

APPENDIX G

Section 47

Outfall 008, January 25, 2008

Test America Analytical Laboratory Report

LABORATORY REPORT

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

Project: Routine Outfall 008

Sampled: 01/25/08
Received: 01/25/08
Issued: 02/28/08 08:54

NELAP #01108CA California ELAP#1197 CSDLAC #10256

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

This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 2°C, on ice and with chain of custody documentation.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

Please note for Perchlorate (E314.0) analysis (Batch# 8A31079) due to instrument issues a MS/SD could not be reported, only a Method Blank and LCS has been provided.

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: This is a final report to include all subcontract data.

LABORATORY ID
IRA2497-01

CLIENT ID
Outfall 008

MATRIX
Water

Reviewed By:



TestAmerica Irvine

Joseph Doak
Project Manager

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

Project ID: Routine Outfall 008

Report Number: IRA2497

Sampled: 01/25/08

Received: 01/25/08

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRA2497-01 (Outfall 008 - Water)									
Reporting Units: ug/l									
Antimony	EPA 200.8	8A28076	0.20	2.0	0.30	1	01/28/08	01/28/08	J
Cadmium	EPA 200.8	8A28076	0.11	1.0	ND	1	01/28/08	01/28/08	
Copper	EPA 200.8	8A28076	0.75	2.0	5.0	1	01/28/08	01/28/08	
Lead	EPA 200.8	8A28076	0.30	1.0	6.3	1	01/28/08	01/28/08	
Selenium	EPA 200.8	8A28076	0.30	2.0	0.32	1	01/28/08	01/28/08	J
Thallium	EPA 200.8	8A28076	0.20	1.0	ND	1	01/28/08	01/28/08	
Zinc	EPA 200.8	8A28076	2.5	20	19	1	01/28/08	01/28/08	J

TestAmerica Irvine

Joseph Doak
 Project Manager

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

IRA2497 <Page 2 of 17>

NPDES - 1801

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

Project ID: Routine Outfall 008

Report Number: IRA2497

Sampled: 01/25/08

Received: 01/25/08

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRA2497-01 (Outfall 008 - Water) - cont.									
Reporting Units: ug/l									
Antimony	EPA 200.8-Diss	8A25156	0.20	2.0	0.22	1	01/25/08	01/26/08	J
Cadmium	EPA 200.8-Diss	8A25156	0.11	1.0	ND	1	01/25/08	01/26/08	
Copper	EPA 200.8-Diss	8A25156	0.75	2.0	2.9	1	01/25/08	01/26/08	
Lead	EPA 200.8-Diss	8A25156	0.30	1.0	0.92	1	01/25/08	01/26/08	J
Selenium	EPA 200.8-Diss	8A25156	0.30	2.0	ND	1	01/25/08	01/26/08	
Thallium	EPA 200.8-Diss	8A25156	0.20	1.0	ND	1	01/25/08	01/28/08	
Zinc	EPA 200.8-Diss	8A25156	2.5	20	8.4	1	01/25/08	01/26/08	J

TestAmerica Irvine

Joseph Doak
 Project Manager

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

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

Project ID: Routine Outfall 008

Report Number: IRA2497

Sampled: 01/25/08
 Received: 01/25/08

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRA2497-01 (Outfall 008 - Water) - cont.									
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	8B04061	1.3	4.7	ND	1	02/04/08	02/04/08	
Ammonia-N (Distilled)	EPA 350.2	8A29110	0.30	0.50	ND	1	01/29/08	01/29/08	
Chloride	EPA 300.0	8A25053	0.25	0.50	9.7	1	01/25/08	01/25/08	
Nitrate-N	EPA 300.0	8A25053	0.060	0.11	4.9	1	01/25/08	01/25/08	
Nitrite-N	EPA 300.0	8A25053	0.090	0.15	ND	1	01/25/08	01/25/08	
Nitrate/Nitrite-N	EPA 300.0	8A25053	0.15	0.26	4.9	1	01/25/08	01/25/08	
Sulfate	EPA 300.0	8A25053	0.20	0.50	9.8	1	01/25/08	01/25/08	
Total Dissolved Solids	SM2540C	8A31077	10	10	160	1	01/31/08	01/31/08	
Sample ID: IRA2497-01 (Outfall 008 - Water)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0	8A31079	1.5	4.0	ND	1	01/31/08	01/31/08	

TestAmerica Irvine

Joseph Doak
 Project Manager

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

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

Project ID: Routine Outfall 008

Report Number: IRA2497

Sampled: 01/25/08
Received: 01/25/08

Metals by EPA 200 Series Methods

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRA2497-01 (Outfall 008 - Water) - cont.									
Reporting Units: ug/l									
Mercury, Dissolved	EPA 245.1	W8A1053	0.050	0.20	ND	1	01/30/08	01/31/08	
Mercury, Total	EPA 245.1	W8A1053	0.050	0.20	ND	1	01/30/08	01/31/08	

TestAmerica Irvine

Joseph Doak
Project Manager

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

IRA2497 <Page 5 of 17>
NPDES - 1804

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

Project ID: Routine Outfall 008

Report Number: IRA2497

Sampled: 01/25/08

Received: 01/25/08

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 (IRA2497-01) - Water EPA 300.0	2	01/25/2008 10:45	01/25/2008 18:20	01/25/2008 19:00	01/25/2008 20:20

TestAmerica Irvine

Joseph Doak
Project Manager

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

IRA2497 <Page 6 of 17>
NPDES - 1805

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

Project ID: Routine Outfall 008

Report Number: IRA2497

Sampled: 01/25/08
Received: 01/25/08

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8A28076 Extracted: 01/28/08											
Blank Analyzed: 01/28/2008 (8A28076-BLK1)											
Antimony	ND	2.0	0.20	ug/l							
Cadmium	ND	1.0	0.11	ug/l							
Copper	ND	2.0	0.75	ug/l							
Lead	ND	1.0	0.30	ug/l							
Selenium	ND	2.0	0.30	ug/l							
Thallium	ND	1.0	0.20	ug/l							
Zinc	ND	20	2.5	ug/l							
LCS Analyzed: 01/28/2008 (8A28076-BS1)											
Antimony	83.1	2.0	0.20	ug/l	80.0		104	85-115			
Cadmium	82.2	1.0	0.11	ug/l	80.0		103	85-115			
Copper	83.7	2.0	0.75	ug/l	80.0		105	85-115			
Lead	82.0	1.0	0.30	ug/l	80.0		102	85-115			
Selenium	79.2	2.0	0.30	ug/l	80.0		99	85-115			
Thallium	81.4	1.0	0.20	ug/l	80.0		102	85-115			
Zinc	82.3	20	2.5	ug/l	80.0		103	85-115			
Matrix Spike Analyzed: 01/28/2008 (8A28076-MS1)											
						Source: IRA2324-01					
Antimony	83.5	2.0	0.20	ug/l	80.0	ND	104	70-130			
Cadmium	81.0	1.0	0.11	ug/l	80.0	ND	101	70-130			
Copper	85.4	2.0	0.75	ug/l	80.0	2.97	103	70-130			
Lead	81.3	1.0	0.30	ug/l	80.0	0.484	101	70-130			
Selenium	76.6	2.0	0.30	ug/l	80.0	ND	96	70-130			
Thallium	83.7	1.0	0.20	ug/l	80.0	ND	105	70-130			
Zinc	82.0	20	2.5	ug/l	80.0	4.76	97	70-130			
Matrix Spike Analyzed: 01/28/2008 (8A28076-MS2)											
						Source: IRA2432-04					
Antimony	87.0	2.0	0.20	ug/l	80.0	ND	109	70-130			
Cadmium	78.5	1.0	0.11	ug/l	80.0	ND	98	70-130			
Copper	80.3	2.0	0.75	ug/l	80.0	1.94	98	70-130			
Lead	80.4	1.0	0.30	ug/l	80.0	0.376	100	70-130			
Selenium	79.3	2.0	0.30	ug/l	80.0	3.49	95	70-130			
Thallium	81.2	1.0	0.20	ug/l	80.0	ND	102	70-130			
Zinc	74.2	20	2.5	ug/l	80.0	3.40	89	70-130			

TestAmerica Irvine

Joseph Doak
Project Manager

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

Project ID: Routine Outfall 008

Report Number: IRA2497

Sampled: 01/25/08
 Received: 01/25/08

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8A28076 Extracted: 01/28/08											
Matrix Spike Dup Analyzed: 01/28/2008 (8A28076-MSD1)						Source: IRA2324-01					
Antimony	83.3	2.0	0.20	ug/l	80.0	ND	104	70-130	0	20	
Cadmium	80.8	1.0	0.11	ug/l	80.0	ND	101	70-130	0	20	
Copper	84.6	2.0	0.75	ug/l	80.0	2.97	102	70-130	1	20	
Lead	81.9	1.0	0.30	ug/l	80.0	0.484	102	70-130	1	20	
Selenium	75.7	2.0	0.30	ug/l	80.0	ND	95	70-130	1	20	
Thallium	83.5	1.0	0.20	ug/l	80.0	ND	104	70-130	0	20	
Zinc	81.1	20	2.5	ug/l	80.0	4.76	95	70-130	1	20	

TestAmerica Irvine

Joseph Doak
 Project Manager

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

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

Project ID: Routine Outfall 008

Report Number: IRA2497

Sampled: 01/25/08
Received: 01/25/08

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: 8A25156 Extracted: 01/25/08											
Blank Analyzed: 01/26/2008-01/28/2008 (8A25156-BLK1)											
Antimony	ND	2.0	0.20	ug/l							
Cadmium	ND	1.0	0.11	ug/l							
Copper	ND	2.0	0.75	ug/l							
Lead	ND	1.0	0.30	ug/l							
Selenium	ND	2.0	0.30	ug/l							
Thallium	ND	1.0	0.20	ug/l							
Zinc	ND	20	2.5	ug/l							
LCS Analyzed: 01/26/2008-01/28/2008 (8A25156-BS1)											
Antimony	80.7	2.0	0.20	ug/l	80.0		101	85-115			
Cadmium	80.4	1.0	0.11	ug/l	80.0		101	85-115			
Copper	80.8	2.0	0.75	ug/l	80.0		101	85-115			
Lead	84.6	1.0	0.30	ug/l	80.0		106	85-115			
Selenium	84.8	2.0	0.30	ug/l	80.0		106	85-115			
Thallium	77.6	1.0	0.20	ug/l	80.0		97	85-115			
Zinc	81.9	20	2.5	ug/l	80.0		102	85-115			
Matrix Spike Analyzed: 01/26/2008-01/28/2008 (8A25156-MS1) Source: IRA2497-01											
Antimony	85.0	2.0	0.20	ug/l	80.0	0.221	106	70-130			
Cadmium	83.4	1.0	0.11	ug/l	80.0	ND	104	70-130			
Copper	85.3	2.0	0.75	ug/l	80.0	2.94	103	70-130			
Lead	84.7	1.0	0.30	ug/l	80.0	0.920	105	70-130			
Selenium	91.8	2.0	0.30	ug/l	80.0	ND	115	70-130			
Thallium	76.5	1.0	0.20	ug/l	80.0	ND	96	70-130			
Zinc	93.0	20	2.5	ug/l	80.0	8.40	106	70-130			
Matrix Spike Dup Analyzed: 01/26/2008-01/28/2008 (8A25156-MSD1) Source: IRA2497-01											
Antimony	83.0	2.0	0.20	ug/l	80.0	0.221	103	70-130	2	20	
Cadmium	83.4	1.0	0.11	ug/l	80.0	ND	104	70-130	0	20	
Copper	83.7	2.0	0.75	ug/l	80.0	2.94	101	70-130	2	20	
Lead	86.0	1.0	0.30	ug/l	80.0	0.920	106	70-130	2	20	
Selenium	90.0	2.0	0.30	ug/l	80.0	ND	112	70-130	2	20	
Thallium	77.3	1.0	0.20	ug/l	80.0	ND	97	70-130	1	20	
Zinc	94.1	20	2.5	ug/l	80.0	8.40	107	70-130	1	20	

TestAmerica Irvine

Joseph Doak
Project Manager

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

Project ID: Routine Outfall 008

Report Number: IRA2497

Sampled: 01/25/08
 Received: 01/25/08

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8A25053 Extracted: 01/25/08											
Blank Analyzed: 01/25/2008 (8A25053-BLK1)											
Chloride	ND	0.50	0.25	mg/l							
Nitrate-N	ND	0.11	0.060	mg/l							
Nitrite-N	ND	0.15	0.090	mg/l							
Nitrate/Nitrite-N	ND	0.26	0.15	mg/l							
Sulfate	ND	0.50	0.20	mg/l							
LCS Analyzed: 01/25/2008 (8A25053-BS1)											
Chloride	4.93	0.50	0.25	mg/l	5.00		99	90-110			
Nitrate-N	1.18	0.11	0.060	mg/l	1.13		105	90-110			
Nitrite-N	1.53	0.15	0.090	mg/l	1.52		101	90-110			
Sulfate	10.2	0.50	0.20	mg/l	10.0		102	90-110			
Matrix Spike Analyzed: 01/25/2008 (8A25053-MS1) Source: IRA2375-01											
Chloride	9.73	0.50	0.25	mg/l	5.00	4.99	95	80-120			
Nitrate-N	4.04	0.11	0.060	mg/l	1.13	2.87	104	80-120			
Nitrite-N	1.53	0.15	0.090	mg/l	1.52	ND	100	80-120			
Sulfate	25.6	0.50	0.20	mg/l	10.0	15.9	96	80-120			
Matrix Spike Analyzed: 01/25/2008 (8A25053-MS2) Source: IRA2478-01											
Chloride	12.3	0.50	0.25	mg/l	5.00	7.60	95	80-120			
Nitrate-N	3.39	0.11	0.060	mg/l	1.13	2.15	110	80-120			
Nitrite-N	1.58	0.15	0.090	mg/l	1.52	ND	104	80-120			
Sulfate	19.9	0.50	0.20	mg/l	10.0	9.44	104	80-120			
Matrix Spike Dup Analyzed: 01/25/2008 (8A25053-MSD1) Source: IRA2375-01											
Chloride	9.76	0.50	0.25	mg/l	5.00	4.99	95	80-120	0	20	
Nitrate-N	4.05	0.11	0.060	mg/l	1.13	2.87	104	80-120	0	20	
Nitrite-N	1.53	0.15	0.090	mg/l	1.52	ND	100	80-120	0	20	
Sulfate	25.7	0.50	0.20	mg/l	10.0	15.9	98	80-120	1	20	

TestAmerica Irvine

Joseph Doak
 Project Manager

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

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

Project ID: Routine Outfall 008
 Report Number: IRA2497

Sampled: 01/25/08
 Received: 01/25/08

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 8A29110 Extracted: 01/29/08</u>											
Blank Analyzed: 01/29/2008 (8A29110-BLK1)											
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l							
LCS Analyzed: 01/29/2008 (8A29110-BS1)											
Ammonia-N (Distilled)	10.1	0.50	0.30	mg/l	10.0		101	80-115			
Matrix Spike Analyzed: 01/29/2008 (8A29110-MS1)											
Ammonia-N (Distilled)	10.4	0.50	0.30	mg/l	10.0	ND	104	70-120			
Matrix Spike Dup Analyzed: 01/29/2008 (8A29110-MSD1)											
Ammonia-N (Distilled)	10.6	0.50	0.30	mg/l	10.0	ND	106	70-120	3	15	
<u>Batch: 8A31077 Extracted: 01/31/08</u>											
Blank Analyzed: 01/31/2008 (8A31077-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 01/31/2008 (8A31077-BS1)											
Total Dissolved Solids	1000	10	10	mg/l	1000		100	90-110			
Duplicate Analyzed: 01/31/2008 (8A31077-DUP1)											
Total Dissolved Solids	ND	10	10	mg/l		ND				10	
<u>Batch: 8A31079 Extracted: 01/31/08</u>											
Blank Analyzed: 01/31/2008 (8A31079-BLK1)											
Perchlorate	ND	4.0	1.5	ug/l							

TestAmerica Irvine

Joseph Doak
 Project Manager

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

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

Project ID: Routine Outfall 008

Report Number: IRA2497

Sampled: 01/25/08
 Received: 01/25/08

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 8A31079 Extracted: 01/31/08</u>											
LCS Analyzed: 01/31/2008 (8A31079-BS1)											
Perchlorate	52.0	4.0	1.5	ug/l	50.0		104	85-115			NI
<u>Batch: 8B04061 Extracted: 02/04/08</u>											
Blank Analyzed: 02/04/2008 (8B04061-BLK1)											
Hexane Extractable Material (Oil & Grease)	1.40	5.0	1.4	mg/l							J
LCS Analyzed: 02/04/2008 (8B04061-BS1)											
Hexane Extractable Material (Oil & Grease)	19.5	5.0	1.4	mg/l	20.2		97	78-114			MNR1
LCS Dup Analyzed: 02/04/2008 (8B04061-BSD1)											
Hexane Extractable Material (Oil & Grease)	18.2	5.0	1.4	mg/l	20.2		90	78-114	7	11	

TestAmerica Irvine

Joseph Doak
 Project Manager

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

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

Project ID: Routine Outfall 008

Report Number: IRA2497

Sampled: 01/25/08
Received: 01/25/08

METHOD BLANK/QC DATA

Metals by EPA 200 Series Methods

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: W8A1053 Extracted: 01/30/08											
Blank Analyzed: 01/31/2008 (W8A1053-BLK1)											
Mercury, Dissolved	ND	0.20	0.050	ug/l							
Mercury, Total	ND	0.20	0.050	ug/l							
LCS Analyzed: 01/31/2008 (W8A1053-BS1)											
Mercury, Dissolved	0.930	0.20	0.050	ug/l	1.00		93	85-115			
Mercury, Total	0.930	0.20	0.050	ug/l	1.00		93	85-115			
Matrix Spike Analyzed: 01/31/2008 (W8A1053-MS1) Source: 8012822-01											
Mercury, Dissolved	1.38	0.20	0.050	ug/l	1.00	0.431	95	70-130			
Mercury, Total	1.38	0.20	0.050	ug/l	1.00	0.431	95	70-130			
Matrix Spike Analyzed: 01/31/2008 (W8A1053-MS2) Source: 8012822-02											
Mercury, Dissolved	1.37	0.20	0.050	ug/l	1.00	0.426	94	70-130			
Mercury, Total	1.37	0.20	0.050	ug/l	1.00	0.426	94	70-130			
Matrix Spike Dup Analyzed: 01/31/2008 (W8A1053-MSD1) Source: 8012822-01											
Mercury, Dissolved	1.35	0.20	0.050	ug/l	1.00	0.431	92	70-130	2	20	
Mercury, Total	1.35	0.20	0.050	ug/l	1.00	0.431	92	70-130	2	20	
Matrix Spike Dup Analyzed: 01/31/2008 (W8A1053-MSD2) Source: 8012822-02											
Mercury, Dissolved	1.40	0.20	0.050	ug/l	1.00	0.426	97	70-130	2	20	
Mercury, Total	1.40	0.20	0.050	ug/l	1.00	0.426	97	70-130	2	20	

TestAmerica Irvine

Joseph Doak
Project Manager

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

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

Project ID: Routine Outfall 008

Report Number: IRA2497

Sampled: 01/25/08
 Received: 01/25/08

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
IRA2497-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0.38	4.7	15
IRA2497-01	Antimony-200.8	Antimony	ug/l	0.30	2.0	6
IRA2497-01	Cadmium-200.8	Cadmium	ug/l	0.094	1.0	3.1
IRA2497-01	Chloride - 300.0	Chloride	mg/l	9.75	0.50	150
IRA2497-01	Copper-200.8	Copper	ug/l	5.01	2.0	14
IRA2497-01	Hg_w 245.1	Mercury, Total	ug/l	0.024	0.20	0.13
IRA2497-01	Lead-200.8	Lead	ug/l	6.35	1.0	5.2
IRA2497-01	Nitrate-N, 300.0	Nitrate-N	mg/l	4.88	0.11	8
IRA2497-01	Nitrite-N, 300.0	Nitrite-N	mg/l	0	0.15	1
IRA2497-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	4.88	0.26	8
IRA2497-01	Perchlorate 314.0-DEFAULT	Perchlorate	ug/l	0.46	4.0	6
IRA2497-01	Selenium-200.8	Selenium	ug/l	0.32	2.0	5
IRA2497-01	Sulfate-300.0	Sulfate	mg/l	9.84	0.50	300
IRA2497-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	162	10	950
IRA2497-01	Thallium-200.8	Thallium	ug/l	0.056	1.0	2
IRA2497-01	Zinc-200.8	Zinc	ug/l	19	20	160

TestAmerica Irvine

Joseph Doak
 Project Manager

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

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

Project ID: Routine Outfall 008

Report Number: IRA2497

Sampled: 01/25/08
Received: 01/25/08

DATA QUALIFIERS AND DEFINITIONS

- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- MNR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- N1** See case narrative.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

TestAmerica Irvine

Joseph Doak
Project Manager

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

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

Project ID: Routine Outfall 008
Report Number: IRA2497

Sampled: 01/25/08
Received: 01/25/08

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 1664A	Water		
EPA 200.8-Diss	Water	X	X
EPA 200.8	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	X	X
EPA 350.2	Water		X
SM2540C	Water	X	

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

Subcontracted Laboratories

Aquatic Testing Laboratories-SUB *California Cert #1775*

4350 Transport Street, Unit 107 - Ventura, CA 93003

Analysis Performed: Bioassay-7 dy Chrnrc
Samples: IRA2497-01

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec
Samples: IRA2497-01

Analysis Performed: Gross Alpha
Samples: IRA2497-01

Analysis Performed: Gross Beta
Samples: IRA2497-01

Analysis Performed: Radium, Combined
Samples: IRA2497-01

Analysis Performed: Strontium 90
Samples: IRA2497-01

Analysis Performed: Tritium
Samples: IRA2497-01

Analysis Performed: Uranium, Combined
Samples: IRA2497-01

TestAmerica Irvine

Joseph Doak
Project Manager

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

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

Project ID: Routine Outfall 008

Report Number: IRA2497

Sampled: 01/25/08
Received: 01/25/08

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

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta
Samples: IRA2497-01

Weck Laboratories, Inc

14859 E. Clark Avenue - City of Industry, CA 91745

Method Performed: EPA 245.1
Samples: IRA2497-01

TestAmerica Irvine

Joseph Doak
Project Manager

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

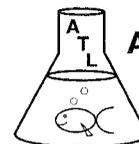
Client Name/Address: MWH-Arcadia 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Test America Contact: Joseph Doak		Project: Boeing-SSFL NPDES Routine Outfall 008 Stormwater at Happy Valley		Phone Number: (626) 568-6691 Fax Number: (626) 568-6515		Field readings: Temp = 8.3 = 46 pH = 7.2 Time of readings = 10:45								
Project Manager: Bronwyn Kelly Sampler: <i>R. Barry</i>		Total Recoverable Metals: Pb, Cd, Cu, Hg, Tl, Se, Zn		Chronic Toxicity 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)		Comments								
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Oil & Grease (1664-HEM)	TCDD (and all congeners)	Cl, SO ₄ , NO ₃ +NO ₂ -N, Perchlorate	Nitrate-N, Nitrite-N	Ammonia-N (350.2)	TDS	Unfiltered and unpreserved analysis	Only test if second rain event of the year	Filter w/in 24hrs of receipt at lab
Outfall 008	W	1L Poly	1	1-25-08 10:45	HNO ₃									
Outfall 008-Dup	W	1L Poly	1		HNO ₃									
Outfall 008	W	1L Amber	2		None		X							
Outfall 008	W	1L Amber	2		HCl	X								
Outfall 008	W	500 ml Poly	2		None			X						
Outfall 008	W	500 ml Poly	1		None				X					
Outfall 008	W	500 ml Poly	1		H ₂ SO ₄					X				
Outfall 008	W	500 ml Poly	1		None						X			
Outfall 008	W	2.5 Gal Cube 500 ml Amber	1		None							X		
Outfall 008	W	1 Gal Poly	1		None									
Outfall 008	W	1L Poly	1		None									
Relinquished By	<i>Kim Han</i>	1-25-08		15:10										
Relinquished By	<i>Joseph Doak</i>			1/25/08 18:20										
Relinquished By														

TR
1/25/08
1925

Turn around Time: (check)
 24 Hours _____
 48 Hours _____
 72 Hours _____
 Sample Integrity: (check) **4** 4/2.4
 Intact _____
 On Ice: _____

Received By: *Joseph Doak* Date/Time: 1/25/08 15:10
 Received By: *Joseph Doak* Date/Time: 1/25/08 18:20
 Received By: *Joseph Doak* Date/Time: 1/25/08 18:20

LABORATORY REPORT



**Aquatic
Testing
Laboratories**

"dedicated to providing quality aquatic toxicity testing"

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

Date: February 3, 2008
Client: TestAmerica - Irvine
17461 Derian Ave., Suite 100
Irvine, CA 92614
Attn: Joseph Doak

Laboratory No.: A-08012605-001
Sample ID.: IRA2497-01 (Outfall 008)

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

Date Sampled: 01/25/08
Date Received: 01/26/08
Temp. Received: 6°C
Chlorine (TRC): 0.0 mg/l
Date Tested: 01/26/08 to 02/02/08

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

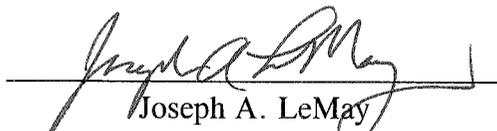
Ceriodaphnia dubia Survival and Reproduction Test (EPA Method 1002).

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

Result Summary:

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

Quality Control: Reviewed and approved by:


Joseph A. LeMay
Laboratory Director

**CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0**



Lab No.: A-08012605-001
Client/ID: Test America – Outfall 008

Date Tested: 01/26/08 to 02/02/08

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-080106.

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

RESULTS SUMMARY

Sample Concentration	Percent Survival	Mean Number of Young Per Female
Control	100%	24.8
100% Sample	100%	30.5
Sample not statistically significantly less than Control for either endpoint.		

CHRONIC TOXICITY

Survival NOEC	100%
Survival TUC	1.0
Reproduction NOEC	100%
Reproduction TUC	1.0

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥80%	Pass (100% survival)
≥15 young per surviving control female	Pass (24.8 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 = 6.6%)
Statistically significantly different concentrations relative difference > 13%	Pass (no concentration significantly different)
Concentration response relationship acceptable	Pass (no significant response at concentration tested)

Ceriodaphnia Survival and Reproduction Test-7 Day Survival

Start Date: 1/26/2008 15:30	Test ID: 8012605	Sample ID: OUTFALL 008
End Date: 2/2/2008 14:30	Lab ID: CAATL-Aquatic Testing Labs	Sample Type: EFF2-Industrial
Sample Date: 1/25/2008 10:45	Protocol: EPA-821-R-02-013	Test Species: CD-Ceriodaphnia dubia

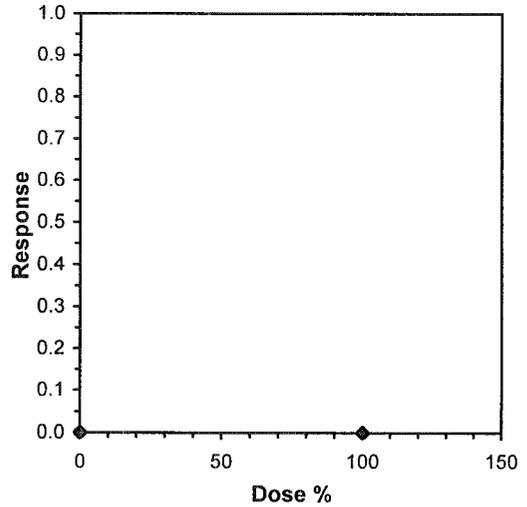
Comments:

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

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

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

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



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date: 1/26/2008 15:30 Test ID: 8012605 Sample ID: OUTFALL 008
 End Date: 2/2/2008 14:30 Lab ID: CAATL-Aquatic Testing Labs Sample Type: EFF2-Industrial
 Sample Date: 1/25/2008 10:45 Protocol: EPA-821-R-02-013 Test Species: CD-Ceriodaphnia dubia

Comments:

Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	26.000	22.000	24.000	26.000	24.000	25.000	26.000	27.000	26.000	22.000
100	33.000	26.000	32.000	32.000	30.000	28.000	33.000	31.000	32.000	28.000

Conc-%	Mean	N-Mean	Transform: Untransformed				Rank Sum	1-Tailed Critical	Isotonic		
			Mean	Min	Max	CV%			N	Mean	N-Mean
D-Control	24.800	1.0000	24.800	22.000	27.000	7.061	10		27.650	1.0000	
100	30.500	1.2298	30.500	26.000	33.000	7.919	10	152.00	82.00	27.650	1.0000

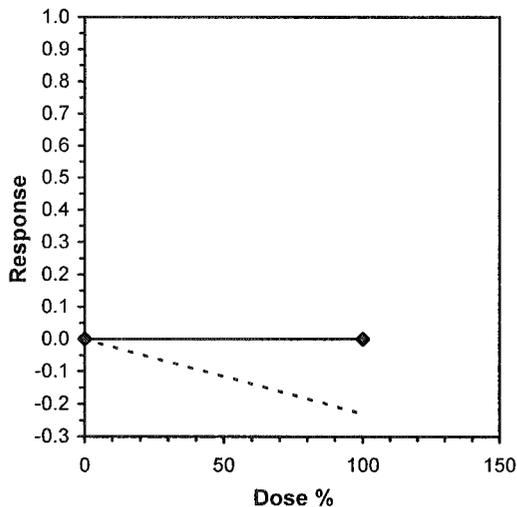
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.899626	0.905	-0.73207	-0.54322
F-Test indicates equal variances (p = 0.35)	1.902174	6.541086		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Treatments vs D-Control

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



CERIODAPHNIA DUBIA CHRONIC BIOASSAY
EPA METHOD 1002.0 Raw Data Sheet



Lab No.: A-08012605-001

Client ID: TestAmerica - IRA2497-01 (Outfall 008)

Start Date: 01/26/2008

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		0 hr	24hr												
Analyst Initials:		Rm													
Time of Readings:		1530	1430	1430	1500	1500	1500	1500	1500	1500	1600	1500	1500	1500	1430
Control	DO	8.0	7.8	7.7	8.1	7.9	7.7	8.9	8.2	8.1	7.9	8.2	7.8	8.0	8.2
	pH	7.8	7.6	7.4	7.6	7.8	8.0	8.0	7.9	7.8	7.9	7.7	7.8	7.6	7.6
	Temp	25.4	24.7	25.1	24.4	25.0	24.6	24.6	24.8	24.6	24.5	25.1	24.7	25.0	24.3
100%	DO	11.3	7.7	10.1	8.2	10.3	7.7	10.3	8.4	10.4	8.3	9.8	8.2	11.7	8.7
	pH	7.3	7.4	7.1	7.4	7.1	7.4	7.0	7.5	6.9	7.4	6.9	7.5	6.9	7.3
	Temp	24.2	25.0	24.8	24.4	24.5	24.6	24.6	24.6	24.9	24.5	24.8	24.7	24.6	24.5

Additional Parameters	Control	100% Sample
Conductivity (umohms)	290	167
Alkalinity (mg/l CaCO ₃)	66	40
Hardness (mg/l CaCO ₃)	98	69
Ammonia (mg/l NH ₃ -N)	<0.2	0.6

Source of Neonates											
Replicate:	A	B	C	D	E	F	G	H	I	J	
Brood ID:	B1	E1	G2	H2	I3	J3	A6	C5	G4	I5	

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
Control	1	0	0	0	0	0	0	0	0	0	0	0	10	Rm
	2	0	0	0	0	0	0	0	0	0	0	0	10	Rm
	3	0	0	0	0	0	3	4	0	4	0	11	10	Rm
	4	4	3	5	3	4	0	0	5	0	4	28	10	Rm
	5	8	7	9	9	8	7	8	9	9	8	82	10	Rm
	6	14	12	10	0	0	15	0	0	0	0	51	10	Rm
	7	0	0	0	14	12	0	14	13	13	10	76	10	Rm
	Total	26	22	24	26	24	25	26	27	26	22	248	10	Rm
100%	1	0	0	0	0	0	0	0	0	0	0	0	10	Rm
	2	0	0	0	0	0	0	0	0	0	0	0	10	Rm
	3	0	4	0	5	4	0	4	0	0	3	20	10	Rm
	4	4	0	5	0	0	3	0	5	4	0	21	10	Rm
	5	12	10	12	11	11	9	12	10	11	9	107	10	Rm
	6	17	12	15	16	15	10	17	16	17	16	157	10	Rm
	7	0	0	(14)	0	0	0	0	0	(15)	0	0	10	Rm
	Total	33	26	32	32	30	28	33	31	32	28	305	10	Rm

Circled fourth brood not used in statistical analysis.

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

SUBCONTRACT ORDER

TestAmerica Irvine

IRA2497

SENDING LABORATORY:

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

RECEIVING LABORATORY:

Aquatic Testing Laboratories-SUB
4350 Transport Street, Unit 107
Ventura, CA 93003
Phone : (805) 650-0546
Fax: (805) 650-0756
Project Location: California
Receipt Temperature: 6 °C

Ice: (Y) / N

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

Sample ID: IRA2497-01	Water			Sampled: 01/25/08 10:45 pH=7.2, temp=46
Bioassay-7 dy Chrnrc	N/A	02/05/08	01/26/08 22:45	Cerio, EPA/821-R02-013, Sub to Aquatic testing
EDD + Level 4	N/A	02/05/08	02/22/08 10:45	Excel EDD email to pm, Include Std logs for Lvl IV

Containers Supplied:
1 gal Poly (N)

[Signature] 1/26/08
Released By Date/Time

[Signature] 1/26/08 1945
Released By Date/Time

[Signature] 1/26/08 1255
Received By Date/Time

[Signature] 1-26-08 1445
Received By Date/Time



***REFERENCE
TOXICANT
DATA***

CERIODAPHNIA CHRONIC BIOASSAY

EPA METHOD 1002.0

REFERENCE TOXICANT - NaCl



QA/QC Batch No.: RT-080106

Date Tested: 01/06/08 to 01/12/08

TEST SUMMARY

Test type: Daily static-renewal.

Species: *Ceriodaphnia dubia*.

Age: <24 hrs; all released within 8 hrs.

Test vessel size: 30 ml.

Number of test organisms per vessel: 1.

Temperature: 25 +/- 1°C.

Dilution water: Mod. hard reconstituted (MHRW).

Reference Toxicant: Sodium chloride (NaCl).

Endpoints: Survival and Reproduction.

Source: In-laboratory culture.

Food: .1 ml YTC, algae per day.

Test solution volume: 20 ml.

Number of replicates: 10.

Photoperiod: 16/8 hrs. light/dark cycle.

Test duration: 6 days.

Statistics: ToxCalc computer program.

RESULTS SUMMARY

Sample Concentration	Percent Survival		Mean Number of Young Per Female	
Control	100%		20.5	
0.25 g/l	100%		19.5	
0.5 g/l	100%		19.5	
1.0 g/l	100%		14.0	*
2.0 g/l	80%		3.2	*
4.0 g/l	0%	*	0	**

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

CHRONIC TOXICITY

Survival LC50	2.5 g/l
Reproduction IC25	0.88 g/l

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥80%	Pass (100% Survival)
≥15 young per surviving control female	Pass (20.5 young)
≥60% surviving controls had 3 broods	Pass (90% with 3 broods)
PMSD <47% for reproduction	Pass (PMSD = 19.1%)
Stat. sig. diff. conc. relative difference >13%	Pass (Stat. sig. diff. conc. = 31.7%)
Concentration response relationship acceptable	Pass (Response curve normal)

Ceriodaphnia Survival and Reproduction Test-Survival Day 6

Start Date: 1/6/2008 13:00 Test ID: RT-080106c Sample ID: REF-Ref Toxicant
 End Date: 1/12/2008 13:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: NACL-Sodium chloride
 Sample Date: 1/6/2008 Protocol: FWCH-EPA-821-R-02-013 Test Species: CD-Ceriodaphnia dubia

Comments:

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

Conc-gm/L	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Number Resp	Total Number
D-Control	1.0000	1.0000	0	10	10	10			0	10
0.25	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
0.5	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
1	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
2	0.8000	0.8000	2	8	10	10	0.2368	0.0500	2	10
4	0.0000	0.0000	10	0	10	10			10	10

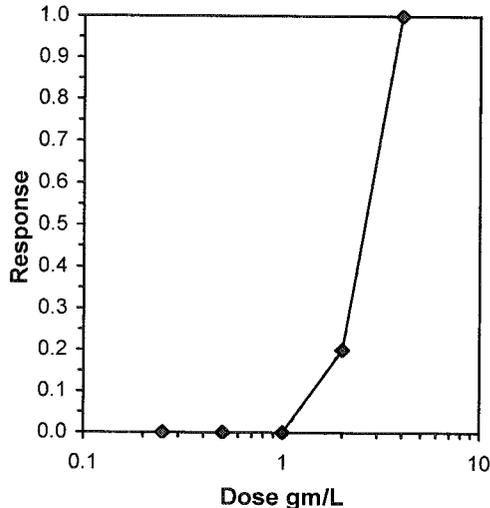
Hypothesis Test (1-tail, 0.05) NOEC LOEC ChV TU

Fisher's Exact Test 2 4 2.82843

Treatments vs D-Control

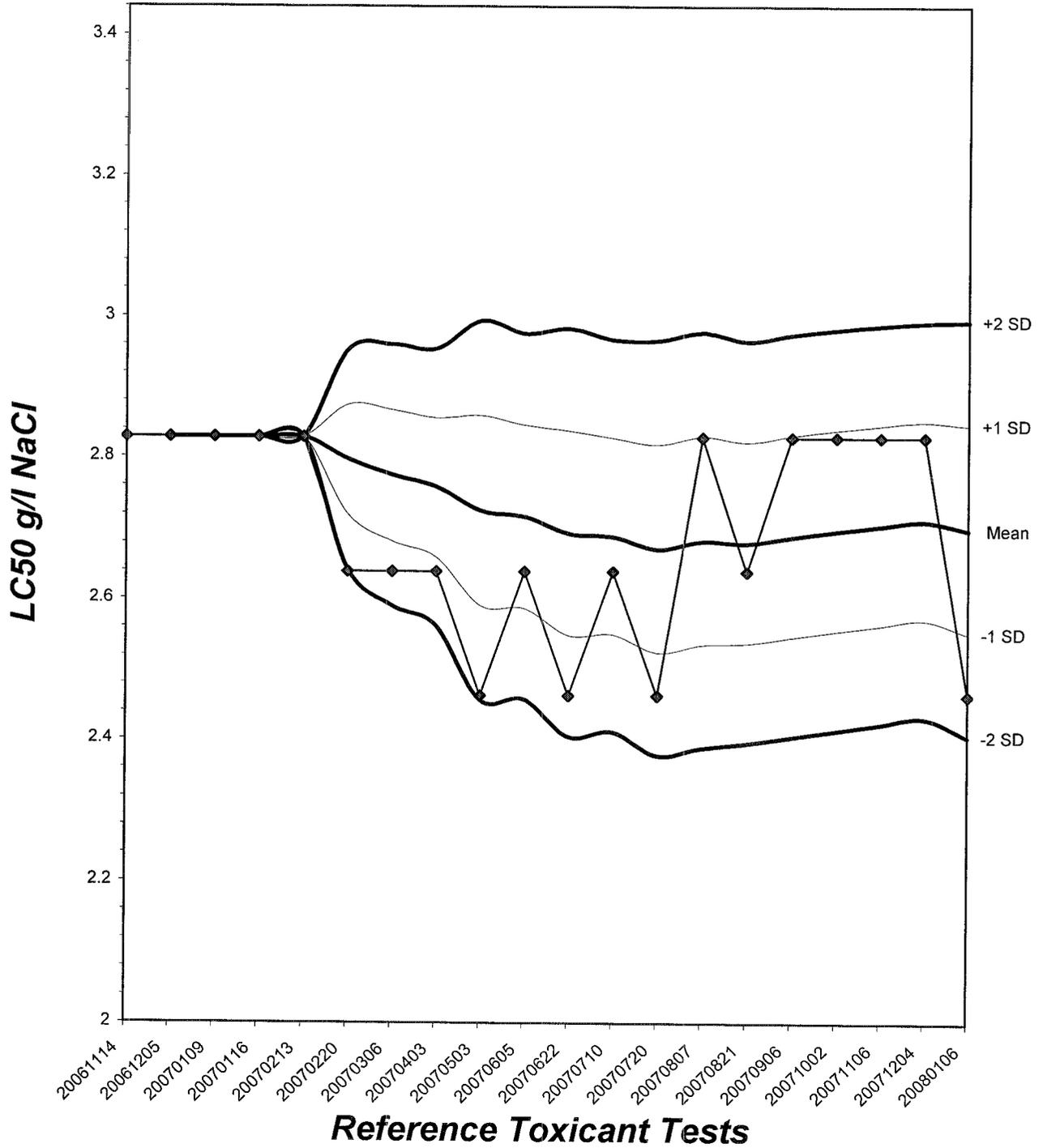
Trimmed Spearman-Kärber

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



Ceriodaphnia dubia Chronic Survival Laboratory Control Chart

CV% = 5.46



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date: 1/6/2008 13:00 Test ID: RT-080106c Sample ID: REF-Ref Toxicant
 End Date: 1/12/2008 13:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: NACL-Sodium chloride
 Sample Date: 1/6/2008 Protocol: FWCH-EPA-821-R-02-013 Test Species: CD-Ceriodaphnia dubia
 Comments:

Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	23.000	11.000	21.000	21.000	23.000	20.000	19.000	22.000	20.000	25.000
0.25	12.000	24.000	19.000	22.000	9.000	20.000	21.000	21.000	22.000	25.000
0.5	21.000	19.000	21.000	22.000	16.000	12.000	22.000	21.000	22.000	19.000
1	19.000	9.000	9.000	19.000	14.000	10.000	16.000	17.000	19.000	8.000
2	8.000	2.000	2.000	5.000	4.000	3.000	3.000	5.000	0.000	0.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Conc-gm/L	Mean	N-Mean	Transform: Untransformed					Rank Sum	1-Tailed Critical	Isotonic	
			Mean	Min	Max	CV%	N			Mean	N-Mean
D-Control	20.500	1.0000	20.500	11.000	25.000	18.432	10			20.500	1.0000
0.25	19.500	0.9512	19.500	9.000	25.000	26.177	10	102.00	76.00	19.500	0.9512
0.5	19.500	0.9512	19.500	12.000	22.000	16.617	10	94.50	76.00	19.500	0.9512
*1	14.000	0.6829	14.000	8.000	19.000	32.819	10	62.50	76.00	14.000	0.6829
*2	3.200	0.1561	3.200	0.000	8.000	76.263	10	55.00	76.00	3.200	0.1561
4	0.000	0.0000	0.000	0.000	0.000	0.000	10			0.000	0.0000

Auxiliary Tests

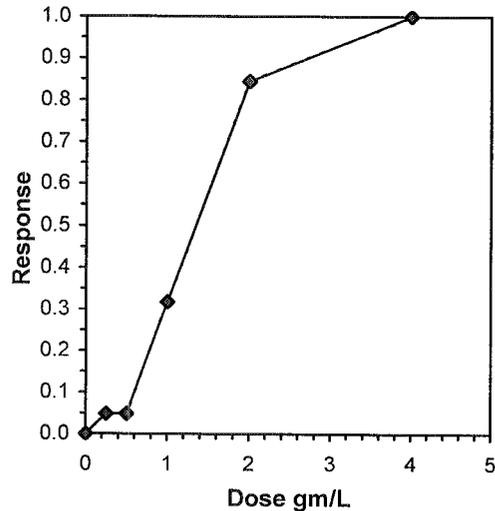
	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.91281	0.947	-0.9793	0.67912
Bartlett's Test indicates equal variances (p = 0.25)	5.39	13.2767		

Hypothesis Test (1-tail, 0.05)

	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	0.5	1	0.70711	
Treatments vs D-Control				

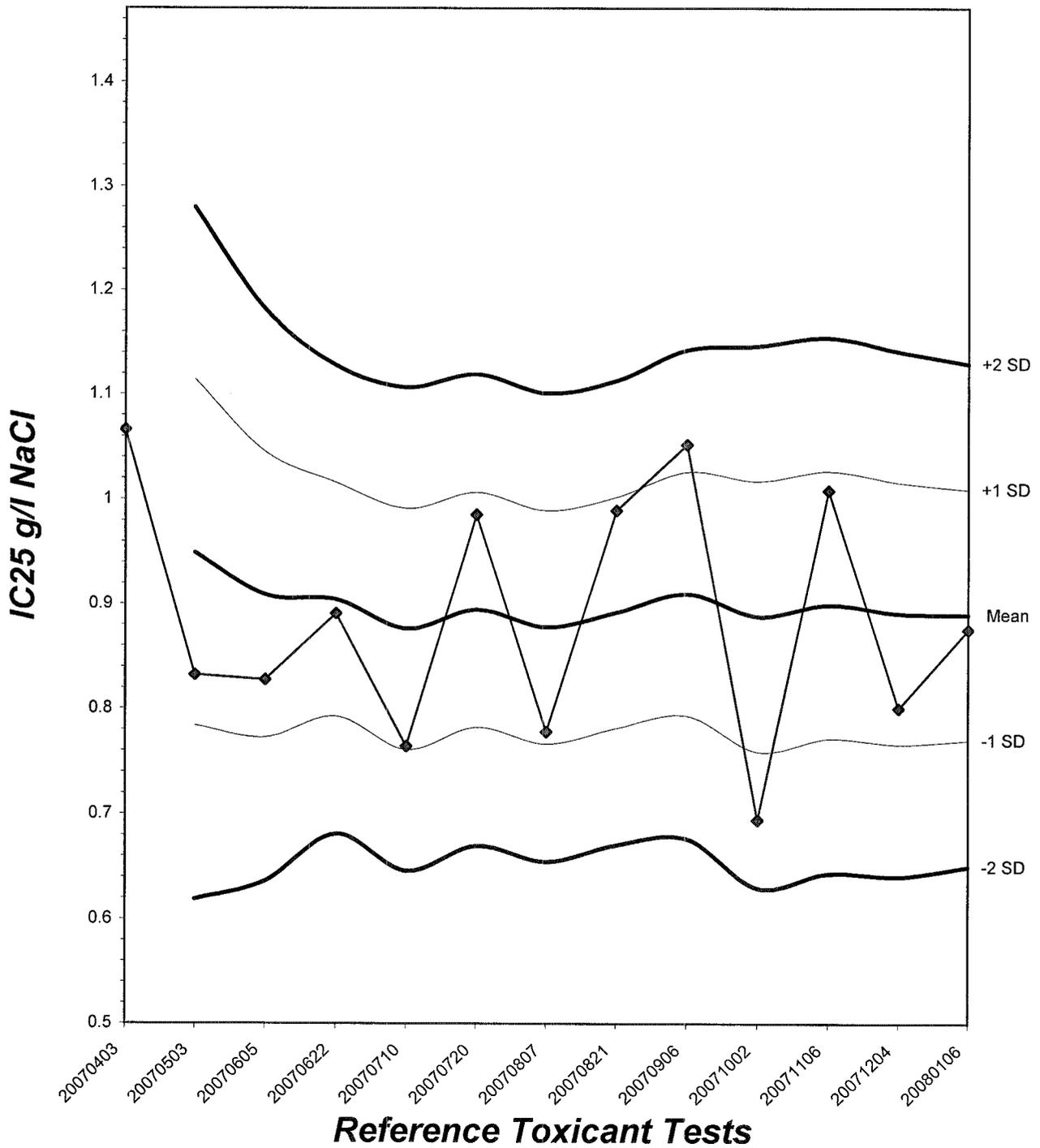
Linear Interpolation (200 Resamples)

Point	gm/L	SD	95% CL		Skew
IC05	0.5023	0.1876	0.0809	0.6178	-0.0659
IC10	0.5955	0.1768	0.1617	0.7497	-0.5184
IC15	0.6886	0.1424	0.2426	0.9253	-0.5389
IC20	0.7818	0.1259	0.4995	1.0352	0.2728
IC25	0.8750	0.1224	0.6413	1.1094	0.3153
IC40	1.1574	0.1139	0.9216	1.3331	-0.0890
IC50	1.3472	0.0972	1.1197	1.4847	-0.4227



***Ceriodaphnia dubia* Chronic Reproduction Laboratory Control Chart**

CV% = 13.5



CERIODAPHNIA DUBIA CHRONIC BIOASSAY

Reference Toxicant - NaCl

Reproduction and Survival Raw Data Sheet



QA/QC No.: RT-080106

Start Date: 01/06/2008

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
Control	1	0	0	0	0	0	0	0	0	0	0	0	10	h
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	2	0	0	0	3	0	3	0	8	10	
	4	4	3	0	4	3	2	0	2	0	3	21	10	
	5	9	8	7	7	6	7	6	7	6	7	70	10	
	6	10	0	12	10	14	11	10	13	11	15	106	10	
	7	-	-	-	-	-	-	-	-	-	-	-	-	
	Total	23	11	21	21	23	20	19	22	20	25	205	10	
0.25 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	h
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	3	0	3	0	2	0	0	3	0	11	10	
	4	4	0	2	0	3	6	4	2	0	3	24	10	
	5	8	8	7	5	6	0	7	6	7	8	62	10	
	6	0	13	10	14	0	12	10	13	12	14	98	10	
	7	-	-	-	-	-	-	-	-	-	-	-	-	
	Total	12	24	19	22	9	20	21	21	22	25	195	10	
0.5 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	h
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	2	0	2	0	0	0	3	2	0	0	9	10	
	4	0	3	0	3	4	3	0	0	3	3	19	10	
	5	9	6	7	7	0	9	8	7	7	6	66	10	
	6	10	10	12	12	12	0	11	12	12	10	101	10	
	7	-	-	-	-	-	-	-	-	-	-	-	-	
	Total	21	19	21	22	16	12	22	21	22	19	195	10	

Circled fourth brood not used in statistical analysis.

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

CERIODAPHNIA DUBIA CHRONIC BIOASSAY

Reference Toxicant - NaCl

Reproduction and Survival Raw Data Sheet



QA/QC No.: RT-080106

Start Date: 01/06/2008

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
1.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	h
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	0	0	3	0	0	2	0	5	10	
	4	3	2	2	3	0	0	3	2	0	2	17	10	
	5	5	7	7	4	5	7	5	4	7	6	57	10	
	6	11	0	0	12	9	0	8	11	10	0	61	10	
	7	-	-	-	-	-	-	-	-	-	-	-	-	
	Total	19	9	9	19	14	10	16	17	19	8	140	10	
2.0 g/l	1	0	0	0	0	0	0	0	X	0	0	9	h	
	2	0	0	0	0	0	0	0	-	0	0	9		
	3	0	0	0	0	0	0	0	-	0	0	9		
	4	2	0	2	3	0	0	0	2	-	0	9		9
	5	3	0	0	2	2	3	3	0	-	0	13		9
	6	3	2	0	0	2	0	0	3	-	X	10		8
	7	-	-	-	-	-	-	-	-	-	-	-		-
	Total	8	2	2	5	4	3	3	5	0	0	32		8
4.0 g/l	1	X	X	X	X	X	X	X	X	X	0	0	h	
	2	-	-	-	-	-	-	-	-	-	-	-		
	3	-	-	-	-	-	-	-	-	-	-	-		
	4	-	-	-	-	-	-	-	-	-	-	-		
	5	-	-	-	-	-	-	-	-	-	-	-		
	6	-	-	-	-	-	-	-	-	-	-	-		
	7	-	-	-	-	-	-	-	-	-	-	-		
	Total	0	0	0	0	0	0	0	0	0	0	0		0

Circled fourth brood not used in statistical analysis.

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

CERIODAPHNIA DUBIA CHRONIC BIOASSAY

Reference Toxicant - NaCl Water Chemistries Raw Data Sheet



QA/QC No.: RT-080106

Start Date: 01/06/2008

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7		
		Initial	Final													
Analyst Initials:		JK	JK	-	-											
Time of Readings:		1300	1330	1330	1300	1300	1230	1230	1300	1300	1300	1300	1300	1300	-	-
Control	DO	7.6	7.2	7.4	7.7	7.4	7.6	7.4	7.5	8.2	7.8	7.9	7.7	-	-	
	pH	7.6	7.4	7.4	7.3	7.3	7.2	7.2	7.7	7.5	7.6	7.9	7.6	-	-	
	Temp	24.3	25.1	25.4	24.8	24.1	24.9	24.9	25.1	24.4	25.0	24.6	25.1	-	-	
0.25 g/l	DO	7.5	7.3	7.5	7.5	7.5	7.7	7.3	7.4	8.2	7.8	7.9	7.7	-	-	
	pH	7.6	7.3	7.4	7.4	7.4	7.2	7.3	7.4	7.6	7.5	7.6	7.7	-	-	
	Temp	24.4	25.2	25.3	24.9	24.2	24.9	24.7	25.0	24.4	25.1	24.6	25.1	-	-	
0.5 g/l	DO	7.4	7.2	7.4	7.6	7.4	7.5	7.4	7.6	8.5	7.6	8.0	7.8	-	-	
	pH	7.5	7.3	7.4	7.4	7.4	7.2	7.3	7.5	7.6	7.5	7.7	7.7	-	-	
	Temp	24.3	25.1	25.3	24.9	24.1	25.2	24.6	24.9	24.4	24.9	24.4	24.9	-	-	
1.0 g/l	DO	7.5	7.2	7.6	7.7	7.3	7.8	7.4	7.4	8.4	7.8	7.7	7.7	-	-	
	pH	7.5	7.3	7.6	7.5	7.4	7.2	7.3	7.5	7.6	7.6	7.9	7.6	-	-	
	Temp	24.4	25.2	25.1	24.7	24.2	25.2	24.6	25.0	24.4	24.9	24.6	25.0	-	-	
2.0 g/l	DO	7.4	7.4	7.6	7.5	7.4	7.8	7.2	7.6	8.2	7.6	7.6	7.7	-	-	
	pH	7.5	7.4	7.6	7.6	7.4	7.3	7.2	7.6	7.5	7.6	7.9	7.6	-	-	
	Temp	24.5	25.1	25.0	24.6	24.2	25.3	24.8	25.2	24.4	24.8	24.6	25.1	-	-	
4.0 g/l	DO	7.5	7.8	-	-	-	-	-	-	-	-	-	-	-	-	
	pH	7.6	7.8	-	-	-	-	-	-	-	-	-	-	-	-	
	Temp	24.3	24.6	-	-	-	-	-	-	-	-	-	-	-	-	

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

Additional Parameters	Control			High Concentration		
	Day 1	Day 3	Day 5	Day 1	Day 3	Day 5
Conductivity (µS)	350	348	305	6400	3100	3210
Alkalinity (mg/l CaCO ₃)	66	65	63	65	66	64
Hardness (mg/l CaCO ₃)	98	97	98	98	97	98

Source of Neonates

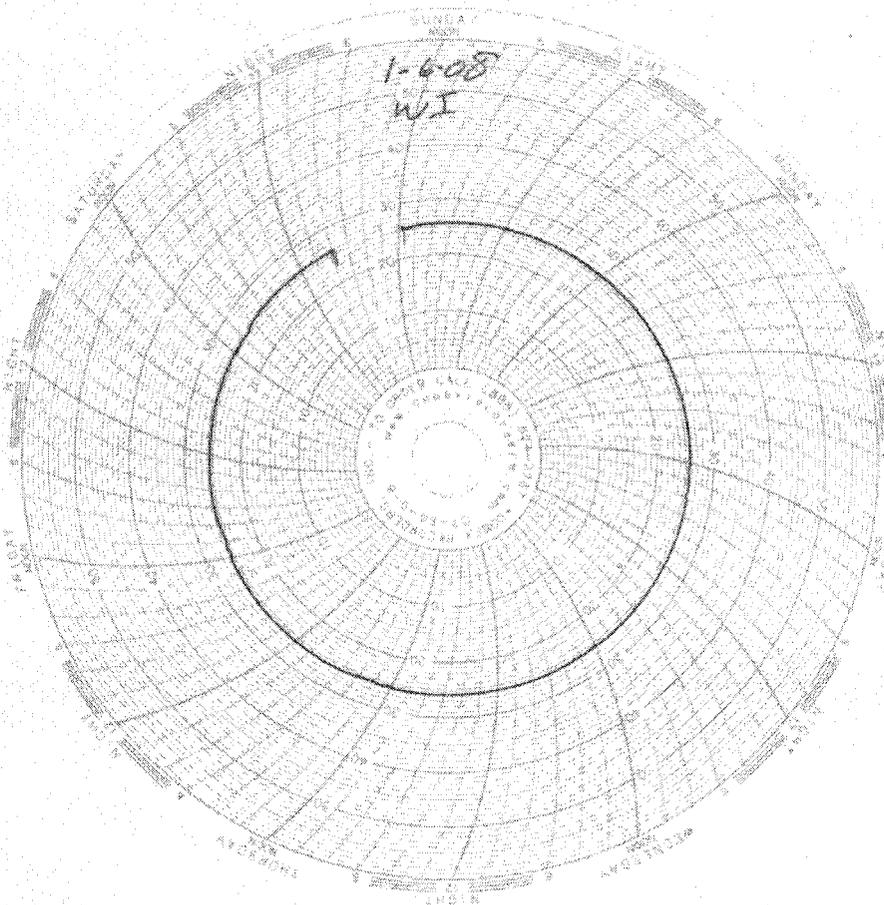
Replicate:	A	B	C	D	E	F	G	H	I	J
Brood ID:	2B	1B	3C	2C	2A	3D	3E	2F	3F	2G

Laboratory Temperature Chart

QA/QC Batch No: RT-080106

Date Tested: 01/06/08 to 01/12/08

Acceptable Range: 25+/- 1°C





February 27 2008

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

Reference: Eberline Services NELAP Cert #01120CA
Test America Project Nos. IRA2496, IRA2497, IRA2499, IRA2500
IRA2506, IRA2565
Eberline Services Reports R801170-8687, R801171-8688, R801172-8689
R801173-8690, R801174-8691, R801175-8692

Dear Mr. Doak:

Enclosed are results from the analyses of six water samples received on January 29, 2008. The samples were analyzed according to the accompanying Test America Subcontract Order Forms, the requested analyses were: gross alpha/gross beta (EPA 900.0), tritium (H-3, EPA906.0), Sr-90 (EPA905.0), Ra-226 (EPA903.1), Ra-228 (EPA 904.0), total uranium (ASTM D-5174), and gamma spectroscopy (EPA901.1, K-40 and Cs-137 only). The parenthetical G after a nuclide indicates that the result was obtained by gamma spectroscopy; a "U" in the results column indicates that the nuclide was not detected greater than the indicated minimum detectable activity (MDA). The samples were not filtered prior to analysis. The samples were analyzed in batches with common QC samples. All samples were batched with QC samples 8687-002, 003, 004, and 005, except for total uranium analysis; the QC samples for total-U analysis are 8682-002, 003, 004, and 005. Batch quality control samples consisted of LCS's, blank analyses, duplicate analyses, and matrix spike analyses (gross alpha/gross beta, H-3, Ra-226, Total-U only). All QC sample results were within the limits defined in Eberline Services Quality Control Procedures Manual.

Please call me if you have any questions concerning this report.

Regards,

Melissa Mannion
Senior Program Manager

MCM/njv

Enclosure: Reports/CoC's

Analytical Services
2030 Wright Avenue
P.O. Box 4040
Richmond, California 94804-0040
(510) 235-2633 Fax (510) 235-0438
Toll Free (800) 841-5487
www.eberlineservices.com

NPDES - 1834

Eberline Services

ANALYSIS RESULTS

SDG <u>8688</u>	Client <u>TA IRVINE</u>
Work Order <u>R801171-01</u>	Contract <u>PROJECT# IRA2497</u>
Received Date <u>01/29/08</u>	Matrix <u>WATER</u>

<u>Client</u>	<u>Lab</u>	<u>Collected</u>	<u>Analyzed</u>	<u>Nuclide</u>	<u>Results ± 2σ</u>	<u>Units</u>	<u>MDA</u>
<u>IRA2497-01</u>	<u>8688-001</u>	<u>01/25/08</u>	<u>02/15/08</u>	GrossAlpha	2.20 ± 0.68	pCi/L	0.60
			<u>02/15/08</u>	Gross Beta	4.86 ± 0.68	pCi/L	0.88
			<u>02/20/08</u>	Ra-228	0 ± 0.20	pCi/L	0.53
			<u>02/12/08</u>	K-40 (G)	U	pCi/L	20
			<u>02/12/08</u>	Cs-137 (G)	U	pCi/L	0.87
			<u>02/21/08</u>	H-3	-45.9 ± 93	pCi/L	160
			<u>02/20/08</u>	Ra-226	-0.023 ± 0.40	pCi/L	0.76
			<u>02/14/08</u>	Sr-90	-0.139 ± 0.35	pCi/L	0.86
			<u>02/19/08</u>	Total U	0.196 ± 0.024	pCi/L	0.022

Certified by <u></u>
Report Date <u>02/27/08</u>
Page 1

Eberline Services

QC RESULTS

SDG <u>8688</u> Work Order <u>R801171-01</u> Received Date <u>01/29/08</u>	Client <u>TA IRVINE</u> Contract <u>PROJECT# IRA2497</u> Matrix <u>WATER</u>
----------------------------------------------------------------------------------	------------------------------------------------------------------------------------

Lab	Sample ID	Nuclide	Results	Units	Amount Added	MDA	Evaluation
<u>LCS</u>							
	8682-002	GrossAlpha	10.6 ± 0.84	pCi/Smpl	10.1	0.29	105% recovery
		Gross Beta	9.49 ± 0.38	pCi/Smpl	9.39	0.29	101% recovery
		Ra-228	8.69 ± 0.54	pCi/Smpl	8.73	0.75	100% recovery
		Co-60 (G)	223 ± 11	pCi/Smpl	226	7.0	99% recovery
		Cs-137 (G)	253 ± 11	pCi/Smpl	236	8.1	107% recovery
		Am-241 (G)	215 ± 37	pCi/Smpl	252	47	85% recovery
		H-3	228 ± 14	pCi/Smpl	240	16	95% recovery
		Ra-226	5.92 ± 0.27	pCi/Smpl	5.58	0.085	106% recovery
		Sr-90	9.45 ± 0.73	pCi/Smpl	9.40	0.32	101% recovery
		Total U	1.06 ± 0.12	pCi/Smpl	1.13	0.004	94% recovery
<u>BLANK</u>							
	8682-003	GrossAlpha	0.006 ± 0.13	pCi/Smpl	NA	0.25	<MDA
		Gross Beta	-0.090 ± 0.27	pCi/Smpl	NA	0.44	<MDA
		Ra-228	-0.089 ± 0.33	pCi/Smpl	NA	0.78	<MDA
		K-40 (G)	U	pCi/Smpl	NA	190	<MDA
		Cs-137 (G)	U	pCi/Smpl	NA	7.4	<MDA
		H-3	-4.88 ± 9.0	pCi/Smpl	NA	15	<MDA
		Ra-226	-0.014 ± 0.026	pCi/Smpl	NA	0.071	<MDA
		Sr-90	0.078 ± 0.24	pCi/Smpl	NA	0.54	<MDA
		Total U	0.00E 00 ± 1.9E-04	pCi/Smpl	NA	4.4E-04	<MDA
<u>LCS</u>							
	8687-002	GrossAlpha	13.1 ± 0.92	pCi/Smpl	11.2	0.23	117% recovery
		Gross Beta	11.4 ± 0.46	pCi/Smpl	11.3	0.44	101% recovery
		Ra-228	10.3 ± 0.62	pCi/Smpl	9.87	0.85	104% recovery
		Co-60 (G)	504 ± 11	pCi/Smpl	525	6.4	96% recovery
		Cs-137 (G)	586 ± 10	pCi/Smpl	566	6.9	104% recovery
		Am-241 (G)	602 ± 20	pCi/Smpl	610	23	99% recovery
		H-3	250 ± 15	pCi/Smpl	263	16	95% recovery
		Ra-226	5.35 ± 0.25	pCi/Smpl	5.58	0.082	96% recovery
		Sr-90	10.7 ± 0.79	pCi/Smpl	10.3	0.34	104% recovery
<u>BLANK</u>							
	8687-003	GrossAlpha	0.023 ± 0.14	pCi/Smpl	NA	0.25	<MDA
		Gross Beta	-0.044 ± 0.15	pCi/Smpl	NA	0.26	<MDA
		Ra-228	-0.313 ± 0.39	pCi/Smpl	NA	1.1	<MDA

Certified by 

Report Date 02/27/08

Page 2

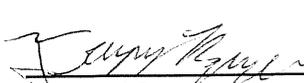
SENDING LABORATORY:

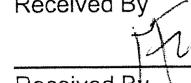
TestAmerica Irvine
 17461 Derian Avenue, Suite 100
 Irvine, CA 92614
 Phone: (949) 261-1022
 Fax: (949) 260-3297
 Project Manager: Joseph Doak

RECEIVING LABORATORY:

Eberline Services - SUB
 2030 Wright Avenue
 Richmond, CA 94804
 Phone: (510) 235-2633
 Fax: (510) 235-0438
 Project Location: California
 Receipt Temperature: 6 °C Ice: (Y) / N

Analysis	Units	Due	Expires	Comments
Sample ID: IRA2497-01	Water		Sampled: 01/25/08 10:45	pH=7.2, temp=46
Gamma Spec-O	mg/kg	02/05/08	01/24/09 10:45	Boeing, permit, J flags, K-40 and CS-137 only
Gross Alpha-O	pCi/L	02/05/08	07/23/08 10:45	Boeing, permit, J flags
Gross Beta-O	pCi/L	02/05/08	07/23/08 10:45	Boeing, permit, J flags
Level 4 Data Package	N/A	02/05/08	02/22/08 10:45	
Radium, Combined-O	pCi/L	02/05/08	01/24/09 10:45	Boeing, permit, J flags
Strontium 90-O	pCi/L	02/05/08	01/24/09 10:45	Boeing, permit, J flags
Tritium-O	pCi/L	02/05/08	01/24/09 10:45	Boeing, permit, J flags
Uranium, Combined-O	pCi/L	02/05/08	01/24/09 10:45	Boeing, permit, J flags
<i>Containers Supplied:</i>				
2.5 gal Poly (L)	500 mL Amber (M)			


 Released By _____ Date/Time 1/28/08 17:00
 _____ Date/Time _____


 Received By FedEx Date/Time 1/28/08 17:00

 Received By _____ Date/Time 01/24/08 10:15

JJA 1/29/08

Client: FEST AMERICA City: IRVINE State: CA

Date/Time received: 01/29/08 10:15 CoC No: IPA 2497

Container ID No: ICE CHECK Requested TAT (Days): _____ P.C. Received Yes: No:

INSPECTION

1. Custody seals on shipping container intact? Yes: No: N/A:

2. Custody seals on shipping container dated & signed? Yes: No: N/A:

3. Custody seals on sample containers intact? Yes: No: N/A:

4. Custody seals on sample containers dated & signed? Yes: No: N/A:

5. Packing material is _____ Yes: No:

6. Number of samples in shipping container: 1 Sample Matrix: W

7. Number of containers per sample: 2 (Or see CoC: _____)

8. Samples are in correct container? Yes: No:

9. Paperwork agrees with samples? Yes: No:

10. Samples have Tape: Hazard labels: Rad labels: Appropriate sample labels:

11. Samples are in good condition: Leaking: Broken Container: Missing:

12. Samples are Preserved: Not preserved: or Preservative: _____

13. Describe any anomalies: _____

14. Was P.M. notified of any anomalies? Yes: No: Date: _____

15. Inspected by: JJA Date: 01/29/08 Time: 10:30

Customer Sample No	Beta/Gamma con	Ion Chamber mR/hr	Wide	Customer Sample No	Beta/Gamma con	Ion Chamber mR/hr	Wide
IPA 2497-1	260						

Ion Chamber Ser. No: _____

Calibration date: _____

Alpha Meter Ser. No: _____

Calibration date: _____

Beta/Gamma Meter Ser. No: 150482

Calibration date: 09 MAY 07

February 09, 2008

Vista Project I.D.: 30206

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

Dear Mr. Doak,

Enclosed are the results for the one aqueous sample received at Vista Analytical Laboratory on January 29, 2008 under your Project Name "IRA2497". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

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

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

Sincerely,



Martha M. Maier
Laboratory Director



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



Section I: Sample Inventory Report

Date Received: 1/29/2008

Vista Lab. ID

Client Sample ID

30206-001

IRA2497-01

SECTION II

Method Blank					EPA Method 1613				
Matrix:	Aqueous	QC Batch No.:	9921	Lab Sample:	0-MB001	Date Analyzed DB-5:	6-Feb-08	Date Analyzed DB-225:	NA
Sample Size:	1.00 L	Date Extracted:	2-Feb-08						
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers	
2,3,7,8-TCDD	ND	0.00000165			IS 13C-2,3,7,8-TCDD	73.6	25 - 164		
1,2,3,7,8-PeCDD	ND	0.00000120			13C-1,2,3,7,8-PeCDD	76.1	25 - 181		
1,2,3,4,7,8-HxCDD	ND	0.00000316			13C-1,2,3,4,7,8-HxCDD	74.4	32 - 141		
1,2,3,6,7,8-HxCDD	ND	0.00000300			13C-1,2,3,6,7,8-HxCDD	73.5	28 - 130		
1,2,3,7,8,9-HxCDD	ND	0.00000295			13C-1,2,3,4,6,7,8-HpCDD	77.2	23 - 140		
1,2,3,4,6,7,8-HpCDD	ND	0.00000197			13C-OCDD	65.9	17 - 157		
OCDD	ND	0.00000682			13C-2,3,7,8-TCDF	72.7	24 - 169		
2,3,7,8-TCDF	ND	0.000000988			13C-1,2,3,7,8-PeCDF	80.3	24 - 185		
1,2,3,7,8-PeCDF	ND	0.00000123			13C-2,3,4,7,8-PeCDF	66.6	21 - 178		
2,3,4,7,8-PeCDF	ND	0.00000151			13C-1,2,3,4,7,8-HxCDF	95.5	26 - 152		
1,2,3,4,7,8-HxCDF	ND	0.000000596			13C-1,2,3,6,7,8-HxCDF	77.3	26 - 123		
1,2,3,6,7,8-HxCDF	ND	0.000000816			13C-2,3,4,6,7,8-HxCDF	67.6	28 - 136		
2,3,4,6,7,8-HxCDF	ND	0.000000976			13C-1,2,3,7,8,9-HxCDF	76.1	29 - 147		
1,2,3,7,8,9-HxCDF	ND	0.00000111			13C-1,2,3,4,6,7,8-HpCDF	72.0	28 - 143		
1,2,3,4,6,7,8-HpCDF	ND	0.00000146			13C-1,2,3,4,7,8,9-HpCDF	75.2	26 - 138		
1,2,3,4,7,8,9-HpCDF	ND	0.00000154			13C-OCDF	71.7	17 - 157		
OCDF	ND	0.00000455			CRS 37Cl-2,3,7,8-TCDD	77.0	35 - 197		
Totals					Footnotes				
Total TCDD	ND	0.00000165			a. Sample specific estimated detection limit.				
Total PeCDD	ND	0.00000209			b. Estimated maximum possible concentration.				
Total HxCDD	ND	0.00000304			c. Method detection limit.				
Total HpCDD	0.00000138				d. Lower control limit - upper control limit.				
Total TCDF	ND	0.000000988							
Total PeCDF	ND	0.00000136							
Total HxCDF	ND	0.000000843							
Total HpCDF	ND	0.00000150							

Analyst: MAS

Approved By: William J. Luksemburg 08-Feb-2008 12:16

OPR Results				EPA Method 1613			
Matrix:	Aqueous	QC Batch No.:	9921	Lab Sample:	0-OPR001		
Sample Size:	1.00 L	Date Extracted:	2-Feb-08	Date Analyzed DB-5:	6-Feb-08	Date Analyzed DB-225:	NA
Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL	Qualifier
2,3,7,8-TCDD	10.0	11.2	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	77.8	25 - 164	
1,2,3,7,8-PeCDD	50.0	55.0	35 - 71	13C-1,2,3,7,8-PeCDD	74.8	25 - 181	
1,2,3,4,7,8-HxCDD	50.0	54.7	35 - 82	13C-1,2,3,4,7,8-HxCDD	74.8	32 - 141	
1,2,3,6,7,8-HxCDD	50.0	54.1	38 - 67	13C-1,2,3,6,7,8-HxCDD	75.4	28 - 130	
1,2,3,7,8,9-HxCDD	50.0	54.8	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	80.9	23 - 140	
1,2,3,4,6,7,8-HpCDD	50.0	54.0	35 - 70	13C-OCDD	71.4	17 - 157	
OCDD	100	113	78 - 144	13C-2,3,7,8-TCDF	77.3	24 - 169	
2,3,7,8-TCDF	10.0	10.7	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	73.3	24 - 185	
1,2,3,7,8-PeCDF	50.0	55.0	40 - 67	13C-2,3,4,7,8-PeCDF	66.3	21 - 178	
2,3,4,7,8-PeCDF	50.0	55.4	34 - 80	13C-1,2,3,4,7,8-HxCDF	90.2	26 - 152	
1,2,3,4,7,8-HxCDF	50.0	54.4	36 - 67	13C-1,2,3,6,7,8-HxCDF	73.1	26 - 123	
1,2,3,6,7,8-HxCDF	50.0	56.0	42 - 65	13C-2,3,4,6,7,8-HxCDF	69.8	28 - 136	
2,3,4,6,7,8-HxCDF	50.0	56.1	35 - 78	13C-1,2,3,7,8,9-HxCDF	74.7	29 - 147	
1,2,3,7,8,9-HxCDF	50.0	55.4	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	71.2	28 - 143	
1,2,3,4,6,7,8-HpCDF	50.0	55.5	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	77.2	26 - 138	
1,2,3,4,7,8,9-HpCDF	50.0	55.7	39 - 69	13C-OCDF	72.9	17 - 157	
OCDF	100	106	63 - 170	CRS 37Cl-2,3,7,8-TCDD	86.5	35 - 197	

Analyst: MAS

Approved By: William J. Luksemburg 08-Feb-2008 12:16

Sample ID: IRA2497-01					EPA Method 1613			
Client Data			Sample Data		Laboratory Data			
Name:	Test America-Irvine, CA		Matrix:	Aqueous	Lab Sample:	30206-001	Date Received:	29-Jan-08
Project:	IRA2497		Sample Size:	1.00 L	QC Batch No.:	9921	Date Extracted:	2-Feb-08
Date Collected:	25-Jan-08				Date Analyzed DB-5:	6-Feb-08	Date Analyzed DB-225:	NA
Time Collected:	1045							
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.000000952			IS 13C-2,3,7,8-TCDD	89.9	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000271			13C-1,2,3,7,8-PeCDD	83.5	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000277			13C-1,2,3,4,7,8-HxCDD	84.4	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000295			13C-1,2,3,6,7,8-HxCDD	84.5	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000345			13C-1,2,3,4,6,7,8-HpCDD	89.7	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND		0.0000110		13C-OCDD	75.6	17 - 157	
OCDD	0.000113				13C-2,3,7,8-TCDF	63.6	24 - 169	
2,3,7,8-TCDF	ND	0.000000926			13C-1,2,3,7,8-PeCDF	61.0	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000137			13C-2,3,4,7,8-PeCDF	54.9	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000155			13C-1,2,3,4,7,8-HxCDF	96.9	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.00000112			13C-1,2,3,6,7,8-HxCDF	82.2	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.00000137			13C-2,3,4,6,7,8-HxCDF	79.4	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.00000121			13C-1,2,3,7,8,9-HxCDF	84.3	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000000749			13C-1,2,3,4,6,7,8-HpCDF	79.0	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.00000454			J	13C-1,2,3,4,7,8,9-HpCDF	84.0	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000142			13C-OCDF	82.2	17 - 157	
OCDF	ND		0.00000624		CRS 37Cl-2,3,7,8-TCDD	91.5	35 - 197	
Totals					Footnotes			
Total TCDD	ND	0.000000952			a. Sample specific estimated detection limit.			
Total PeCDD	ND	0.00000104			b. Estimated maximum possible concentration.			
Total HxCDD	ND		0.00000132		c. Method detection limit.			
Total HpCDD	0.0000207		0.0000317	B	d. Lower control limit - upper control limit.			
Total TCDF	ND	0.00000125						
Total PeCDF	ND		0.00000109					
Total HxCDF	ND		0.00000149					
Total HpCDF	0.00000454		0.00000809					

Analyst: MAS

Approved By: William J. Luksemburg 08-Feb-2008 12:16

APPENDIX

DATA QUALIFIERS & ABBREVIATIONS

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

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

CERTIFICATIONS

Accrediting Authority	Certificate Number
State of Alaska, DEC	CA413-02
State of Arizona	AZ0639
State of Arkansas, DEQ	05-013-0
State of Arkansas, DOH	Reciprocity through CA
State of California – NELAP Primary AA	02102CA
State of Colorado	
State of Connecticut	PH-0182
State of Florida, DEP	E87777
Commonwealth of Kentucky	90063
State of Louisiana, Health and Hospitals	LA050001
State of Louisiana, DEQ	01977
State of Maine	CA0413
State of Michigan	81178087
State of Mississippi	Reciprocity through CA
Naval Facilities Engineering Service Center	
State of Nevada	CA413
State of New Jersey	CA003
State of New Mexico	Reciprocity through CA
State of New York, DOH	11411
State of North Carolina	06700
State of North Dakota, DOH	R-078
State of Oklahoma	D9919
State of Oregon	CA200001-002
State of Pennsylvania	68-00490
State of South Carolina	87002001
State of Tennessee	02996
State of Texas	TX247-2005A
U.S. Army Corps of Engineers	
State of Utah	9169330940
Commonwealth of Virginia	00013
State of Washington	C1285
State of Wisconsin	998036160
State of Wyoming	8TMS-Q

SUBCONTRACT ORDER

TestAmerica Irvine

IRA2497

30206

SENDING LABORATORY:

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

RECEIVING LABORATORY:

Vista Analytical Laboratory- SUB
1104 Windfield Way
El Dorado Hills, CA 95762
Phone : (916) 673-1520
Fax: (916) 673-0106
Project Location: California
Receipt Temperature: _____ °C

1.1°C

Ice: Y / N

Analysis	Units	Due	Expires	Comments
Sample ID: IRA2497-01	Water		Sampled: 01/25/08 10:45	pH=7.2, temp=46
1613-Dioxin-HR-Alta	ug/l	02/05/08	02/01/08 10:45	J flags,17 congeners,no TEQ,ug/L,sub=Vista
Level 4 Data Package - Out	N/A	02/05/08	02/22/08 10:45	
<u>Containers Supplied:</u>				
1 L Amber (C)	1 L Amber (D)			

Joseph Doak 1/28/08 17:00
Released By Date/Time

FedEx 1/28/08 17:00
Received By Date/Time

Released By Date/Time

Bethina Benedict 1/29/08 12:08
Received By Date/Time

SAMPLE LOG-IN CHECKLIST



Vista Project #: 30206

TAT unspecified

Samples Arrival:	Date/Time <u>1/29/08 0905</u>	Initials: <u>UBB</u>	Location: <u>WR-2</u>
			Shelf/Rack: <u>N/A</u>
Logged In:	Date/Time <u>1/29/08 1207</u>	Initials: <u>UBB</u>	Location: <u>WR-2</u>
			Shelf/Rack: <u>C2</u>
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> Cal
		<input type="checkbox"/> DHL	<input type="checkbox"/> Hand Delivered
	<input type="checkbox"/> Other		
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
		<input type="checkbox"/> None	
Temp °C	<u>1.1°C</u>	Time:	<u>0914</u>
			Thermometer ID: IR-1

	YES	NO	NA
Adequate Sample Volume Received?	<input checked="" type="checkbox"/>		
Holding Time Acceptable?	<input checked="" type="checkbox"/>		
Shipping Container(s) Intact?	<input checked="" type="checkbox"/>		
Shipping Custody Seals Intact?	<input checked="" type="checkbox"/>		
Shipping Documentation Present?	<input checked="" type="checkbox"/>		
Airbill	Trk # <u>7997 9227 1985</u>		
Sample Container Intact?	<input checked="" type="checkbox"/>		
Sample Custody Seals Intact?			<input checked="" type="checkbox"/>
Chain of Custody / Sample Documentation Present?	<input checked="" type="checkbox"/>		
COC Anomaly/Sample Acceptance Form completed?		<input checked="" type="checkbox"/>	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			<input checked="" type="checkbox"/>
Na ₂ S ₂ O ₃ Preservation Documented?		COC	Sample Container <input checked="" type="checkbox"/> None
Shipping Container	Vista	<input checked="" type="checkbox"/> Client	Retain <input checked="" type="checkbox"/> Return <input checked="" type="checkbox"/> Dispose

Comments:

SUBCONTRACT ORDER

TestAmerica Irvine

IRA2497

8012812

SENDING LABORATORY:

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

RECEIVING LABORATORY:

Weck Laboratories, Inc-SUB
14859 E. Clark Avenue
City of Industry, CA 91745
Phone : (626) 336-2139
Fax: (626) 336-2634
Project Location: California
Receipt Temperature: _____ °C Ice: Y / N

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

Sample ID: IRA2497-01	Water		Sampled: 01/25/08 10:45	pH=7.2, temp=46
Level 4 Data Package - Wec	N/A	02/05/08	02/22/08 10:45	
Mercury - 245.1, Diss -OUT	mg/l	02/05/08	02/22/08 10:45	
Mercury - 245.1-OUT	mg/l	02/05/08	02/22/08 10:45	Boeing, permit, J flags

Containers Supplied:

125 mL Poly w/HNO3 125 mL Poly (Q)
(P)

<u>Joseph Doak</u>	01/28/08 07:00	<u>Emerald Acerra</u>	01/28/08 07:00
Released By	Date/Time	Received By	Date/Time
<u>Emerald Acerra</u>	01/28/08 8:45	<u>[Signature]</u>	01/28/08
Released By	Date/Time	Received By	Date/Time



CERTIFICATE OF ANALYSIS

Client: TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine, CA 92614
Attention: Joseph Doak

Report Date: 02/04/08 10:39
Received Date: 01/28/08 08:45
Turn Around: 6 days

Phone: (949) 261-1022
Fax: (949) 260-3297

Work Order #: 8012812
Client Project: IRA2497

NELAP #04229CA ELAP#1132 NEVADA #CA211 HAWAII LACSD #10143

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. Weck Laboratories, Inc. certifies that the test results meet all NELAC requirements unless noted in the case narrative. This analytical report is confidential and is only intended for the use of Weck Laboratories, Inc. and its client. This report contains the Chain of Custody document, which is an integral part of it, and can only be reproduced in full with the authorization of Weck Laboratories, Inc.

Dear Joseph Doak :

Enclosed are the results of analyses for samples received 01/28/08 08:45 with the Chain of Custody document. The samples were received in good condition. The samples were received at 7.9 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Reviewed by:

Kim G Tu

Project Manager





Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 8012812
Project ID: IRA2497

Date Received: 01/28/08 08:45
Date Reported: 02/04/08 10:39

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Laboratory	Matrix	Date Sampled
IRA2497-01	Client		8012812-01	Water	01/25/08 10:45



Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 8012812
Project ID: IRA2497

Date Received: 01/28/08 08:45
Date Reported: 02/04/08 10:39

IRA2497-01 8012812-01 (Water)

Date Sampled: 01/25/08 10:45

Metals by EPA 200 Series Methods

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
Mercury, Dissolved	ND	0.050	ug/l	0.20	1	EPA 245.1	W8A1053	01/30/08	01/31/08	jlp
Mercury, Total	ND	0.050	ug/l	0.20	1	EPA 245.1	W8A1053	01/30/08	01/31/08	jlp



Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 8012812
Project ID: IRA2497

Date Received: 01/28/08 08:45
Date Reported: 02/04/08 10:39

QUALITY CONTROL SECTION



Weck Laboratories, Inc.
 14859 E. Clark Ave.
 Industry, CA 91745
 Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
 17461 Derian Ave, Suite 100
 Irvine CA, 92614

Report ID: 8012812
 Project ID: IRA2497

Date Received: 01/28/08 08:45
 Date Reported: 02/04/08 10:39

Metals by EPA 200 Series Methods - Quality Control

%REC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch W8A1053 - EPA 245.1										
Blank (W8A1053-BLK1)										
				Analyzed: 01/31/08						
Mercury, Dissolved	ND	0.20	ug/l							
Mercury, Total	ND	0.20	ug/l							
LCS (W8A1053-BS1)										
				Analyzed: 01/31/08						
Mercury, Dissolved	0.930	0.20	ug/l	1.00		93	85-115			
Mercury, Total	0.930	0.20	ug/l	1.00		93	85-115			
Matrix Spike (W8A1053-MS1)										
				Source: 8012822-01			Analyzed: 01/31/08			
Mercury, Dissolved	1.38	0.20	ug/l	1.00	0.431	95	70-130			
Mercury, Total	1.38	0.20	ug/l	1.00	0.431	95	70-130			
Matrix Spike (W8A1053-MS2)										
				Source: 8012822-02			Analyzed: 01/31/08			
Mercury, Dissolved	1.37	0.20	ug/l	1.00	0.426	94	70-130			
Mercury, Total	1.37	0.20	ug/l	1.00	0.426	94	70-130			
Matrix Spike Dup (W8A1053-MSD1)										
				Source: 8012822-01			Analyzed: 01/31/08			
Mercury, Dissolved	1.35	0.20	ug/l	1.00	0.431	92	70-130	2	20	
Mercury, Total	1.35	0.20	ug/l	1.00	0.431	92	70-130	2	20	
Matrix Spike Dup (W8A1053-MSD2)										
				Source: 8012822-02			Analyzed: 01/31/08			
Mercury, Dissolved	1.40	0.20	ug/l	1.00	0.426	97	70-130	2	20	
Mercury, Total	1.40	0.20	ug/l	1.00	0.426	97	70-130	2	20	



Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 8012812
Project ID: IRA2497

Date Received: 01/28/08 08:45
Date Reported: 02/04/08 10:39

Notes and Definitions

ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL)
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Sub	Subcontracted analysis, original report available upon request
MDL	Method Detection Limit
MDA	Minimum Detectable Activity

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California Department of Health Services.

The Reporting Limit (RL) is referenced as the Laboratory's Practical Quantitation Limit (PQL) or the Detection Limit for Reporting Purposes (DLR).

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

APPENDIX G

Section 48

Outfall 008, February 3, 2008

MEC^X Data Validation Reports



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IRB0151

Prepared by

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

I. INTRODUCTION

Task Order Title: Boeing SSFL NPDES
 Contract Task Order: 1261.100D.00
 Sample Delivery Group: IRB0151
 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	IRB0151-01	30235-001, 8020455-01, CRB0039-01, 8699-001	Water	02/03/08 1015	160.2, 200.7, 200.8, 245.1, 525.2, 900.0, 901.1, 903.0, 904.0, 905.0, 906.0, 1613, ASTM D-5174

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at TestAmerica-Irvine above the temperature limits; however, the samples had insufficient time to cool. The sample was received below the temperature limits at Vista and Weck; however, the sample was not noted to have been frozen. The sample was received within the temperature limits at Eberline and TestAmerica-Colton. According to the case narrative for this SDG, the sample was received intact at all laboratories. The FedEx courier did not relinquish custody of the sample to Eberline. The remaining COCs were appropriately signed and dated by field and/or laboratory personnel. As the sample was couriered to TestAmerica-Irvine and Weck, custody seals were not required. Custody seals were intact upon arrival at Eberline and Vista. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

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

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: K. Shadowlight

Date Reviewed: March 22, 2008

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

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.
- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.
 - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was not analyzed prior to the initial calibration sequence or at the beginning of each analytical sequence; however, the first and last eluting congeners and isomer specificity compounds were added to the midpoint of the initial calibration and to the continuing calibration standards. The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%.
 - Mass Spectrometer Performance: The mass spectrometer performance was acceptable with the static resolving power greater than 10,000.
- Calibration: Calibration criteria were met.
 - Initial Calibration: Initial calibration criteria were met. The initial calibration was acceptable with %RSDs $\leq 20\%$ for the 16 native compounds (calibration by isotope dilution) and $\leq 35\%$ 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: OCDD was reported in the method blank at 0.00000899 μ /L. The detect for OCDD in the sample was less than five times the concentration reported in the method blank;

therefore, the OCDD detect was qualified as an estimated nondetect, "UJ," and raised to the reporting limit in sample Outfall 008. The method blank had no other target compound detects above the EDL.

- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria listed in Table 6 of Method 1613.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Internal Standards Performance: The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613.
- Compound Identification: Compound identification was verified. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613.
- Compound Quantification and Reported Detection Limits: Compound quantitation was verified by recalculating any sample detects and a representative number of blank spike concentrations. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Any EMPC value was qualified as an estimated nondetect, "UJ." Nondetects are valid to the estimated detection limit (EDL).

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

Reviewed By: P. Meeks

Date Reviewed: March 26, 2008

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^x Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Methods 200.7, 200.8, and 245.1*, and the *National Functional Guidelines for Inorganic Data Review (2/94)*.

- Holding Times: The analytical holding times, 6 months for metals and 28 days for mercury, were met.
- Tuning: The mass calibration and resolution checks criteria were met. All tuning solution %RSDs were $\leq 5\%$, and all masses of interest were calibrated to ≤ 0.1 amu and ≤ 0.9 amu

at 10% peak height, except for cerium associated with the dissolved metals fraction. The cerium mass calibration marginally exceeded the control limit; therefore, antimony, lead, and thallium were qualified as estimated in the dissolved metals fraction, "J," for detects and, "UJ," for nondetects.

- Calibration: Calibration criteria were met. Mercury initial calibration r^2 values were ≥ 0.995 and all initial and continuing calibration recoveries were within 90-110% for the ICP-MS metals and 85-115% for mercury. All CRI/CRA and check standard recoveries were within the control limits of 70-130%.
- Blanks: Selenium was reported in the method blank associated with the total metals fraction at $-8.4 \mu\text{g/L}$; therefore, nondetected selenium in the total metals fraction was qualified as an estimated nondetect, "UJ." There were no other applicable detects in the method blanks or CCBs.
- Interference Check Samples: ICSEA/B analyses were performed in association with all analyses except total antimony. Recoveries were within the method-established control limits. Most analytes were reported in the ICSEA solutions. No 6010 analytes required qualification as the concentrations of the interferents were not significant. For the 6020 analytes, the reviewer was not able to ascertain if the detections were indicative of matrix interference.
- Blank Spikes and Laboratory Control Samples: The recoveries were within laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG. Evaluation of method accuracy was based on LCS results.
- Serial Dilution: No serial dilution analyses were performed.
- Internal Standards Performance: All sample internal standard intensities were within 30-120% of the internal standard intensities measured in the initial calibration. The bracketing CCV and CCB internal standard intensities were within 80-120% of the internal standard intensities measured in the initial calibration.
- 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. 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.

The reviewer noted that boron was detected at a slightly higher concentration in the dissolved metals sample fraction. The difference between the boron results is within the

sensitivity limits of the analytical instrument and, therefore, the reviewer considered the two results to be equivalent.

- 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. EPA METHOD 525.2 — Pesticides

Reviewed By: P. Meeks

Date Reviewed: March 27, 2008

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Organochlorine Pesticides by GC (DVP-4, Rev. 0)*, *EPA Method 525.2*, and the *National Functional Guidelines for Organic Data Review (02/94)*.

- Holding Times: Extraction and analytical holding times were met. The water sample pH was not adjusted within 24 hours; therefore, nondetected diazinon was qualified as an estimated nondetect, UJ.” The sample was analyzed within 30 days of extraction.
- GC/MS Tuning: The DFTPP tunes met the method abundance criteria. The sample was analyzed within 12 hours of the DFTPP injection time.
- Calibration: Calibration criteria were met. For both target compounds, initial calibration average RRFs were ≥ 0.05 and %RSDs $\leq 30\%$. Continuing calibration RRFs were ≥ 0.05 and applicable target compound responses were within the method QC limits of 70-130%.
- Blanks: The method blank had no target compound detects above the MDL.
- Blank Spikes and Laboratory Control Samples: Recoveries and RPDs were within laboratory-established QC limits.
- Surrogate Recovery: Recoveries were within laboratory-established QC limits.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on the sample from this SDG. Evaluation of method accuracy and precision was based on the LCS/LCSD results.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC

data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

- Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
- Field Duplicates: There were no field duplicate samples identified for this SDG.
- Internal Standards Performance: The internal standard area counts and retention times were within the method control limits established by the continuing calibration standards of $\pm 30\%$.
- Compound Identification: Compound identification was verified. The laboratory analyzed for chlorpyrifos and diazinon by Method 525.2. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification.
- Compound Quantification and Reported Detection Limits: Compound quantification was verified. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Reported nondetects are valid to the reporting limit.
- System Performance: Review of the raw data indicated no problems with system performance.

D. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks

Date Reviewed: March 28, 2008

The sample listed in Table 1 for this analysis 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 (2/94)*.

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

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

The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. The tritium detector efficiency for the sample was at least 20% and was considered acceptable. The strontium chemical yield was at least 70% and was considered acceptable. The strontium continuing calibration results were within the laboratory control limits. The radium-226 continuing calibration results were within the laboratory-established control limits. The radium-228 tracer, yttrium oxalate, yields were greater than 70%. The gamma spectroscopy analytes were determined at the maximum photopeak energy. The kinetic phosphorescence analyzer (KPA) was calibrated immediately prior to the sample analysis. All KPA calibration check standard recoveries were within 90-110% and were deemed acceptable.

- Blanks: There were no analytes detected in the method blanks.
- Blank Spikes and Laboratory Control Samples: The recoveries were within laboratory-established control limits.
- Laboratory Duplicates: 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. 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.

E. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks

Date Reviewed: March 28, 2008

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 160.2*, and the *National Functional Guidelines for Inorganic Data Review (2/94)*.

- Holding Times: The analytical holding time, seven days for TSS, 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 the laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed for the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: Not applicable to this method.
- Sample Result Verification: Review is not applicable at a Level V validation. 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.

Sample ID: **IRB0151-01 Outfall008** EPA Method 1613

Client Data
 Name: Test America-Irvine, CA
 Project: IRB0151
 Date Collected: 3-Feb-08
 Time Collected: 1015

Sample Data
 Matrix: Aqueous
 Sample Size: 0.983 L

Laboratory Data
 Lab Sample: 30235-001 Date Received: 5-Feb-08
 QC Batch No.: 9953 Date Extracted: 15-Feb-08
 Date Analyzed DB-5: 19-Feb-08 Date Analyzed DB-225: NA

Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	MDL ^c	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.0000008	0.0000005	0.0000005		IS 13C-2,3,7,8-TCDD	79.0	25 - 164	
1,2,3,7,8-PeCDD	ND	0.0000006	0.0000008	0.0000008		13C-1,2,3,7,8-PeCDD	73.0	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.0000012	0.0000010	0.0000010		13C-1,2,3,4,7,8-HxCDD	73.3	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.0000013	0.0000009	0.0000009		13C-1,2,3,6,7,8-HxCDD	72.4	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.0000012	0.0000008	0.0000008		13C-1,2,3,4,6,7,8-HpCDD	77.3	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.00000521		0.0000011	0.0000011	J	13C-OCDD	68.3	17 - 157	
OCDD	0.0000356		0.0000018	0.0000018	J,B	13C-2,3,7,8-TCDF	83.9	24 - 169	
2,3,7,8-TCDF	ND	0.0000006	0.0000004	0.0000004		13C-1,2,3,7,8-PeCDF	72.4	24 - 185	
1,2,3,7,8-PeCDF	ND	0.0000008	0.0000008	0.0000008		13C-2,3,4,7,8-PeCDF	71.9	21 - 178	
2,3,4,7,8-PeCDF	ND	0.0000008	0.0000007	0.0000007		13C-1,2,3,4,7,8-HxCDF	68.1	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.0000007	0.0000006	0.0000006		13C-1,2,3,6,7,8-HxCDF	68.3	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.0000008	0.0000008	0.0000008		13C-2,3,4,6,7,8-HxCDF	69.1	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.0000008	0.0000009	0.0000009		13C-1,2,3,7,8,9-HxCDF	73.8	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.0000011	0.0000013	0.0000013		13C-1,2,3,4,6,7,8-HpCDF	70.4	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.0000027	0.0000006	0.0000006		13C-1,2,3,4,7,8,9-HpCDF	73.5	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.0000012	0.0000005	0.0000005		13C-OCDF	70.8	17 - 157	
OCDF	0.00000235		0.0000042	0.0000042	J	CRS 37Cl-2,3,7,8-TCDD	88.2	35 - 197	
Totals									
Total TCDD	ND	0.0000008							
Total PeCDD	ND	0.0000012							
Total HxCDD	ND	0.0000021							
Total HpCDD	0.0000111								
Total TCDF	ND	0.0000006							
Total PeCDF	ND	0.0000003							
Total HxCDF	ND	0.0000008							
Total HpCDF	ND	0.0000028							

Footnotes
 a. Sample specific estimated detection limit.
 b. Estimated maximum possible concentration.
 c. Method detection limit.
 d. Lower control limit - upper control limit.

Analyst: MAS
 Approved By: William J. Luksemburg
 Date: 22-Feb-2008 15:49
 Project: 30235

LEVEL IV
 15 3/22/08

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

Project ID: Annual Outfall 008

Report Number: IRB0151

Sampled: 02/03/08
Received: 02/03/08

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRB0151-01 (Outfall 008 - Water) - cont.									
Reporting Units: mg/l									
Hardness (as CaCO3)	[CALC]	[CALC]	N/A	0.33	140	1	02/04/08	02/04/08	
Boron	EPA 200.7	8B04079	0.020	0.050	0.079	1	02/04/08	02/04/08	
Calcium	EPA 200.7	8B04079	0.050	0.10	42	1	02/04/08	02/04/08	
Iron	EPA 200.7	8B04079	0.015	0.040	3.6	1	02/04/08	02/04/08	
Magnesium	EPA 200.7	8B04079	0.012	0.020	7.8	1	02/04/08	02/04/08	

LEVEL IV

TestAmerica Irvine

Joseph Doak
Project Manager

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

IRB0151 <Page 9 of 51>

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

Project ID: Annual Outfall 008

Report Number: IRB0151

Sampled: 02/03/08
 Received: 02/03/08

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRB0151-01 (Outfall 008 - Water) - cont.									
Reporting Units: ug/l									
Aluminum	EPA 200.7	8B04079	40	50	3100	1	02/04/08	02/04/08	
Antimony J/DNQ	EPA 200.8	8B04080	0.20	2.0	0.38	1	02/04/08	02/05/08	J
Arsenic U	EPA 200.7	8B04079	7.0	10	ND	1	02/04/08	02/04/08	
Beryllium	EPA 200.7	8B04079	0.90	2.0	ND	1	02/04/08	02/04/08	
Cadmium ↓	EPA 200.8	8B04080	0.11	1.0	ND	1	02/04/08	02/04/08	
Chromium J/DNQ	EPA 200.7	8B04079	2.0	5.0	4.4	1	02/04/08	02/04/08	J
Copper	EPA 200.8	8B04080	0.75	2.0	3.8	1	02/04/08	02/04/08	
Lead	EPA 200.8	8B04080	0.30	1.0	4.5	1	02/04/08	02/04/08	
Nickel J/DNQ	EPA 200.7	8B04079	2.0	10	4.3	1	02/04/08	02/04/08	J
Selenium UJ/B	EPA 200.7	8B04079	8.0	10	ND	1	02/04/08	02/04/08	
Silver U	EPA 200.7	8B04079	6.0	10	ND	1	02/04/08	02/04/08	
Thallium ↓	EPA 200.7	8B04079	7.0	10	ND	1	02/04/08	02/04/08	
Vanadium J/DNQ	EPA 200.7	8B04079	3.0	10	7.4	1	02/04/08	02/04/08	J
Zinc ↓	EPA 200.7	8B04079	6.0	20	15	1	02/04/08	02/04/08	J

LEVEL IV

TestAmerica Irvine

Joseph Doak
 Project Manager

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

IRB0151 <Page 10 of 51>

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

Project ID: Annual Outfall 008

Report Number: IRB0151

Sampled: 02/03/08
 Received: 02/03/08

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRB0151-01 (Outfall 008 - Water) - cont.									
Reporting Units: mg/l									
Boron	EPA 200.7-Diss	8B05111	0.020	0.050	0.082	1	02/05/08	02/06/08	
Calcium	EPA 200.7-Diss	8B05111	0.050	0.10	42	1	02/05/08	02/06/08	
Iron <i>J/DNQ</i>	EPA 200.7-Diss	8B05111	0.015	0.040	0.031	1	02/05/08	02/06/08	J
Magnesium	EPA 200.7-Diss	8B05111	0.012	0.020	6.8	1	02/05/08	02/06/08	
Hardness (as CaCO3)	SM2340B	8B05111	1.0	1.0	130	1	02/05/08	02/06/08	

LEVEL IV

TestAmerica Irvine

Joseph Doak
 Project Manager

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

IRB0151 <Page 11 of 51>

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

Project ID: Annual Outfall 008

Report Number: IRB0151

Sampled: 02/03/08
Received: 02/03/08

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRB0151-01 (Outfall 008 - Water) - cont.									
Reporting Units: ug/l									
Aluminum	EPA 200.7-Diss	8B05111	40	50	ND	1	02/05/08	02/06/08	
Antimony	EPA 200.8-Diss	8B04144	0.20	2.0	0.23	1	02/04/08	02/05/08	J
Arsenic	EPA 200.7-Diss	8B05111	7.0	10	ND	1	02/05/08	02/06/08	
Beryllium	EPA 200.7-Diss	8B05111	0.90	2.0	ND	1	02/05/08	02/06/08	
Cadmium	EPA 200.8-Diss	8B04144	0.11	1.0	ND	1	02/04/08	02/05/08	
Chromium	EPA 200.7-Diss	8B05111	2.0	5.0	ND	1	02/05/08	02/06/08	
Copper	EPA 200.8-Diss	8B04144	0.75	2.0	1.6	1	02/04/08	02/05/08	J
Lead	EPA 200.8-Diss	8B04144	0.30	1.0	ND	1	02/04/08	02/05/08	
Nickel	EPA 200.7-Diss	8B05111	2.0	10	ND	1	02/05/08	02/06/08	
Selenium	EPA 200.7-Diss	8B05111	8.0	10	ND	1	02/05/08	02/06/08	
Silver	EPA 200.7-Diss	8B05111	6.0	10	ND	1	02/05/08	02/06/08	
Thallium	EPA 200.7-Diss	8B05111	7.0	10	ND	1	02/05/08	02/06/08	
Vanadium	EPA 200.7-Diss	8B05111	3.0	10	ND	1	02/05/08	02/06/08	
Zinc	EPA 200.7-Diss	8B05111	6.0	20	ND	1	02/05/08	02/06/08	

LEVEL IV

TestAmerica Irvine

Joseph Doak
Project Manager

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

IRB0151 <Page 12 of 51>

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

Project ID: Annual Outfall 008

Report Number: IRB0151

Sampled: 02/03/08

Received: 02/03/08

Metals by EPA 200 Series Methods

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRB0151-01 (Outfall 008 - Water) - cont.									
Reporting Units: ug/l									
Mercury, Dissolved	EPA 245.1	W8B0171	0.050	0.20	ND	1	02/06/08	02/07/08	
Mercury, Total	EPA 245.1	W8B0171	0.050	0.20	ND	1	02/06/08	02/07/08	

LEVEL IV

TestAmerica Irvine

Joseph Doak
Project Manager

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

IRB0151 <Page 16 of 51>

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

Project ID: Annual Outfall 008

Report Number: IRB0151

Sampled: 02/03/08
Received: 02/03/08

ORGANIC COMPOUNDS BY GC/MS (EPA 525.2)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRB0151-01 (Outfall 008 - Water) - cont.									
Reporting Units: ug/l									
Chlorpyrifos	U	EPA 525.2	C8B0516	0.10	1.0	ND	0.99	02/05/08	02/07/08
Diazinon	UJ/4	EPA 525.2	C8B0516	0.24	0.25	ND	0.99	02/05/08	02/07/08
Surrogate: 1,3-Dimethyl-2-nitrobenzene (70-130%)						92 %			
Surrogate: Triphenylphosphate (70-130%)						117 %			
Surrogate: Perylene-d12 (70-130%)						92 %			

LEVEL IV

TestAmerica Irvine

Joseph Doak
Project Manager

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

IRB0151 <Page 15 of 51>

Eberline Services

ANALYSIS RESULTS

SDG 8699	Client TA IRVINE
Work Order R802045-01	Contract PROJECT# IRB0151
Received Date 02/05/08	Matrix WATER

Client	Lab	Sample ID	Collected	Analyzed	Nuclide	Results + 2σ	Units	MDA
Outfall 008 IRB0151-01	8699-001	02/03/08	02/27/08	GrossAlpha	0.789 ± 0.64	pCi/L	0.89	J/R
				Gross Beta	3.36 ± 0.69	pCi/L	0.98	
				Ra-228	0.563 ± 0.23	pCi/L	0.56	J/H
				K-40 (G)	U	pCi/L	28	J/H
				Cs-137 (G)	U	pCi/L	1.2	U
				H-3	-51.1 ± 87	pCi/L	150	U
				Ra-226	-0.059 ± 0.34	pCi/L	0.73	J/H
				Sr-90	0.214 ± 0.25	pCi/L	0.46	J/H
				Total U	0.682 ± 0.075	pCi/L	0.022	J/H

LEVEL IV

Certified by <u>ngj</u>
Report Date 03/11/08
Page 1

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

Project ID: Annual Outfall 008

Report Number: IRB0151

Sampled: 02/03/08
 Received: 02/03/08

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRB0151-01 (Outfall 008 - Water) - cont.									
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	8B12074	1.3	4.8	1.7	1	02/12/08	02/12/08	J
Ammonia-N (Distilled)	EPA 350.2	8B07098	0.30	0.50	ND	1	02/07/08	02/08/08	
Chloride	EPA 300.0	8B04043	0.25	0.50	16	1	02/04/08	02/04/08	
Fluoride	EPA 300.0	8B04043	0.15	0.50	0.24	1	02/04/08	02/04/08	J
Nitrate-N	EPA 300.0	8B04043	0.12	0.22	7.7	2	02/04/08	02/04/08	
Nitrite-N	EPA 300.0	8B04043	0.090	0.15	ND	1	02/04/08	02/04/08	
Nitrate/Nitrite-N	EPA 300.0	8B04043	0.30	0.52	7.7	2	02/04/08	02/04/08	
Sulfate	EPA 300.0	8B04043	0.20	0.50	19	1	02/04/08	02/04/08	
Total Dissolved Solids	SM2540C	8B07122	10	10	240	1	02/07/08	02/07/08	
Total Suspended Solids	EPA 160.2	8B04128	10	10	60	1	02/04/08	02/04/08	

* Analysis not validated

LEVEL IV

TestAmerica Irvine

Joseph Doak
 Project Manager

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

IRB0151 <Page 13 of 51>