOD ₅ (20 degrees C)	Surfactants (MBAS)	Cl ⁻ , SO ₄ , NO ₃ +NO ₂ -N, Perchlorate	Nitrate-N, Nitrite-N	Turbidity, TDS, TSS	Ammonia-N (350.2)	Alpha BHC (608)	2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs 625)					
Project Manager: Bronwyn Kelly	Sampler: RICK BANAGA	Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #										
		Outfall 019	W	1L Poly	1	8-11-2011 12:15	HNO ₃	6A	X									
		Outfall 019 Dup	W	1L Poly	1		HNO ₃	6B	X									
		Outfall 019	W	1L Amber	2		None	7A, 7B		X								
		Outfall 019	W	1L Poly	1		None	8			X							
		Outfall 019	W	500 mL Poly	2		None	9A, 9B			X							
		Outfall 019	W	500 mL Poly	2		None	10A, 10B			X							
		Outfall 019	W	500 mL Poly	1		None	11			X							
		Outfall 019	W	500 mL Poly	2		None	12A, 12B			X							
		Outfall 019	W	500 mL Poly	1		H ₂ SO ₄	13			X							
		Outfall 019	W	1L Amber	2		None	14A, 14B				X						
		Outfall 019	W	1L Amber	2	8-11-2011 15:15	None	15A, 15B					X					

(Handwritten signature and date: 8/11/11)

COC Page 2 of 3 and Page 3 of 3 are the composite samples for Outfall 019 for this storm event.

These must be added to the same work order for COC Page 1 of 3 for Outfall 019 for the same event.

Relinquished By: <i>Rick Banaga</i>	Date/Time: 8-11-2011 14:45	Received By: <i>Mark Camp</i>	Date/Time: 8-11-11 14:45	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: _____ 48 Hour: _____ 5 Day: _____ Normal: <input checked="" type="checkbox"/>
Relinquished By: <i>Mark Camp</i>	Date/Time: 8-11-11 17:40	Received By: <i>Mark Camp</i>	Date/Time: _____	Sample Integrity: (Check) Intact: <input checked="" type="checkbox"/> On Ice: <input checked="" type="checkbox"/>
Relinquished By: _____	Date/Time: _____	Received By: <i>Rick Banaga</i>	Date/Time: 8/11/11 17:40	Data Requirements: (Check) No Level IV: _____ All Level IV: _____ NPDES Level IV: <input checked="" type="checkbox"/>

4.9

10M03

Client Name/Address: MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007				Project: Boeing-SSFL NPDES Quarterly Outfall 019 COMPOSITE			ANALYSIS REQUIRED											Comments						
Test America Contact: Debby Wilson				Project Manager: Bronwyn Kelly Phone Number: (626) 568-6691 Fax Number: (626) 568-6515			Total Dissolved Metals: Cu, Pb, Hg, Cd, Se, Zn, Hardness as CaCO3	Total Organic Carbon	Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, CS-137 (901.0 or 901.1)	Acute Toxicity	Cyanide	Chronic Toxicity												
Sampler: RICK BANAGA				Phone Number: (626) 568-6691 Fax Number: (626) 568-6515																				
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #																		
Outfall 019	W	1L Poly	1	8-11-2011 12:15	None	16	X																	Filter w/in 24hrs of receipt at lab
Outfall 019	W	250 mL Glass	1		HCl	17		X																
Outfall 019	W	2.5 Gal Cube	1		None	18A																		Unfiltered and unpreserved analysis
		500 mL Amber	1		None	18B		X																
Outfall 019	W	1 Gal Cube	1		None	19				X														
Outfall 019	W	500 mL Poly	1	8-11-2011 12:15	NaOH	20					X													
Outfall 019	W	1 Gal Poly	1	8-11-2011 12:15	None	24																		Only test if first or second rain events of the year

COC Page 2 of 3 and Page 3 of 3 are the composite samples for Outfall 019 for this storm event.

These must be added to the same work order for COC Page 1 of 3 for Outfall 019 for the same event.

Relinquished By <i>Rick Banaga</i>	Date/Time: 8-11-2011 14:45	Received By <i>Matt C...</i>	Date/Time: 8-11-11 14:45	Turn-around time: (Check) 24 Hour: ___ 72 Hour: ___ 10 Day: ___ 48 Hour: ___ 5 Day: ___ Normal: <input checked="" type="checkbox"/> Sample Integrity: (Check) Intact: ___ On Ice: ___ Data Requirements: (Check) No Level IV: ___ All Level IV: ___ NPDES Level IV: <input checked="" type="checkbox"/>
Relinquished By <i>Matt C...</i>	Date/Time: 8-11-11 17:40	Received By	Date/Time:	
Relinquished By	Date/Time:	Received By	Date/Time:	

10403

LABORATORY REPORT



Date: August 16, 2011

Client: Test America – Irvine
17461 Derian Ave., Suite 100
Irvine, CA 92614
Attn: Debby Wilson

"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

Laboratory No.: A-11081104-001
Sample ID.: IUH1217-03 Outfall 019

Sample Control: The sample was received by ATL in a chilled state, within the recommended hold time and with the chain of custody record attached.

Date Sampled: 08/11/11
Date Received: 08/11/11
Temp. Received: 5.7°C
Chlorine (TRC): 0.0 mg/l
Date Tested: 08/11/11 to 08/15/11

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

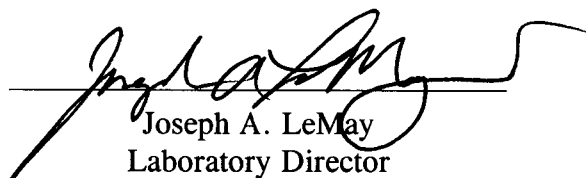
Fathead Minnow 96hr Percent Survival Bioassay (EPA Method 2000.0).

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

Result Summary:

<u>Sample ID.</u>	<u>Results</u>
IUH1217-03	100% Survival (TUa = 0.0)

Quality Control: Reviewed and approved by:


Joseph A. LeMay
Laboratory Director

FATHEAD MINNOW PERCENT SURVIVAL TEST
EPA Method 2000.0



Lab No.: A-11081104-001
 Client/ID: TestAmerica - Outfall 019
 14H1217-03

Start Date: 08/11/2011

TEST SUMMARY

Species: *Pimephales promelas*.
 Age: 13 (1-14) days.
 Regulations: NPDES.
 Test solution volume: 250 ml.
 Feeding: prior to renewal at 48 hrs.
 Number of replicates: 2.
 Control water: Moderately hard reconstituted water.
 Photoperiod: 16/8 hrs light/dark.

Source: In-laboratory Culture.
 Test type: Static-Renewal.
 Test Protocol: EPA-821-R-02-012.
 Endpoints: Percent Survival at 96 hrs.
 Test chamber: 600 ml beakers.
 Temperature: 20 +/- 1°C.
 Number of fish per chamber: 10.
 QA/QC No.: RT-110802.

TEST DATA

		°C	DO	pH	# Dead		Analyst & Time of Readings
					A	B	
INITIAL	Control	20.5	8.0	7.9	0	0	Jan 1630
	100%	20.3	6.6	8.1	0	0	
24 Hr	Control	20.5	8.4	8.1	0	0	Z 1530
	100%	20.0	8.2	8.3	0	0	
48 Hr	Control	20.1	7.4	7.6	0	0	Jan 1600
	100%	20.0	7.5	8.3	0	0	
Renewal	Control	20.4	7.7	8.2	0	0	Jan 1600
	100%	20.0	6.1	8.0	0	0	
72 Hr	Control	20.1	7.1	7.5	0	0	Jan 1545
	100%	20.0	7.0	8.3	0	0	
96 Hr	Control	20.0	7.0	7.9	0	0	Z 1545
	100%	20.0	7.3	8.2	0	0	

Comments:

Sample as received: Chlorine: 0.0 mg/l; pH: 8.1; Conductivity: 835 umho; Temp: 5.7°C;
 DO: 6.4 mg/l; Alkalinity: 220 mg/l; Hardness: 380 mg/l; NH₃-N: 0.1 mg/l.
 Sample aerated moderately (approx. 500 ml/min) to raise or lower DO? Yes / No
 Control: Alkalinity: 69 mg/l; Hardness: 90 mg/l; Conductivity: 356 umho.
 Test solution aerated (not to exceed 100 bubbles/min) to maintain DO > 4.0 mg/l? Yes / No
 Sample used for renewal is the original sample kept at 0-6°C with minimal headspace.
 Dissolved Oxygen (DO) readings in mg/l O₂.

RESULTS

Percent Survival In: Control: 100 % 100% Sample: 100 %

SUBCONTRACT ORDER

TestAmerica Irvine

IUH1217

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

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: IUH1217-03	Water	Sampled:08/11/11 12:15		
Bioassay-Acute 96hr	08/24/11 12:00	08/13/11 00:15		FH minnow, EPA/821-R02-012, Sub to AqTox Labs

Containers Supplied:


1 gal Poly (W)

Released By

Date

Received By

Date

 8-11-11 10-35

Released By

Date

Received By

Date



***REFERENCE
TOXICANT
DATA***

**FATHEAD MINNOW ACUTE
Method 2000.0
Reference Toxicant - SDS**



QA/QC Batch No.: RT-110802

TEST SUMMARY

Species: *Pimephales promelas*.
Age: 11 days old.
Regulations: NPDES.
Test chamber volume: 250 ml.
Feeding: Prior to renewal at 48 hrs.
Temperature: 20 +/- 1°C.
Number of replicates: 2.
Dilution water: MHSF.

Source: In-lab culture.
Test type: Static-Renewal.
Test Protocol: EPA-821-R-02-012.
Endpoints: LC50 at 96 hrs.
Test chamber: 600 ml beakers.
Aeration: None.
Number of organisms per chamber: 10.
Photoperiod: 16/8 hrs light/dark.

TEST DATA

Date/Time:	INITIAL			24 Hr					48 Hr				
	<u>8-2-11 1130</u>			<u>8-3-11 1100</u>					<u>8-4-11 1100</u>				
	<u>7</u>			<u>7</u>					<u>7</u>				
	°C	DO	pH	°C	DO	pH	# Dead		°C	DO	pH	# Dead	
A							B	A				B	
Control	<u>20.3</u>	<u>8.3</u>	<u>8.2</u>	<u>20.1</u>	<u>8.3</u>	<u>8.0</u>	<u>0</u>	<u>0</u>	<u>20.2</u>	<u>7.9</u>	<u>8.1</u>	<u>0</u>	<u>0</u>
1.0 mg/l	<u>20.3</u>	<u>8.4</u>	<u>8.1</u>	<u>20.0</u>	<u>8.2</u>	<u>8.0</u>	<u>0</u>	<u>0</u>	<u>20.1</u>	<u>7.9</u>	<u>8.0</u>	<u>0</u>	<u>0</u>
2.0 mg/l	<u>20.3</u>	<u>8.5</u>	<u>8.1</u>	<u>20.1</u>	<u>8.1</u>	<u>7.9</u>	<u>0</u>	<u>0</u>	<u>20.2</u>	<u>7.8</u>	<u>8.0</u>	<u>0</u>	<u>0</u>
4.0 mg/l	<u>20.3</u>	<u>8.4</u>	<u>8.1</u>	<u>20.2</u>	<u>7.9</u>	<u>7.9</u>	<u>0</u>	<u>0</u>	<u>20.3</u>	<u>7.8</u>	<u>7.9</u>	<u>1</u>	<u>1</u>
8.0 mg/l	<u>20.3</u>	<u>8.6</u>	<u>8.1</u>	<u>20.2</u>	<u>7.1</u>	<u>7.8</u>	<u>10</u>	<u>10</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>

Date/Time:	RENEWAL			72 Hr					96 Hr				
	<u>8-4-11 1100</u>			<u>8-5-11 1100</u>					<u>8-6-11 1100</u>				
	<u>7</u>			<u>7</u>					<u>7</u>				
	°C	DO	pH	°C	DO	pH	# Dead		°C	DO	pH	# Dead	
A							B	A				B	
Control	<u>20.3</u>	<u>8.2</u>	<u>8.1</u>	<u>20.5</u>	<u>7.7</u>	<u>8.1</u>	<u>0</u>	<u>0</u>	<u>20.3</u>	<u>7.4</u>	<u>8.1</u>	<u>0</u>	<u>0</u>
1.0 mg/l	<u>20.3</u>	<u>8.1</u>	<u>8.1</u>	<u>20.3</u>	<u>7.5</u>	<u>8.0</u>	<u>0</u>	<u>0</u>	<u>20.2</u>	<u>7.4</u>	<u>7.9</u>	<u>0</u>	<u>0</u>
2.0 mg/l	<u>20.4</u>	<u>8.2</u>	<u>8.0</u>	<u>20.3</u>	<u>7.3</u>	<u>8.0</u>	<u>0</u>	<u>0</u>	<u>20.3</u>	<u>7.3</u>	<u>7.9</u>	<u>0</u>	<u>0</u>
4.0 mg/l	<u>20.4</u>	<u>8.2</u>	<u>8.0</u>	<u>20.3</u>	<u>7.3</u>	<u>7.9</u>	<u>0</u>	<u>0</u>	<u>20.3</u>	<u>7.6</u>	<u>7.9</u>	<u>0</u>	<u>0</u>
8.0 mg/l	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>

Comments: Control: Alkalinity: 66 mg/l; Hardness: 91 mg/l; Conductivity: 316 umho.
SDS: Alkalinity: 68 mg/l; Hardness: 91 mg/l; Conductivity: 323 umho.

Concentration-response relationship acceptable? (see attached computer analysis):

Yes (response curve normal)

No (dose interrupted indicated or non-normal)

Acute Fish Test-Survival

Start Date: 8/2/2011 11:30 Test ID: RT110802 Sample ID: REF-Ref Toxicant
 End Date: 8/6/2011 11:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: SDS-Sodium dodecyl sulfate
 Sample Date: 8/2/2011 Protocol: ACUTE-EPA-821-R-02-012 Test Species: DP-Daphnia pulex

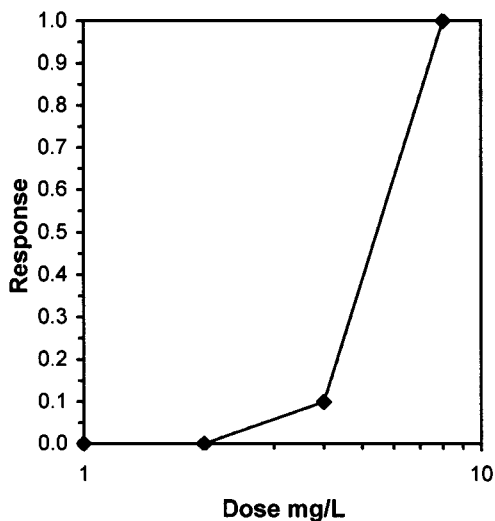
Comments:

Conc-mg/L	1	2
D-Control	1.0000	1.0000
1	1.0000	1.0000
2	1.0000	1.0000
4	0.9000	0.9000
8	0.0000	0.0000

Conc-mg/L	Transform: Arcsin Square Root							Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N		
D-Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
1	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
2	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
4	0.9000	0.9000	1.2490	1.2490	1.2490	0.000	2	2	20
8	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20

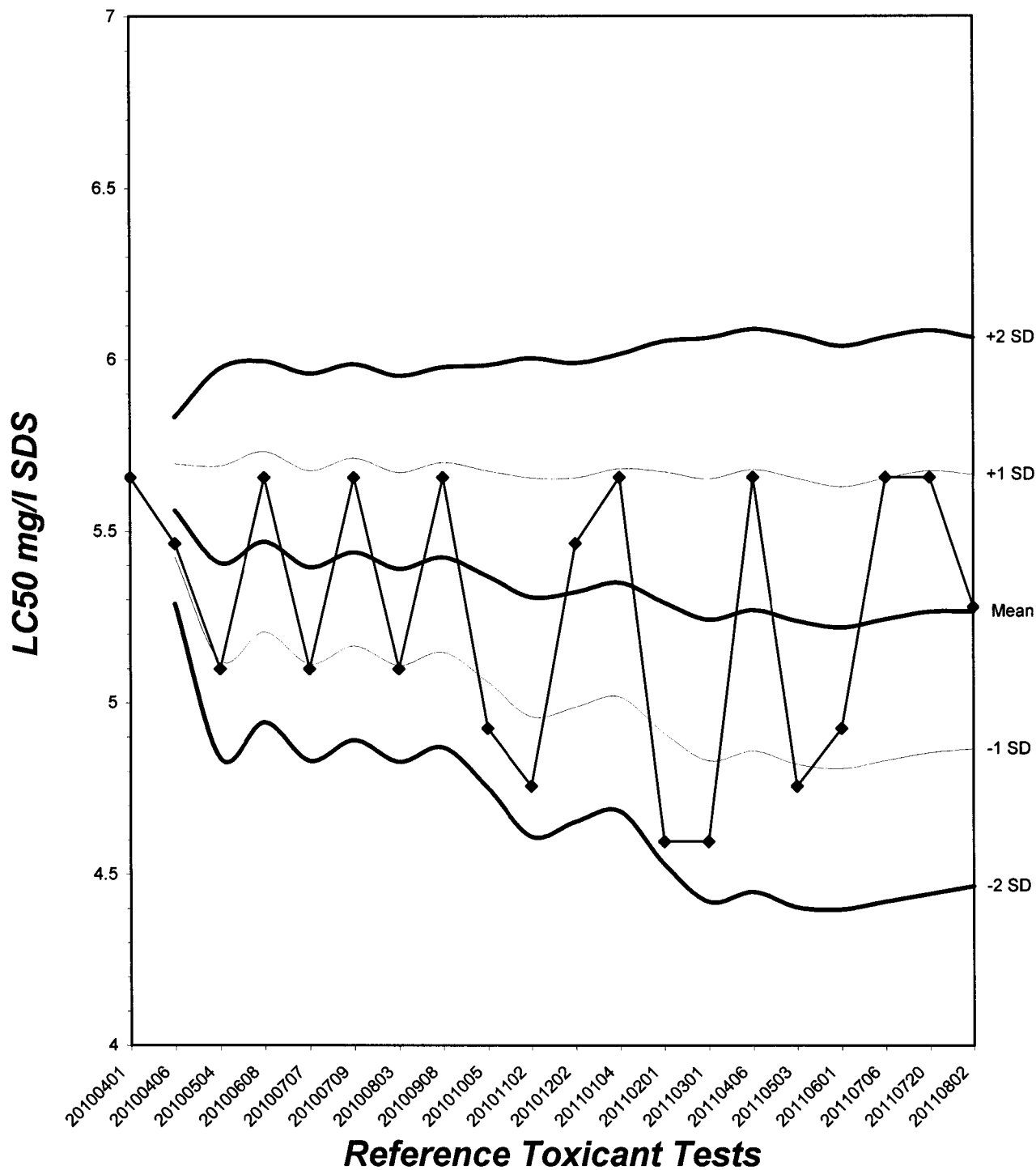
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Trimmed Spearman-Kärber			
Trim Level	EC50	95% CL	
0.0%	5.2780	4.8093	5.7924
5.0%	5.3968	4.8053	6.0611
10.0%	5.4432	5.1395	5.7648
20.0%	5.4432	5.1395	5.7648
Auto-0.0%	5.2780	4.8093	5.7924



Fathead Minnow Acute Laboratory Control Chart

CV% = 7.59



TEST ORGANISM LOG



FATHEAD MINNOW - LARVAL
(*Pimephales promelas*)

QA/QC BATCH NO.: RT-110802

SOURCE: In-Lab Culture

DATE HATCHED: 7-22-11

APPROXIMATE QUANTITY: 4W

GENERAL APPEARANCE: good

MORTALITIES 48 HOURS PRIOR TO
TO USE IN TESTING: 0

DATE USED IN LAB: 8/2/11

AVERAGE FISH WEIGHT: 0.005 gm

LOADING LIMITS: 0.65 gm/liter @ 20°C, 0.40 gm/liter @ 25°C

Approximately 1000 fish per 10 liters limit if held overnight for acclimation without filtration @ 20°C for fish with a mean weight of 0.006 gm.

Approximately 650 fish per 10 liters limit if held overnight for acclimation without filtration @ 25°C for fish with a mean weight of 0.006 gm.

200 ml test solution volume = 0.013 gm mean fish weight limit @ 20°C; 0.008 @ 25°C

250 ml test solution volume = 0.016 gm mean fish weight limit @ 20°C; 0.010 @ 25°C

ACCLIMATION WATER QUALITY:

Temp.: 20.3 °C

pH: 8.2

Ammonia: 0.1 mg/l NH₃-N

DO: 8.3 mg/l

Alkalinity: 66 mg/l

Hardness: 91 mg/l

READINGS RECORDED BY: [Signature]

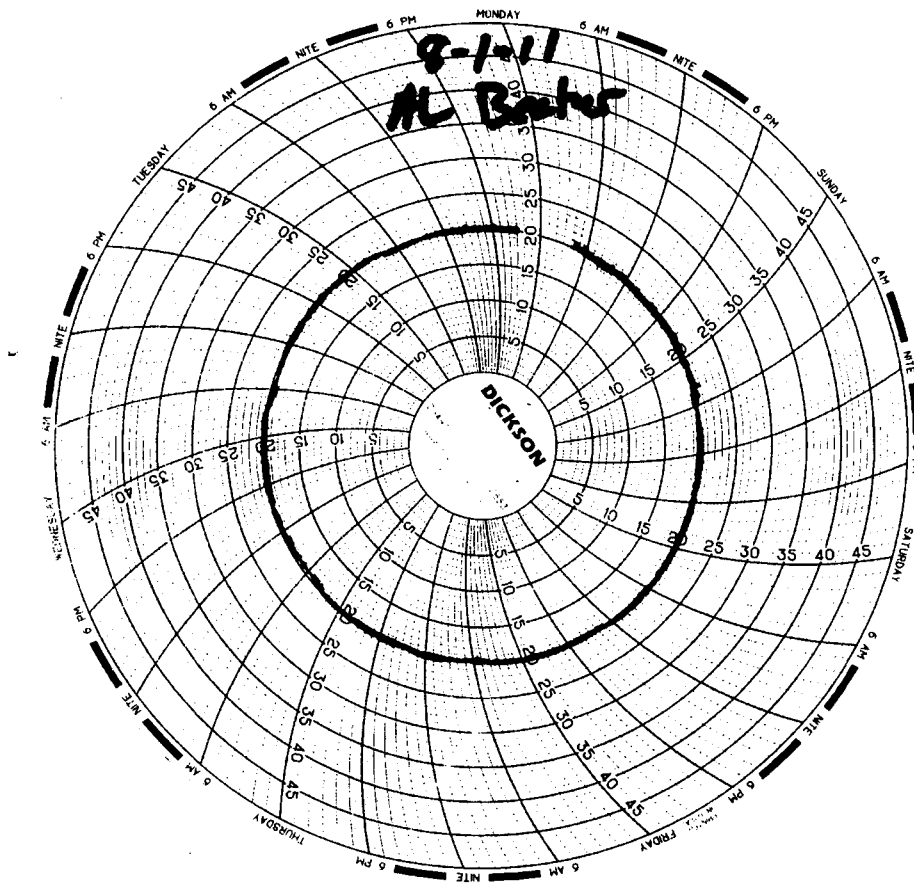
DATE: 8-3-11

Test Temperature Chart

Test No: RT-110802

Date Tested: 08/02/11 to 08/06/11

Acceptable Range: $20 \pm 1^{\circ}\text{C}$





EBERLINE

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September 14, 2011

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

**Reference: Test America-Irvine IUH1217
Eberline Analytical Report S108113-8689
Sample Delivery Group 8689**

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for two water samples received under Test America Job No. IUH1217. The samples were received on August 16, 2011.

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

Sincerely,

Joseph Verville
Client Services Manager

NJV/

Enclosure: Level IV CLP-like Data Package CD.

1.0 General Comments

Sample delivery group 8689 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 samples were 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 volumes.

2.0 Quality Control

Quality Control Samples consisted of laboratory control samples (LCS), method blanks, and duplicate 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 2σ 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** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits. The gamma spectroscopy planchets were counted for sufficient time to meet the required Cs-137 detection limit of 20 pCi/L. As a consequence of keying to the Cs-137 RDL, the detection limit for K-40 was not achieved for all the samples.

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

9/14/11

Date

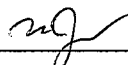
EBERLINE ANALYTICAL
SDG 8689

SDG 8689
Contact Joseph Verville

Client Test America, Inc.
Contract IUH1217

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

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Prepared by


Reviewed by

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-TOC
Version 3.06
Report date 09/14/11

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SDG 8689

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Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUH1217

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
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SDG 8689

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GUIDE , c o n t .

Client Test America, Inc.
Contract IUH1217

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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EBERLINE ANALYTICAL

SDG 8689

LAB SAMPLE SUMMARY

SDG 8689
 Contact Joseph Verville

Client Test America, Inc.
 Contract IUH1217

LAB	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S108113-01	IUH1217-03	Boeing SSFL	WATER			IUH1217	08/11/11 12:15
S108113-02	IUH1217-04 (TRIP-BLANK)	Boeing SSFL	WATER			IUH1217	08/12/11 14:30
S108113-03	Lab Control Sample		WATER				
S108113-04	Method Blank		WATER				
S108113-05	Duplicate (S108113-01)	Boeing SSFL	WATER				08/11/11 12:15

LAB SUMMARY

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SUMMARY DATA SECTION

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Lab id EAS
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EBERLINE ANALYTICAL

SDG 8689

SDG 8689
 Contact Joseph Verville

Client Test America, Inc.
 Contract IUH1217

QC SUMMARY

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	LAB COLL SAMPLE ID	DEPARTMENT SAMPLE ID
8689	IUH1217	IUH1217-03	WATER		10.0 L		08/16/11 5	S108113-01	8689-001
		IUH1217-04 (TRIP-BLANK)	WATER		10.0 L		08/16/11 4	S108113-02	8689-002
		Method Blank	WATER					S108113-04	8689-004
		Lab Control Sample	WATER					S108113-03	8689-003
		Duplicate (S108113-01)	WATER		10.0 L		08/16/11 5	S108113-05	8689-005

QC SUMMARY

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SUMMARY DATA SECTION

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 Protocol TA
 Version Ver 1.0
 Form DVD-QS
 Version 3.06
 Report date 09/14/11

EBERLINE ANALYTICAL

SDG 8689

SDG 8689
Contact Joseph Verville

PREP BATCH SUMMARY

Client Test America, Inc.
Contract IUH1217

TEST	MATRIX	METHOD	PREPARATION ERROR		PLANCHETS ANALYZED				QUALI-
			BATCH	2σ %	CLIENT	MORE	RE BLANK	LCS	
Beta Counting									
AC	WATER	Radium-228 in Water	7271-096	10.4	2		1	1	1/1
SR	WATER	Strontium-90 in Water	7271-096	10.4	2		1	1	1/1
Gas Proportional Counting									
80A	WATER	Gross Alpha in Water	7271-096	20.6	2		1	1	1/1
80B	WATER	Gross Beta in Water	7271-096	11.0	2		1	1	1/1
Gamma Spectroscopy									
GAM	WATER	Gamma Emitters in Water	7271-096	7.0	2		1	1	1/1
Kinetic Phosphorimetry, ug									
U_T	WATER	Uranium, Total	7271-096		2		1	1	1/1
Liquid Scintillation Counting									
H	WATER	Tritium in Water	7271-096	10.0	1		1	1	1/1
Radon Counting									
RA	WATER	Radium-226 in Water	7271-096	16.4	2		1	1	1/1

Blank, LCS, Duplicate and Spike planchets are those in the same preparation batch as some Client sample.

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 09/14/11

EBERLINE ANALYTICAL

SDG 8689

SDG 8689

Contact Joseph Verville

Client Test America, Inc.

Contract IUH1217

LAB WORK SUMMARY

LAB SAMPLE	CLIENT SAMPLE ID									
COLLECTED	LOCATION	MATRIX		SUF-						
RECEIVED	CUSTODY	SAS no	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD	
S108113-01	IUH1217-03		8689-001	80A/80		09/04/11	09/06/11	BW	Gross Alpha in Water	
08/11/11	Boeing SSFL	WATER	8689-001	80B/80		09/04/11	09/06/11	BW	Gross Beta in Water	
08/16/11	IUH1217		8689-001	AC		09/09/11	09/13/11	BW	Radium-228 in Water	
			8689-001	GAM		09/03/11	09/06/11	CSS	Gamma Emitters in Water	
			8689-001	H		08/31/11	09/02/11	BW	Tritium in Water	
			8689-001	RA		09/12/11	09/12/11	BW	Radium-226 in Water	
			8689-001	SR		09/01/11	09/06/11	BW	Strontium-90 in Water	
			8689-001	U_T		09/05/11	09/06/11	BW	Uranium, Total	
S108113-02	IUH1217-04 (TRIP-BLANK)		8689-002	80A/80		09/04/11	09/06/11	BW	Gross Alpha in Water	
08/12/11	Boeing SSFL	WATER	8689-002	80B/80		09/04/11	09/06/11	BW	Gross Beta in Water	
08/16/11	IUH1217		8689-002	AC		09/09/11	09/13/11	BW	Radium-228 in Water	
			8689-002	GAM		09/03/11	09/06/11	CSS	Gamma Emitters in Water	
			8689-002	RA		09/12/11	09/12/11	BW	Radium-226 in Water	
			8689-002	SR		09/01/11	09/06/11	BW	Strontium-90 in Water	
			8689-002	U_T		09/05/11	09/06/11	BW	Uranium, Total	
S108113-03	Lab Control Sample		8689-003	80A/80		09/04/11	09/06/11	BW	Gross Alpha in Water	
		WATER	8689-003	80B/80		09/04/11	09/06/11	BW	Gross Beta in Water	
			8689-003	AC		09/09/11	09/13/11	BW	Radium-228 in Water	
			8689-003	GAM		09/03/11	09/06/11	CSS	Gamma Emitters in Water	
			8689-003	H		08/31/11	09/02/11	BW	Tritium in Water	
			8689-003	RA		09/12/11	09/12/11	BW	Radium-226 in Water	
			8689-003	SR		09/01/11	09/06/11	BW	Strontium-90 in Water	
			8689-003	U_T		09/05/11	09/06/11	BW	Uranium, Total	
S108113-04	Method Blank		8689-004	80A/80		09/04/11	09/06/11	BW	Gross Alpha in Water	
		WATER	8689-004	80B/80		09/04/11	09/06/11	BW	Gross Beta in Water	
			8689-004	AC		09/09/11	09/13/11	BW	Radium-228 in Water	
			8689-004	GAM		09/03/11	09/06/11	CSS	Gamma Emitters in Water	
			8689-004	H		08/31/11	09/02/11	BW	Tritium in Water	
			8689-004	RA		09/12/11	09/12/11	BW	Radium-226 in Water	
			8689-004	SR		09/01/11	09/06/11	BW	Strontium-90 in Water	
			8689-004	U_T		09/05/11	09/06/11	BW	Uranium, Total	

WORK SUMMARY

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Lab id EAS

Protocol TA

Version Ver 1.0

Form DVD-LWS

Version 3.06

Report date 09/14/11

EBERLINE ANALYTICAL

SDG 8689

SDG 8689
Contact Joseph Verville

Client Test America, Inc.
Contract IUH1217

WORK SUMMARY, cont.

LAB SAMPLE	CLIENT SAMPLE ID				SUF-					
COLLECTED	LOCATION	MATRIX			FIX	ANALYZED	REVIEWED	BY	METHOD	
RECEIVED	CUSTODY	SAS no	PLANCHET	TEST						
S108113-05	Duplicate (S108113-01)		8689-005	80A/80	09/04/11	09/06/11	BW		Gross Alpha in Water	
08/11/11	Boeing SSFL	WATER	8689-005	80B/80	09/04/11	09/06/11	BW		Gross Beta in Water	
08/16/11			8689-005	AC	09/09/11	09/13/11	BW		Radium-228 in Water	
			8689-005	GAM	09/04/11	09/06/11	CSS		Gamma Emitters in Water	
			8689-005	H	08/31/11	09/02/11	BW		Tritium in Water	
			8689-005	RA	09/12/11	09/12/11	BW		Radium-226 in Water	
			8689-005	SR	09/01/11	09/06/11	BW		Strontium-90 in Water	
			8689-005	U_T	09/05/11	09/06/11	BW		Uranium, Total	

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			1	1	1		5
80B/80		Gross Beta in Water	900.0	2			1	1	1		5
AC		Radium-228 in Water	904.0	2			1	1	1		5
GAM		Gamma Emitters in Water	901.1	2			1	1	1		5
H		Tritium in Water	906.0	1			1	1	1		4
RA		Radium-226 in Water	903.1	2			1	1	1		5
SR		Strontium-90 in Water	905.0	2			1	1	1		5
U_T		Uranium, Total	D5174	2			1	1	1		5
TOTALS				15			8	8	8		39

WORK SUMMARY

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Lab id EAS
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EBERLINE ANALYTICAL

SDG 8689

8689-005

IUH1217-03

DUPLICATE

SDG <u>8689</u>	Client <u>Test America, Inc.</u>	
Contact <u>Joseph Verville</u>	Contract <u>IUH1217</u>	
DUPLICATE	ORIGINAL	
Lab sample id <u>S108113-05</u>	Lab sample id <u>S108113-01</u>	Client sample id <u>IUH1217-03</u>
Dept sample id <u>8689-005</u>	Dept sample id <u>8689-001</u>	Location/Matrix <u>Boeing SSFL</u> <u>WATER</u>
	Received <u>08/16/11</u>	Collected/Volume <u>08/11/11 12:15</u> <u>10.0 L</u>
		Chain of custody id <u>IUH1217</u>

ANALYTE	DUPLICATE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST	ORIGINAL pCi/L	2σ ERR (COUNT)	MDA pCi/L	QUALI- FIERS	RPD %	3σ TOT	DER σ
Gross Alpha	-0.619	0.74	1.89	3.00	U	80A	0.472	1.1	1.78	U	-		1.6
Gross Beta	7.03	2.1	3.28	4.00		80B	6.82	2.3	3.55		3	71	0.1
Tritium	-32.0	91	156	500	U	H	13.7	93	156	U	-		0.7
Radium-226	0.341	0.38	0.614	1.00	U	RA	0.039	0.34	0.639	U	-		1.2
Radium-228	0.068	0.14	0.350	1.00	U	AC	0.247	0.16	0.368	U	-		1.7
Strontium-90	0.194	0.31	0.570	2.00	U	SR	-0.073	0.37	0.904	U	-		1.1
Uranium, Total	0.104	0.018	0.028	1.00	J	U_T	0.115	0.018	0.028	J	10	35	0.9
Potassium-40	U		<u>27.7</u>	25.0	U	GAM	U		22.4	U	-		0.3
Cesium-137	U		1.79	20.0	U	GAM	U		1.12	U	-		0.6

QC-DUP#1 79555

DUPLICATES

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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>09/14/11</u>

EBERLINE ANALYTICAL
SDG 8689

8689-001

IUH1217-03

DATA SHEET

SDG <u>8689</u>	Client <u>Test America, Inc.</u>
Contact <u>Joseph Verville</u>	Contract <u>IUH1217</u>
Lab sample id <u>S108113-01</u>	Client sample id <u>IUH1217-03</u>
Dept sample id <u>8689-001</u>	Location/Matrix <u>Boeing SSFL</u> <u>WATER</u>
Received <u>08/16/11</u>	Collected/Volume <u>08/11/11 12:15</u> <u>10.0 L</u>
	Chain of custody id <u>IUH1217</u>

ANALYTE	CAS NO	RESULT pCi/L	2 σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	0.472	1.1	1.78	3.00	U	80A
Gross Beta	12587472	6.82	2.3	3.55	4.00		80B
Tritium	10028178	13.7	93	156	500	U	H
Radium-226	13982633	0.039	0.34	0.639	1.00	U	RA
Radium-228	15262201	0.247	0.16	0.368	1.00	U	AC
Strontium-90	10098972	-0.073	0.37	0.904	2.00	U	SR
Uranium, Total		0.115	0.018	0.028	1.00	J	U_T
Potassium-40	13966002	U		22.4	25.0	U	GAM
Cesium-137	10045973	U		1.12	20.0	U	GAM

DATA SHEETS

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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>09/14/11</u>

E B E R L I N E A N A L Y T I C A L
SDG 8689

8689-002

IUH1217-04 (TRIP-BLANK)

D A T A S H E E T

SDG <u>8689</u> Contact <u>Joseph Verville</u>	Client <u>Test America, Inc.</u> Contract <u>IUH1217</u>
Lab sample id <u>S108113-02</u> Dept sample id <u>8689-002</u> Received <u>08/16/11</u>	Client sample id <u>IUH1217-04 (TRIP-BLANK)</u> Location/Matrix <u>Boeing SSFL</u> <u>WATER</u> Collected/Volume <u>08/12/11 14:30</u> <u>10.0 L</u> Chain of custody id <u>IUH1217</u>

ANALYTE	CAS NO	RESULT pCi/L	2 σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	-0.069	0.18	0.351	3.00	U	80A
Gross Beta	12587472	-0.181	0.47	0.786	4.00	U	80B
Radium-226	13982633	0.300	0.40	0.661	1.00	U	RA
Radium-228	15262201	-0.015	0.14	0.337	1.00	U	AC
Strontium-90	10098972	-0.074	0.32	0.725	2.00	U	SR
Uranium, Total		0	0.012	0.028	1.00	U	U_T
Potassium-40	13966002	U		<u>38.7</u>	25.0	U	GAM
Cesium-137	10045973	U		1.87	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>09/14/11</u>

EBERLINE ANALYTICAL

SDG 8689

Test AC Matrix WATER
 SDG 8689
 Contact Joseph Verville

Client Test America, Inc.
 Contract IUH1217

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 7271-096

S108113-01			8689-001	IUH1217-03	U
S108113-02			8689-002	IUH1217-04 (TRIP-BLANK)	U
S108113-03			8689-003	Lab Control Sample	ok
S108113-04			8689-004	Method Blank	U
S108113-05			8689-005	Duplicate (S108113-01)	- 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 7271-096 2σ prep error 10.4 % Reference Lab Notebook 7271 pg. 096

S108113-01			IUH1217-03	0.368	1.80				71	150		29	09/09/11	09/09	GRB-225
S108113-02			IUH1217-04 (TRIP-BLANK)	0.337	1.80				77	150		28	09/09/11	09/09	GRB-227
S108113-03			Lab Control Sample	0.320	1.80				72	150			09/09/11	09/09	GRB-228
S108113-04			Method Blank	0.338	1.80				77	150			09/09/11	09/09	GRB-217
S108113-05			Duplicate (S108113-01)	0.350	1.80				71	150		29	09/09/11	09/09	GRB-220

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 0.343 ± 0.036
 FOR 5 SAMPLES YIELD 74 ± 6

METHOD SUMMARIES

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Lab id EAS
 Protocol TA
 Version Ver 1.0
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EBERLINE ANALYTICAL

SDG 8689

Test SR Matrix WATER
 SDG 8689
 Contact Joseph Verville

Client Test America, Inc.
 Contract IUH1217

LAB METHOD SUMMARY

STRONTIUM-90 IN WATER
 BETA COUNTING

RESULTS

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

Preparation batch 7271-096

S108113-01	8689-001	IUH1217-03	U
S108113-02	8689-002	IUH1217-04 (TRIP-BLANK)	U
S108113-03	8689-003	Lab Control Sample	ok
S108113-04	8689-004	Method Blank	U
S108113-05	8689-005	Duplicate (S108113-01)	- U

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

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 7271-096 2σ prep error 10.4 % Reference Lab Notebook 7271 pg. 096

S108113-01	IUH1217-03	0.904	0.500	87	50	21	09/01/11	09/01	GRB-229
S108113-02	IUH1217-04 (TRIP-BLANK)	0.725	0.500	86	61	20	09/01/11	09/01	GRB-225
S108113-03	Lab Control Sample	0.639	0.500	88	61		09/01/11	09/01	GRB-228
S108113-04	Method Blank	0.840	0.500	88	50		09/01/11	09/01	GRB-232
S108113-05	Duplicate (S108113-01)	0.570	0.500	98	100	21	09/01/11	09/01	GRB-201

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

PROCEDURES REFERENCE 905.0
 CP-380 Strontium in Water Samples, rev 5

AVERAGES ± 2 SD MDA 0.736 ± 0.276
 FOR 5 SAMPLES YIELD 89 ± 10

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-LMS
 Version 3.06
 Report date 09/14/11

EBERLINE ANALYTICAL

SDG 8689

Test 80A Matrix WATER
 SDG 8689
 Contact Joseph Verville

Client Test America, Inc.
 Contract IUH1217

LAB METHOD SUMMARY

GROSS ALPHA IN WATER
 GAS PROPORTIONAL COUNTING

RESULTS

LAB	RAW	SUF-			
SAMPLE ID	TEST	FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha
Preparation batch 7271-096					
S108113-01	80		8689-001	IUH1217-03	U
S108113-02	80		8689-002	IUH1217-04 (TRIP-BLANK)	U
S108113-03	80		8689-003	Lab Control Sample	ok
S108113-04	80		8689-004	Method Blank	U
S108113-05	80		8689-005	Duplicate (S108113-01)	- U

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 7271-096 2σ prep error 20.6 % Reference Lab Notebook 7271 pg. 096																
S108113-01	80		IUH1217-03	1.78	<u>0.100</u>			83		400		24	08/31/11	09/04		GRB-107
S108113-02	80		IUH1217-04 (TRIP-BLANK)	0.351	0.300			0		400		23	08/31/11	09/04		GRB-109
S108113-03	80		Lab Control Sample	0.758	0.250			64		400			08/31/11	09/04		GRB-111
S108113-04	80		Method Blank	0.879	0.250			64		400			08/31/11	09/04		GRB-112
S108113-05	80		Duplicate (S108113-01)	1.89	<u>0.100</u>			83		400		24	08/31/11	09/04		GRB-214

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 1.13 ± 1.34
 FOR 5 SAMPLES RESIDUE 59 ± 68

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-LMS
 Version 3.06
 Report date 09/14/11

EBERLINE ANALYTICAL

SDG 8689

Test 80B Matrix WATER
 SDG 8689
 Contact Joseph Verville

Client Test America, Inc.
 Contract IUH1217

LAB METHOD SUMMARY

GROSS BETA IN WATER
 GAS PROPORTIONAL COUNTING

RESULTS

LAB	RAW	SUF-		
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta
Preparation batch 7271-096				
S108113-01	80	8689-001	IUH1217-03	6.82
S108113-02	80	8689-002	IUH1217-04 (TRIP-BLANK)	U
S108113-03	80	8689-003	Lab Control Sample	ok
S108113-04	80	8689-004	Method Blank	U
S108113-05	80	8689-005	Duplicate (S108113-01)	ok

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 7271-096 2σ prep error 11.0 % Reference Lab Notebook 7271 pg. 096															
S108113-01	80	IUH1217-03	3.55	<u>0.100</u>			83		400		24	08/31/11	09/04	GRB-107	
S108113-02	80	IUH1217-04 (TRIP-BLANK)	0.786	0.300			0		400		23	08/31/11	09/04	GRB-109	
S108113-03	80	Lab Control Sample	1.01	0.250			64		400			08/31/11	09/04	GRB-111	
S108113-04	80	Method Blank	1.03	0.250			64		400			08/31/11	09/04	GRB-112	
S108113-05	80	Duplicate (S108113-01)	3.28	<u>0.100</u>			83		400		24	08/31/11	09/04	GRB-214	

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 1.93 ± 2.72
 FOR 5 SAMPLES RESIDUE 59 ± 68

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-LMS
 Version 3.06
 Report date 09/14/11

EBERLINE ANALYTICAL

SDG 8689

LAB METHOD SUMMARY

GAMMA EMITTERS IN WATER
GAMMA SPECTROSCOPY

Test GAM Matrix WATER

SDG 8689

Contact Joseph Verville

Client Test America, Inc.

Contract IUH1217

RESULTS

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

Preparation batch 7271-096

S108113-01		8689-001	IUH1217-03			U
S108113-02		8689-002	IUH1217-04 (TRIP-BLANK)			U
S108113-03		8689-003	Lab Control Sample	ok		ok
S108113-04		8689-004	Method Blank			U
S108113-05		8689-005	Duplicate (S108113-01)			- 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 7271-096 2σ prep error 7.0 % Reference Lab Notebook 7271 pg. 096

S108113-01		IUH1217-03		2.00						993		23	08/31/11	09/03	01,02,00
S108113-02		IUH1217-04 (TRIP-BLANK)		2.00						993		22	08/31/11	09/03	MB,05,00
S108113-03		Lab Control Sample		2.00						993			08/31/11	09/03	MB,06,00
S108113-04		Method Blank		2.00						993			08/31/11	09/03	MB,08,00
S108113-05		Duplicate (S108113-01)		2.00						446		24	08/31/11	09/04	01,01,00

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 09/14/11

EBERLINE ANALYTICAL

SDG 8689

Test U T Matrix WATER

SDG 8689

Contact Joseph Verville

Client Test America, Inc.

Contract IUH1217

LAB METHOD SUMMARY

URANIUM, TOTAL

KINETIC PHOSPHORIMETRY, UG

RESULTS

LAB	RAW	SUF-		Uranium,	
SAMPLE ID	TEST	FIX	PLANCHET	CLIENT SAMPLE ID	Total
Preparation batch 7271-096					
S108113-01			8689-001	IUH1217-03	0.115 J
S108113-02			8689-002	IUH1217-04 (TRIP-BLANK)	U
S108113-03			8689-003	Lab Control Sample	ok
S108113-04			8689-004	Method Blank	U
S108113-05			8689-005	Duplicate (S108113-01)	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 7271-096 2σ prep error Reference Lab Notebook 7271 pg. 096																
S108113-01			IUH1217-03	0.028	0.0200								25	09/05/11	09/05	KPA-001
S108113-02			IUH1217-04 (TRIP-BLANK)	0.028	0.0200								24	09/05/11	09/05	KPA-001
S108113-03			Lab Control Sample	0.284	0.0200									09/05/11	09/05	KPA-001
S108113-04			Method Blank	0.028	0.0200									09/05/11	09/05	KPA-001
S108113-05			Duplicate (S108113-01)	0.028	0.0200								25	09/05/11	09/05	KPA-001

Nominal values and limits from method 1.00 0.0200 180

PROCEDURES REFERENCE D5174

AVERAGES ± 2 SD MDA 0.079 ± 0.229
FOR 5 SAMPLES YIELD _____ ± _____

METHOD SUMMARIES

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Lab id EAS

Protocol TA

Version Ver 1.0

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Version 3.06

Report date 09/14/11

EBERLINE ANALYTICAL

SDG 8689

LAB METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Test H Matrix WATER
 SDG 8689
 Contact Joseph Verville

Client Test America, Inc.
 Contract IUH1217

RESULTS

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

Preparation batch 7271-096

S108113-01		8689-001	IUH1217-03	U
S108113-03		8689-003	Lab Control Sample	ok
S108113-04		8689-004	Method Blank	U
S108113-05		8689-005	Duplicate (S108113-01)	- 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 7271-096 2σ prep error 10.0 % Reference Lab Notebook 7271 pg. 096

S108113-01		IUH1217-03	156	0.0100			100	150		20	08/30/11	08/31	LSC-004
S108113-03		Lab Control Sample	154	0.100			10	150			08/30/11	08/31	LSC-004
S108113-04		Method Blank	155	0.100			10	150			08/30/11	08/31	LSC-004
S108113-05		Duplicate (S108113-01)	156	0.0100			100	150		20	08/30/11	08/31	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 155 ± 1.91
 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 09/14/11

EBERLINE ANALYTICAL

SDG 8689

Test RA Matrix WATER
 SDG 8689
 Contact Joseph Verville

LAB METHOD SUMMARY

RADIUM-226 IN WATER
 RADON COUNTING

Client Test America, Inc.
 Contract IUH1217

RESULTS

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

Preparation batch 7271-096

S108113-01	8689-001	IUH1217-03	U
S108113-02	8689-002	IUH1217-04 (TRIP-BLANK)	U
S108113-03	8689-003	Lab Control Sample	ok
S108113-04	8689-004	Method Blank	U
S108113-05	8689-005	Duplicate (S108113-01)	- 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 7271-096 2σ prep error 16.4 % Reference Lab Notebook 7271 pg. 096

S108113-01	IUH1217-03	0.639	0.100	100	<u>81</u>	32	09/12/11	09/12	RN-012
S108113-02	IUH1217-04 (TRIP-BLANK)	0.661	0.100	100	<u>81</u>	31	09/12/11	09/12	RN-013
S108113-03	Lab Control Sample	0.856	0.100	100	<u>81</u>		09/12/11	09/12	RN-009
S108113-04	Method Blank	0.693	0.100	100	<u>81</u>		09/12/11	09/12	RN-010
S108113-05	Duplicate (S108113-01)	0.614	0.100	100	<u>81</u>	32	09/12/11	09/12	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 0.693 ± 0.192
 FOR 5 SAMPLES YIELD 100 ± 0

METHOD SUMMARIES

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REPORT GUIDE

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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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- 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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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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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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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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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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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 (IUH1217)

8689

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: 3 °C Ice: Y / N

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

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

Sample ID: IUH1217-03 (Outfall 019 (Composite) - Water)

Sampled: 08/11/11 12:15

Gamma Spec-O	mg/kg	08/10/12 12:15	Out eberline k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	02/07/12 12:15	Out eberline, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	02/07/12 12:15	Out Eberline, Boeing permit, DO NOT FILTER!
Radium, Combined-O	pCi/L	08/10/12 12:15	Out eberline Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	08/10/12 12:15	Out eberline Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	08/10/12 12:15	Out eberline Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	08/10/12 12:15	Out eberline, Boeing permit, DO NOT FILTER!

Containers Supplied:

2.5 gal Poly (U) 500 mL Amber (V)

Sample ID: IUH1217-04 (Trip Blank - Water)

Sampled: 08/12/11 14:30

Gamma Spec-O	mg/kg	08/11/12 14:30	Out eberline k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	02/08/12 14:30	Out eberline, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	02/08/12 14:30	Out Eberline, Boeing permit, DO NOT FILTER!
Radium, Combined-O	pCi/L	08/11/12 14:30	Out eberline Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	08/11/12 14:30	Out eberline Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	08/11/12 14:30	Out eberline, Boeing permit, DO NOT FILTER!

Containers Supplied:

2.5 gal Poly (A)

Released By [Signature] Date/Time _____

Received By [Signature] Date/Time 08/16/11 0930

Released By _____ Date/Time _____

Received By _____ Date/Time _____



RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA
 Date/Time received 08/16/11 0930 CoC No. 1041217
 Container I.D. No. KECTEST Requested TAT (Days) STD P.D. Received Yes [] No []

INSPECTION

1. Custody seals on shipping container intact? Yes [] No [] N/A [x]
2. Custody seals on shipping container dated & signed? Yes [] No [] N/A [x]
3. Custody seals on sample containers intact? Yes [] No [] N/A [x]
4. Custody seals on sample containers dated & signed? Yes [] No [] N/A [x]
5. Packing material is: Wet [] Dry [x]
6. Number of samples in shipping container: 1 Sample Matrix W
7. Number of containers per sample: 2 (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 [x] Not preserved [x] pH <7/N/A Preservative H2O2
13. Describe any anomalies:

14. Was P.M. notified of any anomalies? Yes [] No [] Date _____
 15. Inspected by J Meyer Date: 08/16/11 Time: 1100

Customer Sample No.	Beta/Gamma com	Ion Chamber mR/hr	Wide	Customer Sample No.	Beta/Gamma com	Ion Chamber mR/hr	Wide
<u>See samples</u>	<u><50</u>						

Ion Chamber Ser. No. _____ Calibration date _____
 Alpha Meter Ser. No. _____ Calibration date _____
 Beta/Gamma Meter Ser. No. 100482 Calibration date 24 SEP 10

APPENDIX G

Section 7

Outfall 019 – September 7 & 8, 2011

MEC^X Data Validation Reports



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IUI0596

Prepared by

MECX, 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: IUI0596
 Project Manager: B. Kelly
 Matrix: Water
 QC Level: IV
 No. of Samples: 2
 No. of Reanalyses/Dilutions: 0
 Laboratory: TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 019 (Grab)	IUI0596-01	N/A	Water	9/7/2011 9:45:00 AM	EPA 120.1
Outfall 019 (Composite)	IUI0596-03	G11100406-001,	Water	9/8/2011 10:20:00 AM	180.1, 200.7, 200.7 (Diss), 245.1, 245.1 (Diss), 1613B, 300.0, 314.0, 900.0 MOD, 901.1 MOD, 903.0 MOD, 904 MOD, 905 MOD, 906.0 MOD, SM2340B, SM2340B (Diss), SM5310B, ASTM D-5174

II. Sample Management

No anomalies were observed regarding sample management. The samples were received above the temperature limit at TestAmerica-Irvine, as the samples had insufficient time to cool in transit from the field. The samples in this SDG were received at TestAmerica-West Sacramento within the temperature limits of 4°C ±2°C. Eberline did not note the temperature upon receipt; however, due to the nonvolatile nature of the analytes, no qualifications were required. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the samples were couriered to TestAmerica-Irvine, custody seals were not required. Custody seals were intact upon receipt at TestAmerica-West Sacramento and Eberline. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

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

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin

Date Reviewed: October 14, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^x Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0)*, *USEPA Method 1613*, and the *National Functional Guidelines Chlorinated Dioxin/Furan Data Review (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 above the EDL for most target compounds. Most method blank results were reported as EMPCs; however, due to the extent of the method blank contamination, the reviewer deemed it appropriate to use all method blank results to qualify sample results. Sample results for the individual isomer method blank contaminants were qualified as nondetected, "U," at the level of contamination. Results for

total HpCDD and total HpCDF were also qualified as nondetected, "U," as the peaks comprising the totals in the sample were present at comparable concentrations in the method blank. The remaining total results were qualified as estimated, "J," as only a portion of the total was method blank contamination.

- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria listed in Table 6 of Method 1613, and RPDs were within the laboratory control limit of $\leq 50\%$.
- 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 internal standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613.
- Compound Identification: Compound identification was verified. A confirmation analysis was performed for the EMPC result for 2,3,7,8-TCDF in the sample. The confirmation analysis was also reported as an EMPC. The original result was retained, and the confirmation result rejected, "R," as duplicate data. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613.
- Compound Quantification and Reported Detection Limits: Compound quantitation was verified by recalculating any sample detects and a representative number of blank spike concentrations. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J." EMPCs qualified as nondetected for method blank contamination were not further qualified. Remaining individual isomers reported as EMPCs were qualified as estimated nondetects, "UJ," at the level of the EMPC. Any reportable totals containing 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 METHODS 200.7 and 245.1—Metals and Mercury

Reviewed By: P. Meeks

Date Reviewed: October 14, 2011

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0)*, *EPA Methods 200.7, 245.1*, and the *National Functional Guidelines for Inorganic Data Review (7/02)*.

- Holding Times: Analytical holding times, six months for ICP metals and 28 days for mercury, were met.
- Tuning: Not applicable to these analyses.
- Calibration: Calibration criteria were met. Mercury initial calibration r^2 values were ≥ 0.995 and all initial and continuing calibration recoveries were within 90-110% for the ICP and 85-115% for mercury. CRDL/CRI recoveries were within the control limits of 70-130%.
- Blanks: Method blanks and CCBs had no detects.
- Interference Check Samples: Recoveries were within the method-established control limits. There were no target compounds present in the ICSA solution at concentrations indicative of matrix interference.
- Blank Spikes and Laboratory Control Samples: Recoveries and the dissolved mercury RPD 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.
- Internal Standards Performance: Not applicable to these analyses.
- 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.

The laboratory reported dissolved concentrations for calcium, magnesium, and zinc that were larger than the total results. The dissolved results were nominally higher and were within the error of the instrumentation.

- 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: October 14, 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. Aliquots for the remaining analytes were preserved within the five-day analytical holding time.
- 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. All KPA calibration check standard recoveries were within 90-110% and were deemed acceptable.

- 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:** Laboratory duplicate analyses were performed on the sample in this SDG for all analytes. The RPDs were within the laboratory-established control limits.
- **Matrix Spike/Matrix Spike Duplicate:** MS/MSD analyses were not 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.
- **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: October 14, 2011

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0)*, *EPA Methods 180.1, 300.0, 314.0, SM2340B, and SM5310B*, and the *National Functional Guidelines for Inorganic Data Review (7/02)*.

- **Holding Times:** Analytical holding times, 28 days for TOC and conductivity, were met.
- **Calibration:** Calibration criteria were met. All Initial calibration r^2 values were ≥ 0.995 . The TOC and anion initial and continuing calibration recoveries were within 90-110%. The perchlorate IPC-MA recovery was within 80-120%, the ICCS recovery was within 75-125%, and the ICV and CCV recoveries were within 85-115%.
- **Blanks:** The method blanks and CCBs had no detects.
- **Blank Spikes and Laboratory Control Samples:** TOC and anion recoveries were within laboratory-established QC limits. Perchlorate recoveries were within 85-115%.

- **Laboratory Duplicates:** A laboratory duplicate analysis was performed on the sample in this SDG for turbidity. The RPD was within the laboratory-established control limits.
- **Matrix Spike/Matrix Spike Duplicate:** MS/MSD analyses were performed on the sample in this SDG for perchlorate. The recoveries and RPD were within the method-established control limits of 80-120% and $\leq 15\%$. Method accuracy for the remaining methods 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 IUI0596

Analysis Method 900

Sample Name Outfall 019 (Composite) **Matrix Type:** WATER **Validation Level:** IV
Lab Sample Name: IUI0596-03 **Sample Date:** 9/8/2011 10:20:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	0.717	3	2.04	pCi/L	U	UJ	C
Gross Beta	12587472	7.87	4	1.13	pCi/L			

Analysis Method 901.1

Sample Name Outfall 019 (Composite) **Matrix Type:** WATER **Validation Level:** IV
Lab Sample Name: IUI0596-03 **Sample Date:** 9/8/2011 10:20:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	ND	20	1.48	pCi/L	U	U	
Potassium-40	13966002	ND	25	20.3	pCi/L	U	U	

Analysis Method 903.1

Sample Name Outfall 019 (Composite) **Matrix Type:** WATER **Validation Level:** IV
Lab Sample Name: IUI0596-03 **Sample Date:** 9/8/2011 10:20:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	0.122	1	0.678	pCi/L	U	U	

Analysis Method 904

Sample Name Outfall 019 (Composite) **Matrix Type:** WATER **Validation Level:** IV
Lab Sample Name: IUI0596-03 **Sample Date:** 9/8/2011 10:20:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	0.447	1	0.498	pCi/L	U	U	

Analysis Method 905

Sample Name Outfall 019 (Composite) **Matrix Type:** WATER **Validation Level:** IV
Lab Sample Name: IUI0596-03 **Sample Date:** 9/8/2011 10:20:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	-0.292	2	0.93	pCi/L	U	U	

Analysis Method 906

Sample Name Outfall 019 (Composite) **Matrix Type:** WATER **Validation Level:** IV
Lab Sample Name: IUI0596-03 **Sample Date:** 9/8/2011 10:20:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	-15.4	500	155	pCi/L	U	U	

Analysis Method ASTM 5174-91

Sample Name Outfall 019 (Composite) **Matrix Type:** WATER **Validation Level:** IV
Lab Sample Name: IUI0596-03 **Sample Date:** 9/8/2011 10:20:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total	NA	0.04	1	0.022	pCi/L	Jb	J	DNQ

Analysis Method EPA 180.1

Sample Name Outfall 019 (Composite) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUI0596-03 **Sample Date:** 9/8/2011 10:20:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Turbidity	Turb	0.060	1.0	0.040	NTU	Ja	J	DNQ

Analysis Method EPA 200.7

Sample Name Outfall 019 (Composite) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUI0596-03 **Sample Date:** 9/8/2011 10:20:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Calcium	7440-70-2	150	0.10	0.050	mg/l			
Magnesium	7439-95-4	19	0.020	0.012	mg/l			
Zinc	7440-66-6	7.67	20.0	6.00	ug/l	Ja	J	DNQ

Analysis Method EPA 200.7-Diss

Sample Name Outfall 019 (Composite) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUI0596-03 **Sample Date:** 9/8/2011 10:20:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Calcium	7440-70-2	150	0.10	0.050	mg/l	B-1		
Magnesium	7439-95-4	19	0.020	0.012	mg/l	B-1		
Zinc	7440-66-6	7.28	20.0	6.00	ug/l	Ja	J	DNQ

Analysis Method EPA 245.1

Sample Name	Outfall 019 (Composite)	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUI0596-03	Sample Date:	9/8/2011 10:20:00 AM					
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 019 (Composite)	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUI0596-03	Sample Date:	9/8/2011 10:20:00 AM					
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 300.0

Sample Name	Outfall 019 (Composite)	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUI0596-03	Sample Date:	9/8/2011 10:20:00 AM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chloride	16887-00-6	170	10	6.0	mg/l			
Nitrate/Nitrite-N	NA	ND	0.26	0.15	mg/l		U	
Nitrate-N	14797-55-8	0.092	0.11	0.060	mg/l	Ja	J	DNQ
Nitrite-N	14797-65-0	ND	0.15	0.090	mg/l		U	
Sulfate	14808-79-8	140	10	6.0	mg/l			

Analysis Method EPA 314.0

Sample Name	Outfall 019 (Composite)	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUI0596-03	Sample Date:	9/8/2011 10:20:00 AM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Perchlorate	14797-73-0	ND	4.0	0.95	ug/l		U	

Analysis Method EPA-5 1613B

Sample Name Outfall 019 (Composite) **Matrix Type:** WATER **Validation Level:** IV
Lab Sample Name: IUI0596-03 **Sample Date:** 9/8/2011 10:20:00 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	0.0000014	ug/L	J, B	U	B
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.00005	0.0000018	ug/L	J, Q, B	U	B
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.00005	0.000002	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.00005	0.0000007	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.00005	0.0000007	ug/L	J, B	U	B
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.00005	0.0000007	ug/L	J, Q	UJ	*III
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.00005	0.0000007	ug/L	J, Q, B	U	B
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.00005	0.0000007	ug/L	J, B	U	B
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.00005	0.0000007	ug/L	J, Q, B	U	B
1,2,3,7,8-PeCDD	40321-76-4	ND	0.00005	0.0000015	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.00005	0.0000013	ug/L	J, B	U	B
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.00005	0.0000007	ug/L	J, Q, B	U	B
2,3,4,7,8-PeCDF	57117-31-4	ND	0.00005	0.0000019	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.00001	0.0000014	ug/L		U	
2,3,7,8-TCDF	51207-31-9	2.2e-006	0.00001	0.000003	ug/L	J, Q	R	D
2,3,7,8-TCDF	51207-31-9	ND	0.00001	0.0000013	ug/L	J, Q	UJ	*III
OCDD	3268-87-9	ND	0.00016	0.0000024	ug/L	B	U	B
OCDF	39001-02-0	1.5e-005	0.0001	0.0000022	ug/L	J, B	J	DNQ
Total HpCDD	37871-00-4	ND	0.00005	0.0000014	ug/L	J, B	U	B
Total HpCDF	38998-75-3	ND	0.00005	0.0000018	ug/L	J, Q, B	U	B
Total HxCDD	34465-46-8	1.9e-006	0.00005	0.0000007	ug/L	J, Q, B	J	B, DNQ, *III
Total HxCDF	55684-94-1	1.5e-005	0.00005	0.0000007	ug/L	J, Q, B	J	B, DNQ, *III
Total PeCDD	36088-22-9	ND	0.00005	0.0000015	ug/L		U	
Total PeCDF	30402-15-4	9.1e-006	0.00005	0.0000014	ug/L	J, Q, B	J	B, DNQ, *III
Total TCDD	41903-57-5	ND	0.00001	0.0000014	ug/L		U	
Total TCDF	55722-27-5	1e-005	0.00001	0.0000013	ug/L	J, Q, B	J	B, DNQ, *III

Analysis Method SM2340B

Sample Name Outfall 019 (Composite) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUI0596-03 **Sample Date:** 9/8/2011 10:20:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Hardness (as CaCO3)	NA	460	0.33	0.17	mg/l			

Analysis Method SM2340B-Diss

Sample Name Outfall 019 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: IUI0596-03 **Sample Date:** 9/8/2011 10:20:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Hardness as CaCO3	NA	460	0.33	0.17	mg/l			

Analysis Method SM5310B

Sample Name Outfall 019 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: IUI0596-03 **Sample Date:** 9/8/2011 10:20:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Organic Carbon	TOC	3.3	1.0	0.50	mg/l			

APPENDIX G

Section 8

Outfall 019 – September 7, 8, & 9, 2011

Test America Analytical Laboratory Reports

LABORATORY REPORT

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

Project: Monthly Outfall 019
Monthly Outfall 019

Sampled: 09/07/11-09/09/11
Received: 09/07/11
Issued: 10/14/11 08:41

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 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

The reporting limit has been raised for 2,3,7,8-TCDF in the associated laboratory control sample (LCS) due to elevated instrument noise. There is no adverse impact to the quality of the data as a result of this anomaly. The data is reported with an "H" flag.

After the initial analysis on a DB5 column, this sample required a confirmation analyses for 2,3,7,8-TCDF, which is performed using a DB225 column. The continuing calibration verification (CCV) ST0920 analyzed on September 20, 2011 at 10:51 has a recovery for the cleanup recovery standard (CRS) 37Cl-2,3,7,8-TCDD that is outside the method criteria resulting in a potential low bias. All other criteria for this CCV are acceptable. The CRS is within the acceptance range for the sample and the associated QC in both the initial analysis (DB5) and the confirmation analysis (DB225). The CRS is not used in calculating the concentration of 2,3,7,8-TCDF and there is no adverse impact on the quality of this data.

LABORATORY ID	CLIENT ID	MATRIX
IUI0596-01	Outfall 019 (Grab)	Water
IUI0596-02	Trip Blanks	Water
IUI0596-03	Outfall 019 (Composite)	Water
IUI0596-04	Trip 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: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUI0596

Sampled: 09/07/11-09/09/11
Received: 09/07/11

Debby Wilson

TestAmerica Irvine

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Project Manager

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MWH-Pasadena/Boeing
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Project ID: Monthly Outfall 019
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Sampled: 09/07/11-09/09/11
Received: 09/07/11

PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUI0596-01 (Outfall 019 (Grab) - Water)					Sampled: 09/07/11				
Reporting Units: ug/l									
Benzene	EPA 624	11I1315	0.28	0.50	ND	1	SS	09/14/11	
Carbon tetrachloride	EPA 624	11I1315	0.28	0.50	ND	1	SS	09/14/11	
Chloroform	EPA 624	11I1315	0.33	0.50	ND	1	SS	09/14/11	
1,1-Dichloroethane	EPA 624	11I1315	0.40	0.50	ND	1	SS	09/14/11	
1,2-Dichloroethane	EPA 624	11I1315	0.28	0.50	ND	1	SS	09/14/11	
1,1-Dichloroethene	EPA 624	11I1315	0.42	0.50	ND	1	SS	09/14/11	
Ethylbenzene	EPA 624	11I1315	0.25	0.50	ND	1	SS	09/14/11	
Tetrachloroethene	EPA 624	11I1315	0.32	0.50	ND	1	SS	09/14/11	
Toluene	EPA 624	11I1315	0.36	0.50	ND	1	SS	09/14/11	
1,1,1-Trichloroethane	EPA 624	11I1315	0.30	0.50	ND	1	SS	09/14/11	
1,1,2-Trichloroethane	EPA 624	11I1315	0.30	0.50	ND	1	SS	09/14/11	
Trichloroethene	EPA 624	11I1315	0.26	0.50	ND	1	SS	09/14/11	
Trichlorofluoromethane	EPA 624	11I1315	0.34	0.50	ND	1	SS	09/14/11	
Trichlorotrifluoroethane (Freon 113)	EPA 624	11I1315	0.50	5.0	ND	1	SS	09/14/11	
Vinyl chloride	EPA 624	11I1315	0.40	0.50	ND	1	SS	09/14/11	
Xylenes, Total	EPA 624	11I1315	0.90	1.5	ND	1	SS	09/14/11	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					97 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					107 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					105 %				

Sample ID: IUI0596-02 (Trip Blanks - Water)

Sampled: 09/07/11

Reporting Units: ug/l

Benzene	EPA 624	11I1315	0.28	0.50	ND	1	SS	09/14/11	
Carbon tetrachloride	EPA 624	11I1315	0.28	0.50	ND	1	SS	09/14/11	
Chloroform	EPA 624	11I1315	0.33	0.50	ND	1	SS	09/14/11	
1,1-Dichloroethane	EPA 624	11I1315	0.40	0.50	ND	1	SS	09/14/11	
1,2-Dichloroethane	EPA 624	11I1315	0.28	0.50	ND	1	SS	09/14/11	
1,1-Dichloroethene	EPA 624	11I1315	0.42	0.50	ND	1	SS	09/14/11	
Ethylbenzene	EPA 624	11I1315	0.25	0.50	ND	1	SS	09/14/11	
Tetrachloroethene	EPA 624	11I1315	0.32	0.50	ND	1	SS	09/14/11	
Toluene	EPA 624	11I1315	0.36	0.50	ND	1	SS	09/14/11	
1,1,1-Trichloroethane	EPA 624	11I1315	0.30	0.50	ND	1	SS	09/14/11	
1,1,2-Trichloroethane	EPA 624	11I1315	0.30	0.50	ND	1	SS	09/14/11	
Trichloroethene	EPA 624	11I1315	0.26	0.50	ND	1	SS	09/14/11	
Trichlorofluoromethane	EPA 624	11I1315	0.34	0.50	ND	1	SS	09/14/11	
Trichlorotrifluoroethane (Freon 113)	EPA 624	11I1315	0.50	5.0	ND	1	SS	09/14/11	
Vinyl chloride	EPA 624	11I1315	0.40	0.50	ND	1	SS	09/14/11	
Xylenes, Total	EPA 624	11I1315	0.90	1.5	ND	1	SS	09/14/11	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					97 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					107 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					104 %				

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 Monthly Outfall 019
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Sampled: 09/07/11-09/09/11
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ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUI0596-03 (Outfall 019 (Composite) - Water)					Sampled: 09/08/11				
Reporting Units: ug/l									
Bis(2-ethylhexyl)phthalate	EPA 625	11I1123	1.62	4.76	ND	0.952	UP\	09/12/11	
2,4-Dinitrotoluene	EPA 625	11I1123	0.190	4.76	ND	0.952	UP\	09/12/11	
N-Nitrosodimethylamine	EPA 625	11I1123	0.0952	4.76	ND	0.952	UP\	09/12/11	
Pentachlorophenol	EPA 625	11I1123	0.0952	4.76	ND	0.952	UP\	09/12/11	
2,4,6-Trichlorophenol	EPA 625	11I1123	0.0952	5.71	ND	0.952	UP\	09/12/11	
<i>Surrogate: 2,4,6-Tribromophenol (40-120%)</i>					89 %				
<i>Surrogate: 2-Fluorobiphenyl (50-120%)</i>					87 %				
<i>Surrogate: 2-Fluorophenol (30-120%)</i>					79 %				
<i>Surrogate: Nitrobenzene-d5 (45-120%)</i>					83 %				
<i>Surrogate: Phenol-d6 (35-120%)</i>					85 %				
<i>Surrogate: Terphenyl-d14 (50-125%)</i>					95 %				

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ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUI0596-03 (Outfall 019 (Composite) - Water) - cont.					Sampled: 09/08/11				
Reporting Units: ug/l									
alpha-BHC	EPA 608	1111558	0.0024	0.0095	ND	0.952	DXD	09/15/11	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					80 %				
<i>Surrogate: Tetrachloro-m-xylene (35-115%)</i>					68 %				

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HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUI0596-01 (Outfall 019 (Grab) - Water)					Sampled: 09/07/11				
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	11I2420	1.3	4.7	ND	1	DA	09/21/11	

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 Monthly Outfall 019
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METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUI0596-03 (Outfall 019 (Composite) - Water)					Sampled: 09/08/11				
Reporting Units: mg/l									
Hardness (as CaCO3)	SM2340B	[CALC]		0.33	460	1	NH	09/13/11	
Calcium	EPA 200.7	11I1036	0.050	0.10	150	1	NH	09/13/11	
Magnesium	EPA 200.7	11I1036	0.012	0.020	19	1	NH	09/13/11	
Sample ID: IUI0596-03 (Outfall 019 (Composite) - Water)					Sampled: 09/08/11				
Reporting Units: ug/l									
Mercury	EPA 245.1	11I0886	0.10	0.20	ND	1	DB	09/09/11	
Cadmium	EPA 200.8	11I1192	0.10	1.0	ND	1	DT	09/12/11	
Zinc	EPA 200.7	11I1036	6.00	20.0	7.67	1	NH	09/13/11	Ja
Copper	EPA 200.8	11I1192	0.500	2.00	ND	1	DT	09/12/11	
Lead	EPA 200.8	11I1192	0.20	1.0	0.22	1	DT	09/12/11	Ja
Selenium	EPA 200.8	11I1192	0.50	2.0	0.53	1	DT	09/12/11	Ja

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DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUI0596-03 (Outfall 019 (Composite) - Water) - cont.					Sampled: 09/08/11				
Reporting Units: mg/l									
Hardness as CaCO3	SM2340B-Diss	[CALC]		0.33	460	1	NH	09/14/11	
Calcium	EPA 200.7-Diss	11I1224	0.050	0.10	150	1	NH	09/14/11	B-1
Magnesium	EPA 200.7-Diss	11I1224	0.012	0.020	19	1	NH	09/14/11	B-1
Sample ID: IUI0596-03 (Outfall 019 (Composite) - Water)					Sampled: 09/08/11				
Reporting Units: ug/l									
Mercury	EPA 245.1-Diss	11I2045	0.10	0.20	ND	1	DB	09/19/11	
Cadmium	EPA 200.8-Diss	11I1565	0.10	1.0	ND	1	KB	09/15/11	
Zinc	EPA 200.7-Diss	11I1224	6.00	20.0	7.28	1	NH	09/14/11	Ja
Copper	EPA 200.8-Diss	11I1565	0.500	2.00	0.796	1	KB	09/15/11	Ja
Lead	EPA 200.8-Diss	11I1565	0.20	1.0	0.20	1	KB	09/15/11	Ja
Selenium	EPA 200.8-Diss	11I1565	0.50	2.0	0.51	1	KB	09/15/11	Ja

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INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUI0596-03 (Outfall 019 (Composite) - Water) - cont.					Sampled: 09/08/11				
Reporting Units: mg/l									
Ammonia-N (Distilled)	SM4500NH3-C	11I1237	0.500	0.500	ND	1	NCP	09/12/11	
Biochemical Oxygen Demand	SM5210B	11I1042	0.50	2.0	ND	1	XL	09/14/11	
Chloride	EPA 300.0	11I0833	6.0	10	170	20	NN	09/09/11	
Nitrate-N	EPA 300.0	11I0833	0.060	0.11	0.092	1	NN	09/09/11	Ja
Nitrite-N	EPA 300.0	11I0833	0.090	0.15	ND	1	NN	09/09/11	
Nitrate/Nitrite-N	EPA 300.0	11I0833	0.15	0.26	ND	1	NN	09/09/11	
Sulfate	EPA 300.0	11I0833	6.0	10	140	20	NN	09/09/11	
Surfactants (MBAS)	SM5540-C	11I0923	0.050	0.10	ND	1	CC	09/08/11	
Total Dissolved Solids	SM2540C	11I0924	1.0	10	740	1	MC	09/09/11	
Total Organic Carbon	SM5310B	11I0929	0.50	1.0	3.3	1	FZ	09/09/11	
Total Suspended Solids	SM 2540D	11I1045	1.0	10	ND	1	DK1	09/09/11	

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INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUI0596-01 (Outfall 019 (Grab) - Water)					Sampled: 09/07/11				
Reporting Units: ml/l									
Total Settleable Solids	SM2540F	11I0823	0.10	0.10	ND	1	RRZ	09/08/11	
Sample ID: IUI0596-03 (Outfall 019 (Composite) - Water)					Sampled: 09/08/11				
Reporting Units: NTU									
Turbidity	EPA 180.1	11I0980	0.040	1.0	0.060	1	AK1	09/09/11	Ja
Sample ID: IUI0596-03 (Outfall 019 (Composite) - Water)					Sampled: 09/08/11				
Reporting Units: ug/l									
Perchlorate	EPA 314.0	11I1284	0.95	4.0	ND	1	mn	09/13/11	
Total Cyanide	SM4500CN-E	11I2487	2.2	5.0	ND	1	SLA	09/21/11	

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Sampled: 09/07/11-09/09/11
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8690

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUI0596-03 (Outfall 019 (Composite) - Water) - cont.					Sampled: 09/08/11				
Reporting Units: pCi/L									
Uranium, Total	8690	8690	0.022	1	0.04	1	CSS	09/30/11	Jb
Sample ID: IUI0596-04 (Trip Blank - Water)					Sampled: 09/09/11				
Reporting Units: pCi/L									
Uranium, Total	8690	8690	0.022	1	ND	1	CSS	09/30/11	U

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Sampled: 09/07/11-09/09/11
 Received: 09/07/11

900

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUI0596-03 (Outfall 019 (Composite) - Water)					Sampled: 09/08/11				
Reporting Units: pCi/L									
Gross Alpha	900	8690	2.04	3	0.717	1	DVP	09/27/11	U
Gross Beta	900	8690	1.13	4	7.87	1	DVP	09/27/11	
Sample ID: IUI0596-04 (Trip Blank - Water)					Sampled: 09/09/11				
Reporting Units: pCi/L									
Gross Alpha	900	8690	0.492	3	-0.116	1	DVP	09/22/11	U
Gross Beta	900	8690	1.28	4	-0.227	1	DVP	09/22/11	U

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901.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUI0596-03 (Outfall 019 (Composite) - Water)					Sampled: 09/08/11				
Reporting Units: pCi/L									
Cesium-137	901.1	8690	1.48	20	ND	1	LS	09/19/11	U
Potassium-40	901.1	8690	20.3	25	ND	1	LS	09/19/11	U
Sample ID: IUI0596-04 (Trip Blank - Water)					Sampled: 09/09/11				
Reporting Units: pCi/L									
Cesium-137	901.1	8690	1.36	20	ND	1	LS	09/19/11	U
Potassium-40	901.1	8690	17.4	25	ND	1	LS	09/19/11	U

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903.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUI0596-03 (Outfall 019 (Composite) - Water)					Sampled: 09/08/11				
Reporting Units: pCi/L									
Radium-226	903.1	8690	0.678	1	0.122	1	ASM	09/28/11	U
Sample ID: IUI0596-04 (Trip Blank - Water)					Sampled: 09/09/11				
Reporting Units: pCi/L									
Radium-226	903.1	8690	0.757	1	0.25	1	ASM	09/28/11	U

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904

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUI0596-03 (Outfall 019 (Composite) - Water)					Sampled: 09/08/11				
Reporting Units: pCi/L									
Radium-228	904	8690	0.498	1	0.447	1	PAS	09/28/11	U
Sample ID: IUI0596-04 (Trip Blank - Water)					Sampled: 09/09/11				
Reporting Units: pCi/L									
Radium-228	904	8690	0.495	1	0.071	1	PAS	09/28/11	U

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905

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUI0596-03 (Outfall 019 (Composite) - Water)					Sampled: 09/08/11				
Reporting Units: pCi/L									
Strontium-90	905	8690	0.93	2	-0.292	1	WL	09/22/11	U
Sample ID: IUI0596-04 (Trip Blank - Water)					Sampled: 09/09/11				
Reporting Units: pCi/L									
Strontium-90	905	8690	1.01	2	0.092	1	WL	09/22/11	U

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 Project Manager

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUI0596

Sampled: 09/07/11-09/09/11
Received: 09/07/11

906

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUI0596-03 (Outfall 019 (Composite) - Water)					Sampled: 09/08/11				
Reporting Units: pCi/L									
Tritium	906	8690	155	500	-15.4	1	WL	09/25/11	U

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MWH-Pasadena/Boeing
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 Arcadia, CA 91007
 Attention: Bronwyn Kelly

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUI0596

Sampled: 09/07/11-09/09/11
 Received: 09/07/11

EPA-5 1613Bx

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUI0596-03 (Outfall 019 (Composite) - Water) - cont.					Sampled: 09/08/11				
Reporting Units: ug/L									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	1257077	0.0000014	0.00005	1.4e-005	0.96	MN	09/16/11	J, B
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	1257077	0.0000018	0.00005	4.9e-006	0.96	MN	09/16/11	J, Q, B
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	1257077	0.000002	0.00005	ND	0.96	MN	09/16/11	
1,2,3,4,7,8-HxCDD	EPA-5 1613B	1257077	0.00000079	0.00005	ND	0.96	MN	09/16/11	
1,2,3,4,7,8-HxCDF	EPA-5 1613B	1257077	0.00000074	0.00005	2.8e-006	0.96	MN	09/16/11	J, B
1,2,3,6,7,8-HxCDD	EPA-5 1613B	1257077	0.00000076	0.00005	7.9e-007	0.96	MN	09/16/11	J, Q
1,2,3,6,7,8-HxCDF	EPA-5 1613B	1257077	0.00000075	0.00005	9.4e-007	0.96	MN	09/16/11	J, Q, B
1,2,3,7,8,9-HxCDD	EPA-5 1613B	1257077	0.00000072	0.00005	1.2e-006	0.96	MN	09/16/11	J, B
1,2,3,7,8,9-HxCDF	EPA-5 1613B	1257077	0.00000078	0.00005	1.2e-006	0.96	MN	09/16/11	J, Q, B
1,2,3,7,8-PeCDD	EPA-5 1613B	1257077	0.0000015	0.00005	ND	0.96	MN	09/16/11	
1,2,3,7,8-PeCDF	EPA-5 1613B	1257077	0.0000013	0.00005	2.8e-006	0.96	MN	09/16/11	J, B
2,3,4,6,7,8-HxCDF	EPA-5 1613B	1257077	0.00000071	0.00005	1.1e-006	0.96	MN	09/16/11	J, Q, B
2,3,4,7,8-PeCDD	EPA-5 1613B	1257077	0.0000019	0.00005	ND	0.96	MN	09/16/11	
2,3,7,8-TCDD	EPA-5 1613B	1257077	0.0000014	0.00001	ND	0.96	MN	09/16/11	
2,3,7,8-TCDF	EPA-5 1613B	1257077	0.0000013	0.00001	4.2e-006	0.96	MN	09/16/11	J, Q
OCDD	EPA-5 1613B	1257077	0.0000024	0.0001	0.00016	0.96	MN	09/16/11	B
OCDF	EPA-5 1613B	1257077	0.0000022	0.0001	1.5e-005	0.96	MN	09/16/11	J, B
Total HpCDD	EPA-5 1613B	1257077	0.0000014	0.00005	3.2e-005	0.96	MN	09/16/11	J, B
Total HpCDF	EPA-5 1613B	1257077	0.0000018	0.00005	1.4e-005	0.96	MN	09/16/11	J, Q, B
Total HxCDD	EPA-5 1613B	1257077	0.00000075	0.00005	1.9e-006	0.96	MN	09/16/11	J, Q, B
Total HxCDF	EPA-5 1613B	1257077	0.00000074	0.00005	1.5e-005	0.96	MN	09/16/11	J, Q, B
Total PeCDD	EPA-5 1613B	1257077	0.0000015	0.00005	ND	0.96	MN	09/16/11	
Total PeCDF	EPA-5 1613B	1257077	0.0000014	0.00005	9.1e-006	0.96	MN	09/16/11	J, Q, B
Total TCDD	EPA-5 1613B	1257077	0.0000014	0.00001	ND	0.96	MN	09/16/11	
Total TCDF	EPA-5 1613B	1257077	0.0000013	0.00001	1e-005	0.96	MN	09/16/11	J, Q, B

Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)	53 %
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)	47 %
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)	54 %
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)	49 %
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)	44 %
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)	41 %
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)	44 %
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)	47 %
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)	45 %
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)	44 %
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)	45 %
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)	48 %
Surrogate: 13C-2,3,7,8-TCDD (25-164%)	45 %
Surrogate: 13C-2,3,7,8-TCDF (24-169%)	45 %
Surrogate: 13C-OCDD (17-157%)	55 %
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)	89 %

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUI0596

Sampled: 09/07/11-09/09/11
 Received: 09/07/11

EPA-5 1613Bx

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUI0596-03RE (Outfall 019 (Composite) - Water) - cont.					Sampled: 09/08/11				
Reporting Units: ug/L									
2,3,7,8-TCDF	EPA-5 1613B	1257077	0.000003	0.00001	2.2e-006	0.96	MN	09/20/11	J, Q
<i>Surrogate: 13C-2,3,7,8-TCDF (24-169%)</i>					46 %				
<i>Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)</i>					74 %				

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Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUI0596

Sampled: 09/07/11-09/09/11
Received: 09/07/11

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 019 (Grab) (IUI0596-01) - Water					
SM2540F	2	09/07/2011 09:45	09/07/2011 19:00	09/08/2011 08:50	09/08/2011 08:50
Sample ID: Outfall 019 (Composite) (IUI0596-03) - Water					
EPA 180.1	2	09/08/2011 10:20	09/07/2011 19:00	09/09/2011 10:45	09/09/2011 10:45
EPA 300.0	2	09/08/2011 10:20	09/07/2011 19:00	09/08/2011 22:00	09/09/2011 00:23
Filtration	1	09/08/2011 10:20	09/07/2011 19:00	09/08/2011 20:51	09/08/2011 20:53
SM5210B	2	09/08/2011 10:20	09/07/2011 19:00	09/09/2011 12:30	09/14/2011 13:00
SM5540-C	2	09/08/2011 10:20	09/07/2011 19:00	09/08/2011 22:41	09/08/2011 23:27

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Attention: Bronwyn Kelly

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUI0596

Sampled: 09/07/11-09/09/11
Received: 09/07/11

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting		Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
		Limit	MDL									
Batch: 11I1315 Extracted: 09/13/11												
Blank Analyzed: 09/13/2011 (11I1315-BLK1)												
Benzene	ND	0.50	0.28	ug/l	SS							
Carbon tetrachloride	ND	0.50	0.28	ug/l	SS							
Chloroform	ND	0.50	0.33	ug/l	SS							
1,1-Dichloroethane	ND	0.50	0.40	ug/l	SS							
1,2-Dichloroethane	ND	0.50	0.28	ug/l	SS							
1,1-Dichloroethene	ND	0.50	0.42	ug/l	SS							
Ethylbenzene	ND	0.50	0.25	ug/l	SS							
Tetrachloroethene	ND	0.50	0.32	ug/l	SS							
Toluene	ND	0.50	0.36	ug/l	SS							
1,1,1-Trichloroethane	ND	0.50	0.30	ug/l	SS							
1,1,2-Trichloroethane	ND	0.50	0.30	ug/l	SS							
Trichloroethene	ND	0.50	0.26	ug/l	SS							
Trichlorofluoromethane	ND	0.50	0.34	ug/l	SS							
Trichlorotrifluoroethane (Freon 113)	ND	5.0	0.50	ug/l	SS							
Vinyl chloride	ND	0.50	0.40	ug/l	SS							
Xylenes, Total	ND	1.5	0.90	ug/l	SS							
Surrogate: 4-Bromofluorobenzene	23.6			ug/l	SS	25.0		94	80-120			
Surrogate: Dibromofluoromethane	22.2			ug/l	SS	25.0		89	80-120			
Surrogate: Toluene-d8	25.8			ug/l	SS	25.0		103	80-120			
LCS Analyzed: 09/13/2011 (11I1315-BS1)												
Benzene	23.9	0.50	0.28	ug/l	SS	25.0		96	70-120			
Carbon tetrachloride	23.8	0.50	0.28	ug/l	SS	25.0		95	65-140			
Chloroform	21.8	0.50	0.33	ug/l	SS	25.0		87	70-130			
1,1-Dichloroethane	22.5	0.50	0.40	ug/l	SS	25.0		90	70-125			
1,2-Dichloroethane	21.8	0.50	0.28	ug/l	SS	25.0		87	60-140			
1,1-Dichloroethene	21.3	0.50	0.42	ug/l	SS	25.0		85	70-125			
Ethylbenzene	27.8	0.50	0.25	ug/l	SS	25.0		111	75-125			
Tetrachloroethene	25.2	0.50	0.32	ug/l	SS	25.0		101	70-125			
Toluene	26.4	0.50	0.36	ug/l	SS	25.0		106	70-120			
1,1,1-Trichloroethane	23.6	0.50	0.30	ug/l	SS	25.0		94	65-135			
1,1,2-Trichloroethane	23.9	0.50	0.30	ug/l	SS	25.0		96	70-125			
Trichloroethene	24.0	0.50	0.26	ug/l	SS	25.0		96	70-125			
Trichlorofluoromethane	23.4	0.50	0.34	ug/l	SS	25.0		94	65-145			
Vinyl chloride	22.2	0.50	0.40	ug/l	SS	25.0		89	55-135			
Xylenes, Total	83.3	1.5	0.90	ug/l	SS	75.0		111	70-125			

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Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUI0596

Sampled: 09/07/11-09/09/11
Received: 09/07/11

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
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Batch: 11I1315 Extracted: 09/13/11

LCS Analyzed: 09/13/2011 (11I1315-BS1)

Surrogate: 4-Bromofluorobenzene	25.1			ug/l	SS	25.0		100	80-120			
Surrogate: Dibromofluoromethane	23.7			ug/l	SS	25.0		95	80-120			
Surrogate: Toluene-d8	26.3			ug/l	SS	25.0		105	80-120			

Matrix Spike Analyzed: 09/13/2011 (11I1315-MS1)

Source: IUI0798-08

Benzene	24.5	0.50	0.28	ug/l	SS	25.0	ND	98	65-125			
Carbon tetrachloride	24.6	0.50	0.28	ug/l	SS	25.0	ND	99	65-140			
Chloroform	22.5	0.50	0.33	ug/l	SS	25.0	ND	90	65-135			
1,1-Dichloroethane	23.0	0.50	0.40	ug/l	SS	25.0	ND	92	65-130			
1,2-Dichloroethane	23.1	0.50	0.28	ug/l	SS	25.0	ND	92	60-140			
1,1-Dichloroethene	21.3	0.50	0.42	ug/l	SS	25.0	ND	85	60-130			
Ethylbenzene	27.9	0.50	0.25	ug/l	SS	25.0	ND	112	65-130			
Tetrachloroethene	24.8	0.50	0.32	ug/l	SS	25.0	ND	99	65-130			
Toluene	27.4	0.50	0.36	ug/l	SS	25.0	ND	109	70-125			
1,1,1-Trichloroethane	25.0	0.50	0.30	ug/l	SS	25.0	ND	100	65-140			
1,1,2-Trichloroethane	25.1	0.50	0.30	ug/l	SS	25.0	ND	101	65-130			
Trichloroethene	24.7	0.50	0.26	ug/l	SS	25.0	ND	99	65-125			
Trichlorofluoromethane	24.3	0.50	0.34	ug/l	SS	25.0	ND	97	60-145			
Vinyl chloride	22.6	0.50	0.40	ug/l	SS	25.0	ND	90	45-140			
Xylenes, Total	82.3	1.5	0.90	ug/l	SS	75.0	ND	110	60-130			
Surrogate: 4-Bromofluorobenzene	24.7			ug/l	SS	25.0		99	80-120			
Surrogate: Dibromofluoromethane	24.7			ug/l	SS	25.0		99	80-120			
Surrogate: Toluene-d8	26.1			ug/l	SS	25.0		104	80-120			

Matrix Spike Dup Analyzed: 09/13/2011 (11I1315-MSD1)

Source: IUI0798-08

Benzene	24.4	0.50	0.28	ug/l	SS	25.0	ND	98	65-125	0.1	20	
Carbon tetrachloride	25.1	0.50	0.28	ug/l	SS	25.0	ND	101	65-140	2	25	
Chloroform	22.2	0.50	0.33	ug/l	SS	25.0	ND	89	65-135	2	20	
1,1-Dichloroethane	23.1	0.50	0.40	ug/l	SS	25.0	ND	92	65-130	0.5	20	
1,2-Dichloroethane	22.7	0.50	0.28	ug/l	SS	25.0	ND	91	60-140	2	20	
1,1-Dichloroethene	20.6	0.50	0.42	ug/l	SS	25.0	ND	83	60-130	3	20	
Ethylbenzene	28.1	0.50	0.25	ug/l	SS	25.0	ND	112	65-130	0.7	20	
Tetrachloroethene	25.9	0.50	0.32	ug/l	SS	25.0	ND	104	65-130	4	20	
Toluene	27.5	0.50	0.36	ug/l	SS	25.0	ND	110	70-125	0.3	20	
1,1,1-Trichloroethane	25.5	0.50	0.30	ug/l	SS	25.0	ND	102	65-140	2	20	
1,1,2-Trichloroethane	24.7	0.50	0.30	ug/l	SS	25.0	ND	99	65-130	2	25	

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 Monthly Outfall 019
 Report Number: IUI0596

Sampled: 09/07/11-09/09/11
 Received: 09/07/11

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting		MDL	Units	Analyst	Spike Level	Source		%REC		RPD	Limit	Data Qualifiers
		Limit						Result	%REC	Limits	RPD			
Batch: 1111315 Extracted: 09/13/11														
Matrix Spike Dup Analyzed: 09/13/2011 (1111315-MSD1)							Source: IUI0798-08							
Trichloroethene	24.5	0.50		0.26	ug/l	SS	25.0	ND	98	65-125	0.8		20	
Trichlorofluoromethane	24.0	0.50		0.34	ug/l	SS	25.0	ND	96	60-145	1		25	
Vinyl chloride	24.4	0.50		0.40	ug/l	SS	25.0	ND	97	45-140	8		30	
Xylenes, Total	83.5	1.5		0.90	ug/l	SS	75.0	ND	111	60-130	1		20	
Surrogate: 4-Bromofluorobenzene	25.2				ug/l	SS	25.0		101	80-120				
Surrogate: Dibromofluoromethane	23.7				ug/l	SS	25.0		95	80-120				
Surrogate: Toluene-d8	26.1				ug/l	SS	25.0		104	80-120				

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Received: 09/07/11

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 111123 Extracted: 09/11/11												
Blank Analyzed: 09/12/2011 (111123-BLK1)												
Bis(2-ethylhexyl)phthalate	ND	5.00	1.70	ug/l	UP\							
2,4-Dinitrotoluene	ND	5.00	0.200	ug/l	UP\							
N-Nitrosodimethylamine	ND	5.00	0.100	ug/l	UP\							
Pentachlorophenol	ND	5.00	0.100	ug/l	UP\							
2,4,6-Trichlorophenol	ND	6.00	0.100	ug/l	UP\							
Surrogate: 2,4,6-Tribromophenol	14.1			ug/l	UP\	20.0		70	40-120			
Surrogate: 2-Fluorobiphenyl	8.32			ug/l	UP\	10.0		83	50-120			
Surrogate: 2-Fluorophenol	15.5			ug/l	UP\	20.0		78	30-120			
Surrogate: Nitrobenzene-d5	7.32			ug/l	UP\	10.0		73	45-120			
Surrogate: Phenol-d6	16.3			ug/l	UP\	20.0		82	35-120			
Surrogate: Terphenyl-d14	9.08			ug/l	UP\	10.0		91	50-125			
LCS Analyzed: 09/12/2011 (111123-BS1)												
Bis(2-ethylhexyl)phthalate	9.74	5.00	1.70	ug/l	UP\	10.0		97	65-130			
2,4-Dinitrotoluene	8.72	5.00	0.200	ug/l	UP\	10.0		87	65-120			
N-Nitrosodimethylamine	7.50	5.00	0.100	ug/l	UP\	10.0		75	45-120			
Pentachlorophenol	9.66	5.00	0.100	ug/l	UP\	10.0		97	24-121			
2,4,6-Trichlorophenol	9.44	6.00	0.100	ug/l	UP\	10.0		94	55-120			
Surrogate: 2,4,6-Tribromophenol	17.7			ug/l	UP\	20.0		89	40-120			
Surrogate: 2-Fluorobiphenyl	8.24			ug/l	UP\	10.0		82	50-120			
Surrogate: 2-Fluorophenol	15.1			ug/l	UP\	20.0		75	30-120			
Surrogate: Nitrobenzene-d5	7.94			ug/l	UP\	10.0		79	45-120			
Surrogate: Phenol-d6	16.4			ug/l	UP\	20.0		82	35-120			
Surrogate: Terphenyl-d14	9.38			ug/l	UP\	10.0		94	50-125			
LCS Dup Analyzed: 09/12/2011 (111123-BSD1)												
Bis(2-ethylhexyl)phthalate	10.3	5.00	1.70	ug/l	UP\	10.0		103	65-130	6	20	
2,4-Dinitrotoluene	8.06	5.00	0.200	ug/l	UP\	10.0		81	65-120	8	20	
N-Nitrosodimethylamine	7.38	5.00	0.100	ug/l	UP\	10.0		74	45-120	2	20	
Pentachlorophenol	8.92	5.00	0.100	ug/l	UP\	10.0		89	24-121	8	25	
2,4,6-Trichlorophenol	8.10	6.00	0.100	ug/l	UP\	10.0		81	55-120	15	30	
Surrogate: 2,4,6-Tribromophenol	15.9			ug/l	UP\	20.0		79	40-120			
Surrogate: 2-Fluorobiphenyl	7.44			ug/l	UP\	10.0		74	50-120			
Surrogate: 2-Fluorophenol	13.8			ug/l	UP\	20.0		69	30-120			
Surrogate: Nitrobenzene-d5	7.38			ug/l	UP\	10.0		74	45-120			
Surrogate: Phenol-d6	14.9			ug/l	UP\	20.0		74	35-120			

MNR1

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Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUI0596

Sampled: 09/07/11-09/09/11
Received: 09/07/11

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 111123 Extracted: 09/11/11												
LCS Dup Analyzed: 09/12/2011 (111123-BSD1)												
Surrogate: Terphenyl-d14	8.40			ug/l	UP\	10.0		84	50-125			

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METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11I1558 Extracted: 09/14/11												
Blank Analyzed: 09/15/2011 (11I1558-BLK1)												
alpha-BHC	ND	0.010	0.0025	ug/l	DXD							
Surrogate: Decachlorobiphenyl	0.415			ug/l	DXD	0.500		83	45-120			
Surrogate: Tetrachloro-m-xylene	0.449			ug/l	DXD	0.500		90	35-115			
LCS Analyzed: 09/15/2011 (11I1558-BS1)												
alpha-BHC	0.433	0.010	0.0025	ug/l	DXD	0.500		87	45-115			
Surrogate: Decachlorobiphenyl	0.417			ug/l	DXD	0.500		83	45-120			
Surrogate: Tetrachloro-m-xylene	0.438			ug/l	DXD	0.500		88	35-115			
Matrix Spike Analyzed: 09/15/2011 (11I1558-MS1)						Source: IUI0598-17						
alpha-BHC	0.447	0.010	0.0026	ug/l	DXD	0.521	ND	86	40-120			
Surrogate: Decachlorobiphenyl	0.461			ug/l	DXD	0.521		89	45-120			
Surrogate: Tetrachloro-m-xylene	0.449			ug/l	DXD	0.521		86	35-115			
Matrix Spike Dup Analyzed: 09/15/2011 (11I1558-MSD1)						Source: IUI0598-17						
alpha-BHC	0.437	0.010	0.0026	ug/l	DXD	0.521	ND	84	40-120	2	30	
Surrogate: Decachlorobiphenyl	0.442			ug/l	DXD	0.521		85	45-120			
Surrogate: Tetrachloro-m-xylene	0.440			ug/l	DXD	0.521		85	35-115			

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METHOD BLANK/QC DATA

HEXANE EXTRACTABLE MATERIAL

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11I2420 Extracted: 09/21/11												
Blank Analyzed: 09/21/2011 (11I2420-BLK1)												
Hexane Extractable Material (Oil & Grease)	ND	5.0	1.4	mg/l	DA							
LCS Analyzed: 09/21/2011 (11I2420-BS1)												
Hexane Extractable Material (Oil & Grease)	20.3	5.0	1.4	mg/l	DA	20.0		102	78-114			MNR1
LCS Dup Analyzed: 09/21/2011 (11I2420-BSD1)												
Hexane Extractable Material (Oil & Grease)	19.7	5.0	1.4	mg/l	DA	20.0		98	78-114	3	11	

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11I0886 Extracted: 09/08/11</u>												
Blank Analyzed: 09/09/2011 (11I0886-BLK1)												
Mercury	ND	0.20	0.10	ug/l	DB							
LCS Analyzed: 09/09/2011 (11I0886-BS1)												
Mercury	8.43	0.20	0.10	ug/l	DB	8.00		105	85-115			
Matrix Spike Analyzed: 09/09/2011 (11I0886-MS1)												
						Source: IUI0540-02						
Mercury	8.38	0.20	0.10	ug/l	DB	8.00	ND	105	70-130			
Matrix Spike Dup Analyzed: 09/09/2011 (11I0886-MSD1)												
						Source: IUI0540-02						
Mercury	8.39	0.20	0.10	ug/l	DB	8.00	ND	105	70-130	0.09	20	
<u>Batch: 11I1036 Extracted: 09/09/11</u>												
Blank Analyzed: 09/13/2011 (11I1036-BLK1)												
Calcium	ND	0.10	0.050	mg/l	NH							
Magnesium	ND	0.020	0.012	mg/l	NH							
Zinc	ND	20.0	6.00	ug/l	NH							
LCS Analyzed: 09/13/2011 (11I1036-BS1)												
Calcium	2.60	0.10	0.050	mg/l	NH	2.50		104	85-115			
Magnesium	2.63	0.020	0.012	mg/l	NH	2.50		105	85-115			
Zinc	504	20.0	6.00	ug/l	NH	500		101	85-115			
Matrix Spike Analyzed: 09/13/2011 (11I1036-MS1)												
						Source: IUI0587-01						
Calcium	252	0.10	0.050	mg/l	NH	2.50	248	143	70-130			MHA
Magnesium	110	0.020	0.012	mg/l	NH	2.50	108	72	70-130			MHA
Zinc	496	20.0	6.00	ug/l	NH	500	ND	99	70-130			

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METALS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 1111036 Extracted: 09/09/11</u>												
Matrix Spike Analyzed: 09/13/2011 (1111036-MS2)						Source: IUI0587-02						
Calcium	204	0.10	0.050	mg/l	NH	2.50	205	-42	70-130			MHA
Magnesium	109	0.020	0.012	mg/l	NH	2.50	106	127	70-130			MHA
Zinc	515	20.0	6.00	ug/l	NH	500	ND	103	70-130			
Matrix Spike Dup Analyzed: 09/13/2011 (1111036-MSD1)						Source: IUI0587-01						
Calcium	254	0.10	0.050	mg/l	NH	2.50	248	230	70-130	0.9	20	MHA
Magnesium	111	0.020	0.012	mg/l	NH	2.50	108	95	70-130	0.5	20	MHA
Zinc	492	20.0	6.00	ug/l	NH	500	ND	98	70-130	0.8	20	
<u>Batch: 1111192 Extracted: 09/12/11</u>												
Blank Analyzed: 09/12/2011 (1111192-BLK1)												
Cadmium	ND	1.0	0.10	ug/l	DT							
Copper	ND	2.00	0.500	ug/l	DT							
Lead	ND	1.0	0.20	ug/l	DT							
Selenium	ND	2.0	0.50	ug/l	DT							
LCS Analyzed: 09/12/2011 (1111192-BS1)												
Cadmium	83.6	1.0	0.10	ug/l	DT	80.0		104	85-115			
Copper	82.0	2.00	0.500	ug/l	DT	80.0		102	85-115			
Lead	82.0	1.0	0.20	ug/l	DT	80.0		103	85-115			
Selenium	83.1	2.0	0.50	ug/l	DT	80.0		104	85-115			
Matrix Spike Analyzed: 09/12/2011 (1111192-MS1)						Source: IUI0814-05						
Cadmium	78.4	2.0	0.20	ug/l	DT	80.0	ND	98	70-130			
Copper	75.7	4.00	1.00	ug/l	DT	80.0	4.33	89	70-130			
Lead	81.3	2.0	0.40	ug/l	DT	80.0	1.13	100	70-130			
Selenium	179	4.0	1.0	ug/l	DT	80.0	98.1	101	70-130			

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METALS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 111192 Extracted: 09/12/11</u>												
Matrix Spike Analyzed: 09/12/2011 (111192-MS2)						Source: IUI0814-06						
Cadmium	84.3	2.0	0.20	ug/l	DT	80.0	ND	105	70-130			
Copper	147	4.00	1.00	ug/l	DT	80.0	76.3	89	70-130			
Lead	89.0	2.0	0.40	ug/l	DT	80.0	0.802	110	70-130			
Selenium	263	4.0	1.0	ug/l	DT	80.0	186	97	70-130			
Matrix Spike Dup Analyzed: 09/12/2011 (111192-MSD1)						Source: IUI0814-05						
Cadmium	80.8	2.0	0.20	ug/l	DT	80.0	ND	101	70-130	3	20	
Copper	78.8	4.00	1.00	ug/l	DT	80.0	4.33	93	70-130	4	20	
Lead	84.7	2.0	0.40	ug/l	DT	80.0	1.13	104	70-130	4	20	
Selenium	190	4.0	1.0	ug/l	DT	80.0	98.1	114	70-130	6	20	

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DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 11I1224 Extracted: 09/12/11												
Blank Analyzed: 09/14/2011 (11I1224-BLK1)												
Calcium	0.0707	0.10	0.050	mg/l	NH							Ja
Magnesium	0.0165	0.020	0.012	mg/l	NH							Ja
Zinc	ND	20.0	6.00	ug/l	NH							
LCS Analyzed: 09/14/2011 (11I1224-BS1)												
Calcium	2.48	0.10	0.050	mg/l	NH	2.50		99	85-115			
Magnesium	2.46	0.020	0.012	mg/l	NH	2.50		98	85-115			
Zinc	470	20.0	6.00	ug/l	NH	500		94	85-115			
Matrix Spike Analyzed: 09/14/2011 (11I1224-MS1)						Source: IUI0540-02						
Calcium	363	0.10	0.050	mg/l	NH	2.50	357	251	70-130			MHA
Magnesium	115	0.020	0.012	mg/l	NH	2.50	111	153	70-130			MHA
Zinc	475	20.0	6.00	ug/l	NH	500	ND	95	70-130			
Matrix Spike Analyzed: 09/14/2011 (11I1224-MS2)						Source: IUI0572-01						
Calcium	96.7	0.10	0.050	mg/l	NH	2.50	93.8	115	70-130			MHA
Magnesium	41.0	0.020	0.012	mg/l	NH	2.50	39.4	63	70-130			MHA
Zinc	479	20.0	6.00	ug/l	NH	500	ND	96	70-130			
Matrix Spike Dup Analyzed: 09/14/2011 (11I1224-MSD1)						Source: IUI0540-02						
Calcium	372	0.10	0.050	mg/l	NH	2.50	357	608	70-130	2	20	MHA
Magnesium	117	0.020	0.012	mg/l	NH	2.50	111	231	70-130	2	20	MHA
Zinc	482	20.0	6.00	ug/l	NH	500	ND	96	70-130	2	20	

Batch: 11I1565 Extracted: 09/14/11

Blank Analyzed: 09/15/2011 (11I1565-BLK1)

Cadmium	ND	1.0	0.10	ug/l	KB							
Copper	ND	2.00	0.500	ug/l	KB							
Lead	ND	1.0	0.20	ug/l	KB							
Selenium	ND	2.0	0.50	ug/l	KB							

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DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 1111565 Extracted: 09/14/11</u>												
LCS Analyzed: 09/15/2011 (1111565-BS1)												
Cadmium	85.1	1.0	0.10	ug/l	KB	80.0		106	85-115			
Copper	85.3	2.00	0.500	ug/l	KB	80.0		107	85-115			
Lead	77.3	1.0	0.20	ug/l	KB	80.0		97	85-115			
Selenium	86.0	2.0	0.50	ug/l	KB	80.0		108	85-115			
Matrix Spike Analyzed: 09/15/2011 (1111565-MS1)						Source: IUI0596-03						
Cadmium	82.6	1.0	0.10	ug/l	KB	80.0	ND	103	70-130			
Copper	79.4	2.00	0.500	ug/l	KB	80.0	0.796	98	70-130			
Lead	67.7	1.0	0.20	ug/l	KB	80.0	0.203	84	70-130			
Selenium	82.3	2.0	0.50	ug/l	KB	80.0	0.513	102	70-130			
Matrix Spike Dup Analyzed: 09/15/2011 (1111565-MSD1)						Source: IUI0596-03						
Cadmium	82.2	1.0	0.10	ug/l	KB	80.0	ND	103	70-130	0.5	20	
Copper	79.0	2.00	0.500	ug/l	KB	80.0	0.796	98	70-130	0.5	20	
Lead	66.6	1.0	0.20	ug/l	KB	80.0	0.203	83	70-130	2	20	
Selenium	81.7	2.0	0.50	ug/l	KB	80.0	0.513	101	70-130	0.8	20	
<u>Batch: 1112045 Extracted: 09/18/11</u>												
Blank Analyzed: 09/19/2011 (1112045-BLK1)												
Mercury	ND	0.20	0.10	ug/l	DB							
LCS Analyzed: 09/19/2011 (1112045-BS1)												
Mercury	7.80	0.20	0.10	ug/l	DB	8.00		98	85-115			MNR1
LCS Dup Analyzed: 09/19/2011 (1112045-BSD1)												
Mercury	8.24	0.20	0.10	ug/l	DB	8.00		103	85-115	5	20	

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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 1110833 Extracted: 09/08/11												
Blank Analyzed: 09/08/2011 (1110833-BLK1)												
Chloride	ND	0.50	0.30	mg/l	NN							
Nitrate-N	ND	0.11	0.060	mg/l	NN							
Nitrite-N	ND	0.15	0.090	mg/l	NN							
Nitrate/Nitrite-N	ND	0.26	0.15	mg/l	NN							
Sulfate	ND	0.50	0.30	mg/l	NN							
LCS Analyzed: 09/08/2011 (1110833-BS1)												
Chloride	4.54	0.50	0.30	mg/l	NN	5.00		91	90-110			
Nitrate-N	1.12	0.11	0.060	mg/l	NN	1.13		99	90-110			
Nitrite-N	1.43	0.15	0.090	mg/l	NN	1.52		94	90-110			
Sulfate	9.49	0.50	0.30	mg/l	NN	10.0		95	90-110			
Matrix Spike Analyzed: 09/08/2011 (1110833-MS1)						Source: IUI0685-03						
Chloride	17.9	1.0	0.60	mg/l	NN	5.00	13.4	89	80-120			
Nitrate-N	2.71	0.22	0.12	mg/l	NN	1.13	1.67	93	80-120			
Nitrite-N	1.51	0.30	0.18	mg/l	NN	1.52	ND	99	80-120			
Sulfate	9.82	1.0	0.60	mg/l	NN	10.0	0.987	88	80-120			
Matrix Spike Analyzed: 09/09/2011 (1110833-MS2)						Source: IUI0739-03						
Chloride	82.2	10	6.0	mg/l	NN	50.0	40.2	84	80-120			
Nitrate-N	11.4	2.2	1.2	mg/l	NN	11.3	0.0732	101	80-120			
Nitrite-N	14.8	3.0	1.8	mg/l	NN	15.2	ND	97	80-120			
Sulfate	577	10	6.0	mg/l	NN	100	491	86	80-120			MHA
Matrix Spike Dup Analyzed: 09/08/2011 (1110833-MSD1)						Source: IUI0685-03						
Chloride	17.9	1.0	0.60	mg/l	NN	5.00	13.4	90	80-120	0.2	20	
Nitrate-N	2.74	0.22	0.12	mg/l	NN	1.13	1.67	95	80-120	0.8	20	
Nitrite-N	1.49	0.30	0.18	mg/l	NN	1.52	ND	98	80-120	1	20	
Sulfate	9.90	1.0	0.60	mg/l	NN	10.0	0.987	89	80-120	0.9	20	

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Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 1110923 Extracted: 09/08/11</u>												
Blank Analyzed: 09/08/2011 (1110923-BLK1)												
Surfactants (MBAS)	ND	0.10	0.050	mg/l	CC							
LCS Analyzed: 09/08/2011 (1110923-BS1)												
Surfactants (MBAS)	0.245	0.10	0.050	mg/l	CC	0.250		98	90-110			
Matrix Spike Analyzed: 09/08/2011 (1110923-MS1)												
Surfactants (MBAS)	0.220	0.10	0.050	mg/l	CC	0.250	ND	88	50-125			
Matrix Spike Dup Analyzed: 09/08/2011 (1110923-MSD1)												
Surfactants (MBAS)	0.259	0.10	0.050	mg/l	CC	0.250	ND	104	50-125	16	20	
<u>Batch: 1110924 Extracted: 09/09/11</u>												
Blank Analyzed: 09/09/2011 (1110924-BLK1)												
Total Dissolved Solids	ND	10	1.0	mg/l	MC							
LCS Analyzed: 09/09/2011 (1110924-BS1)												
Total Dissolved Solids	998	10	1.0	mg/l	MC	1000		100	90-110			
Duplicate Analyzed: 09/09/2011 (1110924-DUP1)												
Total Dissolved Solids	3880	20	2.0	mg/l	MC		3880			0.1	10	
<u>Batch: 1110929 Extracted: 09/09/11</u>												
Blank Analyzed: 09/09/2011 (1110929-BLK1)												
Total Organic Carbon	ND	1.0	0.50	mg/l	FZ							

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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 1110929 Extracted: 09/09/11</u>												
LCS Analyzed: 09/09/2011 (1110929-BS1)												
Total Organic Carbon	10.0	1.0	0.50	mg/l	FZ	10.0		100	90-110			
Matrix Spike Analyzed: 09/09/2011 (1110929-MS1)												
Total Organic Carbon	10.1	1.0	0.50	mg/l	FZ	5.00	4.68	108	80-120			
Matrix Spike Dup Analyzed: 09/09/2011 (1110929-MSD1)												
Total Organic Carbon	8.97	1.0	0.50	mg/l	FZ	5.00	4.68	86	80-120	12	20	
<u>Batch: 1110980 Extracted: 09/09/11</u>												
Blank Analyzed: 09/09/2011 (1110980-BLK1)												
Turbidity	ND	1.0	0.040	NTU	AK1							
Duplicate Analyzed: 09/09/2011 (1110980-DUP1)												
Turbidity	0.0600	1.0	0.040	NTU	AK1		0.0600			0	20	Ja
<u>Batch: 1111042 Extracted: 09/09/11</u>												
Blank Analyzed: 09/14/2011 (1111042-BLK1)												
Biochemical Oxygen Demand	ND	2.0	0.50	mg/l	XL							
LCS Analyzed: 09/14/2011 (1111042-BS1)												
Biochemical Oxygen Demand	202	100	25	mg/l	XL	198		102	85-115			
LCS Dup Analyzed: 09/14/2011 (1111042-BSD1)												
Biochemical Oxygen Demand	204	100	25	mg/l	XL	198		103	85-115	1	20	

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 1111045 Extracted: 09/09/11</u>												
Blank Analyzed: 09/09/2011 (1111045-BLK1)												
Total Suspended Solids	ND	10	1.0	mg/l	DK1							
LCS Analyzed: 09/09/2011 (1111045-BS1)												
Total Suspended Solids	989	10	1.0	mg/l	DK1	1000		99	85-115			
Duplicate Analyzed: 09/09/2011 (1111045-DUP1)												
Total Suspended Solids	45.0	10	1.0	mg/l	DK1		45.0			0	10	
<u>Batch: 1111237 Extracted: 09/12/11</u>												
Blank Analyzed: 09/12/2011 (1111237-BLK1)												
Ammonia-N (Distilled)	ND	0.500	0.500	mg/l	NCP							
LCS Analyzed: 09/12/2011 (1111237-BS1)												
Ammonia-N (Distilled)	9.52	0.500	0.500	mg/l	NCP	10.0		95	80-115			
Matrix Spike Analyzed: 09/12/2011 (1111237-MS1)												
Ammonia-N (Distilled)	9.80	0.500	0.500	mg/l	NCP	10.0	ND	98	70-120			
Matrix Spike Dup Analyzed: 09/12/2011 (1111237-MSD1)												
Ammonia-N (Distilled)	9.80	0.500	0.500	mg/l	NCP	10.0	ND	98	70-120	0	15	
<u>Batch: 1111284 Extracted: 09/13/11</u>												
Blank Analyzed: 09/13/2011 (1111284-BLK1)												
Perchlorate	ND	4.0	0.95	ug/l	mn							

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 Monthly Outfall 019
 Report Number: IUI0596

Sampled: 09/07/11-09/09/11
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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 111284 Extracted: 09/13/11</u>												
LCS Analyzed: 09/13/2011 (111284-BS1)												
Perchlorate	26.6	4.0	0.95	ug/l	mn	25.0		106	85-115			
Matrix Spike Analyzed: 09/13/2011 (111284-MS1)												
Perchlorate	23.8	4.0	0.95	ug/l	mn	25.0	ND	95	80-120			
Matrix Spike Dup Analyzed: 09/13/2011 (111284-MSD1)												
Perchlorate	25.2	4.0	0.95	ug/l	mn	25.0	ND	101	80-120	6	20	
<u>Batch: 1112487 Extracted: 09/21/11</u>												
Blank Analyzed: 09/21/2011 (1112487-BLK1)												
Total Cyanide	ND	5.0	2.2	ug/l	SLA							
LCS Analyzed: 09/21/2011 (1112487-BS1)												
Total Cyanide	104	5.0	2.2	ug/l	SLA	100		104	90-110			
Matrix Spike Analyzed: 09/21/2011 (1112487-MS1)												
Total Cyanide	105	5.0	2.2	ug/l	SLA	100	ND	105	70-115			
Matrix Spike Dup Analyzed: 09/21/2011 (1112487-MSD1)												
Total Cyanide	104	5.0	2.2	ug/l	SLA	100	ND	104	70-115	1	15	

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METHOD BLANK/QC DATA

8690

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8690 Extracted: 09/30/11												
LCS Analyzed: 09/30/2011 (S109070-03)												
Uranium, Total	52.2	1	0.225	pCi/L		56.5		92	80-120			
Blank Analyzed: 09/30/2011 (S109070-04)												
Uranium, Total	ND	1	0.022	pCi/L					-			U
Duplicate Analyzed: 09/30/2011 (S109070-05)												
Uranium, Total	0.038	1	0.022	pCi/L			0.04		-	5		Jb

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METHOD BLANK/QC DATA

900

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8690 Extracted: 09/20/11												
LCS Analyzed: 09/26/2011 (S109070-03)						Source:						
Gross Alpha	50.5	3	0.526	pCi/L		44.4		114	70-130			
Gross Beta	39.8	4	1.01	pCi/L		41.2		97	70-130			
Blank Analyzed: 09/27/2011 (S109070-04)						Source:						
Gross Alpha	-0.057	3	0.748	pCi/L					-			U
Gross Beta	-0.291	4	1.11	pCi/L					-			U
Duplicate Analyzed: 09/27/2011 (S109070-05)						Source: IUI0596-03						
Gross Alpha	0.337	3	2.14	pCi/L			0.717		-	0		U
Gross Beta	8.63	4	0.909	pCi/L			7.87		-	9		

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METHOD BLANK/QC DATA

901.1

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8690 Extracted: 09/19/11												
LCS Analyzed: 09/19/2011 (S109070-03)						Source:						
Cobalt-60	105	10	3.22	pCi/L		117		90	80-120			
Cesium-137	114	20	3.03	pCi/L		124		92	80-120			
Blank Analyzed: 09/19/2011 (S109070-04)						Source:						
Cesium-137	ND	20	2.49	pCi/L					-			U
Potassium-40	ND	25	55	pCi/L					-			U
Duplicate Analyzed: 09/20/2011 (S109070-05)						Source: IUI0596-03						
Cesium-137	ND	20	1.6	pCi/L			0		-	0		U
Potassium-40	ND	25	25.9	pCi/L			0		-	0		U

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METHOD BLANK/QC DATA

903.1

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 8690 Extracted: 09/28/11												
LCS Analyzed: 09/28/2011 (S109070-03)												
Radium-226	43.4	1	0.689	pCi/L		50.1		87	80-120			
Blank Analyzed: 09/28/2011 (S109070-04)												
Radium-226	0.038	1	0.842	pCi/L					-			U
Duplicate Analyzed: 09/28/2011 (S109070-05)												
Radium-226	0.052	1	0.799	pCi/L			0.122		-	0		U

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METHOD BLANK/QC DATA

904

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8690 Extracted: 09/28/11												
LCS Analyzed: 09/28/2011 (S109070-03)						Source:						
Radium-228	6.64	1	0.456	pCi/L		5.67		117	60-140			
Blank Analyzed: 09/28/2011 (S109070-04)						Source:						
Radium-228	0.155	1	0.862	pCi/L					-			U
Duplicate Analyzed: 09/28/2011 (S109070-05)						Source: IUI0596-03						
Radium-228	0.467	1	0.492	pCi/L			0.447		-	0		U

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METHOD BLANK/QC DATA

905

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8690 Extracted: 09/22/11												
LCS Analyzed: 09/22/2011 (S109070-03)												
Strontium-90	22.4	2	0.643	pCi/L		19	118	80-120				
Blank Analyzed: 09/22/2011 (S109070-04)												
Strontium-90	-0.029	2	0.942	pCi/L				-				U
Duplicate Analyzed: 09/22/2011 (S109070-05)												
Strontium-90	0.172	2	0.994	pCi/L			-0.292	-	0			U

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METHOD BLANK/QC DATA

906

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8690 Extracted: 09/23/11												
LCS Analyzed: 09/25/2011 (S109070-03)												
Tritium	2390	500	152	pCi/L		2510		95	80-120			
Blank Analyzed: 09/25/2011 (S109070-04)												
Tritium	-69.1	500	154	pCi/L								U
Duplicate Analyzed: 09/25/2011 (S109070-05)												
Tritium	-23	500	154	pCi/L			Source: IUI0596-03			0		U

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METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1257077 Extracted: 09/14/11												
Blank Analyzed: 09/16/2011 (G11140000077B)						Source:						
1,2,3,4,6,7,8-HpCDD	7e-006	0.00005	0.000001	ug/L	MN			-				J
1,2,3,4,6,7,8-HpCDF	4.1e-006	0.00005	0.000001	ug/L	MN			-				J, Q
1,2,3,4,7,8,9-HpCDF	1.3e-006	0.00005	0.000001	ug/L	MN			-				J, Q
1,2,3,4,7,8-HxCDD	ND	0.00005	0.000001	ug/L	MN			-				
1,2,3,4,7,8-HxCDF	1.8e-006	0.00005	0.000001	ug/L	MN			-				J, Q
1,2,3,6,7,8-HxCDD	ND	0.00005	0.000001	ug/L	MN			-				
1,2,3,6,7,8-HxCDF	1.5e-006	0.00005	0.000001	ug/L	MN			-				J, Q
1,2,3,7,8,9-HxCDD	1.3e-006	0.00005	0.000001	ug/L	MN			-				J, Q
1,2,3,7,8,9-HxCDF	1.1e-006	0.00005	0.000001	ug/L	MN			-				J, Q
1,2,3,7,8-PeCDD	ND	0.00005	0.000001	ug/L	MN			-				
1,2,3,7,8-PeCDF	2.5e-006	0.00005	0.000001	ug/L	MN			-				J, Q
2,3,4,6,7,8-HxCDF	3e-006	0.00005	0.000001	ug/L	MN			-				J
2,3,4,7,8-PeCDF	1.6e-006	0.00005	0.000001	ug/L	MN			-				J, Q
2,3,7,8-TCDD	ND	0.00001	0.000001	ug/L	MN			-				
2,3,7,8-TCDF	4.1e-006	0.00001	0.000001	ug/L	MN			-				J, Q
OCDD	5.4e-005	0.0001	0.000001	ug/L	MN			-				J
OCDF	8.3e-006	0.0001	0.000002	ug/L	MN			-				J
Total HpCDD	1.4e-005	0.00005	0.000001	ug/L	MN			-				J
Total HpCDF	8.4e-006	0.00005	0.000001	ug/L	MN			-				J, Q
Total HxCDD	1.3e-006	0.00005	0.000001	ug/L	MN			-				J, Q
Total HxCDF	1.6e-005	0.00005	0.000001	ug/L	MN			-				J, Q
Total PeCDD	ND	0.00005	0.000001	ug/L	MN			-				
Total PeCDF	7.8e-006	0.00005	0.000001	ug/L	MN			-				J, Q
Total TCDD	ND	0.00001	0.000001	ug/L	MN			-				
Total TCDF	9e-006	0.00001	0.000001	ug/L	MN			-				J, Q
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.0011			ug/L	MN	0.002		55	23-140			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.00099			ug/L	MN	0.002		49	28-143			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.0012			ug/L	MN	0.002		58	26-138			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.00091			ug/L	MN	0.002		45	32-141			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00094			ug/L	MN	0.002		47	26-152			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00097			ug/L	MN	0.002		49	28-130			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.0009			ug/L	MN	0.002		45	26-123			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.001			ug/L	MN	0.002		51	29-147			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00095			ug/L	MN	0.002		48	25-181			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.0009			ug/L	MN	0.002		45	24-185			

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METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 1257077 Extracted: 09/14/11												
Blank Analyzed: 09/16/2011 (G11140000077B)						Source:						
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.00094			ug/L	MN	0.002		47	28-136			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00099			ug/L	MN	0.002		49	21-178			
Surrogate: 13C-2,3,7,8-TCDD	0.00093			ug/L	MN	0.002		46	25-164			
Surrogate: 13C-2,3,7,8-TCDF	0.00093			ug/L	MN	0.002		47	24-169			
Surrogate: 13C-OCDD	0.0023			ug/L	MN	0.004		57	17-157			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.00073			ug/L	MN	0.0008		91	35-197			
LCS Analyzed: 09/20/2011 (G11140000077C)						Source:						
1,2,3,4,6,7,8-HpCDD	0.00122	0.00005	0.000012	ug/L	MN	0.001		122	70-140			B
1,2,3,4,6,7,8-HpCDF	0.00107	0.00005	0.000024	ug/L	MN	0.001		107	82-122			B
1,2,3,4,7,8,9-HpCDF	0.00106	0.00005	0.000034	ug/L	MN	0.001		106	78-138			B
1,2,3,4,7,8-HxCDD	0.00103	0.00005	0.000003	ug/L	MN	0.001		103	70-164			
1,2,3,4,7,8-HxCDF	0.00106	0.00005	0.000024	ug/L	MN	0.001		106	72-134			B
1,2,3,6,7,8-HxCDD	0.00109	0.00005	0.000003	ug/L	MN	0.001		109	76-134			
1,2,3,6,7,8-HxCDF	0.00112	0.00005	0.000023	ug/L	MN	0.001		112	84-130			B
1,2,3,7,8,9-HxCDD	0.00105	0.00005	0.000002	ug/L	MN	0.001		105	64-162			B
1,2,3,7,8,9-HxCDF	0.00111	0.00005	0.000003	ug/L	MN	0.001		111	78-130			B
1,2,3,7,8-PeCDD	0.00115	0.00005	0.000001	ug/L	MN	0.001		115	70-142			
1,2,3,7,8-PeCDF	0.000997	0.00005	0.000011	ug/L	MN	0.001		100	80-134			B
2,3,4,6,7,8-HxCDF	0.00101	0.00005	0.000022	ug/L	MN	0.001		101	70-156			B
2,3,4,7,8-PeCDF	0.00102	0.00005	0.000012	ug/L	MN	0.001		102	68-160			B
2,3,7,8-TCDD	0.000239	0.00001	0.000005	ug/L	MN	0.0002		120	67-158			
2,3,7,8-TCDF	0.000225	0.000012	0.000012	ug/L	MN	0.0002		112	75-158			H, B
OCDD	0.00249	0.0001	0.000017	ug/L	MN	0.002		124	78-144			B
OCDF	0.00222	0.0001	0.000031	ug/L	MN	0.002		111	63-170			B
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.000951			ug/L	MN	0.002		48	26-166			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.000962			ug/L	MN	0.002		48	21-158			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.000888			ug/L	MN	0.002		44	20-186			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.0011			ug/L	MN	0.002		55	21-193			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00093			ug/L	MN	0.002		47	19-202			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00102			ug/L	MN	0.002		51	25-163			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.000836			ug/L	MN	0.002		42	21-159			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.000865			ug/L	MN	0.002		43	17-205			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.000867			ug/L	MN	0.002		43	21-227			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.000819			ug/L	MN	0.002		41	21-192			

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METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1257077 Extracted: 09/14/11												
LCS Analyzed: 09/20/2011 (G11140000077C)						Source:						
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.000883			ug/L	MN	0.002		44	22-176			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.000822			ug/L	MN	0.002		41	13-328			
Surrogate: 13C-2,3,7,8-TCDD	0.000871			ug/L	MN	0.002		44	20-175			
Surrogate: 13C-2,3,7,8-TCDF	0.000779			ug/L	MN	0.002		39	22-152			
Surrogate: 13C-OCDD	0.00159			ug/L	MN	0.004		40	13-199			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.000674			ug/L	MN	0.0008		84	31-191			
Blank Analyzed: 09/20/2011 (G1114000077B1)						Source:						
2,3,7,8-TCDF	ND	0.00001	0.000003	ug/L	MN				-			
Surrogate: 13C-2,3,7,8-TCDF	0.00091			ug/L	MN	0.002		46	24-169			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.00059			ug/L	MN	0.0008		74	35-197			

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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
IUI0596-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0	4.7	15
IUI0596-01	624-Boeing 001/002Q (Fr113+X+Fr1,1-Dichloroethene		ug/l	0	0.50	6
IUI0596-01	624-Boeing 001/002Q (Fr113+X+FrTrichloroethene		ug/l	0	0.50	5
IUI0596-01	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
IUI0596-02	624-Boeing 001/002Q (Fr113+X+Fr1,1-Dichloroethene		ug/l	0	0.50	6
IUI0596-02	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
IUI0596-03	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0	0.0095	0.03
IUI0596-03	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	5.71	13
IUI0596-03	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	4.76	18
IUI0596-03	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	0.34	4.76	4
IUI0596-03	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	4.76	16
IUI0596-03	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	4.76	16.5
IUI0596-03	Ammonia-N, Titr 4500NH3-C (w/di:Ammonia-N (Distilled)		mg/l	0.28	0.500	10.1
IUI0596-03	BOD - SM5210B	Biochemical Oxygen Demand	mg/l	0.13	2.0	30
IUI0596-03	Cadmium-200.8	Cadmium	ug/l	0.011	1.0	3.1
IUI0596-03	Chloride - 300.0	Chloride	mg/l	168	10	150
IUI0596-03	Copper-200.8	Copper	ug/l	-1	2.00	14
IUI0596-03	Cyanide, Total-4500CN-E (5ppb)	Total Cyanide	ug/l	-1	5.0	8.5
IUI0596-03	Lead-200.8	Lead	ug/l	0.22	1.0	5.2
IUI0596-03	MBAS - SM5540C	Surfactants (MBAS)	mg/l	0.031	0.10	0.5
IUI0596-03	Mercury - 245.1	Mercury	ug/l	0.026	0.20	0.1
IUI0596-03	Nitrate-N, 300.0	Nitrate-N	mg/l	0.092	0.11	8
IUI0596-03	Nitrite-N, 300.0	Nitrite-N	mg/l	0	0.15	1
IUI0596-03	Nitrogen, NO3+NO2 -N EPA 300.0	Nitrate/Nitrite-N	mg/l	0.092	0.26	8
IUI0596-03	Perchlorate 314.0 - Default	Perchlorate	ug/l	0	4.0	6

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUI0596

Sampled: 09/07/11-09/09/11
 Received: 09/07/11

IUI0596-03	Selenium-200.8	Selenium	ug/l	0.53	2.0	5
IUI0596-03	Sulfate-300.0	Sulfate	mg/l	135	10	300
IUI0596-03	TDS - SM2540C	Total Dissolved Solids	mg/l	741	10	950
IUI0596-03	TSS - SM2540D	Total Suspended Solids	mg/l	0	10	45
IUI0596-03	Zinc-200.7	Zinc	ug/l	7.67	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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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: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUI0596

Sampled: 09/07/11-09/09/11
Received: 09/07/11

DATA QUALIFIERS AND DEFINITIONS

- B** Method blank contamination. The associated method blank contains the target analyte at a reportable level.
- B-1** Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
- H** See narrative
- J** Estimated result. Result is less than the reporting limit.
- Ja** Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
- Jb** The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
- 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

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.

IUI0596 <Page 50 of 53>

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUI0596

Sampled: 09/07/11-09/09/11
Received: 09/07/11

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EDD + Level 4	Water	N/A	N/A
EPA 1664A	Water	X	X
EPA 180.1	Water	X	N/A
EPA 200.7-Diss	Water	X	N/A
EPA 200.7	Water	X	N/A
EPA 200.8-Diss	Water	X	N/A
EPA 200.8	Water	X	N/A
EPA 245.1-Diss	Water	X	N/A
EPA 245.1	Water	X	N/A
EPA 300.0	Water	X	N/A
EPA 314.0	Water	X	N/A
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
SM2340B-Diss	Water		
SM2340B	Water	X	N/A
SM2540C	Water	X	N/A
SM2540F	Water	X	X
SM4500CN-E	Water	X	N/A
SM4500NH3-C	Water	X	X
SM5210B	Water	X	X
SM5310B	Water	X	X
SM5540-C	Water	X	N/A

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

Subcontracted Laboratories

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUI0596

Sampled: 09/07/11-09/09/11
Received: 09/07/11

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec
Samples: IUI0596-03, IUI0596-04

Analysis Performed: Gross Alpha
Samples: IUI0596-03, IUI0596-04

Analysis Performed: Gross Beta
Samples: IUI0596-03, IUI0596-04

Analysis Performed: Level 4 Data Package
Samples: IUI0596-03, IUI0596-04

Analysis Performed: Radium, Combined
Samples: IUI0596-03, IUI0596-04

Analysis Performed: Strontium 90
Samples: IUI0596-03, IUI0596-04

Analysis Performed: Tritium
Samples: IUI0596-03

Analysis Performed: Uranium, Combined
Samples: IUI0596-03, IUI0596-04

Method Performed: 8690
Samples: IUI0596-03, IUI0596-04

Method Performed: 900
Samples: IUI0596-03, IUI0596-04

Method Performed: 901.1
Samples: IUI0596-03, IUI0596-04

Method Performed: 903.1
Samples: IUI0596-03, IUI0596-04

Method Performed: 904
Samples: IUI0596-03, IUI0596-04

Method Performed: 905
Samples: IUI0596-03, IUI0596-04

Method Performed: 906
Samples: IUI0596-03

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUI0596

Sampled: 09/07/11-09/09/11
Received: 09/07/11

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

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B
Samples: IUI0596-03, IUI0596-03RE

TestAmerica Irvine

Debby Wilson
Project Manager

Client Name/Address: MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007		Project: Boeing-SSFL NPDES Monthly Outfall 019 COMPOSITE		ANALYSIS REQUIRED														Comments									
Test America Contact: Debby Wilson		Project Manager: Bronwyn Kelly Sampler: Rick BAJAN		Phone Number: (626) 568-6691		Fax Number: (626) 568-6515		Total Dissolved Metals: Cu, Pb, Hg, Cd, Se, Zn	Total Organic Carbon	Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, CS-137 (901.0 or 901.1)	Chromic Toxicity	Cyanide															
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #																					
Outfall 019	W	1L Poly	1	9-8-2011 10:20	None	15	X																				Filter w/in 24hrs of receipt at lab
Outfall 019	W	250 mL Glass	1		HCl	16		X																			
Outfall 019	W	2.5 Gal Cube	1	9-8-2011 10:20	None	17A			X																		Unfiltered and unpreserved analysis
		500 mL Amber	1		None	17B																					
Outfall 019	W	1 Gal Cube	1		None	18																					Only test on 1st and 2nd rain events of the year
Outfall 019	W	500 mL Poly	1	9-8-2011 10:20	NaOH	19						X															

COC Page 2 of 3 and Page 3 of 3 are the composite samples for Outfall 019 for this storm event.

These must be added to the same work order for COC Page 1 of 3 for Outfall 019 for the same event.

Relinquished By <i>Rick Bajan</i> Date/Time: 9-8-2011 12:00	Received By <i>Mark Gandy</i> Date/Time: 9-8-11 12:00	Turn-around time: (Check) 24 Hour: ___ 72 Hour: ___ 10 Day: <input checked="" type="checkbox"/> 48 Hour: ___ 5 Day: ___ Normal: ___
Relinquished By <i>Mark Gandy</i> Date/Time: 9-8-11 18:25	Received By	Sample Integrity: (Check) Intact: <input checked="" type="checkbox"/> On Ice: <input checked="" type="checkbox"/>
Relinquished By	Received By <i>Van Bavel</i> Date/Time: 9/8/11 18:25	Data Requirements: (Check) No Level IV: ___ All Level IV: ___ NPDES Level IV: <input checked="" type="checkbox"/> 7.6°C

08402

Client Name/Address: MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007				Project: Boeing-SSFL NPDES Monthly Outfall 019 COMPOSITE			ANALYSIS REQUIRED														
Test America Contact: Debby Wilson				Project Manager: Bronwyn Kelly			Total Recoverable Metals: Cu, Pb, Hg, Cd, Se, Zn	TCDD (and all congeners)	BOD ₅ (20 degrees C)	Surfactants (MBAS)	Cl ⁻ , SO ₄ , NO ₃ +NO ₂ -N, Perchlorate	Nitrate-N, Nitrite-N	Turbidity, TDS, TSS	Ammonia-N (350.2)	Alpha BHC (608)	2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs 625)					Comments
Project Manager: Bronwyn Kelly				Phone Number: (626) 568-6691																	
Sampler: RICK BANAGA				Fax Number: (626) 568-6515																	
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #															
Outfall 019	W	1L Poly	1	9-8-2011 10:20	HNO ₃	5A	X														
Outfall 019 Dup	W	1L Poly	1		HNO ₃	5B	X														
Outfall 019	W	1L Amber	2		None	6A, 6B		X													
Outfall 019	W	1L Poly	1		None	7			X												
Outfall 019	W	500 mL Poly	2		None	8A, 8B				X											
Outfall 019	W	500 mL Poly	2		None	9A, 9B				X											
Outfall 019	W	500 mL Poly	1		None	10					X										
Outfall 019	W	500 mL Poly	2		None	11A, 11B						X									
Outfall 019	W	500 mL Poly	1		H ₂ SO ₄	12							X								
Outfall 019	W	1L Amber	2		None	13A, 13B								X							
Outfall 019	W	1L Amber	2	9-8-2011 10:20	None	14A, 14B									X						

COC Page 2 of 3 and Page 3 of 3 are the composite samples for Outfall 019 for this storm event. These must be added to the same work order for COC Page 1 of 3 for Outfall 019 for the same event.

Relinquished By: <i>Rick Banaga</i>	Date/Time: 9-8-2011 12:00	Received By: <i>Matt Crump</i>	Date/Time: 9-8-11 12:00	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: <input checked="" type="checkbox"/> 48 Hour: _____ 5 Day: _____ Normal: _____ Sample Integrity: (Check) <input checked="" type="checkbox"/> Intact: <input checked="" type="checkbox"/> On Ice: <input checked="" type="checkbox"/> Data Requirements: (Check) No Level IV: _____ All Level IV: _____ NPDES Level IV: <input checked="" type="checkbox"/>
Relinquished By: <i>Matt Crump</i>	Date/Time: 9-8-11 8:25	Received By: <i>Jul Bank</i>	Date/Time: 9/8/11 18:25	
Relinquished By:	Date/Time:	Received By:	Date/Time:	

7.6^oC



EBERLINE

SERVICES

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

October 13, 2011

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

**Reference: Test America-Irvine IUI0596
Eberline Analytical Report S109070-8690
Sample Delivery Group 8690**

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for two water samples received under Test America Job No. IUI0596. The samples were received on August 16, 2011.

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

Sincerely,

Joseph Verville
Client Services Manager

NJV/

Enclosure: Level IV CLP-like Data Package CD

1.0 General Comments

Sample delivery group 8689 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 samples were 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 samples as received i.e. the samples were 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 volumes.

2.0 Quality Control

Quality Control Samples consisted of laboratory control samples (LCS), method blanks, and duplicate 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 2σ 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. The MDA for the QC 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** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits. The gamma spectroscopy planchets were counted for sufficient time to meet the required Cs-137 detection limit of 20 pCi/L. As a consequence of keying to the Cs-137 RDL, the detection limit for K-40 was not achieved for the QC blank or duplicate analysis.

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.”



Joseph Verville
Client Services Manager

10/13/11

Date

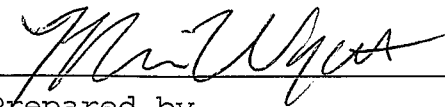
E B E R L I N E A N A L Y T I C A L
SDG 8690

SDG 8690
Contact Joseph Verville

Client Test America, Inc.
Contract IUI0596

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

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Prepared by _____


Reviewed by _____

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-TOC
Version 3.06
Report date 10/13/11

EBERLINE ANALYTICAL

SDG 8690

Client Test America, Inc.

SDG 8690
Contact Joseph Verville

REPORT GUIDE

Contract IUI0596

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 10/13/11

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GUIDE , c o n t .

Client Test America, Inc.
 Contract IUI0596

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

Page 2

SUMMARY DATA SECTION

Page 2

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-RG
 Version 3.06
 Report date 10/13/11

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LAB SAMPLE SUMMARY

SDG 8690

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Client Test America, Inc.

Contract IUI0596

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S109070-01	IUI0596-03	BOEING-SSFL	WATER			IUI0596	09/08/11 10:20
S109070-02	IUI0596-04 (TRIP-BLANK)	BOEING-SSFL	WATER			IUI0596	09/09/11 10:20
S109070-03	Lab Control Sample		WATER				
S109070-04	Method Blank		WATER				
S109070-05	Duplicate (S109070-01)	BOEING-SSFL	WATER				09/08/11 10:20

LAB SUMMARY

Page 1

SUMMARY DATA SECTION

Page 3

Lab id EAS

Protocol TA

Version Ver 1.0

Form DVD-LS

Version 3.06

Report date 10/13/11

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SDG 8690

SDG 8690
 Contact Joseph Verville

Client Test America, Inc.
 Contract IUI0596

QC SUMMARY

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
8690	IUI0596	IUI0596-03	WATER		10.0 L		09/10/11 2	S109070-01		8690-001
		IUI0596-04 (TRIP-BLANK)	WATER		10.0 L		09/10/11 1	S109070-02		8690-002
		Method Blank	WATER						S109070-04	8690-004
		Lab Control Sample	WATER						S109070-03	8690-003
		Duplicate (S109070-01)	WATER		10.0 L		09/10/11 2	S109070-05		8690-005

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-QS
 Version 3.06
 Report date 10/13/11

EBERLINE ANALYTICAL

SDG 8690

SDG 8690
 Contact Joseph Verville

PREP BATCH SUMMARY

Client Test America, Inc.
 Contract IUI0596

TEST	MATRIX	METHOD	PREPARATION ERROR		PLANCHETS ANALYZED				QUALI-	
			BATCH	2σ %	CLIENT	MORE	RE	BLANK		LCS
Beta Counting										
AC	WATER	Radium-228 in Water	7271-098	10.4	2			1	1	1/1
SR	WATER	Strontium-90 in Water	7271-098	10.4	2			1	1	1/1
Gas Proportional Counting										
80A	WATER	Gross Alpha in Water	7271-098	20.6	2			1	1	1/1
80B	WATER	Gross Beta in Water	7271-098	11.0	2			1	1	1/1
Gamma Spectroscopy										
GAM	WATER	Gamma Emitters in Water	7271-098	7.0	2			1	1	1/1
Kinetic Phosphorimetry, ug										
U_T	WATER	Uranium, Total	7271-098		2			1	1	1/1
Liquid Scintillation Counting										
H	WATER	Tritium in Water	7271-098	10.0	1			1	1	1/1
Radon Counting										
RA	WATER	Radium-226 in Water	7271-098	16.4	2			1	1	1/1

Blank, LCS, Duplicate and Spike planchets are those in the same preparation batch as some Client sample.

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-PBS
 Version 3.06
 Report date 10/13/11

EBERLINE ANALYTICAL

SDG 8690

SDG 8690
 Contact Joseph Verville

Client Test America, Inc.
 Contract IUI0596

LAB WORK SUMMARY

LAB SAMPLE	CLIENT SAMPLE ID									
COLLECTED	LOCATION	MATRIX		SUF-						
RECEIVED	CUSTODY	SAS no	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD	
S109070-01	IUI0596-03		8690-001	80A/80		09/27/11	09/27/11	BW	Gross Alpha in Water	
09/08/11	BOEING-SSFL	WATER	8690-001	80B/80		09/27/11	09/27/11	BW	Gross Beta in Water	
09/10/11	IUI0596		8690-001	AC		09/28/11	09/29/11	KWP	Radium-228 in Water	
			8690-001	GAM		09/19/11	09/20/11	CSS	Gamma Emitters in Water	
			8690-001	H		09/25/11	09/27/11	KWP	Tritium in Water	
			8690-001	RA		09/28/11	09/28/11	BW	Radium-226 in Water	
			8690-001	SR		09/22/11	09/26/11	BW	Strontium-90 in Water	
			8690-001	U_T		09/30/11	09/30/11	TSC	Uranium, Total	
S109070-02	IUI0596-04 (TRIP-BLANK)		8690-002	80A/80		09/22/11	09/27/11	BW	Gross Alpha in Water	
09/09/11	BOEING-SSFL	WATER	8690-002	80B/80		09/22/11	09/27/11	BW	Gross Beta in Water	
09/10/11	IUI0596		8690-002	AC		09/28/11	09/29/11	KWP	Radium-228 in Water	
			8690-002	GAM		09/19/11	09/20/11	CSS	Gamma Emitters in Water	
			8690-002	RA		09/28/11	09/28/11	BW	Radium-226 in Water	
			8690-002	SR		09/22/11	09/26/11	BW	Strontium-90 in Water	
			8690-002	U_T		09/30/11	09/30/11	TSC	Uranium, Total	
S109070-03	Lab Control Sample		8690-003	80A/80		09/26/11	09/27/11	BW	Gross Alpha in Water	
		WATER	8690-003	80B/80		09/26/11	09/27/11	BW	Gross Beta in Water	
			8690-003	AC		09/28/11	09/29/11	KWP	Radium-228 in Water	
			8690-003	GAM		09/19/11	09/20/11	CSS	Gamma Emitters in Water	
			8690-003	H		09/25/11	09/27/11	KWP	Tritium in Water	
			8690-003	RA		09/28/11	09/28/11	BW	Radium-226 in Water	
			8690-003	SR		09/22/11	09/26/11	BW	Strontium-90 in Water	
			8690-003	U_T		09/30/11	09/30/11	TSC	Uranium, Total	
S109070-04	Method Blank		8690-004	80A/80		09/27/11	09/27/11	BW	Gross Alpha in Water	
		WATER	8690-004	80B/80		09/27/11	09/27/11	BW	Gross Beta in Water	
			8690-004	AC		09/28/11	09/29/11	KWP	Radium-228 in Water	
			8690-004	GAM		09/19/11	09/20/11	CSS	Gamma Emitters in Water	
			8690-004	H		09/25/11	09/27/11	KWP	Tritium in Water	
			8690-004	RA		09/28/11	09/28/11	BW	Radium-226 in Water	
			8690-004	SR		09/22/11	09/26/11	BW	Strontium-90 in Water	
			8690-004	U_T		09/30/11	09/30/11	TSC	Uranium, Total	

WORK SUMMARY

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EBERLINE ANALYTICAL

SDG 8690

SDG 8690
Contact Joseph Verville

Client Test America, Inc.
Contract IUI0596

WORK SUMMARY, cont.

LAB SAMPLE	CLIENT SAMPLE ID									
COLLECTED	LOCATION	MATRIX		SUF-						
RECEIVED	CUSTODY	SAS no	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD	
S109070-05	Duplicate (S109070-01)		8690-005	80A/80		09/27/11	09/27/11	BW	Gross Alpha in Water	
09/08/11	BOEING-SSFL	WATER	8690-005	80B/80		09/27/11	09/27/11	BW	Gross Beta in Water	
09/10/11			8690-005	AC		09/28/11	09/29/11	KWP	Radium-228 in Water	
			8690-005	GAM		09/20/11	09/20/11	CSS	Gamma Emitters in Water	
			8690-005	H		09/25/11	09/27/11	KWP	Tritium in Water	
			8690-005	RA		09/28/11	09/28/11	BW	Radium-226 in Water	
			8690-005	SR		09/22/11	09/26/11	BW	Strontium-90 in Water	
			8690-005	U_T		09/30/11	09/30/11	TSC	Uranium, Total	

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			1	1	1		5
80B/80		Gross Beta in Water	900.0	2			1	1	1		5
AC		Radium-228 in Water	904.0	2			1	1	1		5
GAM		Gamma Emitters in Water	901.1	2			1	1	1		5
H		Tritium in Water	906.0	1			1	1	1		4
RA		Radium-226 in Water	903.1	2			1	1	1		5
SR		Strontium-90 in Water	905.0	2			1	1	1		5
U_T		Uranium, Total	D5174	2			1	1	1		5
TOTALS				15			8	8	8		39

WORK SUMMARY

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Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 10/13/11

EBERLINE ANALYTICAL

SDG 8690

8690-003

Lab Control Sample

LAB CONTROL SAMPLE

SDG <u>8690</u>	Client <u>Test America, Inc.</u>
Contact <u>Joseph Verville</u>	Contract <u>IUI0596</u>
Lab sample id <u>S109070-03</u>	Client sample id <u>Lab Control Sample</u>
Dept sample id <u>8690-003</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	50.5	2.7	0.526	3.00		80A	44.4	1.8	114	75-125	70-130
Gross Beta	39.8	1.5	1.01	4.00		80B	41.2	1.6	97	88-112	70-130
Tritium	2390	150	152	500		H	2510	100	95	88-112	80-120
Radium-226	43.4	2.3	0.689	1.00		RA	50.1	2.0	87	85-115	80-120
Radium-228	6.64	0.40	0.456	1.00		AC	5.67	0.23	117	85-115	60-140
Strontium-90	22.4	1.6	0.643	2.00		SR	19.0	0.76	118	85-115	80-120
Uranium, Total	52.2	6.7	0.225	1.00		U_T	56.5	2.3	92	87-113	80-120
Cobalt-60	105	5.0	3.22	10.0		GAM	117	4.7	90	91-109	80-120
Cesium-137	114	4.4	3.03	20.0		GAM	124	5.0	92	92-108	80-120

QC-LCS #79885

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>10/13/11</u>

EBERLINE ANALYTICAL

SDG 8690

8690-005

IUI0596-03

DUPLICATE

SDG <u>8690</u>	Client <u>Test America, Inc.</u>	
Contact <u>Joseph Verville</u>	Contract <u>IUI0596</u>	
DUPLICATE	ORIGINAL	
Lab sample id <u>S109070-05</u>	Lab sample id <u>S109070-01</u>	Client sample id <u>IUI0596-03</u>
Dept sample id <u>8690-005</u>	Dept sample id <u>8690-001</u>	Location/Matrix <u>BOEING-SSFL</u> <u>WATER</u>
	Received <u>09/10/11</u>	Collected/Volume <u>09/08/11 10:20</u> <u>10.0 L</u>
		Chain of custody id <u>IUI0596</u>

ANALYTE	DUPLICATE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST	ORIGINAL pCi/L	2σ ERR (COUNT)	MDA pCi/L	QUALI- FIERS	RPD %	3σ TOT	DER σ
Gross Alpha	0.337	1.1	2.14	3.00	U	80A	0.717	1.2	2.04	U	-		0.5
Gross Beta	8.63	0.80	0.909	4.00		80B	7.87	0.89	1.13		9	32	0.9
Tritium	-23.0	90	154	500	U	H	-15.4	91	155	U	-		0.1
Radium-226	0.052	0.44	0.799	1.00	U	RA	0.122	0.39	0.678	U	-		0.2
Radium-228	0.467	0.23	0.492	1.00	U	AC	0.447	0.24	0.498	U	-		0.1
Strontium-90	0.172	0.56	0.994	2.00	U	SR	-0.292	0.34	0.930	U	-		1.4
Uranium, Total	0.038	0.011	0.022	1.00	J	U_T	0.040	0.011	0.022	J	5	60	0.3
Potassium-40	U		<u>25.9</u>	25.0	U	GAM	U		20.3	U	-		0.3
Cesium-137	U		1.60	20.0	U	GAM	U		1.48	U	-		0.1

QC-DUP#1 79887

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>10/13/11</u>

EBERLINE ANALYTICAL

SDG 8690

8690-001

IUI0596-03

DATA SHEET

SDG <u>8690</u>	Client <u>Test America, Inc.</u>
Contact <u>Joseph Verville</u>	Contract <u>IUI0596</u>
Lab sample id <u>S109070-01</u>	Client sample id <u>IUI0596-03</u>
Dept sample id <u>8690-001</u>	Location/Matrix <u>BOEING-SSFL</u> <u>WATER</u>
Received <u>09/10/11</u>	Collected/Volume <u>09/08/11 10:20</u> <u>10.0 L</u>
	Chain of custody id <u>IUI0596</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	0.717	1.2	2.04	3.00	U	80A
Gross Beta	12587472	7.87	0.89	1.13	4.00		80B
Tritium	10028178	-15.4	91	155	500	U	H
Radium-226	13982633	0.122	0.39	0.678	1.00	U	RA
Radium-228	15262201	0.447	0.24	0.498	1.00	U	AC
Strontium-90	10098972	-0.292	0.34	0.930	2.00	U	SR
Uranium, Total		0.040	0.011	0.022	1.00	J	U_T
Potassium-40	13966002	U		20.3	25.0	U	GAM
Cesium-137	10045973	U		1.48	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>10/13/11</u>

EBERLINE ANALYTICAL

SDG 8690

8690-002

IUI0596-04 (TRIP-BLANK)

DATA SHEET

SDG <u>8690</u>	Client <u>Test America, Inc.</u>
Contact <u>Joseph Verville</u>	Contract <u>IUI0596</u>
Lab sample id <u>S109070-02</u>	Client sample id <u>IUI0596-04 (TRIP-BLANK)</u>
Dept sample id <u>8690-002</u>	Location/Matrix <u>BOEING-SSFL</u> <u>WATER</u>
Received <u>09/10/11</u>	Collected/Volume <u>09/09/11 10:20</u> <u>10.0 L</u>
	Chain of custody id <u>IUI0596</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	-0.116	0.19	0.492	3.00	U	80A
Gross Beta	12587472	-0.227	0.72	1.28	4.00	U	80B
Radium-226	13982633	0.250	0.44	0.757	1.00	U	RA
Radium-228	15262201	0.071	0.22	0.495	1.00	U	AC
Strontium-90	10098972	0.092	0.45	1.01	2.00	U	SR
Uranium, Total		0	0.010	0.022	1.00	U	U_T
Potassium-40	13966002	U		17.4	25.0	U	GAM
Cesium-137	10045973	U		1.36	20.0	U	GAM

DATA SHEETS

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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>10/13/11</u>

EBERLINE ANALYTICAL

SDG 8690

Test AC Matrix WATER
 SDG 8690
 Contact Joseph Verville

Client Test America, Inc.
 Contract IUI0596

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 7271-098

S109070-01	8690-001	IUI0596-03	U
S109070-02	8690-002	IUI0596-04 (TRIP-BLANK)	U
S109070-03	8690-003	Lab Control Sample	ok
S109070-04	8690-004	Method Blank	U
S109070-05	8690-005	Duplicate (S109070-01)	- 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 7271-098 2σ prep error 10.4 % Reference Lab Notebook 7271 pg. 096

S109070-01	IUI0596-03	0.498	1.80	72	150	20	09/28/11	09/28	GRB-225
S109070-02	IUI0596-04 (TRIP-BLANK)	0.495	1.80	67	150	19	09/28/11	09/28	GRB-227
S109070-03	Lab Control Sample	0.456	1.80	68	150		09/28/11	09/28	GRB-228
S109070-04	Method Blank	0.862	1.80	72	150		09/28/11	09/28	GRB-229
S109070-05	Duplicate (S109070-01)	0.492	1.80	71	150	20	09/28/11	09/28	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 0.561 ± 0.339
 FOR 5 SAMPLES YIELD 70 ± 5

METHOD SUMMARIES

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Lab id EAS
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 Form DVD-LMS
 Version 3.06
 Report date 10/13/11

EBERLINE ANALYTICAL

SDG 8690

LAB METHOD SUMMARY

STRONTIUM-90 IN WATER

BETA COUNTING

Test SR Matrix WATER

SDG 8690

Contact Joseph Verville

Client Test America, Inc.

Contract IUI0596

RESULTS

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

Preparation batch 7271-098

S109070-01	8690-001	IUI0596-03	U
S109070-02	8690-002	IUI0596-04 (TRIP-BLANK)	U
S109070-03	8690-003	Lab Control Sample	ok
S109070-04	8690-004	Method Blank	U
S109070-05	8690-005	Duplicate (S109070-01)	- 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 7271-098 2σ prep error 10.4 % Reference Lab Notebook 7271 pg. 096

S109070-01	IUI0596-03	0.930	0.500	94	50	14	09/22/11	09/22	GRB-220
S109070-02	IUI0596-04 (TRIP-BLANK)	1.01	0.500	82	50	13	09/22/11	09/22	GRB-221
S109070-03	Lab Control Sample	0.643	0.500	84	55		09/22/11	09/22	GRB-222
S109070-04	Method Blank	0.942	0.500	85	50		09/22/11	09/22	GRB-223
S109070-05	Duplicate (S109070-01)	0.994	0.500	90	100	14	09/22/11	09/22	GRB-206

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

PROCEDURES REFERENCE 905.0
CP-380 Strontium in Water Samples, rev 5

AVERAGES ± 2 SD MDA 0.904 ± 0.299
FOR 5 SAMPLES YIELD 87 ± 10

METHOD SUMMARIES

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Lab id EAS

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EBERLINE ANALYTICAL

SDG 8690

Test 80A Matrix WATER

SDG 8690

Contact Joseph Verville

Client Test America, Inc.

Contract IUI0596

LAB METHOD SUMMARY

GROSS ALPHA IN WATER

GAS PROPORTIONAL COUNTING

RESULTS

LAB	RAW	SUF-		
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha

Preparation batch 7271-098

S109070-01	80	8690-001	IUI0596-03	U
S109070-02	80	8690-002	IUI0596-04 (TRIP-BLANK)	U
S109070-03	80	8690-003	Lab Control Sample	ok
S109070-04	80	8690-004	Method Blank	U
S109070-05	80	8690-005	Duplicate (S109070-01)	- U

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 7271-098 2σ prep error 20.6 % Reference Lab Notebook 7271 pg. 096

S109070-01	80	IUI0596-03	2.04	0.300			<u>252</u>		400			19 09/20/11 09/27	GRB-103
S109070-02	80	IUI0596-04 (TRIP-BLANK)	0.492	0.300			0		200			13 09/20/11 09/22	GRB-216
S109070-03	80	Lab Control Sample	0.526	0.250			60		400			09/20/11 09/26	GRB-111
S109070-04	80	Method Blank	0.748	0.250			61		400			09/20/11 09/27	GRB-105
S109070-05	80	Duplicate (S109070-01)	2.14	0.300			242		400			19 09/20/11 09/27	GRB-104

Nominal values and limits from method 3.00 0.250 0-250 100 180

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

AVERAGES ± 2 SD MDA 1.19 ± 1.66
FOR 5 SAMPLES RESIDUE 123 ± 232

METHOD SUMMARIES

Page 3

SUMMARY DATA SECTION

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Lab id EAS

Protocol TA

Version Ver 1.0

Form DVD-LMS

Version 3.06

Report date 10/13/11

EBERLINE ANALYTICAL

SDG 8690

LAB METHOD SUMMARY

GROSS BETA IN WATER

GAS PROPORTIONAL COUNTING

Test 80B Matrix WATER

SDG 8690

Contact Joseph Verville

Client Test America, Inc.

Contract IUI0596

RESULTS

LAB RAW SUF- SAMPLE ID TEST FIX PLANCHET CLIENT SAMPLE ID Gross Beta

Preparation batch 7271-098

Table with 5 columns: SAMPLE ID, TEST FIX, PLANCHET, CLIENT SAMPLE ID, Gross Beta. Rows include S109070-01 to S109070-05 with various sample descriptions and results like 7.87, U, ok.

Nominal values and limits from method RDLs (pCi/L) 4.00

METHOD PERFORMANCE

LAB RAW SUF- MDA ALIQ PREP DILU- RESID EPF 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 7271-098 2σ prep error 11.0 % Reference Lab Notebook 7271 pg. 096

Table with 13 columns: SAMPLE ID, TEST FIX, CLIENT SAMPLE ID, MDA, ALIQ, PREP, DILU-, RESID, EPF, COUNT, FWHM, DRIFT, DAYS, ANAL-. Rows include S109070-01 to S109070-05 with detailed performance metrics.

Nominal values and limits from method 4.00 0.250 0-250 100 180

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

AVERAGES ± 2 SD MDA 1.09 ± 0.278 FOR 5 SAMPLES RESIDUE 123 ± 232

Lab id EAS

Protocol TA

Version Ver 1.0

Form DVD-LMS

Version 3.06

Report date 10/13/11

EBERLINE ANALYTICAL

SDG 8690

Test GAM Matrix WATER
 SDG 8690
 Contact Joseph Verville

Client Test America, Inc.
 Contract IUI0596

LAB METHOD SUMMARY

GAMMA EMITTERS IN WATER
 GAMMA SPECTROSCOPY

RESULTS

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

Preparation batch 7271-098

S109070-01	8690-001	IUI0596-03		U
S109070-02	8690-002	IUI0596-04 (TRIP-BLANK)		U
S109070-03	8690-003	Lab Control Sample	ok	ok
S109070-04	8690-004	Method Blank		U
S109070-05	8690-005	Duplicate (S109070-01)		- 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 7271-098 2σ prep error 7.0 % Reference Lab Notebook 7271 pg. 096

S109070-01	IUI0596-03	2.00				662			11	09/19/11	09/19	01,03,00
S109070-02	IUI0596-04 (TRIP-BLANK)	2.00				618			10	09/19/11	09/19	01,01,00
S109070-03	Lab Control Sample	2.00				596				09/19/11	09/19	01,04,00
S109070-04	Method Blank	2.00				596				09/19/11	09/19	MB,05,00
S109070-05	Duplicate (S109070-01)	2.00				402			12	09/20/11	09/20	MB,08,00

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

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Test U T Matrix WATER
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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 7271-098				
S109070-01		8690-001	IUI0596-03	0.040 J
S109070-02		8690-002	IUI0596-04 (TRIP-BLANK)	U
S109070-03		8690-003	Lab Control Sample	ok
S109070-04		8690-004	Method Blank	U
S109070-05		8690-005	Duplicate (S109070-01)	ok J

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

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EPF	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 7271-098			2σ prep error		Reference Lab Notebook 7271 pg. 096										
S109070-01		IUI0596-03	0.022	0.0200								22	09/30/11	09/30	KPA-001
S109070-02		IUI0596-04 (TRIP-BLANK)	0.022	0.0200								21	09/30/11	09/30	KPA-001
S109070-03		Lab Control Sample	0.225	0.0200									09/30/11	09/30	KPA-001
S109070-04		Method Blank	0.022	0.0200									09/30/11	09/30	KPA-001
S109070-05		Duplicate (S109070-01)	0.022	0.0200								22	09/30/11	09/30	KPA-001

Nominal values and limits from method 1.00 0.0200 180

PROCEDURES REFERENCE D5174

AVERAGES ± 2 SD MDA 0.063 ± 0.182
 FOR 5 SAMPLES YIELD _____ ± _____

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LAB METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

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RESULTS

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

Preparation batch 7271-098

S109070-01 8690-001 IUI0596-03 U
S109070-03 8690-003 Lab Control Sample ok
S109070-04 8690-004 Method Blank U
S109070-05 8690-005 Duplicate (S109070-01) - 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 7271-098 2σ prep error 10.0 % Reference Lab Notebook 7271 pg. 096

S109070-01 IUI0596-03 155 0.0100 100 150 17 09/23/11 09/25 LSC-007
S109070-03 Lab Control Sample 152 0.100 10 150 09/23/11 09/25 LSC-007
S109070-04 Method Blank 154 0.100 10 150 09/23/11 09/25 LSC-007
S109070-05 Duplicate (S109070-01) 154 0.0100 100 150 17 09/23/11 09/25 LSC-007

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 154 ± 2.52
FOR 4 SAMPLES YIELD 55 ± 104

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Test RA Matrix WATER
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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 7271-098

S109070-01	8690-001	IUI0596-03	U
S109070-02	8690-002	IUI0596-04 (TRIP-BLANK)	U
S109070-03	8690-003	Lab Control Sample .	ok
S109070-04	8690-004	Method Blank	U
S109070-05	8690-005	Duplicate (S109070-01)	- 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 7271-098 2σ prep error 16.4 % Reference Lab Notebook 7271 pg. 096

S109070-01	IUI0596-03	0.678	0.100	100	<u>92</u>	20	09/28/11	09/28	RN-009
S109070-02	IUI0596-04 (TRIP-BLANK)	0.757	0.100	100	<u>92</u>	19	09/28/11	09/28	RN-010
S109070-03	Lab Control Sample	0.689	0.100	100	<u>92</u>		09/28/11	09/28	RN-012
S109070-04	Method Blank	0.842	0.100	100	<u>92</u>		09/28/11	09/28	RN-013
S109070-05	Duplicate (S109070-01)	0.799	0.100	100	<u>92</u>	20	09/28/11	09/28	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 0.753 ± 0.141
 FOR 5 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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- 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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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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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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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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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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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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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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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 (IUI0596)

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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

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

Analysis	Units	Expires	Comments
Sample ID: IUI0596-03 (Outfall 019 (Composite) - Water)			
		Sampled: 09/08/11 10:20	
Gamma Spec-O	mg/kg	09/07/12 10:20	Out eberline k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	03/06/12 10:20	Out eberline, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	03/06/12 10:20	Out Eberline, Boeing permit, DO NOT FILTER!
Level 4 Data Package - Out	N/A	10/06/11 10:20	
Radium, Combined-O	pCi/L	09/07/12 10:20	Out eberline Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	09/07/12 10:20	Out eberline Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	09/07/12 10:20	Out eberline Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	09/07/12 10:20	Out eberline, Boeing permit, DO NOT FILTER!

Containers Supplied:

2.5 gal Poly (U) 500 mL Amber (V)

Sample ID: IUI0596-04 (Trip Blank - Water)

Sampled: 09/09/11 12:20

Gamma Spec-O	mg/kg	09/08/12 12:20	Out eberline k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	03/07/12 12:20	Out eberline, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	03/07/12 12:20	Out Eberline, Boeing permit, DO NOT FILTER!
Level 4 Data Package - Out	N/A	10/07/11 12:20	
Radium, Combined-O	pCi/L	09/08/12 12:20	Out eberline Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	09/08/12 12:20	Out eberline Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	09/08/12 12:20	Out eberline Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	09/08/12 12:20	Out eberline, Boeing permit, DO NOT FILTER!

Containers Supplied:

2.5 gal Poly (A)

Released By: [Signature] Date/Time: 9/9/11 17:00

Received By: FedEx Date/Time: 9/9/11 17:00

Released By: FedEx Date/Time: _____

Received By: [Signature] Date/Time: 09/10/11 10:30



RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA
 Date/Time received 09/16/11 1030 CoC No. 1010596
 Container I.D. No. 600858 Requested TAT (Days) STD 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? Yes [x] No [] N/A []
3. Custody seals on sample containers intact? Yes [] No [] N/A [x]
4. Custody seals on sample containers dated & signed? Yes [] No [] N/A [x]
5. Packing material is: Wet [] Dry [x]
6. Number of samples in shipping container: 2 Sample Matrix U
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 [x] Not preserved [x] pH 22/N/A Preservative HNO3
13. Describe any anomalies:

14. Was P.M. notified of any anomalies? Yes [] No [] Date _____
 15. Inspected by Free Date: 09/17/11 Time: 0755

Customer Sample No.	Beta/Gamma com	Ion Chamber mR/hr	Wipe	Customer Sample No.	Beta/Gamma com	Ion Chamber mR/hr	wipe
<u>See Samples</u>	<u>LSD</u>						

Ion Chamber Ser. No. _____ Calibration date _____
 Alpha Meter Ser. No. _____ Calibration date _____
 Beta/Gamma Meter Ser. No. 100482 Calibration date 24 SEP 10

APPENDIX G

Section 9

Arroyo Simi-Frontier Park – August 9, 2011

MEC^X Data Validation Report



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IUH1083

Prepared by

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

I. INTRODUCTION

Task Order Title: Boeing SSFL NPDES
Contract Task Order: 1261.100D.00
Sample Delivery Group: IUH1083
Project Manager: B. Kelly
Matrix: Water
QC Level: IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Laboratory: TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Arroyo Simi-FP	IUH1083-01	N/A	Water	8/9/2011 12:15:00 PM	200.7, 525.2, SM 2340B

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory 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. Custody seals were intact. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

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

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHODS 200.7 and SM2340B—Metals

Reviewed By: P. Meeks

Date Reviewed: September 13, 2011

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *MEC^x Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0)*, *EPA Methods 200.7, SM2340B*, and the *National Functional Guidelines for Inorganic Data Review (7/02)*.

- Holding Times: Analytical holding times, six months for ICP metals, was met.
- Tuning: Not applicable to this analysis.
- Calibration: Calibration criteria were met. All initial and continuing calibration recoveries were within 90-110%. CRDL recoveries were within the control limits of 70-130%.
- Blanks: Method blanks and CCBs had no applicable detects.
- Interference Check Samples: Recoveries were within the method-established control limits. There were no target compounds present in the ICSA solution at concentrations indicative of matrix interference.
- Blank Spikes and Laboratory Control Samples: Recoveries were within method-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analysis was 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.
- 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.

B. EPA METHOD 525.2—Semivolatile Organic Compounds (SVOCs)

Reviewed By: L. Calvin

Date Reviewed: September 13, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^x Data Validation Procedure for Semivolatile Organics (DVP-3, Rev. 0)*, *EPA Method 525.2*, and the *National Functional Guidelines for Organic Data Review (10/99)*.

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted within 24 hours of collection and analyzed within 30 days of extraction.
- GC/MS Tuning: The DFTPP tunes met the method abundance criteria. The sample was analyzed within 12 hours of the DFTPP injection time.
- Calibration: Calibration criteria were met. The initial calibration average RRFs were ≥ 0.05 and $\%RSD \leq 30\%$. The continuing calibration RRFs were ≥ 0.05 and recoveries were within the method QC limits of 70-130%.
- Blanks: The method blank had no target compound detects above the MDL.
- Blank Spikes and Laboratory Control Samples: The recoveries and RPDs were within laboratory-established QC limits.
- Surrogate Recovery: Recoveries were within laboratory-established QC limits.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG due to insufficient sample volume. Method accuracy and precision were evaluated based on the LCS/LCSD results.
- 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 internal standard area counts and retention times were within the method control limits established by the average initial calibration standards of $\pm 30\%$.
- Compound Identification: Compound identification was verified. The laboratory analyzed for chlorpyrifos and diazinon by Method 525.2. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification.
- Compound Quantification and Reported Detection Limits: Compound quantification was verified. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Reported nondetects are valid to the reporting limit.
- Tentatively Identified Compounds: TICs were not reported by the laboratory for this analysis.
- System Performance: Review of the raw data indicated no problems with system performance.

Validated Sample Result Forms IUH1083

Analysis Method EPA 200.7

Sample Name Arroyo Simi-FP **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: IUH1083-01 **Sample Date:** 8/9/2011 12:15:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Calcium	7440-70-2	190	0.10	0.050	mg/l	B-1		
Magnesium	7439-95-4	63	0.020	0.012	mg/l			

Analysis Method EPA 525.2

Sample Name Arroyo Simi-FP **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: IUH1083-01 **Sample Date:** 8/9/2011 12:15:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chlorpyrifos	2921-88-2	ND	1.0	0.080	ug/l		U	
Diazinon	333-41-5	ND	0.25	0.040	ug/l		U	

Analysis Method SM2340B

Sample Name Arroyo Simi-FP **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: IUH1083-01 **Sample Date:** 8/9/2011 12:15:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Hardness (as CaCO3)	NA	730	0.33	0.17	mg/l			

APPENDIX G

Section 10

Arroyo Simi-Frontier Park – August 9, 2011
Test America Analytical Laboratory Report

LABORATORY REPORT

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

Project: Quarterly Arroyo Simi-Frontier
Park

Sampled: 08/09/11
Received: 08/09/11
Issued: 08/23/11 17:14

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

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

This entire report was reviewed and approved for release.

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: Perylene-d12 surrogate recovery was below acceptance limits in the epa method 525.2 method blank. This surrogate is not associated with target analytes, chloropyrifos and diazinon, and the client sample results were non-detect so data is not affected.

COMMENTS: Results that fall between the MDL and RL are 'J' flagged.

SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

LABORATORY ID

IUH1083-01

CLIENT ID

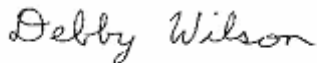
Arroyo Simi-FP

MATRIX

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 Arroyo Simi-Frontier Park

Report Number: IUH1083

Sampled: 08/09/11
 Received: 08/09/11

ORGANIC COMPOUNDS BY GC/MS (EPA 525.2)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUH1083-01 (Arroyo Simi-FP - Water)									
Reporting Units: ug/l									
Chlorpyrifos	EPA 525.2	11H1348	0.080	1.0	ND	1	JM	08/11/11	
Diazinon	EPA 525.2	11H1348	0.040	0.25	ND	1	JM	08/11/11	
<i>Surrogate: 1,3-Dimethyl-2-nitrobenzene (70-130%)</i>					104 %				
<i>Surrogate: Triphenylphosphate (70-130%)</i>					106 %				
<i>Surrogate: Perylene-d12 (70-130%)</i>					104 %				

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: Quarterly Arroyo Simi-Frontier Park

Report Number: IUH1083

Sampled: 08/09/11
 Received: 08/09/11

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUH1083-01 (Arroyo Simi-FP - Water) - cont.									
Reporting Units: ug/l									
4,4'-DDD	EPA 608	11H1494	0.0038	0.0047	ND	0.943	CN	08/12/11	
4,4'-DDE	EPA 608	11H1494	0.0028	0.0047	ND	0.943	CN	08/12/11	
4,4'-DDT	EPA 608	11H1494	0.0038	0.0094	ND	0.943	CN	08/12/11	
Dieldrin	EPA 608	11H1494	0.0019	0.0047	ND	0.943	CN	08/12/11	
Chlordane	EPA 608	11H1494	0.075	0.094	ND	0.943	CN	08/12/11	
Toxaphene	EPA 608	11H1494	0.24	0.47	ND	0.943	CN	08/12/11	
Surrogate: Decachlorobiphenyl (45-120%)					73 %				
Surrogate: Tetrachloro-m-xylene (35-115%)					65 %				

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: Quarterly Arroyo Simi-Frontier Park

Report Number: IUH1083

Sampled: 08/09/11
 Received: 08/09/11

TOTAL PCBS (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUH1083-01 (Arroyo Simi-FP - Water) - cont.									
Reporting Units: ug/l									
Aroclor 1016	EPA 608	11H1494	0.24	0.47	ND	0.943	JSM	08/12/11	
Aroclor 1221	EPA 608	11H1494	0.24	0.47	ND	0.943	JSM	08/12/11	
Aroclor 1232	EPA 608	11H1494	0.24	0.47	ND	0.943	JSM	08/12/11	
Aroclor 1242	EPA 608	11H1494	0.24	0.47	ND	0.943	JSM	08/12/11	
Aroclor 1248	EPA 608	11H1494	0.24	0.47	ND	0.943	JSM	08/12/11	
Aroclor 1254	EPA 608	11H1494	0.24	0.47	ND	0.943	JSM	08/12/11	
Aroclor 1260	EPA 608	11H1494	0.24	0.47	ND	0.943	JSM	08/12/11	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					74 %				

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: Quarterly Arroyo Simi-Frontier Park

Report Number: IUH1083

Sampled: 08/09/11
Received: 08/09/11

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUH1083-01 (Arroyo Simi-FP - Water) - cont.									
Reporting Units: mg/l									
Hardness (as CaCO ₃)	SM2340B	[CALC]		0.33	730	1	NH	08/16/11	
Calcium	EPA 200.7	11H2017	0.050	0.10	190	1	NH	08/16/11	B-1
Magnesium	EPA 200.7	11H2017	0.012	0.020	63	1	NH	08/16/11	

TestAmerica Irvine

Debby Wilson
Project Manager

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IUH1083 <Page 5 of 12>

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

Project ID: Quarterly Arroyo Simi-Frontier Park

Report Number: IUH1083

Sampled: 08/09/11
Received: 08/09/11

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Arroyo Simi-FP (IUH1083-01) - Water EPA 525.2	1	08/09/2011 12:15	08/09/2011 17:25	08/10/2011 11:37	08/11/2011 04:53

TestAmerica Irvine

Debby Wilson
Project Manager

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IUH1083 <Page 6 of 12>

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

Project ID: Quarterly Arroyo Simi-Frontier Park

Report Number: IUH1083

Sampled: 08/09/11
Received: 08/09/11

METHOD BLANK/QC DATA

ORGANIC COMPOUNDS BY GC/MS (EPA 525.2)

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11H1348 Extracted: 08/10/11												
Blank Analyzed: 08/11/2011 (11H1348-BLK1)												
Chlorpyrifos	ND	1.0	0.080	ug/l	JM							
Diazinon	ND	0.25	0.040	ug/l	JM							
Surrogate:	5.66			ug/l	JM	5.00		113	70-130			
1,3-Dimethyl-2-nitrobenzene												
Surrogate: Triphenylphosphate	5.80			ug/l	JM	5.00		116	70-130			
Surrogate: Perylene-d12	1.90			ug/l	JM	5.00		38	70-130			Z6
LCS Analyzed: 08/10/2011 (11H1348-BS1)												
Chlorpyrifos	5.08	1.0	0.080	ug/l	JM	5.00		102	70-130			
Diazinon	5.04	0.25	0.040	ug/l	JM	5.00		101	70-130			
Surrogate:	4.81			ug/l	JM	5.00		96	70-130			
1,3-Dimethyl-2-nitrobenzene												
Surrogate: Triphenylphosphate	5.03			ug/l	JM	5.00		101	70-130			
Surrogate: Perylene-d12	5.03			ug/l	JM	5.00		101	70-130			
LCS Dup Analyzed: 08/10/2011 (11H1348-BSD1)												
Chlorpyrifos	5.19	1.0	0.080	ug/l	JM	5.00		104	70-130	2	30	
Diazinon	5.06	0.25	0.040	ug/l	JM	5.00		101	70-130	0.3	30	
Surrogate:	4.98			ug/l	JM	5.00		100	70-130			
1,3-Dimethyl-2-nitrobenzene												
Surrogate: Triphenylphosphate	4.82			ug/l	JM	5.00		96	70-130			
Surrogate: Perylene-d12	5.07			ug/l	JM	5.00		101	70-130			

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Quarterly Arroyo Simi-Frontier Park

Report Number: IUH1083

Sampled: 08/09/11
Received: 08/09/11

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 11H1494 Extracted: 08/11/11												
Blank Analyzed: 08/12/2011 (11H1494-BLK1)												
4,4'-DDD	ND	0.0050	0.0040	ug/l	CN							
4,4'-DDE	ND	0.0050	0.0030	ug/l	CN							
4,4'-DDT	ND	0.010	0.0040	ug/l	CN							
Dieldrin	ND	0.0050	0.0020	ug/l	CN							
Chlordane	ND	0.10	0.080	ug/l	CN							
Toxaphene	ND	0.50	0.25	ug/l	CN							
Surrogate: Decachlorobiphenyl	0.429			ug/l	CN	0.500		86	45-120			
Surrogate: Tetrachloro-m-xylene	0.373			ug/l	CN	0.500		75	35-115			
LCS Analyzed: 08/12/2011 (11H1494-BS1)												
4,4'-DDD	0.443	0.0050	0.0040	ug/l	CN	0.500		89	55-120			MNR1
4,4'-DDE	0.412	0.0050	0.0030	ug/l	CN	0.500		82	50-120			
4,4'-DDT	0.438	0.010	0.0040	ug/l	CN	0.500		88	55-120			
Dieldrin	0.465	0.0050	0.0020	ug/l	CN	0.500		93	55-115			
Surrogate: Decachlorobiphenyl	0.465			ug/l	CN	0.500		93	45-120			
Surrogate: Tetrachloro-m-xylene	0.393			ug/l	CN	0.500		79	35-115			
LCS Dup Analyzed: 08/12/2011 (11H1494-BSD1)												
4,4'-DDD	0.426	0.0050	0.0040	ug/l	CN	0.500		85	55-120	4		30
4,4'-DDE	0.404	0.0050	0.0030	ug/l	CN	0.500		81	50-120	2		30
4,4'-DDT	0.422	0.010	0.0040	ug/l	CN	0.500		84	55-120	4		30
Dieldrin	0.457	0.0050	0.0020	ug/l	CN	0.500		91	55-115	2		30
Surrogate: Decachlorobiphenyl	0.432			ug/l	CN	0.500		86	45-120			
Surrogate: Tetrachloro-m-xylene	0.427			ug/l	CN	0.500		85	35-115			

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Quarterly Arroyo Simi-Frontier Park

Report Number: IUH1083

Sampled: 08/09/11
 Received: 08/09/11

METHOD BLANK/QC DATA

TOTAL PCBS (EPA 608)

Analyte	Result	Reporting			Analyst	Spike Level	Source		%REC		RPD	RPD Limit	Data Qualifiers
		Limit	MDL	Units			Result	%REC	Limits	RPD			
Batch: 11H1494 Extracted: 08/11/11													
Blank Analyzed: 08/11/2011 (11H1494-BLK1)													
Aroclor 1016	ND	0.50	0.25	ug/l	JSM								
Aroclor 1221	ND	0.50	0.25	ug/l	JSM								
Aroclor 1232	ND	0.50	0.25	ug/l	JSM								
Aroclor 1242	ND	0.50	0.25	ug/l	JSM								
Aroclor 1248	ND	0.50	0.25	ug/l	JSM								
Aroclor 1254	ND	0.50	0.25	ug/l	JSM								
Aroclor 1260	ND	0.50	0.25	ug/l	JSM								
Surrogate: Decachlorobiphenyl	0.409			ug/l	JSM	0.500		82		45-120			
LCS Analyzed: 08/11/2011 (11H1494-BS2)													
Aroclor 1016	3.51	0.50	0.25	ug/l	JSM	4.00		88		50-115			MNR1
Aroclor 1260	3.18	0.50	0.25	ug/l	JSM	4.00		79		60-120			
Surrogate: Decachlorobiphenyl	0.428			ug/l	JSM	0.500		86		45-120			
LCS Dup Analyzed: 08/11/2011 (11H1494-BSD2)													
Aroclor 1016	3.39	0.50	0.25	ug/l	JSM	4.00		85		50-115	4	30	
Aroclor 1260	3.10	0.50	0.25	ug/l	JSM	4.00		77		60-120	3	25	
Surrogate: Decachlorobiphenyl	0.418			ug/l	JSM	0.500		84		45-120			

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11H2017 Extracted: 08/15/11												
Blank Analyzed: 08/16/2011 (11H2017-BLK1)												
Calcium	0.0760	0.10	0.050	mg/l	NH							J
Magnesium	ND	0.020	0.012	mg/l	NH							
LCS Analyzed: 08/16/2011 (11H2017-BS1)												
Calcium	2.58	0.10	0.050	mg/l	NH	2.50		103	85-115			
Magnesium	2.54	0.020	0.012	mg/l	NH	2.50		102	85-115			
Matrix Spike Analyzed: 08/16/2011 (11H2017-MS1)						Source: IUH0969-01						
Calcium	81.1	0.10	0.050	mg/l	NH	2.50	79.3	71	70-130			MHA
Magnesium	41.0	0.020	0.012	mg/l	NH	2.50	37.9	122	70-130			MHA
Matrix Spike Analyzed: 08/18/2011 (11H2017-MS2)						Source: IUH0969-09						
Calcium	846	0.20	0.10	mg/l	NH	2.50	724	4850	70-130			MHA
Magnesium	251	0.040	0.024	mg/l	DP	2.50	240	449	70-130			MHA
Matrix Spike Dup Analyzed: 08/16/2011 (11H2017-MSD1)						Source: IUH0969-01						
Calcium	80.8	0.10	0.050	mg/l	NH	2.50	79.3	61	70-130	0.3	20	MHA
Magnesium	40.1	0.020	0.012	mg/l	NH	2.50	37.9	90	70-130	2	20	MHA

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DATA QUALIFIERS AND DEFINITIONS

- B-1** Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
- J** Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
- 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.
- Z6** Surrogate recovery was below acceptance limits.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

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Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 200.7	Water	X	N/A
EPA 525.2	Water	X	N/A
EPA 608	Water	X	X
SM2340B	Water	X	N/A

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

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