APPENDIX G

Section 25

Outfall 006 – March 8, 2010 Test America Analytical Laboratory Report THIS PAGE LEFT INTENTIONALLY BLANK

THE LEADER IN ENVIRONMENTAL TESTING

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

LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project: Annual Outfall 006

Sampled: 03/08/10 Received: 03/09/10 Issued: 04/27/10 11:27

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, 2 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

Sample: 1

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.

There are one or more analytes reported with a concentration less than the corresponding estimated detection limit (EDL). Even though the estimated concentration is less than the EDL it is reported as a positive detection because the peaks elute at the correct retention time for both characteristic ions and have a signal to noise ratio greater than the method required 2.5:1.

There are no other anomalies associated with this project.

Revised final report to include results for chlorpyrifos and diazinon-see corrective action report.

LABORATORY IDCLIENT IDMATRIXITC0989-01Outfall 006 (Grab)WaterITC0989-02Trip BlanksWaterITC0989-03Outfall 006 (Composite)Water

Reviewed By:

Debby Wilson

TestAmerica Irvine Debby Wilson For Heather Clark Project Manager



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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

CORRECTIVE ACTION REPORT

Department: Project Management Method: EPA 525.2 OC Batch: 10D2353, 10D3000 Date: 04/27/2010 Matrix: Water

Identification and Definition of Problem:

The requested analyses for chlorpyrifos and diazinon by EPA 525.2 were not performed on sample ITC0989-03.

Determination of the Cause of the Problem:

The two compounds were listed on the chain of custody with the routine (EPA 608) pesticides and were overlooked at log-in. Insufficent project notes and project manager workorder review contributed to this error not being caught.

Corrective Action Taken:

In an effort to report chlorpyrifos and diazinon for this sample, the following steps were taken.

1) A spike mix containing these two compounds was extracted and analyzed following 625 protocols. Recoveries were approximately 50-60% for diazinon and 105-106% for chlorpyrifos.

2) The original 625 extracts for the sample and the method blank were analyzed following 525.2 protocol.

3) The sample, method blank, and LCS/LCSD test samples are reported.

NOTE: There are no surrogate recoveries, no spiked extract batch QC. In addition, the 625 extracts were analyzed 5 days beyond the 40-day holding time.

Project notes have been updated in LIMS to prevent a reoccurrance of this oversight.

Date: 04/27/2010 10:56 AM Quality Assurance Approval: Dave Dawes

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THE LEADER IN ENVIRONMENTAL TESTING

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Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

Data

Qualifiers

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

			MDL	Reporting	Sample	Dilution	Date	Date	
Analyte	Method	Batch	Limit	Limit	Result	Factor	Extracted	Analyzed	•
Sample ID: ITC0989-01 (Outfall 006 (Gra	ıb) - Water)								
Reporting Units: ug/l									
Benzene	EPA 624	10C1196	0.28	0.50	ND	1	03/10/10	03/10/10	
Bromodichloromethane	EPA 624	10C1196	0.30	0.50	ND	1	03/10/10	03/10/10	
Bromoform	EPA 624	10C1196	0.40	0.50	ND	1	03/10/10	03/10/10	
Bromomethane	EPA 624	10C1196	0.42	1.0	ND	1	03/10/10	03/10/10	
Carbon tetrachloride	EPA 624	10C1196	0.28	0.50	ND	1	03/10/10	03/10/10	
Chlorobenzene	EPA 624	10C1196	0.36	0.50	ND	1	03/10/10	03/10/10	

PURGEABLES BY GC/MS (EPA 624)

Diomoniculate	EI A 024	1001190	0.42	1.0	ND	1	03/10/10	03/10/10
Carbon tetrachloride	EPA 624	10C1196	0.28	0.50	ND	1	03/10/10	03/10/10
Chlorobenzene	EPA 624	10C1196	0.36	0.50	ND	1	03/10/10	03/10/10
Chloroethane	EPA 624	10C1196	0.40	1.0	ND	1	03/10/10	03/10/10
Chloroform	EPA 624	10C1196	0.33	0.50	ND	1	03/10/10	03/10/10
Chloromethane	EPA 624	10C1196	0.40	0.50	ND	1	03/10/10	03/10/10
Dibromochloromethane	EPA 624	10C1196	0.40	0.50	ND	1	03/10/10	03/10/10
1,2-Dichlorobenzene	EPA 624	10C1196	0.32	0.50	ND	1	03/10/10	03/10/10
1,3-Dichlorobenzene	EPA 624	10C1196	0.35	0.50	ND	1	03/10/10	03/10/10
1,4-Dichlorobenzene	EPA 624	10C1196	0.37	0.50	ND	1	03/10/10	03/10/10
1,1-Dichloroethane	EPA 624	10C1196	0.40	0.50	ND	1	03/10/10	03/10/10
1,2-Dichloroethane	EPA 624	10C1196	0.28	0.50	ND	1	03/10/10	03/10/10
1,1-Dichloroethene	EPA 624	10C1196	0.42	0.50	ND	1	03/10/10	03/10/10
cis-1,2-Dichloroethene	EPA 624	10C1196	0.32	0.50	ND	1	03/10/10	03/10/10
trans-1,2-Dichloroethene	EPA 624	10C1196	0.30	0.50	ND	1	03/10/10	03/10/10
1,2-Dichloropropane	EPA 624	10C1196	0.35	0.50	ND	1	03/10/10	03/10/10
cis-1,3-Dichloropropene	EPA 624	10C1196	0.22	0.50	ND	1	03/10/10	03/10/10
trans-1,3-Dichloropropene	EPA 624	10C1196	0.32	0.50	ND	1	03/10/10	03/10/10
Ethylbenzene	EPA 624	10C1196	0.25	0.50	ND	1	03/10/10	03/10/10
Methylene chloride	EPA 624	10C1196	0.95	1.0	ND	1	03/10/10	03/10/10
1,1,2,2-Tetrachloroethane	EPA 624	10C1196	0.30	0.50	ND	1	03/10/10	03/10/10
Tetrachloroethene	EPA 624	10C1196	0.32	0.50	ND	1	03/10/10	03/10/10
Toluene	EPA 624	10C1196	0.36	0.50	ND	1	03/10/10	03/10/10
1,1,1-Trichloroethane	EPA 624	10C1196	0.30	0.50	ND	1	03/10/10	03/10/10
1,1,2-Trichloroethane	EPA 624	10C1196	0.30	0.50	ND	1	03/10/10	03/10/10
Trichloroethene	EPA 624	10C1196	0.26	0.50	ND	1	03/10/10	03/10/10
Trichlorofluoromethane	EPA 624	10C1196	0.34	0.50	ND	1	03/10/10	03/10/10
Trichlorotrifluoroethane (Freon 113)	EPA 624	10C1196	0.50	5.0	ND	1	03/10/10	03/10/10
Vinyl chloride	EPA 624	10C1196	0.40	0.50	ND	1	03/10/10	03/10/10
Xylenes, Total	EPA 624	10C1196	0.90	1.5	ND	1	03/10/10	03/10/10
Surrogate: 4-Bromofluorobenzene (80-120	1%)				96 %			
Surrogate: Dibromofluoromethane (80-12)	0%)				103 %			
Surrogate: Toluene-d8 (80-120%)					106 %			

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

Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

PURGEABLES BY GC/MS (EPA 624)									
			MDL	Reporting	Sample	Dilution	Date	Date	Data
Analyte	Method	Batch	Limit	Limit	Result	Factor	Extracted	Analyzed	Qualifiers
Sample ID: ITC0989-02 (Trip Blanks - Wa	ter)								
Reporting Units: ug/l									
Benzene	EPA 624	10C1196	0.28	0.50	ND	1	03/10/10	03/10/10	
Bromodichloromethane	EPA 624	10C1196	0.30	0.50	ND	1	03/10/10	03/10/10	
Bromoform	EPA 624	10C1196	0.40	0.50	ND	1	03/10/10	03/10/10	
Bromomethane	EPA 624	10C1196	0.42	1.0	ND	1	03/10/10	03/10/10	
Carbon tetrachloride	EPA 624	10C1196	0.28	0.50	ND	1	03/10/10	03/10/10	
Chlorobenzene	EPA 624	10C1196	0.36	0.50	ND	1	03/10/10	03/10/10	
Chloroethane	EPA 624	10C1196	0.40	1.0	ND	1	03/10/10	03/10/10	
Chloroform	EPA 624	10C1196	0.33	0.50	ND	1	03/10/10	03/10/10	
Chloromethane	EPA 624	10C1196	0.40	0.50	ND	1	03/10/10	03/10/10	
Dibromochloromethane	EPA 624	10C1196	0.40	0.50	ND	1	03/10/10	03/10/10	
1,2-Dichlorobenzene	EPA 624	10C1196	0.32	0.50	ND	1	03/10/10	03/10/10	
1,3-Dichlorobenzene	EPA 624	10C1196	0.35	0.50	ND	1	03/10/10	03/10/10	
1,4-Dichlorobenzene	EPA 624	10C1196	0.37	0.50	ND	1	03/10/10	03/10/10	
1,1-Dichloroethane	EPA 624	10C1196	0.40	0.50	ND	1	03/10/10	03/10/10	
1,2-Dichloroethane	EPA 624	10C1196	0.28	0.50	ND	1	03/10/10	03/10/10	
1,1-Dichloroethene	EPA 624	10C1196	0.42	0.50	ND	1	03/10/10	03/10/10	
cis-1,2-Dichloroethene	EPA 624	10C1196	0.32	0.50	ND	1	03/10/10	03/10/10	
trans-1,2-Dichloroethene	EPA 624	10C1196	0.30	0.50	ND	1	03/10/10	03/10/10	
1,2-Dichloropropane	EPA 624	10C1196	0.35	0.50	ND	1	03/10/10	03/10/10	
cis-1,3-Dichloropropene	EPA 624	10C1196	0.22	0.50	ND	1	03/10/10	03/10/10	
trans-1,3-Dichloropropene	EPA 624	10C1196	0.32	0.50	ND	1	03/10/10	03/10/10	
Ethylbenzene	EPA 624	10C1196	0.25	0.50	ND	1	03/10/10	03/10/10	
Methylene chloride	EPA 624	10C1196	0.95	1.0	ND	1	03/10/10	03/10/10	
1,1,2,2-Tetrachloroethane	EPA 624	10C1196	0.30	0.50	ND	1	03/10/10	03/10/10	
Tetrachloroethene	EPA 624	10C1196	0.32	0.50	ND	1	03/10/10	03/10/10	
Toluene	EPA 624	10C1196	0.36	0.50	ND	1	03/10/10	03/10/10	
1,1,1-Trichloroethane	EPA 624	10C1196	0.30	0.50	ND	1	03/10/10	03/10/10	
1,1,2-Trichloroethane	EPA 624	10C1196	0.30	0.50	ND	1	03/10/10	03/10/10	
Trichloroethene	EPA 624	10C1196	0.26	0.50	ND	1	03/10/10	03/10/10	
Trichlorofluoromethane	EPA 624	10C1196	0.34	0.50	ND	1	03/10/10	03/10/10	
Trichlorotrifluoroethane (Freon 113)	EPA 624	10C1196	0.50	5.0	ND	1	03/10/10	03/10/10	
Vinyl chloride	EPA 624	10C1196	0.40	0.50	ND	1	03/10/10	03/10/10	
Xylenes, Total	EPA 624	10C1196	0.90	1.5	ND	1	03/10/10	03/10/10	
Surrogate: 4-Bromofluorobenzene (80-120%					95 %				
Surrogate: Dibromofluoromethane (80-120%					100 %				
Surrogate: Toluene-d8 (80-120%)					106 %				

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

PURGEABLES-- GC/MS (EPA 624) MDL Reporting Sample Dilution Date Date Data Qualifiers Method Batch Limit Limit Result Factor Extracted Analyte Analyzed Sample ID: ITC0989-01 (Outfall 006 (Grab) - Water) Reporting Units: ug/l 10C1196 4.0 5.0 ND 03/10/10 03/10/10 Acrolein EPA 624 1 Acrylonitrile EPA 624 10C1196 1.2 2.0 ND 03/10/10 03/10/10 1 5.0 ND 2-Chloroethyl vinyl ether EPA 624 10C1196 1.8 1 03/10/10 03/10/10 Surrogate: 4-Bromofluorobenzene (80-120%) 96 % Surrogate: Dibromofluoromethane (80-120%) 103 % Surrogate: Toluene-d8 (80-120%) 106 % Sample ID: ITC0989-02 (Trip Blanks - Water) Reporting Units: ug/l Acrolein EPA 624 10C1196 4.0 5.0 ND 1 03/10/10 03/10/10 EPA 624 10C1196 1.2 2.0 ND 03/10/10 03/10/10 Acrylonitrile 1 2-Chloroethyl vinyl ether EPA 624 10C1196 1.8 5.0 ND 1 03/10/10 03/10/10 Surrogate: 4-Bromofluorobenzene (80-120%) 95 % Surrogate: Dibromofluoromethane (80-120%) 100 % Surrogate: Toluene-d8 (80-120%) 106 %

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Project ID: Annual Outfall 006

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

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

ACID & BASE/NEUTRALS BY GC/MS (EPA 625)											
			MDL	Reporting	-	Dilution	Date	Date	Data		
Analyte	Method	Batch	Limit	Limit	Result	Factor	Extracted	Analyzed	Qualifiers		
Sample ID: ITC0989-03 (Outfall 006 (Composite) - Water)									
Reporting Units: ug/l	EDA (25	1001554	2.0	0.(ND	0.0(2	02/12/10	02/17/10			
Acenaphthene Acenaphthylene	EPA 625 EPA 625	10C1554 10C1554	2.9 2.9	9.6 9.6	ND ND	0.962 0.962	03/12/10 03/12/10	03/16/10 03/16/10			
Aniline	EPA 625	10C1554	3.4	9.6	ND	0.962	03/12/10	03/16/10			
Anthracene	EPA 625	10C1554	2.4	9.6	ND	0.962	03/12/10	03/16/10			
Benzidine	EPA 625	10C1554	9.6	19	ND	0.962	03/12/10	03/16/10	L6		
Benzo(a)anthracene	EPA 625	10C1554	2.4	9.6	ND	0.962	03/12/10	03/16/10			
Benzo(a)pyrene	EPA 625	10C1554	2.9	9.6	ND	0.962	03/12/10	03/16/10			
Benzo(b)fluoranthene	EPA 625	10C1554	1.9	9.6	ND	0.962	03/12/10	03/16/10			
Benzo(g,h,i)perylene	EPA 625	10C1554	3.8	9.6	ND	0.962	03/12/10	03/16/10			
Benzo(k)fluoranthene	EPA 625	10C1554	2.4	9.6	ND	0.962	03/12/10	03/16/10			
Benzoic acid	EPA 625	10C1554	9.6	19	ND	0.962	03/12/10	03/16/10			
Benzyl alcohol	EPA 625	10C1554	3.4	19	ND	0.962	03/12/10	03/16/10			
4-Bromophenyl phenyl ether	EPA 625	10C1554	2.9	9.6	ND	0.962	03/12/10	03/16/10			
Butyl benzyl phthalate	EPA 625	10C1554	3.8	19	ND	0.962	03/12/10	03/16/10			
4-Chloro-3-methylphenol	EPA 625	10C1554	2.4	19	ND	0.962	03/12/10	03/16/10			
4-Chloroaniline	EPA 625	10C1554	1.9	9.6	ND	0.962	03/12/10	03/16/10			
Bis(2-chloroethoxy)methane	EPA 625	10C1554	2.9	9.6	ND	0.962	03/12/10	03/16/10			
Bis(2-chloroethyl)ether	EPA 625	10C1554	2.9	9.6	ND	0.962	03/12/10	03/16/10			
Bis(2-chloroisopropyl)ether	EPA 625	10C1554	2.4 3.8	9.6 48	ND ND	0.962 0.962	03/12/10 03/12/10	03/16/10 03/16/10			
Bis(2-ethylhexyl)phthalate 2-Chloronaphthalene	EPA 625 EPA 625	10C1554 10C1554	5.8 2.9	48 9.6	ND	0.962	03/12/10	03/16/10			
2-Chlorophenol	EPA 625	10C1554	2.9	9.0 9.6	ND	0.962	03/12/10	03/16/10			
4-Chlorophenyl phenyl ether	EPA 625	10C1554	2.9	9.6	ND	0.962	03/12/10	03/16/10			
Chrysene	EPA 625	10C1554	2.4	9.6	ND	0.962	03/12/10	03/16/10			
Dibenz(a,h)anthracene	EPA 625	10C1554	2.9	19	ND	0.962	03/12/10	03/16/10			
Dibenzofuran	EPA 625	10C1554	3.8	9.6	ND	0.962	03/12/10	03/16/10			
Di-n-butyl phthalate	EPA 625	10C1554	2.9	19	ND	0.962	03/12/10	03/16/10			
1,2-Dichlorobenzene	EPA 625	10C1554	2.9	9.6	ND	0.962	03/12/10	03/16/10			
1,3-Dichlorobenzene	EPA 625	10C1554	2.9	9.6	ND	0.962	03/12/10	03/16/10			
1,4-Dichlorobenzene	EPA 625	10C1554	2.4	9.6	ND	0.962	03/12/10	03/16/10			
3,3'-Dichlorobenzidine	EPA 625	10C1554	7.2	19	ND	0.962	03/12/10	03/16/10			
2,4-Dichlorophenol	EPA 625	10C1554	3.4	9.6	ND	0.962	03/12/10	03/16/10			
Diethyl phthalate	EPA 625	10C1554	3.4	9.6	ND	0.962	03/12/10	03/16/10			
2,4-Dimethylphenol	EPA 625	10C1554	3.4	19	ND	0.962	03/12/10	03/16/10			
Dimethyl phthalate	EPA 625	10C1554	2.4	9.6	ND	0.962	03/12/10	03/16/10			
4,6-Dinitro-2-methylphenol	EPA 625	10C1554	3.8	19	ND	0.962	03/12/10	03/16/10			
2,4-Dinitrophenol	EPA 625	10C1554	7.7	19	ND	0.962	03/12/10	03/16/10			
2,4-Dinitrotoluene	EPA 625	10C1554	3.4	9.6	ND	0.962	03/12/10	03/16/10			
2,6-Dinitrotoluene	EPA 625	10C1554	1.9	9.6	ND ND	0.962	03/12/10	03/16/10			
Di-n-octyl phthalate	EPA 625	10C1554	3.4	19 10	ND ND	0.962	03/12/10 03/12/10	03/16/10			
1,2-Diphenylhydrazine/Azobenzene	EPA 625	10C1554	2.4	19	ND	0.962	03/12/10	03/16/10			

1,2-Diphenylhydrazine/Azobenzene

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Project ID: Annual Outfall 006

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

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

ACID & BASE/NEUTRALS BY GC/MS (EPA 625)										
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
-								j		
Sample ID: ITC0989-03 (Outfall 006 (Comp	oosite) - Water) - cont.								
Reporting Units: ug/l Fluoranthene	EPA 625	10C1554	2.9	9.6	ND	0.962	03/12/10	03/16/10		
Fluorene	EPA 625 EPA 625	10C1554 10C1554	2.9 2.9	9.6 9.6	ND ND	0.962	03/12/10	03/16/10		
Hexachlorobenzene	EPA 625 EPA 625	10C1554 10C1554	2.9 2.9	9.6 9.6	ND ND	0.962	03/12/10	03/16/10		
Hexachlorobutadiene	EPA 625 EPA 625	10C1334 10C1554	2.9 3.8	9.6 9.6	ND ND	0.962	03/12/10	03/16/10		
Hexachlorocyclopentadiene	EPA 625 EPA 625	10C1554	5.8 4.8	9.0 19	ND	0.962	03/12/10	03/16/10		
Hexachloroethane	EPA 625 EPA 625	10C1554	4.8 3.4	19 9.6	ND	0.962	03/12/10	03/16/10		
Indeno(1,2,3-cd)pyrene	EPA 625 EPA 625	10C1554	3.4 3.4	9.0 19	ND	0.962	03/12/10	03/16/10		
Isophorone	EPA 625 EPA 625	10C1554 10C1554	5.4 2.9	19 9.6	ND ND	0.962	03/12/10	03/16/10		
2-Methylnaphthalene	EPA 625 EPA 625	10C1554 10C1554	2.9 1.9	9.6 9.6	ND	0.962	03/12/10	03/16/10		
2-Methylphenol	EPA 625 EPA 625	10C1554 10C1554	2.9	9.6 9.6	ND	0.962	03/12/10	03/16/10		
4-Methylphenol	EPA 625 EPA 625	10C1554 10C1554	2.9 2.9	9.6 9.6	ND ND	0.962	03/12/10	03/16/10		
Naphthalene	EPA 625 EPA 625	10C1554 10C1554	2.9 2.9	9.6 9.6	ND ND	0.962	03/12/10	03/16/10		
2-Nitroaniline				9.0 19						
3-Nitroaniline	EPA 625	10C1554	1.9	19 19	ND	0.962	03/12/10	03/16/10		
	EPA 625	10C1554	2.9		ND	0.962	03/12/10	03/16/10		
4-Nitroaniline	EPA 625	10C1554	3.8	19	ND	0.962	03/12/10	03/16/10		
Nitrobenzene	EPA 625	10C1554	2.9	19	ND	0.962	03/12/10	03/16/10		
2-Nitrophenol	EPA 625	10C1554	3.4	9.6	ND	0.962	03/12/10	03/16/10		
4-Nitrophenol	EPA 625	10C1554	5.3	19	ND	0.962	03/12/10	03/16/10		
N-Nitroso-di-n-propylamine	EPA 625	10C1554	3.4	9.6	ND	0.962	03/12/10	03/16/10		
N-Nitrosodimethylamine	EPA 625	10C1554	2.4	19	ND	0.962	03/12/10	03/16/10		
N-Nitrosodiphenylamine	EPA 625	10C1554	1.9	9.6	ND	0.962	03/12/10	03/16/10		
Pentachlorophenol	EPA 625	10C1554	3.4	19	ND	0.962	03/12/10	03/16/10		
Phenanthrene	EPA 625	10C1554	3.4	9.6	ND	0.962	03/12/10	03/16/10		
Phenol	EPA 625	10C1554	1.9	9.6	ND	0.962	03/12/10	03/16/10		
Pyrene	EPA 625	10C1554	3.8	9.6	ND	0.962	03/12/10	03/16/10		
1,2,4-Trichlorobenzene	EPA 625	10C1554	2.4	9.6	ND	0.962	03/12/10	03/16/10		
2,4,5-Trichlorophenol	EPA 625	10C1554	2.9	19	ND	0.962	03/12/10	03/16/10		
2,4,6-Trichlorophenol	EPA 625	10C1554	4.3	19	ND	0.962	03/12/10	03/16/10		
Surrogate: 2,4,6-Tribromophenol (40-120%)					93 %					
Surrogate: 2-Fluorobiphenyl (50-120%)					70~%					
Surrogate: 2-Fluorophenol (30-120%)					51 %					
Surrogate: Nitrobenzene-d5 (45-120%)					62 %					
Surrogate: Phenol-d6 (35-120%)					56 %					
Surrogate: Terphenyl-d14 (50-125%)					100 %					

TestAmerica Irvine



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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

ACID & BASE/NEUTRALS BY GC/MS, TENTATIVELY IDENTIFIED COMPOUNDS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITC0989-03 (Outfall 006 (Com Reporting Units: ug/l	posite) - Water) -	cont.							
Chlorpyrifos	EPA 625	10C1554	N/A	48	ND	0.962	03/12/10	03/16/10	
Diazinon	EPA 625	10C1554	N/A	48	ND	0.962	03/12/10	03/16/10	



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Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

ORGANIC COMPOUNDS BY GC/MS (EPA 525.2) MDL Reporting Sample Dilution Date Date Data Analyte Method Batch Limit Limit Result Factor Extracted Analyzed Qualifiers Sample ID: ITC0989-03RE1 (Outfall 006 (Composite) - Water) Н Reporting Units: ug/l EPA 525.2 0.96 0.962 Chlorpyrifos 10D3000 0.0096 ND 03/12/10 04/26/10 Diazinon EPA 525.2 10D3000 0.096 0.24 ND 0.962 03/12/10 04/26/10 L2

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Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITC0989-03 (Outfall 006 (Comp	oosite) - Water)								
Reporting Units: ug/l									
4,4'-DDD	EPA 608	10C1222	0.0019	0.0047	ND	0.948	03/10/10	03/12/10	
4,4'-DDE	EPA 608	10C1222	0.0028	0.0047	ND	0.948	03/10/10	03/12/10	
4,4'-DDT	EPA 608	10C1222	0.0038	0.0095	ND	0.948	03/10/10	03/12/10	
Aldrin	EPA 608	10C1222	0.0014	0.0047	ND	0.948	03/10/10	03/12/10	
alpha-BHC	EPA 608	10C1222	0.0024	0.0047	ND	0.948	03/10/10	03/12/10	
beta-BHC	EPA 608	10C1222	0.0038	0.0095	ND	0.948	03/10/10	03/12/10	
delta-BHC	EPA 608	10C1222	0.0033	0.0047	ND	0.948	03/10/10	03/12/10	
Dieldrin	EPA 608	10C1222	0.0019	0.0047	ND	0.948	03/10/10	03/12/10	
Endosulfan I	EPA 608	10C1222	0.0019	0.0047	ND	0.948	03/10/10	03/12/10	
Endosulfan II	EPA 608	10C1222	0.0028	0.0047	ND	0.948	03/10/10	03/12/10	
Endosulfan sulfate	EPA 608	10C1222	0.0028	0.0095	ND	0.948	03/10/10	03/12/10	
Endrin	EPA 608	10C1222	0.0019	0.0047	ND	0.948	03/10/10	03/12/10	
Endrin aldehyde	EPA 608	10C1222	0.0019	0.0095	ND	0.948	03/10/10	03/12/10	
Endrin ketone	EPA 608	10C1222	0.0028	0.0095	ND	0.948	03/10/10	03/12/10	
gamma-BHC (Lindane)	EPA 608	10C1222	0.0028	0.019	ND	0.948	03/10/10	03/12/10	
Heptachlor	EPA 608	10C1222	0.0028	0.0095	ND	0.948	03/10/10	03/12/10	
Heptachlor epoxide	EPA 608	10C1222	0.0024	0.0047	ND	0.948	03/10/10	03/12/10	
Methoxychlor	EPA 608	10C1222	0.0033	0.0047	ND	0.948	03/10/10	03/12/10	
Chlordane	EPA 608	10C1222	0.038	0.095	ND	0.948	03/10/10	03/12/10	
Toxaphene	EPA 608	10C1222	0.24	0.47	ND	0.948	03/10/10	03/12/10	
Surrogate: Decachlorobiphenyl (45-120%)					91 %				
Surrogate: Tetrachloro-m-xylene (35-115%)					55 %				

THE LEADER IN ENVIRONMENTAL TESTING

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Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

TOTAL PCBS (EPA 608)											
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers		
Sample ID: ITC0989-03 (Outfall 006 (Com	posite) - Water) - cont.									
Reporting Units: ug/l											
Aroclor 1016	EPA 608	10C1222	0.24	0.47	ND	0.948	03/10/10	03/11/10			
Aroclor 1221	EPA 608	10C1222	0.24	0.47	ND	0.948	03/10/10	03/11/10			
Aroclor 1232	EPA 608	10C1222	0.24	0.47	ND	0.948	03/10/10	03/11/10			
Aroclor 1242	EPA 608	10C1222	0.24	0.47	ND	0.948	03/10/10	03/11/10			
Aroclor 1248	EPA 608	10C1222	0.24	0.47	ND	0.948	03/10/10	03/11/10			
Aroclor 1254	EPA 608	10C1222	0.24	0.47	ND	0.948	03/10/10	03/11/10			
Aroclor 1260	EPA 608	10C1222	0.24	0.47	ND	0.948	03/10/10	03/11/10			
Surrogate: Decachlorobiphenyl (45-120%)					88 %						



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Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

HEXANE EXTRACTABLE MATERIAL												
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers			
Sample ID: ITC0989-01 (Outfall 006 (G	Frab) - Water)											
Reporting Units: mg/l												
Hexane Extractable Material (Oil &	EPA 1664A	10C2126	1.3	4.8	ND	1	03/17/10	03/17/10				
Grease)												

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Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

METALS									
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITC0989-03 (Outfall 006 (Con Reporting Units: mg/l	nposite) - Water)								
Hardness as CaCO3	SM2340B	[CALC]	N/A	0.33	150	1	03/15/10	03/19/10	
Boron	EPA 200.7	10C1781	0.020	0.050	0.055	1	03/15/10	03/19/10	
Calcium	EPA 200.7	10C1781	0.050	0.10	51	1	03/15/10	03/19/10	
Iron	EPA 200.7	10C1781	0.015	0.040	0.14	1	03/15/10	03/19/10	
Magnesium	EPA 200.7	10C1781	0.012	0.020	4.1	1	03/15/10	03/19/10	
Sample ID: ITC0989-03 (Outfall 006 (Con	nposite) - Water)								
Reporting Units: ug/l									
Aluminum	EPA 200.7	10C1781	40	50	200	1	03/15/10	03/19/10	
Mercury	EPA 245.1	10C2010	0.10	0.20	ND	1	03/16/10	03/16/10	
Arsenic	EPA 200.7	10C1781	7.0	10	ND	1	03/15/10	03/19/10	
Antimony	EPA 200.8	10C1948	0.30	2.0	0.45	1	03/16/10	03/16/10	J
Beryllium	EPA 200.7	10C1781	0.90	2.0	ND	1	03/15/10	03/19/10	
Chromium	EPA 200.7	10D1079	2.0	5.0	ND	1	04/09/10	04/09/10	
Nickel	EPA 200.7	10C1781	2.0	10	ND	1	03/15/10	03/19/10	
Selenium	EPA 200.7	10C1781	8.0	10	ND	1	03/15/10	03/19/10	
Silver	EPA 200.7	10D1079	6.0	10	ND	1	04/09/10	04/09/10	
Cadmium	EPA 200.8	10C1948	0.10	1.0	ND	1	03/16/10	03/16/10	
Vanadium	EPA 200.7	10C1781	3.0	10	3.7	1	03/15/10	03/19/10	J
Zinc	EPA 200.7	10C1781	6.0	20	7.7	1	03/15/10	03/19/10	J
Copper	EPA 200.8	10C1948	0.50	2.0	1.8	1	03/16/10	03/16/10	J
Lead	EPA 200.8	10C1948	0.20	1.0	0.49	1	03/16/10	03/16/10	J
Thallium	EPA 200.8	10C1948	0.20	1.0	ND	1	03/16/10	03/16/10	

THE LEADER IN ENVIRONMENTAL TESTING

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Project ID: Annual Outfall 006

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

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

DISSOLVED METALS											
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers		
Sample ID: ITC0989-03 (Outfall 006	(Composite) - Water)										
Reporting Units: mg/l											
Hardness as CaCO3	SM2340B-Diss	[CALC]	N/A	0.33	140	1	03/17/10	03/20/10			
Boron	EPA 200.7-Diss	10C2228	0.020	0.050	0.057	1	03/17/10	03/20/10			
Calcium	EPA 200.7-Diss	10C2228	0.050	0.10	51	1	03/17/10	03/20/10	MHA		
Iron	EPA 200.7-Diss	10C2228	0.015	0.040	0.016	1	03/17/10	03/20/10	J		
Magnesium	EPA 200.7-Diss	10C2228	0.012	0.020	4.1	1	03/17/10	03/20/10			
Sample ID: ITC0989-03 (Outfall 006	(Composite) - Water)										
Reporting Units: ug/l											
Aluminum	EPA 200.7-Diss	10C2228	40	50	ND	1	03/17/10	03/20/10			
Mercury	EPA 245.1-Diss	10C2011	0.10	0.20	ND	1	03/16/10	03/16/10			
Arsenic	EPA 200.7-Diss	10C2228	7.0	10	ND	1	03/17/10	03/20/10			
Antimony	EPA 200.8-Diss	10C1953	0.30	2.0	0.46	1	03/16/10	03/17/10	J		
Beryllium	EPA 200.7-Diss	10C2228	0.90	2.0	ND	1	03/17/10	03/20/10			
Chromium	EPA 200.7-Diss	10C2228	2.0	5.0	4.6	1	03/17/10	03/20/10	J		
Nickel	EPA 200.7-Diss	10C2228	2.0	10	10	1	03/17/10	03/20/10			
Selenium	EPA 200.7-Diss	10C2228	8.0	10	ND	1	03/17/10	03/20/10			
Silver	EPA 200.7-Diss	10D1078	6.0	10	ND	1	04/09/10	04/09/10			
Cadmium	EPA 200.8-Diss	10C1953	0.10	1.0	ND	1	03/16/10	03/17/10			
Vanadium	EPA 200.7-Diss	10C2228	3.0	10	3.4	1	03/17/10	03/20/10	J		
Zinc	EPA 200.7-Diss	10D1078	6.0	20	ND	1	04/09/10	04/09/10			
Copper	EPA 200.8-Diss	10C1953	0.50	2.0	1.4	1	03/16/10	03/17/10	J		
Lead	EPA 200.8-Diss	10C1953	0.20	1.0	ND	1	03/16/10	03/17/10			
Thallium	EPA 200.8-Diss	10C1953	0.20	1.0	ND	1	03/16/10	03/17/10			



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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

DISSOLVED INORGANICS											
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers		
Sample ID: ITC0989-01 (Outfall 006	(Grab) - Water)										
Reporting Units: mg/l											
Chromium VI	EPA 218.6	10C1119	0.00025	0.0010	0.00083	1	03/09/10	03/09/10	J		

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

INORGANICS										
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
Sample ID: ITC0989-03 (Outfall 006 (Composite) - Water)										
Reporting Units: mg/l										
Chloride	EPA 300.0	10C1057	0.25	0.50	7.3	1	03/09/10	03/09/10		
Total Cyanide	SM4500CN-E	10C1460	0.0022	0.0050	ND	1	03/11/10	03/11/10		
Fluoride	SM 4500-F-C	10C1344	0.020	0.10	0.14	1	03/11/10	03/11/10	В	
Nitrate/Nitrite-N	EPA 300.0	10C1057	0.15	0.26	2.7	1	03/09/10	03/09/10		
Sulfate	EPA 300.0	10C1057	0.20	0.50	20	1	03/09/10	03/09/10		
Total Dissolved Solids	SM2540C	10C1704	1.0	10	240	1	03/13/10	03/13/10		
Total Suspended Solids	SM 2540D	10C1880	1.0	10	13	1	03/15/10	03/15/10		
Sample ID: ITC0989-03 (Outfall 006 (C	Composite) - Water)									
Reporting Units: ug/l										
Perchlorate	EPA 314.0	10C1095	0.90	4.0	ND	1	03/10/10	03/10/10		

THE LEADER IN ENVIRONMENTAL TESTING

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Project ID: Annual Outfall 006

EPA-5 1613B

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

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

		1	LFA-5 10	13D					
			MDL	Reporting	Sample	Dilution	Date	Date	Data
Analyte	Method	Batch	Limit	Limit	Result	Factor	Extracted	Analyzed	Qualifiers
Sample ID: ITC0989-03 (Outfall 006 (C	omposite) - Water)								
Reporting Units: ug/L	• / /								
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	70198	0.0000014	0.00005	2.6e-006	0.95	03/11/10	03/16/10	J, Ba
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	70198	0.0000004	1 0.00005	1.2e-006	0.95	03/11/10	03/16/10	J, Q, Ba
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	70198	0.0000007	2 0.00005	6.2e-007	0.95	03/11/10	03/16/10	J, Q, Ba
1,2,3,4,7,8-HxCDD	EPA-5 1613B	70198	0.0000009	2 0.00005	ND	0.95	03/11/10	03/16/10	
1,2,3,4,7,8-HxCDF	EPA-5 1613B	70198	0.0000001	8 0.00005	4.1e-007	0.95	03/11/10	03/16/10	J, Q, Ba
1,2,3,6,7,8-HxCDD	EPA-5 1613B	70198	0.000008	2 0.00005	ND	0.95	03/11/10	03/16/10	
1,2,3,6,7,8-HxCDF	EPA-5 1613B	70198	0.0000001	8 0.00005	6.5e-007	0.95	03/11/10	03/16/10	J, Q, Ba
1,2,3,7,8,9-HxCDD	EPA-5 1613B	70198	0.0000007	2 0.00005	ND	0.95	03/11/10	03/16/10	
1,2,3,7,8,9-HxCDF	EPA-5 1613B	70198	0.0000002	3 0.00005	6.4e-007	0.95	03/11/10	03/16/10	J, Q, Ba
1,2,3,7,8-PeCDD	EPA-5 1613B	70198	0.0000006	3 0.00005	ND	0.95	03/11/10	03/16/10	
1,2,3,7,8-PeCDF	EPA-5 1613B	70198	0.0000002	0.00005	ND	0.95	03/11/10	03/16/10	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	70198	0.0000001	6 0.00005	4.4e-007	0.95	03/11/10	03/16/10	J, Q, Ba
2,3,4,7,8-PeCDF	EPA-5 1613B	70198	0.0000002	2 0.00005	ND	0.95	03/11/10	03/16/10	
2,3,7,8-TCDD	EPA-5 1613B	70198	0.0000004	7 0.00001	ND	0.95	03/11/10	03/16/10	
2,3,7,8-TCDF	EPA-5 1613B	70198	0.0000004	1 0.00001	ND	0.95	03/11/10	03/16/10	
OCDD	EPA-5 1613B	70198	0.0000027	0.0001	1.1e-005	0.95	03/11/10	03/16/10	J, Q, Ba
OCDF	EPA-5 1613B	70198		9 0.0001	2.4e-006	0.95	03/11/10	03/16/10	J, Q, Ba
Total HpCDD	EPA-5 1613B	70198	0.0000014	0.00005	6e-006	0.95	03/11/10	03/16/10	J, Ba
Total HpCDF	EPA-5 1613B	70198	0.0000004	1 0.00005	3.3e-006	0.95	03/11/10	03/16/10	J, Q, Ba
Total HxCDD	EPA-5 1613B		0.0000007		ND	0.95	03/11/10	03/16/10	
Total HxCDF	EPA-5 1613B		0.0000001		2.4e-006	0.95	03/11/10	03/16/10	J, Q, Ba
Total PeCDD	EPA-5 1613B		0.0000006		1.1e-006	0.95	03/11/10	03/16/10	J, Q
Total PeCDF	EPA-5 1613B	70198	0.0000002	0.00005	ND	0.95	03/11/10	03/16/10	
Total TCDD	EPA-5 1613B			7 0.00001	ND	0.95	03/11/10	03/16/10	
Total TCDF	EPA-5 1613B	70198	0.0000004	1 0.00001	ND	0.95	03/11/10	03/16/10	
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (2.					81 %				
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28					93 %				
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (20	5-138%)				80~%				
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-	141%)				78 %				
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-1					78 %				
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-	130%)				80 %				
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-1					77 %				
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-1					73 %				
Surrogate: 13C-1,2,3,7,8-PeCDD (25-18					79 %				
Surrogate: 13C-1,2,3,7,8-PeCDF (24-18.					80 %				
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-1					80 %				
Surrogate: 13C-2,3,4,7,8-PeCDF (21-176					79 %				
Surrogate: 13C-2,3,7,8-TCDD (25-164%					80 %				
Surrogate: 13C-2,3,7,8-TCDF (24-169%)					87 %				
Surrogate: 13C-OCDD (17-157%)					85 %				
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197	%)				103 %				

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	Α	STM 5174-91			
Attention: Bronwyn Kelly	Report Number.	1100/07	Received.	03/07/10	
Arcadia, CA 91007	Report Number:	ITC0989	Received:		
618 Michillinda Avenue, Suite 200			Sampled:	03/08/10	
MWH-Pasadena/Boeing	Project ID:	Annual Outfall 006			

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITC0989-03 (Outfall 006 (Composite) - Water)									
Reporting Units: pCi/L Total Uranium	ASTM 5174-91	83129	0.21	0.677	0.441	1	03/24/10	03/29/10	Jb



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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

EPA 900.0 MOD										
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result		Date Extracted	Date Analyzed	Data Qualifiers	
Sample ID: ITC0989-03 (Outfall 006	Sample ID: ITC0989-03 (Outfall 006 (Composite) - Water)									
Reporting Units: pCi/L										
Gross Alpha	EPA 900.0 MOD	76134	2	3	0.7	1	03/17/10	03/20/10	U	
Gross Beta	EPA 900.0 MOD	76134	1.2	4	3.6	1	03/17/10	03/20/10	Jb	



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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

EPA 901.1 MOD										
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
Sample ID: ITC0989-03 (Outfall 006 (Sample ID: ITC0989-03 (Outfall 006 (Composite) - Water)									
Reporting Units: pCi/L										
Cesium 137	EPA 901.1 MOD	74318	16	20	-2.2	1	03/15/10	03/22/10	U	
Potassium 40	EPA 901.1 MOD	74318	300	NA	-80	1	03/15/10	03/22/10	U	



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 MWH-Pasadena/Boeing
 Project ID: Annual Outfall 006

 618 Michillinda Avenue, Suite 200
 Sampled: 03/08/10

 Arcadia, CA 91007
 Report Number: ITC0989
 Received: 03/09/10

 Attention: Bronwyn Kelly
 EPA 003 0 MOD

EPA 903.0 MOD									
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITC0989-03 (Outfall 006 (Composite) - Water) Reporting Units: pCi/L									
Radium (226)	EPA 903.0 MOD	71128	0.05	1	0.07	1	03/12/10	04/05/10	Jb



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	EPA 904 MOD		
Arcadia, CA 91007 Report Attention: Bronwyn Kelly	Number: ITC0989	Received:	03/09/10
618 Michillinda Avenue, Suite 200	-	Sampled:	03/08/10
MWH-Pasadena/Boeing Pr	oject ID: Annual Outfall 006		

EI A 704 MOD									
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITC0989-03 (Outfall 006 (Composite) - Water) Reporting Units: pCi/L									
Radium 228	EPA 904 MOD	71129	0.44	1	0.11	1	03/12/10	03/29/10	U



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MWH-Pasadena/Boeing	Project ID: Annual Outfall 006	
618 Michillinda Avenue, Suite 200		Sampled: 03/08/10
Arcadia, CA 91007	Report Number: ITC0989	Received: 03/09/10
Attention: Bronwyn Kelly		

EPA 905 MOD									
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITC0989-03 (Outfall 006 (Composite) - Water) Reporting Units: pCi/L									
Strontium 90	EPA 905 MOD	71130	0.68	3	-0.1	1	03/12/10	03/25/10	U



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 MWH-Pasadena/Boeing
 Project ID:
 Annual Outfall 006

 618 Michillinda Avenue, Suite 200
 Sampled:
 03/08/10

 Arcadia, CA 91007
 Report Number:
 ITC0989
 Received:
 03/09/10

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EPA 906.0 MOD									
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITC0989-03 (Outfall 006 Reporting Units: pCi/L	(Composite) - Water)								
Tritium	EPA 906.0 MOD	77060	150	500	73	1	03/18/10	03/24/10	U

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 006 (Grab) (ITC0989-01) - Water				
EPA 218.6	1	03/08/2010 11:08	03/09/2010 17:20	03/09/2010 19:45	03/09/2010 19:53
EPA 624	3	03/08/2010 11:08	03/09/2010 17:20	03/10/2010 00:00	03/10/2010 11:28
Sample ID: Trip Blanks (ITC0989-02) - Wat	ter				
EPA 624	3	03/08/2010 11:08	03/09/2010 17:20	03/10/2010 00:00	03/10/2010 10:58
Sample ID: Outfall 006 (Composite) (ITC09	89-03) - Water				
EPA 300.0	2	03/08/2010 11:08	03/09/2010 17:20	03/09/2010 21:30	03/09/2010 22:24
Sample ID: Outfall 006 (Composite) (ITC09	89-03RE1) - Wa	iter			
EPA 525.2	1	03/08/2010 11:08	03/09/2010 17:20	03/12/2010 09:03	04/26/2010 16:59



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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source	%REC	%REC	RPD	RPD Limit	Data Qualifiers
·		Linnt	MDL	Units	Level	Kesuit	/orec	Linns	KI D	Linnt	Quanners
Batch: 10C1196 Extracted: 03/10/10	<u>0</u>										
	DI 1 /1)										
Blank Analyzed: 03/10/2010 (10C1196-F	,	0.50		(1							
Benzene	ND	0.50	0.28	ug/l							
Bromodichloromethane	ND	0.50	0.30	ug/l							
Bromoform	ND	0.50	0.40	ug/l							
Bromomethane	ND	1.0	0.42	ug/l							
Carbon tetrachloride	ND	0.50	0.28	ug/l							
Chlorobenzene	ND	0.50	0.36	ug/l							
Chloroethane	ND	1.0	0.40	ug/l							
Chloroform	ND	0.50	0.33	ug/l							
Chloromethane	ND	0.50	0.40	ug/l							
Dibromochloromethane	ND	0.50	0.40	ug/l							
1,2-Dichlorobenzene	ND	0.50	0.32	ug/l							
1,3-Dichlorobenzene	ND	0.50	0.35	ug/l							
1,4-Dichlorobenzene	ND	0.50	0.37	ug/l							
1,1-Dichloroethane	ND	0.50	0.40	ug/l							
1,2-Dichloroethane	ND	0.50	0.28	ug/l							
1,1-Dichloroethene	ND	0.50	0.42	ug/l							
cis-1,2-Dichloroethene	ND	0.50	0.32	ug/l							
trans-1,2-Dichloroethene	ND	0.50	0.30	ug/l							
1,2-Dichloropropane	ND	0.50	0.35	ug/l							
cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l							
trans-1,3-Dichloropropene	ND	0.50	0.32	ug/l							
Ethylbenzene	ND	0.50	0.25	ug/l							
Methylene chloride	ND	1.0	0.95	ug/l							
1,1,2,2-Tetrachloroethane	ND	0.50	0.30	ug/l							
Tetrachloroethene	ND	0.50	0.32	ug/l							
Toluene	ND	0.50	0.36	ug/l							
1,1,1-Trichloroethane	ND	0.50	0.30	ug/l							
1,1,2-Trichloroethane	ND	0.50	0.30	ug/l							
Trichloroethene	ND	0.50	0.26	ug/l							
Trichlorofluoromethane	ND	0.50	0.34	ug/l							
Trichlorotrifluoroethane (Freon 113)	ND	5.0	0.50	ug/l							
Vinyl chloride	ND	0.50	0.40	ug/l							
Xylenes, Total	ND	1.5	0.90	ug/l							
Surrogate: 4-Bromofluorobenzene	24.2			ug/l	25.0		97	80-120			
Surrogate: Dibromofluoromethane	24.4			ug/l	25.0		98	80-120			
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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10C1196 Extracted: 03/10/1	0										
	<u> </u>										
Blank Analyzed: 03/10/2010 (10C1196-I	BLK1)										
Surrogate: Toluene-d8	26.6			ug/l	25.0		106	80-120			
LCS Analyzed: 03/10/2010 (10C1196-BS	51)										
Benzene	25.7	0.50	0.28	ug/l	25.0		103	70-120			
Bromodichloromethane	28.0	0.50	0.30	ug/l	25.0		112	70-135			
Bromoform	19.8	0.50	0.40	ug/l	25.0		79	55-130			
Bromomethane	26.5	1.0	0.42	ug/l	25.0		106	65-140			
Carbon tetrachloride	26.0	0.50	0.28	ug/l	25.0		104	65-140			
Chlorobenzene	26.1	0.50	0.36	ug/l	25.0		104	75-120			
Chloroethane	25.5	1.0	0.40	ug/l	25.0		102	60-140			
Chloroform	27.1	0.50	0.33	ug/l	25.0		108	70-130			
Chloromethane	25.2	0.50	0.40	ug/l	25.0		101	50-140			
Dibromochloromethane	22.6	0.50	0.40	ug/l	25.0		90	70-140			
1,2-Dichlorobenzene	26.2	0.50	0.32	ug/l	25.0		105	75-120			
1,3-Dichlorobenzene	27.1	0.50	0.35	ug/l	25.0		108	75-120			
1,4-Dichlorobenzene	26.2	0.50	0.37	ug/l	25.0		105	75-120			
1,1-Dichloroethane	27.8	0.50	0.40	ug/l	25.0		111	70-125			
1,2-Dichloroethane	26.7	0.50	0.28	ug/l	25.0		107	60-140			
1,1-Dichloroethene	25.8	0.50	0.42	ug/l	25.0		103	70-125			
cis-1,2-Dichloroethene	28.3	0.50	0.32	ug/l	25.0		113	70-125			
trans-1,2-Dichloroethene	26.3	0.50	0.30	ug/l	25.0		105	70-125			
1,2-Dichloropropane	25.8	0.50	0.35	ug/l	25.0		103	70-125			
cis-1,3-Dichloropropene	31.2	0.50	0.22	ug/l	25.0		125	75-125			
trans-1,3-Dichloropropene	21.0	0.50	0.32	ug/l	25.0		84	70-125			
Ethylbenzene	26.4	0.50	0.25	ug/l	25.0		106	75-125			
Methylene chloride	23.6	1.0	0.95	ug/l	25.0		94	55-130			
1,1,2,2-Tetrachloroethane	24.6	0.50	0.30	ug/l	25.0		98	55-130			
Tetrachloroethene	25.0	0.50	0.32	ug/l	25.0		100	70-125			
Toluene	27.6	0.50	0.36	ug/l	25.0		111	70-120			
1,1,1-Trichloroethane	26.5	0.50	0.30	ug/l	25.0		106	65-135			
1,1,2-Trichloroethane	25.4	0.50	0.30	ug/l	25.0		102	70-125			
Trichloroethene	26.2	0.50	0.26	ug/l	25.0		105	70-125			
Trichlorofluoromethane	26.2	0.50	0.34	ug/l	25.0		105	65-145			
Vinyl chloride	23.8	0.50	0.40	ug/l	25.0		95	55-135			
Xylenes, Total	82.0	1.5	0.90	ug/l	75.0		109	70-125			
Surrogate: 4-Bromofluorobenzene	26.6			ug/l	25.0		106	80-120			

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007

Attention: Bronwyn Kelly

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Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10C1196 Extracted: 03/10/10)										
	<u> </u>										
LCS Analyzed: 03/10/2010 (10C1196-BS	1)										
Surrogate: Dibromofluoromethane	27.0			ug/l	25.0		108	80-120			
Surrogate: Toluene-d8	26.5			ug/l	25.0		106	80-120			
Matrix Spike Analyzed: 03/10/2010 (100	C1196-MS1)				Sou	rce: ITC	0989-01				
Benzene	24.9	0.50	0.28	ug/l	25.0	ND	99	65-125			
Bromodichloromethane	27.5	0.50	0.30	ug/l	25.0	ND	110	70-135			
Bromoform	20.3	0.50	0.40	ug/l	25.0	ND	81	55-135			
Bromomethane	24.3	1.0	0.42	ug/l	25.0	ND	97	55-145			
Carbon tetrachloride	24.9	0.50	0.28	ug/l	25.0	ND	100	65-140			
Chlorobenzene	25.5	0.50	0.36	ug/l	25.0	ND	102	75-125			
Chloroethane	23.4	1.0	0.40	ug/l	25.0	ND	94	55-140			
Chloroform	26.0	0.50	0.33	ug/l	25.0	ND	104	65-135			
Chloromethane	21.3	0.50	0.40	ug/l	25.0	ND	85	45-145			
Dibromochloromethane	22.6	0.50	0.40	ug/l	25.0	ND	90	65-140			
1,2-Dichlorobenzene	25.8	0.50	0.32	ug/l	25.0	ND	103	75-125			
1,3-Dichlorobenzene	26.3	0.50	0.35	ug/l	25.0	ND	105	75-125			
1,4-Dichlorobenzene	25.6	0.50	0.37	ug/l	25.0	ND	102	75-125			
1,1-Dichloroethane	26.5	0.50	0.40	ug/l	25.0	ND	106	65-130			
1,2-Dichloroethane	27.0	0.50	0.28	ug/l	25.0	ND	108	60-140			
1,1-Dichloroethene	24.6	0.50	0.42	ug/l	25.0	ND	98	60-130			
cis-1,2-Dichloroethene	26.9	0.50	0.32	ug/l	25.0	ND	108	65-130			
trans-1,2-Dichloroethene	24.8	0.50	0.30	ug/l	25.0	ND	99	65-130			
1,2-Dichloropropane	25.6	0.50	0.35	ug/l	25.0	ND	102	65-130			
cis-1,3-Dichloropropene	30.7	0.50	0.22	ug/l	25.0	ND	123	70-130			
trans-1,3-Dichloropropene	21.0	0.50	0.32	ug/l	25.0	ND	84	65-135			
Ethylbenzene	26.1	0.50	0.25	ug/l	25.0	ND	104	65-130			
Methylene chloride	22.5	1.0	0.95	ug/l	25.0	ND	90	50-135			
1,1,2,2-Tetrachloroethane	24.3	0.50	0.30	ug/l	25.0	ND	97	55-135			
Tetrachloroethene	24.5	0.50	0.32	ug/l	25.0	ND	98	65-130			
Toluene	26.7	0.50	0.36	ug/l	25.0	ND	107	70-125			
1,1,1-Trichloroethane	25.6	0.50	0.30	ug/l	25.0	ND	102	65-140			
1,1,2-Trichloroethane	26.6	0.50	0.30	ug/l	25.0	ND	106	65-130			
Trichloroethene	25.9	0.50	0.26	ug/l	25.0	ND	103	65-125			
Trichlorofluoromethane	24.6	0.50	0.34	ug/l	25.0	ND	98	60-145			
Vinyl chloride	21.3	0.50	0.40	ug/l	25.0	ND	85	45-140			
Xylenes, Total	80.8	1.5	0.90	ug/l	75.0	ND	108	60-130			

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

	D L	Reporting	MDI	T T •/	Spike	Source	AV DEC	%REC	DDD	RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 10C1196 Extracted: 03/10/1	0										
M-4	71107 MG1)				S		000 01				
Matrix Spike Analyzed: 03/10/2010 (100						rce: ITC(00 120			
Surrogate: 4-Bromofluorobenzene	27.0 26.7			ug/l	25.0 25.0		108	80-120 80-120			
Surrogate: Dibromofluoromethane	26.7 26.5			ug/l	25.0 25.0		107				
Surrogate: Toluene-d8	20.3			ug/l	25.0		106	80-120			
Matrix Spike Dup Analyzed: 03/10/2010) (10C1196-N	ASD1)			Sou	rce: ITC()989-01				
Benzene	25.1	0.50	0.28	ug/l	25.0	ND	100	65-125	0.9	20	
Bromodichloromethane	27.8	0.50	0.30	ug/l	25.0	ND	111	70-135	1	20	
Bromoform	20.8	0.50	0.40	ug/l	25.0	ND	83	55-135	2	25	
Bromomethane	24.3	1.0	0.42	ug/l	25.0	ND	97	55-145	0.1	25	
Carbon tetrachloride	25.2	0.50	0.28	ug/l	25.0	ND	101	65-140	1	25	
Chlorobenzene	25.3	0.50	0.36	ug/l	25.0	ND	101	75-125	0.6	20	
Chloroethane	23.6	1.0	0.40	ug/l	25.0	ND	95	55-140	0.9	25	
Chloroform	25.7	0.50	0.33	ug/l	25.0	ND	103	65-135	1	20	
Chloromethane	20.3	0.50	0.40	ug/l	25.0	ND	81	45-145	5	25	
Dibromochloromethane	23.2	0.50	0.40	ug/l	25.0	ND	93	65-140	2	25	
1,2-Dichlorobenzene	26.1	0.50	0.32	ug/l	25.0	ND	104	75-125	1	20	
1,3-Dichlorobenzene	26.6	0.50	0.35	ug/l	25.0	ND	106	75-125	1	20	
1,4-Dichlorobenzene	25.9	0.50	0.37	ug/l	25.0	ND	104	75-125	1	20	
1,1-Dichloroethane	26.5	0.50	0.40	ug/l	25.0	ND	106	65-130	0.08	20	
1,2-Dichloroethane	27.1	0.50	0.28	ug/l	25.0	ND	108	60-140	0.4	20	
1,1-Dichloroethene	24.4	0.50	0.42	ug/l	25.0	ND	98	60-130	0.9	20	
cis-1,2-Dichloroethene	27.3	0.50	0.32	ug/l	25.0	ND	109	65-130	2	20	
trans-1,2-Dichloroethene	25.3	0.50	0.30	ug/l	25.0	ND	101	65-130	2	20	
1,2-Dichloropropane	25.5	0.50	0.35	ug/l	25.0	ND	102	65-130	0.4	20	
cis-1,3-Dichloropropene	30.9	0.50	0.22	ug/l	25.0	ND	124	70-130	0.8	20	
trans-1,3-Dichloropropene	21.6	0.50	0.32	ug/l	25.0	ND	86	65-135	3	25	
Ethylbenzene	25.9	0.50	0.25	ug/l	25.0	ND	104	65-130	0.8	20	
Methylene chloride	22.9	1.0	0.95	ug/l	25.0	ND	91	50-135	1	20	
1,1,2,2-Tetrachloroethane	27.2	0.50	0.30	ug/l	25.0	ND	109	55-135	11	30	
Tetrachloroethene	24.7	0.50	0.32	ug/l	25.0	ND	99	65-130	0.9	20	
Toluene	27.1	0.50	0.36	ug/l	25.0	ND	108	70-125	1	20	
1,1,1-Trichloroethane	25.1	0.50	0.30	ug/l	25.0	ND	100	65-140	2	20	
1,1,2-Trichloroethane	26.5	0.50	0.30	ug/l	25.0	ND	106	65-130	0.5	25	
Trichloroethene	25.7	0.50	0.26	ug/l	25.0	ND	103	65-125	0.5	20	
Trichlorofluoromethane	24.8	0.50	0.34	ug/l	25.0	ND	99	60-145	1	25	
Vinyl chloride	19.9	0.50	0.40	ug/l	25.0	ND	80	45-140	7	30	

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10C1196 Extracted: 03/10/1	<u>0</u>										
Matrix Spike Dup Analyzed: 03/10/2010	(10C1196-M	SD1)	Source: ITC0989-01								
Xylenes, Total	79.8	1.5	0.90	ug/l	75.0	ND	106	60-130	1	20	
Surrogate: 4-Bromofluorobenzene	26.4			ug/l	25.0		106	80-120			
Surrogate: Dibromofluoromethane	26.5			ug/l	25.0		106	80-120			
Surrogate: Toluene-d8	26.5			ug/l	25.0		106	80-120			



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METHOD BLANK/QC DATA

PURGEABLES-- GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
·		Linit	MIDL	emis	Lever	Result	/unde	Linits	ΜD	Linu	Quanners
Batch: 10C1196 Extracted: 03/10/10	-										
Blank Analyzed: 03/10/2010 (10C1196-B	LK1)										
Acrolein	ND	5.0	4.0	ug/l							
Acrylonitrile	ND	2.0	1.2	ug/l							
2-Chloroethyl vinyl ether	ND	5.0	1.8	ug/l							
Surrogate: 4-Bromofluorobenzene	24.2			ug/l	25.0		97	80-120			
Surrogate: Dibromofluoromethane	24.4			ug/l	25.0		98	80-120			
Surrogate: Toluene-d8	26.6			ug/l	25.0		106	80-120			
LCS Analyzed: 03/10/2010 (10C1196-BS	1)										
2-Chloroethyl vinyl ether	19.5	5.0	1.8	ug/l	25.0		78	25-170			
Surrogate: 4-Bromofluorobenzene	26.6			ug/l	25.0		106	80-120			
Surrogate: Dibromofluoromethane	27.0			ug/l	25.0		108	80-120			
Surrogate: Toluene-d8	26.5			ug/l	25.0		106	80-120			
Matrix Spike Analyzed: 03/10/2010 (10C	1196-MS1)				Sou	rce: ITC()989-01				
2-Chloroethyl vinyl ether	19.6	5.0	1.8	ug/l	25.0	ND	78	25-170			
Surrogate: 4-Bromofluorobenzene	27.0			ug/l	25.0		108	80-120			
Surrogate: Dibromofluoromethane	26.7			ug/l	25.0		107	80-120			
Surrogate: Toluene-d8	26.5			ug/l	25.0		106	80-120			
Matrix Spike Dup Analyzed: 03/10/2010	(10C1196-M	SD1)			Sou	rce: ITC()989-01				
2-Chloroethyl vinyl ether	21.4	5.0	1.8	ug/l	25.0	ND	85	25-170	9	25	
Surrogate: 4-Bromofluorobenzene	26.4			ug/l	25.0		106	80-120			
Surrogate: Dibromofluoromethane	26.5			ug/l	25.0		106	80-120			
Surrogate: Toluene-d8	26.5			ug/l	25.0		106	80-120			

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

METHOD BLANK/QC DATA

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

	D L	Reporting	MDI	T T •4	Spike	Source	AUDEC	%REC	DDD	RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 10C1554 Extracted: 03/12/10	0										
Blank Analyzed: 03/16/2010 (10C1554-E	· · · · · · · · · · · · · · · · · · ·										
Acenaphthene	ND	10	3.0	ug/l							
Acenaphthylene	ND	10	3.0	ug/l							
Aniline	ND	10	3.5	ug/l							
Anthracene	ND	10	2.5	ug/l							
Benzidine	ND	20	10	ug/l							
Benzo(a)anthracene	ND	10	2.5	ug/l							
Benzo(a)pyrene	ND	10	3.0	ug/l							
Benzo(b)fluoranthene	ND	10	2.0	ug/l							
Benzo(g,h,i)perylene	ND	10	4.0	ug/l							
Benzo(k)fluoranthene	ND	10	2.5	ug/l							
Benzoic acid	ND	20	10	ug/l							
Benzyl alcohol	ND	20	3.5	ug/l							
4-Bromophenyl phenyl ether	ND	10	3.0	ug/l							
Butyl benzyl phthalate	ND	20	4.0	ug/l							
4-Chloro-3-methylphenol	ND	20	2.5	ug/l							
4-Chloroaniline	ND	10	2.0	ug/l							
Bis(2-chloroethoxy)methane	ND	10	3.0	ug/l							
Bis(2-chloroethyl)ether	ND	10	3.0	ug/l							
Bis(2-chloroisopropyl)ether	ND	10	2.5	ug/l							
Bis(2-ethylhexyl)phthalate	ND	50	4.0	ug/l							
2-Chloronaphthalene	ND	10	3.0	ug/l							
2-Chlorophenol	ND	10	3.0	ug/l							
4-Chlorophenyl phenyl ether	ND	10	2.5	ug/l							
Chrysene	ND	10	2.5	ug/l							
Dibenz(a,h)anthracene	ND	20	3.0	ug/l							
Dibenzofuran	ND	10	4.0	ug/l							
Di-n-butyl phthalate	ND	20	3.0	ug/l							
1,2-Dichlorobenzene	ND	10	3.0	ug/l							
1,3-Dichlorobenzene	ND	10	3.0	ug/l							
1,4-Dichlorobenzene	ND	10	2.5	ug/l							
3,3'-Dichlorobenzidine	ND	20	7.5	ug/l							
2,4-Dichlorophenol	ND	10	3.5	ug/l							
Diethyl phthalate	ND	10	3.5	ug/l							
2,4-Dimethylphenol	ND	20	3.5	ug/l							
Dimethyl phthalate	ND	10	2.5	ug/l							
				-							

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Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10C1554 Extracted: 03/12/10	D										
Butchi Toeroor Entracticut oo, 12, 1											
Blank Analyzed: 03/16/2010 (10C1554-E	BLK1)										
4,6-Dinitro-2-methylphenol	ND	20	4.0	ug/l							
2,4-Dinitrophenol	ND	20	8.0	ug/l							
2,4-Dinitrotoluene	ND	10	3.5	ug/l							
2,6-Dinitrotoluene	ND	10	2.0	ug/l							
Di-n-octyl phthalate	ND	20	3.5	ug/l							
1,2-Diphenylhydrazine/Azobenzene	ND	20	2.5	ug/l							
Fluoranthene	ND	10	3.0	ug/l							
Fluorene	ND	10	3.0	ug/l							
Hexachlorobenzene	ND	10	3.0	ug/l							
Hexachlorobutadiene	ND	10	4.0	ug/l							
Hexachlorocyclopentadiene	ND	20	5.0	ug/l							
Hexachloroethane	ND	10	3.5	ug/l							
Indeno(1,2,3-cd)pyrene	ND	20	3.5	ug/l							
Isophorone	ND	10	3.0	ug/l							
2-Methylnaphthalene	ND	10	2.0	ug/l							
2-Methylphenol	ND	10	3.0	ug/l							
4-Methylphenol	ND	10	3.0	ug/l							
Naphthalene	ND	10	3.0	ug/l							
2-Nitroaniline	ND	20	2.0	ug/l							
3-Nitroaniline	ND	20	3.0	ug/l							
4-Nitroaniline	ND	20	4.0	ug/l							
Nitrobenzene	ND	20	3.0	ug/l							
2-Nitrophenol	ND	10	3.5	ug/l							
4-Nitrophenol	ND	20	5.5	ug/l							
N-Nitroso-di-n-propylamine	ND	10	3.5	ug/l							
N-Nitrosodimethylamine	ND	20	2.5	ug/l							
N-Nitrosodiphenylamine	ND	10	2.0	ug/l							
Pentachlorophenol	ND	20	3.5	ug/l							
Phenanthrene	ND	10	3.5	ug/l							
Phenol	ND	10	2.0	ug/l							
Pyrene	ND	10	4.0	ug/l							
1,2,4-Trichlorobenzene	ND	10	2.5	ug/l							
2,4,5-Trichlorophenol	ND	20	3.0	ug/l							
2,4,6-Trichlorophenol	ND	20	4.5	ug/l							
Surrogate: 2,4,6-Tribromophenol	182			ug/l	200		91	40-120			

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10C1554 Extracted: 03/12/1	0										
	_										
Blank Analyzed: 03/16/2010 (10C1554-I	BLK1)										
Surrogate: 2-Fluorobiphenyl	72.3			ug/l	100		72	50-120			
Surrogate: 2-Fluorophenol	124			ug/l	200		62	30-120			
Surrogate: Nitrobenzene-d5	68.4			ug/l	100		68	45-120			
Surrogate: Phenol-d6	122			ug/l	200		61	35-120			
Surrogate: Terphenyl-d14	91.6			ug/l	100		92	50-125			
LCS Analyzed: 03/16/2010 (10C1554-BS	51)										MNR1
Acenaphthene	78.2	10	3.0	ug/l	100		78	60-120			
Acenaphthylene	76.2	10	3.0	ug/l	100		76	60-120			
Aniline	61.3	10	3.5	ug/l	100		61	35-120			
Anthracene	83.2	10	2.5	ug/l	100		83	65-120			
Benzidine	19.9	20	10	ug/l	100		20	30-160			L6, J
Benzo(a)anthracene	83.3	10	2.5	ug/l	100		83	65-120			
Benzo(a)pyrene	84.1	10	3.0	ug/l	100		84	55-130			
Benzo(b)fluoranthene	75.8	10	2.0	ug/l	100		76	55-125			
Benzo(g,h,i)perylene	80.9	10	4.0	ug/l	100		81	45-135			
Benzo(k)fluoranthene	81.3	10	2.5	ug/l	100		81	50-125			
Benzoic acid	72.8	20	10	ug/l	100		73	25-120			
Benzyl alcohol	72.1	20	3.5	ug/l	100		72	50-120			
4-Bromophenyl phenyl ether	84.7	10	3.0	ug/l	100		85	60-120			
Butyl benzyl phthalate	97.0	20	4.0	ug/l	100		97	55-130			
4-Chloro-3-methylphenol	76.3	20	2.5	ug/l	100		76	60-120			
4-Chloroaniline	75.7	10	2.0	ug/l	100		76	55-120			
Bis(2-chloroethoxy)methane	71.4	10	3.0	ug/l	100		71	55-120			
Bis(2-chloroethyl)ether	64.1	10	3.0	ug/l	100		64	50-120			
Bis(2-chloroisopropyl)ether	71.0	10	2.5	ug/l	100		71	45-120			
Bis(2-ethylhexyl)phthalate	91.1	50	4.0	ug/l	100		91	65-130			
2-Chloronaphthalene	74.6	10	3.0	ug/l	100		75	60-120			
2-Chlorophenol	68.5	10	3.0	ug/l	100		68	45-120			
4-Chlorophenyl phenyl ether	82.6	10	2.5	ug/l	100		83	65-120			
Chrysene	82.6	10	2.5	ug/l	100		83	65-120			
Dibenz(a,h)anthracene	87.2	20	3.0	ug/l	100		87	50-135			
Dibenzofuran	75.2	10	4.0	ug/l	100		75	65-120			
Di-n-butyl phthalate	88.2	20	3.0	ug/l	100		88	60-125			
1,2-Dichlorobenzene	61.2	10	3.0	ug/l	100		61	40-120			
1,3-Dichlorobenzene	59.0	10	3.0	ug/l	100		59	35-120			

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Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10C1554 Extracted: 03/12/10	n										
Daten, 1001334 Extracted, 05/12/10	<u>.</u>										
LCS Analyzed: 03/16/2010 (10C1554-BS	51)										MNR1
1,4-Dichlorobenzene	59.1	10	2.5	ug/l	100		59	35-120			
3,3'-Dichlorobenzidine	58.5	20	7.5	ug/l	100		59	45-135			
2,4-Dichlorophenol	80.2	10	3.5	ug/l	100		80	55-120			
Diethyl phthalate	81.3	10	3.5	ug/l	100		81	55-120			
2,4-Dimethylphenol	68.3	20	3.5	ug/l	100		68	40-120			
Dimethyl phthalate	81.4	10	2.5	ug/l	100		81	30-120			
4,6-Dinitro-2-methylphenol	80.0	20	4.0	ug/l	100		80	45-120			
2,4-Dinitrophenol	82.7	20	8.0	ug/l	100		83	40-120			
2,4-Dinitrotoluene	84.3	10	3.5	ug/l	100		84	65-120			
2,6-Dinitrotoluene	82.7	10	2.0	ug/l	100		83	65-120			
Di-n-octyl phthalate	90.3	20	3.5	ug/l	100		90	65-135			
1,2-Diphenylhydrazine/Azobenzene	69.1	20	2.5	ug/l	100		69	60-120			
Fluoranthene	87.8	10	3.0	ug/l	100		88	60-120			
Fluorene	79.8	10	3.0	ug/l	100		80	65-120			
Hexachlorobenzene	84.1	10	3.0	ug/l	100		84	60-120			
Hexachlorobutadiene	68.5	10	4.0	ug/l	100		68	40-120			
Hexachlorocyclopentadiene	70.3	20	5.0	ug/l	100		70	25-120			
Hexachloroethane	54.9	10	3.5	ug/l	100		55	35-120			
Indeno(1,2,3-cd)pyrene	85.5	20	3.5	ug/l	100		85	45-135			
Isophorone	71.4	10	3.0	ug/l	100		71	50-120			
2-Methylnaphthalene	75.5	10	2.0	ug/l	100		76	55-120			
2-Methylphenol	66.0	10	3.0	ug/l	100		66	50-120			
4-Methylphenol	67.5	10	3.0	ug/l	100		68	50-120			
Naphthalene	72.0	10	3.0	ug/l	100		72	55-120			
2-Nitroaniline	75.7	20	2.0	ug/l	100		76	65-120			
3-Nitroaniline	80.9	20	3.0	ug/l	100		81	60-120			
4-Nitroaniline	82.0	20	4.0	ug/l	100		82	55-125			
Nitrobenzene	70.6	20	3.0	ug/l	100		71	55-120			
2-Nitrophenol	80.3	10	3.5	ug/l	100		80	50-120			
4-Nitrophenol	80.2	20	5.5	ug/l	100		80	45-120			
N-Nitroso-di-n-propylamine	68.0	10	3.5	ug/l	100		68	45-120			
N-Nitrosodimethylamine	66.3	20	2.5	ug/l	100		66	45-120			
N-Nitrosodiphenylamine	78.4	10	2.0	ug/l	100		78	60-120			
Pentachlorophenol	80.4	20	3.5	ug/l	100		80	50-120			
Phenanthrene	82.9	10	3.5	ug/l	100		83	65-120			

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Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

METHOD BLANK/QC DATA

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

MNR1 Batch: 10C1554 Extracted: 03/12/10 LCS Analyzed: 03/16/2010 (10C1554-BS1) Phenol 58.3 10 2.0 ug/l 100 58 40-120 Pyrene 86.3 10 4.0 ug/l 100 86 55-125 1,2,4-Trichlorobenzene 68.5 10 2.5 ug/l 100 68 45-120
MNR1 MNR1 Phenol 58.3 10 2.0 ug/l 100 58 40-120 Pyrene 86.3 10 4.0 ug/l 100 86 55-125 1,2,4-Trichlorobenzene 68.5 10 2.5 ug/l 100 68 45-120
Phenol58.3102.0ug/l1005840-120Pyrene86.3104.0ug/l1008655-1251,2,4-Trichlorobenzene68.5102.5ug/l1006845-120
Pyrene86.3104.0ug/l1008655-1251,2,4-Trichlorobenzene68.5102.5ug/l1006845-120
1,2,4-Trichlorobenzene 68.5 10 2.5 ug/l 100 68 45-120
2,4,5-Trichlorophenol 79.6 20 3.0 ug/l 100 80 55-120
2,4,6-Trichlorophenol 81.3 20 4.5 ug/l 100 81 55-120
Surrogate: 2,4,6-Tribromophenol 192 ug/l 200 96 40-120
Surrogate: 2-Fluorobiphenyl 75.9 ug/l 100 76 50-120
Surrogate: 2-Fluorophenol 117 ug/l 200 58 30-120
Surrogate: Nitrobenzene-d5 71.1 ug/l 100 71 45-120
Surrogate: Phenol-d6 127 ug/l 200 63 35-120
Surrogate: Terphenyl-d14 90.7 ug/l 100 91 50-125
LCS Dup Analyzed: 03/16/2010 (10C1554-BSD1)
Acenaphthene 79.7 10 3.0 ug/l 100 80 60-120 2 20
Acenaphthylene 77.2 10 3.0 ug/l 100 77 60-120 1 20
Aniline 57.8 10 3.5 ug/l 100 58 35-120 6 30
Anthracene 85.7 10 2.5 ug/l 100 86 65-120 3 20
Benzidine 69.6 20 10 ug/l 100 70 30-160 111 35 R-2
Benzo(a)anthracene 90.7 10 2.5 ug/l 100 91 65-120 9 20
Benzo(a)pyrene 90.3 10 3.0 ug/l 100 90 55-130 7 25
Benzo(b)fluoranthene 80.1 10 2.0 ug/l 100 80 55-125 5 25
Benzo(g,h,i)perylene 87.9 10 4.0 ug/l 100 88 45-135 8 25
Benzo(k)fluoranthene 90.3 10 2.5 ug/l 100 90 50-125 10 20
Benzoic acid 63.6 20 10 ug/l 100 64 25-120 13 30
Benzyl alcohol 67.1 20 3.5 ug/l 100 67 50-120 7 20
4-Bromophenyl phenyl ether 87.8 10 3.0 ug/l 100 88 60-120 4 25
Butyl benzyl phthalate 105 20 4.0 ug/l 100 105 55-130 8 20
4-Chloro-3-methylphenol 76.7 20 2.5 ug/l 100 77 60-120 0.4 25
4-Chloroaniline 75.8 10 2.0 ug/l 100 76 55-120 0.1 25
Bis(2-chloroethoxy)methane 70.2 10 3.0 ug/l 100 70 55-120 2 20
Bis(2-chloroethyl)ether 61.1 10 3.0 ug/l 100 61 50-120 5 20
Bis(2-chloroisopropyl)ether 67.9 10 2.5 ug/l 100 68 45-120 5 20
Bis(2-ethylhexyl)phthalate 100 50 4.0 ug/l 100 100 65-130 9 20
2-Chloronaphthalene 73.7 10 3.0 ug/l 100 74 60-120 1 20
2-Chlorophenol 60.3 10 3.0 ug/l 100 60 45-120 13 25
4-Chlorophenyl phenyl ether 87.6 10 2.5 ug/l 100 88 65-120 6 20

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10C1554 Extracted: 03/12/10	0										
	—										
LCS Dup Analyzed: 03/16/2010 (10C155	54-BSD1)										
Chrysene	88.5	10	2.5	ug/l	100		89	65-120	7	20	
Dibenz(a,h)anthracene	93.7	20	3.0	ug/l	100		94	50-135	7	25	
Dibenzofuran	78.4	10	4.0	ug/l	100		78	65-120	4	20	
Di-n-butyl phthalate	94.5	20	3.0	ug/l	100		94	60-125	7	20	
1,2-Dichlorobenzene	58.6	10	3.0	ug/l	100		59	40-120	4	25	
1,3-Dichlorobenzene	56.6	10	3.0	ug/l	100		57	35-120	4	25	
1,4-Dichlorobenzene	56.3	10	2.5	ug/l	100		56	35-120	5	25	
3,3'-Dichlorobenzidine	66.6	20	7.5	ug/l	100		67	45-135	13	25	
2,4-Dichlorophenol	73.2	10	3.5	ug/l	100		73	55-120	9	20	
Diethyl phthalate	88.7	10	3.5	ug/l	100		89	55-120	9	30	
2,4-Dimethylphenol	65.8	20	3.5	ug/l	100		66	40-120	4	25	
Dimethyl phthalate	86.9	10	2.5	ug/l	100		87	30-120	7	30	
4,6-Dinitro-2-methylphenol	81.5	20	4.0	ug/l	100		81	45-120	2	25	
2,4-Dinitrophenol	89.8	20	8.0	ug/l	100		90	40-120	8	25	
2,4-Dinitrotoluene	91.2	10	3.5	ug/l	100		91	65-120	8	20	
2,6-Dinitrotoluene	88.7	10	2.0	ug/l	100		89	65-120	7	20	
Di-n-octyl phthalate	99.3	20	3.5	ug/l	100		99	65-135	10	20	
1,2-Diphenylhydrazine/Azobenzene	72.7	20	2.5	ug/l	100		73	60-120	5	25	
Fluoranthene	93.0	10	3.0	ug/l	100		93	60-120	6	20	
Fluorene	83.3	10	3.0	ug/l	100		83	65-120	4	20	
Hexachlorobenzene	88.3	10	3.0	ug/l	100		88	60-120	5	20	
Hexachlorobutadiene	68.3	10	4.0	ug/l	100		68	40-120	0.2	25	
Hexachlorocyclopentadiene	67.4	20	5.0	ug/l	100		67	25-120	4	30	
Hexachloroethane	53.5	10	3.5	ug/l	100		54	35-120	3	25	
Indeno(1,2,3-cd)pyrene	94.2	20	3.5	ug/l	100		94	45-135	10	25	
Isophorone	71.6	10	3.0	ug/l	100		72	50-120	0.2	20	
2-Methylnaphthalene	74.5	10	2.0	ug/l	100		74	55-120	1	20	
2-Methylphenol	59.7	10	3.0	ug/l	100		60	50-120	10	20	
4-Methylphenol	59.9	10	3.0	ug/l	100		60	50-120	12	20	
Naphthalene	69.0	10	3.0	ug/l	100		69	55-120	4	20	
2-Nitroaniline	76.5	20	2.0	ug/l	100		76	65-120	1	20	
3-Nitroaniline	85.9	20	3.0	ug/l	100		86	60-120	6	25	
4-Nitroaniline	89.4	20	4.0	ug/l	100		89	55-125	9	20	
Nitrobenzene	67.0	20	3.0	ug/l	100		67	55-120	5	25	
2-Nitrophenol	73.4	10	3.5	ug/l	100		73	50-120	9	25	

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Report Number: ITC0989

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METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10C1554 Extracted: 03/12/10	<u>)</u>										
LCS Dup Analyzed: 03/16/2010 (10C155	4-BSD1)										
4-Nitrophenol	83.4	20	5.5	ug/l	100		83	45-120	4	30	
N-Nitroso-di-n-propylamine	66.6	10	3.5	ug/l	100		67	45-120	2	20	
N-Nitrosodimethylamine	56.9	20	2.5	ug/l	100		57	45-120	15	20	
N-Nitrosodiphenylamine	82.1	10	2.0	ug/l	100		82	60-120	5	20	
Pentachlorophenol	83.3	20	3.5	ug/l	100		83	50-120	4	25	
Phenanthrene	85.6	10	3.5	ug/l	100		86	65-120	3	20	
Phenol	46.6	10	2.0	ug/l	100		47	40-120	22	25	
Pyrene	92.4	10	4.0	ug/l	100		92	55-125	7	25	
1,2,4-Trichlorobenzene	66.7	10	2.5	ug/l	100		67	45-120	3	20	
2,4,5-Trichlorophenol	76.5	20	3.0	ug/l	100		76	55-120	4	30	
2,4,6-Trichlorophenol	77.9	20	4.5	ug/l	100		78	55-120	4	30	
Surrogate: 2,4,6-Tribromophenol	193			ug/l	200		96	40-120			
Surrogate: 2-Fluorobiphenyl	76.1			ug/l	100		76	50-120			
Surrogate: 2-Fluorophenol	95.2			ug/l	200		48	30-120			
Surrogate: Nitrobenzene-d5	66.9			ug/l	100		67	45-120			
Surrogate: Phenol-d6	98.4			ug/l	200		49	35-120			
Surrogate: Terphenyl-d14	99.4			ug/l	100		99	50-125			

TestAmerica Irvine Debby Wilson For Heather Clark Project Manager



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METHOD BLANK/QC DATA

ACID & BASE/NEUTRALS BY GC/MS, TENTATIVELY IDENTIFIED COMPOUNDS

		Reporting			Spike	Source	%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result %REC	Limits	RPD	Limit	Qualifiers
Batch: 10C1554 Extracted: 03/12/10	<u>)</u>									
Blank Analyzed: 03/16/2010 (10C1554-B	LK1)									
Chlorpyrifos	ND	50	N/A	ug/l						
Diazinon	ND	50	N/A	ug/l						



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Sampled: 03/08/10 Received: 03/09/10

METHOD BLANK/QC DATA

ORGANIC COMPOUNDS BY GC/MS (EPA 525.2)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10D3000 Extracted: 03/12/10)										
Blank Analyzed: 04/26/2010 (10D3000-B	LK1)										
Chlorpyrifos	ND	1.0	0.010	ug/l							
Diazinon	ND	0.25	0.10	ug/l							
Surrogate: 1,3-Dimethyl-2-nitrobenzene	ND			ug/l				70-130			A-01
Surrogate: 1,3-Dimethyl-2-nitrobenzene	ND			ug/l				70-130			A-01
Surrogate: Triphenylphosphate	ND			ug/l				70-130			A-01
Surrogate: Triphenylphosphate	ND			ug/l				70-130			A-01
Surrogate: Perylene-d12	ND			ug/l				70-130			A-01
Surrogate: Perylene-d12	ND			ug/l				70-130			A-01
LCS Analyzed: 04/26/2010 (10D3000-BS	1)										
Chlorpyrifos	4.65	1.0	0.010	ug/l	5.00		93	70-130			
Diazinon	3.07	0.25	0.10	ug/l	5.00		61	70-130			L2
Surrogate: 1,3-Dimethyl-2-nitrobenzene	5.00			ug/l	5.00		100	70-130			
Surrogate: 1,3-Dimethyl-2-nitrobenzene	5.00			ug/l	5.00		100	70-130			
Surrogate: Triphenylphosphate	8.34			ug/l	5.00		167	70-130			Z1
Surrogate: Triphenylphosphate	8.34			ug/l	5.00		167	70-130			Z1
Surrogate: Perylene-d12	4.88			ug/l	5.00		98	70-130			
Surrogate: Perylene-d12	4.88			ug/l	5.00		98	70-130			
LCS Dup Analyzed: 04/26/2010 (10D300	0-BSD1)										
Chlorpyrifos	4.60	1.0	0.010	ug/l	5.00		92	70-130	1	30	
Diazinon	2.59	0.25	0.10	ug/l	5.00		52	70-130	17	30	L2
Surrogate: 1,3-Dimethyl-2-nitrobenzene	4.42			ug/l	5.00		88	70-130			
Surrogate: 1,3-Dimethyl-2-nitrobenzene	4.42			ug/l	5.00		88	70-130			
Surrogate: Triphenylphosphate	7.19			ug/l	5.00		144	70-130			Z1
Surrogate: Triphenylphosphate	7.19			ug/l	5.00		144	70-130			Z1
Surrogate: Perylene-d12	4.78			ug/l	5.00		96	70-130			
Surrogate: Perylene-d12	4.78			ug/l	5.00		96	70-130			

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Sampled: 03/08/10 Received: 03/09/10

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

	D L	Reporting		T T •/	Spike	Source	AV DEC	%REC	DDD	RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 10C1222 Extracted: 03/10/10)										
Blank Analyzed: 03/11/2010 (10C1222-E	SLK1)										
4.4'-DDD	ND	0.0050	0.0020	ug/l							
4,4'-DDE	ND	0.0050	0.0030	ug/l							
4,4'-DDT	ND	0.010	0.0040	ug/l							
Aldrin	ND	0.0050	0.0015	ug/l							
alpha-BHC	ND	0.0050	0.0025	ug/l							
beta-BHC	ND	0.010	0.0040	ug/l							
delta-BHC	ND	0.0050	0.0035	ug/l							
Dieldrin	ND	0.0050	0.0020	ug/l							
Endosulfan I	ND	0.0050	0.0020	ug/l							
Endosulfan II	ND	0.0050	0.0030	ug/l							
Endosulfan sulfate	ND	0.010	0.0030	ug/l							
Endrin	ND	0.0050	0.0020	ug/l							
Endrin aldehyde	ND	0.010	0.0020	ug/l							
Endrin ketone	ND	0.010	0.0030	ug/l							
gamma-BHC (Lindane)	ND	0.020	0.0030	ug/l							
Heptachlor	ND	0.010	0.0030	ug/l							
Heptachlor epoxide	ND	0.0050	0.0025	ug/l							
Methoxychlor	ND	0.0050	0.0035	ug/l							
Chlordane	ND	0.10	0.040	ug/l							
Toxaphene	ND	0.50	0.25	ug/l							
Surrogate: Decachlorobiphenyl	0.447			ug/l	0.500		89	45-120			
Surrogate: Tetrachloro-m-xylene	0.277			ug/l	0.500		55	35-115			
LCS Analyzed: 03/11/2010 (10C1222-BS	(1)			0							MNR1
4.4'-DDD	0.507	0.0050	0.0020	ug/l	0.500		101	55-120			
4,4'-DDE	0.428	0.0050	0.0020	ug/l	0.500		86	50-120			
4,4'-DDT	0.428	0.0050	0.0030	ug/l	0.500		86	55-120			
Aldrin	0.354	0.0050	0.0040	ug/l	0.500		71	40-115			
alpha-BHC	0.342	0.0050	0.0015	ug/l	0.500		68	45-115			
beta-BHC	0.351	0.0050	0.0023	ug/l	0.500		70	55-115			
delta-BHC	0.387	0.0050	0.0040	ug/l	0.500		70	55-115			
Dieldrin	0.387	0.0050	0.0033	ug/l	0.500		86	55-115			
Endosulfan I	0.431	0.0050	0.0020	ug/l	0.500		80	55-115			
Endosulfan II	0.411	0.0030	0.0020	ug/l	0.500		82 95	55-115			
Endosulfan sulfate	0.473	0.0030	0.0030	ug/l	0.500		93 98	60-120			
Endosunan sunate	0.491	0.0050	0.0030	-	0.500		98 86	55-115			
Engini	0.432	0.0050	0.0020	ug/l	0.500		00	55-115			

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ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10C1222 Extracted: 03/10/10	<u> </u>										
LCS Analyzed: 03/11/2010 (10C1222-BS	1)										MNR1
Endrin aldehyde	0.444	0.010	0.0020	ug/l	0.500		89	50-120			
Endrin ketone	0.493	0.010	0.0030	ug/l	0.500		99	55-120			
gamma-BHC (Lindane)	0.347	0.020	0.0030	ug/l	0.500		69	45-115			
Heptachlor	0.357	0.010	0.0030	ug/l	0.500		71	45-115			
Heptachlor epoxide	0.385	0.0050	0.0025	ug/l	0.500		77	55-115			
Methoxychlor	0.460	0.0050	0.0035	ug/l	0.500		92	60-120			
Surrogate: Decachlorobiphenyl	0.473			ug/l	0.500		95	45-120			
Surrogate: Tetrachloro-m-xylene	0.331			ug/l	0.500		66	35-115			
LCS Dup Analyzed: 03/11/2010 (10C122	2-BSD1)										
4,4'-DDD	0.483	0.0050	0.0020	ug/l	0.500		97	55-120	5	30	
4,4'-DDE	0.409	0.0050	0.0030	ug/l	0.500		82	50-120	5	30	
4,4'-DDT	0.414	0.010	0.0040	ug/l	0.500		83	55-120	4	30	
Aldrin	0.310	0.0050	0.0015	ug/l	0.500		62	40-115	13	30	
alpha-BHC	0.300	0.0050	0.0025	ug/l	0.500		60	45-115	13	30	
beta-BHC	0.328	0.010	0.0040	ug/l	0.500		66	55-115	7	30	
delta-BHC	0.363	0.0050	0.0035	ug/l	0.500		73	55-115	6	30	
Dieldrin	0.414	0.0050	0.0020	ug/l	0.500		83	55-115	4	30	
Endosulfan I	0.390	0.0050	0.0020	ug/l	0.500		78	55-115	5	30	
Endosulfan II	0.458	0.0050	0.0030	ug/l	0.500		92	55-120	4	30	
Endosulfan sulfate	0.471	0.010	0.0030	ug/l	0.500		94	60-120	4	30	
Endrin	0.415	0.0050	0.0020	ug/l	0.500		83	55-115	4	30	
Endrin aldehyde	0.421	0.010	0.0020	ug/l	0.500		84	50-120	5	30	
Endrin ketone	0.470	0.010	0.0030	ug/l	0.500		94	55-120	5	30	
gamma-BHC (Lindane)	0.308	0.020	0.0030	ug/l	0.500		62	45-115	12	30	
Heptachlor	0.314	0.010	0.0030	ug/l	0.500		63	45-115	13	30	
Heptachlor epoxide	0.360	0.0050	0.0025	ug/l	0.500		72	55-115	7	30	
Methoxychlor	0.441	0.0050	0.0035	ug/l	0.500		88	60-120	4	30	
Surrogate: Decachlorobiphenyl	0.456			ug/l	0.500		91	45-120			
Surrogate: Tetrachloro-m-xylene	0.286			ug/l	0.500		57	35-115			

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METHOD BLANK/QC DATA

TOTAL PCBS (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10C1222 Extracted: 03/10/10											
	_										
Blank Analyzed: 03/11/2010 (10C1222-B	LK1)										
Aroclor 1016	ND	0.50	0.25	ug/l							
Aroclor 1221	ND	0.50	0.25	ug/l							
Aroclor 1232	ND	0.50	0.25	ug/l							
Aroclor 1242	ND	0.50	0.25	ug/l							
Aroclor 1248	ND	0.50	0.25	ug/l							
Aroclor 1254	ND	0.50	0.25	ug/l							
Aroclor 1260	ND	0.50	0.25	ug/l							
Surrogate: Decachlorobiphenyl	0.437			ug/l	0.500		87	45-120			
LCS Analyzed: 03/11/2010 (10C1222-BS	2)										MNR1
Aroclor 1016	3.71	0.50	0.25	ug/l	4.00		93	50-115			
Aroclor 1260	4.04	0.50	0.25	ug/l	4.00		101	60-120			
Surrogate: Decachlorobiphenyl	0.437			ug/l	0.500		87	45-120			
LCS Dup Analyzed: 03/11/2010 (10C122	2-BSD2)										
Aroclor 1016	3.52	0.50	0.25	ug/l	4.00		88	50-115	5	30	
Aroclor 1260	3.90	0.50	0.25	ug/l	4.00		97	60-120	3	25	
Surrogate: Decachlorobiphenyl	0.426			ug/l	0.500		85	45-120			



MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Arcadia, CA 91007

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Report Number: ITC0989

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METHOD BLANK/QC DATA

HEXANE EXTRACTABLE MATERIAL

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result		%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10C2126 Extracted: 03/17/10	<u>)</u>										
Blank Analyzed: 03/17/2010 (10C2126-B	LK1)										
Hexane Extractable Material (Oil & Grease)	ND	5.0	1.4	mg/l							
LCS Analyzed: 03/17/2010 (10C2126-BS	1)										
Hexane Extractable Material (Oil & Grease)	20.4	5.0	1.4	mg/l	20.0		102	78-114			
LCS Dup Analyzed: 03/17/2010 (10C212	6-BSD1)										
Hexane Extractable Material (Oil & Grease)	20.7	5.0	1.4	mg/l	20.0		104	78-114	1	11	
Matrix Spike Analyzed: 03/17/2010 (100	2126-MS1)				Sou	rce: ITC	1021-02				
Hexane Extractable Material (Oil & Grease)	18.9	5.0	1.4	mg/l	20.0	ND	94	78-114			
Matrix Spike Analyzed: 03/17/2010 (100	2126-MS2)				Sou	rce: ITC	1685-01				
Hexane Extractable Material (Oil & Grease)	23.8	4.8	1.3	mg/l	19.0	3.51	107	78-114			



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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10C1781 Extracted: 03/15/10)										-
Butth. 1001701 Extracted. 00/15/10	<u>, </u>										
Blank Analyzed: 03/19/2010 (10C1781-E	BLK1)										
Aluminum	ND	50	40	ug/l							
Arsenic	ND	10	7.0	ug/l							
Beryllium	ND	2.0	0.90	ug/l							
Boron	ND	0.050	0.020	mg/l							
Calcium	ND	0.10	0.050	mg/l							
Iron	ND	0.040	0.015	mg/l							
Magnesium	ND	0.020	0.012	mg/l							
Nickel	ND	10	2.0	ug/l							
Selenium	ND	10	8.0	ug/l							
Vanadium	ND	10	3.0	ug/l							
Zinc	ND	20	6.0	ug/l							
LCS Analyzed: 03/19/2010 (10C1781-BS	51)										
Aluminum	498	50	40	ug/l	500		100	85-115			
Arsenic	483	10	7.0	ug/l	500		97	85-115			
Beryllium	498	2.0	0.90	ug/l	500		100	85-115			
Boron	0.473	0.050	0.020	mg/l	0.500		95	85-115			
Calcium	2.49	0.10	0.050	mg/l	2.50		100	85-115			
Iron	0.490	0.040	0.015	mg/l	0.500		98	85-115			
Magnesium	2.50	0.020	0.012	mg/l	2.50		100	85-115			
Nickel	472	10	2.0	ug/l	500		94	85-115			
Selenium	469	10	8.0	ug/l	500		94	85-115			
Vanadium	488	10	3.0	ug/l	500		98	85-115			
Zinc	445	20	6.0	ug/l	500		89	85-115			
Matrix Spike Analyzed: 03/19/2010 (100	C1781-MS1)				Sou	rce: ITC	0989-03				
Aluminum	719	50	40	ug/l	500	195	105	70-130			
Arsenic	501	10	7.0	ug/l	500	ND	100	70-130			
Beryllium	516	2.0	0.90	ug/l	500	ND	103	70-130			
Boron	0.555	0.050	0.020	mg/l	0.500	0.0551	100	70-130			
Calcium	54.4	0.10	0.050	mg/l	2.50	51.3	126	70-130			
Iron	0.616	0.040	0.015	mg/l	0.500	0.145	94	70-130			
Magnesium	6.65	0.020	0.012	mg/l	2.50	4.12	101	70-130			
Nickel	464	10	2.0	ug/l	500	ND	93	70-130			
Selenium	457	10	8.0	ug/l	500	ND	91	70-130			
Vanadium	502	10	3.0	ug/l	500	3.72	100	70-130			

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MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Arcadia, CA 91007

618 Michillinda Avenue, Suite 200

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

Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source	%REC	%REC	RPD	RPD Limit	Data Qualifiers
•		LIMIU	MDL	Units	Level	Result	70KEU	Limits	KPD	Limit	Quaimers
Batch: 10C1781 Extracted: 03/15/10	<u>)</u>										
Matrix Spike Analyzed: 03/19/2010 (100	C1781-MS1)				Sou	irce: ITC)989-03				
Zinc	455	20	6.0	ug/l	500	7.65	90	70-130			
Matrix Spike Dup Analyzed: 03/19/2010	(10C1781-M	SD1)			Sou	irce: ITC)989-03				
Aluminum	699	50	40	ug/l	500	195	101	70-130	3	20	
Arsenic	486	10	7.0	ug/l	500	ND	97	70-130	3	20	
Beryllium	504	2.0	0.90	ug/l	500	ND	101	70-130	2	20	
Boron	0.541	0.050	0.020	mg/l	0.500	0.0551	97	70-130	3	20	
Calcium	53.5	0.10	0.050	mg/l	2.50	51.3	90	70-130	2	20	
Iron	0.601	0.040	0.015	mg/l	0.500	0.145	91	70-130	3	20	
Magnesium	6.50	0.020	0.012	mg/l	2.50	4.12	95	70-130	2	20	
Nickel	459	10	2.0	ug/l	500	ND	92	70-130	1	20	
Selenium	449	10	8.0	ug/l	500	ND	90	70-130	2	20	
Vanadium	493	10	3.0	ug/l	500	3.72	98	70-130	2	20	
Zinc	448	20	6.0	ug/l	500	7.65	88	70-130	2	20	
Batch: 10C1948 Extracted: 03/16/10	<u>)</u>										
Blank Analyzed: 03/16/2010 (10C1948-E	-										
Antimony	ND	2.0	0.30	ug/l							
Cadmium	ND	1.0	0.10	ug/l							
Copper	ND	2.0	0.50	ug/l							
Lead	ND	1.0	0.20	ug/l							
Thallium	ND	1.0	0.20	ug/l							
LCS Analyzed: 03/16/2010 (10C1948-BS	51)										
Antimony	80.2	2.0	0.30	ug/l	80.0		100	85-115			
Cadmium	77.8	1.0	0.10	ug/l	80.0		97	85-115			
Copper	78.7	2.0	0.50	ug/l	80.0		98	85-115			
Lead	75.7	1.0	0.20	ug/l	80.0		95	85-115			
Thallium	76.6	1.0	0.20	ug/l	80.0		96	85-115			

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MWH-Pasadena/Boeing

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Arcadia, CA 91007

618 Michillinda Avenue, Suite 200

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Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10C1948 Extracted: 03/16/10)										
Matrix Spike Analyzed: 03/16/2010 (10C	(1948-MS1)				Sou	rce: ITC	1476-01				
Antimony	84.5	2.0	0.30	ug/l	80.0	ND	106	70-130			
Cadmium	80.3	1.0	0.10	ug/l	80.0	ND	100	70-130			
Copper	79.0	2.0	0.50	ug/l	80.0	ND	99	70-130			
Lead	76.0	1.0	0.20	ug/l	80.0	0.249	95	70-130			
Thallium	76.4	1.0	0.20	ug/l	80.0	ND	96	70-130			
Matrix Spike Analyzed: 03/16/2010 (10C	C1948-MS2)				Sou	rce: ITC	1316-01				
Antimony	83.7	2.0	0.30	ug/l	80.0	ND	105	70-130			
Cadmium	79.4	1.0	0.10	ug/l	80.0	ND	99	70-130			
Copper	85.5	2.0	0.50	ug/l	80.0	7.21	98	70-130			
Lead	74.4	1.0	0.20	ug/l	80.0	0.296	93	70-130			
Thallium	74.6	1.0	0.20	ug/l	80.0	ND	93	70-130			
Matrix Spike Dup Analyzed: 03/16/2010	(10C1948-M	SD1)			Sou	rce: ITC	476-01				
Antimony	83.6	2.0	0.30	ug/l	80.0	ND	105	70-130	1	20	
Cadmium	78.9	1.0	0.10	ug/l	80.0	ND	99	70-130	2	20	
Copper	77.9	2.0	0.50	ug/l	80.0	ND	97	70-130	1	20	
Lead	75.0	1.0	0.20	ug/l	80.0	0.249	93	70-130	1	20	
Thallium	76.2	1.0	0.20	ug/l	80.0	ND	95	70-130	0.3	20	
Batch: 10C2010 Extracted: 03/16/10)										
Blank Analyzed: 03/16/2010 (10C2010-B	SLK1)										
Mercury	ND	0.20	0.10	ug/l							
LCS Analyzed: 03/16/2010 (10C2010-BS	1)										
Mercury	8.36	0.20	0.10	ug/l	8.00		105	85-115			

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Annual Outfall 006

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10C2010 Extracted: 03/16/10)										
Matrix Spike Analyzed: 03/16/2010 (10C	2010-MS1)				Sou	irce: ITC	1476-01				
Mercury	8.41	0.20	0.10	ug/l	8.00	ND	105	70-130			
Matrix Spike Dup Analyzed: 03/16/2010	(10C2010-MS	D1)			Sou	rce: ITC	1476-01				
Mercury	8.38	0.20	0.10	ug/l	8.00	ND	105	70-130	0.5	20	
Batch: 10D1079 Extracted: 04/09/10	<u>)</u>										
Blank Analyzed: 04/09/2010 (10D1079-B	LK1)										
Chromium	ND	5.0	2.0	ug/l							
Silver	ND	10	6.0	ug/l							
LCS Analyzed: 04/09/2010 (10D1079-BS	1)										
Chromium	502	5.0	2.0	ug/l	500		100	85-115			
Silver	256	10	6.0	ug/l	250		102	85-115			
Matrix Spike Analyzed: 04/09/2010 (10D	01079-MS1)				Sou	rce: ITC	0989-03				
Chromium	494	5.0	2.0	ug/l	500	ND	99	70-130			
Silver	252	10	6.0	ug/l	250	ND	101	70-130			
Matrix Spike Dup Analyzed: 04/09/2010	(10D1079-MS	D1)			Sou	rce: ITC	0989-03				
Chromium	494	5.0	2.0	ug/l	500	ND	99	70-130	0.1	20	
Silver	248	10	6.0	ug/l	250	ND	99	70-130	1	20	

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METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
-		2		0 1110	2000	11054110	, und e	2	111 2		Zummers
Batch: 10C1953 Extracted: 03/16/10	-										
Blank Analyzed: 03/17/2010 (10C1953-B	LK1)										
Antimony	ND	2.0	0.30	ug/l							
Cadmium	ND	1.0	0.10	ug/l							
Copper	ND	2.0	0.50	ug/l							
Lead	ND	1.0	0.20	ug/l							
Thallium	ND	1.0	0.20	ug/l							
LCS Analyzed: 03/17/2010 (10C1953-BS	1)										
Antimony	83.9	2.0	0.30	ug/l	80.0		105	85-115			
Cadmium	79.8	1.0	0.10	ug/l	80.0		100	85-115			
Copper	73.8	2.0	0.50	ug/l	80.0		92	85-115			
Lead	72.4	1.0	0.20	ug/l	80.0		91	85-115			
Thallium	74.7	1.0	0.20	ug/l	80.0		93	85-115			
Matrix Spike Analyzed: 03/17/2010 (10C	1953-MS1)				Sou	rce: ITC	1272-01				
Antimony	88.9	2.0	0.30	ug/l	80.0	ND	111	70-130			
Cadmium	78.7	1.0	0.10	ug/l	80.0	0.143	98	70-130			
Copper	74.4	2.0	0.50	ug/l	80.0	3.13	89	70-130			
Lead	69.6	1.0	0.20	ug/l	80.0	ND	87	70-130			
Thallium	71.5	1.0	0.20	ug/l	80.0	ND	89	70-130			
Matrix Spike Dup Analyzed: 03/17/2010	(10C1953-M	ISD1)			Sou	rce: ITC	1272-01				
Antimony	87.8	2.0	0.30	ug/l	80.0	ND	110	70-130	1	20	
Cadmium	77.3	1.0	0.10	ug/l	80.0	0.143	96	70-130	2	20	
Copper	73.4	2.0	0.50	ug/l	80.0	3.13	88	70-130	1	20	
Lead	66.8	1.0	0.20	ug/l	80.0	ND	84	70-130	4	20	
Thallium	68.6	1.0	0.20	ug/l	80.0	ND	86	70-130	4	20	

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METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10C2011 Extracted: 03/16/10	<u>)</u>										
Blank Analyzed: 03/16/2010 (10C2011-F	-		0.10	a							
Mercury	ND	0.20	0.10	ug/l							
LCS Analyzed: 03/16/2010 (10C2011-BS	51)										
Mercury	8.65	0.20	0.10	ug/l	8.00		108	85-115			
Matrix Spike Analyzed: 03/16/2010 (100	72011-MS1)				Sou	rce: ITC	1128-01				
Mercury	8.49	0.20	0.10	ug/l	8.00	ND	106	70-130			
-				8							
Matrix Spike Dup Analyzed: 03/16/2010						rce: ITC				• •	
Mercury	8.36	0.20	0.10	ug/l	8.00	ND	104	70-130	2	20	
Batch: 10C2228 Extracted: 03/17/10)										
Blank Analyzed: 03/20/2010 (10C2228-E	BLK1)										
Aluminum	ND	50	40	ug/l							
Arsenic	ND	10	7.0	ug/l							
Beryllium	ND	2.0	0.90	ug/l							
Boron	ND	0.050	0.020	mg/l							
Calcium	ND	0.10	0.050	mg/l							
Chromium	ND	5.0	2.0	ug/l							
Iron	ND	0.040	0.015	mg/l							
Magnesium	ND	0.020	0.012	mg/l							
Nickel	ND	10	2.0	ug/l							
Selenium	ND	10	8.0	ug/l							
Vanadium	ND	10	3.0	ug/l							
LCS Analyzed: 03/20/2010 (10C2228-BS	51)										
Aluminum	560	50	40	ug/l	500		112	85-115			
Arsenic	541	10	7.0	ug/l	500		108	85-115			
Beryllium	529	2.0	0.90	ug/l	500		106	85-115			
Boron	0.522	0.050	0.020	mg/l	0.500		104	85-115			
Calcium	2.66	0.10	0.050	mg/l	2.50		107	85-115			
Chromium	513	5.0	2.0	ug/l	500		103	85-115			
Iron	0.553	0.040	0.015	mg/l	0.500		111	85-115			
Magnesium	2.69	0.020	0.012	mg/l	2.50		107	85-115			
Nickel	522	10	2.0	ug/l	500		104	85-115			
Selenium	514	10	8.0	ug/l	500		103	85-115			

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Annual Outfall 006

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METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10C2228 Extracted: 03/17/10)										
LCS Analyzed: 03/20/2010 (10C2228-BS	1)										
Vanadium	533	10	3.0	ug/l	500		107	85-115			
Matrix Spike Analyzed: 03/20/2010 (100	2228-MS1)				Sou	rce: ITC)989-03				
Aluminum	563	50	40	ug/l	500	ND	113	70-130			
Arsenic	548	10	7.0	ug/l	500	ND	110	70-130			
Beryllium	538	2.0	0.90	ug/l	500	ND	108	70-130			
Boron	0.583	0.050	0.020	mg/l	0.500	0.0568	105	70-130			
Calcium	54.5	0.10	0.050	mg/l	2.50	51.2	131	70-130			MHA
Chromium	507	5.0	2.0	ug/l	500	4.61	100	70-130			
Iron	0.544	0.040	0.015	mg/l	0.500	0.0161	106	70-130			
Magnesium	6.79	0.020	0.012	mg/l	2.50	4.15	106	70-130			
Nickel	509	10	2.0	ug/l	500	10.3	100	70-130			
Selenium	501	10	8.0	ug/l	500	ND	100	70-130			
Vanadium	536	10	3.0	ug/l	500	3.43	107	70-130			
Matrix Spike Dup Analyzed: 03/20/2010	(10C2228-M	ISD1)			Sou	rce: ITC()989-03				
Aluminum	559	50	40	ug/l	500	ND	112	70-130	0.7	20	
Arsenic	546	10	7.0	ug/l	500	ND	109	70-130	0.3	20	
Beryllium	531	2.0	0.90	ug/l	500	ND	106	70-130	1	20	
Boron	0.582	0.050	0.020	mg/l	0.500	0.0568	105	70-130	0.1	20	
Calcium	54.0	0.10	0.050	mg/l	2.50	51.2	113	70-130	0.8	20	MHA
Chromium	502	5.0	2.0	ug/l	500	4.61	100	70-130	0.9	20	
Iron	0.551	0.040	0.015	mg/l	0.500	0.0161	107	70-130	1	20	
Magnesium	6.76	0.020	0.012	mg/l	2.50	4.15	105	70-130	0.4	20	
Nickel	505	10	2.0	ug/l	500	10.3	99	70-130	0.8	20	
Selenium	499	10	8.0	ug/l	500	ND	100	70-130	0.3	20	
Vanadium	535	10	3.0	ug/l	500	3.43	106	70-130	0.2	20	

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DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10D1078 Extracted: 04/09/10	-										
Blank Analyzed: 04/09/2010 (10D1078-B	LK1)										
Silver	ND	10	6.0	ug/l							
Zinc	ND	20	6.0	ug/l							
LCS Analyzed: 04/09/2010 (10D1078-BS	1)										
Silver	262	10	6.0	ug/l	250		105	85-115			
Zinc	514	20	6.0	ug/l	500		103	85-115			
Matrix Spike Analyzed: 04/09/2010 (10D	1078-MS1)				Sou	rce: ITC)989-03				
Silver	254	10	6.0	ug/l	250	ND	102	70-130			
Zinc	530	20	6.0	ug/l	500	ND	106	70-130			
Matrix Spike Dup Analyzed: 04/09/2010	(10D1078-M	SD1)			Sou	rce: ITC)989-03				
Silver	249	10	6.0	ug/l	250	ND	100	70-130	2	20	
Zinc	505	20	6.0	ug/l	500	ND	101	70-130	5	20	



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DISSOLVED INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10C1119 Extracted: 03/09/10)										
Blank Analyzed: 03/09/2010 (10C1119-B	SLK1)										
Chromium VI	ND	0.0010	0.00025	mg/l							
LCS Analyzed: 03/09/2010 (10C1119-BS	1)										
Chromium VI	0.0525	0.0010	0.00025	mg/l	0.0500		105	90-110			
Matrix Spike Analyzed: 03/09/2010 (100	C1119-MS1)				Source: ITC0918-01						
Chromium VI	0.0535	0.0010	0.00025	mg/l	0.0500	0.00397	99	90-110			
Matrix Spike Dup Analyzed: 03/09/2010 (10C1119-MSD1)					Sou	rce: ITC()918-01				
Chromium VI	0.0558	0.0010	0.00025	mg/l	0.0500	0.00397	104	90-110	4	10	



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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10C1057 Extracted: 03/09/10	_										
Blank Analyzed: 03/09/2010 (10C1057-B	LK1)										
Chloride	ND	0.50	0.25	mg/l							
Nitrate/Nitrite-N	ND	0.26	0.15	mg/l							
Sulfate	ND	0.50	0.20	mg/l							
LCS Analyzed: 03/09/2010 (10C1057-BS)	1)										
Chloride	5.00	0.50	0.25	mg/l	5.00		100	90-110			<i>M-3</i>
Sulfate	10.4	0.50	0.20	mg/l	10.0		104	90-110			
Matrix Spike Analyzed: 03/09/2010 (10C	1057-MS1)				Sou	rce: ITC	0911-01				
Sulfate	20.5	0.50	0.20	mg/l	10.0	10.7	98	80-120			
Matrix Spike Analyzed: 03/09/2010 (10C	1057-MS2)				Sou	rce: ITC	0929-02				
Chloride	135	5.0	2.5	mg/l	50.0	85.1	100	80-120			
Sulfate	217	5.0	2.0	mg/l	100	114	102	80-120			
Matrix Spike Dup Analyzed: 03/09/2010	(10C1057-M	SD1)			Sou	rce: ITC	0911-01				
Sulfate	20.5	0.50	0.20	mg/l	10.0	10.7	98	80-120	0.3	20	
Batch: 10C1095 Extracted: 03/09/10	_										
Blank Analyzed: 03/09/2010 (10C1095-B)	,										
Perchlorate	ND	4.0	0.90	ug/l							
LCS Analyzed: 03/09/2010 (10C1095-BS)	1)										
Perchlorate	24.2	4.0	0.90	ug/l	25.0		97	85-115			
Matrix Spike Analyzed: 03/09/2010 (10C	1095-MS1)				Sou	rce: ITC	0793-02				
Perchlorate	25.1	4.0	0.90	ug/l	25.0	ND	100	80-120			

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10C1095 Extracted: 03/09/10	<u>)</u>										
Matrix Spike Dup Analyzed: 03/09/2010	(10C1095-MS	5D1)			Sou	rce: ITC	0793-02				
Perchlorate	24.7	4.0	0.90	ug/l	25.0	ND	99	80-120	1	20	
Batch: 10C1344 Extracted: 03/11/10	<u>)</u>										
Blank Analyzed: 03/11/2010 (10C1344-B	LK1)										
Fluoride	0.0273	0.10	0.020	mg/l							J
LCS Analyzed: 03/11/2010 (10C1344-BS	1)										
Fluoride	1.04	0.10	0.020	mg/l	1.00		104	90-110			
Matrix Spike Analyzed: 03/11/2010 (10C	21344-MS1)				Sou	rce: ITC	0989-03				
Fluoride	1.15	0.10	0.020	mg/l	1.00	0.135	101	80-120			
Matrix Spike Dup Analyzed: 03/11/2010	(10C1344-MS	5D1)		Source: ITC0989-03							
Fluoride	1.16	0.10	0.020	mg/l	1.00	0.135	103	80-120	1	20	
Batch: 10C1460 Extracted: 03/11/10	<u>)</u>										
Blank Analyzed: 03/11/2010 (10C1460-B	LK1)										
Total Cyanide	ND	0.0050	0.0022	mg/l							
LCS Analyzed: 03/11/2010 (10C1460-BS	1)										
Total Cyanide	0.191	0.0050	0.0022	mg/l	0.200		95	90-110			
Matrix Spike Analyzed: 03/11/2010 (10C						rce: ITC					
Total Cyanide	0.186	0.0050	0.0022	mg/l	0.200	ND	93	70-115			

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10C1460 Extracted: 03/11/10	<u>)</u>										
Matrix Spike Dup Analyzed: 03/11/2010	(10C1460-MS	SD1)			Sou	rce: ITC	0989-03				
Total Cyanide	0.185	0.0050	0.0022	mg/l	0.200	ND	93	70-115	0.6	15	
Batch: 10C1704 Extracted: 03/13/10)										
Blank Analyzed: 03/13/2010 (10C1704-B	LK1)										
Total Dissolved Solids	ND	10	1.0	mg/l							
LCS Analyzed: 03/13/2010 (10C1704-BS	1)										
Total Dissolved Solids	996	10	1.0	mg/l	1000		100	90-110			
Duplicate Analyzed: 03/13/2010 (10C170	4-DUP1)				Sou	rce: ITC	1040-13				
Total Dissolved Solids	360	10	1.0	mg/l		359			0.3	10	
Batch: 10C1880 Extracted: 03/15/10	<u>)</u>										
Blank Analyzed: 03/15/2010 (10C1880-B	LK1)										
Total Suspended Solids	ND	10	1.0	mg/l							
LCS Analyzed: 03/15/2010 (10C1880-BS	1)										
Total Suspended Solids	999	10	1.0	mg/l	1000		100	85-115			
Duplicate Analyzed: 03/15/2010 (10C188	880-DUP1)				Source: ITC0875-01						
Total Suspended Solids	19.0	10	1.0	mg/l		19.0			0	10	

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METHOD BLANK/QC DATA

EPA-5 1613B

	D K	Reportin	8	•••	Spike	Source	A/ DEC	%REC	DBD	RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 70198 Extracted: 03/11/10	i										
Blassle Astalizza de 02/15/2010 (C0C110)	\0.0100D\				S						
Blank Analyzed: 03/15/2010 (G0C1100		0.00005	0.0000074	/1	Sou	rce:					
1,2,3,4,6,7,8-HpCDD	0.0000033	0.00005	0.00000074	ug/L				-			J, Q
1,2,3,4,6,7,8-HpCDF	0.0000024	0.00005	0.00000082	ug/L				-			J, Q
1,2,3,4,7,8,9-HpCDF	0.0000016	0.00005	0.000001	ug/L				-			J
1,2,3,4,7,8-HxCDD	0.0000011	0.00005	0.00000071	ug/L				-			J, Q
1,2,3,4,7,8-HxCDF	0.0000018	0.00005	0.00000021	U				-			J
1,2,3,6,7,8-HxCDD	0.0000015	0.00005	0.00000065	ug/L				-			J
1,2,3,6,7,8-HxCDF	0.000001	0.00005	0.0000002	ug/L				-			J, Q
1,2,3,7,8,9-HxCDD	0.0000012	0.00005	0.00000061	ug/L				-			J, Q
1,2,3,7,8,9-HxCDF	0.0000015	0.00005	0.00000022	ug/L				-			J, Q
1,2,3,7,8-PeCDD	ND	0.00005	0.0000032	ug/L				-			
1,2,3,7,8-PeCDF	0.0000012	0.00005	0.00000004	ug/L				-			J
2,3,4,6,7,8-HxCDF	0.0000016	0.00005	0.00000019	ug/L				-			J
2,3,4,7,8-PeCDF	0.000008	0.00005	0.00000004	ug/L				-			J, Q
2,3,7,8-TCDD	ND	0.00001	0.00000003	ug/L				-			
2,3,7,8-TCDF	0.0000086	0.00001	0.00000004	ug/L				-			J
OCDD	0.000017	0.0001	0.0000084	ug/L				-			J
OCDF	0.0000061	0.0001	0.00000067	ug/L				-			J
Total HpCDD	0.000006	0.00005	0.00000074	ug/L				-			J, Q
Total HpCDF	0.000004	0.00005	0.0000082	ug/L				-			J, Q
Total HxCDD	0.0000039	0.00005	0.00000061	ug/L				-			J, Q
Total HxCDF	0.0000063	0.00005	0.00000019	ug/L				-			J, Q
Total PeCDD	ND	0.00005	0.0000032	ug/L				-			
Total PeCDF	0.0000024	0.00005	0.00000004	ug/L				-			J, Q
Total TCDD	ND	0.00001	0.00000003	ug/L				-			
Total TCDF	0.0000086	0.00001	0.00000004	ug/L				-			J
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.0015			ug/L	0.00200		73	23-140			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0014			ug/L	0.00200		69	28-143			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.0014			ug/L	0.00200		69	26-138			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.0015			ug/L	0.00200		74	32-141			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.0014			ug/L	0.00200		70	26-152			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.0014			ug/L	0.00200		71	28-130			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.0013			ug/L	0.00200		67	26-123			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.0013			ug/L	0.00200		66	29-147			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.0012			ug/L	0.00200		61	25-181			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.001			ug/L	0.00200		52	24-185			

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Project ID: Annual Outfall 006

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METHOD BLANK/QC DATA

EPA-5 1613B

		Reportin	-		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 70198 Extracted: 03/11/10											
Blank Analyzed: 03/15/2010 (G0C1100	00198 R)				Sou	rce:					
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.0014			ug/L	0.00200	1	70	28-136			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.0011			ug/L	0.00200		53	21-178			
Surrogate: 13C-2,3,7,8-TCDD	0.0011			ug/L	0.00200		57	25-164			
Surrogate: 13C-2,3,7,8-TCDF	0.001			ug/L	0.00200		52	24-169			
Surrogate: 13C-OCDD	0.0029			ug/L	0.00400		74	17-157			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.00074			ug/L	0.000800		92	35-197			
LCS Analyzed: 03/15/2010 (G0C11000	0198C)				Sou	rce:					
1,2,3,4,6,7,8-HpCDD	0.00106	0.00005	0.0000016	ug/L	0.00100		106	70-140			Ва
1,2,3,4,6,7,8-HpCDF	0.00106	0.00005	0.0000021	ug/L	0.00100		106	82-122			Ba
1,2,3,4,7,8,9-HpCDF	0.0011	0.00005	0.0000029	ug/L	0.00100		110	78-138			Ba
1,2,3,4,7,8-HxCDD	0.00104	0.00005	0.00000032	ug/L	0.00100		104	70-164			Ba
1,2,3,4,7,8-HxCDF	0.00108	0.00005	0.00000001	ug/L	0.00100		108	72-134			Ba
1,2,3,6,7,8-HxCDD	0.000997	0.00005	0.0000003	ug/L	0.00100		100	76-134			Ba
1,2,3,6,7,8-HxCDF	0.00109	0.00005	0.00000001	ug/L	0.00100		109	84-130			Ba
1,2,3,7,8,9-HxCDD	0.000993	0.00005	0.00000028	ug/L	0.00100		99	64-162			Ba
1,2,3,7,8,9-HxCDF	0.00108	0.00005	0.00000001	ug/L	0.00100		108	78-130			Ba
1,2,3,7,8-PeCDD	0.000957	0.00005	0.0000021	ug/L	0.00100		96	70-142			
1,2,3,7,8-PeCDF	0.00106	0.00005	0.0000011	ug/L	0.00100		106	80-134			Ba
2,3,4,6,7,8-HxCDF	0.00109	0.00005	0.00000001	ug/L	0.00100		109	70-156			Ba
2,3,4,7,8-PeCDF	0.00108	0.00005	0.0000012	ug/L	0.00100		108	68-160			Ba
2,3,7,8-TCDD	0.000201	0.00001	0.00000002	ug/L	0.000200		100	67-158			
2,3,7,8-TCDF	0.000195	0.00001	0.00000002	ug/L	0.000200		98	75-158			Ba
OCDD	0.00204	0.0001	0.0000015	ug/L	0.00200		102	78-144			Ba
OCDF	0.00194	0.0001	0.0000081	ug/L	0.00200		97	63-170			Ba
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.00181			ug/L	0.00200		91	26-166			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.00175			ug/L	0.00200		88	21-158			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.0017			ug/L	0.00200		85	20-186			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.00195			ug/L	0.00200		98	21-193			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00182			ug/L	0.00200		91	19-202			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00167			ug/L	0.00200		84	25-163			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.00164			ug/L	0.00200		82	21-159			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.00169			ug/L	0.00200		85	17-205			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00151			ug/L	0.00200		76	21-227			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00129			ug/L	0.00200		65	21-192			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.00174			ug/L	0.00200		87	22-176			

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METHOD BLANK/QC DATA

EPA-5 1613B

		Reporting	g		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 70198 Extracted: 03/11/1	0										
LCS Analyzed: 03/15/2010 (G0C110	000198C)				Sou	rce:					
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00132			ug/L	0.00200		66	13-328			
Surrogate: 13C-2,3,7,8-TCDD	0.00145			ug/L	0.00200		73	20-175			
Surrogate: 13C-2,3,7,8-TCDF	0.00137			ug/L	0.00200		68	22-152			
Surrogate: 13C-OCDD	0.00375			ug/L	0.00400		94	13-199			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.000741			ug/L	0.000800		93	31-191			
Blank Analyzed: 03/16/2010 (G0C11	00098RE1)				Sou	rce:					
2,3,7,8-TCDF	ND	0.00001	0.0000026	ug/L				-			
Surrogate: 13C-2,3,7,8-TCDF	0.0012			ug/L	0.00200		58	24-169			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.0007			ug/L	0.000800		87	35-197			



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METHOD BLANK/QC DATA

ASTM 5174-91

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 83129 Extracted: 03/24/10											
Matrix Spike Dup Analyzed: 03/29/2010	(F0C11050800)1D)			Sou	rce: ITC	0989-03				
Total Uranium	28.4	0.7	0.2	pCi/L	27.1	0.441	103	62-150	2	20	
Matrix Spike Analyzed: 03/29/2010 (F0C	C110508001S)				Sou	rce: ITC	0989-03				
Total Uranium	27.9	0.7	0.2	pCi/L	27.1	0.441	101	62-150			
Blank Analyzed: 03/29/2010 (F0C240000)129B)				Sou	rce:					
Total Uranium	0.269	0.677	0.21	pCi/L				-			Jb
LCS Analyzed: 03/29/2010 (F0C2400001	29C)				Sou	rce:					
Total Uranium	5.5	0.68	0.21	pCi/L	5.42		102	90-120			



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METHOD BLANK/QC DATA

EPA 900.0 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 76134 Extracted: 03/17/10											
Matrix Spike Analyzed: 03/20/2010 (F00	C120530001S)				Sou	irce: F0C	12053000	1			
Gross Alpha	44	3	1.5	pCi/L	49.4	0.04	89	35-150			
Gross Beta	66.4	4	1.1	pCi/L	67.9	0.83	96	54-150			
Duplicate Analyzed: 03/20/2010 (F0C12	0530001X)				Sou	irce: F0C	12053000	1			
Gross Alpha	1.2	3	1.5	pCi/L		0.04		-			U
Gross Beta	-0.13	4	1	pCi/L		0.83		-			U
Blank Analyzed: 03/21/2010 (F0C17000	0134B)				Sou	irce:					
Gross Alpha	0.16	2	0.71	pCi/L				-			U
Gross Beta	0.66	4	1.1	pCi/L				-			U
LCS Analyzed: 03/21/2010 (F0C170000)	1 34C)				Sou	irce:					
Gross Alpha	56.6	3	1	pCi/L	49.4		114	62-134			
Gross Beta	71.7	4	1	pCi/L	67.9		106	58-133			



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METHOD BLANK/QC DATA

EPA 901.1 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 74318 Extracted: 03/15/10											
Duplicate Analyzed: 03/22/2010 (F0C11	0508001X)				Sou	rce: ITC()989-03				
Cesium 137	ND	20	20	pCi/L		-2.2		-			U
Potassium 40	5	NA	220	pCi/L		-80		-			U
Blank Analyzed: 03/22/2010 (F0C15000	0318B)				Sou	rce:					
Cesium 137	3.6	20	14	pCi/L				-			U
Potassium 40	-90	NA	200	pCi/L				-			U
LCS Analyzed: 03/22/2010 (F0C150000	318C)				Sou	rce:					
Americium 241	140000	NA	500	pCi/L	141000		99	87-110			
Cobalt 60	86800	NA	200	pCi/L	87900		99	89-110			
Cesium 137	53200	20	200	pCi/L	53100		100	90-110			



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METHOD BLANK/QC DATA

EPA 903.0 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 71128 Extracted: 03/12/10											
Blank Analyzed: 04/05/2010 (F0C12000) Radium (226)	0128B) 0.059	1	0.053	pCi/L	Sou	rce:		_			Jb
LCS Analyzed: 04/05/2010 (F0C120000)		1	0.000	pent	Sou	rce:					00
Radium (226)	10.1	1	0.06	pCi/L	11.3		90	68-136			
LCS Dup Analyzed: 04/05/2010 (F0C120 Radium (226)	0000128L) 10.2	1	0.06	pCi/L	Sou 11.3	rce:	91	68-136	0.9	40	



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METHOD BLANK/QC DATA

EPA 904 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 71129 Extracted: 03/12/10											
Blank Analyzed: 03/29/2010 (F0C12000	0129B)				Sou	rce:					
Radium 228	-0.06	1	0.41	pCi/L				-			U
LCS Analyzed: 03/29/2010 (F0C120000	129C)				Sou	rce:					
Radium 228	6.25	1	0.41	pCi/L	6.35		98	60-142			
LCS Dup Analyzed: 03/29/2010 (F0C12	20000129L)				Sou	rce:					
Radium 228	6.46	1	0.41	pCi/L	6.35		102	60-142	3	40	



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Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

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METHOD BLANK/QC DATA

EPA 905 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 71130 Extracted: 03/12/10											
Blank Analyzed: 03/25/2010 (F0C12000	0130B)				Sou	rce:					
Strontium 90	-0.04	3	0.54	pCi/L				-			U
LCS Analyzed: 03/25/2010 (F0C120000	130C)				Sou	rce:					
Strontium 90	7.29	3	0.59	pCi/L	6.78		107	80-130			
LCS Dup Analyzed: 03/25/2010 (F0C12	20000130L)				Sou	rce:					
Strontium 90	7.72	3	0.57	pCi/L	6.78		114	80-130	6	40	



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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

Report Number: 11C0989

METHOD BLANK/QC DATA

EPA 906.0 MOD

Analyte Batch: 77060 Extracted: 03/18/10	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Duplicate Analyzed: 03/23/2010 (F0C09	0509001X) -26	500	150	pCi/L	Sou	rce: F0C09 34	9050900	1			U
Matrix Spike Analyzed: 03/24/2010 (F0 Tritium	C 090512001S) 4170	500	150	pCi/L	Sou 4510	rce: F0C09 -17	9 051200 93	1 62-147			
Blank Analyzed: 03/23/2010 (F0C18000 Tritium	0060B) 83	500	150	pCi/L	Sou	rce:		-			U
LCS Analyzed: 03/23/2010 (F0C180000 Tritium	060C) 4450	500	150	pCi/L	Sou 4510	rce:	99	85-112			

TestAmerica Irvine Debby Wilson For Heather Clark Project Manager



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

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

Compliance Check

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

						Compliance
LabNumber	Analysis	Analyte	Units	Result	MRL	Limit
ITC0989-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0.096	4.8	15

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.

						Compliance
LabNumber	Analysis	Analyte	Units	Result	MRL	Limit

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.

<u>LabNumber</u>	Analysis	Analyte	Units	Result	MRL	Compliance Limit
ITC0989-03	Antimony-200.8	Antimony	ug/l	0.45	2.0	6
ITC0989-03	Boron-200.7	Boron	mg/l	0.055	0.050	1
ITC0989-03	Cadmium-200.8	Cadmium	ug/l	0.053	1.0	4
ITC0989-03	Chloride - 300.0	Chloride	mg/l	7.31	0.50	150
ITC0989-03	Copper-200.8	Copper	ug/l	1.79	2.0	14
ITC0989-03	Fluoride SM4500F,C	Fluoride	mg/l	0.14	0.10	1.6
ITC0989-03	Lead-200.8	Lead	ug/l	0.49	1.0	5.2
ITC0989-03	Nickel-200.7	Nickel	ug/l	1.72	10	100
ITC0989-03	Nitrogen, NO3+NO2 -N EPA 30	0.0 Nitrate/Nitrite-N	mg/l	2.74	0.26	10
ITC0989-03	Perchlorate 314.0 - Default	Perchlorate	ug/l	0	4.0	6
ITC0989-03	Sulfate-300.0	Sulfate	mg/l	20	0.50	250
ITC0989-03	TDS - SM2540C	Total Dissolved Solids	mg/l	243	10	850
ITC0989-03	Thallium-200.8	Thallium	ug/l	0.096	1.0	2

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	Limit
TestAmerica Irvine					
Debby Wilson For Heather Clark Project Manager					
	The results pertain only to the samples tested in the laboratory. This re	eport shall not be repro	oduced,		

Compliance

<u>TestAmerica</u>

THE LEADER IN ENVIRONMENTAL TESTING

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

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

DATA QUALIFIERS AND DEFINITIONS

- В Analyte was detected in the associated Method Blank. Ba Method blank contamination. The associated method blank contains the target analyte at a reportable level. Н Sample analysis performed past method-specified holding time. J Estimated result. Result is less than the reporting limit. .Jb Result is greater than sample detection limit but less than stated reporting limit. L2 Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was below acceptance limits. L6 Per the EPA methods, benzidine is known to be subject to oxidative losses during solvent concentration. M-3 Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS). MHA Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS). MNR1 There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate. Q Estimated maximum possible concentration (EMPC). R-2 The RPD exceeded the acceptance limit. U Result is less than the sample detection limit.
- Z1 Surrogate recovery was above acceptance limits.
- ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.

Surrogate was not added to sample due to sample preparation modification.

RPD Relative Percent Difference

ADDITIONAL COMMENTS

For TICs:

A-01

All identifications are tentative and concentrations are estimates based upon spectral comparison to the EPA/NIH library.

For 1,2-Diphenylhydrazine:

The result for 1,2-Diphenylhydrazine is based upon the reading of its breakdown product, Azobenzene.



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Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 1664A	Water	Х	Х
EPA 200.7-Diss	Water	Х	Х
EPA 200.7	Water	Х	Х
EPA 200.8-Diss	Water	Х	Х
EPA 200.8	Water	Х	Х
EPA 218.6	Water	Х	Х
EPA 245.1-Diss	Water	Х	Х
EPA 245.1	Water	Х	Х
EPA 300.0	Water	Х	Х
EPA 314.0	Water	Х	Х
EPA 525.2	Water		
EPA 608	Water	Х	Х
EPA 624	Water	Х	Х
EPA 625	Water	Х	Х
SM 2540D	Water	Х	Х
SM 4500-F-C	Water	Х	Х
SM2340B-Diss	Water		
SM2340B	Water	Х	Х
SM2540C	Water	Х	
SM4500CN-E	Water	Х	Х

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

<u>TestAmerica</u>

THE LEADER IN ENVIRONMENTAL TESTING

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

-

Project ID: Annual Outfall 006

Report Number: ITC0989

Sampled: 03/08/10 Received: 03/09/10

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

TestAmerica St. Louis

13715 Rider Trail North - Earth City, MO 63045 Method Performed: ASTM 5174-91

Samples: ITC0989-03

- Method Performed: EPA 900.0 MOD Samples: ITC0989-03
- Method Performed: EPA 901.1 MOD Samples: ITC0989-03
- Method Performed: EPA 903.0 MOD Samples: ITC0989-03
- Method Performed: EPA 904 MOD Samples: ITC0989-03
- Method Performed: EPA 905 MOD Samples: ITC0989-03
- Method Performed: EPA 906.0 MOD Samples: ITC0989-03

TestAmerica West Sacramento

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B Samples: ITC0989-03

TestAmerica Irvine Debby Wilson For Heather Clark Project Manager

CHAIN OF CUSTODY FORM

Page 1 of 2

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Client Name/				Proje												A	VALYS	IS REC	UIRE	D			
MWH-Arca 518 Michillin Arcadia, CA Test America Project Mana	da Ave, S 91007 a Contact	: Joseph D	oak	Annu GRAI Storm	nwater at e Numbe	II 006 FSDF-2 r:		Grease (1664-HEM)	enes + PP	+A+A+2CVE													Field readings: (Log in and include in report Temp and pH) Temp $F = 51.1$ pH = 7.6
Sampler: S	Daws	•••		Fax N	568-669 lumber:			ease (VOCs 624, Xylenes	624 +A+	Cr (VI) (218.6)	Acute Toxicity											Time of readings = / 500
Sample	Sample	Container	# of	<u>` </u>	568-651 mpling	5		୍ଦ୍ର ଜ	Cs 6	Cs 6) (j)	teT											Low Flow
Description	Matrix	Туре	Cont.		te/Time	Preservative	Bottle #	ö	Š	vocs	5	Acu											Comments
Outfall 006	w	1L Amber	2	3/8/	0-1108	нсі	1A, 1B	x															
Outfall 006	w	VOAs	3	1		HCI	2A, 2B, 2C [*]		x														
Outfall 006	w	VOAs	3			None	3A, 3B, 3C 🕯			X	ļ												
Trip Blanks	w	VOAs	3			HCI	4A, 4B, 4C		х														
Trip Blanks	w	VOAs	3			None	5A, 5B, 5C			x													
Outfall 006	w	500 mL Poly	1			None	6				×												
Outfall 006	w	1 Gal Cube	1		7	None	7					×											20',10 3/9/10 NP
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elinquished By	u.	nul	baler	Time: 3 - 4	ĵ-10	17:2	Received By	Ч `n]:	3 _A	Ne	Da Z	te/Time 3/9	; // c	17	2.20	Data R No Lev	equiremer el IV:	its: (Chec	k) Ali	Level IV:			NPDES Level IV: X
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Test America Version 6/29/09

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CHAIN OF CUSTODY FORM

Page 2 of 2

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Client Name/	Address	•		Projec				<u> </u>														1
MWH-Arca		•			g-SSFL	NPDES			<u> </u>			<u>1.</u>		<u> </u>	T T	INL Y S	SIS REQI	JIKED	·····	<u> </u>		ł
618 Michillind		Suite 200			al Outfa			Pb,				+ 5	- <u>n</u> %				Ĭ.					
Arcadia, CA					POSITE			Lesi Lesi		fe		IZING	0.0) , To)3.1				, Pb as					
	.			Storm	water at	FSDF-2		als: Sb, Cd, Cu, Pb, + PP, Hardness as		llora		Ö	5.0) 5.0) (908 (908				ess					
Test America	Contact	: Joseph Do	bak					Н. Н.		erch		ifos,) (90) (90) (90)				ug d					
								isi +	<u>(</u> 2	ď		Dyn'	555 -90 (903 1.1				Sb, Ha					
								Metals: , Ni, + P	ene	z		IO LLO	9 L 8 S 8				PP PP				Comments	
Project Mana	ger: Bro	onwyn Kelly		Phone	e Numbe	er:		Recoverable Mett , V, TI, Fe, AI, Ni,) ₃	congeners)	ğ		0	(0.0 m (0.0)	4 4 +			Het:					
				(626)	568-669	1		Fe,	allo	3+1		ğ	(900) (901) (901) (901)	+	<u>₹</u>		AI, I					
Sampler: 5	Dew	son		1	lumber:			ğ F	(and	2	S	d's	Pha H-3) Pha 37 37	(625	Į∄		Fe,					
Grand					568-651	5		မ်ိဳ မို		0 ⁴	13	cide	s Al bine SS-1.	S		lide	ic ⊢ °					
Sample Description	Sample Matrix	Container Type	# of Cont.	Dat	mpling ie/Time	Preservative	Bottle #	Total R Hg, B, CaCO ₃	TCDD (Cl ⁻ , SO ₄ , NO ₃ +NO ₂ -N, F, Perchlorate	TDS, TSS	Pesticides/PCBs , Chlorpyrifos, Diazinon PP	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)	SVOCs (625)	Chronio Toxicity	Cyanide	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg. B, V, Tl, Fe, Al, Ni + PP, Hardness as CaCO ₃				Ion Flow	
Outfall 006	w	1L Poly	1	3/2/10	0 - 1108	HNO ₃	7A ⁴	X							Π							1
Outfall 006 Dup	w	1L Poly	1		1	HNO ₃	7B	х				1			\square					-		1
Outfall 006	w	1L Amber	2			None	8A, 8B	1	х						ΗT							1
Outfall 006	w	500 mL Poly	2			None	9A, 9B	1		x					\square							1
Outfall 006	w	500 mL Poly	2			None	10A, 10B				x											1
Outfall 006	w	1L Amber	2			None	11A, 11B	1				x			Π	T						1
Outfall 006	w	2.5 Gal Cube	1.			None	12A 🦿	'							Π						Unfiltered and unpreserved	1
Outrail 006	vv	500 mL Amber	1.			None	12B						×								analysis	
Outfall 006	w	1L Amber	2			None	13A, 13B							x								
-Outfall 006-		-1-Gal-Poly-	- 4-	-+		None									k							- 20
Outfall 006	w	500 mL Poly	1			NaOH	15 *									x					······································	1
Outfall 006	w	1L Poly	1.	4	7	None	16										x				Filter w/in 24hrs of receipt at	1
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LABORATORY REPORT



March 15, 2010 Date: "dedicated to providing quality aquatic toxicity testing" **Client:** Test America – Irvine 4350 Transport Street, Unit 107 Ventura, CA 93003 17461 Derian Ave., Suite 100 (805) 650-0546 FAX (805) 650-0756 Irvine, CA 92614 Attn: Heather Clark CA DOHS ELAP Cert. No.: 1775 A-10030905-001 Laboratory No.: Sample ID.: ITC0989 (Outfall 006) The sample was received by ATL in a chilled state, within the recommended hold Sample Control: time and with the chain of custody record attached. 03/08/10 Date Sampled:

03/09/10
4.1°C
0.0 mg/l
03/09/10 to 03/13/10

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:

Sample ID. ITC0989 $\frac{\text{Results}}{100\%}$ Survival (TUa = 0.0)

Quality Control:

Reviewed and approved by:

Joseph A. I

Laboratory Director



Lab No.: A-10030905-001 Client/ID: TestAmerica Outfall 006 パモニ しゅ 89

Start Date: 03/09/2010

TEST SUMMARY

TEST DATA

Species: Pimephales promelas. Age: <u>/</u>(1-14) days. Regulations: NPDES. Test solution volume: 250 ml. Feeding: prior to renewal at 48 hrs. Number of replicates: 2. Dilution 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 Batch No.: RT-100302.

		°C	DÖ	pН	# D A	ead B	Analyst & Time of Readings
	Control	19.4	9.0	7.7	0	0	An
INITIAL	100%	19.8	11.2	7.2	ρ	0	150
	Control	19.2	7.7	7.5	0	0	R
24 Hr	100%	19.1	7.9	2.9	0_	D	1400
	Control	19.0	7.4	7.5	0	0	pr
48 Hr	100%	19.1	7.2	7.9	0	0	1400
	Control	19.6	9.2	7.8	0	0	1400
Renewal	100%	20.2	11.3	7.3	0	0	
	Control	19.2	7.3	7.4	0	D	1500
72 Hr	100%	19.2	6.7	7.7	0	0	1500
	Control	20.3	6.8	7.3	0	0	Rn 1400
96 Hr	100%	20.3	7.4	7.8	0	0	1400
Comments: Sample as rec DO: //,2	eived: Chlorine: 0.0 Lmg/l; Alkalinity:	mg/l; pH:_ {/_mg/l; Ha	<u>7.2</u> ; Con ardness: <u>/5</u>	ductivity:	<u>396</u> un 1 ₃ -N: <u>0</u>	nho; Ten <u>3_</u> mg/1.	np: 4.1ºC;

RESULTS

Percent Survival In: Control: // 100% Sample: // %		
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Test America version 6/29/09

CHAIN OF CUSTODY FORM

Page 1 of 2

Tests Project Project Analysis REGURED 00 00 Sales 200 GAS Anal Outsing Services at FSD-2 Analysis REGURED 01 Sommater at FSD-2 Anal Outsing Anal Outsing Anal Outsing Anal Outsing 01 Sommater at FSD-2 Borowyn fely Promyn fely Anal Outsing Anal Outsing 01 Sommater at FSD-2 Borowyn fely Promyn fely Promyn fely Promyn fely 02 Sommater at FSD-2 Borowyn fely Promyn fely Promyn fely Promyn fely 03 Mark Sommater at FSD-2 X Nonnes Promyn fely Promyn fely Promyn fely 03 Mark Sommater at FSD-2 X Nonnes X X X X X X 03 Mark Sommater at FSD-2 X X X X X X X X 03 Mark Sommater at FSD-2 X X X X X X X X 04 Code SA X X X X X X X X 03 Mark Sommater at FSD-2 X X X X X X X X	Γ			~]
Project: Project: Boeing-SSFL NPDES Annual Outfall 006 Annual Outfall 006 Annual Outfall 006 Stormwater at FSDF-2 Ily Fax Number: (626) 568-6691 Fax Number: (626) 568-6691 Fax Number: (626) 568-6691 Fax Number: (626) 568-6515 Fax Number: (626) 568-6515 Fax Number: (626) 568-6516 Fax Number: (626) 568-6515 Fax Number: (626) 568-6515 Fax Number: (626) 568-6516 Fax Number: (626) 568-6516 Fax Number: (626) 568-6516 Sampling Preservature BateTime Processed (1664-HEM) Date Time A, AB, AC None S, A, B, B, C Diate Time A, AB, AC Diate Time None S/8/foo - root A, AB, AC S/8/foo - (1/1/1			Field readings: (Log in and include in	report Temp and pH	Temp "F = \$'(. 	DH = 7.6		Time of readings =	20051	Low Flow Comments											rder.						
Project: Project: Boeing-SSFL NPDES Annual Outfall 006 Annual Outfall 006 Annual Outfall 006 Stormwater at FSDF-2 Ily Fax Number: (626) 568-6691 Fax Number: (626) 568-6691 Fax Number: (626) 568-6691 Fax Number: (626) 568-6515 Fax Number: (626) 568-6515 Fax Number: (626) 568-6516 Fax Number: (626) 568-6515 Fax Number: (626) 568-6515 Fax Number: (626) 568-6516 Fax Number: (626) 568-6516 Fax Number: (626) 568-6516 Sampling Preservature BateTime Processed (1664-HEM) Date Time A, AB, AC None S, A, B, B, C Diate Time A, AB, AC Diate Time None S/8/foo - root A, AB, AC S/8/foo - (1/1/1	8																				vork o						
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REFERENCE TOXICANT DATA

FATHEAD MINNOW ACUTE Method 2000.0 Reference Toxicant - SDS



QA/QC Batch No.: RT-100302

TEST SUMMARY

Species: Pimephales promelas. Age: //4 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

		INITIAI				24 Hr					48 Hr		
Date/Time:	3-2-	10	1400	3	-3-10		/	Sau	3-4	-10		13	a
Analyst:		R	{		/	R				/	en		
	°C	DO	pН	°C	DO	pН	# D	Dead	°C	DO	pН	# D	ead
	Ŭ	50	pii	Ŭ	20	P	A	В			P	A	В
Control	20.2	9.0	7.7	19.2	8.1	7.7	0	0	19.0	8.2	2.7	0	0
1.0 mg/l	20.2	9.0	7.7	19.2	7.9	7.6	0	0	19.1	8.1	7.7	0	0
2.0 mg/l	20.2	9.1	7.7	19.3	7.8	7.6	0	U	19.1	8.2	7.6	0	0
4.0 mg/l	20.2	9.1	7.7	19.4	7.3	7.5	2	1	19.2	7.9	7.6	0	0
8.0 mg/l	8.0 mg/1 20.2 9.1 7.7 19.5 5.2 7.3 10 10												-
RENEWAL 72 Hr 96 Hr													
Date/Time: 3-4-10 1300 3-5-10 1300 3-6-10 1400													
Analyst:		An				<u>~</u>					en		
	°C	DO	pН	°C	DO	pН	# D	Dead	°C	DO	pН	# D	ead
			P.1				A	В				A	В
Control	19.7	9.1	7.8	19.1	7.2	7.3	U	0	19.8	6.8	2.4	0	0
1.0 mg/l	19.7	9.1	7.8	19.1	7.3	7.3	0	0	19.8	6.8	7.4	0	D
2.0 mg/l	19.7	9.2	7.8	19.0	7.6	7.4	0	0	19.9	6.7	2.4	0	0
4.0 mg/1 19.7 9.2 7.8 19.0 7.1 7.3 0 0 20.0 7.0 7.5 0 0													
8.0 mg/l		-	-		-	-	-	-		-	-	\frown	
Comments:	Contro SDS:	ol: Alka Alka	linity: linity:	72 m 72 m	g/l; Har g/l; Har	dness: dness:	97 r 98 r	ng/l; Co ng/l; Co	onductivit onductivit	y: <u>35</u> y: <u>34</u>	2 umh 5 umh	0. 0.	
Concent	ration-re	¥e	s) respo	nse curv	e norma				analysis):	:			

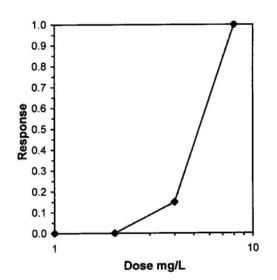
				Acute Fish Test-96	Hr Survival	
Start Date:	3/2/2010	14:00	Test ID:	RT100302	Sample ID:	REF-Ref Toxicant
End Date:	3/6/2010	14:00	Lab ID:	CAATL-Aquatic Testing Labs	s Sample Type:	SDS-Sodium dodecyl sulfate
Sample Date:	3/2/2010		Protocol:	ACUTE-EPA-821-R-02-012	Test Species:	PP-Pimephales promelas
Comments:						
Conc-mg/L	1	2				
D-Control	1.0000	1.0000				
1	1.0000	1.0000				
2	1.0000	1.0000				
4	0.8000	0.9000				-1
8	0.0000	0.0000				

			Number	Total					
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	Resp	Number
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	0.8500	0.8500	1.1781	1.1071	1.2490	8.517	2	3	20
8	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20

Statistic

Auxiliary Tests Normality of the data set cannot be confirmed Equality of variance cannot be confirmed

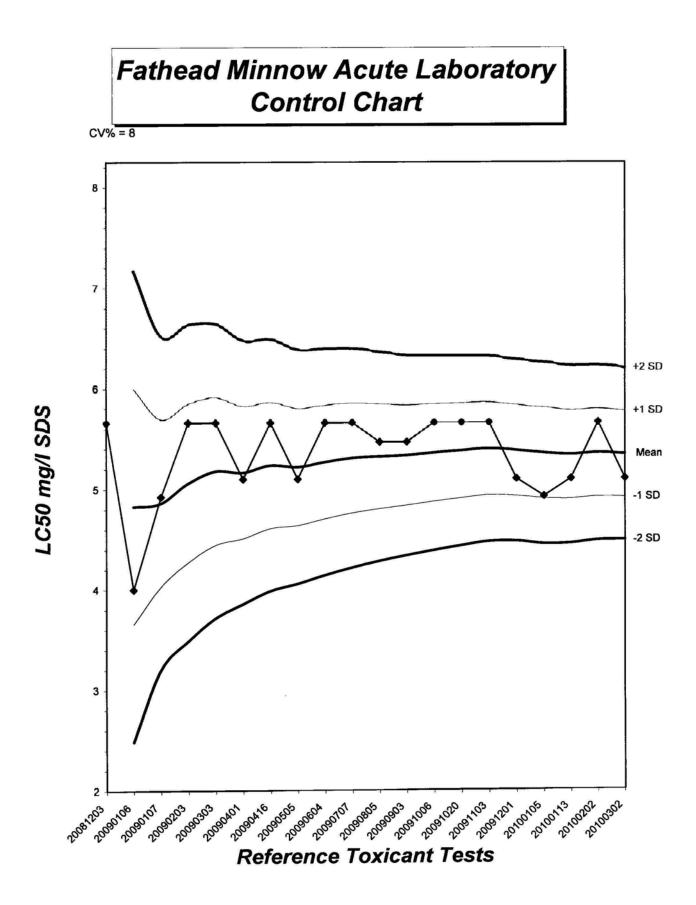
Equality of Fail				Trimmed Spearman-Karber
Trim Level	EC50	95%	CL	-
0.0%	5.0982	4.5640	5.6950	
5.0%	5.2099	4.5766	5.9309	
10.0%	5.2897	4.4710	6.2583	1.0 —
20.0%	5.3212	4.9289	5.7449	0.9
Auto-0.0%	5.0982	4.5640	5.6950	0.9



Critical

Skew

Kurt



TEST ORGANISM LOG



FATHEAD MINNOW - LARVAL (Pimephales promelas)

QA/QC BATCH NO .: RT-100302
SOURCE: In-Lab Culture
date hatched: $2 - 16 - 10$
APPROXIMATE QUANTITY: $\mathcal{A}\mathcal{W}$
GENERAL APPEARANCE:
MORTALITIES 48 HOURS PRIOR TO TO USE IN TESTING:
DATE USED IN LAB: <u>31210</u>
AVERAGE FISH WEIGHT: <u>0-006</u> 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.: <u>ZG. Z</u> °C	pH: <u>7-</u>) Am	monia: <u>∠0-/</u> mg/l NH ₃ -N
DO: <u>9.0</u> mg/l	Alkalinity: <u> </u>	Hardness: <u>97</u> mg/l

READINGS RECORDED BY:	m	DATE:	3-3-10
	V		

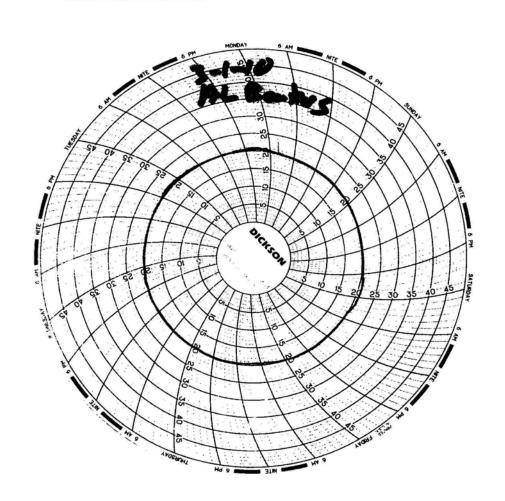


Test Temperature Chart

Test No: **RT-100302**

Date Tested: 03/02/10 to 03/06/10

Acceptable Range: 20+/- 1°C





TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. ITC0989

MWH-Pasadena Boeing

Lot #: F0C110508

Debbie Wilson

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

TESTAMERICA LABORATORIES, INC.

Lynn Fussner

Project Manager

April 5, 2010

Case Narrative LOT NUMBER: F0C110508

This report contains the analytical results for the sample received under chain of custody by TestAmerica St. Louis on March 11, 2010. This sample is associated with your MWH-Pasadena Boeing project.

The analytical results included in this report meet all applicable quality control procedure requirements, except as noted below.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by TestAmerica St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. **TestAmerica St. Louis' Florida certification number is E87689.** The case narrative is an integral part of this report.

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

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

Observations/Nonconformances

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

Radium-226 by GFPC (EPA 903.0 MOD)

There was insufficient sample volume to perform MS/MSD analysis. A LCS/LCSD was performed to demonstrate accuracy and replicate precision.

Affected Samples:

F0C110508 (1): ITC0989-03

Radium-228 by GFPC (EPA 904 MOD)

There was insufficient sample volume to perform MS/MSD analysis. A LCS/LCSD was performed to demonstrate accuracy and replicate precision.

Affected Samples:

F0C110508 (1): ITC0989-03

METHODS SUMMARY

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F0C110508

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

References:

ASTM Annual Book Of ASTM Standards.

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

SAMPLE SUMMARY

F0C110508

WO # SAMPLE# CLIENT SAMPLE ID	SAMPLED SAMP DATE TIME
LWJRQ 001 ITC0989-03	03/09/10 11:08
NOTE (S) :	
- The analytical results of the samples listed above are presented on the following pages.	
- All calculations are performed before rounding to avoid round-off errors in calculated results.	
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- Results noted as "ND" were not detected at or above the stated limit.

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

- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor,

paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

TestAmerica Irvine

Client Sample ID: ITC0989-03

Radiochemistry

Lab Sample ID: Work Order: Matrix:	FOC110508-00: LWJRQ WATER	1		Date Collec Date Receiv		/10 1108 /10 0930	
Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	mdc	Prep Date	Analysis Date
Gamma Cs-137 & Hi	ts by EPA 901.1	L MOD		pCi/L	Batch # 0	074318	Yld %
Cesium 137	-2.2	U	9.0	20.0	16	03/15/10	03/22/10
Potassium 40	-80	υ	3300		300	03/15/10	03/22/10
Gross Alpha/Beta	EPA 900			pCi/L	Batch # 0	076134	Yld %
Gross Alpha	0.7	U	1.2	3.0	2.0	03/17/10	03/20/10
Gross Beta	3.6	J	1.0	4.0	1.2	03/17/10	03/20/10
SR-90 BY GFPC EE	PA-905 MOD			pCi/L	Batch # 0	071130	Yld % 63
Strontium 90	-0.10	U	0.39	3.00	0.68	03/12/10	03/25/10
TRITIUM (Distill)	by EPA 906.0 h	10D		pCi/L	Batch # 0	077060	Yld %
Tritium	73	U	92	500	150	03/18/10	03/24/10
Total Uranium by	KPA ASTM 5174-9) 1		pCi/L	Batch # 0	083129	Yld %
Total Uranium	0.441	J	0.050	0.677	0,21	03/24/10	03/29/10
Radium 226 by EF	PA 903.0 MOD			pCi/L	Batch # 0	071128	Yld % 103
Radium (226)	0.070	J	0.041	1.00	0.050	03/12/10	04/05/10
Radium 228 by GFF	C EPA 904 MOD			pCi/L	Batch # 0	071129	¥ld % 91
Radium 228	0.11	U	0.26	1.00	0.44	03/12/10	03/29/10

NOTE (S)

Data are incomplete without the case narrative.

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

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

U Result is less than the sample detection limit.

F0C110508

5 of 13

METHOD BLANK REPORT

Radiochemistry

Matrix:	WATER							
Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC		Prep Date	Lab Sample ID Analysis Date
Total Uranium k	DY KPA ASTM 517	4-91	pCi/L	Batch #	0083129	Yld %	I	F0C240000-129B
Total Uranium	0.269	J	0.033	0.677	0.21		03/24/10	03/29/10
Radium 226 by	EPA 903.0 MOD		pCi/L	Batch #	0071128	Yld %	106 H	F0C120000-128B
Radium (226)	0.059	J	0.040	1.00	0.053		03/12/10	04/05/10
Radium 228 by G	SFPC EPA 904 MO	D	pCi/L	Batch #	0071129	Yld %	90 I	F0C120000-129B
Radium 228	-0.06	σ	0.23	1.00	0.41		03/12/10	03/29/10
SR-90 BY GFPC	EPA-905 MOD		pCi/L	Batch #	0071130	Yld %	78 H	70C120000-130B
Strontium 90	-0.04	σ	0.31	3.00	0.54		03/12/10	03/25/10
Gamma Cs-137 &	Hits by EPA 90	1.1 MOD	pCi/L	Batch #	0074318	Yld %	1	OC150000-318B
Cesium 137	3.6	σ	7.8	20.0	14		03/15/10	03/22/10
Potassium 40	-90	Ū	3600		200		03/15/10	03/22/10
Gross Alpha/Bet	ta EPA 900		pCi/L	Batch #	0076134	Yld %	I	r0c170000-134B
Gross Alpha	0.16	U	0.39	2.00	0,71		03/17/10	03/21/10
Gross Beta	0.66	υ	0.70	4.00	1.1		03/17/10	03/21/10
TRITIUM (Disti)	Ll) by EPA 906.	0 MOD	pCi/L	Batch #	0077060	Yld %	1	TOC180000-060B
Tritium	83	U	94	500	150		03/18/10	03/23/10

NOTE (S)

Client Lot ID:

F0C110508

Data are incomplete without the case narrative.

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

J Result is greater than sample detection limit but less than stated reporting limit. F0C110508

Laboratory Control Sample Report

Radiochemistry

Client	Lot	ID:	F0C110508
Matrix:	:		WATER

			Total				Lab Sample ID			
Parameter	Spike Amount	Result		Uncert. (2 σ+/-)		MDC	% Yld	% Rec	QC Control Limits	
Gamma Cs-137 & Hits	by EPA 901.1	MOD	pCi/L		901.1	MOD		F0C1	.50000-318C	
Americium 241	141000	140000		11000		500		99	(87 - 110)	
Cesium 137	53100	53200		3100		200		100	(90 - 110)	
Cobalt 60	87900	86800		4900		200		99	(89 - 110)	
	Batch #:	0074318				Analysis Date:	03/22	2/10		
Gross Alpha/Beta EPA	900		pCi/L		900.0	MOD		F0C1	.70000-134C	
Gross Beta	67.9	71.7		6.1		1		106	(58 - 133)	
	Batch #:	0076134				Analysis Date:	03/2	L/10		
Gross Alpha/Beta EPA	900		pCi/L		900.0	MOD		FOCI	70000-134C	
Gross Alpha	49.4	56.6		6.2		1.0		114	(62 - 134)	
	Batch #:	0076134				Analysis Date:	03/2	1/10		
TRITIUM (Distill) by	EPA 906.0 M	מכ	pCi/L		906.0	MOD		FOCI	.80000-060C	
Tritium	4510	4450		470		150		99	(85 - 112)	
	Batch #:	0077060				Analysis Date:	03/23	3/10		
Total Uranium by KPA	ASTM 5174-9	1	pCi/L		5174-	91		F0C2	240000-129C	
Total Uranium	27.1	26.9		3.2		0.2		99	(90 - 120)	
	Batch #:	0083129				Analysis Date:	03/2	9/10		
Total Uranium by KPA	ASTM 5174-9	1	pCi/L		5174-	91		FOC	240000-129C	
Total Uranium	5.42	5,50		0.57		0.21		102	(90 - 120)	
	Batch #:	0083129				Analysis Date:	03/2	¤/1∩		

Laboratory Control Sample/LCS Duplicate Report

Radiochemistry

Client Lot ID:	F0C110508
Matrix:	WATER

				Total			Lab	Sample ID
Parameter	Spike Amount	Result		Uncert. (2 σ+/-)	% Yld	% Rec	QC Control Limits	Precision
Radium 226 by EPA	903.0 MOD		pCi/L	903.0	MOD		F0C1	20000-128C
Radium (226) Spk 2	11.3 11.3 Batch #:	10.1 10.2 0071128		0.88 0.88	109 107 Analysi	90 91	(68 - 136) (68 - 136) 04/05/10	0.9 %RPD
Radium 228 by GFPC			pCi/L	904 M	-			20000-129C
Radium 228 Spk 2	6.35 6.35 Batch #:	6.25 6.46 0071129		0.76 0.78	99 95 Analysi	98 102 s Date:	(60 - 142) (60 - 142) 03/29/10	3 %rpd
SR-90 BY GFPC EPA-	905 MOD		pCi/L	905 M	IOD		F0C1	20000-130C
Strontium 90 Spk 2	6.78 6.78 Batch #:	7.29 7.72 0071130		0.88 0.90	73 77	107 114 s Date:	(80 - 130) (80 - 130) 03/25/10	6 %RPD

NOTE (S)

MATRIX SPIKE REPORT

Radiochemistry

Client Lot Id:	F0C090512	Date Sampled:	03/07/10
Matrix:	WATER	Date Received:	03/09/10

			Total		Total	QC Sampl	e ID
Parameter	Spike Amount	Spike Result	Uncert. (2g +/-)	Spike Sample Yld. Result	€ Uncert.	%YLD %REC	QC Control Limits
TRITIUM (Distill) by EF	A 906.0 MC	D	pCi/L	906.0 MC	DD	F0C09051;	2-001
Tritium	4510	4170	440	-17	74	93	(62 - 147)
	Batch #:	0077060	Ar	alysis Date:	03/24/10		
Gross Alpha/Beta EPA 90	0		pCi/L	900.0 MC	DD	F0C12053	0-001
Gross Alpha	49.4	44.0	5.5	0.04	0,75	89	(35 - 150)
	Batch #:	0076134	Ar	alysis Date:	03/20/10		
Gross Alpha/Beta EPA 90	0		pCi/L	900.0 M	סכ	F0C12053	0-001
Gross Beta	67.9	66.4	5.7	0.83	0.70	96	(54 ~ 150)
	Batch #:	0076134	Ar	alysis Date:	03/20/10		

NOTE (S)

Data are incomplete without the case narrative.

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

MATRIX SPIKE/MATRIX SPIKE DUPLICATE REPORT

Client Lot ID Matrix:	- 1	OC110508 MATER						ampled: eceived:	03/09 03/13		1108 0930
Parameter		Spike Amount	SPIKE Result	Total Uncert. (2 g+/-)	Spike Yld	SAMPLE Result		Total Uncert. (2g +/-)	% ¥ld	QC Samp: %Rec	le ID QC Control Limits
Total Uranium b	oy KPA	ASTM 5		pCi/L	5	174-91			F(C1105	08-001
Total Uranium		27.1	27.9	3.3		0.441	J	0.050		101	(62 - 150)
	Spk2	27.1	28.4	3.4		0.441	J	0.050 Preci	sion:	103 2	(62 - 150) %RPD
		Batch	#: 0083129	Ana	alysis da	ate:	03/2	9/10			

Radiochemistry

NOTE (S)

Data are incomplete without the case narrative.

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

DUPLICATE EVALUATION REPORT

Radiochemistry

Client Lot ID:	F0C110508	Date Sampled:	03/07/10
Matrix:	WATER	Date Received:	03/09/10

			Total				Total		QC Sample ID	
Parameter	SAMPLE Result		Uncert. (2 g +/-)	% Yld	DUPLICA Result	TE	Uncert. (2 σ+/-)	% Yld	Precisio	on
TRITIUM (Distill)	by EPA 90	6.0 MC	מכ	pCi/L	906.	0 MOD		F(0090509-00	1
Tritium	34	U	87		-26	U	72		1480	&RPD
	Bai	cch #:	0077060	(Sample)	0077	060 (Di	uplicate)			
Gamma Cs-137 & Hi	ts by EPA	901.1	MOD	pCi/L	901.	1 MOD		F(C110508-00	1
Cesium 137	-2.2	υ	9.0		0.0	U	11		200	% RPD
Potassium 40	-80	υ	3300		5	U	100		228	%RPD
	Bai	coh #:	0074318	(Sample)	0074	318 (Di	uplicate}			
Gross Alpha/Beta	EPA 900			pCi/L	900.	0 MOD		E.(0C120530-00	1
Gross Alpha	0.04	U	0.75		1.2	U	1.0		187	% RPD
Gross Beta	0.83	U	0.70		-0.13	U	0.58		274	%RPD
	Bat	:ch #:	0076134	(Sample)	0076	134 (Du	uplicate)			

NOTE (S)

Data are incomplete without the case narrative.

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

U Result is less than the sample detection limit.

2170 SUI

FOC110508

SUBCONTRACT ORDER TestAmerica Irvine

ITC0989

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

Analysis	Units	Due	Expires	Interiab Price S	urch	Comments
Sample ID: [TC0989-03 ((Outfall 006 (Co	mposite) - Wai	ter) Sampled	i: 03/09/10 11:08	3	
Gamma Spec-O	mg/kg	03/18/10	03/09/11 11:08	and the second se	50%	Out St Louis, k-40 and cs-137 only, DC NOT FILTER!
Gross Alpha-O	pCi/L	03/18/10	09/05/10 11:08	\$90. 00	50%	Out St Louis, Boeing permit, DO NOT FILTERI
Gross Beta-O	pCi/L	03/18/10	09/05/10 11:08	\$90.00	50%	Out St Louis, Boeing permit, DO NOT FILTERI
Radium, Combined-O	pCi/L	03/18/10	03/09/11 11:08	\$\$200.00	50%	
Strontium 90-O	pCi/L	03/18/10	03/09/11 11:08	\$140.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Tritlum-O	pCi/L	03/18/10	03/09/11 11:08	\$80.00	50%	Out St Louis, Boeing permit, DO NOT
Uranium, Combined-O	pCi/L	03/18/10	03/09/11 11:08	\$100.00	50%	
Containers Supplied:						
2.5 gal Poly (K)	500 mL Aml	oer (L)				

Released By

3/10/10 17:00 Date/Time

Date/Time

Received By m Received By

012:00 Date/Time Page 1 of 1 Date/Time

Released By

F0C110508

12 of 13

TestAme	erica	Lot #(s):	FOC 11057	9	
THE CEADER IN ENVIRONM	ENTAL TESTING		******		
Client: Quote No:			,		
	100	·r	Date: <u>8</u> -	ニーク	
Initiated By:	HAD .		nformation		
Shipper: (Fe Shipping # (s):*	dex UPS DHL Courier	Client (Other:	Sample Te	Multiple Packages: Y
					mbiut 6
			Nyaka - 14		
					9.
					10.
*Numbered shipping lines	correspond to Numbered Sample Temp line for yes, "N" for no and "N/A" for not applic	**Sa vari:	ample must be receiv	ed at 4°C ± 2°C- II	not, note contents below. Temperature etals-Liquid or Rad tests- Liquid or Solids
1. Ø N	Are there custody seals present on cooler?		Y N)	Are there cu	stody seals present on bottles?
2. Y N N/A	Do custody seals on cooler appear tampered with?	to be 9.	Y N NA	Do custody a tumpered wi	seals on bottles appear to be th?
3. YN	Were contents of cooler frisked aft opening, but before unpacking?	:er 10	YN NA		received with proper pH'? (If not,
4. Y N	Sample received with Chain of Custody?	11	Ŷ N		ived in proper containers?
5. (Y) N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12	X N NA	Headspace in (If Yes, note sa	n VOA or TOX liquid samples? ample ID's below)
6. Y 🕅	Was sample received broken?	13	. (y) n n/a	and the second se	COC/Workshare received?
7. Y N	Is sample volume sufficient for analysis?	14	. 🖉 N N/A	Was pH take	en by original TestAmerica lab?
¹ For DOE-AL (Pantex, La Notes:	ANL, Sandia) sites, pH of ALL containers re	ceived must be	verified, EXCEPT	/OA, TOX and sol	18.
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Corrective Action;	τριπό το τριπότει στα δετορεία το το το το αποτολογία στο το τ	•			(fad yw an 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1
Client Contact N			Informed by:		
 Sample(s) process Sample(s) on hold Project Management 	d until:		leased, notify: _ Date: _	3-14-10	
THIS FORM MUST BE O THE INITIATOR, THEN	COMPLETED AT THEIR INB THE ITEMS A THAT PERSON IS REQUIRED TO APPLY A	Y THEIR INI'I	'IAL AND 'THE DA'	FB NEXT TO THA	IPLETED BY SOMEONE OTHER THAN AT ITEM. RMS/ST-LOUIS/ADMIN/Admin004 rey11.doc

APPENDIX G

Section 26

Outfall 006 – BMP Effectiveness March 8, 2010 Test America Analytical Laboratory Report THIS PAGE LEFT INTENTIONALLY BLANK

<u>TestAmerica</u>

THE LEADER IN ENVIRONMENTAL TESTING

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

LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project: BMP Effectiveness 2009 Effectiveness Monitoring

Sampled: 03/08/10 Received: 03/10/10 Issued: 03/21/10 09:31

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

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

is an integral part of this report.

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

LABORATORY ID

ITC1151-01

CLIENT ID 006 EFF-1

MATRIX

Water

Reviewed By:

Debby Wilson

TestAmerica Irvine Debby Wilson For Heather Clark Project Manager



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

MWH-Pasadena/BoeingProject ID:BMP Effectiveness 2009618 Michillinda Avenue, Suite 200Effectiveness MonitoringSampled:03/08/10Arcadia, CA 91007Report Number:ITC1151Received:03/10/10Attention: Bronwyn KellySampled:03/10/1003/10/10

		INC	DRGA	NICS					
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result		Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITC1151-01 (006 EFF-1 - W Reporting Units: g/cc	ater) Displacement	10C2375	N/A	NA	0.99	1	03/18/10	03/18/10	
Density Sample ID: ITC1151-01 (006 EFF-1 - W Reporting Units: mg/l	1	10C2373	N/A	NA	0.99	1	03/18/10	03/18/10	
Sediment	ASTM D3977	10C2377	10	10	ND	1	03/08/10	03/08/10	



MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: BMP Effectiveness 2009 Effectiveness Monitoring Report Number: ITC1151

Sampled: 03/08/10 Received: 03/10/10

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

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10C2375 Extracted: 03/18/1	0									
Duplicate Analyzed: 03/18/2010 (10C23	575-DUP1)			Sou	urce: ITC1151-01					
Density	0.992	NA	N/A	g/cc		0.992		0.05	20	



MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: BMP Effectiveness 2009 Effectiveness Monitoring Report Number: ITC1151

Sampled: 03/08/10 Received: 03/10/10

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

DATA QUALIFIERS AND DEFINITIONS

ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.

RPD Relative Percent Difference

TestAmerica Irvine Debby Wilson For Heather Clark Project Manager



MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: BMP Effectiveness 2009 Effectiveness Monitoring Report Number: ITC1151

Sampled: 03/08/10 Received: 03/10/10

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

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
ASTM D3977	Water		
Displacement	Water		

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

Test Ame									Page 1 of 1							
Client Name/A							REQUI	RED								
MWH-Arcad				Effectivenes	ss Monitorin	g							T			
618 Michillinda	Avenue,	Suite 200		Program			4									- CITI
Arcadia, CA 91	007						t ASTM-						1			77(15)
Test America C	Contact:	Joseph Doak					, A t									ITC115
Project Manag	ger: Bro	nwyn Kelly		Phone Numb			SSC									
				(626) 568-66			Sec (Comments
Sampler: E Walker			Phone Number: (626) 568-6691 Fax Number: (626) 568-6515 Sampling Date/Time Preservative Bottle # of			led 997										
				(020) 508-05	10		end ent									
Sample	Sample	Container	# of	Sampling	Preservative	Dattle #	anc 397									
Description	Matrix	Туре	Cont.	Date/Time												
006 EFF-1	W	1 Gal Poly	1	3/8/10 - 1108	None	1	X									
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Relinquished By			Date/Tim		Received By	-s /	7		Date/							Turn around Time: (check)
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Relinquished By	10		Date/Tim		Received By			1	Date/	Time:						48 Hours 10 Days
SULAT	ViXI	2-3	-10-	10 14:55	MAR	: Mur	//	1	5-11	1-10		11:5	5			72 Hours NormalX_
Relinguished By	¥/*		Date/Tim		Received By	<u></u>			Date/		/	1				Sample Integrjty: (check)
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Yaat //	Mus	1/3-(6-10	(7.30	\bigvee	BA	n li		3/1	0/	, , >-	17	:30)		
	-1	$ \rightarrow $		···		1-20	<u>v ~ ~ (</u>	·			<u> </u>	·/				·

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APPENDIX G

Section 27

Outfall 008 – January 18, 2010 MEC^X Data Validation Report THIS PAGE LEFT INTENTIONALLY BLANK



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ITA1358

Prepared by

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

I. INTRODUCTION

Task Order Title: Contract Task Order:	Boeing SSFL NPDES 1261.100D.00
Sample Delivery Group:	ITA1358
Project Manager:	B. Kelly
Matrix:	Water
QC Level:	IV
No. of Samples:	1
No. of Reanalyses/Dilutions:	1
Laboratory:	TestAmerica-Irvine

Client ID	Laboratory ID	Sub- Laboratory ID	Matrix	Collected	Method
Outfall 008 (Composite)	ITA1358-02	F0A210532 -001, G0A210542 -001	Water	2:08:00 PM	ASTM 5174-91, 200.8, 200.8 (Diss), 245.1, 245.1-Diss, 1613B, 900.0 MOD, 901.1 MOD, 903.0 MOD, 904 MOD, 905 MOD, 906.0 MOD
	ITA1358- 02RE	F0A210532 -001,	Water	1/18/2010 2:08:00 PM	900.0 MOD

Table 1. Sample Identification

II. Sample Management

No anomalies were observed regarding sample management. The sample receipt temperature was not noted by TestAmerica-St Louis; however, due to the nonvolatile nature of the analytes, no qualifications were required. The samples in this SDG were received at the remaining laboratories within the temperature limits of $4^{\circ}C \pm 2^{\circ}C$. 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 present upon receipt at TestAmerica-West Sacramento and TestAmerica-St. Louis. As the samples were delivered to the remaining laboratories by courier, no custody seals were necessary. If necessary, the client ID was added to the sample result summary by the reviewer.

Qualifie	or 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.
Ν	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.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
н	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
С	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.
В	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.
Е	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
А	Not applicable.	ICP Serial Dilution %D were not within control limits.
Μ	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
Т	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

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.
Ρ	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.
*11, *111	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: February 25, 2010

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

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.
- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.
 - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was analyzed with 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 ≤20% for the 16 native compounds (calibration by isotope dilution) and ≤35% for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the Method 1613 QC limits for all standards.
 - Continuing Calibration: Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VERs were acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits.
- Blanks: The method blank had detects between the EDL and the RL for more than half of all compounds, including all of the HxCDD isomers and total HxCDD, 1,2,3,6,7,8-HpCDD and total HpCDD, OCDD, total HxCDF and all of the HxCDF isomers except 1,2,3,4,7,8-HxCDF, 1,2,3,4,6,7,8-HpCDF and total HpCDF, and OCDF. Any sample detects for individual target compound isomers present at concentrations less than five times the

method blank concentrations were qualified as nondetected, "U," at the RL. Several detects in the method blank did not meet ratio criteria and were reported as EMPCs; however, due to the extent of contamination present in the method blank, it was the reviewer's professional opinion that those results be utilized to qualify applicable sample results. Results for totals that included peaks meeting ratio criteria that were not present in the method blank were qualified as estimated, "J," as only a portion of the total was considered method blank contamination. Total HxCDF did not contain any of the same peaks as the method blank and was therefore not qualified. The concentrations of 1,2,3,4,6,7,8-HpCDD and 1,2,3,4,6,7,8-HpCDF in the method blank were insufficient to qualify the sample results or associated totals.

- Blank Spikes and Laboratory Control Samples: OPR recoveries were within the acceptance criteria listed in Table 6 of Method 1613.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Internal Standards Performance: The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613.
- Compound Identification: Compound identification was verified. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613.
- Compound Quantification and Reported Detection Limits: Compound quantitation was verified by recalculating a representative number of reportable sample detects. The laboratory calculated and reported compound-specific detection limits. The result for OCDF was reported as an EMPC. As ratio criteria were not met, the result was qualified as an estimated nondetect, "UJ," at the reported concentration level. Any reported totals reported as EMPCs or that included EMPCs were qualified as estimated, "J." Any detects between the estimated detection limit (EDL) and the reporting limit (RL) were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Nondetects are valid to the EDL.

B. EPA METHODS 200.7, 200.8, and 245.1—Metals and Mercury

Reviewed By: P. Meeks Date Reviewed: February 26, 2010

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *MEC[×]* Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Methods 6010B, 6020, 7470A/7471A, and the National Functional Guidelines for Inorganic Data Review (7/02).

- Holding Times: Analytical holding times, six months for ICP and ICP-MS metals and 28 days for mercury, were met.
- Tuning: The mass calibration and resolution checks criteria were met. All tuning solution %RSDs were ≤5%, and all masses of interest were calibrated to ≤ 0.1 amu and ≤0.9 amu at 10% peak height.
- Calibration: Calibration criteria were met. Mercury initial calibration r² values were ≥0.995 and all initial and continuing calibration recoveries were within 90-110% for the ICP and ICP-MS metals and 85-115% for mercury. CRDL 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- (6010B) or laboratory-(6020) established control limits. Most analytes were detected in the ICSA solution; however, the reviewer was not able to determine if sample detects were due to matrix interference.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratoryestablished QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on the dissolved fraction. Recoveries and RPDs were within laboratory-established QC limits. Mercury 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: All sample internal standard intensities were within 30-120% of the internal standard intensities measured in the initial calibration. All CCV and CCB internal standard intensities were within 80-120% of the internal standard intensities measured in the initial calibration. Copper and zinc were not bracketed by internal

standards of a lower mass; therefore, copper and zinc detected in the sample were qualified as estimated, "J."

- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.

C. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks Date Reviewed: February 26, 2010

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

- Holding Times: The tritium sample was analyzed within 180 days of collection. The aliquot for total uranium was prepared beyond 3x the five-day holding time for unpreserved samples; therefore, the detected result for this analyte was qualified as estimated, "J." The aliquots for gross alpha and gross beta were prepared beyond the five-day analytical holding time for unpreserved samples; therefore, the detected results for these analytes were qualified as estimated, "J." Aliquots for radium-226, radium-228, strontium-90, and gamma spectroscopy were prepared within the five-day holding time for unpreserved aqueous samples.
- Calibration: The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability.

The gross alpha detector efficiency was less than 20%; therefore, the detected result for gross alpha was qualified as estimated, "J." The remaining detector efficiencies were greater than 20%.

The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. All chemical yields were at least 40% and were considered acceptable. The gamma spectroscopy analytes were determined at the maximum photopeak energy. The kinetic phosphorescence analyzer (KPA) was calibrated immediately prior to the sample analysis. All KPA calibration check standard recoveries were within 90-110% and were deemed acceptable.

- Blanks: Tritium was detected in the method blank but was not detected in the site sample. There were no other analytes detected in the method blanks or KPA CCBs.
- Blank Spikes and Laboratory Control Samples: The recoveries and RPDs (radium-226, radium-228, and strontium) were within laboratory-established control limits.
- Laboratory Duplicates: A laboratory duplicate analysis was performed on the sample in this SDG for the gamma spectroscopy analytes. There were no detects in either sample.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed for the sample in this SDG. Method accuracy was evaluated based on the LCS results.
- Sample Result Verification: An EPA Level IV review was performed for the sample in this data package. The sample results and MDAs reported on the sample result form were verified against the raw data and no calculation or transcription errors were noted. Any detects between the MDA 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 MDA.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: ITA1358

Analysis Method ASTM 5174-91

Sample Name	Outfall 008 (C	Matri	Matrix Type: WATER			Validation Level: IV		
Lab Sample Name:	ITA1358-02	Sample 2			0 2:08:00 PM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Uranium	7440-61-1	0.652	0.693	0.21	pCi/L	Jb	J	H, DNQ
Analysis Method	d EPA 2	200.8						

Sample NameOutfall 008 (Composite)Matrix Type:WaterValidation Level:IVLab Sample Name:ITA1358-02Sample Date:1/18/2010 2:08:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	ND	2.0	0.30	ug/l		U	
Cadmium	7440-43-9	0.25	1.0	0.10	ug/l	Ja	1	DNQ
Copper	7440-50-8	6.8	2.0	0.50	ug/l		J	*Ш
Lead	7439-92-1	7.9	1.0	0.20	ug/l			
Selenium	7782-49-2	ND	2.0	0.50	ug/l		U	
Thallium	7440-28-0	ND	1.0	0.20	ug/l		U	
Zinc	7440-66-6	47	20	5.0	ug/l		J	*Ш

Analysis Method EPA 200.8-Diss

Sample NameOutfall 008 (Composite)Matrix Type:WaterValidation Level:IVLab Sample Name:ITA1358-02Sample Date:1/18/2010 2:08:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony, dissolved	7440-36-0	ND	2.0	0.30	ug/l		U	
Cadmium, dissolved	7440-43-9	0.22	1.0	0.10	ug/l	Ja	J	DNQ
Copper, dissolved	7440-50-8	4.6	2.0	0.50	ug/l		J	*III
Lead, dissolved	7439-92-1	5.2	1.0	0.20	ug/l			
Selenium, dissolved	7782-49-2	ND	2.0	0.50	ug/l		U	
Thallium, dissolved	7440-28-0	0.29	1.0	0.20	ug/l	Ja	J	DNQ
Zinc, dissolved	7440-66-6	30	20	5.0	ug/l		J	*III

Sample Name	Outfall 008 (Co	omposite)	Matri	х Туре:	Water	١	alidation Le	vel: IV
Lab Sample Name:	ITA1358-02	Samp	ple Date:	1/18/2010	2:08:00 PM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	ND	0.00020	0.00010	mg/l		U	
Analysis Metho	od EPA 2	45.1-D	iss					
Sample Name	Outfall 008 (Co	omposite)	Matri	x Type:	Water	V	alidation Le	vel: IV
Lab Sample Name:	ITA1358-02	Samp	ole Date:	1/18/2010	2:08:00 PM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	ND	0.00020	0.00010	mg/l	С	U	
Analysis Metho	od EPA 9	00.0 M	!OD					
Sample Name	Outfall 008 (Co	omposite)	Matri	x Type:	WATER	V	alidation Le	vel: IV
Lab Sample Name:	ITA1358-02	Samp	ole Date:	1/18/2010	2:08:00 PM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587-46-1	25.8	3	3.8	pCi/L		J	H, C
Gross Beta	12587-47-2	25.4	4	4.4	pCi/L		1	Н
Analysis Metho	od EPA 9	01.1 M	IOD					
Sample Name	Outfall 008 (Co	omposite)	Matri	x Type:	WATER	V	alidation Le	vel: IV
Lab Sample Name:	ITA1358-02	Samp	ole Date:	1/18/2010	2:08:00 PM			
				MDL	Result	Lab	Validation	Validation
Analyte	CAS No	Result Value	RL	MDL	Units	Qualifier	Qualifier	Notes
	CAS No 10045-97-3		RL 20	17		Qualifier U		Notes
Cesium 137		Value			Units	-	Qualifier	Notes
Cesium 137 Potassium 40	10045-97-3 13966-00-2	Value -2.3 -30	20 0	17	Units pCi/L	U	Qualifier U	Notes
Cesium 137 Potassium 40	10045-97-3 13966-00-2	Value -2.3 -30 03.0 M	20 0 IOD	17 290	Units pCi/L	U U	Qualifier U	
Cesium 137 Potassium 40 Analysis Metho Sample Name	10045-97-3 13966-00-2 od EPA 9	Value -2.3 -30 03.0 M omposite)	20 0 IOD	17 290 x Type:	Units pCi/L pCi/L	U U	Qualifier U U	
Analyte Cesium 137 Potassium 40 <i>Analysis Metho</i> Sample Name Lab Sample Name: Analyte	10045-97-3 13966-00-2 od EPA 9 Outfall 008 (Co	Value -2.3 -30 03.0 M omposite)	20 0 VOD Matri	17 290 x Type:	Units pCi/L pCi/L WATER	U U	Qualifier U U	vel: IV

Analysis Method EPA 245.1

Sample Name	Outfall 008 (Co	omposite)	Matri	х Туре:	WATER	V	alidation Le	vel: IV
Lab Sample Name:	ITA1358-02	Samp	le Date:	1/18/201	0 2:08:00 PM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium 228	15262-20-1	-1.92	1	1.7	pCi/L	U	U	
Analysis Metho	od EPA 9	05 MO	D					
Sample Name	Outfall 008 (Co	omposite)	Matri	x Type:	WATER	V	Validation Le	vel: IV
Lab Sample Name:	ITA1358-02	Samp	le Date:	1/18/201	0 2:08:00 PM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098-97-2	0.26	3	0.77	pCi/L	U	U	
Analysis Metho	od EPA 9	06.0 M	OD					
Sample Name	Outfall 008 (Co	omposite)	Matri	x Type:	WATER	V	Validation Le	vel: IV
Lab Sample Name:	ITA1358-02	Samp	le Date:	1/18/201	0 2:08:00 PM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation	Validation
		value			Units	Quanner	Qualifier	Notes

Analysis Method EPA 904 MOD

Sample Name	Outfall 008 (Co	omposite)	Matri	x Type:	WATER	V	Validation Le	vel: IV
Lab Sample Name:	ITA1358-02	Samp	Sample Date: 1/18/2010		2:08:00 PM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822-46-9	0.00016	0.00005	0.000026	ug/L	В		
1,2,3,4,6,7,8-HpCDF	67562-39-4	5.8e-005	0.00005	0.000013	ug/L	В		
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.00005	0.000019	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.00005	0.000011	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.00005	0.000011	ug/L		U	
1,2,3,6,7,8-HxCDD	57653-85-7	ND	1.2e-005	0.00001	ug/L	J, Q, B	U	В
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.00005	0.000009	ug/L		U	
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.00005	0.000008	ug/L		U	
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.00005	0.000009	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	0.00005	0.000017	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.00005	0.000011	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.00005	0.000008	ug/L		U	
2,3,4,7,8-PeCDF	57117-31-4	ND	0.00005	0.000011	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.00001	0.000004	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.00001	0.000004	ug/L		U	
OCDD	3268-87-9	0.0017	0.0001	0.000043	ug/L	В		
OCDF	39001-02-0	ND	9.6e-005	0.000026	ug/L	Q, J, B	UJ	*III
Total HpCDD	37871-00-4	0.00038	0.00005	0.000026	ug/L	В		
Total HpCDF	38998-75-3	0.00011	0.00005	0.000013	ug/L	В		
Total HxCDD	34465-46-8	2.4e-005	2.4e-005	0.000008	ug/L	J, Q, B	J	B, *III, DNQ
Total HxCDF	55684-94-1	9.1e-006	9.1e-006	0.000008	ug/L	J, Q, B	J	*III, DNQ
Total PeCDD	36088-22-9	ND	0.00005	0.000017	ug/L		U	
Total PeCDF	30402-15-4	2.2e-006	2.2e-006	0.000007	ug/L	J, Q	J	*III, DNQ
Total TCDD	41903-57-5	ND	0.00001	0.000004	ug/L		U	
Total TCDF	55722-27-5	ND	0.00001	0.000004	ug/L		U	

Analysis Method EPA-5 1613B

APPENDIX G

Section 28

Outfall 008 – January 18, 2010 Test America Analytical Laboratory Report THIS PAGE LEFT INTENTIONALLY BLANK

<u>TestAmerica</u>

THE LEADER IN ENVIRONMENTAL TESTING

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

LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project: Routine Outfall 008

Sampled: 01/18/10 Received: 01/18/10 Revised: 03/31/10 14:13

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

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain(s) of Custody, 14 pages, are included and are an integral part of this report.

This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT:	Samples were received intact, at 4°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 Te Sample Acceptance Policy unless otherwise noted in the report.	stAmerica
PRESERVATION:	Samples requiring preservation were verified prior to sample analysis.	
QA/QC CRITERIA:	All analyses met method criteria, except as noted in the report with data qualifiers.	
COMMENTS:	Results that fall between the MDL and RL are 'J' flagged.	
SUBCONTRACTED:	Refer to the last page for specific subcontract laboratory information included in this report.	
ADDITIONAL INFORMATION:	Final revised report to provide corrected units and merge .pdf for Radchem.	
LABORATORY I	D CLIENT ID	MATRIX

LABORATORY ID	CLIENT ID	MATRIX
ITA1358-01	Outfall 008 (Grab)	Water
ITA1358-02	Outfall 008 (Composite)	Water

Reviewed By:

606-Lathlee **TestAmerica** Irvine

Kathleen A. Robb For Heather Clark Project Manager



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

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

HEXANE EXTRACTABLE MATERIAL									
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITA1358-01 (Outfall 008 (Gr	ab) - Water)								
Reporting Units: mg/l									
Hexane Extractable Material (Oil &	EPA 1664A	10A1786	1.3	4.8	ND	1	01/20/10	01/20/10	
Grease)									

TestAmerica Irvine

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THE LEADER IN ENVIRONMENTAL TESTING

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

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

METALS									
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITA1358-02 (Outfall 008 (Composite) - Water)								
Reporting Units: ug/l									
Mercury	EPA 245.1	10A1830	0.10	0.20	ND	1	01/20/10	01/20/10	
Antimony	EPA 200.8	10A1800	0.30	2.0	ND	1	01/20/10	01/25/10	
Cadmium	EPA 200.8	10A1800	0.10	1.0	0.25	1	01/20/10	01/25/10	Ja
Copper	EPA 200.8	10A1800	0.50	2.0	6.8	1	01/20/10	01/25/10	
Lead	EPA 200.8	10A1800	0.20	1.0	7.9	1	01/20/10	01/25/10	
Selenium	EPA 200.8	10A1800	0.50	2.0	ND	1	01/20/10	01/25/10	
Thallium	EPA 200.8	10A1800	0.20	1.0	ND	1	01/20/10	01/25/10	
Zinc	EPA 200.8	10A1800	5.0	20	47	1	01/20/10	01/25/10	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Arcadia, CA 91007

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

Project ID: Routine Outfall 008 618 Michillinda Avenue, Suite 200

Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

DISSOLVED METALS MDL Reporting Sample Dilution Date Date Data Method Batch Limit Result Factor Extracted Qualifiers Analyte Limit Analyzed Sample ID: ITA1358-02 (Outfall 008 (Composite) - Water) Reporting Units: ug/l 0.20 С EPA 245.1-Diss 10A2023 0.10 ND 01/21/10 01/21/10 Mercury 1 Antimony EPA 200.8-Diss 10A1999 0.30 2.0 ND 01/21/10 01/25/10 1 01/25/10 Cadmium EPA 200.8-Diss 10A1999 0.10 1.0 0.22 01/21/10 1 Ja EPA 200.8-Diss 10A1999 0.50 Copper 2.0 4.6 1 01/21/10 01/25/10 EPA 200.8-Diss 10A1999 0.20 5.2 01/21/10 01/27/10 Lead 1.0 1 0.50 Selenium EPA 200.8-Diss 10A1999 2.0 ND 1 01/21/10 01/25/10 Thallium EPA 200.8-Diss 10A1999 0.20 1.0 0.29 1 01/21/10 01/25/10 Ja Zinc EPA 200.8-Diss 10A1999 5.0 20 30 1 01/21/10 01/25/10

<u>TestAmerica</u>

THE LEADER IN ENVIRONMENTAL TESTING

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

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

INORGANICS										
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
Sample ID: ITA1358-02 (Outfall 008 (Composite) - Water)									
Reporting Units: mg/l										
Ammonia-N (Distilled)	SM4500NH3-C	10A1730	0.50	0.50	ND	1	01/19/10	01/20/10		
Chloride	EPA 300.0	10A1646	0.25	0.50	6.0	1	01/19/10	01/19/10		
Nitrate-N	EPA 300.0	10A1646	0.060	0.11	0.64	1	01/19/10	01/19/10		
Nitrite-N	EPA 300.0	10A1646	0.090	0.15	ND	1	01/19/10	01/19/10		
Nitrate/Nitrite-N	EPA 300.0	10A1646	0.15	0.26	0.64	1	01/19/10	01/19/10		
Sulfate	EPA 300.0	10A1646	0.20	0.50	7.2	1	01/19/10	01/19/10		
Total Dissolved Solids	SM2540C	10A1751	1.0	10	240	1	01/20/10	01/20/10		
Total Suspended Solids	SM 2540D	10C1775	4.0	40	780	1	03/15/10	03/15/10	H-1	
Sample ID: ITA1358-02 (Outfall 008 (Composite) - Water)									
Reporting Units: ug/l										
Perchlorate	EPA 314.0	10A2275	0.90	4.0	ND	1	01/25/10	01/25/10		

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Project Manager



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Attention: Bronwyn Kelly		STM 5174-91	
618 Michillinda Avenue, Suite 200 Arcadia, CA 91007	Report Number:	ITA1358	Sampled: 01/18/10 Received: 01/18/10
MWH-Pasadena/Boeing	Project ID:	Routine Outfall 008	Samala da 01/19/10

		110							
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITA1358-02 (Outfall 008 (C	Composite) - Water)								
Reporting Units: pCi/L Total Uranium	ASTM 5174-91	35029	0.21	0.693	0.652	1	02/04/10	02/08/10	Jb

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

Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

EPA 900.0 MOD										
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
Sample ID: ITA1358-02 (Outfall 008 ((Composite) - Water)									
Reporting Units: pCi/L										
Gross Alpha	EPA 900.0 MOD	25415	3.8	3	25.8	1	01/25/10	01/29/10		
Gross Beta	EPA 900.0 MOD	25415	4.4	4	25.4	1	01/25/10	01/29/10		

Project ID: Routine Outfall 008



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

Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

EPA 901.1 MOD									
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITA1358-02 (Outfall 008	(Composite) - Water)								
Reporting Units: pCi/L									
Cesium 137	EPA 901.1 MOD	23036	17	20	-2.3	1	01/23/10	01/26/10	U
Potassium 40	EPA 901.1 MOD	23036	290	NA	-30	1	01/23/10	01/26/10	U

Project ID: Routine Outfall 008

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 MWH-Pasadena/Boeing
 Project ID:
 Routine Outfall 008

 618 Michillinda Avenue, Suite 200
 Sampled:
 01/18/10

 Arcadia, CA 91007
 Report Number:
 ITA1358
 Received:
 01/18/10

 Attention:
 Bronwyn Kelly
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EPA 903.0 MOD									
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITA1358-02 (Outfall 008 Reporting Units: pCi/L	(Composite) - Water)								
Radium (226)	EPA 903.0 MOD	22145	0.29	1	0.11	1	01/22/10	02/08/10	U

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 MWH-Pasadena/Boeing
 Project ID:
 Routine Outfall 008

 618 Michillinda Avenue, Suite 200
 Sampled:
 01/18/10

 Arcadia, CA 91007
 Report Number:
 ITA1358
 Received:
 01/18/10

 Attention:
 Bronwyn Kelly
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EPA 904 MOD									
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITA1358-02 (Outfall 008 Reporting Units: pCi/L	, ,	221.40	1.5		1.00		01/02/10	00/00/110	
Radium 228	EPA 904 MOD	22148	1.7	1	-1.92	I	01/22/10	02/08/10	U

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Project Manager



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MWH-Pasadena/Boeing	Project ID: Routine Outfall 008	
618 Michillinda Avenue, Suite 200		Sampled: 01/18/10
Arcadia, CA 91007	Report Number: ITA1358	Received: 01/18/10
Attention: Bronwyn Kelly		

EPA 905 MOD									
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITA1358-02 (Outfall 008 (Reporting Units: pCi/L	Composite) - Water)								
Strontium 90	EPA 905 MOD	22149	0.77	3	0.26	1	01/22/10	02/01/10	U

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 MWH-Pasadena/Boeing
 Project ID:
 Routine Outfall 008

 618 Michillinda Avenue, Suite 200
 Sampled:
 01/18/10

 Arcadia, CA 91007
 Report Number:
 ITA1358
 Received:
 01/18/10

 Attention:
 Bronwyn Kelly
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EPA 906.0 MOD										
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
Sample ID: ITA1358-02 (Outfall 008 Reporting Units: pCi/L	(Composite) - Water)									
Tritium	EPA 906.0 MOD	28080	140	500	81	1	01/28/10	01/29/10	U	

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THE LEADER IN ENVIRONMENTAL TESTING

MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Arcadia, CA 91007

618 Michillinda Avenue, Suite 200

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Project ID: Routine Outfall 008

Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

EPA-5 1613B MDL Reporting Sample Dilution Date Data Date Method **Oualifiers** Analyte Batch Limit Limit Result Factor Extracted Analyzed Sample ID: ITA1358-02 (Outfall 008 (Composite) - Water) Reporting Units: ug/L EPA-5 1613B 0.000026 0.00005 0.00016 01/26/10 В 1,2,3,4,6,7,8-HpCDD 26267 1 02/02/10 1,2,3,4,6,7,8-HpCDF EPA-5 1613B 26267 0.000013 0.00005 5.8e-005 в 1 01/26/10 02/02/10 ND 1,2,3,4,7,8,9-HpCDF EPA-5 1613B 26267 0.000019 0.00005 01/26/10 02/02/10 1 1,2,3,4,7,8-HxCDD EPA-5 1613B 26267 0.000011 0.00005 ND 1 01/26/10 02/02/10 0.00005 ND 1,2,3,4,7,8-HxCDF EPA-5 1613B 26267 0.000011 1 01/26/10 02/02/10 1,2,3,6,7,8-HxCDD EPA-5 1613B 26267 0.00001 0.00005 1.2e-005 1 01/26/10 02/02/10 J, Q, B 1,2,3,6,7,8-HxCDF EPA-5 1613B 26267 0.0000097 0.00005 ND 1 01/26/10 02/02/10 0.0000083 0.00005 ND 1 1,2,3,7,8,9-HxCDD EPA-5 1613B 26267 01/26/10 02/02/10 1,2,3,7,8,9-HxCDF EPA-5 1613B 26267 0.0000095 0.00005 ND 1 01/26/10 02/02/10 1,2,3,7,8-PeCDD EPA-5 1613B 26267 0.000017 0.00005 ND 1 01/26/10 02/02/10 1,2,3,7,8-PeCDF EPA-5 1613B 26267 0.000011 0.00005 ND 01/26/10 02/02/10 1 2,3,4,6,7,8-HxCDF 26267 0.0000086 0.00005 ND 02/02/10 EPA-5 1613B 1 01/26/10 ND 2,3,4,7,8-PeCDF EPA-5 1613B 26267 0.000011 0.00005 1 01/26/10 02/02/10 ND 2,3,7,8-TCDD EPA-5 1613B 26267 0.0000047 0.00001 1 01/26/10 02/02/10 2,3,7,8-TCDF EPA-5 1613B 26267 0.0000043 0.00001 ND 1 01/26/10 02/02/10 0.0001 OCDD EPA-5 1613B 26267 0.000043 0.0017 1 01/26/10 02/02/10 В OCDF EPA-5 1613B 26267 0.000026 0.0001 9.6e-005 1 01/26/10 02/02/10 Q, J, B **Total HpCDD** EPA-5 1613B 26267 0.000026 0.00005 0.00038 1 01/26/10 02/02/10 В **Total HpCDF** 26267 0.000013 0.00005 0.00011 02/02/10 В EPA-5 1613B 1 01/26/10 **Total HxCDD** EPA-5 1613B 26267 0.0000083 0.00005 2.4e-005 1 01/26/10 02/02/10 J, Q, B **Total HxCDF** EPA-5 1613B 26267 0.0000086 0.00005 9.1e-006 1 01/26/10 02/02/10 J, Q, B Total PeCDD EPA-5 1613B 26267 0.000017 0.00005 ND 1 01/26/10 02/02/10 0.0000076 0.00005 1 **Total PeCDF** EPA-5 1613B 26267 2.2e-006 01/26/10 02/02/10 J, Q Total TCDD 0.0000047 0.00001 ND EPA-5 1613B 26267 1 01/26/10 02/02/10 Total TCDF EPA-5 1613B 26267 0.0000043 0.00001 ND 1 01/26/10 02/02/10 Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%) 34 % Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%) 38% Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%) 35% Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%) 33% Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%) 31% Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%) 34% Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%) 33 % Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%) 36% Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%) 31% Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%) 31% Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%) 37% Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%) 33% 38% Surrogate: 13C-2,3,7,8-TCDD (25-164%) Surrogate: 13C-2,3,7,8-TCDF (24-169%) 36% Surrogate: 13C-OCDD (17-157%) 29% Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%) 92 %

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 008 (Composite) (ITA13	58-02) - Water				
EPA 300.0	2	01/18/2010 14:08	01/18/2010 19:00	01/19/2010 15:00	01/19/2010 17:25
Filtration	1	01/18/2010 14:08	01/18/2010 19:00	01/19/2010 17:40	01/19/2010 17:40



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Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

METHOD BLANK/QC DATA

HEXANE EXTRACTABLE MATERIAL

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10A1786 Extracted: 01/20/10	-										
Blank Analyzed: 01/20/2010 (10A1786-B	LK1)										
Hexane Extractable Material (Oil & Grease)	ND	5.0	1.4	mg/l							
LCS Analyzed: 01/20/2010 (10A1786-BS	1)										
Hexane Extractable Material (Oil & Grease)	20.2	5.0	1.4	mg/l	20.0		101	78-114			
LCS Dup Analyzed: 01/20/2010 (10A178	6-BSD1)										
Hexane Extractable Material (Oil & Grease)	19.7	5.0	1.4	mg/l	20.0		98	78-114	3	11	
Matrix Spike Analyzed: 01/20/2010 (10A		Sou	rce: ITA()996-01							
Hexane Extractable Material (Oil & Grease)	19.6	4.8	1.3	mg/l	19.0	ND	103	78-114			



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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

METHOD BLANK/QC DATA

METALS

Arrelate	D14	Reporting	MDI	11	Spike	Source	0/ DEC	%REC	DDD	RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 10A1800 Extracted: 01/20/10)										
	T T74\										
Blank Analyzed: 01/25/2010 (10A1800-E	-	•	0.00	a							
Antimony	ND	2.0	0.30	ug/l							
Cadmium	ND	1.0	0.10	ug/l							
Copper	ND	2.0	0.50	ug/l							
Lead	ND	1.0	0.20	ug/l							
Selenium	ND	2.0	0.50	ug/l							
Thallium	ND	1.0	0.20	ug/l							
Zinc	ND	20	5.0	ug/l							
LCS Analyzed: 01/25/2010 (10A1800-BS	1)										
Antimony	73.9	2.0	0.30	ug/l	80.0		92	85-115			
Cadmium	74.1	1.0	0.10	ug/l	80.0		93	85-115			
Copper	73.8	2.0	0.50	ug/l	80.0		92	85-115			
Lead	74.3	1.0	0.20	ug/l	80.0		93	85-115			
Selenium	73.9	2.0	0.50	ug/l	80.0		92	85-115			
Thallium	73.9	1.0	0.20	ug/l	80.0		92	85-115			
Zinc	74.3	20	5.0	ug/l	80.0		93	85-115			
Matrix Spike Analyzed: 01/25/2010 (10A	(1800-MS1)				Sou	irce: ITA	1401-01				
Antimony	81.2	2.0	0.30	ug/l	80.0	2.44	98	70-130			
Cadmium	77.9	1.0	0.10	ug/l	80.0	ND	97	70-130			
Copper	86.3	2.0	0.50	ug/l	80.0	6.94	99	70-130			
Lead	118	1.0	0.20	ug/l	80.0	39.4	98	70-130			
Selenium	77.8	2.0	0.50	ug/l	80.0	ND	97	70-130			
Thallium	78.6	1.0	0.20	ug/l	80.0	0.228	98	70-130			
Zinc	150	20	5.0	ug/l	80.0	72.4	97	70-130			
Matrix Spike Analyzed: 01/25/2010 (10A	1800-MS2)				Sou	irce: ITA	1478_01				
Antimony	73.2	4.0	0.60	ug/l	80.0	0.938	90	70-130			
Cadmium	80.5	2.0	0.20	ug/l	80.0	0.938	100	70-130			
Copper	101	2.0 4.0	1.0	ug/l	80.0 80.0	19.2	100	70-130			
Lead	130	2.0	0.40	ug/l	80.0	47.6	102	70-130			
Selenium	81.5	2.0 4.0	1.0	ug/l	80.0		105	70-130			
Thallium	81.5	4.0 2.0	0.40		80.0 80.0	1.61 0.594	100	70-130			
	81.9 186	2.0 40	0.40 10	ug/l			102				
Zinc	180	40	10	ug/l	80.0	93.9	110	70-130			

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10A1800 Extracted: 01/20/10	<u>)</u>										
Matrix Spike Dup Analyzed: 01/25/2010			Sou	rce: ITA	1401-01						
Antimony	81.3	2.0	0.30	ug/l	80.0	2.44	99	70-130	0.2	20	
Cadmium	79.0	1.0	0.10	ug/l	80.0	ND	99	70-130	1	20	
Copper	87.7	2.0	0.50	ug/l	80.0	6.94	101	70-130	2	20	
Lead	120	1.0	0.20	ug/l	80.0	39.4	101	70-130	2	20	
Selenium	79.9	2.0	0.50	ug/l	80.0	ND	100	70-130	3	20	
Thallium	81.2	1.0	0.20	ug/l	80.0	0.228	101	70-130	3	20	
Zinc	153	20	5.0	ug/l	80.0	72.4	101	70-130	2	20	
Batch: 10A1830 Extracted: 01/20/10	<u>)</u>										
Blank Analyzed: 01/20/2010 (10A1830-B	LK1)										
Mercury	ND	0.20	0.10	ug/l							
LCS Analyzed: 01/20/2010 (10A1830-BS	1)										
Mercury	8.22	0.20	0.10	ug/l	8.00		103	85-115			
Matrix Spike Analyzed: 01/20/2010 (10A	Matrix Spike Analyzed: 01/20/2010 (10A1830-MS1)				Sou	rce: ITA	1359-01				
Mercury	8.18	0.20	0.10	ug/l	8.00	ND	102	70-130			
Matrix Spike Dup Analyzed: 01/20/2010	(10A1830-MS	SD1)			Sou	rce: ITA	1359-01				
Mercury	8.18	0.20	0.10	ug/l	8.00	ND	102	70-130	0.08	20	

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10A1999 Extracted: 01/21/10)										
	_										
Blank Analyzed: 01/25/2010 (10A1999-B	BLK1)										
Antimony	ND	2.0	0.30	ug/l							
Cadmium	ND	1.0	0.10	ug/l							
Copper	ND	2.0	0.50	ug/l							
Lead	ND	1.0	0.20	ug/l							
Selenium	ND	2.0	0.50	ug/l							
Thallium	ND	1.0	0.20	ug/l							
Zinc	ND	20	5.0	ug/l							
LCS Analyzed: 01/25/2010 (10A1999-BS	51)										
Antimony	80.9	2.0	0.30	ug/l	80.0		101	85-115			
Cadmium	79.9	1.0	0.10	ug/l	80.0		100	85-115			
Copper	84.4	2.0	0.50	ug/l	80.0		106	85-115			
Lead	88.1	1.0	0.20	ug/l	80.0		110	85-115			
Selenium	84.8	2.0	0.50	ug/l	80.0		106	85-115			
Thallium	86.6	1.0	0.20	ug/l	80.0		108	85-115			
Zinc	84.1	20	5.0	ug/l	80.0		105	85-115			
Matrix Spike Analyzed: 01/25/2010 (10A	(1999-MS1)				Sou	irce: ITA	1358-02				
Antimony	79.8	2.0	0.30	ug/l	80.0	ND	100	70-130			
Cadmium	78.2	1.0	0.10	ug/l	80.0	0.217	98	70-130			
Copper	86.7	2.0	0.50	ug/l	80.0	4.63	103	70-130			
Lead	91.4	1.0	0.20	ug/l	80.0	5.21	108	70-130			
Selenium	79.8	2.0	0.50	ug/l	80.0	ND	100	70-130			
Thallium	85.9	1.0	0.20	ug/l	80.0	0.290	107	70-130			
Zinc	110	20	5.0	ug/l	80.0	29.7	100	70-130			
Matrix Spike Dup Analyzed: 01/25/2010	(10A1999-N	ISD1)			Sou	irce: ITA	1358-02				
Antimony	80.7	2.0	0.30	ug/l	80.0	ND	101	70-130	1	20	
Cadmium	79.1	1.0	0.10	ug/l	80.0	0.217	99	70-130	1	20	
Copper	85.7	2.0	0.50	ug/l	80.0	4.63	101	70-130	1	20	
Lead	91.0	1.0	0.20	ug/l	80.0	5.21	107	70-130	0.5	20	
Selenium	80.6	2.0	0.50	ug/l	80.0	ND	101	70-130	1	20	
Thallium	86.1	1.0	0.20	ug/l	80.0	0.290	107	70-130	0.3	20	
Zinc	109	20	5.0	ug/l	80.0	29.7	99	70-130	1	20	

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10A2023 Extracted: 01/21/10	_										
Blank Analyzed: 01/21/2010 (10A2023-B	LK1)										
Mercury	ND	0.20	0.10	ug/l							
LCS Analyzed: 01/21/2010 (10A2023-BS	1)										
Mercury	8.84	0.20	0.10	ug/l	8.00		110	85-115			
Matrix Spike Analyzed: 01/21/2010 (10A	2023-MS1)				Source: ITA1481-02						
Mercury	8.85	0.20	0.10	ug/l	8.00	ND	111	70-130			
Matrix Spike Dup Analyzed: 01/21/2010 (10A2023-MSD1)					Sou	rce: ITA	1481-02				
Mercury	8.92	0.20	0.10	ug/l	8.00	ND	111	70-130	0.8	20	



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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10A1646 Extracted: 01/19/10											
Disale Assistant d. 01/10/2010 /10 / 17 / 0	I Z1)										
Blank Analyzed: 01/19/2010 (10A1646-BI	,	0.50	0.25	Л							
Chloride	ND	0.50	0.25	mg/l							
Nitrate-N Nitrite-N	ND ND	0.11	0.060	mg/l							
Nitrate/Nitrite-N	ND ND	0.15 0.26	0.090 0.15	mg/l							
Sulfate	ND ND	0.26	0.15	mg/l							
Sunate	ND	0.50	0.20	mg/l							
LCS Analyzed: 01/19/2010 (10A1646-BS1)										
Chloride	4.86	0.50	0.25	mg/l	5.00		97	90-110			
Nitrate-N	1.14	0.11	0.060	mg/l	1.13		101	90-110			
Nitrite-N	1.51	0.15	0.090	mg/l	1.52		100	90-110			
Sulfate	9.85	0.50	0.20	mg/l	10.0		98	90-110			
Matrix Spike Analyzed: 01/19/2010 (10A1	646-MS1)				Sou	rce: ITA	359-01				
Chloride	13.5	0.50	0.25	mg/l	5.00	8.18	107	80-120			
Nitrate-N	2.77	0.11	0.060	mg/l	1.13	1.48	114	80-120			
Nitrite-N	1.63	0.15	0.090	mg/l	1.52	ND	107	80-120			
Sulfate	35.5	0.50	0.20	mg/l	10.0	24.6	108	80-120			
Matrix Spike Analyzed: 01/19/2010 (10A1	646-MS2)				Sou	rce: ITA	466-01				
Chloride	6.34	0.50	0.25	mg/l	5.00	1.60	95	80-120			
Nitrate-N	1.23	0.11	0.060	mg/l	1.13	0.0658	103	80-120			
Nitrite-N	1.57	0.15	0.090	mg/l	1.52	ND	103	80-120			
Sulfate	11.6	0.50	0.20	mg/l	10.0	1.27	103	80-120			
Matrix Spike Dup Analyzed: 01/19/2010 (Matrix Spike Dup Analyzed: 01/19/2010 (10A1646-MSD1)						359-01				
Chloride	13.4	0.50	0.25	mg/l	5.00	8.18	105	80-120	0.6	20	
Nitrate-N											
	2.74	0.11	0.060	mg/l	1.13	1.48	111	80-120	1	20	
Nitrite-N	2.74 1.65	0.11 0.15	0.060 0.090	mg/l mg/l	1.13 1.52	1.48 ND	111 109	80-120 80-120	1 1	20 20	

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Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10A1730 Extracted: 01/19/10	_										
Blank Analyzed: 01/20/2010 (10A1730-B	LK1)										
Ammonia-N (Distilled)	ND	0.50	0.50	mg/l							
LCS Analyzed: 01/20/2010 (10A1730-BS	1)										
Ammonia-N (Distilled)	10.4	0.50	0.50	mg/l	10.0		104	80-115			
Matrix Spike Analyzed: 01/20/2010 (10A	1730-MS1)				Sou	rce: ITA	1289-05				
Ammonia-N (Distilled)	10.4	0.50	0.50	mg/l	10.0	ND	104	70-120			
Matrix Spike Dup Analyzed: 01/20/2010 (10A1730-MSD1)						rce: ITA	1289-05				
Ammonia-N (Distilled)	10.4	0.50	0.50	mg/l	10.0	ND	104	70-120	0	15	
Batch: 10A1751 Extracted: 01/20/10	-										
Blank Analyzed: 01/20/2010 (10A1751-B	LK1)										
Total Dissolved Solids	ND	10	1.0	mg/l							
LCS Analyzed: 01/20/2010 (10A1751-BS	1)										
Total Dissolved Solids	998	10	1.0	mg/l	1000		100	90-110			
Duplicate Analyzed: 01/20/2010 (10A175	1-DUP1)				Sou	rce: ITA	1458-01				
Total Dissolved Solids	1020	10	1.0	mg/l		1020			0.8	10	
Batch: 10A2275 Extracted: 01/25/10	_										
Blank Analyzed: 01/25/2010 (10A2275-B Perchlorate	LKI) ND	4.0	0.90	ug/l							
1 cromorado	112	ч.ч	0.70	ug/1							

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Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10A2275 Extracted: 01/25/10	<u>)</u>										
LCS Analyzed: 01/25/2010 (10A2275-BS	1)										
Perchlorate	23.8	4.0	0.90	ug/l	25.0		95	85-115			
Matrix Spike Analyzed: 01/25/2010 (10A	2275-MS1)				Sou	rce: ITA	1654-13				
Perchlorate	28.7	4.0	0.90	ug/l	25.0	6.12	90	80-120			
Matrix Spike Dup Analyzed: 01/25/2010		Sou	rce: ITA	1654-13							
Perchlorate	29.6	4.0	0.90	ug/l	25.0	6.12	94	80-120	3	20	
Batch: 10C1775 Extracted: 03/15/10	<u>)</u>										
Blank Analyzed: 03/15/2010 (10C1775-B	LK1)										
Total Suspended Solids	ND	10	1.0	mg/l							
LCS Analyzed: 03/15/2010 (10C1775-BS	1)										
Total Suspended Solids	982	10	1.0	mg/l	1000		98	85-115			
Duplicate Analyzed: 03/15/2010 (10C177	75-DUP1)				Sou	rce: ITA	1358-02				
Total Suspended Solids	768	40	4.0	mg/l		776			1	10	



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Sampled: 01/18/10 Received: 01/18/10

METHOD BLANK/QC DATA

ASTM 5174-91

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 35029 Extracted: 02/04/10											
Matrix Spike Dup Analyzed: 02/08/2010	(F0A20048600)1D)			Sou	rce: F0A2	20048600	1			
Total Uranium	29.2	0.7	0.2	pCi/L	27.7	-0.0334	105	62-150	2	20	
Matrix Spike Analyzed: 02/08/2010 (F0A	200486001S)				Sou	rce: F0A2	20048600	1			
Total Uranium	28.8	0.7	0.2	pCi/L	27.7	-0.0334	104	62-150			
Blank Analyzed: 02/08/2010 (F0B040000	029B)				Sou	rce:					
Total Uranium	-0.0623	0.693	0.21	pCi/L				-			U
LCS Analyzed: 02/08/2010 (F0B0400000	29C)				Sou	rce:					
Total Uranium	29.2	0.7	0.2	pCi/L	27.7		105	90-120			
LCS Dup Analyzed: 02/08/2010 (F0B040	000029D)				Sou	rce:					
Total Uranium	5.67	0.69	0.21	pCi/L	5.54		102	90-120			



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Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

METHOD BLANK/QC DATA

EPA 900.0 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 25415 Extracted: 01/25/10											
Matrix Spike Analyzed: 01/29/2010 (F0A	\200486001S)				Sou	rce: F0A2	20048600	1			
Gross Alpha	6.9	3	1	pCi/L	49.4	0.98	12	35-150			а
Gross Beta	10	4	1.6	pCi/L	68.1	0.83	14	54-150			а
Duplicate Analyzed: 01/29/2010 (F0A200	0486001X)				Sou	rce: F0A2	20048600	1			
Gross Alpha	0.71	3	1.4	pCi/L		0.98		-			Jb
Gross Beta	1.6	4	1.6	pCi/L		0.83		-			Јb
Blank Analyzed: 01/29/2010 (F0A250000)415B)				Sou	rce:					
Gross Alpha	-0.03	3	0.71	pCi/L				-			U
Gross Beta	-0.26	4	1.5	pCi/L				-			U
LCS Analyzed: 01/29/2010 (F0A2500004	15C)				Sou	rce:					
Gross Alpha	45.4	3	0.9	pCi/L	49.4		92	62-134			
Gross Beta	73.4	4	1.6	pCi/L	68.1		108	58-133			



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Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

METHOD BLANK/QC DATA

EPA 901.1 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 23036 Extracted: 01/23/10											
Duplicate Analyzed: 01/26/2010 (F0A21	0532001X)				Sou	rce: ITA	1358-02				
Cesium 137	-1.4	20	18	pCi/L		-2.3		-			U
Potassium 40	-60	NA	250	pCi/L		-30		-			U
Blank Analyzed: 01/26/2010 (F0A23000	0036B)				Sou	rce:					
Cesium 137	-0.4	20	12	pCi/L				-			U
Potassium 40	-70	NA	210	pCi/L				-			U
LCS Analyzed: 01/26/2010 (F0A230000	036C)				Sou	rce:					
Americium 241	132000	NA	500	pCi/L	141000		93	87-110			
Cobalt 60	79000	NA	200	pCi/L	87900		90	89-110			
Cesium 137	48200	20	200	pCi/L	53100		91	90-110			



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Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

METHOD BLANK/QC DATA

EPA 903.0 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 22145 Extracted: 01/22/10											
Blank Analyzed: 02/08/2010 (F0A22000	0145B)				Sou	rce:					
Radium (226)	0.111	1	0.13	pCi/L				-			U
LCS Analyzed: 02/08/2010 (F0A220000	145C)				Sou	rce:					
Radium (226)	10.7	1	0.1	pCi/L	11.3		95	68-136			
LCS Dup Analyzed: 02/08/2010 (F0A22	0000145L)				Sou	rce:					
Radium (226)	11.2	1	0.2	pCi/L	11.3		100	68-136	5	40	



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Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

METHOD BLANK/QC DATA

EPA 904 MOD

Analyte Batch: 22148 Extracted: 01/22/10	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Blank Analyzed: 02/08/2010 (F0A22000 Radium 228	0148B) 0.22	1	0.59	pCi/L	Sou	rce:		-			U
LCS Analyzed: 02/08/2010 (F0A220000) Radium 228	8.22	1	0.61	pCi/L	Sou 6.45	rce:	127	60-142			
LCS Dup Analyzed: 02/08/2010 (F0A22) Radium 228	0 000148L) 7.58	1	0.57	pCi/L	Sou 6.45	rce:	118	60-142	8	40	



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Report Number: ITA1358

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METHOD BLANK/QC DATA

EPA 905 MOD

Analyte Batch: 22149 Extracted: 01/22/10	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Blank Analyzed: 02/01/2010 (F0A22000 Strontium 90	0149B) -0.01	3	0.38	pCi/L	Sou	rce:		-			U
LCS Analyzed: 02/01/2010 (F0A220000 Strontium 90	149C) 6.74	3	0.39	pCi/L	Sou 6.81	rce:	99	80-130			
LCS Dup Analyzed: 02/01/2010 (F0A22 Strontium 90	0000149L) 6.99	3	0.38	pCi/L	Sou 6.81	rce:	103	80-130	4	40	



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METHOD BLANK/QC DATA

EPA 906.0 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 28080 Extracted: 01/28/10											
Duplicate Analyzed: 01/29/2010 (F0A20)486001X)				Sou	rce: F0A2	20048600	1			
Tritium	-49	500	140	pCi/L		99		-			U
Matrix Spike Analyzed: 01/29/2010 (F0A	200494001S)				Sou	rce: F0A2	20049400	1			
Tritium	4350	500	140	pCi/L	4540	64	94	62-147			
Blank Analyzed: 01/28/2010 (F0A280000	0080B)				Sou	rce:					
Tritium	250	500	140	pCi/L				-			Jb
LCS Analyzed: 01/28/2010 (F0A2800000	80C)				Sou	rce:					
Tritium	4680	500	140	pCi/L	4540		103	85-112			

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Project ID: Routine Outfall 008

Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

METHOD BLANK/QC DATA

EPA-5 1613B

		Reporting	g		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 26267 Extracted: 01/26/10											
Blank Analyzed: 02/02/2010 (G0A2600	00267B)				Sou	rce:					
1,2,3,4,6,7,8-HpCDD	7.9e-006	0.00005	0.0000056	ug/L				-			J
1,2,3,4,6,7,8-HpCDF	6.9e-006	0.00005	0.0000044	ug/L				-			J
1,2,3,4,7,8,9-HpCDF	ND	0.00005	0.0000071	ug/L				-			
1,2,3,4,7,8-HxCDD	4.6e-006	0.00005	0.0000048	ug/L				-			J
1,2,3,4,7,8-HxCDF	ND	0.00005	0.0000039	ug/L				-			
1,2,3,6,7,8-HxCDD	6.5e-006	0.00005	0.0000041	ug/L				-			J
1,2,3,6,7,8-HxCDF	5.7e-006	0.00005	0.0000034	ug/L				-			J
1,2,3,7,8,9-HxCDD	2.7e-006	0.00005	0.0000033	ug/L				-			J, Q
1,2,3,7,8,9-HxCDF	2.2e-006	0.00005	0.0000036	ug/L				-			J, Q
1,2,3,7,8-PeCDD	ND	0.00005	0.0000067	ug/L				-			
1,2,3,7,8-PeCDF	ND	0.00005	0.0000038	ug/L				-			
2,3,4,6,7,8-HxCDF	6e-006	0.00005	0.0000031	ug/L				-			J, Q
2,3,4,7,8-PeCDF	ND	0.00005	0.0000042	ug/L				-			
2,3,7,8-TCDD	ND	0.00001	0.0000027	ug/L				-			
2,3,7,8-TCDF	ND	0.00001	0.000002	ug/L				-			
OCDD	2e-005	0.0001	0.0000089	ug/L				-			J, Q
OCDF	1.6e-005	0.0001	0.0000089	ug/L				-			J
Total HpCDD	7.9e-006	0.00005	0.0000056	ug/L				-			J
Total HpCDF	6.9e-006	0.00005	0.0000044	ug/L				-			J
Total HxCDD	1.4e-005	0.00005	0.0000035	ug/L				-			J, Q
Total HxCDF	1.4e-005	0.00005	0.0000031	ug/L				-			J, Q
Total PeCDD	ND	0.00005	0.0000067	ug/L				-			
Total PeCDF	ND	0.00005	0.0000026	ug/L				-			
Total TCDD	ND	0.00001	0.0000027	ug/L				-			
Total TCDF	ND	0.00001	0.000002	ug/L				-			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.0018			ug/L	0.002		91	23-140			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0021			ug/L	0.002		104	28-143			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.0019			ug/L	0.002		93	26-138			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.0017			ug/L	0.002		83	32-141			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.0015			ug/L	0.002		77	26-152			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.0018			ug/L	0.002		88	28-130			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.0017			ug/L	0.002		85	26-123			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.0017			ug/L	0.002		85	29-147			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.0013			ug/L	0.002		65	25-181			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.0013			ug/L	0.002		66	24-185			

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Project ID: Routine Outfall 008

Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

METHOD BLANK/QC DATA

EPA-5 1613B

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 26267 Extracted: 01/26/10											
					~						
Blank Analyzed: 02/02/2010 (G0A26000	,			_	Sou	rce:					
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.0019			ug/L	0.002		93	28-136			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.0014			ug/L	0.002		69	21-178			
Surrogate: 13C-2,3,7,8-TCDD	0.0012			ug/L	0.002		61	25-164			
Surrogate: 13C-2,3,7,8-TCDF	0.0012			ug/L	0.002		60	24-169			
Surrogate: 13C-OCDD	0.0036			ug/L	0.004		89	17-157			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.00077			ug/L	0.0008		96	35-197			
LCS Analyzed: 02/02/2010 (G0A2600002	267C)				Sou	rce:					
1,2,3,4,6,7,8-HpCDD	0.00102	0.00005	0.0000092	ug/L	0.001		102	70-140			
1,2,3,4,6,7,8-HpCDF	0.00108	0.00005	0.0000073	ug/L	0.001		108	82-122			
1,2,3,4,7,8,9-HpCDF	0.00111	0.00005	0.0000012	ug/L	0.001		111	78-138			
1,2,3,4,7,8-HxCDD	0.00103	0.00005	0.0000078	ug/L	0.001		103	70-164			
1,2,3,4,7,8-HxCDF	0.00114	0.00005	0.0000051	ug/L	0.001		114	72-134			
1,2,3,6,7,8-HxCDD	0.000964	0.00005	0.0000063	ug/L	0.001		96	76-134			
1,2,3,6,7,8-HxCDF	0.00102	0.00005	0.0000045	ug/L	0.001		102	84-130			
1,2,3,7,8,9-HxCDD	0.000912	0.00005	0.0000055	ug/L	0.001		91	64-162			
1,2,3,7,8,9-HxCDF	0.00102	0.00005	0.0000046	ug/L	0.001		102	78-130			
1,2,3,7,8-PeCDD	0.000999	0.00005	0.0000085	ug/L	0.001		100	70-142			
1,2,3,7,8-PeCDF	0.00104	0.00005	0.0000054	ug/L	0.001		104	80-134			
2,3,4,6,7,8-HxCDF	0.00104	0.00005	0.000004	ug/L	0.001		104	70-156			
2,3,4,7,8-PeCDF	0.00106	0.00005	0.000006	ug/L	0.001		106	68-160			
2,3,7,8-TCDD	0.000175	0.00001	0.0000038	ug/L	0.0002		88	67-158			
2,3,7,8-TCDF	0.0002	0.00001	0.0000027	ug/L	0.0002		100	75-158			
OCDD	0.002	0.0001	0.0000021	ug/L	0.002		100	78-144			
OCDF	0.00214	0.0001	0.000001	ug/L	0.002		107	63-170			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.00169			ug/L	0.002		84	23-140			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.00191			ug/L	0.002		96	28-143			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.00165			ug/L	0.002		83	26-138			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.00133			ug/L	0.002		66	32-141			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00139			ug/L	0.002		69	26-152			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00175			ug/L	0.002		88	28-130			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.00162			ug/L	0.002		81	26-123			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.00161			ug/L	0.002		80	29-147			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00124			ug/L	0.002		62	25-181			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00123			ug/L	0.002		62	24-185			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.00171			ug/L	0.002		86	28-136			

TestAmerica Irvine

Kathleen A. Robb For Heather Clark Project Manager



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

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

METHOD BLANK/QC DATA

EPA-5 1613B

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 26267 Extracted: 01/26/10											
LCS Analyzed: 02/02/2010 (G0A260000	267C)				Sou	rce:					
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00127			ug/L	0.002		63	21-178			
Surrogate: 13C-2,3,7,8-TCDD	0.00116			ug/L	0.002		58	25-164			
Surrogate: 13C-2,3,7,8-TCDF	0.00112			ug/L	0.002		56	24-169			
Surrogate: 13C-OCDD	0.00318			ug/L	0.004		80	17-157			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.000752			ug/L	0.0008		94	35-197			

TestAmerica Irvine Kathleen A. Robb For Heather Clark Project Manager



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Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

Compliance Check

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

						Compliance
<u>LabNumber</u>	Analysis	Analyte	Units	Result	MRL	Limit
ITA1358-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0.095	4.8	15

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
ITA1358-02	Antimony-200.8	Antimony	ug/l	0.062	2.0	6
ITA1358-02	Cadmium-200.8	Cadmium	ug/l	0.25	1.0	3.1
ITA1358-02	Chloride - 300.0	Chloride	mg/l	6.05	0.50	150
ITA1358-02	Copper-200.8	Copper	ug/l	6.75	2.0	14
ITA1358-02	Lead-200.8	Lead	ug/l	7.94	1.0	5.2
ITA1358-02	Nitrate-N, 300.0	Nitrate-N	mg/l	0.64	0.11	8
ITA1358-02	Nitrite-N, 300.0	Nitrite-N	mg/l	0	0.15	1
ITA1358-02	Nitrogen, NO3+NO2 -N EPA 300	0.0 Nitrate/Nitrite-N	mg/l	0.64	0.26	8
ITA1358-02	Perchlorate 314.0 - Default	Perchlorate	ug/l	0.54	4.0	6
ITA1358-02	Selenium-200.8	Selenium	ug/l	0.35	2.0	5
ITA1358-02	Sulfate-300.0	Sulfate	mg/l	7.22	0.50	300
ITA1358-02	TDS - SM2540C	Total Dissolved Solids	mg/l	237	10	950
ITA1358-02	Thallium-200.8	Thallium	ug/l	0	1.0	2
ITA1358-02	Zinc-200.8	Zinc	ug/l	47	20	160

TestAmerica Irvine

Kathleen A. Robb For Heather Clark Project Manager



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

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

DATA QUALIFIERS AND DEFINITIONS

- **a** Spiked analyte outside of stated QC limits.
- **B** Method blank contamination. The associated method blank contains the target analyte at a reportable level.
- C Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
- H-1 Sample analysis performed past the method-specified holding time per client's approval.
- J Estimated result. Result is less than the reporting limit.
- Ja Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- **Jb** Result is greater than sample detection limit but less than stated reporting limit.
- **Q** Estimated maximum possible concentration (EMPC).
- U Result is less than the sample detection limit.
- ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- **RPD** Relative Percent Difference



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

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Report Number: ITA1358

Sampled: 01/18/10 Received: 01/18/10

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EDD + Level 4	Water	N/A	N/A
EPA 1664A	Water	Х	Х
EPA 200.8-Diss	Water	Х	Х
EPA 200.8	Water	Х	Х
EPA 245.1-Diss	Water	Х	Х
EPA 245.1	Water	Х	Х
EPA 300.0	Water	Х	Х
EPA 314.0	Water	Х	Х
Filtration	Water	N/A	N/A
SM 2540D	Water	Х	Х
SM2540C	Water	Х	
SM4500NH3-C	Water	Х	Х

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

Subcontracted Laboratories

Aquatic Testing Laboratories-SUB California Cert #1775

4350 Transport Street, Unit 107 - Ventura, CA 93003

Analysis Performed: Bioassay-7 dy Chrnic Samples: ITA1358-02

tAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Project ID: Routine Outfall 008

Sampled: 01/18/10 Received: 01/18/10

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

Report Number: ITA1358

TestAmerica St. Louis

13715 Rider Trail North - Earth City, MO 63045 ASTM 5174-91 Method Performed: Samples: ITA1358-02

- Method Performed: EPA 900.0 MOD Samples: ITA1358-02
- Method Performed: EPA 901.1 MOD Samples: ITA1358-02
- Method Performed: EPA 903.0 MOD Samples: ITA1358-02
- Method Performed: EPA 904 MOD Samples: ITA1358-02
- Method Performed: EPA 905 MOD Samples: ITA1358-02
- Method Performed: EPA 906.0 MOD Samples: ITA1358-02

TestAmerica West Sacramento

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B Samples: ITA1358-02

						(بيام	•								/	3			0	1.0/10		
Page 2 of 2			Comments			Hold Clow Flow					Unfiltered and unpreserved	analysis	Only test if first or second rain events of the year	Filter with 24hrs of receipt at lab	\. ا	Hold (LEWFI			Ć	10 Day:	6	NPDES Level IV:
	(durred)			(2.025) V-sin						-				-		×		same event.	ime: (Check)	72 Hour5 Day:	rty. (Check) On Ice:	Data Requirements: (Check) No Level IV:All Level IV:
	ANALYSIS REQUIRED) >		-N, Nitrite-N		<u> </u>									×	Â		10rm even	Turn-around time: (Check)	24 Hour: 48 Hour:	Sample Integrity: (Check) Intact:	Data Requirer No Level IV:
M	ANA	Cn' bp') ,bD ,dS :sla	ic Toxicity Dissolved Meta Se, Zn] letoT								×	×			0 for this a	r Outfall 00		16:20		(A;D)
IN OF CUSTODY FORM		اهtoT ,(0. & (۲.٤09) کي	, Sr-90 (905.) 226 (903.0 or 9), Uranium (9	(0.009)srlqlA (0.309) (5-H) S mulbsЯ ban (0.409) 822 n 0.109) 751-4	Tritium Combi Radiur						×	<						COC rage 2 of 2 are the composite samples for Outlan 000 for this storm event. st be added to the same work order for COC Page 1 of 2 for Outfall 008 for the same event.	Bate/Time:	1-16-48	Date/Time:	Date/Time: UUCR/10
	\vdash	ate V	-N, Perchlora	-20N+EON (*(LDS CI-' 20				×	×								r for CO		X		
N 9F		>	euers)	(and all conge		L		×										ork order for		di la		
CHAI		d, Cu, Pb,	Aetals: Sb, C	Secoverable M Secoverable M	T Total F	×	×	9	6									ame w	d B	let l	d By	d By
0		lev			Bottle #	2A	2B	3A, 3B	4A, 4B	5	6A	6B	2	80	6	10		to the s	Received B	Þ	Received By	Received By
	:	NPDES I II 008 Happy Val	-	ы ы ы	Preservative	HNO3	HNO3	None	None	None	None	None	None	None	None	H₂SO₄		be added		6:0	19:00	
	Project:	Boeing-SSFL NPDES Routine Outfall 008 COMPOSITE Stormwater at Happy Valley		Phone Number: (626) 568-6691 Fax Number: (626) 568-6515	Sampling Date/Time	1/14/10 inters	-								≯	1/15/10 140%	Ċ	These must be added to the same work			2	
60/6	Ъ.	<u>ଇੱਟੱ ਨੂੰ</u> ਨੂੰ		PT (0) FT (0)	# of Cont.	1 1	+	2	2	1	1	1	-	-	-	-			Date/Time:	9-21-	Date/Time:	Date/Time:
Test America version 6/29/09		ite 200	Joseph Doa	wyn Kelly	ontainer Type	1L Poly	1L Poly	1L Amber	500 mL Poly	500 mL Poly	2.5 Gal Cube	500 ml Amber	1 Gal Poly	1L Poly	500 mL Poly	500 mL Poly			ן ק ן	r	, where the second s	
neric	ddress:	ia Ave, Su 1007	contact:	ager: Bronwy	Sample Matrix	3	N	W	N	M	~	:	8	3	3	3			1	/	and the second s	
Test Ar	Client Name/Address:	MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007	Test America Contact: Joseph Doak	Project Manager: Bronwyn Kelly Sampler:	Sample Description		Outfall 008 Dup	Outfall 008	Outfall 008	Outfali 008	Outfall 008		Outfall 008	Outfall 008	Outfall 008	Outfall 008			Relinquished By	5 WWY	Relinquished By	Relifiquished By

• 7 • •

Test America version 6/29/09	Jeric	a Version 6	5/29/05			CH	AIN (Ъ,	CUS.	CHAIN OF CUSTODY FORM	ORM		4	₹L	TTA 1356	$\sqrt{2}$	Page 1 of 2	of 2
Client Name/Address:	dress:			Project:							A	NALYS	ANALYSIS REQUIRED	ËD				Γ
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007	ia Ave, Su 007	lite 200		Boeing-SSFL NPDES Routine Outfall 008 GRAB	NPDES all 008	-										Fiel	Field readings:	
Test America Contact: Joseph Doak	ontact:	Joseph E	Joak	Stormwater at Happy Valley	nappy valie	Å										Ten	¢ ۲ Temp ک⊄= ۲٤,00 ۲	ň
						_	(MBH									Ha	pH = 4.5	L
Project Manager: Bronwyn Kelly	ar: Bron	wyn Kelly		Phone Number: (626) 568-6691	L		- # 99L)				<u> </u>					Tim	Time of readings =	
Sampler: 5 Del wyw)el wyw	6.		Fax Number: (626) 568-6515	<u>د</u>		Grease				<u> </u>						(HOQ	
Sample Description	Sample Matrix	Container Type	r # of Cont.		Preservative	Bottle #) <u>8</u> IiO										Comments	
	3	1L Amber	~	-	ЧC	1A, 1B	×											
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Relinguished By	É	ese Sam	Dies	These Samples are the Grab Portion of Outfall 008 for this storm event.	rtion of Out	Pacalved B	this	torm e		Composite samples will follow and are to be added to this work order.	mples will f	ollow al	v and are to be ad	added	to this wo	ork orde		
501 hFt	Z	7	1	0	16:00	1 ac	H -) U		0-1-1 C-10	12 - 11			72 Hour: _ 5 Day:		10 Day:	ا بر	
Relinquished By			Date		Γ	Received By	7		Å.	Date/Time:								
MANC) da		7	0	9:00							Intact:	sample Integrity: (Check) Intact:	sck) On Ice:	×		+.1	
Religquished By	~ .	2	Date	Date/Time:		Received By		$\left \right $	Da	Date/Time: \\(\{_\\	QV1 b1		Data Requirements: (Check) No Level IV [.]	Check) All evel IV·		UdN		
						7)										

*

-1

LABORATORY REPORT



Date:	Janua	ary 28, 2010	"dedic	ated to providing quality aquatic toxicity testing"
Client:	1746 Irvin	America, Irvine 1 Derian Ave., Suite 1 e, CA 92614 Joseph Doak	00	 50 Transport Street, Unit 107 Ventura, CA 93003 650-0546 FAX (805) 650-0756 CA DOHS ELAP Cert. No.: 1775
Laborator Sample I.I	-	A-10012006-001 ITA1358-02 (Outfai	1 008)	
Sample Co	ontrol:		ceived by ATL chilled and with the onducted on only one sample per clie	
		Date Sampled: Date Received:	01/18/10 (composite) 01/20/10	
		Temp. Received:	3.9°C	
		Chlorine (TRC):	0.0 mg/l	
		Date Tested:	01/20/10 to 01/27/10	
Sample A	nalysis:	The following analy	vses were performed on your sample	

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

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

Result Summary:

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

Quality Control:

Reviewed and approved by:

Joseph A. LeMay

Laboratory Director

CERIODAPHNIA CHRONIC BIOASSAY EPA METHOD 1002.0



Lab No.: A-10012006-001 Client/ID: Test America – ITA1358-02 (Outfall 008)

Date Tested: 01/20/10 to 01/27/10

TEST SUMMARY

Test type: Daily static-renewal. Species: *Ceriodaphnia dubia*. Age: < 24 hrs; all released within 8 hrs. Test vessel size: 30 ml. Number of test organisms per vessel: 1. Temperature: 25 +/- 1°C. Dilution water: Mod. hard reconstituted (MHRW). QA/QC Batch No.: RT-100119.

Endpoints: Survival and Reproduction. Source: In-laboratory culture. Food: .1 ml YTC, algae per day. Test solution volume: 15 ml. Number of replicates: 10. Photoperiod: 16/8 hrs. light/dark cycle. Test duration: 7 days. Statistics: ToxCalc computer program.

RESULTS SUMMARY

Sample Concentration	Percent Survival	Mean Number of Young Per Female
Control	100%	23.5
100% Sample	100%	29.3

* Sample not statistically significantly less than Control.

CHRONIC TOXICITY

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

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥80%	Pass (100% survival)
≥15 young per surviving control female	Pass (23.5 young)
≥60% surviving controls had 3 broods	Pass (100% with 3 broods)
PMSD <47% for reproduction; if >47% and no toxicity at IWC, the test must be repeated	Pass (PMSD = 9.5%)
Statistically significantly different concentrations relative difference > 13 %	Pass (no concentration significantly different)
Concentration response relationship acceptable	Pass (no significant response at concentration tested)

			Cerioda	phnia Sur	vival and				Survival	
Start Date: End Date: Sample Date:	1/20/2010 1/27/2010 1/19/2010	14:30	Lab ID:	100120060 CAATL-Aq FWCH EP	uatic Test	ting Labs	Sample ID Sample Ty Test Spec	/pe:	Outfall 008 EFF2-Indu CD-Ceriod	
Comments: Conc-%	1	2	3	4	5	6	7	8	9	10
B-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
B-Control 100		1.0000		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

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

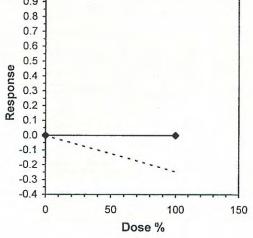
Hypothesis	Test (1-tail,	0.05)	NOEC	LOEC	ChV	TU				
Fisher's Exa	ct Test		100	>100		1				
Treatments v	vs B-Control									
						plation (2)	00 Resamples)			
Point	%	SD	95%	6 CL	Skew					
C05	>100									
IC10	>100									
IC15	>100						1.0	an card and the second		
IC20	>100						0.9			
IC25	>100						-			
IC40	>100						0.8 -			
IC50	>100					-	0.7 -			
							0.6			
							US US			
							0.5 -			
							esuods 0.5 - 0.4 -			
							-			
							0.3 -			
							0.2 -			
							0.1			
							-			
							0.0			
							0	50	100	150
								Dos	se %	

			Ceriod	aphnia Su	rvival and	Reprod	uction Tes	st-Repro	duction		,
Start Date: End Date: Sample Date: Comments:	1/20/2010 1/27/2010 1/19/2010	14:30	Lab ID:	10012006 CAATL-Ac FWCH EP	quatic Tes	ting Labs	Sample ID Sample Ty Test Spec	ype:	Outfall 008 EFF2-Indu CD-Cerioo		
Conc-%	1	2	3	4	5	6	7	8	9	10	
B-Control	27.000	21.000	24.000	23.000	26.000	25.000	19.000	25.000	24.000	21.000	
100	27.000	34.000	25.000	24.000	32.000	30.000	31.000	30.000	28.000	32.000	

				Transform	n: Untran	sformed	1-Tailed			Isotonic		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
B-Control	23.500	1.0000	23.500	19.000	27.000	10.662	10				26.400	1.0000
100	29.300	1.2468	29.300	24.000	34.000	11.036	10	-4.484	1.734	2.243	26.400	1.0000

Statistic		Critical		Skew	Kurt
0.95557		0.905		-0.3956	-0.7193
1.66549		6.54109			
MSDu	MSDp	MSB	MSE	F-Prob	df
2.24314	0.09545	168.2	8.36667	2.9E-04	1, 18
	0.95557 1.66549 MSD u	0.95557 1.66549 MSDu MSDp	0.95557 0.905 1.66549 6.54109 MSDu MSDp MSB	0.95557 0.905 1.66549 6.54109 MSDu MSDp MSB MSE	0.95557 0.905 -0.3956 1.66549 6.54109 MSDu MSDp MSB MSE F-Prob

Point	%	SD	95% CL	Skew		
IC05	>100				and a second	
IC10	>100					
IC15	>100				1.0	
IC20	>100				0.9	
IC25	>100				0.8	
IC40	>100				0.7	
IC50	>100				0.6 -	



Reviewed by:

CERIODAPHNIA DUBIA CHRONIC BIOASSAY EPA METHOD 1002.0 Raw Data Sheet



Start Date: 01/20/2010

Lab No.: A-10012006-001

Client ID: TestAmerica - ITA1358-02 Outfall 008

DAY 1 DAY 2 DAY 3 DAY 4 DAY 5 DAY 6 DAY 7 0 hr 24hr m a Analyst Initials: 0 Ron 0 D 2 0 1330 1430 142 431 Time of Readings: 1230 1330 1300 121 200 Uni 40 42 1431 9.0 DO 29 8.7 9.3 8.2 8:2 8 2 8.1 7.7 pH 8.0 7.7 7. 28 2 2 Control 26 1.7 24 25.0 24.2 240 24.9 -1.5 Temp 25.4 0 4-8 24.8 DO 8. 90 8:3 7.7 7.2 9 8 24 100% pH 7. 7.4 7. 3 -7.0 2. 2 7.4 4 24.6 2 4,5 0.3 . 1 244 Temp 24.4 25.024.4 **Additional Parameters** Control 100% Sample Conductivity (umohms) 345 128 Alkalinity (mg/l CaCO₃) 36 72 Hardness (mg/l CaCO₃) 92 38 Ammonia (mg/l NH₃-N) 40. 0.3 Source of Neonates Replicate: A В С D E F G Н T I IF A 2B 10 30 F Brood ID: 3 2 G 3H1 H 2 Number of Young Produced **Total Live** No. Live Analyst Sample Day Young Adults Initials B С A D E F G H I J 1 0 0 17 D \cap 0 0 0 2 0 17 D 0 1) D D D 0 0 0 1) 2 3 () 4 3 0 0 0 10 () 5 4 3 4 0 4 3 4 28 17 (U 0 Control 5 0 7 9 5 O 7 5 9 0 D 8 0 6 7 0 0 0 0 U 0 6 ζ 0 14 7 12 11 15 17 10 12 13 11 127 0 D 24 23 26 27 21 Total 19 24 0 25 25 21 235 U 1 0 1) () 0 $\hat{}$ 0 2 U 0 0 D 0 0 1) D 0 0 1) 3 3 0 3 0 0 0 1 U 5 3 U 4 U 0 2 6 32 5 1) 100% 9 P 5 7 14 6 0 () 0 8 G 6 19 0 1 () 7 7 Total 2 34 25 24 37 7 2 29 1 7 3

Circled fourth brood not used in statistical analysis.

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

SUBCONTRACT ORDER **TestAmerica** Irvine

ITA1358

	<u>/:</u>	RECEIVING LAB	BORATORY:					
TestAmerica Irvine		Aquatic Testin	g Laboratories-SUB					
17461 Derian Avenue.	Suite 100		t Street, Unit 107					
Irvine, CA 92614		Ventura, CA 93						
Phone: (949) 261-1022								
Fax: (949) 260-3297		Phone :(805) 650-0546						
Project Manager: Josep	Doak	Fax: (805) 650-0756						
rojoormanager. Josep	IDUAK	Project Location: CA - CALIFORNIA Receipt Temperature: 3-9 °C Ice: Y N						
Standard TAT is request	ed unless specific d	ue date is requested. => Due Date:	Initials:					
Standard TAT is request Analysis	ed unless specific d	ue date is requested. => Due Date: Expires	Initials: Comments					
Analysis	Units	Expires						
Analysis Sample ID: ITA1358-02 (C	Units utfall 008 (Compos	Expires	Comments					
Analysis	Units	Expires	Comments 4:08 Cerio, EPA/821-R02-013, Sub to					
Analysis Sample ID: ITA1358-02 (C	Units utfall 008 (Compos	Expires ite) - Water) Sampled: 01/18/10 1	Comments					

THE COS Released By Released By

:30 10 Date/Time 1-0 R

1.30 Date/Time

20 Received Date/Time 11-23 J Page 1 of 1 Received By Date/Time



Ceriodaphnia dubia Chronic Toxicity Test Reference Toxicant Data

CERIODAPHNIA CHRONIC BIOASSAY EPA METHOD 1002.0 REFERENCE TOXICANT - NaCl



QA/QC Batch No.: RT-100119

Date Tested: 01/19/10 to 01/26/10

TEST SUMMARY

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

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

Sample Concentration	Percent Sur	rvival		Mean Number of Young Per Female			
Control	100%		23.4				
0.25 g/l	100%		25.0				
0.5 g/l	100%		24.3				
1.0 g/l	100%		13.7	*			
2.0 g/l	100%		2.7	*			
4.0 g/l	0%	*	0	**			
* Statistically signifi ** Reproduction data from exclude	cantly less than concentrations ed from statistic	greater t	han survival N	vel ŒC are			

RESULTS SUMMARY

CHRONIC TOXICITY

Survival LC50	2.8 g/l
Reproduction IC25	0.79 g/l

QA/QC TEST ACCEPTABILITY

Parameter	Result					
Control survival ≥80%	Pass (100% Survival)					
≥15 young per surviving control female	Pass (23.4 young)					
≥60% surviving controls had 3 broods	Pass (100% with 3 broods)					
PMSD $<47\%$ for reproduction	Pass (PMSD = 9.5%)					
Stat. sig. diff. conc. relative difference >13%	Pass (Stat. sig. diff. conc. Relative difference = 41.5%)					
Concentration response relationship acceptable	Pass (Response curve normal)					

Start Date:	1/19/2010	14:00		RT100119	and the state of t	Reprodu	Sample ID		REF-Ref 1	oxicant	
	1/26/2010						Sample Ty			lium chloride	
Sample Date: Comments:	1/19/2010			FWCH EP			Test Species:		CD-Cerioo	•	
Conc-gm/L	1	2	3	4	5	6	7	8	9	10	
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
0.25	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
0.5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
2	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

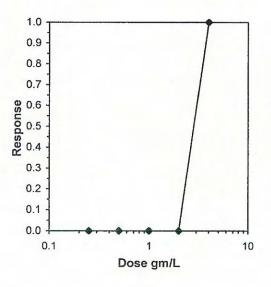
				Not			Fisher's	1-Tailed	Number	Total
Conc-gm/L	Mean	N-Mean	Resp	Resp	Total	N	Exact P	Critical	Resp	Number
D-Control	1.0000	1.0000	0	10	10	10			0	10
0.25	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
0.5	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
1	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
2	1.0000	1.0000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

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

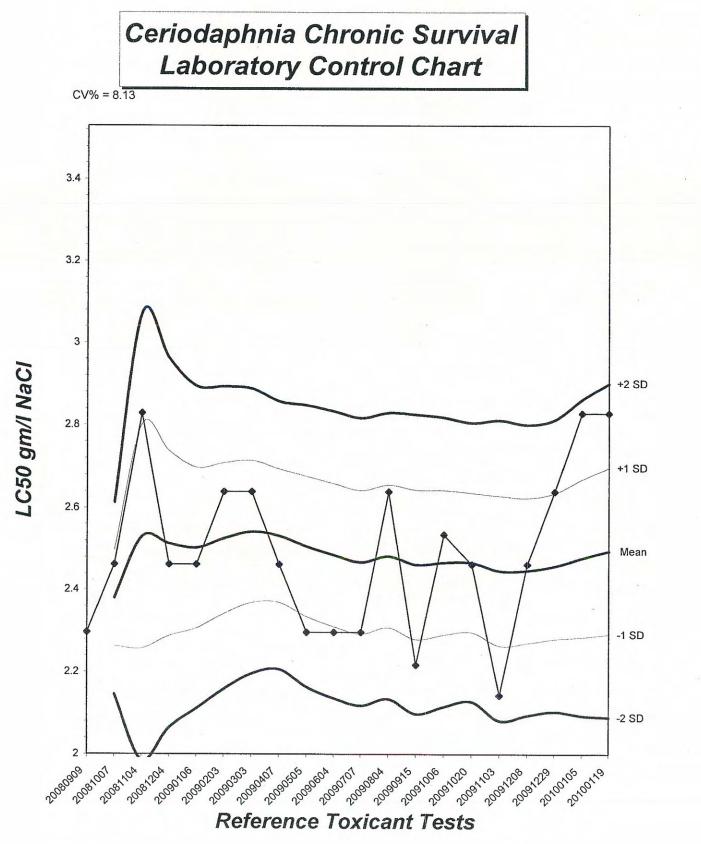
 Trim Level
 EC50

 0.0%
 2.8284

2.8284



Reviewed by:_____

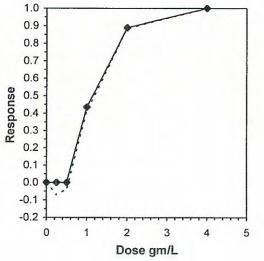


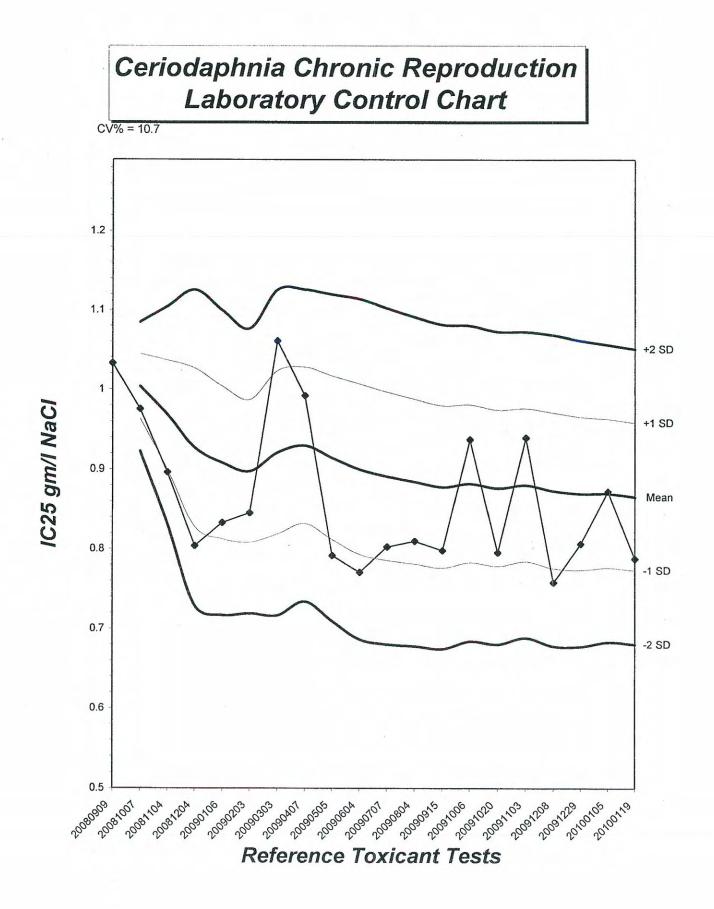
Start Date:	1/19/2010	14:00		RT100119		Reprodu	:	REF-Ref 1				
End Date:	1/26/2010	14:00	Lab ID:	CAATL-Ad	uatic Tes				NACL-Soc			
Sample Date: Comments:	1/19/2010			ol: FWCH EPA Test Species: CD-Ceriodaphnia dubia								
Conc-gm/L	1	2	3	4	5	6	7	8	9	10		
D-Control	23.000	25.000	21.000	24.000	23.000	25.000	25.000	21.000	22.000	25.000		
0.25	23.000	26.000	27.000	24.000	24.000	25.000	27.000	22.000	28.000	24.000		
0.5	22.000	26.000	25.000	26.000	24.000	22.000	26.000	23.000	25.000	24.000		
1	17.000	14.000	10.000	14.000	14.000	12.000	8.000	20.000	13.000	15.000		
2	0.000	2.000	3.000	5.000	3.000	3.000	7.000	0.000	2.000	2.000		
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		

	Mean	N-Mean		Transform	n: Untran	sformed		1-Tailed			Isotonic	
Conc-gm/L			Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	23.400	1.0000	23.400	21.000	25.000	7.037	10				24.233	1.0000
0.25	25.000	1.0684	25.000	22.000	28.000	7.775	10	-1.608	2.223	2.212	24.233	1.0000
0.5	24.300	1.0385	24.300	22.000	26.000	6.449	10	-0.905	2.223	2.212	24.233	1.0000
*1	13.700	0.5855	13.700	8.000	20.000	24.585	10	9.750	2.223	2.212	13.700	0.5653
*2	2.700	0.1154	2.700	0.000	7.000	78.178	10	20.807	2.223	2.212	2.700	0.1114
4	0.000	0.0000	0.000	0.000	0.000	0.000	10				0.000	0.0000

Auxiliary Tests					Statistic		Critical		Skew	Kurt
Shapiro-Wilk's Test indicates nor	mal distribu	ution (p >	0.05)		0.98781	Withten	0.947		0.1743	1.07344
Bartlett's Test indicates equal var					7.30799		13.2767			
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test Treatments vs D-Control	0.5	1	0.70711		2.21194	0.09453	925.67	4.94889	2.0E-27	4, 45

Dalat		00	0 = 0/			n (200 Resamples)		
Point	gm/L	SD	95%	CL	Skew			
C05	0.5575	0.0143	0.5110	0.5655	-2.0775		A CONTRACTOR OF CONTRACTOR	and the second
C10	0.6150	0.0146	0.5755	0.6311	-0.4724			
C15	0.6725	0.0178	0.6297	0.6978	0.1744	1.0		
C20	0.7301	0.0222	0.6808	0.7720	0.4277	0.9		
C25	0.7876	0.0272	0.7293	0.8440	0.5197	-	1	
C40	0.9601	0.0466	0.8758	1.0814	0.8653	0.8 -	/	
C50	1.1439	0.0763	0.9761	1.2715	-0.1589	0.7	1	





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

QA/QC No.: RT-100119

Start Date:01/19/2010

Sample	Der			Nu	mbe	r of Y	oung	Prod	uced			Total	No.	Analyst
Sampie	Day	A	B	C	D	E	F	G	H	I	J	Live Young	Live Adults	Initials
	1	0	\dot{O}	0	0	0	0	0	0	0	0	0	10	R
	2	0	D	0	0	0	0	0	0	0	0	0	10	h
	3	0	0	0	0		0	0	0	0	0	0	10	R
Control	4	3	4	3	5	3	1	1 (3	3	4	36	10	n
control	5	6	9	0	0	0	0	8	7	9	8	47	10	1/2
	6	14	0	8	7	8	7	13	0	0	0	57	10	1/2
	7	0	17	10	12	12	14	0	11	10	13	94	10	1
	Total	23	25	21	24	23	25	25	ai	22	25	234	10	12-
	1	0	0	0	0	0	0	0	0	0	0	\circ	10	R
	2	0	0	0	0	0	0	0	0	0	0	0.	10	A
	3	0	0	0	0	0	C	0	0	4	0	U a	_10	R
0.25 g/l	4	3	4	5	5	3	4	21	3	0	4	+t35	10	h
0.25 g/1	5	8	0	C	C	0	7	8	7	9	8	47	10	h
	6	0	8	10	2	8	0	0	0	15	0	48	10	In
	7	12	14	12	12	13	14	15	12	0	12	116	0.10	n
	Total	23	26	27	24	29	25	27	2	28	24	2261	10	1/-
	1	0	0	0	0	0	0	0	0	0	0	U	10	R
	2	0	0	0	0	0	0	0	0	0	0	0	10	R
	3	0	0	C	0	0	0	0	0	0	C	0	10	R
0.5 g/l	4	3	Ц	5	L	3	3	4	3	3	4	36	10	h
0.5 g/1	5	7	8	C	0	0	0	0	8	9	9	41	10	a
	6	0	14	2	8	9	9	10	12	0	0	69	10	P
	7	12	0	13	14	12	10	12	0	13	11	97	10	0
	Total	22	261	25	26	24	22		23	25	24	243	10	m
Circled fourth 7 th day only us	brood not us sed if <60% of	ed in st of the s	atistic urvivi	cal and ing co	alysis ntrol	femal	es hav	ve pro	duced	their	third b	prood.		

Aquatic Testing Laboratories

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

Aquatic Testing Laboratories

QA/QC No.: RT-100119

Start Date:01/19/2010

Sample	Derr			N	umbe	r of Y	oung	Produ	ced			Total	No.	Analyst
Sampie	Day	A	B	C	D	E	F	G	H	I	J	Live Young	Live Adults	Initials
	1	0	0	0	0	0	0	0	0	0	0	0	10	A
	2	0	0	0	0	0	0	0	0	0	0	0	10	h
	3	0	0	0	0	0	0	0	3	0	2	5	10	ha
1.0 g/l	4	3	Z	4	3	3	2	3	0	4	0	24	10	p
1.0 g/1	5	6	0	C	0	0	0	0	2	0	6	19	10	12
	6	0	5	6	4	3	4	5	0	0	0	27	10	0
	7	8	7	0	2	8	6	0	10	9	7	62	10	M
	Total	17	14	10	14	14	12	8	20	13	15	137	10	N
	1	0	0	0	0	0	Ü	0	0	0	0	0	10	R
	2	0	0	0	0	0	0	0	0	0	0	0	10	h
	3	0	0	0	0	0	0	0	0	0	0	0	10	h
2.0 g/l	4	C	0	C	0	0	U	0	0	0	\mathcal{O}	0	10	V
2.0 g/1	5	0	2	3	Z	0	3	0	0	0	2	12	IU	1
-	6	0	0	0	0	3	0	3	0	0	0	6	10	N
	7	0	0	0	3	0	0	4	0	2	0	a	10	N
	Total	\cup	2	3	5	3	3	7	0	2	2	27	10	02
	1	X	X	X	×	X	X	X	X	X	X	0	0	â
	2	-	-	-	-	-	-	-	-		-	1		
	3	-	-	1	-	-		-	-	-	-	1	_	_
10~1	4	-	-	-	-	-	-	-	-	-	-			
4.0 g/l	5	_	-	-	-	-	-	-	-	-	-		-	مستستعمد
	6	-	-	~	-	-	-		-	-	-	-		
	7	-	-		-	-		-		-	guina			galacia internationa
	Total	\bigcirc	0	0	0	0	0	C	C	C	0	\mathcal{O}	0	7
Circled fourth 7 th day only us	brood not use ed if <60% o	ed in st	atistic urvivi	cal and ing co	alysis ntrol	femal	es hav	e prod	uced t	heir th	ird br	ood.		

CERIODAPHNIA DUBIA CHRONIC BIOASSAY Reference Toxicant - NaCl Water Chemistries Raw Data Sheet

QA/QC No.: RT-100119

Start Date:01/19/2010

ex

Aquatic Testing Laboratories

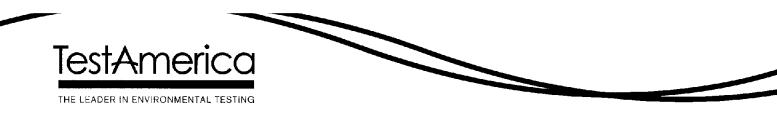
		DA	AY 1	DA	XY 2	DA	AY 3	DA	Y 4	DA	Y 5	DA	AY 6	DA	AY 7
		Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Analyst	Initials:	hm	h	Ru	h	R	An	Rom	Ru	han	h	~	12	r	L
Time of R	eadings:	1400	1400	1400	1430	1430	1330	1330	1500	1900	1330	810	Ma	1-10	Har
	DO	9.1	8.3	8.0	8:1	9.0	8.0	9.3	8.0	8.3	8.0	83	8.2	8:2	8.0
Control	pH	7.8	8.0	8.0	7.8	7.7	7.9	7.7	7.9	7.7	80	26	8.0	7.7	7-6
	Temp	25.3	25.3	25.4	25.0	25.0	25.0	25.4	24.8	25.7	247	25.0	24.4	249	24.2
	DO	9.1	8.3	8.0	8.0	9.0	8.0	9.2	8.0	8,3	8.1	85	8-0	8.2	8-2
0.25 g/l	рН	7.8	8.0	8.0	7.8	7.7	7.9	7.7	7.9	7.7	80	7.7	8.0	25	79
	Temp	25:3	25.4	25.4	25.1	25.0		252.4	25.1	25.7	24,2	25-2	24.7	25.0	243
	DO	9.0	8.2	8.0	8.0	8.9	8.1	9.2	8.0	8.3	62	8-5	8.3	8:3	83
0.5 g/l	pН	2.7	8.0	8.0	7.8	7.7	7.9	2.7	7.9	7.7	TI	7.8	8.0	2-9	80
	Temp	25.3	25.4	25.5	25.2	25.0	25.1	25.4	25.3	25.7	24.3	29.9	24.5	24.9	245
	DO	9.0	8.3	8.0	8.0	8.7	8.1	9.3	8.0	8:3	81	8.6	81	8.3	5:8
1.0 g/l	pH	2.7	8.1	8.0	7.8	7.7	7.9	7.7	7.9	7.7	80	29	7-9	7-8	7.9
	Temp	25.3	25.5	25.5	25.1	25.1	25.1	25.5	25.3	25.8	24.5	24.8	24.7	25.0	243
	DO	8.9	8.3	7.9	8.1	8.5	8.3	9.3	8.0	8.2	81	8.6	8.0	8.2	85
2.0 g/l	pH	7.7	8.1	8.0	7.8	7.7	7.9	7.7	7.9	7.6	7.5	7:7	7-5	7.8	29
	Temp	25.2	25.5	25.6	25.1	25.1	25.2	25.5	25.3	25.9	242	24.7	24.2	251	24.5
	DO	8.7	8.4	-		1	-	-	-	-	-	-		-	
4.0 g/l	pН	7.7	8.1	-	-	-		-	-	~	-	((-	
	Temp	25.2	25.5		_	~	_			-	-	-			-
	Dis	solved	Oxyger	n (DO) i	reading	s are in	mg/l C	D ₂ ; Temp	erature	(Temp)	reading	gs are in	°C.		
1	dditional I	Paramet	ers				Contro	01]	High Co	ncentrat	ion	
		- Alland			Day 1		Day 3		Day 5		Day 1	II	Day 3	D	ay 5
	Conductiv				345	·	340		330	6	800	3	210	36	SU
	Alkalinity (r				72		72		24		72	7	3	20	
	Hardness (m	ng/I CaCC) ₃)		92		93		89		92	9	12	9	0
					T		rce of No		1	<u> </u>					
Repl		1	A	B 70	C	1	D	E 20	F	0		H	1		J
Broo		_ d	A	3A	113	2	B	30	IC	2	C 6	20	1E	2	F



Re. 415

Test Temperature Chart

Test No: RT-100122 Date Tested: 01/19/10 to 01/26/10 Acceptable Range: 25+/- 1°C



TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

REVISED

PROJECT NO. ITA1358

MWH-Pasadena Boeing

Lot #: F0A210532

Joseph Doak

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

TESTAMERICA LABORATORIES, INC.

KayClay

Project Manager

March 17, 2010

Case Narrative LOT NUMBER: F0A210532 Revised 03-17-10

This report contains the analytical results for the sample received under chain of custody by TestAmerica St. Louis on January 21, 2010. This sample is associated with your MWH-Pasadena Boeing project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted below.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by TestAmerica St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. **TestAmerica St. Louis' Florida certification number is E87689.** The case narrative is an integral part of this report.

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

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

Report revised to report the KPA uranium results in pCi/L.

Observations/Nonconformances

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

Radium-228 by GFPC (EPA 904 MOD)

The Radium 228 reporting limit wasvnot met due to reduced barium and yttrium carrier recovery. The carrier recovery is within acceptance criteria. Analytical results are reported.

Affected Samples:

F0A210532 (1): ITA1358-02

Gross Alpha/Beta (EPA 900.0 MOD)

The Gross Alpha and Beta reporting limit was not met due to a reduction of sample size attributed to the sample's high residual mass or activity of the sample. The analytical results are reported.

The gross alpha and beta matrix spike for batch QC are outside lower control limits due to possible matrix interference. Method performance is demonstrated by acceptable LCS recovery.

Affected Samples:

F0A210532 (1): ITA1358-02

TestAmerica Irvine

ITA1358

SENDING LABORATORY:

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

RECEIVING LABORATORY:

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

Analysis	Units	Due	Expires	Interlab Price S	urch	Comments
Sample ID: ITA1358-02 (Ou	tfall 008 (Co	mposite) - Wat	t er) Sampled	: 01/18/10 14:08	8	
Gamma Spec-O -	mg/kg	01/27/10	01/18/11 14:08		0%	Out St Louis, K-40 and CS-137 only, DO NOT FILTER!
Gross Alpha-O .	pCi/L	01/27/10	07/17/10 14:08	\$100.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	01/27/10	07/17/10 14:08	\$100.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Level 4 Data Package - Ou	t N/A	01/27/10	02/15/10 14:08	\$0.00	0%	
Radium, Combined-O	pCi/L	01/27/10	01/18/11 14:08	\$238.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Strontium 90-O /	pCi/L	01/27/10	01/18/11 14:08	\$155.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	01/27/10	01/18/11 14:08	\$120.00	0%	Out St Louis, Boeing permit, DO NOT FILTER!
Containers Supplied:						
2.5 gal Poly (H)	500 mL Aml	per (I)				

meas 1/20/10 17:00 Released By

7100

1.21.11

F0A210532

3 of 15

est /	Name/	I-Arca
F0A210	53	2

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it An	neric	est America version 6/29/09	60/62				CH	AIN	9F (Snc	CHAIN OF CUSTODY FORM	RM				Page 2 of 2	
e/Adu	Name/Address:	e I		Project:				1	+	\uparrow	\downarrow	AN		ANKLYSIG REQUIRED			Г
I-Arcadia ichillinda A ia, CA 910	04 ¢	Suite 200		Boeing-SSFL NPDES Routine Outfall 008 COMPOSITE Stormwater at Happy Valley	SFL NPDI Dutfall 00 ITE	ES 8 3y Valley		p, Cu, Pb,			1stoT ,(0. \$ (1.509)	Cri' Ep'	> 				1
ica C	ontact:	merica Contact: Joseph Doak	oak					D ,dZ :sisisi		-יא, רפוכחוסו	, Sr-90 (903.0 o) 226 (903.0 o) 7 Uranium (Comments	
nage A	ager: Bronwy	はManager: Bronwyn Kelly ler: こころないとうろう		Phone Number (626) 568-6691 Fax Number:	mber: 6691 er:			ecoverable M Se, Zn	end all conge		,(0.009)shqlf (0.809) (5-H) 2 muibsЯ bэг (0.409) 822 r (0.109) 721-	ic Toxicity issolved Meta Se, Zn	-N, Nitrite-N	(2.036) N-sir			
mple 5	Sample	Container Type	and Cont.	Sampling Date/Time		Preservative	Bottle #	I otal R Hg, TI,		LDS CI-' 20	v ssorð muithT nidmoO nuibeA	Dision					
	3	1L Paly	-	1/19/10 14103		HNO ₃	e vz	×	╂		-) 	ļ			Hold Clou	A Flan
008 Dup	3	1L Poly	-			- EONH	2 8 4	×									
all 008	3	1L Amber	ы		z	None	CONTRB-		×		-						
all 003	×	500 mL Poly	2		Z	None	ARREN:			×						-	
all 008	3	500 mL Poly			z	None				×							
	3	2.5 Gal Cube	-			None	C EAP				×					Unfiltered and unpreserved	
0	^^	500 ml Amber			~	None	¶ĝ₿≫.				<					analysis	
(all 008	N	1 Gal Poly	+		2	None						×				Only test if first or second rain events of the year	ain
fall 008	N	1L Poly	-		~	None	(B)					×				Fitter w/h 24hrs of receipt at lab	ę
fall 008	3	500 mL Poly	+	≯		None	1831						×			~	
fall 008	M	500 mL Poly	+	1/16/10 (40%		H₂SO₄	103							×		Hold (LIWF(ک م ل
											community for Outfall ANR for this starm avant	08 for this		event			<u> </u>
				These n	nust be a	dded to	the same	a vork	order	for CC	DC Page 1 of 2	for Outfall (008 fo	r the same ev	/ent.		ŕ
iished By	1	7	Date/Time:	lime:		<u> </u>	e: Received B		k	$\left \right\rangle$	Bate/Time: Turn-around time: (Check)		цп Т	around time: (Check	()		5
Z.	1	, l	Fr	9-31-	16:20	 	N/CH	Ð	M	Ŵ	1-15-18	16 23	24 Hour 48 Hour	ur.	72 Hour:	to Day: Normal:	10
aisped By	la a	Mr	Date/Time:	Date/Time: 1-1,8-7,0	19:00		Received By		2		Date/Time:		Sample Intact:	Sample Integrity: (Check) Intact:	a Isi X	61	
lished By		5	Date/Time:	Time:			Received By	$ \zeta_{0} $			Date/Time: UUS(CUO	(A [D		Data Requirements: (Check) No Level IV:	sck) All Level IV:	NPDES Level IV: X	

4 of 15

∋st An	nerica	∋st America version 6/29/09	60/6				CHJ	AIN	CHAIN OF CUSTODY FORM		TTT	TA 1358	Page 1 of 2
Name/Address: 4-Arcadia tichillinda Ave. S	ldress: a Ave. Sur	te 200		Project: Boeing-SSFL NPDES Routine Outfall 008	SFL NPI	DES 108					ANALYSIS REQUIRED		Field readings:
lia, CA 91007	1007			GRAB Stormwater at Happy Valley	sr at Ha	ppy Valle	ž) \ @
America C	contact:	America Contact: Joseph Doak	<u>ل</u> م					(V					emp אב = 56.0°ך
	:							N3H-1					pH = +,5
ct Manager. Bronwyn Kelly	er. Bron	wyn Kelly		Phone Number: (626) 568-6691	imber: -6691			+991) a					Time of readings = (U/)C)
sler: 5 Da WW)a wyw	,		Fax Number: (626) 568-6515	oer: -6515			Greas					
ample scrintion	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time		Preservative	Bottle #	8 IIO					Comments
	3	1L Amber	2	ahi oi/sair	41	Ρ		×					
					╞								
								•					
			<u> </u>					 					
								 					
												-+	
		iese Samp	les ar	e the Gra	tb Port	ion of Ou	itfall 008 fo	r this	These Samples are the Grab Portion of Outfall 008 for this storm event. Composite sample	es will follo	Composite samples will follow and are to be added to this Work order.	d to this work	order.
quished By	-1		Date/Time:	ime:	-		Received				24 Hour. 72 H	72 Hour:	1
FUM	JV M	7	07-8/-1	2-40	16:0	8	NB	<i>E</i>	1 1000 1-18-10 16: W	$\langle $	4	5 Day:	Normal: X
iquished By			Date/Time:	ime:			Keceived by				Sample Integrity: (Check)	ý	
/ MA	t) d	(MAR)	1/1g	1-18-10	19:0	3			·····		Intact: On	On Ice:	Ĺ Ĺ
quished By			Date/Time:	Lime:			Received By		1/(8/10 1	8	Data Requirements: (Check) No Level IV: All	t) All Level IV:	NPDES Level IV:
							7		1				

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THE LEADER IN ENVIRORMENT	ALTESTING	54	δ	
	ON RECEIPT FORM	54		
Client:	TA Source			
Quote No:	85044			
COC/RFA No:	TA 1330,31,28,58)			
Initiated By: M		Dat 2:20 1.2	1.18 Time:	1215
	<u>Shippi</u>	ng Information		······································
Shipper: FedI	EX UPS DHL Courier Clien	nt Other:	Multiple Pa	ackages: $(Y)N$
Shipping # (s):*			Sample Temperature	(s):**
1. 4289 2	132 9059 6.		1. anlier	6.
2.			1	
3.				
			5.	
		**Sample must be receive	d at 4°C ± 2°C- If not, note cor	
	rrespond to Numbered Sample Temp lines	variance does NOT affect	the following: Metals-Liquid	or Radvests- Liquid or Solids
	yes, "N" for no and "N/A" for not applicable):		· · · · · · · · · · · · · · · · · · ·	
	Are there custody seals present on the cooler?	8. Y N	Are there custody seals	present on bottles?
2. $\mathbf{Y} \cap \mathbf{N} \mathbf{A}$ ta	Do custody seals on cooler appear to be ampered with?	9. Y N NA	Do custody seals on bo tampered with?	
	Vere contents of cooler frisked after opening, but before unpacking?	10. Y N N/A	Was sample received w make note below)	vith proper pH ¹ ? (If not,
4. (<u>)</u> N (Sample received with Chain of Custody?	11. 🖓 N	Sample received in pro	per containers?
	Does the Chain of Custody match ample ID's on the container(s)?	12. Y N NA	Headspace in VOA or (If Yes, note sample ID's be	
	Was sample received broken?	13. Y N 🕅	Was Internal COC/Wor	rkshare received?
	s sample volume sufficient for nalysis?	14. Y N N/A	• • •	al TestAmerica lab?
	L, Sandia) sites, pH of ALL containers received m		OA, TOX and soils.	
Notes: Log +	tritium for ITA1358 p	or KC por	1/1/10	
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		*******	· · · · · · · · · · · · · · · · · · ·	
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<u></u>				
Corrective Action:				· · · · · · · · · · · · · · · · · · ·
Client Contact Nam		Informed by:	<u> </u>	······································
		If released notify		
		Date:	01-22-10	
•				
 Client Contact Nan Sample(s) processe Sample(s) on hold to Project Management Re THIS FORM MUST BE COM 	ed "as is" until: eview: MPLETED AT THE TIME THE ITEMS ARE BEI IAT PERSON IS REQUIRED TO APPLY THEIR	If released, notify: Date: ING CHECKED IN. IF AN NITIAL AND THE DATI	CI-22-1D IY ITEM IS COMPLETED BY E NEXT TO THAT ITEM. \SIsvr01\QA\FORMS\ST-LOU	

METHODS SUMMARY

F0A210532

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

References:

ASTM Annual Book Of ASTM Standards.

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

SAMPLE SUMMARY

F0A210532

WO # SAMPLE# CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
LTH7V 001 ITA1358-02	01/18/10	14:08
NOTE (S) : - The analytical results of the samples listed above are presented on the following pages.		

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

- Results noted as "ND" were not detected at or above the stated limit.

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

- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor,

paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

TestAmerica Irvine

Client Sample ID: ITA1358-02

Radiochemistry

Lab Sample ID: Work Order: Matrix:	F0A210532-003 LTH7V WATER	L		Date Collect Date Receive)1/18/10)1/21/10		
Parameter	Result	Qual	Total Uncert. (2 g+/-)	RL	mdc		rep ate	Analysis Date
Gamma Cs-137 & H	its by EPA 901.	LMOD		pCi/L	Bato	h # 0023		Yld %
Cesium 137	-2.3	U	9.2	20.0	17	0	1/23/10	01/26/10
Potassium 40	-30	U	240		290	0	1/23/10	01/26/10
Gross Alpha/Beta	EPA 900			pCi/L	Bato	h # 0025	415	Yld %
Gross Alpha	25.8		5.5	3.0	3.8	0	1/25/10	01/29/10
Gross Beta	25.4		4.3	4.0	4.4	0	1/25/10	01/29/10
SR-90 BY GFPC E	PA-905 MOD			pCi/L	Bato	h # 0022		¥ld % 61
Strontium 90	0.26	υ	0.46	3.00	0.77	0	01/22/10	02/01/10
Total Uranium by	KPA ASTM 5174-	91		pCi/L	Bato	ch # 0035	029	Yld %
Total Uranium	0.652	J	0.070	0.693	0.21	C	2/04/10	02/08/10
Radium 226 by E	PA 903.0 MOD			pCi/L	Bato	ch # 0022	145	Yld % 47
Radium (226)	0.11	U	0.17	1.00	0.29	(01/22/10	02/08/10
Radium 228 by GF	PC EPA 904 MOD			pCi/L	Bato	ch # 0022	148	¥1d % 38
Radium 228	-1.92	U	0.88	1.00	1.7	()1/22/10	02/08/10
TRITIUM (Distill) by EPA 906.0	MOD		pCi/L	Bate	ch # 0028	080	Yld %
Tritium	81	U	90	500	140	(01/28/10	01/29/10

NOTE (S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

METHOD BLANK REPORT

Radiochemistry

Client Lot ID: F0A210532 Matrix:

1011210337	
WATER	

Parameter	Result	Qual	Total Uncert. (2 g+/-)	RL	MDC		Prep Date	Lab Sample ID Analysis Date
Total Uranium b	y KPA ASTM 517	4-91	pCi/L	Batch #	0035029	Yld %	1	F0B040000-029B
Total Uranium	-0.0623	U	0.0075	0.693	0.21		02/04/10	02/08/10
Radium 226 by	EPA 903.0 MOD		pCi/L	Batch #	0022145	Yld %	108 1	F0A220000-145B
Radium (226)	0.111	U	0.094	1.00	0,13		01/22/10	02/08/10
Radium 228 by G	FPC EPA 904 MC	מ	pCi/L	Batch #	0022148	Yld %	92 I	70A220000-148B
Radium 228	0.22	U	0.35	1.00	0.59		01/22/10	02/08/10
SR-90 BY GFPC	EPA-905 MOD		pCi/L	Batch #	0022149	Yld %	79 1	F0A220000-149B
Strontium 90	-0.01	U	0.22	3.00	0.38		01/22/10	02/01/10
Gamma Cs-137 &	Hits by EPA 90	1.1 MOD	pCi/L	Batch #	0023036	Yld %	I	70A230000-036B
Cesium 137	-0.4	U	6.7	20.0	12		01/23/10	01/26/10
Potassium 40	-70	υ	240		210		01/23/10	01/26/10
Gross Alpha/Bet	a EPA 900		pCi/L	Batch #	0025415	¥ld %	I	70A250000-415B
Gross Alpha	-0.03	U	0.34	3.00	0.71		01/25/10	01/29/10
Gross Beta	-0.26	U	0.86	4.00	1.5		01/25/10	01/29/10
TRITIUM (Distil	.1) by EPA 906.	0 MOD	pCi/L	Batch #	0028080	Yld %	I	70A280000-080B
Tritium	250	J	120	500	140		01/28/10	01/28/10

NOTE (S)

Data are incomplete without the case narrative.

MDC is determined using instrument performance only

Laboratory Control Sample Report

Radiochemistry

Client Lot	ID:	F0A210532
Matrix:		WATER

			Total				Lab	Sample ID
Parameter	Spike Amount	Result	Uncert (2 σ+/-		MDC	% Yld	% Rec	QC Control Limits
Gamma Cs-137 & Hi	ts by EPA 901.1	MOD	pCi/L	901.1	MOD	-	F0A2	30000-036C
Americium 241	141000	132000	10000		500		93	(87 - 110)
Cesium 137	53100	48200	2800		200		91	(90 - 110)
Cobalt 60	87900	79000	4400		200		90	(89 - 110)
	Batch #:	0023036			Analysis Date:	01/20	5/10	
Gross Alpha/Beta	EPA 900		pCi/L	900.0	MOD		F0A2	50000-415C
Gross Beta	68.1	73.4	6.2		1.6		108	(58 - 133)
	Batch #:	0025415			Analysis Date:	01/29	9/10	
Gross Alpha/Beta	EPA 900		pCi/L	900.0	MOD		F0A2	50000-415C
Gross Alpha	49.4	45.4	5.0		0.9		92	(62 - 134)
	Batch #:	0025415			Analysis Date:	01/29	9/10	
TRITIUM (Distill)	by EPA 906.0 M	OD	pCi/L	906.0	MOD		F0A2	80000-080C
Tritium	4540	4680	480		140		103	(85 - 112)
	Batch #:	0028080			Analysis Date:	01/28	8/10	
Total Uranium by KPA ASTM 5174-91		pCi/L	L 5174-91		F0B040000-029C			
Total Uranium	27.7	29.2	3.5		0.2		105	(90 - 120)
	Batch #:	0035029			Analysis Date:	02/08	3/10	
Total Uranium by	KPA ASTM 5174-9	1	pCi/L	5174-	91		F0B0	40000-029C
Total Uranium	5.54	5.67	0.59		0.21		102	(90 - 120)
	Batch #:	0035029			Analysis Date:	02/08	3/10	

Laboratory Control Sample/LCS Duplicate Report

Radiochemistry

Client	Lot	ID:	F0A210532
Matrix	:		WATER

					Total			Lab	Sample	ID
Parameter		Spike Amount	Result		Uncert . (2 σ +/-)	% Yld	% Rec	QC Control Limits	Prec.	ision
Radium 226 by EP	PA 9	03.0 MOD		pCi/L	903.	0 MOD		F0A2	20000-	-145C
Radium (226) Spk	2	11.3 11.3	10.7 11.2		1.1 1.1	108 110	95 100	(68 - 136) (68 - 136)	5	%RPD
		Batch #:	0022145			Analysi	s Date:	02/08/10		
Radium 228 by GFP	PC E	PA 904 MOD		pCi/L	904	MOD		F0A2	20000-	-148C
Radium 228 Spk	2	6.45 6.45	8.22 7.58		0.95 0.88	93 99	127 118	(60 - 142) (60 - 142)	8	%RPD
		Batch #:	0022148			Analysi	s Date:	02/08/10		
SR-90 BY GFPC EF	PA-9	05 MOD		pCi/L	905	MOD		F0A2	20000-	-149C
Strontium 90 Spk	2	6.81 6.81	6.74 6.99		0.79 0.81	77 80	99 103	(80 - 130) (80 - 130)	4	%RPD
		Batch #:	0022149			Analysi	s Date:	02/01/10		

MATRIX SPIKE REPORT

Radiochemistry

Client Lot Id:	F0A200486	Date Sampled:	01/18/10
Matrix:	WATER	Date Received:	01/20/10

					m 1	QC Samp	le ID
Parameter	Spike Amount	Spike Result	Total Uncert. (2g +/-)	Spike Sample Yld. Result	UNCELC.	%YLD %REC	QC Control Limits
Gross Alpha/Beta EPA 900)		pCi/L	900.0 MC	D	F0A20048	36-001
Gross Beta	68.1	10.0	1.6	0.83	0.99	14	a (54 - 150)
	Batch #:	0025415	An	alysis Date:	01/29/10		-
Gross Alpha/Beta EPA 900)		pCi/L	900.0 MC	a	F0A20048	36-001
Gross Alpha	49.4	6.9	1.6	0.98	0.70	12	a (35 - 150)
	Batch #:	0025415	An	alysis Date:	01/29/10		
TRITIUM (Distill) by EPA	A 906.0 MC	D	pCi/L	906.0 MC	מפ	F0A20049	94-001
Tritium	4540	4350	460	64	88	94	(62 - 147)
	Batch #:	0028080	An	alysis Date:	01/29/10		

NOTE (S)

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

MATRIX SPIKE/MATRIX SPIKE DUPLICATE REPORT

Radiochemistry

Client Lot I Matrix:	-	0A200486 IATER						ampled: eceived:	01/18 01/20	.,	0730 0915
Parameter		Spike Amount	SPIKE Result	Total Uncert. (2 s+/-)	Spike Yld	SAMPLE Result		Total Uncert. (2σ +/-)	% Yld	QC Sampl %Rec	le ID QC Control Limits
Total Uranium	by KPA	ASTM 5		pCi/L	Į	5174-91			F(A20048	36-001
Total Uranium		27.7	28.8	3.4		-0.0334	U	0.0040		104	(62 - 150)
	Spk2	27.7	29.2	3.5		-0.0334	U	0.0040 Preci :	sion:	105 2	(62 - 150) %RPD
		Batch	#: 0035029	Ana	alysis d	ate:	02/0	8/10			

.

DUPLICATE EVALUATION REPORT

Radiochemistry

Client Lot ID:	F0A210532	Date Sampled:	01/18/10
Matrix:	WATER	Date Received:	01/20/10

			Total			Total	ç	C Sample ID	
Parameter	SAMPLE Result		Uncert . (2σ+/-)	% Yld	DUPLICATE Result	Uncert. (2 σ+/-)	% Yld	Precisi	on
Gross Alpha/Beta E	PA 900			pCi/L	900.0 MOD		F0	A200486-00	1
Gross Alpha	0.98	J	0.70		0.71 J	0.85		32	%RPD
Gross Beta	0.83	U	0.99		1.6 J	1.0		62	%RPD
	Bat	ch #:	0025415	(Sample)	0025415 (D	uplicate)			
TRITIUM (Distill)	by EPA 90	6.0 MC	מו	pCi/L	906.0 MOD		F0	A200486-00	1
Tritium	99	U	94		- 49 U	64		586	%RPD
	Bat	:ch #:	0028080	(Sample)	0028080 (D	uplicate)			
Gamma Cs-137 & Hit:	s by EPA	901.1	MOD	pCi/L	901.1 MOD		FO	A210532-00	1
Cesium 137	-2.3	U	9.2		-1.4 U	9.8		47	%RPD
Potassium 40	-30	U	240		-60 U	440		69	%RPD
	Bat	ch #:	0023036	(Sample)	0023036 (D	uplicate)			

NOTE (S)

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Analytical Data Package Prepared For

TestAmerica - Irvine, CA

ITA1358

Radiochemical Analysis By

TestAmerica

2800 G.W. Way, Richland Wa, 99354, (509)-375-3131. Assigned Laboratory Code: TARL Data Package Contains <u>18</u> Pages

Report No.: 43800

Results in this report relate only to the sample(s) analyzed.

SDG No.	Order No.	Client Sample ID (List Order)) Lot-Sa No.	Work Order	Report DB ID	Batch No.
41277		ITA1358-02	J0D280537-2	L0NP71AC	9L0NP710	0118345
		ITA1358-02	J0D280537-2	L0NP71AA	9L0NP710	0118346
		ITA1358-02	J0D280537-2	L0NP71AD	9L0NP710	0118347
		ITA1358-02	J0D280537-2	L0NP71AE	9L0NP710	0118349



THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

May 10, 2010

TestAmerica – Irvine, CA 17461 Derian Avenue Suite# 100 Irvine, California 92614

Attention: Debby Wilson			
Date Received by Lab	:	April 28, 2010	
Sample Number/Matrix	:	One (1) Water	
SDG Number	:	41277	
Project	:	MWH-Pasadena Boeing	
Project Number	:	ITA1358	

CASE NARRATIVE

I. Introduction

On April 28, 2010, one water sample was received at the TestAmerica Richland laboratory for radiochemical analysis. Upon receipt, the sample was assigned the TestAmerica identification number as described on the cover page of the Analytical Data Package. The sample was assigned to Lot Number J0D280537.

II. Sample Receipt

The sample was received in good condition and no anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information; analytical results and the appropriate associated statistical uncertainties.

The analyses requested were:

Alpha Spectroscopy Americium by method RL-ALP-010 (RICH-RC-5080)* Plutonium by method RL-ALP-001 (RICH-RC-5087)* Thorium by method RL-ALP-005 (RICH-RC-5084)* Uranium by method RL-ALP-009 (RICH-RC-5079)*

* SOP Id#'s changed effective 7-01-2008. Attached is a cross reference until SOP Id#'s are changed in all systems.

IV. Quality Control

The analytical result for each analysis performed includes a minimum of one laboratory control sample (LCS), and one reagent blank sample analysis. Any exceptions have been noted in the "Comments" section.

V. Comments

The information to complete the State of California form was not provided and requested. The WSA was received.

Alpha Spectroscopy

<u>Americium by method RL-ALP-010 (RICH-RC-5080):</u> The LCS, batch blank, and sample results are within acceptance limits.

<u>Plutonium by method RL-ALP-001 (RICH-RC-5087)</u>: The LCS, batch blank, and sample results are within acceptance limits.

<u>Thorium by method RL-ALP-005 (RICH-RC-5084):</u> The LCS, batch blank, and sample results are within acceptance limits.

<u>Uranium by method RL-ALP-009 (RICH-RC-5079)</u>: The LCS, batch blank, and sample results are within acceptance limits.

I certify that this Certificate of Analysis is in compliance with the SOW and/or NELAC, both technically and for completeness, for other than the conditions detailed above. The Laboratory Manager or a designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Reviewed and approved:

Hayes

Christi Hayes Project Manager

Isotope	Richland SOP #	Old Richland SOP #	Method Reference	Title
Asbestos	RL-ASB-001	N/A	NIOSH 7400	Fiber Counting by Phase Contrast Microscopy based on NIOSH 7400
Asbestos	RL-ASB-002	N/A	NIOSH 9002	Sample Prep and Analysis for Asbestos (bulk) by Polarized Light Microsopy based on NIOSH 9002
Alpha - Gross	ARCHIVED	RICH-RB-5035	Liquid Scintillation Anal/ Packard	DETERMINATION OF GROSS ALPHA IN NASAL SMEARS BY LIQUID SCINTILLATION COUNTING
Alpha - Gross	RL-GPC-001	RICH-RC-5014	9310 / EPA SW846 900.0 / EPA 600	DETERMINATION OF GROSS ALPHA AND GROSS BETA IN WATER BY METHOD 9310
Alpha - Gross	RL-GPC-007	RICH-RC-5020	SM 7110B EPA 680	DETERMINATION OF GROSS ALPHA AND GROSS BETA IN SOIL, SHORELINE SOIL, FOOD AND VEGETATION
Alpha - Gross	RL-GPC-002	RICH-RC-5021	00-02 EPA 520	DETERMINATION OF GROSS ALPHA ACTIVITY IN WATER BY COPRECIPITATION
Alpha - Gross	RL-GPC-008	RICH-RC-5036	ER100 / LANL	PREPARATION OF AIR FILTERS FOR GROSS ALPHA/BETA AND COMPOSITING AIR FILTERS
Am	RL-ALP-003	RICH-RC-5072	Mod RP 725 / DOE0089T EXT Chromatography	SEPARATION OF AMERICIUM, CURIUM, AND URANIUM BY EXTRACTION CHROMATOGRAPHY
Am	RL-ALP-010	RICH-RC-5080	Am03/Pu11HASL 300 NAS-NS-3006	SEQUENTIAL SEPARATION OF PLUTONIUM AND AMERICIUM
Beta - Gross	RL-GPC-001	RICH-RC-5014	9310 / EPA SW846 900.0 / EPA 600	DETERMINATION OF GROSS ALPHA AND GROSS BETA IN WATER BY METHOD 9310
Beta - Gross	RL-GPC-007	RICH-RC-5020	SM 7110B EPA 680	DETERMINATION OF GROSS ALPHA AND GROSS BETA IN SOIL, SHORELINE SOIL, FOOD AND VEGETATION
Beta - Gross	RL-GPC-008	RICH-RC-5036	ER100 / LANL	PREPARATION OF AIR FILTERS FOR GROSS ALPHA/BETA AND COMPOSITING AIR FILTERS
C14	RL-LSC-001	RICH-RB-5013	Mod H-02 / EPA 520	TRITIUM, CARBON-14, NICKEL-63 OR PHOSPHORUS-32 ANALYSIS IN URINE
C14	RL-LSC-008	RICH-RC-5022	EPA C-01 / EPA 520	CARBON 14 BY DIGESTION METHOD
C14	RL-LSC-009	RICH-RC-5040	Mod C14 / EPA 680	DETERMINATION OF CARBON-14 BY BENZENE SYNTHESIS
C14	RL-LSC-010	RICH-RC-5046	EPA C-01 / EPA 520	DETERMINATION OF CARBON-14 IN GRAPHITE AND SOIL
C14	RL-LSC-011	RICH-RC-5047	Mod H-02 / EPA 520	DETERMINATION OF CARBON-14 IN WATER BY DIRECT COUNTING
Cm	RL-ALP-003	RICH-RC-5072	Mod RP 725 / DOE0089T EXT Chromatography	SEPARATION OF AMERICIUM, CURIUM, AND URANIUM BY EXTRACTION CHROMATOGRAPHY
Coliform	RL-WC-001	RICH-WC-5001	9222B	DETERMINATION OF TOTAL COLIFORM: MULTIPLE TUBE FERMENTATION TECHNIQUE
Coliform	RL-WC-002	RICH-WC-5002	9131	TOTAL COLIFORMS BY MEMBRANE FILTRATION
Coliform	RL-WC-005	RICH-WC-5007	9223	TOTAL COLIFORM BY THE COLILERT METHOD
Cr6+	RL-WC-003	RICH-WC-5003	7196A, SW846	DETERMINATION OF HEXAVALENT CHROMIUM [Cr(VI)] IN WATER, SOIL, AND SIMILAR MATRICES
Cr6+	RL-WC-004	RICH-WC-5005	3060 / SW846	DETERMINATION OF HEXAVALENT CHROMIUM (CrVI) IN SOLID MATRICES WITH ALKALINE DIGESTION
Fe	RL-LSC-015	RICH-RC-5074	EXT Chromatography ModFe55/PNL-ALO-435	SEPARATION OF IRON AND NICKEL BY EXTRACTION CHROMATOGRAPHY
Fe55	RL-LSC-016	RICH-RC-5023	R4-73-014 / EPA HASL 300	DETERMINATION OF IRON-55 AND IRON-59 IN WATER
Fe59	RL-LSC-016	RICH-RC-5023	R4-73-014 / EPA HASL 300	DETERMINATION OF IRON-55 AND IRON-59 IN WATER
Gamma	RL-GAM-001	RICH-RC-5017	901.0 / HASL 300 ASTM D3649	PREPARATION OF ALL MATRICES FOR ANALYSIS BY GAMMA SPECTROSCOPY
H3	RL-LSC-001	RICH-RB-5013	Mod H-02 / EPA 520	TRITIUM, CARBON-14, NICKEL-63 OR PHOSPHORUS-32 ANALYSIS IN URINE
H3	RL-LSC-003	RICH-RB-5034	7500-3 / SM	DETERMINATION OF TRITIUM IN URINE BY DISTILLATION
H3	RL-LSC-004	RICH-RC-5004	H3 / EPA LV539	DETERMINATION OF TRITIUM IN AIR
H3	RL-LSC-005	RICH-RC-5007	Mod '906.0 / EPA 600	SEPARATION OF TRITIUM IN WATER AND AQUEOUS COMPONENT OF WINE
H3	RL-LSC-007	RICH-RC-5024	H-3 by EE EPA LV539 / HASL 300	DETERMINATION OF LOW LEVEL TRITIUM IN WATER BY ELECTROLYTIC ENRICHMENT
H3	RL-LSC-002	RICH-RC-5037	H-3 in Water/Tissue / LV 539	DETERMINATION OF TRITIUM BY CRYOGENIC DISTILLATION

Update 7/01/08

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T .	Richland SOP #	Old Richland SOP #		
Isotope	SOP #	SOF #	Method Reference	Title
H3	RL-LSC-006	RICH-RC-5048	H-3 in Water/Tissue / LV 539	TRITIUM PREPARATION IN MILK SAMPLES
I129	RL-GAM-002	RICH-RC-5025	R4-73-014I/EPA ASTM D2334 (Discontinued)	DETERMINATION OF IODINE-131 AND 129 IN WATER BY SOLVENT EXTRACTION METHOD
I131	RL-GAM-002	RICH-RC-5025	R4-73-014I/EPA ASTM D2334 (Discontinued)	DETERMINATION OF IODINE-131 AND 129 IN WATER BY SOLVENT EXTRACTION METHOD
I131	ARCHIVED	RICH-RC-5049	HASL 300 (1983)	DETERMINATION OF IODINE-131 IN MILK BY BATCH ION-EXCHANGE
Metals	ARCHIVED	BHI-MT-0001	6010	ICP-AE SPECTROSCOPY, SPECTROMETRIC METHOD FOR TRACE ELEMENT ANALYSIS, METHOD 6010A FOR Bechtel
Metals	RL-MT-001	RICH-MT-0001	6010B	ICP-AES for TRACE ELEMENT ANALYSIS, METHOD 6010B
Metals	RL-MT-002	RICH-MT-0002	SW486 3050B	ACID DIGESTION FOR ICP ANALYSIS
Metals	RL-MT-003	RICH-MT-0003	NIOSH 7300	DIGESTION PREP based on METHOD NIOSH 7300
Ni	RL-LSC-015	RICH-RC-5074	EXT Chromatography ModFe55/PNL-ALO-435	SEPARATION OF IRON AND NICKEL BY EXTRACTION CHROMATOGRAPHY
Ni63	RL-LSC-001	RICH-RB-5013	Mod H-02 / EPA 520	TRITIUM, CARBON-14, NICKEL-63 OR PHOSPHORUS-32 ANALYSIS IN URINE
Ni63	RL-LSC-017	RICH-RC-5069	EXT Chromatography Mod RP300 / DOE0089T	SEPARATION OF Ni-63 BY EXTRACTION CHROMATOGRAPHY
Np	RL-ALP-013	RICH-RC-5009	NAS-NS-3060	DETERMINATION OF NEPTUNIUM-237 BY LIQUID-LIQUID EXTRACTION IN ALL MATRICES
Np	RL-ALP-006	RICH-RC-5064	EXT Chromatography	SEPARATION OF NEPTUNIUM BY EXTRACTION CHROMATOGRAPHY
P32	RL-LSC-001	RICH-RB-5013	Mod H-02 / EPA 520	TRITIUM, CARBON-14, NICKEL-63 OR PHOSPHORUS-32 ANALYSIS IN URINE
Pb	RL-ALP-011	RICH-RC-5076	EXT Chromatography	DETERMINATION OF LEAD-210 BY EXTRACTION CHROMATOGRAPHY
Ро	RL-ALP-007	RICH-RB-5001	NAS-NS-3037 HASL 300	DETERMINATION OF POLONIUM-210 IN URINE
Ро	RL-ALP-012	RICH-RC-5012	Po-01 / HASL 300 Mod U01 HASL 300	SEPARATION OF ISOTOPIC URANIUM AND POLONIUM-210 IN WATER, SOIL AND FILTERS
Prep - Bioassay	ARCHIVED	RICH-RB-0001		PREPARATION FOR RAPID BIOASSAY ANALYSES
Prep - Bioassay	RL-PRP-001	RICH-RB-5002	Mod Pu06 / HASL 300	PREPARATION OF URINE AND BLOOD SAMPLES
Prep - Bioassay	ARCHIVED	RICH-RB-5004	ASTM D1429-95	DETERMINATION OF SPECIFIC GRAVITY OF URINE
Prep - Bioassay	RL-RPL-002	RICH-RB-5036	Pub 6490,6601 / PNL	PREPARATION OF SYNTHETIC URINE AND FECES USING RECIPES FROM HPS N13.30 PREFORMANCE TESTING
Prep - Bioassay	RL-PRP-002	RICH-RB-5037	LA-10300-M R200 ASTM D3865	PREPARATION OF FECAL SAMPLES USING HYDROFLUORIC ACID DIGESTION
Prep - Bioassay	RL-RPL-003	RICH-RC-5028	ICRP Publication 23	PREPARATION OF SYNTHETIC URINE AND FECES
Prep - Count	RL-ALP-016	RICH-RC-5003	G-03 / HASL 300	COPRECIPITATION OF SOME ACTINIDES ON NEODYMIUM FLUORIDE FOR ALPHA-PARTICLE SPECTROMETRY
Prep - Count	RL-ALP-015	RICH-RC-5039	G-03 / HASL 300 Anal Chem 1972	ELECTRODEPOSITION OF ACTINIDES
Prep - Count	RL-ALP-014	RICH-RC-5085	Morrison & Freiser NAS-NS-3050	ANHYDROUS ETHER EXTRACTION OF URANIUM
Prep - Env	RL-KPA-001	RICH-RC-5015	ASTM / D5174-97	ENVIRONMENTAL SAMPLE PREPARATION FOR URANIUM BY LASER-INDUCED PHOSPHORESCENCE
Prep - Env	RL-PRP-004	RICH-RC-5016	Sr02 / HASL 300	PREPARATION OF ENVIRONMENTAL MATRICES
Prep - Env	RL-PRP-007	RICH-RC-5045	Mod Pu02 / HASL 300	PREPARATION OF MIXED BED RESINS AND PRE-FILTERS
Prep - Env	RL-PRP-008	RICH-RC-5068	Mod ER100 / LA10300	PREPARATION OF SOIL, VEGETATION AND AIR FILTERS BY MIXED STRONG ACID LEACHING
Prep - Resin	RL-ALP-017	RICH-RC-5018	Mod Pu11 / Mod 300	ION-EXCHANGE PREPARATION
Prep - Soil	RL-PRP-003	RICH-RC-5013	Pu02A / HASL 300	PREPARATION OF SOIL SAMPLES
Prep - Soil	RL-PRP-005	RICH-RC-5019	D5259 / ASTM SW 846/3015/3051/3052	PREPARATION AND DISSOLUTION OF SEDIMENTS AND SOIL BY MICROWAVE BOMB DIGESTION

Update 7/01/08

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5

Isotope	Richland SOP #	Old Richland SOP #	Method Reference	Title
Prep - Soil	RL-PRP-006	RICH-RC-5032	Pu02A / HASL 300	COMPLETE DISSOLUTION BY MIXED ACIDS IN A TEFLON BEAKER
Prep - Soil	RL-PRP-009	RICH-RC-5077	Mod ER100 / LA10300	PREPARATION OF SMALL SOIL SAMPLES FOR GAMMA SPEC AND/OR RADIOCHEM ANAL BY ACID DIGESTION
Prep - Urine	RL-PRP-010	RICH-RC-5086	AnalyticaChemActa1992 RP800 / DOE00089T	URINE AND WATER SAMPLE PREPARATION BY CALCIUM PHOSPHATE PRECIPITATION
Prep - Water	RL-PRP-010	RICH-RC-5086	AnalyticaChemActa1992 RP800 / DOE00089T	URINE AND WATER SAMPLE PREPARATION BY CALCIUM PHOSPHATE PRECIPITATION
Pu	ARCHIVED	RICH-RB-5015	Pu11 / HASL 300	RAPID DETERMINATION OF PLUTONIUM IN FECES
Pu	RL-ALP-002	RICH-RC-5010	Pu11 / HASL 300	DETERMINATION OF ISOTOPIC PLUTONIUM IN ALL MATRICES
Pu	RL-ALP-010	RICH-RC-5080	Am03 HASL 300 Pu11 / HASL 300	SEQUENTIAL SEPARATION OF PLUTONIUM AND AMERICIUM
Pu	RL-ALP-001	RICH-RC-5087	AnalyticaChemActa1992 RP800 / DOE00089T	DETERMINATION OF PLUTONIUM BY EXTRACTION CHROMATOGRAPHY
Ra	RL-RA-001	RICH-RC-5005	903.1 / EPA 600	RADIUM-226 AND RADIUM-228 SEPARATION IN RADIOCHEMICAL MATRICES - ADAPTED FROM EPA 903.1 AND 904.0
Ra	RL-RA-001	RICH-RC-5005	904.0 / EPA 600	RADIUM-226 AND RADIUM-228 SEPARATION IN RADIOCHEMICAL MATRICES - ADAPTED FROM EPA 903.1 AND 904.0
Ra	RL-RA-002	RICH-RC-5027	Mod D2460/ ASTM 903.0 / EPA 600	DETERMINATION OF TOTAL RADIUM
Rn	RL-LSC-019	RICH-RC-5082	913.0 / EPA	DETERMINATION OF RADON-222 - ADAPTED FROM METHOD 913.0
S35	ARCHIVED	RICH-RB-5020	Hillebrand, Lundeell, Bright, Hoffman 1953	DETERMINATION OF SULFUR-35 IN URINE
Se79	RL-LSC-012	RICH-RC-5043	Selenium / NAS-NS-3030	RADIOCHEMICAL DETERMINATION OF SELENIUM-79
Solubility	ARCHIVED	RICH-RC-5035		DETERMINATION OF SOLUBILITY OF RADIOACTIVE PARTICLE CONSTITUENTS
Sr	RL-GPC-005	RICH-RB-5007	Mod Sr02 / HASL 300 Mod 905.0 / EPA 600	DETERMINATION OF TOTAL STRONTIUM IN URINE
Sr	RL-GPC-006	RICH-RB-5021	Mod Sr02 / HASL300 Mod 905.0 / EPA 600	DETERMINATION OF STRONTIUM IN FECES
Sr	ARCHIVED	RICH-RB-5022	Mod Sr02 / HASL300 Mod 905.0 / EPA 600	DETERMINATION OF TOTAL STRONTIUM IN URINE FOR RAPID ANALYSIS
Sr	ARCHIVED	RICH-RB-5031	Mod Sr02 / HASL300 Mod 905.0 / EPA 600	RAPID DETERMINATION OF TOTAL STRONTIUM IN FECES
Sr	RL-GPC-003	RICH-RC-5006	Mod Sr02 / HASL300 Mod 905.0 / EPA 600	STRONTIUM SEPARATION IN ENVIROMENTAL MATRICES
Sr - Yt	RL-GPC-004	RICH-RC-5071	Mod Sr02 / HASL300 Mod 905.0 / EPA 600	YTTRIUM-90 SEPARATION FOR STRONTIUM-90 DETERMINATION IN ALL MATRICES
Tc	RL-LSC-014	RICH-RC-5065	EXT Chromatography Mod RP550 / DOE0089T	DETERMINATION OF TECHNETIUM-99 BY EXTRACTION CHROMATOGRAPHY
Tc	RL-LSC-013	RICH-RC-5078	Tc01 / HASL 300	SEPARATION OF TECHNETIUM-99 IN ALL MATRICES
Th	RL-ALP-008	RICH-RB-5006	Mod Th01 / HASL 300	SEPARATION OF THORIUM FROM URINE AND FECAL SAMPLES
Th	RL-ALP-005	RICH-RC-5084	Mod Th01 / HASL 300 Anal Chim Acta 1982	DETERMINATION OF THORIUM ISOTOPIC IN ENVIRONMENTAL MATRICES
U	RL-ALP-012	RICH-RC-5012	Po-01 / HASL 300 Mod U01 / HASL 300	SEPARATION OF ISOTOPIC URANIUM AND POLONIUM-210 IN WATER, SOIL AND FILTERS
U	RL-KPA-002	RICH-RC-5031	Mod U01 / HASL 300	SEPARATION OF TOTAL URANIUM IN WATER AND URINE
U	RL-KPA-003	RICH-RC-5058	D5174 / ASTM	DETERMINATION OF URANIUM BY PHOSPHORESCENCE ANALYSIS
U	RL-ALP-004	RICH-RC-5067	EXT Chromatography Mod RP725 / DOE0089T	SEPARATION OF URANIUM BY EXTRACTION CHROMATOGRAPHY
U	RL-ALP-003	RICH-RC-5072	EXT Chrom Mod RP725 & 800 / DOE0089T	SEPARATION OF AMERICIUM, CURIUM, AND URANIUM BY EXTRACTION CHROMATOGRAPHY
U	RL-ALP-009	RICH-RC-5079	EXT Chromatography Mod RP725 / DOE0089T	DETERMINATION OF ISOTOPIC URANIUM IN ALL MATRICES

Update 7/01/08

	DRINKING WATER ASTM METHOD CROSS REFERENCES						
Referenced Method	Isotope(s)	TestAmerica Richland's SOP No					
EPA 901.1	Cs-134, I-131	RL-GAM-001					
EPA 900.0	Alpha & Beta	RL-GPC-001					
EPA 00-02	Gross Alpha (Coprecipita	ation) RL-GPC-002					
EPA 903.0	Total Alpha Radium (Ra-2	226) RL-RA-002					
EPA 903.1	Ra-226	RL-RA-001					
EPA 904.0	Ra-228	RL-RA-001					
EPA 905.0	Sr-89/90	RL-GPC-003					
ASTM D5174	Uranium	RL-KPA-003					
EPA 906.0	Tritium	RL-LSC-005					

Drinking Water Method Cross References

Results in this report relate only to the sample(s) analyzed.

Uncertainty Estimation

TestAmerica Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, R = constants* f(x,y,z,...). The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_e) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/? n), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

Report Definitions

Action Lev	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
Bias	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or TestAmerica.
Count Error (#s)	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
Total Uncert (#s) u _{e -} Combined Uncertainty.	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, u_c the combined uncertainty. The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
CRDL (RL)	Contractual Required Detection Limit as defined in the Client's Statement Of Work or TestAmerica "default" nominal detection limit. Often referred to the reporting level (RL)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. Lc=(1.645 * Sqrt(2*(BkgrndCnt/BkgrndCntMin)/SCntMin)) * (ConvFct/(Eff*Yld*Abn*Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. MDC = (4.65 * Sqrt((BkgrndCnt/BkgrndCntMin)/SCntMin) + 2.71/SCntMin) * (ConvFct/(Eff * Yld * Abn * Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the Work Order Number.
RER	The equation Replicate Error Ratio = $(S-D)/[sqrt(TPUs^2 + TPUd^2)]$ as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by TestAmerica upon sample receipt.
Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
Work Order	The LIMS software assign test specific identifier.
Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

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Sample Results Summary

Date: 10-May-10

TestAmerica TARL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 43800

SDG No: 41277

Client Id Batch Work Ord	der Parameter	Result +- Uncertainty(2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RER2
0118345 RL-ALP-00	02							
ITA1358-02								
L0NP71AC	Pu-238	6.43E-02 +- 2.8E-02	U	pCi/g	56%	6.43E-02	1.00E+00	
	Pu-239/40	5.09E-02 +- 4.0E-02	U	pCi/g	56%	5.09E-02	1.00E+00	
0118347 RL-ALP-0 ⁻ ITA1358-02	10							
L0NP71AD	Am-241	4.25E-02 +- 2.3E-02	U	pCi/g	91%	4.25E-02	1.00E+00	
0118349 RAD-TH IS ITA1358-02	SO BY ALPHA							
L0NP71AE	Th-228	1.93E+01 +- 3.0E+00		pCi/g	108%	8.41E-02	1.00E+00	
	Th-230	1.25E+01 +- 2.0E+00		pCi/g	108%	7.71E-02	1.00E+00	
	Th-232	1.65E+01 +- 2.6E+00		pCi/g	108%	6.91E-02	1.00E+00	
0118346 RL-ALP-00 ITA1358-02	99							
L0NP71AA	U-233/234	7.60E+00 +- 1.2E+00		pCi/g	89%	8.17E-02	5.00E-01	
	U-235/236	4.15E-01 +- 1.1E-01		pCi/g	89%	3.90E-02	5.00E-01	
	U-238	9.00E+00 +- 1.4E+00		pCi/g	89%	7.61E-02	5.00E-01	
No. of Results:	9							

 TestAmerica
 RER2
 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.

 rptSTLRchSaSum
 U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

 A2002
 A2002

QC Results Summary

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 43800

SDG No.: 41277

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC MDA
RL-ALP-002								
0118345 BLANK (C,							
L0NTH1AA	Pu-238	7.77E-05 +- 4.1E-05	U	pCi/g	78%			7.77E-05
	Pu-239/40	6.15E-05 +- 3.8E-05	U	pCi/g	78%			6.15E-05
0118345 LCS,								
L0NTH1AC	Pu-239/40	3.05E-02 +- 4.3E-03		pCi/g	83%	91%	-0.1	9.22E-05
RL-ALP-010 0118347 BLANK (
LONTM1AA	Am-241	6.28E-05 +- 2.4E-05	U	pCi/g	98%			6.28E-05
0118347 LCS,			U	P0%9	00,0			
LONTM1AC	Am-241	3.90E-02 +- 5.5E-03		pCi/g	110%	91%	-0.1	5.01E-05
RAD-TH ISO BY ALL								
0118349 BLANK (JC, Th-228	5.93E-04 +- 2.2E-04		pCi/g	108%			1.15E-04
LONTN1AA								
	Th-230	1.05E-04 +- 7.6E-05	U	pCi/g	108%			1.05E-04
	Th-232	1.05E-04 +- 5.8E-05	U	pCi/g	108%			1.05E-04
0118349 LCS,	T 1 000				1000/	95%	-0.1	1.10E-04
L0NTN1AC	Th-230	1.09E-02 +- 1.8E-03		pCi/g	103%	95%	-0.1	1.10E-04
RL-ALP-009	20							
0118346 BLANK (LONTK1AA	U-233/234	6.61E-05 +- 5.0E-05	U	pCi/q	94%			6.61E-05
LUNITRIAR	U-235/236	6.61E-05 +- 2.5E-05	Ŭ	pCi/g	94%			6.61E-05
			-	• •				
0110010 1 00	U-238	7.38E-05 +- 4.1E-05	U	pCi/g	94%			7.38E-05
0118346 LCS, LONTK1AC	U-233/234	9.30E-03 +- 1.5E-03		pCi/g	86%	109%	0.1	5.90E-05
LUNTRIAU		9.20E-03 +- 1.5E-03			86%	103%	0.0	6.84E-05
	U-238	9.20E-03 +- 1.5E-03		pCi/g	0070	10370	0.0	0,04⊏-00
No. of Results:	14							

Name: TestAmerica SAMPLE RESULTS 0.6mane: TestAmerica SDC 42000 Feedord Date: 25/2010 00000000 Mathica 0.6mane/ample ID: Traitages-ac SDC Allocitica 42000 Feedord Date: 42020010 00000000 Mathica 42020010 00000000 Mathica Mathica <t< th=""><th>SMPLE RESULTS I. In Name: TestAmerica SDG: 177 Collection Date: 25/2010 902:00 PMI Lot-Sample ID: ITAI356-02 Report No.: 43800 Report No.: 43800 Report No.: 43800 ACCOD 0000 AMI Lot-Sample ID: ITAI356-02 Report No.: 400236057-2 Report No.: 43800 Report No.: 43800 Addition Date: 25/2010 902:00 PMI Parameter Paula Montrix: Collection Date: 25/2010 902:00 PMI Report No.: 43800 Addition: 4282010 1000000 AMI Paula RuALP-002 Report No. Function Report No.: 43800 RuALP-006 RuALP-006</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>_</th><th>Date: 10-May-10</th><th>av-10</th></t<>	SMPLE RESULTS I. In Name: TestAmerica SDG: 177 Collection Date: 25/2010 902:00 PMI Lot-Sample ID: ITAI356-02 Report No.: 43800 Report No.: 43800 Report No.: 43800 ACCOD 0000 AMI Lot-Sample ID: ITAI356-02 Report No.: 400236057-2 Report No.: 43800 Report No.: 43800 Addition Date: 25/2010 902:00 PMI Parameter Paula Montrix: Collection Date: 25/2010 902:00 PMI Report No.: 43800 Addition: 4282010 1000000 AMI Paula RuALP-002 Report No. Function Report No.: 43800 RuALP-006											_	Date: 10-May-10	av-10	
Lab Name:Jeak Name:Sector Sector Data:Sector Data	Lab Name:TestAmericaSDG: 41277 Collection Date: 252010 20000 MA:Lot-Sample No:JOD280537-2Report No:: 41277 Received Date: 252010 20000 MA:Lot-Sample No:JOD280537-2CC No:: 41277 Received Date: 252010 20000 MA:Lot-Sample No:JOD280537-2CC No:: 41277 Matrix 428000 428000 4280000 Lot-Sample No:JonaEvolContJonaMatrix 41200000 412000000 $412000000000000000000000000000000000000$						SA	MPLE RES	ULTS						
Indext Hole JODE20057-2 Report No.: JODE 20057-2 Report No.: JODE 20057-10: COCOD A Cleant Sample ID: ITAJ38. Control 11 Markt: Amarktic	LorSample No: JOD280637-2 Report No: JABOR Al28/2010 Floce:00.00 AM Client Sample ID: ITAI38- Control Al28/2010			erica			SDG:	412	77		Collection Date:		:02:00 PM		
Client Sample II: TA1355-Q: CORR Sample II: TA1355-Q: Correct View TA Amatrix Matrix Matrix Matrix Matrix Matrix Matrix Ta1368 Correct View TA Amatrix Matrix Correct View TA Amatrix Matrix Parameter Realt Jail Enviro Amatrix Matrix Correct View TA Amatrix Matrix Correct View TA Amatrix Matrix Correct View TA Amatrix Amatrix Matrix Correct View TA Amatrix Amatrix Correct View TA Amatrix Correct View TA Amatrix Amatrix Correct View TA Amatrix Amatrix Correct View TA Correct View TA Amatrix Correct View TA Correct View TA Correct View TA Amatrix Correct View TA Correct View TA <th <="" colspa="5" td=""><td>Client Sample ID: ITA/355-02 COC No.: Matrix WATCH ITA/356 Rauti Join Control Site Matrix Matrix ITA/356 Rauti Join Toin Control Site Ambria Control Site Ambria Control Site Ambria Ambria</td><td></td><td></td><td>37-2</td><td></td><td></td><td>Repor</td><td>P .</td><td>00</td><td></td><td>Received Date:</td><td>4/28/2010</td><td>10:00:00 AN</td><td>V</td></th>	<td>Client Sample ID: ITA/355-02 COC No.: Matrix WATCH ITA/356 Rauti Join Control Site Matrix Matrix ITA/356 Rauti Join Toin Control Site Ambria Control Site Ambria Control Site Ambria Ambria</td> <td></td> <td></td> <td>37-2</td> <td></td> <td></td> <td>Repor</td> <td>P .</td> <td>00</td> <td></td> <td>Received Date:</td> <td>4/28/2010</td> <td>10:00:00 AN</td> <td>V</td>	Client Sample ID: ITA/355-02 COC No.: Matrix WATCH ITA/356 Rauti Join Control Site Matrix Matrix ITA/356 Rauti Join Toin Control Site Ambria Control Site Ambria Control Site Ambria Ambria			37-2			Repor	P .	00		Received Date:	4/28/2010	10:00:00 AN	V
ITA136 Ordered by Client Sample ID, Ball Analysis Analysis <t< td=""><td>ITAJ38 Raunti Ordenectory Client Sample (D) Rel Parameter Raunti Ordenectory Client Sample (D) Rel Amony Rel</td><td></td><td>ample ID: ITÄ1358-</td><td>62</td><td></td><td></td><td>COC</td><td>Vo. :</td><td></td><td></td><td>Matrix:</td><td>WATER</td><td></td><td></td></t<>	ITAJ38 Raunti Ordenectory Client Sample (D) Rel Parameter Raunti Ordenectory Client Sample (D) Rel Amony Rel		ample ID: ITÄ1358-	62			COC	Vo. :			Matrix:	WATER			
Harding from the field Result Council or for a list of the field Result Council or field Result Council or field Result	Parameter Result Total Total Total Total Total Total Station Law Total Station Law </td <td></td> <td></td> <td></td> <td></td> <td>:</td> <td></td> <td></td> <td></td> <td></td> <td>Ord</td> <td>lered by Clien:</td> <td>t Sample ID,</td> <td>Batch No.</td>					:					Ord	lered by Clien:	t Sample ID,	Batch No.	
SHG RL-ALIP-ODE Work Onder: LUNFTLAC Report DB ID: SLABE-OD D. SUB1111 ID D. D. <thd.< th=""> D. D. <</thd.<>	RL-ALP-002 Work Order: Low TrAL Report DB ID: SLUNPTO 0 SUMPTO 6.435-02 U 2.85-02 6.435-02 0.85% 0. 5/5/1011:11 p 10 0.3341 5.096-02 U 3.85-02 4.05-02 5.087-02 0.256 0.0 0 <td< th=""><th></th><th></th><th></th><th>ount r (2s)</th><th>Total Uncert(2 s)</th><th>MDC MDA, Action Lev</th><th>Rpt Unit, Lc</th><th>Yield CRDL(RL)</th><th>Rst/MDC, Rst/TotUcert</th><th>Analysis, Prep Date</th><th>Total Sa Size</th><th>Aliquot Size</th><th>Primary Detector</th></td<>				ount r (2s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector	
238 6.43E-02 0 2.8E-02 0.43E-02 0.43E-02 0.43E-02 0.0540 0.0 55/1011111 10 0.03441 339-0 5.09E-02 1.61E-02 5.09E-02 5.09E-02 0.06E-00 0. 0.0 0.0 0.03441 334-0 1.31E-01 3.35E-01 1.21E+00 8.35 0.00E-01 (7.27) 5.65/10.02:44 10 0.33471 335 7.60E-01 3.35E-02 5.00E-01 (7.27) 5.65/10.02:44 10 0.32712 335 4.15E-01 3.35E-02 0.01 (7.27) 5.65/10.02:44 10 0.32712 335 4.15E-01 3.35E-02 0.01 (7.27) 5.65/10.02:44 10 0.32712 335 5.55/10.02:44 1.34E-01 3.35E-02 5.00E-01 (7.27) 5.65/10.02:44 10 0.32712 335 5.55/10.02:44 0 3.355/10.02:44 10 0.32712 0.32712 0.32712 0.32712 0.32712 0.32712 0.32712 <	6.43E-02 2.8E-02 6.43E-02 6.43E-02 6.43E-02 6.43E-02 6.43E-02 6.43E-02 6.43E-02 6.03.01111 10 0.03.441 5.09E-02 1 3.9E-02 5.09E-02 5.09E-02 1.61E-02	Batch: 0118345	RL-ALP-002			Work Order:	LONP71AC	Report	DB ID: 9FON	P710					
3840 5.08E-02 U 33E-02 1.5TE-02 1.0CE+00 0.2 555/10 1.1 1 0 03341 385 RL-MEP-005 3.6E-01 3.3E-02 1.6TE-02 1.0EF-00 (2.1) 2.0 9 9 9 3854 7.60E+00 3.6E-01 1.2E+00 8.17E-02 8.00E-01 (7.2) 5.65/10 0.244 10 0.32712 3828 4.15E-01 8.5E-02 1.1E+00 8.17E-02 500E-01 (7.2) 5.65/10 0.244 10 0.32712 3828 4.15E-01 8.5E-02 1.1E+01 3.90C-01 (7.2) 5.65/10 0.244 10 0.32712 383 8.15E-01 1.36E-01 7.31E-02 5.00E-01 (7.2) 5.65/10 0.244 10 0.32712 384 HALP-010 3.95E-01 7.31E-02 5.00E-01 (7.2) 5.65/10 0.244 10 0.32712 384 HALP-010 3.95E-02 2.06E-01 (7.2) 5.65/10 0.0244 10 0.32712 284 <td>Lotten Concision C Concision C <thc< th=""> C <thc< th=""> C</thc<></thc<></td> <td>Pu-238</td> <td></td> <td></td> <td>iE-02</td> <td>2.8E-02</td> <td></td> <td>pCi/g</td> <td>56%</td> <td>0.</td> <td>5/5/10 11:11 p</td> <td>1.0</td> <td>0.33441</td> <td>ALP38</td>	Lotten Concision C Concision C <thc< th=""> C <thc< th=""> C</thc<></thc<>	Pu-238			iE-02	2.8E-02		pCi/g	56%	0.	5/5/10 11:11 p	1.0	0.33441	ALP38	
8940 5.09E-02 J 3.9E-02 J 3.6E-01 161E-02 7.06E+00 2(3) 56% 0.82 5/101111 p 10 0.33441 1.61E-02 1.00E+00 (2.1) 20 (2.1) 2 (0.0244 a) 10 0.32712 2624 3.5E-02 1.1E-01 3.9E-02 p0/9 83% (32) 5/5/10.0244 a 10 0.32712 2628 4.15E-01 3.5E-02 p0/9 83% (70.7) 5/5/10.0244 a 10 0.32712 2628 4.15E-01 3.9E-02 p0/9 83% (70.7) 5/5/10.0244 a 10 0.32712 2628 4.15E-01 3.9E-02 p0/9 83% (70.7) 5/5/10.0244 a 10 0.32712 2628 4.15E-01 3.9E-02 p0/9 83% (70.7) 5/5/10.0244 a 10 0.32712 2628 4.15E-01 3.9E-02 p0/9 83% (70.7) 5/5/10.0244 a 10 0.32712 264 A.15E-01 2.5E-02 p0/9 83% (70.7) 5/5/10.0244 a 10 0.32712 264 A.15E-01 2.5E-02 p0/9 83% (70.7) 7.9 264 A.15E-01 2.5E-02 p0/9 83% (70.7) 7.9 264 A.25E-02 1.4E-01 7.51E-02 p0/9 83% (70.7) 7.9 264 A.25E-02 0.09 7.13E-01 (7.2) 7.7E-01 7.3 264 A.25E-02 1.00E+00 (7.1) 7.9 264 A.25E-02 0.09 7.13E-01 7.3 264 A.25E-02 0.09 7.13E-01 7.13 264 A.25E-02 0.09 7.13E-01 7.129 1.0 0.3344 267 A.25E-02 0.09 7.13E-01 7.139 268 A.25E-02 0.09 7.13E-01 7.159 1.0 0.3344 268 A.25E-02 0.09 7.13E-01 7.159 1.0 0.3344 269 A.25E-02 0.09 7.13E-01 7.150	5.095-02 1 3.25-02 1.051E-02 1.051E-02 1.051E-02 1.051E-02 1.051E-02 0.82 5571011111 1.0 0.33441 RL-ALF-008 1.25E-01 3.17E-02 1.051E-02 1.051E-02 1.051E-02 0.82 55510 01:111 1.0 0.33441 RL-ALF-008 1.12E-00 8.17E-02 8.17E-02 8.00E-01 7.12 0.0244 1.0 0.32712 ALALF-010 8.5E-02 1.1E-01 3.90E-01 7.51E-02 8.00E-01 7.27 9 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>2.28E-02</td><td>1.00E+00</td><td>0.</td><td></td><td>D</td><td>ŋ</td><td></td></t<>							2.28E-02	1.00E+00	0.		D	ŋ		
348 RLAUP-049 S.6E-01 1.2E+00 8.17E-02 1.00E+00 (2.1) 9 9 3528-0 Nork Order: 1.0NP71AA Report ID: 3.0.0E+00 (2.1) 9 9 3528-0 3.5E-02 1.1E-01 3.5E-02 5.00E-01 (12.7) 5.51/10.02:44.a 10 0.32712 3528-0 3.5E-02 1.1E-01 3.30E-02 0.01 (12.7) 5.51/10.02:44.a 10 0.32712 358-0 1.38E-01 1.4E+00 7.51E-02 5.00E-01 (7.2) 5.51/10.02:44.a 10 0.32712 358-0 3.5E-02 1.38E-02 1.38E-02 1.38E-01 (7.27) 5.51/10.02:44.a 10 0.32712 358-0 3.5E-02 0.01 (7.2) 5.51/10.02:44.a 10 0.32712 358-0 3.5E-02 2.019 1.38E-01 (7.07) 5.51/10.02:44.a 10 0.32712 261 4.25E-02 5.00E-01 (7.2.9) 5.51/10.02:44.a 10 0.32714 261 4.25E-02 5.00E-01 (7.2.9) 5.51/10.02:41.a 10	1.0E+00 (2.1) 9 9 RL-ALP-005 St.E-01 1.2E+00 8.17E-02 1.0E+00 (2.1) 9 9 9 T.SOE+00 St.E-01 1.2E+00 8.17E-02 D.SOE+01 (7.2) S.Si/10 0.02:44 1.0 0.032712 T.SOE+00 8.17E-02 1.1E-01 3.98E-02 5.00E-01 (7.2) 5.55/10 0.2:44 1.0 0.032712 4.15E-01 8.5E-02 1.1E-01 3.98E-01 (7.2) 5.55/10 0.2:44 1.0 0.32712 9.00E+00 3.9E-01 1.4E+00 7.61E-02 D.SOE-01 (7.2) 5.55/10 0.2:44 1.0 0.32712 9.00E+00 3.9E-01 1.4E+00 7.61E-02 D.SOE-01 (7.2) 5.55/10 0.2:44 1.0 0.32712 9.00E+00 3.9E-01 1.4E+00 7.61E-02 D.SOE-01 (7.2) 5.57/10 0.2:44 1.0 0.32712 9.00E-01 1.18.3 5.57/10 0.2:44 1.0 0.33741 1.0 0.33441 1.35E-02 2.36E-02 1.06	Pu-239/40)E-02	4.0E-02	5.09E-02	pCi/g	56%	0.82	5/5/10 11:11 p	1.0	0.33441	ALP38	
846 RL-ALP-009 Work Order: LONP71A Report DB L5: SLONP710 S/5/10 02:44 a 10 0.32712 3/2012 3.6E-01 1.2E+00 8.17E-02 5.00E-01 (12.7) 5/5/10 02:44 a 10 0.32712 5/2012 5.00E-01 (12.7) 5/5/10 02:44 a 10 0.32712 5/2012 1.1E-01 3.90E-02 7.90 89% (10.7) 5/5/10 02:44 a 10 0.32712 5/2012 3.9E-01 1.4E+00 7.61E-02 2.00E-01 (12.7) 5/5/10 02:44 a 10 0.32712 5/2012 3.9E-01 1.4E+00 7.61E-02 89% (17.3) 5/5/10 02:44 a 10 0.32712 284 HL-ALP-010 3.9E-01 7.4E-02 5.00E-01 (12.2) 5/5/10 02:41 a 10 0.32712 284 HL-ALP-010 3.9E-02 9.99% 0.91 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	RL-ALP-008 Work Order: LONPTIA Report DB ID: SLUNPTIO 7.60E+00 $3.6E-01$ $1.2E+00$ $8.17E-02$ $5.00E-01$ (12.7) $5.501-02.44$ 10 0.32712 4.15E-01 $8.17E-02$ $5.00E-01$ (12.7) $5.5610-02.44$ 10 0.32712 4.15E-01 $8.5E-02$ $1.1E-01$ $3.30E-02$ $5.00E-01$ (7.2) $5.610-02.44$ 10 0.32712 9.00E+00 $3.9E-01$ $1.4E+00$ $7.51E-02$ $5.00E-01$ (7.2) $5.610-02.44$ 10 0.32712 9.00E+00 $3.9E-01$ $1.4E+00$ $7.51E-02$ $5.00E-01$ (7.2) $5.610-02.44$ 10 0.32712 9.00E+00 $3.9E-01$ $1.4E+00$ $7.51E-02$ $2.016-01$ (12.2) $5.610-02.44$ 10 0.32712 9.00E+01 (12.8) $8.041-02$ (12.8) 0.41 (0.7) $5.610-02.44$ 10 0.3274 1.4.1.2.1.2.1.2.1.2.2.2.2.2.2.2.2.2.2.2.							1.61E-02	1.00E+00	(2.1)		D	ŋ		
3.28-4 7.50E+00 3.6E-01 1.2E+00 8.17E-02 6.00E-01 (12.7) 5.510 0.2-44 10 0.32712 5.282-02 0.11-10 3.36E-02 0.11-10 3.36E-02 5.00E-01 (7.9) 9 9 5.282-02 1.15-01 3.36E-02 0.11-10 3.36E-02 0.1380 10.7) 5.510 0.2-44 10 0.32712 283 9.00E+00 3.950 1.14E+00 7.61E-02 0.2021 (7.9) 9 9 9 283 9.00E+00 3.950 1.4E+00 7.61E-02 0.2021 10.7) 5.510 0.2-44 10 0.32712 283 9.00E+00 3.950 1.4E+00 7.61E-02 2.092 5.00E-01 (7.9) 9 9 9 283 9.00E+010 3.950 1.062-44 1.0 7.610 2.18 9	7.60E+00 3.6E-01 1.2E+00 8.17E-02 5.00E-01 (12.7) 5.65/10 0.023712 0	1	RL-ALP-009				LONP71AA	Report	DB ID: 9LON	P710					
5/256-02 5.00E-01 (12.7) 5/5/10 0 0 0 2385 4.15E-01 8.5E-02 1.1E-01 3.90E-02 5.00E-01 (7.2) 5/5/10 0.02714 10 0.02712 2387 9.00E+00 3.9E-01 1.4E+00 7.61E-02 5.00E-01 (7.9) 5/5/10 0.0 0	4.15E-01 8.5E-02 1.1E-01 3.30E-02 PCIIP 12.71 9 9 4.15E-01 8.5E-02 1.1E-01 3.30E-02 PCIIP 3.38E-01 (10.7) 5/5/10 02:44 a 1.0 0.32712 9.00E+00 3.9E-01 7.51E-02 PCIIP 7.51E-02 PCIIP (17.8) 5/5/10 02:44 a 1.0 0.32712 RL-ALP-010 3.9E-01 7.51E-02 PCIIP 89% (17.8) 5/5/10 02:44 a 1.0 0.32712 RL-ALP-010 3.9E-02 PCIIP 89% (17.8) 5/5/10 02:44 a 1.0 0.32712 RL-ALP-010 Work Order: LONP71AD Report DB ID: 9LONP710 1.1840 9 9 RL-ALP-010 Nork Order: LONP71AD Report DB ID: 9LONP710 1.365/10 11:29 p 1.0 0.33441 RL-ALP-010 7.4E-02 0.1 1.34E-02 1.00 0.41 5/5/10 02:41 a 1.0 0.33441 RAD-TH ISO BY ALPHA 7.4E-01 3.0E+00 7.34E-02 1.00 1.5 0 0 0 0 0 0 0 0 0 0	U-233/234	7.60E+00	3.6	iE-01	1.2E+00		pCi/g	89%	(93.)	5/5/10 02:44 a	1.0	0.32712	ALP3	
5/236 4.15E-01 8.5E-02 1.1E-01 3.90E-00 1.38E-02 5.00E-01 (7.9) 5.57/10 02:44 a 10 0.327/2 238 9.00E+00 3.9E-01 1.4E+00 7.51E-02 DC/9 89% (118.3) 5.57/10 02:44 a 10 0.327/2 238 9.00E+00 3.9E-01 1.4E+00 7.51E-02 DC/9 89% (118.3) 5/5/10 02:44 a 10 0.327/2 8547 RL-AD-010 3.9E-01 1.4E+00 7.51E-02 DC/9 89% (118.3) 5/5/10 02:44 a 10 0.327/2 8547 RL-AD-010 3.9E-01 1.4E+00 7.61E-02 DC/9 89% 0.41 5/5/10 02:44 a 10 0.327/2 8549 RL-AD-010 2.3E-02 2.3E-02 DC/9 91% 0.41 5/5/10 02:41 a 10 0.3344 8549 RAD-TH ISO RY LPHA Nork Order: 1.34E-02 1.00E+00 (1.5) 0.41 5/5/10 02:41 a 10 0.3344 828 1.33E+01 7.4E-01 3.0E+02 DC/9 1.00E+00 (1.5) 5/5/10 02:41 a	4.15E-01 8.5E-02 1.1E-01 3.30E-02 5.00E-01 (7.9) 5.510 02:44 a 1.0 0.32712 9.00E+00 3.9E-01 1.4E+00 7.61E-02 5.00E-01 (7.9) 5.510 02:44 a 1.0 0.32712 9.00E+00 3.9E-01 1.4E+00 7.61E-02 p0ig 89% (16.3) 5.510 02:44 a 1.0 0.32712 RL-LD-010 Work Order: 1.0NP71A Ratio u.234238 = 0.8 1.0 0.32710 9 9 RL-LD-010 Work Order: LONP71AD Report DB ID: 9.06 0.41 5.510 02:44 a 1.0 0.32743 RL-DD10 Work Order: LONP71AD Report DB ID: 9.041 5.510 02:44 a 1.0 0.33441 RL-DD10 Work Order: LONP71AD Report DB ID: 9.041 5.510 02:41 a 1.0 0.33441 RAD-TH ISO BY ALPHA Work Order: LONP71AE Report DB ID: 9.041 9.0 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 1.00E+00 1.551 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>3.52E-02</td> <td>5.00E-01</td> <td>(12.7)</td> <td></td> <td>თ</td> <td>6</td> <td></td>							3.52E-02	5.00E-01	(12.7)		თ	6		
238 9.00E+00 3.9E-01 1.4E+00 7.61E-02 PC/Y 89% (118.3) 5/5/10 02.44 10 0.32712 237 RL-ALP-010 3.9E-01 1.4E+00 7.61E-02 PC/Y 89% (118.3) 5/5/10 02.44 10 0.32712 2347 RL-ALP-010 Work Order: LONP71AD Report IDB ID: 9LONP710 0.41 5/5/10 0.3441 10 0.33441 241 4.25E-02 V 2.3E-02 2.3E-02 1.34E-02 1.00E+00 (11.5) 9 9 9 241 4.25E-02 V 2.3E-02 V 1.34E-02 1.00E+00 (11.5) 9 9 9 9 2384 RAD-THISO BY ALPHA Mork Order: LONP71AE Report IDB ID: 9LONP710 1.10 0.33441 1.0 0.33441 2384 J J J J J 0 9 <	1.38E-02 5.00E-01 (7.9) 9 9 9 9.00E+00 3.9E-01 1.4E+00 7.61E-02 p0/g 89% (118.3) 5/5/10 02:44.a 10 0.32712 RL-ALP-010 Work Order: LONP71AD Ratio L234238 = 0.8 9% (118.3) 5/5/10 02:44.a 10 0.32712 RL-ALP-010 Work Order: LONP71AD Report DB1D: 9L0NP710 9 9 9 9 9 ALD-TH D10 Work Order: LONP71AD Report DB1D: 9L0NP710 0.41 0.41 0.33441 10 0.33441 AD-TH ISO BY ALPHA Work Order: LONP71AE Report DB ID: 9L0NP710 1.0 0	U-235/236	4.15E-01	3.8	5E-02	1.1E-01		pCi/g	89%	(10.7)	5/5/10 02:44 a	1.0	0.32712	ALP3	
238 9.00E+00 $3.9E-01$ $1.4E+00$ $7.61E-02$ $C0E-01$ (12.8) $55/10\ 02.44\ a$ 10 0.32712 $3.24E-02$ $5.00E-01$ (12.8) $55/10\ 02.44\ a$ 10 0.32712 $3.24E-02$ $5.00E-01$ (12.8) 9 9 9 $3.24E-02$ $Work Order:$ $LNNP71A$ $Report DS 1D:$ 9.047 $55/10\ 02.44\ a$ 10 0.32742 241 $4.25E-02$ V_1 $Report DS 1D:$ 9.047 $55/10\ 02.41\ a$ 10 0.3341 241 $4.25E-02$ $POE+00$ $1.34E-02$ $1.00E+00$ (1.5) 9 9 9 234 $RAD-THISO BY ALPHA$ $Work Order:$ $LNNP71A$ $RAD-THISO BY ALPHA$ $10.0E+00$ (1.5) 9 9 9 9 234 $RAD-THISO BY ALPHA$ $Nork Order:$ $LNNP71A$ $Report DS 10$ (1.5) 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	9.00E+00 3.9E-01 1.4E+00 7.61E-02 DCME-01 (18.3) 5/5/10 02:44 a 1.0 0.32712 RLALP-010 RLALP-010 Work Order: 2.324E-02 5.00E-01 (12.8) 9							1.38E-02	5.00E-01	(6.7)		ŋ	6		
3.24E-02 5.00E-01 (12.8) 9 9 8347 RI-ALP-010 Work Order: LONP71AD Ratio U-234238 = 0.8 33441 -241 4.25E-02 U 2.3E-02 4.25E-02 91% 0.41 5/5/10 11:29 p 10 0.33441 248 RAD-THISO BY ALPHA Work Order: LONP71AE Report DB ID: 9LONP710 9	RL-ALP-010 Nork Order: LONP71AD Ratio U-234238 = 0.8 9 9 9 RL-ALP-010 Work Order: LONP71AD Report DB ID: 9L0NP710 10 0.33441 4.25E-02 U 2.3E-02 4.25E-02 pCV/9 91% 0.47 5/5/10 11:29 p 10 0.33441 A.25E-02 U 2.3E-02 4.25E-02 pCV/9 91% 0.47 5/5/10 11:29 p 10 0.33441 RD-THISO BY ALPHA Work Order: LONP71AE Report DB ID: 9L00F+00 (1.5) 9 <td>U-238</td> <td>9.00E+00</td> <td>3.6</td> <td>)E-01</td> <td>1.4E+00</td> <td></td> <td>pCi/g</td> <td>89%</td> <td>(118.3)</td> <td>5/5/10 02:44 a</td> <td>1.0</td> <td>0.32712</td> <td>ALP3</td>	U-238	9.00E+00	3.6)E-01	1.4E+00		pCi/g	89%	(118.3)	5/5/10 02:44 a	1.0	0.32712	ALP3	
Ratio U-234/238 = 0.8 Ratio U-234/238 = 0.8 3347 RL-ALP-010 Work Order: LONP71AD Report DB ID: 9LONP710 -241 4.25E-02 U 2.3E-02 4.25E-02 4.25E-02 0.41 5/5/10 11:29 p 1.0 0.33441 249 RAD-TH ISO BY ALPHA Work Order: LONP71AE Report DB ID: 9LONP710 9 <td>Ratio U-234/238 = 0.8 Ratio U-234/238 = 0.8 RL-ALP-010 Work Order: LONP71AD Report DB ID: 9LONP710 4.25E-02 U 2.3E-02 4.26E-02 pC/0 91% 0.41 5/5/10 11:29 p 1.0 0.33441 A.25E-02 U 2.3E-02 4.26E-02 pC/0 91% 0.41 5/5/10 11:29 p 1.0 0.33441 RAD-TH ISO BY ALPHA Work Order: LONP71AE Report DB ID: 9LONP710 1.36E-02 0.306 91% 9.41 9 9 9 1.335+01 7.4E-01 3.0E+00 8.41E-02 pC/0 108% (229.9) 5/5/10 02:41 a 1.0 0.33384 1.25E+01 5.7E-01 2.0E+00 7.71E-02 pC/0 1.08% (162.1) 5/5/10 02:41 a 1.0 0.33384 1.25E+01 5.7E-01 2.0E+00 7.71E-02 pC/0 1.00E+00 (13.3) 9 9 9 9 9 9 9 9 9 9 10 0.33384 1.00E+00 (12.8) 9 9 9 9 9 9 9 9 9 <</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>3.24E-02</td> <td>5.00E-01</td> <td>(12.8)</td> <td></td> <td>δ</td> <td>6</td> <td></td>	Ratio U-234/238 = 0.8 Ratio U-234/238 = 0.8 RL-ALP-010 Work Order: LONP71AD Report DB ID: 9LONP710 4.25E-02 U 2.3E-02 4.26E-02 pC/0 91% 0.41 5/5/10 11:29 p 1.0 0.33441 A.25E-02 U 2.3E-02 4.26E-02 pC/0 91% 0.41 5/5/10 11:29 p 1.0 0.33441 RAD-TH ISO BY ALPHA Work Order: LONP71AE Report DB ID: 9LONP710 1.36E-02 0.306 91% 9.41 9 9 9 1.335+01 7.4E-01 3.0E+00 8.41E-02 pC/0 108% (229.9) 5/5/10 02:41 a 1.0 0.33384 1.25E+01 5.7E-01 2.0E+00 7.71E-02 pC/0 1.08% (162.1) 5/5/10 02:41 a 1.0 0.33384 1.25E+01 5.7E-01 2.0E+00 7.71E-02 pC/0 1.00E+00 (13.3) 9 9 9 9 9 9 9 9 9 9 10 0.33384 1.00E+00 (12.8) 9 9 9 9 9 9 9 9 9 <							3.24E-02	5.00E-01	(12.8)		δ	6		
B347 RL-ALP-010 Work Order: LONP71AD Report DB ID: 9LONP710 -241 4.25E-02 U 2.3E-02 2.3E-02 4.25E-02 0.41 5/5/10 11:29 p 1.0 0.33441 -241 4.25E-02 U 2.3E-02 2.3E-02 4.25E-02 0.01 1.5) 9 9 9 9 9 9 8349 RAD-TH ISO BY ALPHA Work Order: LONP71AE Report DB ID: 9LONP710 9	RL-ALP-010 Work Order: LONP71AD Report DB ID: 9LONP710 4.25E-02 0.38-02 2.3E-02 4.25E-02 0/91% 0.41 5/5/10 11:29 p 1.0 0.33441 4.25E-02 0 1.34E-02 1.00E+00 (1.5) 9 9 9 9 RAD-TH ISO BY ALPHA Work Order: LONP71AE Report DB ID: 9.00NP710 9 9 9 1.935E+01 7.4E-01 3.0E+00 8.41E-02 pC/99 108% (229.9) 5/5/10 02:41 a 1.0 0.33384 1.935E+01 5.7E-01 2.0E+00 7.71E-02 pC/99 108% (72.1) 5/5/10 02:41 a 1.0 0.33384 1.255E+01 5.7E-01 2.0E+00 7.71E-02 pC/99 108% (72.1) 5/5/10 02:41 a 1.0 0.33384 1.255E+01 5.7E-01 2.0E+00 7.71E-02 pC/99 108% (72.8) 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 10.0E+00 (12.8) 10.0E+00<								Ratio U.	-234/238 = 0.8					
-241 4.25E-02 U 2.3E-02 2.3E-02 2.3E-02 4.25E-02 0.41 5/5/10 11:29 p 10 0.3341 8349 RAD-TH ISO BY ALPHA Nork Order: LONP71AE 1.34E-02 1.00E+00 (1.5) 9 9 9 9 9 8349 RAD-TH ISO BY ALPHA Work Order: LONP71AE Report DB ID: 9L0NP710 9 9 9 9 228 1.93E+01 7.4E-01 3.0E+00 8.41E-02 PC/00E+00 (1.3.) 5/5/10 02:41 a 1.0 0.33384 230 1.25E+01 5.7E-01 2.0E+00 7.71E-02 PC/09 1.08% (162.1) 5/5/10 02:41 a 1.0 0.33384 230 1.25E+01 5.7F-01 2.0E+00 7.71E-02 PC/09 1.08% (162.1) 5/5/10 02:41 a 1.0 0.33384 239E-02 1.26F+00 7.71E-02 PC/09 1.00E+00 (12.8) 9 9 9 9 20010111111111111111111111111111111111	4.25E-02 U 2.3E-02 2.3E-02 4.25E-02 CUO 91% 0.41 5/5/10 11:29 p 1.0 0.334t1 RAD-TH ISO BY ALPHA Work Order: LONP71AE Report DB ID: 9LONP710 9 9 9 RAD-TH ISO BY ALPHA Work Order: LONP71AE Report DB ID: 9LONP710 9 9 9 1.93E+01 7.4E-01 3.0E+00 8.41E-02 PC/Ig 108% (229.9) 5/5/10 02:41 a 1.0 0.33384 1.93E+01 5.7E-01 2.0E+00 7.71E-02 PC/Ig 108% (162.1) 5/5/10 02:41 a 1.0 0.33384 1.25E+101 5.7E-01 2.0E+00 7.71E-02 PC/Ig 108% (162.1) 5/5/10 02:41 a 1.0 0.33384 1.25E+101 5.7F-01 2.0E+00 7.71E-02 PC/Ig 108% (162.1) 5/5/10 02:41 a 1.0 0.33384 1.25E+101 5.7F-01 2.0E+00 7.71E-02 PC/Ig 1.00E+00 (12.8) 9 9 9 9 9 9 9 9 9 9 9		RL-ALP-010			Work Order:	LONP71AD	Report	DB ID: 9LON	IP710					
1.34E-02 1.00E+00 (1.5) 9 9 9 8349 RAD-TH ISO BY ALPHA Work Order: LONP71AE Report DB ID: 9LONP710 1.0 0.033384 228 1.93E+01 7.4E-01 3.0E+00 8.41E-02 pCl/g 108% (229.9) 5/5/10 02:41 a 1.0 0.33384 230 1.25E+01 5.7E-01 2.0E+00 7.71E-02 pCl/g 108% (162.1) 5/5/10 02:41 a 1.0 0.33384 230 1.25E+01 5.7E-01 2.0E+00 7.71E-02 pCl/g 108% (162.1) 5/5/10 02:41 a 1.0 0.33384 2304 2.09E-02 1.00E+00 (12.8) 9 9 9 9 9 9	1.34E-02 1.00E+00 (1.5) 9 9 9 9 9 RAD-TH ISO BY ALPHA Work Order: LONP71AE Report DB ID: 9LONP710 9 10 10	Am-241			3E-02	2.3E-02	5E-02	pCi/g	91%	0.41	5/5/10 11:29 p	1.0	0.33441	ALP123	
B349 RAD-TH ISO BY ALPHA Work Order: LONP71AE Report DB ID: 9LONP710 228 1.93E+01 7.4E-01 3.0E+00 8.41E-02 pCi/g 108% (229.9) 5/5/10 02:41 a 1.0 0.33384 230 1.25E+01 5.7E-01 2.0E+00 7.71E-02 pCi/g 108% (162.1) 5/5/10 02:41 a 1.0 0.33384 230 1.25E+01 5.7E-01 2.0E+00 7.71E-02 pCi/g 108% (162.1) 5/5/10 02:41 a 1.0 0.33384 230 1.25E+01 5.7E-01 2.0E+00 7.71E-02 pCi/g 108% (162.1) 5/5/10 02:41 a 1.0 0.33384 230 1.25E+01 5.7E-01 2.0E+00 7.71E-02 pCi/g 108% (162.1) 5/5/10 02:41 a 1.0 0.33384 230 2.0E+00 2.0E+00 7.71E-02 pCi/g 100E+00 (12.8) g g g	RAD-TH ISO BY ALPHA Work Order: LONP71AE Report DB ID: 9LONP710 1.938+01 7.4E-01 3.0E+00 8.41E-02 pCi/g 108% (229.9) 5/5/10 02:41 a 1.0 0.33384 1.938+01 7.4E-01 3.0E+00 8.41E-02 pCi/g 108% (229.9) 5/5/10 02:41 a 1.0 0.33384 1.25E+01 5.7E-01 2.0E+00 7.71E-02 pCi/g 108% (162.1) 5/5/10 02:41 a 1.0 0.33384 MDC[MDALc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume. 9 10.06+00 (12.8) 9 9 9 9 9 9 9 10.04+00 10.2.8)<							1.34E-02	1.00E+00	(1.5)		ð	D		
228 1.93E+01 7.4E-01 3.0E+00 8.41E-02 DCI/g 108% (229.9) 5/5/10 02:41 a 1.0 0.33384 230 1.25E+01 5.7E-01 2.0E+00 7.71E-02 DCI/g 1.08% (162.1) 5/5/10 02:41 a 1.0 0.33384 230 1.25E+01 5.7E-01 2.0E+00 7.71E-02 DCI/g 1.08% (162.1) 5/5/10 02:41 a 1.0 0.33384 230 1.25E+01 5.7E-01 2.0E+00 7.71E-02 DCI/g 1.08% (162.1) 5/5/10 02:41 a 1.0 0.33384 2304 2.99E-02 1.00E+00 (12.8) g g g g	1.93E+01 7.4E-01 3.0E+00 8.41E-02 pCi/g 108% (229.9) 5/5/10 02:41 1.0 0.33384 3.26E-02 1.00E+00 (13.) 9 100 10.2.6) 10.2.6) 10.2.6) 10.0 10.		RAD-TH ISO BY ALF	AHA			LONP71AE	Report	DB ID: 9LON	P710					
3.26E-02 1.00E+00 (13.) 9 9 9 230 1.25E+01 5.7E-01 2.0E+00 7.71E-02 pCi/g 108% (162.1) 5/5/10 0.33384 230 1.25E+01 5.7E-01 2.0E+00 7.71E-02 pCi/g 108% (162.1) 5/5/10 0.33384 200 2.99E-02 1.00E+00 (12.8) 9 9 9	3.26E-02 1.00E+00 (13.) 9 9 9 1.25E+01 5.7E-01 2.0E+00 7.71E-02 pCi/g 108% (162.1) 5/5/10 02:41 a 1.0 0.33384 MDC[MDA,Lc 0 2.99E-02 1.00E+00 (12.8) 9 9 9 9 MDC[MDA,Lc Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume. 1.0 Line Analyzed for but not detected above limiting criteria is less than the Mdc/Mda or Total Uncert or not identified by damma scan software.	Th-228	1.93E+01	7.4	tE-01	3.0E+00		pCi/g	108%	(229.9)	5/5/10 02:41 a	1.0	0.33384	ALP172	
230 1.25E+01 5.7E-01 2.0E+00 7.71E-02 pCi/g 108% (<i>162.1</i>) 5/5/10 02:41 a 1.0 0.33384 2.99E-02 1.00E+00 (<i>12.8</i>) g g g	1.25E+01 5.7E-01 2.0E+00 7.71E-02 pCi/g 108% (162.1) 5/5/10 02:41 1.0 0.33384 RDC[MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume. 9 9							3.26E-02	1.00E+00	(13.)		ŋ	ŋ		
2.99E-02 1.00E+00 (12.8) g MOCIMDAL C. Detection Desicion Local hand instrument harborning or blank adjusted by the sample Efficiency Viald and Volume	2.99E-02 1.00E+00 (<i>12.8</i>) 9 MDC[MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume. 11 Ouel - Analyzed for hirt not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by damma scan software	Th-230	1.25E+01	5.7	'E-01	2.0E+00		pCi/g	108%	(162.1)	5/5/10 02:41 a	1.0	0.33384	ALP172	
								2.99E-02	1.00E+00	(12.8)		D	D		
		TestAmerica	MDC MDA,Lc - Detectio	on, Decisio	n Level ba	ised on instrun	nent backgrou	ind or blank, ad	justed by the	sample Efficie	ncy, Yield, and Volume	di bi			

TestAmerica Laboratories, Inc.

				SAW							
Lab Name:	TestAmerica	ca		SDG:	41277	77		Collection Date: 2/5/2010 9:02:00 PM	2/5/2010 9:0	02:00 PM	
Lot-Sample No.: J0D280537-2	J0D280537	-2		Report No. :	No.: 43800	00		Received Date:	4/28/2010 10:00:00 AM	0:00:00 AN	_
Client Sample ID: ITA1358-02): ITA1358-02	~		COC No. :				Matrix:	WATER		
ITA1358								Orde	Ordered by Client Sample ID, Batch No.	Sample ID, F	3atch No.
Parameter	Result Qua	Count Qual Error(2s)	Total Uncert(2 s)	MDC MDA, Rpt Unit, Action Lev Lc	Rpt Unit, Lc	Yieid CRDL(RL)	Yield Rst/MDC, CRDL(RL) Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Th-232 1	1.65E+01	6.5E-01	2.6E+00	6.91E-02 pCi/g	Di/g	108%	(238.9)	5/5/10 02:41 a	1.0	0.33384	ALP172
					2.59E-02	1.00E+00	(12.9)		ß	ĝ	

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume. U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software. rptSTLRchSample V5.2.5 A2002 TestAmerica

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Date: 10-May-10

BLANK RESULTS

Matrix:	WATER								Report No. :	o. : 43800		
Parameter Sarameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 0118345	RL-ALP-002			Work Order:	LONTH1AA	Report I	Report DB ID: LONTH1AB	TH1AB				
Pu-238	7.77E-05	⊃	4.1E-05	4.1E-05	7.77E-05	pCi/g	78%	0.22	5/5/10 11:11 p		200.04	ALP39
					2.75E-05	1.00E+00		0.81			ŋ	
Pu-239/40	6.15E-05	D	3.7E-05	3.8E-05	6.15E-05	pCi/g	78%	0.41	5/5/10 11:11 p		200.04	ALP39
					1.94E-05	1.00E+00		(1.3)			б	
Batch: 0118347	RL-ALP-010			Work Order:	LONTM1AA	Report [Report DB ID: LONTM1AB	TM1AB				
Am-241	6.28E-05		2.4E-05	2.4E-05	6.28E-05	pCi/g	68%	ö	5/5/10 11:29 p		200.04	ALP124
					1.99E-05	1.00E+00		ō			b	
C Batch: 0118349	RAD-TH ISO BY ALPHA	BY ALPF	łA	Work Order:	LONTN1AA	Report [Report DB ID: LONTN1AB	TN1AB				
Th-228	5.93E-04		2.0E-04	2.2E-04	1.15E-04	pCi/g	108%	(5.2)	5/5/10 02:41 a		207.53	ALP173
					3.63E-05	1.00E+00		(5.5)			ŋ	
Th-230	1.05E-04	⊃	7.6E-05	7.6E-05	1.05E-04	pCi/g	108%	0.68	5/5/10 02:41 a		207.53	ALP173
					3.33E-05	1.00E+00		(1.9)			ß	
Th-232	1.05E-04	⊃	5.7E-05	5.8E-05	1.05E-04	pCi/g	108%	0.41	5/5/10 02:41 a		207.53	ALP173
					3.33E-05	1.00E+00		(1.5)			D	
Batch: 0118346	RL-ALP-009			Work Order:	LONTK1AA	Report I	Report DB ID: LONTK1AB	TK1AB				
U-233/234	6.61E-05	⊃	4.9E-05	5.0E-05	6.61E-05	pCi/g	94%	0.93	5/5/10 02:44 a		208.99	ALP4
					2.48E-05	5.00Ë-01		(2.5)			D	
U-235/236	6.61E-05	⊃	2.5E-05	2.5E-05	6.61E-05	pCi/g	94%	-0.19	5/5/10 02:44 a		208.99	ALP4
					2.48E-05	5.00E-01		-1.			σ	
U-238	7.38E-05	⊃	4.1E-05	4.1E-05	7.38E-05	pCi/g	94%	0.25	5/5/10 02:44 a		208.99	ALP4
					2.86E-05	5.00E-01		0.9			ß	
							Ratio	Ratio U-234/238 = 3.3				
	C MDA,Lc - De	etection,	Decision Level	based on instru	nent backgrou	nd or blank, ad	justed by th	te sample Efficie	MDC MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.	me. on software		
rptSTLRchBlank ^U V V5.2.5 A2002	guai - Aualyzeu	101 0411 1	int detected apove	: muuung ci mei m.					ר להמו - אומואכפו ועד טינו הטר הכוכנוכט מטטיס ווווונווט כי ווכויום איז וכא האינטיאוום ער דעיבו עו אוין ווכנוידים איז איז איז געים איז איז איז איז איז איז איז איז גער איז איז איז איז גער איז איז גערטיאוים איז איז איז גערטיאיז כי ער גערטיאיז גער			

TestAmerica Laboratories, Inc.

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Comments:	Comments:	Commets:	Comments	1		Total Uncert(2 s)	MDC MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
				1	Comments:									

MDC[MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

TestAmerica rptSTLRchBlank V5.2.5 A2002 Date: 10-May-10

FORM II

LCS RESULTS

Lab Name: TestAmerica Matrix: WATER

41277 3800 SDG:

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Batch: 0118345 RL-ALP-002 Pu-239/40 3.05E-02 Batch: 0118347 RL-ALP-010 Am-241 3.90E-02	02		Uncert(2 s)	Uncert(2 s) MDC MDA Unit	Yield	Expected Uncert	t Bias	Prep Date	Size	Detector
BL-4	02		Work Order.	Work Order: LONTH1AC	Report DB ID: LONTH1CS	LONTH1CS				
HL-/		9.7E-04	4.3E-03	9.22E-05 pCi/g	83%	3.35E-02 1.01E-03	-03 91%	5/5/10 11:11 p	210.71	ALP40
HL-/					Rec Limits:	70 130	-0.1		Ø	
			Work Order	Work Order: LONTM1AC	Report DB ID: LONTM1CS	LONTMICS				
	02	1.0E-03	5.5E-03	5.01E-05 pCi/g	110%	110% 4.28E-02 1.40E-03 91%	-03 91%	5/5/10 11:29 p	210.71	ALP125
					Rec Limits:	70 130	-0.1		6	
Batch: 0118349 RAD-TH ISO BY ALPHA) BY ALPH	IA	Work Order	Work Order: LONTN1AC	Report DB ID: LONTN1CS	LONTN1CS				
Th-230 1.09E-02	02	8.1E-04	1.8E-03	1.10E-04 pCi/g	103%	1.16E-02 3.47E-04	-04 95%	5/5/10 02:41 a	201.96	ALP174
15					Rec Limits:	70 130	-0.1		Ð	
Batch: 0118346 RL-ALP-009			Work Order	Work Order: LONTK1AC	Report DB ID: LONTK1CS	LONTK1CS				
U-233/234 9.30E-03	03	4.9E-04	1.5E-03	5.90E-05 pCi/g	86%	8.53E-03 5.19E-05 109%	-05 109%	5/5/10 02:44 a	204.28	ALP5
					Rec Limits:	70 130	0.1		ŋ	
U-238 9.20E-03	03	4.8E-04	1.5E-03	6.84E-05 pCi/g	86%	8.93E-03 5.43E-05	:-05 103%	5/5/10 02:44 a	204.28	ALP5
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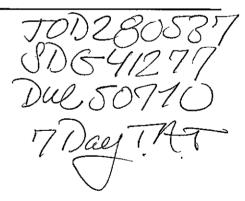
SUBCONTRACT ORDER **TestAmerica** Irvine

ITA1358

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

Analysis	Units	Due	Expires	Interlab Price S	urch	Comments
ample ID: ITA1358-02 (Out	tfall 008 (Co	mposite) - Wat	er) Sampled	: 01/18/10 14:08		LONPT
Gamma Spec-O -	mg/kg	01/27/10	01/18/11 14:08		0%	Out St Louis, K-40 and CS-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	01/27/10	07/17/10 14:08	\$100.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	01/27/10	07/17/10 14:08	\$100.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Level 4 Data Package - Out	N/A	01/27/10	02/15/10 14:08	\$0.00	0%	
Radium, Combined-O	pCi/L	01/27/10	01/18/11 14:08	\$238.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Strontium 90-0 ·	pCi/L	01/27/10	01/18/11 14:08	\$155.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	01/27/10	01/18/11 14:08	\$120.00	0%	Out St Louis, Boeing permit, DO NOT FILTER!
Containers Supplied:						
2.5 gal Poly (H) 5	500 mL Aml	per (I)				



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Received By

<u>Lec/ro_1</u> Date/Time 1.21.18 1.2110 12/83 Date/Time

Page 1 of 1

Released By Date/Time Test America Laboratorios, Inc. 4/2.7/13

Received Bv 16

Import Lab Information Frontent Name Proper Lab Information Month-Faadera Bio Import Lab Information Export Lab Information Export Lab Information Month-Faadera Bio Efficient Contract Name Export Lab Information Export Lab Information Month-Faadera Bio Efficient Contract Name Export Lab Information Project Information Month-Faadera Bio Efficient Contract Name Export Lab Information Project Information Month-Faadera Bio Efficient Contract Name Export Lab Information Month-Faadera Bio Month-Faadera Bio Efficient Contract Name Export Lab Information Project Information Month-Faadera Bio Contract Contract Name Export Lab Information Month-Faadera Bio Month-Faadera Bio Contract Contract Name Export Name Export Name Month-Faadera Bio Contract Contract Name Contract Contract Name Month-Faadera Bio Contract Contract Name Export Name Export Name Month-Faadera Bio Contract Contract Name Contract Rame Month-Faadera Bio Month-Faadera Bio Conter Contract Name Expontencont Rame<	Lab Name Lab Name Lab Name Lab Name Contact Name Fika Jordon MSD Sucharge % Dist Sucharge % Ontil Proce 7 (a) % Vint Proce 7 (a) % Vint Proce 7 (a) % Vonk Product No % Vonk Product No % Vonk Product No % Mont Product No % Mont Product No % Mont Report No % Molding Times None % Inserv Options None % Influentorins None % Influentorins None % Method NA Method NA Method NA Method NA Method NA Method NA None NA None NA None NA None NA None NA No				SIL LUUIS	
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TestAmerica Laboratories, Inc.

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	<u>TestAmerica</u>	
•	THE LEADER IN ENVIRONMENTAL TESTING	1ple Check-in List
	Date/Time Received: 42010 GM	Screen Results (out)
	Client: TA-ININE SDG #:	
	Work Order Number: 70028053	Chain of Custody #_UTA 1358
	Shipping Container ID:	() Air Bill #
	Item 1 through 5 for shipping container only. <u>Initial</u> a	
	1. Custody Seals on shipping container intact?	
	2. Custody Seals dated and signed?	G and I into outstody sear []
	3. Chain of Custody record present?	G and find the custody sear []
	4 Cooler torrest	Vermioulitate
	Item 6 through 10 for samples. Initial appropriate resp	Vermiculite/packing materials is NA [] Wet [] Dry
	6. Number of samples in shipping container (Eac	
	7. Sample holding times exceeded?	
	8. Samples have:	NA[]Yes[]No
	custody seals	hazard labels 24P-CACK
	9. Samples are:	appropriate sample labels
	broken	leaking
	·	have air bubbles . (Only for samples requiring head space)
	10. Sample pH taken? NA [] pH<2[pH>2	2 [pH>9 [] Amount of HNO3 Added
	11. Sample Location, Sample Collector Listed? * . *For documentation only. No corrective action	
· · ·	12. Were any anomalies identified in sample receip	t?
	13. Description of anomalies (include sample numb	
		to the state of th
· · ·	+++	
	Sample Custodian	for additional comments
	Client Informed on by	Person contacted
	Xi No action necessary; process as is.	Person contacted
. :	Project Manager Lube And	- Ulasha
	LS-023, Rev. 10, 10/09	Date 1/ 6/10
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TestAmerica Laboratories, Inc.

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TestAmerica St. Louis



TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. ITA1358

MWH-Pasadena Boeing

Lot #: F0C010430

Joseph Doak

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

TESTAMERICA LABORATORIES, INC.

Ølay Project Manager

March 18, 2010

Case Narrative LOT NUMBER: F0C010430

This report contains the analytical results for the sample received under chain of custody by TestAmerica St. Louis on March 1, 2010. This sample is associated with your MWH-Pasadena Boeing project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted below.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by TestAmerica St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. **TestAmerica St. Louis' Florida certification number is E87689.** The case narrative is an integral part of this report.

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

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

Observations/Nonconformances

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

Gross Alpha/Beta Method: 900.0 MOD

Batch 0062107 The Gross Alpha reporting limit was not met due to a reduction of sample size attributed to the sample's high residual mass. The analytical results are reported. **Affected Sample:** F0C010430 (1): ITA1358-02

Gross Alpha/Beta Method: 9310 MOD

Batch 0073019-Suspended The Gross Alpha and Beta reporting limits were not met due to a reduction of sample size attributed to the high activity of the sample. The analytical results are reported. **Affected Sample:** F0C010430 (1): ITA1358-02

METHODS SUMMARY

F0C010430

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Gross Alpha/Beta by GFPC Gross Alpha/Beta EPA 900	SW846 9310 MOD EPA 900.0 MOD	EPA 900.0

References:

- EPA "EASTERN ENVIRONMENTAL RADIATION FACILITY RADIOCHEMISTRY PROCEDURES MANUAL" US EPA EPA 520/5-84-006 AUGUST 1984
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F0C010430

WO # SAI	MPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
LV6L6	001	ITA1358-02	01/18/10	14:08
NOTE (S) :				

- The analytical results of the samples listed above are presented on the following pages.

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

- Results noted as "ND" were not detected at or above the stated limit.

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

- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor,

paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

.

TestAmerica Irvine

Client Sample ID: ITA1358-02

Radiochemistry

Lab Sample ID: Work Order: Matrix:	F0C010430-001 LV6L6 WATER			Date Colle Date Recei		1/18/10 1408 3/01/10 1000	
Parameter	Result	Qual	Total Uncert. (2 s+/-)	RL	mdc	Prep Date	Analysis Date
Gross Alpha/Beta	EPA 900		I	Ci/L	Batc	h # 0062107	Yld %
Gross Alpha	32.6		8.1	3.0	6.3	03/03/10	03/07/10
GROSS A/B BY GFP	C SW846 9310 MOD		I	Ci/L	Batc	h # 0073020	Yld %
Gross Alpha, Disso	lved 2.2	J	1.0	3.0	1.1	03/14/10	03/18/10
Gross Beta, Dissol	ved 5.1		1.2	4.0	1.6	03/14/10	03/18/10
GROSS A/B BY GFP	C SW846 9310 MOD		I	Ci/L	Batc	h # 0073019	Yld %
Gross Alpha, Suspe	nded 43		13	3	10	03/15/10	03/16/10
Gross Beta, Suspen	ded 64		16	4	16	03/15/10	03/16/10

NOTE (S)

Data are incomplete without the case narrative.

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

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

METHOD BLANK REPORT

Radiochemistry

Client Lot ID:	F0C010430
Matrix:	WATER

Parameter	Result	Qual	Total Uncert. (2 g+/-)	RL	MDC		Prep Date	Lab Sample ID Analysis Date
Gross Alpha/Beta	EPA 900		pCi/L	Batch #	0062107	Yld %	E.(0C030000-107B
Gross Alpha	-0.52	U	0.42	3.00	1.1		03/03/10	03/07/10
Gross Beta	-0.44	U	0.57	4.00	1.1		03/03/10	03/07/10
GROSS A/B BY GFP	C SW846 9310	MOD	pCi/L	Batch #	0073020	Yld %	F	0C140000-020B
GROSS A/B BY GFP Gross Alpha, Dissolva		МО Д U	pCi/L	Batch # 3.00	0073020 0.82	Yld %		DC140000-020B 03/16/10
Gross Alpha, Dissolve	ed -0.09				-	Yld %	03/14/10	
Gross Alpha, Dissolve	ed -0.09 1 0.53	U U	0.38	3.00	0.82 1.5	Yld %	03/14/10 03/14/10	03/16/10
Gross Alpha, Dissolve Gross Beta, Dissolve	ed -0.09 1 0.53 C SW846 9310	U U	0.38 0.92	3.00 4.00	0.82 1.5		03/14/10 03/14/10 F (03/16/10 03/16/10

NOTE (S)

Data are incomplete without the case narrative.

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

U Result is less than the sample detection limit.

Laboratory Control Sample Report

Radiochemistry

Client Lot ID: F0C010430 Matrix: WATER

			Total		Lab Sample ID		
Parameter	Spike Amount	Result	Uncert. (2 g+/-)	MDC	% Yld % Rec	QC Control Limits	
Gross Alpha/Beta EPA	900		pCi/L	900.0 MOD	FOCO	30000-107C	
Gross Beta	68,0	75.0	6.3	0.7	110	(58 - 133)	
	Batch #:	0062107		Analysis Date:	03/07/10		
Gross Alpha/Beta EPA	900		pCi/L	900.0 MOD	FOCO	30000-107C	
Gross Alpha	49.4	47.9	5.5	1.1	97	(62 - 134)	
	Batch #:	0062107		Analysis Date:	03/07/10		
GROSS A/B BY GFPC SW	846 9310 MOD		pCi/L	9310 MOD	F0C1	40000-019C	
Gross Alpha, Suspended	372	318	26	0.5	86	(73 - 136)	
Gross Beta, Suspended	283	259	20	1	92	(73 - 122)	
	Batch #:	0073019		Analysis Date:	03/16/10		
GROSS A/B BY GFPC SW	846 9310 MOD		pCi/L	9310 MOD	F0C1	40000-020C	
Gross Beta, Dissolved	68.2	67.8	5.8	1.6	99	(77 - 123)	
	Batch #:	0073020		Analysis Date:	03/16/10		
GROSS A/B BY GFPC SW	846 9310 MOD		pCi/L	9310 MOD	F0C1	40000-020C	
Gross Alpha, Dissolved	49.4	50.0	5.4	1	101	(80 - 140)	
	Batch #:	0073020		Analysis Date:	03/16/10		

NOTE (S)

MATRIX SPIKE REPORT

Radiochemistry

Client Lot Id:	F0B250518	Date Sampled:	02/25/10
Matrix:	WATER	Date Received:	02/25/10

			Total		Total	QC Sample ID	
Parameter	Spike Amount	Spike Result	Uncert. (20+/-)	Spike Sampl Yld. Resul	e Uncert.	%YLD %REC	QC Control Limits
Gross Alpha/Beta EPA 9	00		pCi/L	900.0 M	OD	F0B250518	3-001
Gross Beta	566	595	50	56.3	9.4	95	(54 - 150)
	Batch #:	0062107	Ar	nalysis Date:	03/07/10		
Gross Alpha/Beta EPA 9	00		pCi/L	900.0 M	OD	F0B250518	3-001
Gross Alpha	412	339	49	10	10	80	(35 - 150)
	Batch #:	0062107	Ar	nalysis Date:	03/07/10		
GROSS A/B BY GFPC SW84	6 9310 MOD		pCi/L	9310 MO	D	F0C01043	0-001
Gross Beta, Dissolved	68.2	79.2	6.6	5.1	1.2	109	(71 - 146)
	Batch #:	0073020	Ar	nalysis Date:	03/16/10		
GROSS A/B BY GFPC SW84	6 9310 MOD		pCi/L	9310 MO	D	F0C01043	0-001
Gross Alpha, Dissolved	49.4	51,9	5.8	2.2	1.0	100	(33 - 150)
	Batch #:	0073020	Ar	nalysis Date;	03/16/10		

NOTE (S)

Data are incomplete without the case narrative.

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

DUPLICATE EVALUATION REPORT

Radiochemistry

Client Lot ID:	F0C010430	Date Sampled:	02/25/10
Matrix:	WATER	Date Received:	02/25/10

			Total			Total	Q	C Sample ID	
Parameter	SAME Resu		Uncert. (2 g +/-)	% Yld	DUPLICATE Result	Uncert. (2 σ+/-)	% Yld	Precis:	ion
Gross Alpha/Beta EPA	900			pCi/L	900.0 M	סכ	FOI	3250518-0	01
Gross Alpha	10	U	10		14 U	12		29	%RPD
Gross Beta	56,	3	9.4		57.4	9.4		2	%RPD
		Batch #:	0062107	(Sample)	0062107	(Duplicate)			
GROSS A/B BY GFPC SW	846	9310 MOD		pCi/L	9310 MOI	b	FOC	2010430-0	01
Gross Alpha, Dissolved	2.2	J	1.0		3.6	1.2		46	%RPD
Gross Beta, Dissolved	5.1		1.2		5.6	1.3		9	%RPD
		Batch #:	0073020	(Sample)	0073020	(Duplicate)			
GROSS A/B BY GFPC SW	846	9310 MOD		pCi/L	9310 MOI	D	FOC	2010430-0	01
Gross Alpha, Suspended	43		13		36	13		17	%RPD
Gross Beta, Suspended	64		16		52	15		20	%RPD
		Batch #:	0073019	(Sample)	0073019	(Duplicate)			

NOTE (S)

Data are incomplete without the case narrative.

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

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

TestAmerica EANALYSIS / SUB-CONTRACT / CLIENT RETURN FORM

Req	uest Initiated by: Request Date: Quote Number: Client Number: SDG Number:	(4 (Protocol B)	Kay Clay 03-01-10
Retu Reau Sub-	t is for (check one): Irn to Client <i>(Client FedE</i> nalysis Contract Sample tional Analysis		New Lot (check one):
	Old Lot Number:	F0A210532	·
Client ID	Sampled date/time*	Shelf Location	Line item from quote (include Rad Screen if required)
ITA1358-02	See attached	R232	1. Gross Alpha (re-analysis) 2. Gross Alpha Suspended
	·		3. Gross Alpha Dissolved
* or attach o	riginal Chain of Custody		
		Date for New Lo	
	Analytical 3-15-10		Report 3-16-10
	For Sub-Cont	ract or Return to	Client ONLY
s	hipping Address:	··	
	<u></u>	<u></u>	
	Contact Person: Phone Number:		
L	Project Manager Signa	ture:	
		······································	IGINAL SAMPLE
Law	eted by:		Date: 3././ð
New Login	Lot Number: FOCO/	5430	(place copy of this form in old file)
	Containers were Re-lat	e	(place below lot number of old label)

SUBCONTRACT ORDER TestAmerica Irvine

ITA1358

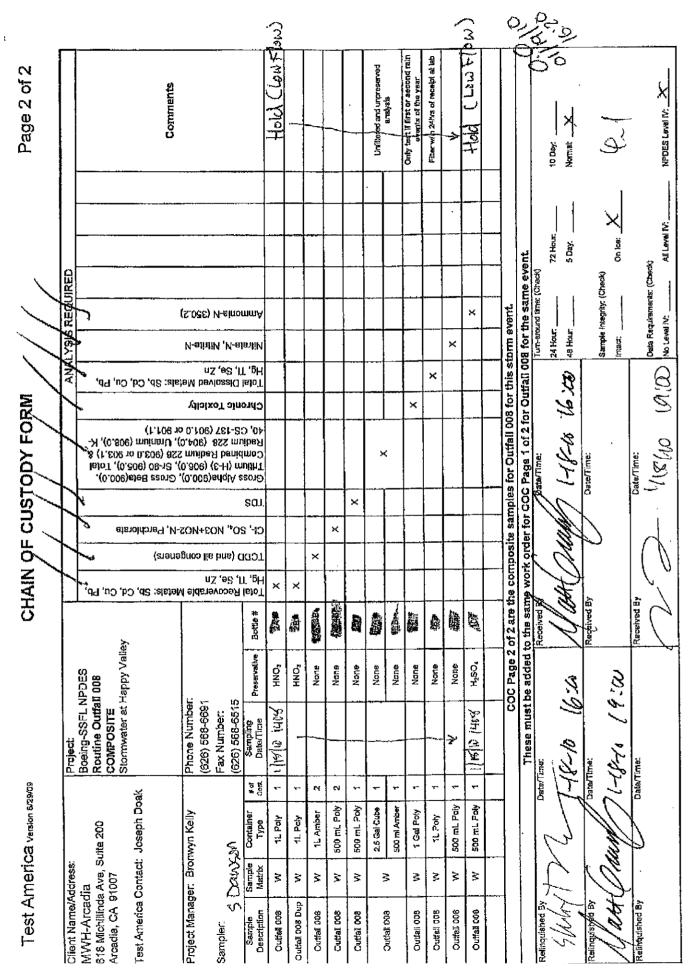
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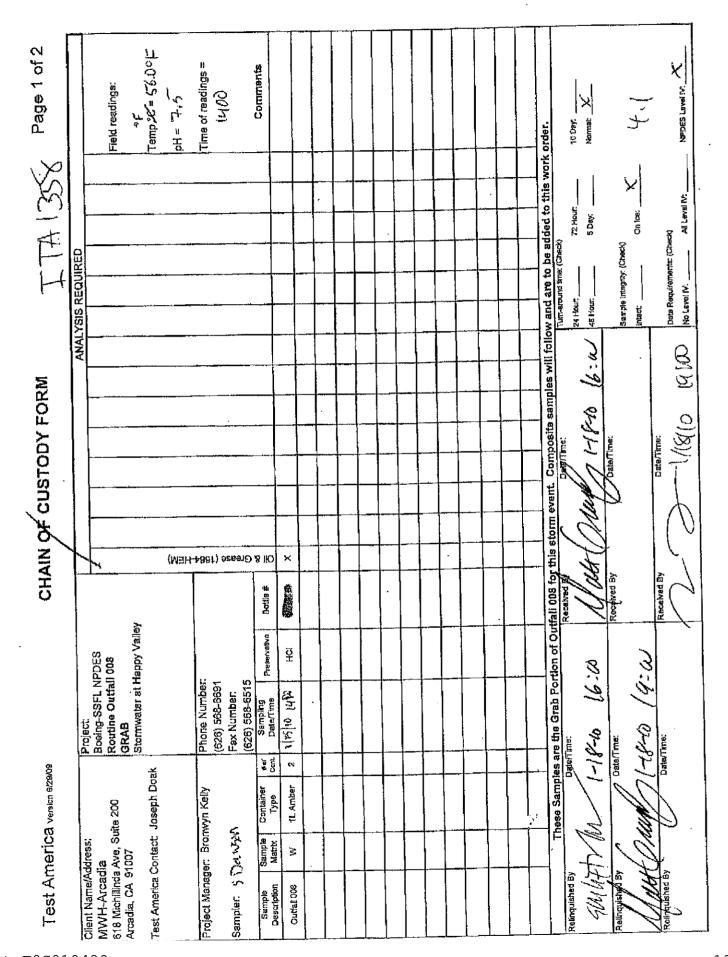
SENDING LABORATORY:	RECEIVING LABORATORY:
TestAmerica Irvine	TestAmerica St. Louis
17461 Derian Avenue. Suite 100	13715 Rider Trail North
Irvine, CA 92614	Earth City, MO 63045
Phone: (949) 261-1022	Phone :(314) 298-8566
Fax: (949) 260-3297	Fax: (314) 298-8757
Project Manager: Joseph Doak	Project Location: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

Analysis	Units	Due	Expires	Interlab Price S	urch	Comments
ample ID: ITA1358-02 (Out	fall 008 (Co	nposite) - Wat	er) Samoled	: 01/18/10 14:08	ł	
Gamma Spec-O -	mg/kg	01/27/10	01/18/11 14:08		0%	Out St Louis, K-40 and CS-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	01/27/10	07/17/10 14:08	\$100.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	01/27/10	07/17/10 14:08	\$100.00	50%	Out St Louis, Beeing permit, DO NOT FILTER!
Level 4 Data Package - Out	N/A	01/27/10	02/15/10 14:08	\$0.00	0%	
Radium, Combined-O	pCi/L	01/27/10	01/18/11 14:08	\$238.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Strontium 90-0 🧃	pCi/L	01/27/10	01/18/11 14:08	\$155.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	01/27/10	01/18/11 14:08	\$120.00	0%	Out St Louis, Boeing permit, DO NOT FILTER!
Containers Supplied:						
2.5 gal Poly (H) 🗧 🥴	500 mL Aml	per (I)				

meles 1/20/10 17:00 Released Date/Ťime

1/20/10 17:00 W Date/Time 1.21/0 12/05 Received By





TestAmerica St. Louis

٠.

Lot Lot	1Ks FOA2105.32
THE LEADER INTRODUCENTAL TESTING	
	<u> </u>
CONDITION UPON RECEIPT FORM	<u></u>
Client: TA Dovine	
Quote No: <u>85644</u>	· · ·
COC/RFA No: 1771 1330, 31, 28, 58	•
Initiated By:	Dat220 1.21.10 Time: 1215
	olug Information
	nt Other: Multiple Packages: (Y)N
Shipping # (s):*	Sample Temperature (s):**
1. <u>4289 2132 9059</u> 6	1. anlient 6.
2. 9060 7.	2 7
-	3 8
. 4 9	4 9
	5 10
*Numbered shipping lines correspond to Numbered Sample Temp lines	**Sample must be received at 4°C ± 2°C. If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquidfor Radyests- Liquid or Solids
Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):	
1. N Are there custody seals present on the cooler?	8. Y N Are there custody seals present on bottles?
2. Y D N/A Do custody seals on cooler appear to be tampered with?	9. Y N (NA tampered with?
3. B N Were contents of cooler frisked after opening, but before unpacking?	10. Y N N/A Was sample received with proper pH ¹ ? (If not, make note below)
4. D N Sample received with Chain of Custody?	11. X N Sample received in proper containers?
5. N N/A Does the Chain of Custody match sample ID's on the container(s)?	12. Y NNA Headspace in VOA or TOX liquid samples? (if Yes, note sample ID's below)
6. YN Was sample received broken?	13. Y N N/2 Was Internal COC/Workshare received?
7. DN Is sample volume sufficient for analysis?	14. Y N(N/A) Was pH taken by original TestAmerica lab?
For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received in Notes: Log + 1+1/100 / 100 T. T. ALSSB	must be verified, EXCEPT VOA, TOX and soils.
Sample 1 langed 1 - Ka	is here total Alindad Asamali
Sample de loger for 200	A HUPLON, TOTAL , CREASPORT + Superverler
A A A A A A A A A A A A A A A A A A A	A WARANER DS UT 40
analyzon re-regular	ter lato 03-01-10 and lab
- morigint as paro	-Keo
Corrective Action:	
D Client Contact Name:	Informed by:
Sample(s) processed "as is" Sample(s) on hold until;	If released, notify:
Project Management Review:	Date: 01-22-10
THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEI	ENG CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN R INITIAL AND THE DATE NEXT TO THAT ITEM.
ADMIN	-0004, REVISED 10/21/08 \Slavr01\QA\FORMS\ST-LOUIS\ADMIN\Admin004 rev11.doc

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APPENDIX G

Section 29

Outfall 008 – February 5 & 6, 2010

MECX Data Validation Report

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DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ITB0892

Prepared by

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

I. INTRODUCTION

Task Order Title: Contract Task Order:	Boeing SSFL NPDES 1261.100D.00
Sample Delivery Group:	ITB0892
Project Manager:	B. Kelly
Matrix:	Water
QC Level:	IV
No. of Samples:	1
No. of Reanalyses/Dilutions:	0
Laboratory:	TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 008 (Comp)	ITB0892-03	F0B090481- 001, G0B100426- 001, 135418- 3	Water	2/5/2010	ASTM 5174-91, 100.2, 200.7, 200.7 (Diss), 200.8, 200.8 (Diss), 245.1, 245.1 (Diss), 1613B, 900.0 MOD, 901.1 MOD, 903.0 MOD, 904 MOD, 905 MOD, 906.0 MOD, SM2340B, SM2340B (Diss), SM2540D

II. Sample Management

No anomalies were observed regarding sample management. The sample receipt temperature was noted to be ambient by TestAmerica-St Louis; however, due to the nonvolatile nature of the analytes, no qualifications were required. No temperature information was provided by EMS Laboratories for asbestos. Asbestos samples should be cooled during transport to retard algal growth; however, as the case narrative did not note any sample receipt problems, no qualifications were required. The sample was received below the temperature limits at TestAmerica-West Sacramento; however, the sample was not noted to be frozen or damaged. The samples in this SDG were received at the remaining laboratories within the temperature limits of $4^{\circ}C \pm 2^{\circ}C$. According to the case narratives 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 present upon receipt at TestAmerica-West Sacramento and TestAmerica-St. Louis. As the samples were delivered to the remaining laboratories by courier, no custody seals were necessary. If necessary, the client ID was added to the sample result summary by the reviewer.

Qualifie	r 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.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
Н	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
С	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.
В	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.
Е	Not applicable.	Duplicates showed poor agreement.
Ι	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
А	Not applicable.	ICP Serial Dilution %D were not within control limits.
Μ	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
Т	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

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.
Ρ	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.
*11, *111	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 100.2—Asbestos

Reviewed By: P. Meeks Date Reviewed: March 29, 2009

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the MEC^{X} Data Validation Procedure for General Minerals (DVP-6, Rev. 0), EPA Method 100.2, and the National Functional Guidelines for Inorganic Data Review (10/2004).

- Holding Times: The sample was filtered one day beyond the 48-hour holding time; therefore, nondetected asbestos in the sample was qualified as estimated, "UJ." There is no analysis holding time; however, the sample was analyzed within 5 days of collection.
- Calibration: The refractive index calibration was acceptable.
- Blanks: A method blank was analyzed with the site sample. Asbestos was not detected in the method blank.
- Blank Spikes and Laboratory Control Samples: Not applicable to this analysis.
- Laboratory Duplicates: No laboratory duplicate analysis was performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: Not applicable to this analysis.
- Sample Result Verification: The sample result was verified against the raw data. No transcription errors were noted. Any detects reported below 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 1613—Dioxin/Furans

Reviewed By: L. Calvin Date Reviewed: March 27, 2010

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

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.
- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.
 - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was analyzed with 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 ≤20% for the 16 native compounds (calibration by isotope dilution) and ≤35% for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the Method 1613 QC limits for all standards.
 - Continuing Calibration: Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VERs were acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits.
- Blanks: The method blank had detects between the EDL and the RL for 1,2,3,4,6,7,8-HpCDD and total HpCDD, OCDD, 1,2,3,4,6,7,8-HpCDF and total HpCDF, and OCDF. Most detects in the method blank did not meet ratio criteria and were reported as EMPCs; however, due to the extent of contamination present in the method blank, it was the reviewer's professional opinion that those results be utilized to qualify applicable sample results. Isomers present in the sample between the EDLs and RLs were qualified as nondetected, "U," at the levels of contamination. The sample result for total HpCDD was

qualified as nondetected, "U," as both peaks comprising the total were present in the method blank. Total HpCDF included one peak not present in the method blank, and was qualified as estimated, "J," as only a portion of the total was considered method blank contamination. The method blank concentration for OCDD was insufficient to qualify the sample result.

- Blank Spikes and Laboratory Control Samples: OPR recoveries were within the acceptance criteria listed in Table 6 of Method 1613.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Internal Standards Performance: The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613.
- Compound Identification: Compound identification was verified. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613. A confirmation analysis was performed for 2,3,7,8-TCDF, and the initial result was not confirmed. The initial result was rejected, "R," in favor of the confirmation result, and the result for total TCDF was changed to nondetected, "U," at the level of the initial result.
- Compound Quantification and Reported Detection Limits: Compound quantitation was verified by recalculating a representative number of reportable sample results. Any EMPCs qualified as nondetected for method blank contamination were not further qualified as EMPCs. Any remaining isomers reported as EMPCs were qualified as estimated and nondetected, "UJ," at the level of the EMPC. Any total results reported as EMPCs or including EMPCs were qualified as estimated, "J." Any detects reported below the EDL, or 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.

C. EPA METHODS 200.7, 200.8, and 245.1—Metals and Mercury

Reviewed By: P. Meeks Date Reviewed: March 29, 2010

The sample listed in Table 1 for these analyses were validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA

Methods 200.7, 200.8, and 245.1, and the National Functional Guidelines for Inorganic Data Review (7/02).

- Holding Times: Analytical holding times, six months for ICP and ICP-MS metals and 28 days for mercury, were met.
- Tuning: The mass calibration and resolution checks criteria were met. All tuning solution %RSDs were ≤5%, and all remaining masses of interest were calibrated to ≤ 0.1 amu and ≤0.9 amu at 10% peak height.
- Calibration: Calibration criteria were met. The total thallium ICV was recovered marginally above the control limit; however, as thallium was not detected in the sample, no qualifications were required. Mercury initial calibration r² values were ≥0.995 and all remaining initial and continuing calibration recoveries were within 90-110% for the ICP and ICP-MS metals and 85-115% for mercury. The total nickel 5 ppb CRDL recovery was 66%, the total cadmium 0.2 ppb CRDL recovery was 50%, and the dissolved silver 20 ppb CRDL recovery was 43%; therefore, the nondetected results for these analytes were qualified as estimated, "UJ." The remaining CRDL/CRI recoveries were within the control limits of 70-130%.
- Blanks: Boron was detected in the total and dissolved method blanks at 24.3 and 45.3 µg/L, respectively; therefore, total and dissolved boron detected in the sample were qualified as nondetected, "U," at the levels of contamination. Antimony and cadmium were reported in the total method blank at -0.36 and -0.15 µg/L, respectively; therefore, the nondetected total results for these analytes were qualified as estimated, "UJ." Method blanks and CCBs had no other applicable detects.
- Interference Check Samples: Recoveries were within 80-120%. Total and dissolved boron, total arsenic, and total silver were reported in the ICSA analyses at –78, 75, -13.9, and -7.1 µg/L, respectively; however, the concentration of the primary interferents were not sufficient to cause matrix interference in the site sample. Copper and cadmium were detected in the 200.8 dissolved ICSA; however, the reviewer was not able to determine if the detects were due to low-level contamination of the ICSA standard. No ICSA/B analyses were performed for the 200.8 total analyses.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratoryestablished QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy was evaluated based on the LCS results.
- Serial Dilution: No serial dilution analyses were performed on the sample in this SDG.

- Internal Standards Performance: All sample internal standard intensities were within 60-125% of the internal standard intensities measured in the initial calibration blank. Copper was not bracketed by an internal standard of lower mass; therefore, copper detected in the sample was qualified as estimated, "J."
- 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 reviewer noted that the laboratory did not list the dissolved chromium or silver results for the method blank or LCS. The reviewer checked the raw data and determined that the LCS recoveries were acceptable and that neither analyte was detected in the method blank.

Antimony was not detected in the total fraction but was detected marginally above the MDL in the dissolved fraction. Boron was detected in the dissolved fraction but the slightly smaller total boron detect was qualified as nondetected due to method blank contamination.

- 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 — Radionuclides

Reviewed By: P. Meeks Date Reviewed: March 29, 2010

The sample listed in Table 1 for these analyses was 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 (7/02).

• Holding Times: The tritium sample was analyzed within 180 days of collection. The aliquots for total uranium and radium-228 were reanalyzed more than 3x beyond the

holding time for unpreserved samples; therefore, total uranium detected in the sample was qualified as estimated, "J," and nondetected radium-228 was rejected, "R." Aliquots for gross alpha and gross beta, and gamma spectroscopy were prepared beyond the five-day analytical holding time for unpreserved samples; therefore, the results for these analytes were qualified as estimated, "J," for detects and, "UJ," for nondetects. Aliquots for radium-226 and strontium-90 were prepared within the five-day holding time for unpreserved aqueous samples.

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

The gross alpha and radium-226 detector efficiencies were less than 20%; therefore, the results for these analytes were qualified as estimated, "J," for detects and, "UJ," for nondetects. The remaining detector efficiencies were greater than 20%.

The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. The strontium chemical yield was <40%; therefore, nondetected strontium-90 was qualified as estimated, "UJ." All remaining 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: Tritium was detected in the method blank at 165 pCi/L; therefore, tritium detected in the sample was qualified as nondetected, "U," at the reporting limit. There were no other analytes detected in the method blanks or KPA CCBs.
- Blank Spikes and Laboratory Control Samples: The recoveries and the radium-228 RPD were within laboratory-established control limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed for the sample in this SDG. Method accuracy 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.

The reviewer noted that the preparation log for KPA was not signed as having been reviewed.

- 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.

E. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks Date Reviewed: March 29, 2010

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the MEC^{X} Data Validation Procedure for General Minerals (DVP-6, Rev. 0), SM2540D, and the National Functional Guidelines for Inorganic Data Review (7/02).

- Holding Times: The analytical holding time of seven days was met.
- Calibration: The balance calibration logs were acceptable.
- Blanks: The method blank had no detect.
- Blank Spikes and Laboratory Control Samples: The recovery was within laboratoryestablished QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: 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 reporting limit.
- 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.

Analysis of Water by Transmission Electron Microscopy (EPA-600 R 94 134) EPA 100.2

EMS No.	135418	Client	Test America	
Sample No. 1 O J	1780892-03 tf_11 008		Date Analyzed	2/10/2010
Fibers > 10 µm	n in length (chrysotile)	Н	BDL*	MFL
Mass (chrysoti	le)		0	ug/L
More/Less that in Sample (chr			LESS	_
Poisson 95% (Confidence Interval		0 to	80 MFL
Detection Limi	t		22	MFL

* BDL : Below Detection Limit; MFL: Million Fibers per Liter

Particle Size Distribution (Chrysotile)

Particle Length - Microns

O -0.49	0.50 - 0.99	1.00 - 1.49	1.50 - 1.99	2.00 - 2.49	2.5 - 4.99	5.00 - 9.99	10 & UP
0	0	0	0		0	0	0
			Particle Widt	h - Microns			
O04	.0509	.114	.1519	.224	.2549	.5099	1 & UP
0	0	0	0	0	0	0	0
			Aspect R	atio L/W			
0 - 9.9	10 - 19.9	20 - 29.9	30 - 39.9	40 - 49.9	50 - 99	100 - 199	200 & UP
0	0	0	0	0	0	0	0

TEM 7B (1994)

Level IV

Validated Sample Result Forms ITB0892

Analysis Method ASTM 5174-91

Sample Name	Outfall 008 (C	Composite) Matri	x Type:	WATER	۷	alidation Le	vel: IV
Lab Sample Name:	ITB0892-03	Sam	ple Date:	2/5/2010	9:02:00 PM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Uranium	7440-61-1	0.811	0.693	0.21	pCi/L		1	Н
Analysis Metho	d EPA	200.7						
Sample Name	Outfall 008 (C	Composite) Matri	x Type:	Water	۷	alidation Le	vel: IV
Lab Sample Name:	ITB0892-03	Sam	ple Date:	2/5/2010	9:02:00 PM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	12	0.050	0.040	mg/l			
Arsenic	7440-38-2	ND	10	7.0	ug/l		U	
Beryllium	7440-41-7	ND	2.0	0.90	ug/l		U	
Boron	7440-42-8	ND	0.062	0.020	mg/l	В	U	В
Calcium	7440-70-2	28	0.10	0.050	mg/l			
Chromium	7440-47-3	16	5.0	2.0	ug/l			
Iron	7439-89-6	14	0.040	0.015	mg/l			
Magnesium	7439-95-4	6.8	0.020	0.012	mg/l			
Nickel	7440-02-0	7.2	10	2.0	ug/l	Ja	J	R, DNQ
Silver	7440-22-4	ND	10	6.0	ug/l		U	
Vanadium	7440-62-2	26	10	3.0	ug/l			
Zinc	7440-66-6	49	20	6.0	ug/l			

Sample Name	Outfall 008 (C	Composite) Matri	х Туре:	Water	V	alidation Le	vel: IV
Lab Sample Name:	ITB0892-03	Sam	ple Date:	2/5/2010	9:02:00 PM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	0.27	0.050	0.040	mg/l			
Arsenic	7440-38-2	ND	10	7.0	ug/l		U	
Beryllium	7440-41-7	ND	2.0	0.90	ug/l		U	
Boron	7440-42-8	ND	0.12	0.020	mg/l	В	U	В
Calcium	7440-70-2	21	0.10	0.050	mg/l			
Chromium	7440-47-3	12	5.0	2.0	ug/l			
Iron	7439-89-6	0.29	0.040	0.015	mg/l			
Magnesium	7439-95-4	3.7	0.020	0.012	mg/l			
Nickel	7440-02-0	5.3	10	2.0	ug/l	Ja	J	DNQ
Silver	7440-22-4	ND	10	6.0	ug/l		UJ	С
Vanadium	7440-62-2	ND	10	3.0	ug/l		U	
Zinc	7440-66-6	49	20	6.0	ug/l			
Analysis Metho	d EPA	200.8						
Sample Name	Outfall 008 (C	Composite) Matri	ix Type: Water		V	alidation Le	vel: IV
Lab Sample Name:	ITB0892-03	Sam	ple Date:	2/5/2010	9:02:00 PM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	ND	2.0	0.30	ug/l		UJ	В
Cadmium	7440-43-9	ND	1.0	0.10	ug/l		UJ	R, B
Copper	7440-50-8	13.9	2.0	0.50	ug/l		J	*III
Lead	7439-92-1	10	1.0	0.20	ug/l			
Selenium	7782-49-2	0.62	2.0	0.50	ug/l	J	J	DNQ
Thallium	7440-28-0	ND	1.0	0.20	ug/l	С	U	

Analysis Method EPA 200.7-Diss

Sumple Rume	ple Name Outfall 008 (Composite) Matrix Type: Water Vali					alidation Le	vel: IV	
Lab Sample Name:	ITB0892-03	Sam	ple Date:	2/5/2010	9:02:00 PM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	0.36	2.0	0.30	ug/l	Ja	J	DNQ
Cadmium	7440-43-9	ND	1.0	0.10	ug/l		U	
Copper	7440-50-8	3.5	2.0	0.50	ug/l		J	*Ш
Lead	7439-92-1	ND	1.0	0.20	ug/l		U	
Selenium	7782-49-2	ND	2.0	0.50	ug/l		U	
Thallium	7440-28-0	ND	1.0	0.20	ug/l		U	
Analysis Metho	od EPA 2	245.1						
Sample Name	Outfall 008 (C	Composite	e) Matri	x Type:	Water	۲	alidation Le	vel: IV
Lab Sample Name:	ITB0892-03	Sam	ple Date:	2/5/2010	9:02:00 PM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validatior Notes
Mercury	7439-97-6	ND	0.20	0.10	ug/l		U	
					e			
Analysis Metho	od EPA 2	245.1-1	Diss		C			
Analysis Metho Sample Name	od EPA 2 Outfall 008 (C			х Туре:	Water	v	alidation Le	vel: IV
		Composite	e) Matri	• -		v	⁷ alidation Le	vel: IV
Sample Name Lab Sample Name:	Outfall 008 (C	Composite	e) Matri	• -	Water	Lab Qualifier	⁷ alidation Le Validation Qualifier	
Sample Name Lab Sample Name: Analyte	Outfall 008 (C ITB0892-03	Composite Sam Result	e) Matri pple Date:	2/5/2010	Water 9:02:00 PM Result	Lab	Validation	Validation
Sample Name Lab Sample Name: Analyte	Outfall 008 (C ITB0892-03 CAS No 7439-97-6	Composite Sam Result Value	matri Matri Matri Date: RL 0.20	2/5/2010 MDL	Water 9:02:00 PM Result Units	Lab	Validation Qualifier	Validation
Sample Name Lab Sample Name: Analyte Mercury Analysis Metho	Outfall 008 (C ITB0892-03 CAS No 7439-97-6	Composite Sam Result Value ND 2000.0 N	mple Date: RL 0.20 MOD	2/5/2010 MDL	Water 9:02:00 PM Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Sample Name Lab Sample Name: Analyte Mercury Analysis Metho	Outfall 008 (C ITB0892-03 CAS No 7439-97-6 Od EPA 9	Composite Sam Result Value ND DOO.O M Composite	mple Date: RL 0.20 MOD	2/5/2010 MDL 0.10 x Type:	Water 9:02:00 PM Result Units ug/l	Lab Qualifier	Validation Qualifier U	Validatior Notes
Sample Name Lab Sample Name: Analyte Mercury Analysis Metho Sample Name Lab Sample Name:	Outfall 008 (C ITB0892-03 CAS No 7439-97-6 Od EPA 9 Outfall 008 (C	Composite Sam Result Value ND DOO.O M Composite	mple Date: RL 0.20 MOD Matri	2/5/2010 MDL 0.10 x Type:	Water 9:02:00 PM Result Units ug/1 WATER	Lab Qualifier	Validation Qualifier U	Validation Notes vel: IV
Sample Name Lab Sample Name: Analyte ^{Mercury} Analysis Metho Sample Name	Outfall 008 (C ITB0892-03 CAS No 7439-97-6 Od EPA 9 Outfall 008 (C ITB0892-03	Composite Sam Result Value ND DOO.O N Composite Sam Result	mple Date: RL 0.20 MOD mple Date: ple Date:	2/5/2010 MDL 0.10 x Type: 2/5/2010	Water 9:02:00 PM Result Units ug/l WATER 9:02:00 PM Result	Lab Qualifier V Lab	Validation Qualifier U 7alidation Le Validation	Validation Notes vel: IV Validation

Analysis Method EPA 200.8-Diss

Sample Name	Outfall 008 (C	Composite)) Matri	x Type:	WATER	V	alidation Le	vel: IV
Lab Sample Name:	ITB0892-03	Sam	ple Date:	2/5/2010	9:02:00 PM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium 137	10045-97-3	-1.6	20	16	pCi/L	U	UJ	Н
Potassium 40	13966-00-2	-100	0	200	pCi/L	U	UJ	Н
Analysis Metho	od EPA 9	903.0 M	lOD					
Sample Name	Outfall 008 (C	Composite)) Matri	x Type:	WATER	V	alidation Le	vel: IV
Lab Sample Name:	ITB0892-03	Samj	ple Date:	2/5/2010	9:02:00 PM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium (226)	13982-63-3	0.34	1	0.21	pCi/L	Jb	J	C, DNQ
Analysis Metho	od EPA 9	904 MO	D					
Sample Name	Outfall 008 (C	Composite)) Matri	x Type:	WATER	V	alidation Le	vel: IV
Lab Sample Name:	ITB0892-03RE1	Samj	ple Date:	2/5/2010	9:02:00 PM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium 228	15262-20-1	-0.03	1	0.32	pCi/L	U	R	Н
Analysis Metho	od EPA 9	905 MO	D					
Sample Name	Outfall 008 (C	Composite)) Matri	x Type:	WATER	V	alidation Le	vel: IV
Lab Sample Name:	ITB0892-03	Samj	ple Date:	2/5/2010	9:02:00 PM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
	10000 07 0	0.85	3	1.4	pCi/L	U	UJ	*III
Strontium 90	10098-97-2							
Strontium 90 Analysis Metho		906.0 M	lOD					
				х Туре:	WATER	, T	alidation Le	vel: IV
Analysis Metho	od EPA 9	Composite)) Matri	• 1	WATER 9:02:00 PM	v	Validation Le	vel: IV
Analysis Metho Sample Name	Od EPA 9	Composite)) Matri	• 1		Lab Qualifier		vel: IV Validation Notes

Analysis Method EPA 901.1 MOD

Sample Name	Outfall 008 (C	composite)) Matri	Validation Level: IV				
Lab Sample Name:	ITB0892-03 Samj		ple Date:	ble Date: 2/5/2010 9:02:00 PM				
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822-46-9	ND	0.00005	0.0000008	ug/L	J, Ba	U	В
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.0000052	0.0000007	ug/L	J, Q, Ba	UJ	*III
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.0000007	0.0000012	ug/L	J, Q	UJ	*III
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.0000006	0.0000007	ug/L	J, Q	UJ	*III
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.0000013	0.0000007	ug/L	J, Q	UJ	*Ш
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.0000011	0.0000005	ug/L	J, Q	UJ	*Ш
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.0000008	0.0000006	ug/L	J, Q	UJ	*Ш
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.0000014	0.0000005	ug/L	J, Q	UJ	*Ш
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.00005	0.0000007	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	0.00005	0.0000008	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.00005	0.0000005	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.0000004	0.0000006	ug/L	J, Q	UJ	*Ш
2,3,4,7,8-PeCDF	57117-31-4	ND	0.00005	0.0000006	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.00001	0.0000006	ug/L		U	
2,3,7,8-TCDF	51207-31-9	0.000001	0.00001	0.0000004	ug/L	J	R	D
2,3,7,8-TCDF	51207-31-9	ND	0.00001	0.0000028	ug/L		U	
OCDD	3268-87-9	0.00012	0.0001	0.0000013	ug/L	Ba		
OCDF	39001-02-0	ND	0.0001	0.0000009	ug/L	J, Ba	U	В
Total HpCDD	37871-00-4	ND	0.00005	0.0000008	ug/L	J, Ba	U	В
Total HpCDF	38998-75-3	0.000009	0.00005	0.0000007	ug/L	J, Q, Ba	J	B, DNQ, *II
Total HxCDD	34465-46-8	0.000004	0.00005	0.0000005	ug/L	J, Q	1	DNQ, *III
Total HxCDF	55684-94-1	0.000004	0.00005	0.0000006	ug/L	J, Q	J	DNQ, *III
Total PeCDD	36088-22-9	ND	0.00005	0.0000008	ug/L		U	
Total PeCDF	30402-15-4	ND	0.00005	0.0000005	ug/L		U	
Total TCDD	41903-57-5	ND	0.00001	0.0000006	ug/L		U	
Total TCDF	55722-27-5	ND	0.00001	0.0000004	ug/L	J	U	\$

Analysis Method EPA-5 1613B

Sample Name	Outfall 008 (Composite) Matrix Type: Water					Validation Level: IV			
Lab Sample Name:	ITB0892-03	Sam	ple Date:	2/5/2010 9	9:02:00 PM				
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes	
Total Suspended Solids	TSS	250	20	2.0	mg/l				

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