# **APPENDIX G**

# Section 28

Outfall 004, February 24, 2008 Test America Analytical Laboratory Report

# <u>TestAmerica</u>

THE LEADER IN ENVIRONMENTAL TESTING

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

# LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project: Routine Outfall 004

Sampled: 02/24/08 Received: 02/25/08 Issued: 03/17/08 13:17

#### 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.

## SAMPLE CROSS REFERENCE

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

LABORATORY ID

IRB2400-01

**CLIENT ID** Outfall 004 MATRIX Water

Reviewed By:

Joseph Dock

**TestAmerica Irvine** Joseph Doak Project Manager

# <u>TestAmerica</u>

THE LEADER IN ENVIRONMENTAL TESTING

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 004

Report Number: IRB2400

Sampled: 02/24/08 Received: 02/25/08

**METALS** MDL Reporting Sample Dilution Date Date Data Analyte Method Batch Limit Limit Result Factor Extracted Analyzed Qualifiers Sample ID: IRB2400-01 (Outfall 004 - Water) Reporting Units: ug/l 0.20 03/04/08 EPA 200.8 8C04064 2.0 0.68 03/04/08 Antimony 1 Ja Cadmium EPA 200.8 8C04064 0.11 1.0 ND 1 03/04/08 03/04/08 0.75 2.0 2.3 03/04/08 Copper EPA 200.8 8C04064 1 03/04/08 Lead EPA 200.8 8C04064 0.30 1.0 1.0 03/04/08 03/04/08 1 Thallium EPA 200.8 8C04064 0.20 1.0 ND 1 03/04/08 03/04/08

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Project ID: Routine Outfall 004

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

Report Number: IRB2400

Sampled: 02/24/08 Received: 02/25/08

		DISSOI	LVED ]	METALS					
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRB2400-01 (Outfal	ll 004 - Water) - cont.								
Reporting Units: ug/l									
Antimony	EPA 200.8-Diss	8B25123	0.20	2.0	0.58	1	02/25/08	02/26/08	Ja
Cadmium	EPA 200.8-Diss	8B25123	0.11	1.0	ND	1	02/25/08	02/26/08	
Copper	EPA 200.8-Diss	8B25123	0.75	2.0	ND	1	02/25/08	02/26/08	
Lead	EPA 200.8-Diss	8B25123	0.30	1.0	ND	1	02/25/08	02/26/08	
Thallium	EPA 200.8-Diss	8B25123	0.20	1.0	ND	1	02/25/08	02/26/08	
Lead Thallium	EPA 200.8-Diss EPA 200.8-Diss	8B25123 8B25123	0.30 0.20	1.0 1.0	ND ND	1 1	02/25/08 02/25/08	02/26/08 02/26/08	

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Report Number: IRB2400

Sampled: 02/24/08 Received: 02/25/08

		INC	ORGA	NICS					
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRB2400-01 (Outfall 004 -	- Water) - cont.								
Reporting Units: mg/l									
Hexane Extractable Material (Oil &	EPA 1664A	8C04046	1.3	4.8	1.9	1	03/04/08	03/04/08	Ja
Grease)									
Chloride	EPA 300.0	8B25042	0.25	0.50	16	1	02/25/08	02/25/08	
Nitrate/Nitrite-N	EPA 300.0	8B25042	0.15	0.26	0.55	1	02/25/08	02/25/08	
Sulfate	EPA 300.0	8B25042	0.20	0.50	11	1	02/25/08	02/25/08	
Total Dissolved Solids	SM2540C	8B27119	10	10	160	1	02/27/08	02/27/08	

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Report Number: IRB2400

Sampled: 02/24/08 Received: 02/25/08

	Me	etals by EP.	A 200	Series Met	thods				
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRB2400-01 (Outfall 004 - W	ater) - cont.								
Reporting Units: ug/l									
Mercury, Dissolved	EPA 245.1	W8B0982	0.050	0.20	ND	1	02/26/08	02/27/08	
Mercury, Total	EPA 245.1	W8B0982	0.050	0.20	0.095	1	02/26/08	02/27/08	J

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Report Number: IRB2400

Sampled: 02/24/08 Received: 02/25/08

## SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 004 (IRB2400-01) - Water					
EPA 300.0	2	02/24/2008 10:45	02/25/2008 05:20	02/25/2008 07:00	02/25/2008 09:53
Filtration	1	02/24/2008 10:45	02/25/2008 05:20	02/25/2008 09:45	02/25/2008 10:11

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Report Number: IRB2400

Sampled: 02/24/08 Received: 02/25/08

# METHOD BLANK/QC DATA

### METALS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 8C04064 Extracted: 03/04	/08_										
Blank Analyzed: 03/04/2008 (8C04064	I-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							
Thallium	ND	1.0	0.20	ug/l							
LCS Analyzed: 03/04/2008 (8C04064-	BS1)										
Antimony	84.2	2.0	0.20	ug/l	80.0		105	85-115			
Cadmium	82.8	1.0	0.11	ug/l	80.0		104	85-115			
Copper	77.8	2.0	0.75	ug/l	80.0		97	85-115			
Lead	82.6	1.0	0.30	ug/l	80.0		103	85-115			
Thallium	81.3	1.0	0.20	ug/l	80.0		102	85-115			
Matrix Spike Analyzed: 03/04/2008 (8	C04064-MS1)				Sou	irce: IRB	2400-01				
Antimony	84.1	2.0	0.20	ug/l	80.0	0.678	104	70-130			
Cadmium	80.6	1.0	0.11	ug/l	80.0	ND	101	70-130			
Copper	77.3	2.0	0.75	ug/l	80.0	2.28	94	70-130			
Lead	81.6	1.0	0.30	ug/l	80.0	1.02	101	70-130			
Thallium	80.8	1.0	0.20	ug/l	80.0	ND	101	70-130			
Matrix Spike Dup Analyzed: 03/04/20	08 (8C04064-N	(ISD1)			Sou	irce: IRB	2400-01				
Antimony	82.7	2.0	0.20	ug/l	80.0	0.678	103	70-130	2	20	
Cadmium	80.3	1.0	0.11	ug/l	80.0	ND	100	70-130	1	20	
Copper	77.3	2.0	0.75	ug/l	80.0	2.28	94	70-130	0	20	
Lead	80.5	1.0	0.30	ug/l	80.0	1.02	99	70-130	1	20	
Thallium	79.8	1.0	0.20	ug/l	80.0	ND	100	70-130	1	20	

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Report Number: IRB2400

Sampled: 02/24/08 Received: 02/25/08

## **METHOD BLANK/QC DATA**

#### **DISSOLVED METALS**

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 8B25123 Extracted: 02/25/08	<u>}</u>										
Blank Analyzed: 02/26/2008 (8B25123-B	SLK1)										
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							
Thallium	ND	1.0	0.20	ug/l							
LCS Analyzed: 02/26/2008 (8B25123-BS	1)										
Antimony	78.6	2.0	0.20	ug/l	80.0		98	85-115			
Cadmium	78.9	1.0	0.11	ug/l	80.0		99	85-115			
Copper	80.6	2.0	0.75	ug/l	80.0		101	85-115			
Lead	83.1	1.0	0.30	ug/l	80.0		104	85-115			
Thallium	79.4	1.0	0.20	ug/l	80.0		99	85-115			
Matrix Spike Analyzed: 02/26/2008 (8B2	25123-MS1)				Sou	irce: IRB	2107-01				
Antimony	84.6	2.0	0.20	ug/l	80.0	ND	106	70-130			
Cadmium	77.0	1.0	0.11	ug/l	80.0	ND	96	70-130			
Copper	69.6	2.0	0.75	ug/l	80.0	1.17	85	70-130			
Lead	77.8	1.0	0.30	ug/l	80.0	ND	97	70-130			
Thallium	75.2	1.0	0.20	ug/l	80.0	0.230	94	70-130			
Matrix Spike Dup Analyzed: 02/26/2008	(8B25123-N	(ISD1)			Sou	irce: IRB	2107-01				
Antimony	89.1	2.0	0.20	ug/l	80.0	ND	111	70-130	5	20	
Cadmium	82.5	1.0	0.11	ug/l	80.0	ND	103	70-130	7	20	
Copper	71.8	2.0	0.75	ug/l	80.0	1.17	88	70-130	3	20	
Lead	79.1	1.0	0.30	ug/l	80.0	ND	99	70-130	2	20	
Thallium	76.5	1.0	0.20	ug/l	80.0	0.230	95	70-130	2	20	

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Report Number: IRB2400

Sampled: 02/24/08 Received: 02/25/08

## **METHOD BLANK/QC DATA**

### **INORGANICS**

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 8B25042 Extracted: 02/2:	5/08										
Blank Analyzed: 02/25/2008 (8B2504	2-BLK1)										
Chloride	ND	0.50	0.25	mg/l							
Nitrate/Nitrite-N	ND	0.26	0.15	mg/l							
Sulfate	ND	0.50	0.20	mg/l							
LCS Analyzed: 02/25/2008 (8B25042	-BS1)										
Chloride	5.09	0.50	0.25	mg/l	5.00		102	90-110			
Sulfate	9.95	0.50	0.20	mg/l	10.0		99	90-110			M-3
Matrix Spike Analyzed: 02/25/2008 (	(8B25042-MS1)				Sou	irce: IRB	2399-01				
Chloride	20.2	0.50	0.25	mg/l	5.00	15.9	88	80-120			
Matrix Spike Dup Analyzed: 02/25/2	2008 (8B25042-N	ISD1)			Sou	ırce: IRB	2399-01				
Chloride	20.2	0.50	0.25	mg/l	5.00	15.9	87	80-120	0	20	
Batch: 8B27119 Extracted: 02/2	7/08										
Blank Analyzed: 02/27/2008 (8B2711	9-BLK1)										
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 02/27/2008 (8B27119	-BS1)										
Total Dissolved Solids	980	10	10	mg/l	1000		98	90-110			
Duplicate Analyzed: 02/27/2008 (8B2	27119-DUP1)				Sou	ırce: IRB	2154-02				
Total Dissolved Solids	4760	10	10	mg/l		4760			0	10	
Batch: 8C04046 Extracted: 03/0	4/08										
Blank Analyzed: 03/04/2008 (8C0404	46-BLK1)										
Hexane Extractable Material (Oil & Grease)	ND	5.0	1.4	mg/l							

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Sampled: 02/24/08 Received: 02/25/08

## **METHOD BLANK/QC DATA**

## **INORGANICS**

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 8C04046 Extracted: 03/04/08	<u> </u>										
LCS Analyzed: 03/04/2008 (8C04046-BS	1)										MNR1
Hexane Extractable Material (Oil & Grease)	18.1	5.0	1.4	mg/l	20.2		90	78-114			
LCS Dup Analyzed: 03/04/2008 (8C0404	6-BSD1)										
Hexane Extractable Material (Oil & Grease)	18.9	5.0	1.4	mg/l	20.2		94	78-114	4	11	

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# METHOD BLANK/QC DATA

# Metals by EPA 200 Series Methods

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: W8B0982 Extracted: 02	2/26/08										
Blank Analyzed: 02/27/2008 (W8B	0982-BLK1)										
Mercury, Dissolved	ND	0.20	0.050	ug/l							
Mercury, Total	ND	0.20	0.050	ug/l							
LCS Analyzed: 02/27/2008 (W8B0	982-BS1)										
Mercury, Dissolved	0.920	0.20	0.050	ug/l	1.00		92	85-115			
Mercury, Total	0.920	0.20	0.050	ug/l	1.00		92	85-115			
Matrix Spike Analyzed: 02/27/2008	8 (W8B0982-MS1)				Sou	irce: IRB2	2400-01				
Mercury, Dissolved	1.95	0.40	0.10	ug/l	2.00	ND	98	70-130			
Mercury, Total	1.95	0.40	0.10	ug/l	2.00	0.0950	93	70-130			
Matrix Spike Analyzed: 02/27/2008	8 (W8B0982-MS2)				Sou	ırce: 8022	633-01				
Mercury, Dissolved	1.91	0.40	0.10	ug/l	2.00	ND	96	70-130			
Mercury, Total	1.91	0.40	0.10	ug/l	2.00	ND	96	70-130			
Matrix Spike Dup Analyzed: 02/27	/2008 (W8B0982-I	MSD1)			Sou	irce: IRB2	2400-01				
Mercury, Dissolved	2.00	0.40	0.10	ug/l	2.00	ND	100	70-130	2	20	
Mercury, Total	2.00	0.40	0.10	ug/l	2.00	0.0950	95	70-130	2	20	
Matrix Spike Dup Analyzed: 02/27	/2008 (W8B0982-I	MSD2)			Sou	ırce: 8022	633-01				
Mercury, Dissolved	1.93	0.40	0.10	ug/l	2.00	ND	96	70-130	1	20	
Mercury, Total	1.93	0.40	0.10	ug/l	2.00	ND	96	70-130	1	20	

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# **Compliance Check**

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IRB2400-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	1.90	4.8	15
IRB2400-01	Antimony-200.8	Antimony	ug/l	0.68	2.0	6
IRB2400-01	Cadmium-200.8	Cadmium	ug/l	0.054	1.0	4
IRB2400-01	Chloride - 300.0	Chloride	mg/l	16	0.50	150
IRB2400-01	Copper-200.8	Copper	ug/l	2.28	2.0	14
IRB2400-01	Hg_w 245.1	Mercury, Total	ug/l	0.095	0.20	0.2
IRB2400-01	Lead-200.8	Lead	ug/l	1.02	1.0	5.2
IRB2400-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.55	0.26	10
IRB2400-01	Sulfate-300.0	Sulfate	mg/l	11	0.50	250
IRB2400-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	156	10	850
IRB2400-01	Thallium-200.8	Thallium	ug/l	0.12	1.0	2

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## DATA QUALIFIERS AND DEFINITIONS

- J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
- Ja Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- **M-3** Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).
- MNR1 There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- **RPD** Relative Percent Difference

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#### **Certification Summary**

#### **TestAmerica** Irvine

Method	Matrix	Nelac	California
EPA 1664A	Water		
EPA 200.8-Diss	Water	Х	Х
EPA 200.8	Water	Х	Х
EPA 300.0	Water	Х	Х
Filtration	Water	N/A	N/A
SM2540C	Water	Х	

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

#### **Subcontracted Laboratories**

#### **Eberline Services - SUB**

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec Samples: IRB2400-01

- Analysis Performed: Gross Alpha Samples: IRB2400-01
- Analysis Performed: Gross Beta Samples: IRB2400-01
- Analysis Performed: Radium, Combined Samples: IRB2400-01
- Analysis Performed: Strontium 90 Samples: IRB2400-01
- Analysis Performed: Tritium Samples: IRB2400-01

Analysis Performed: Uranium, Combined Samples: IRB2400-01

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: IRB2400-01

#### **TestAmerica** Irvine

# <u>TestAmerica</u>

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#### Weck Laboratories, Inc

14859 E. Clark Avenue - City of Industry, CA 91745 Method Performed: EPA 245.1 Samples: IRB2400-01

**TestAmerica** Irvine

ne/Ad	dress:		Project	SOEL NDDE				•		ANALYSI	IS RE	QUIRE	
Cadic nda Av A 9100 a Conti	<b>a</b> renue, Suite : 7 act. Joseph E	200 Joak	Boeing- Routine Stormw	SSFLNFUE Outfall 00- ater at SRE-		∵slst∋M IT ,	-HEW) deuece)	N-		), كەمغە n (H-3) 226 Radium um 137	<u>ج</u> ه	,dS :slet	Field readings Temp = $\vec{z}$
image.	r: Bronwyn 15 e ra L <sub>i</sub> f	Kelly	/ Phone / (626) 5( Fax Nur (626) 56	Vumber: 38-6691 nber: 38-6515		l Recoverable Cd, Cu, Pb, Hg	اD (and all cong 	<sup>2</sup> ON+ <sup>2</sup> ON <sup>+</sup> OS		ss Alpha(900.0) (900.0), Tritiun (909.0), Sr-90 (905 (904.0), Urani (904.0), Urani (904.0), CS-1 (0 or 903.1) (0 or 901.1)	γήσικο Γοίπο	il Dissolved Me Cu, Pb, Hg, T∣	pH = <b>7.6</b> Time of readings = <b></b>
Samp Matri:	le Container x Type	# of Cont.	Sampling Da te/Time	Preservative	Bottle #	stoT ,dS			SQT	Gros Gros (906 (908 (908 (908 (908 (908 (908 (908 (908	<del>una</del>	Tota Cd,	Comments
3	1L Poly	-	20-4-62	HNO3	1A	×	-+			-			
8	1L Poly	-		HNO <sub>3</sub>	1B	×							
≥	1L Amber	~		None	2A, 2B		×						
3	1L Amber	7		HCI	3A, 3B		×						
3	500 ml Poly	5		None	4A, 4B			×					2125/28
3	500 ml Poly	-		None	5				×				09:25
3	2.5 Gal Cube 500 ml Amber			None None	6A 6B					×			Unfiltered and unpreserved analysis
1	1 Gal Poly	-		None	2		++				X		Only toet if first and second rain even the vear
3	1L Poly		224-07	None	8		$\left  \right $					×	Filter w/in 24hrs of receipt at lab
_							+						
d By	6	1	Date/Time:	1430-	Received B			5	Date/Tir	nei zlzulos	5	3 ⊘ Tu 24	m around Time: (check) Hours 5 Days
A A		$\searrow$	Date/Time: $2/24/L$	5 ru 3	Received B				Date/Til	μe,		48	Hours 10 Days
	ridae	0	LZSLD	( 0520	Received B	at the	Ē	D		125/08 05	20	i Sa	mple Integrity: (cher.k)
	0					)		N					3.4/1.4
													# i20

## SUBCONTRACT ORDER

**TestAmerica Irvine** 

	IRB2400 802Z(43)
SENDING LABORATORY:	RECEIVING LABORATORY:
TestAmerica Irvine	Weck Laboratories, Inc-SUB
17461 Derian Avenue. Suite 100	14859 E. Clark Avenue
Irvine, CA 92614	City of Industry, CA 91745
Phone: (949) 261-1022	Phone :(626) 336-2139
Fax: (949) 260-3297	Fax: (626) 336-2634
Project Manager: Joseph Doak	Project Location: California
	Receipt Temperature: $44 \text{ °C}$ Ice: (Y) / N

Analysis	Units	Due	Expires	Comments
Sample ID: IRB2400-01	Water		Sampled: 02/24/08 10:45	ph=8.2. temp=47.8
Level 4 Data Package - Weo	: N/A	03/05/08	03/23/08 10:45	Out to weck
Mercury - 245.1, Diss -OUT	ug/l	03/05/08	03/23/08 10:45	Boeing, J flags/ Out to Weck
Mercury - 245.1-OUT	ug/l	03/05/08	03/23/08 10:45	Boeing, permit, J flags/ Out to Weck
Containers Supplied: 125 mL Poly w/HNO3 2 (M)	250 mL Poly	/ (N)		

Unit Ch			Afdb	9B
Released By	2 Albate/Time 205	Received By Jawwa (mph	Date/Time 2 (UID 0) Date/Time	1205 ES P11851 of 1
Released by	Daternine	Received by	DaterTime	ge . e



# Weck Laboratories, Inc.

Analytical Laboratory Services - Since 1964

14859 E. Clark Ave., Industry, CA 91745 Phone 626.336.2139 Fax 626.336.2634 info@wecklabs.com www.wecklabs.com

# **CERTIFICATE OF ANALYSIS**

Client:	TestAmerica, Inc Irvine	<b>Report Date:</b>	02/28/08 07:49
	17461 Derian Ave, Suite 100	<b>Received Date:</b>	02/26/08 12:05
	Irvine, CA 92614	<b>Turn Around:</b>	6 days
	Attention: Joseph Doak	<b>Work Order #:</b> 8022631	
	Phone: (949) 261-1022 Fax: (949) 260-3297	Client Project: IRB2400	

### 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 02/26/08 12:05 with the Chain of Custody document. The samples were received in good condition. The samples were received at 4.6 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Reviewed by: in

Kim G Tu

Project Manager







Report ID: 8022631

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

 Date Received:
 02/26/08 12:05

 Date Reported:
 02/28/08 07:49

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Laboratory	Matrix	Date Sampled
IRB2400-01	Client		8022631-01	Water	02/24/08 10:45

Project ID: IRB2400



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

Date Received: 02/26/08 12:05 Date Reported: 02/28/08 07:49

IRB2400-01 8022631-01 (Water)

Report ID: 8022631

Project ID: IRB2400

Date Sampled: 02/24/08 10:45

#### Metals by EPA 200 Series Methods

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Analyst	Data Qualifiers
Mercury, Dissolved	ND	0.050	ug/l	0.20	1	EPA 245.1	W8B0982	02/26/08	02/27/08	jlp	
Mercury, Total	0.095	0.050	ug/l	0.20	1	EPA 245.1	W8B0982	02/26/08	02/27/08	jlp	



Report ID: 8022631 Project ID: IRB2400 Weck Laboratories, Inc. 14859 E. Clark Ave. Industry, CA 91745 Phone 626.336.2139 Fax 626.336.2634

 Date Received:
 02/26/08 12:05

 Date Reported:
 02/28/08 07:49

# QUALITY CONTROL SECTION



 Date Received:
 02/26/08 12:05

 Date Reported:
 02/28/08 07:49

#### Metals by EPA 200 Series Methods - Quality Control

Report ID: 8022631

Project ID: IRB2400

							%REC			
Analyte	l Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch W8B0982 - EPA 245.1										
Blank (W8B0982-BLK1)				Analyzed:	02/27/08					
Mercury, Dissolved	ND	0.20	ug/l							
Mercury, Total	ND	0.20	ug/l							
LCS (W8B0982-BS1)				Analyzed:	02/27/08					
Mercury, Dissolved	0.920	0.20	ug/l	1.00		92	85-115			
Mercury, Total	0.920	0.20	ug/l	1.00		92	85-115			
Matrix Spike (W8B0982-MS1)	Sou	ırce: 8022631-	-01	Analyzed: 02/27/08						
Mercury, Dissolved	1.95	0.40	ug/l	2.00	ND	98	70-130			
Mercury, Total	1.95	0.40	ug/l	2.00	0.0950	93	70-130			
Matrix Spike (W8B0982-MS2)	Sou	ırce: 8022633	-01	Analyzed:	02/27/08					
Mercury, Dissolved	1.91	0.40	ug/l	2.00	ND	96	70-130			
Mercury, Total	1.91	0.40	ug/l	2.00	ND	96	70-130			
Matrix Spike Dup (W8B0982-MSD1)	Sou	ırce: 8022631-	-01	Analyzed:	02/27/08					
Mercury, Dissolved	2.00	0.40	ug/l	2.00	ND	100	70-130	2	20	
Mercury, Total	2.00	0.40	ug/l	2.00	0.0950	95	70-130	2	20	
Matrix Spike Dup (W8B0982-MSD2)	Sou	ırce: 8022633	-01	Analyzed:	02/27/08					
Mercury, Dissolved	1.93	0.40	ug/l	2.00	ND	96	70-130	0.9	20	
Mercury, Total	1.93	0.40	ug/l	2.00	ND	96	70-130	0.9	20	



Report ID: 8022631 Project ID: IRB2400 Weck Laboratories, Inc. 14859 E. Clark Ave. Industry, CA 91745 Phone 626.336.2139 Fax 626.336.2634

Date Received: 02/26/08 12:05 Date Reported: 02/28/08 07:49

#### **Notes and Definitions**

- J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
- 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.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



March 20, 2008

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

 Reference:
 Test America Project Nos.
 IRB1995, IRB2337, IRB2341, IRB2342, IRB2399

 IRB2400, IRB2401, IRB2403
 IRB2400, IRB2401, IRB2403

 Eberline Services NELAP Cert #01120CA
 Eberline Services Reports

 R802140-8609, R802169-8610, R802170-8611
 R802171-8612, R802172-8613, R802173-8614

 R802174-8615, R802175-8616
 R802175-8616

Dear Mr. Doak:

Attached are data reports for eight water samples. The samples were received at Eberline Services on February 22, 26, 2008 under eight separate Test America subcontract orders. 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. 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 samples were batched with QC samples 8609-002, 003, 004, and 005 for all analyses. 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,

melesse Mamm

Melissa Mannion Senior Program Manager

MCM/njv

Enclosure: Reports

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 - 1192

# Eberline Services

#### ANALYSIS RESULTS

SDG	8614	Client	TA IRVINE
Work Order	<u>R802173-01</u>	Contract	PROJECT# IRB2400
Received Date	02/26/08	Matrix	WATER

Client	Lab					
Sample ID	Sample ID	Collected Analyzed	Nuclide	<u>Results ± 20</u>	Units	MDA
IRB2400-01	8614-001	02/24/08 03/16/08	GrossAlpha	1.22 ± 0.69	pCi/L	0.94
		03/16/08	Gross Beta	0.262 ± 0.53	pCi/L	0.91
		03/10/08	Ra-228	0.138 ± 0.16	pCi/L	0.43
		03/12/08	K-40 (G)	U	pCi/L	36
		03/12/08	Cs-137 (G)	U	pCi/L	1.4
		03/14/08	H-3	-41.9 ± 86	pCi/L	150
		03/14/08	Ra-226	1.44 ± 0.63	pCi/L	0.75
		03/10/08	Sr-90	-0.251 ± 0.32	pCi/L	0.91
		03/05/08	Total U	0.297 <u>+</u> 0.035	pCi/L	0.023

Certif	ied by
Report	Date 03/20/08
Page	1

QC RESULTS

Work Received	SDG <u>8614</u> Order <u>R8021</u> d Date <u>02/26</u>	73-01 / <u>08</u>		Client <u>TA IRVINE</u> Contract <u>PROJECT# IRB2400</u> Matrix <u>WATER</u>					
Lab				Imount Iddad	MELA	Evaluation			
Sample ID	Nuclide	Results	UNICS	Amount Added	MDA	Evaluation			
LCS									
8609-002	GrossAlpha	12.8 ± 0.90	pCi/Smpl	10.2	0.25	125% recovery			
	Gross Beta	8.65 ± 0.36	pCi/Smpl	9.37	0.27	92% recovery			
	Ra-228	9.55 ± 0.58	pCi/Smpl	8.63	0.79	111% recovery			
	Co-60 (G)	216 ± 6.8	pCi/Smpl	223	3.1	97% recovery			
	Cs-137 (G)	247 ± 6.5	pCi/Smpl	235	4.3	105% recovery			
	Am-241 (G)	208 ± 15	pCi/Smpl	254	17	82% recovery			
	H-3	222 ± 14	pCi/Smpl	239	15	93% recovery			
	Ra-226	$4.52 \pm 0.24$	pCi/Smpl	4.46	0.081	101% recovery			
	Sr-90	10.4 ± 0.75	pCi/Smpl	9.38	0.30	111% recovery			
	Total U	1.10 ± 0.13	pCi/Smpl	1.13	0.005	97% recovery			
BLANK									
8609-003	GrossAlpha	0 ± 0.15	pCi/Smpl	NA	0.28	<mda< td=""></mda<>			
	Gross Beta	-0.185 ± 0.27	pCi/Smpl	NA	0.44	<mda< td=""></mda<>			
	Ra-228	-0.178 ± 0.26	pCi/Smpl	NA	0.76	<mda< td=""></mda<>			
	K-40 (G)	U	pCi/Smpl	NA	140	<mda< td=""></mda<>			
	Cs-137 (G)	U	pCi/Smpl	NA	5.3	<mda< td=""></mda<>			
	H-3	-3.37 ± 8.5	pCi/Smpl	NA	14	<mda< td=""></mda<>			
	Ra-226	-0.003 ± 0.035	pCi/Smpl	NA	0.071	<mda< td=""></mda<>			
	Sr-90	-0.157 ± 0.21	pCi/Smpl	NA	0.57	<mda< td=""></mda<>			
	Total U	0.00E 00 ± 2.0E-0	4 pCi/Smpl	NA	4.6E-04	<mda< td=""></mda<>			

	DUPLICATES				ORIGINALS				
								3σ	
Sample ID	Nuclide	Results <u>+</u> 20	o MDA	Sample ID	<u>Results ± 2c</u>	MDA	RPD	(Tot)	Eval
8609-004	GrossAlpha	1.98 ± 1.7	2.4	8609-001	3.00 ± 2.0	2.8	41	164	satis.
	Gross Beta	4.45 ± 1.4	2.0		2.91 ± 2.0	3.3	42	108	satis.
	K-40 (G)	U	20		U	39	-	0	satis.
	Cs-137 (G)	U	1.1		U	1.7	-	0	satis.
	H-3	-43.9 ± 86	150		$-40.9 \pm 84$	140	-	0	satis.
	Ra-226	$0.125 \pm 0.4$	0 0.74		-0.003 ± 0.41	0.79	-	0	satis.
	Sr-90	0.093 ± 0.3	8 0.86		0.137 ± 0.49	9 1.1	-	0	satis.
	Total U	1.19 ± 0.1	.3 0.023		1.30 ± 0.15	0.023	9	31	satis.

Certified by $\mathcal{N}$
Report Date 03/20/08
Page 2

## QC RESULTS

SDG	8614	Client	TA IRVINE
Work Order	R802173-01	Contract	PROJECT# IRB2400
Received Date	02/26/08	Matrix	WATER

	SPIKED SAMPLE			OR				
Sample ID	Nuclide	Results ± 20	D MDA	Sample ID	<u>Results ± 20</u>	MDA	Added	*Recv
8609-005	GrossAlpha	207 ± 11	2.6	8609-001	3.00 ± 2.0	2.8	164	124
	Gross Beta	148 ± 4.0	2.4		2.91 ± 2.0	3.3	144	101
	H - 3	14800 ± 280	150		-40.9 ± 84	140	16000	93
	Ra-226	113 ± 4.4	0.81		$-0.003 \pm 0.41$	0.79	112	101
	Total U	113 ± 14	2.3		1.30 ± 0.15	0.023	113	99
				•				

Certified by Mar	
Report Date 03/20/08	
Page 3	



8614

# SUBCONTRACT ORDER - PROJECT # IRB2400

#### 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

Standard TAT is requ	ested unless specific due date is reque	ted unless specific due date is requested. => Due Date:				
Analysis	Expiration		Comments			
Sample ID: IRB2400-01	Water Sampled: 02/24/08 10:45	ph=8.2. temp=47.8	·			
Gamma Spec-O	02/23/09 10:45		Out to Eberline, K-40 and CS-137 only			
Gross Alpha-O	08/22/08 10:45		Out to Eberline			
A Gross Beta-O	08/22/08 10:45		Out to Eberline			
// Level & Data Package - O	ut 03/23/08 10:45					
Radium, Combined-O	02/23/09 10:45		Out to Eberline			
Strontium 90-O	02/23/09 10:45		Out to Eberline			
Tritium-O	02/23/09 10:45		Out to Eberline			
Uranium, Combined-O	02/23/09 10:45		Out to Eberline			
Containers Supplied:						
2.5 gal Poly (IRB2400-01	J)					
500 mL Amber (IRB2400	)-01K)					

		SAMPLE	INTEGRITY:		
All containers intact: Custody Seals Present: Yes	No Sa No Sa	mple labels/COC agree: mples Preserved Properly:	□ Yes □ No □ Yes □ No	Samples Received On Ice::  Samples Received at (temp):	] Yes 🔲 No
	2125/08	1700	Fed -	Ex 2/25/08	1700
Released By FED	EX EX	Time	Received By	Sent 2/26/08	Time ' <u>/0:'00</u>
Released By	Date	Time	Received By	Date	Time
					Page 1 of 1

E E	ER		E
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# RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Date/	Time rece	eived 2/26/08	10:00 car	No IRR.	2400			
Cont	ainer I.D.	NOTEST MU	Rickenueste	d TAT (Dav	STAND POL	Poppined Var		
							[] NO[]	
1.	Custor	lv seals on shin	ning container	INSP:	ECTION	No. C.A		
2.	Custoc	ly seals on ship	ping container	dated & sign	ad?	res [V]		. [ ]
3.	Custoc	ly seals on sam	pling containers	intact?		Yes [ ]		
4.	Custoc	, ly seals on sam	ple containers	dated & sign	ied?	Yes [ ]		[2]
5.	Packin	g material is:	,	a sign		Wet[]		IV Via V
6.	Numbe	er of samples in	shipping conta	iner:	1 Sample Ma	trix WAT	ER	-/7: 0
7.	Numbe	er of containers	per sample:	2	(Or see CoC	)		
8.	Sample	es are in correct	t container		Yes [ V]	No [ ]		
9.	Paperv	vork agrees with	samples?		Yes [1]	No [ ]		
10.	Sample	es have: Tape	e[] Hazard	labels [ ]	Rad labels [ ]	Appropriate sai	mple labels [ $ u$	1
11.	Sample	es are: In go	ood condition [ <sup> </sup>	/ Leaki	ng[] Broke	n Container [ ]	Missing [	]
12.	Sample	es are: Preserv	ved [ ] Not p	reserved [	√] pH <u>6</u> Pi	reservative		
13.	Descrit	be any anomalie	est					
14.	Was P.	M. notified of a	iny angmalies?	Ye	s I I No I	1 Date		
14. 15.	Was P. Inspect	M notified of a	iny anomalies?	Ye Date: •	s[] No[ 2/26/08 Tim	] Date e:ん:ろい		
14. 15. Cus Sam	Was P. Inspect stomer ple No.	M. notified of a ed by Beta/Gamma 	iny anomalies? K Ion Chamber mR/hr	Ye Date∷ Wipe	s [ ] No [ 2/2 <i>6/08</i> Tim Customer Sample No.	] Date le: Beta/Gamma cpm	ion Chamber mR/hr	wipe
14. 15. Sam IRB 6	Was P. Inspect stomer ple No. Wo <i>O</i>	M notified of a ed by Beta/Gamma cpm 4 60	iny anomalies? //k_ lon Chamber mR/hr	Ye Date: < Wipe	s [ ] No [ 2/26/08 Tim Customer Sample No.	] Date e: <u>J:30</u> Beta/Gamma cpm	ion Chamber mR/hr	wipe
14. 15. Sam (RB 6	Was P. Inspect stomer ple No. MOU	M notified of a ed by Beta/Gamma cpm & & & O	iny anomalies? Jk Ion Chamber mR/hr	Ye Date: Wipe	s[] No[ <u>226/08</u> Tim Customer Sample No.	] Date le:Beta/Gamma cpm	Ion Chamber mR/hr	wipe
14. 15. Sam / <i>RB 6</i>	Was P. Inspect stomer ple No. 2400	M. notified of a ed by Beta/Gamma cpm ć Ć Ċ	iny anomalies? /k_ lon Chamber mR/hr	Ye Date: <  Wipe	s [ ] No [ 2/26/08 Tim Customer Sample No.	] Date le:Beta/Gamma cpm	ion Chamber mR/hr	wipe
14. 15. Cus Sam / <i>RB 6</i>	Was P. Inspect stomer ple No. MOU	M notified of a ed by Beta/Gamma cpm 2 60	Ion Chamber mR/hr	Ye Date: { Wipe	s[] No[ 2/26/08 Tim Customer Sample No.	] Date e:Beta/Gamma 	Ion Chamber mR/hr	wipe
14. 15. Cus Sam	Was P. Inspect stomer ple No. MOU	M. notified of a ed by Beta/Gamma  Cpm  <u>C 6 0</u>	Iny anomalies?	Ye Date:⊴ Wipe	s [ ] No [ 2/26/08 Tim Customer Sample No.	] Date le:Beta/Gamma 	ion Chamber mR/hr	wipe
14. 15. Sam /RB 6	Was P. Inspect stomer ple No. MOU	M. notified of a ed by Beta/Gamma cpm 2 6 0	Ion Chamber mR/hr	Ye Date: 4 	s [ ] No [ 2 <u>26/08</u> Tim Customer Sample No.	] Date e:ん:ろひ Beta/Gamma 	Ion Chamber mR/hr	wipe
14. 15. Sam /RB 6	Was P. Inspect stomer ple No. Moo	M. notified of a ed by Beta/Gamma cpm <u>460</u>	Iny anomalies?	Ye Date: « Wipe	s [ ] No [ 2/26/08 Tim Customer Sample No.	] Date le:Beta/Gamma pm	Ion Chamber mR/hr	wipe
14. 15. Sam (RB 6	Was P. Inspect stomer ple No. MOU	M notified of a ed by Beta/Gamma cpm 4 60	Iny anomalies?	Ye Date: < Wipe	s [ ] No [ 2/26/08 Tim Customer Sample No.	] Date e: <u>ル:3</u> の Beta/Gamma cpm	ion Chamber mR/hr	wipe
14. 15. Sam IRB 6	Was P. Inspect stomer ple No. Mou	M notified of a ed by Beta/Gamma cpm <u>460</u>	Iny anomalies?	Ye Date: < Wipe	s [ ] No [ 2/26/08 Tim Customer Sample No.	] Date le:Beta/Gamma 	Ion Chamber mR/hr	wipe
14. 15. Sam / <i>RB</i> 6	Was P. Inspect stomer ple No. MOU	M. notified of a ed by Beta/Gamma cpm ć ć Ċ	Iny anomalies?	Ye Date: < Wipe	s [ ] No [ 2/26/08 Tim Customer Sample No.	] Date e: Beta/Gamma 	Ion Chamber mR/hr	wipe
14. 15. Sam (RB 6	Was P. Inspect stomer ple No. Moo	M. notified of a ed by Beta/Gamma     	Iny anomalies?	Ye Date: <  Wipe	s [ ] No [ 2/26/08 Tim Customer Sample No.	] Date le:Beta/Gamma 	Ion Chamber mR/hr	wipe
14. 15. <u>Cus</u> Sam / <i>RB</i> 6	Was P. Inspect stomer ple No. 2400	M notified of a ed by Beta/Gamma cpm ć ć Ċ	Iny anomalies?	Ye Date: Wipe	s [ ] No [ 2/26/08 Tim Customer Sample No.	] Date e:Beta/Gamma 	Ion Chamber mR/hr	wipe
14. 15. Cus Sam / <i>RB</i> 0	Was P. Inspect stomer ple No. MOU	M. notified of a ed by Beta/Gamma       	Ion Chamber mR/hr	Ye Date: 4 Wipe	s [ ] No [ 2/26/08 Tim Customer Sample No.	] Date e:Beta/Gamma  	Ion Chamber mR/h r	wipe

Form SCP-02, 07-30-07

'over 55 years of quality nuclear services



March 14, 2008

Vista Project I.D.: 30302

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 February 26, 2008 under your Project Name "IRB2400". 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,

Marine Mare -

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.



Project 30302

# Section I: Sample Inventory Report Date Received: 2/26/2008

<u>Vista Lab. ID</u>

Client Sample ID

30302-001

IRB2400-01

**SECTION II** 

Method Blan	ık									EPA Method 1613
Matrix:	Aqueous		QC Batch No.:	99	97	Lab	Sample:	0-MB001		
Sample Size:	1.00 L		Date Extracted:	9-	Mar-08	Date	Analyzed DB-5	10-Mar-08	Date An	alvzed DB-225. NA
Sumple Size.	1.00 L		Dute Extracted.	)		Date	Thayzed DD 5.	10 10100	Dute / III	
Analyte	Conc.	(ug/L)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers		Labeled Standa	rd	%R	LCL-UCL <sup>d</sup> Qualifiers
2,3,7,8-TCDD		ND	0.000000937			<u>IS</u>	13C-2,3,7,8-TCI	DD	87.0	25 - 164
1,2,3,7,8-PeCI	DD	ND	0.00000106				13C-1,2,3,7,8-Pe	CDD	77.8	25 - 181
1,2,3,4,7,8-Hx	CDD	ND	0.00000142				13C-1,2,3,4,7,8-1	HxCDD	82.4	32 - 141
1,2,3,6,7,8-Hx	CDD	ND	0.00000142				13C-1,2,3,6,7,8-1	HxCDD	88.5	28 - 130
1,2,3,7,8,9-Hx	CDD	ND	0.00000136				13C-1,2,3,4,6,7,8	3-HpCDD	81.0	23 - 140
1,2,3,4,6,7,8-H	IpCDD	ND	0.00000250				13C-OCDD		72.3	17 - 157
OCDD		ND	0.00000890				13C-2,3,7,8-TCI	DF	85.2	24 - 169
2,3,7,8-TCDF		ND	0.000000547				13C-1,2,3,7,8-Pe	CDF	73.1	24 - 185
1,2,3,7,8-PeCI	OF	ND	0.000000924				13C-2,3,4,7,8-Pe	CDF	73.2	21 - 178
2,3,4,7,8-PeCI	DF	ND	0.000000985				13C-1,2,3,4,7,8-1	HxCDF	82.4	26 - 152
1,2,3,4,7,8-Hx	CDF	ND	0.000000699				13C-1,2,3,6,7,8-1	HxCDF	94.2	26 - 123
1,2,3,6,7,8-Hx	CDF	ND	0.000000669				13C-2,3,4,6,7,8-1	HxCDF	89.8	28 - 136
2,3,4,6,7,8-Hx	CDF	ND	0.000000795				13C-1,2,3,7,8,9-1	HxCDF	83.4	29 - 147
1,2,3,7,8,9-Hx	CDF	ND	0.00000107				13C-1,2,3,4,6,7,8	3-HpCDF	79.0	28 - 143
1,2,3,4,6,7,8-Н	IpCDF	ND	0.000000964				13C-1,2,3,4,7,8,9	-HpCDF	81.7	26 - 138
1,2,3,4,7,8,9-Н	IpCDF	ND	0.00000105				13C-OCDF		72.4	17 - 157
OCDF		ND	0.00000275			CRS	<b>5</b> 37Cl-2,3,7,8-TC	DD	113	35 - 197
Totals						Foot	tnotes			
Total TCDD		ND	0.000000937			a. Sar	nple specific estimated of	letection limit.		
Total PeCDD		ND	0.00000167			b. Est	imated maximum possib	ble concentration.		
Total HxCDD		ND	0.00000235			c. Me	thod detection limit.			
Total HpCDD		ND	0.00000320			d. Lo	wer control limit - upper	control limit.		
Total TCDF		ND	0.000000547							
Total PeCDF		ND	0.000000953							
Total HxCDF		ND	0.000000792							
Total HpCDF		ND	0.00000100							

Analyst: MAS

<b>OPR Results</b>						EP	A Method 1	1613
Matrix: Sample Size:	Aqueous 1.00 L		QC Batch No.: Date Extracted:	9997 9-Mar-08	Lab Sample:0-OPR001Date Analyzed DB-5:10-Mar-08	Date Analy	zed DB-225:	NA
Analyte		Spike Conc.	Conc. (ng/mL)	<b>OPR</b> Limits	Labeled Standard	%R	LCL-UCL	Qualifier
2,3,7,8-TCDD		10.0	10.5	6.7 - 15.8	<u>IS</u> 13C-2,3,7,8-TCDD	84.4	25 - 164	
1,2,3,7,8-PeCI	DD	50.0	50.9	35 - 71	13C-1,2,3,7,8-PeCDD	78.2	25 - 181	
1,2,3,4,7,8-Hx	CDD	50.0	49.8	35 - 82	13C-1,2,3,4,7,8-HxCDD	77.7	32 - 141	
1,2,3,6,7,8-Hx	CDD	50.0	50.3	38 - 67	13C-1,2,3,6,7,8-HxCDD	80.5	28 - 130	
1,2,3,7,8,9-Hx	CDD	50.0	50.3	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	77.6	23 - 140	
1,2,3,4,6,7,8-H	IpCDD	50.0	51.0	35 - 70	13C-OCDD	67.4	17 - 157	
OCDD		100	102	78 - 144	13C-2,3,7,8-TCDF	82.6	24 - 169	
2,3,7,8-TCDF		10.0	9.70	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	72.2	24 - 185	
1,2,3,7,8-PeCI	DF	50.0	51.5	40 - 67	13C-2,3,4,7,8-PeCDF	73.8	21 - 178	
2,3,4,7,8-PeCI	DF	50.0	51.5	34 - 80	13C-1,2,3,4,7,8-HxCDF	78.8	26 - 152	
1,2,3,4,7,8-Hx	CDF	50.0	52.0	36 - 67	13C-1,2,3,6,7,8-HxCDF	82.8	26 - 123	
1,2,3,6,7,8-Hx	CDF	50.0	52.6	42 - 65	13C-2,3,4,6,7,8-HxCDF	78.7	28 - 136	
2,3,4,6,7,8-Hx	CDF	50.0	53.6	35 - 78	13C-1,2,3,7,8,9-HxCDF	78.2	29 - 147	
1,2,3,7,8,9-Hx	CDF	50.0	51.9	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	74.8	28 - 143	
1,2,3,4,6,7,8-H	IpCDF	50.0	52.4	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	75.3	26 - 138	
1,2,3,4,7,8,9-H	IpCDF	50.0	52.1	39 - 69	13C-OCDF	67.4	17 - 157	
OCDF		100	103	63 - 170	<u>CRS</u> 37Cl-2,3,7,8-TCDD	107	35 - 197	

Analyst: MAS

Approved By: Martha M. Maier 14-Mar-2008 10:42

Sample ID:	RB2400-01								EPA N	Aethod 1613
Client Data			Sample Data		Lab	oratory Data				
Name: T	Test America-Irvine, CA		Matrix:	Aqueous	Lab	Sample:	30302-001	Date Re	ceived:	26-Feb-08
Project: I	RB2400		Sample Size:	1.02 L	QC	Batch No.:	9997	Date Ext	tracted:	9-Mar-08
Time Collected: 1	045				Date	Analyzed DB-5:	10-Mar-08	Date An	alyzed DB-225:	NA
Analyte	Conc. (ug/L)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers		Labeled Standar	:d	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	ND	0.000000	593		<u>IS</u>	13C-2,3,7,8-TCDI	)	76.8	25 - 164	
1,2,3,7,8-PeCDD	ND	0.000001	04			13C-1,2,3,7,8-PeC	DD	71.8	25 - 181	
1,2,3,4,7,8-HxCDD	) ND	0.000003	34			13С-1,2,3,4,7,8-Н	xCDD	67.7	32 - 141	
1,2,3,6,7,8-HxCDE	) ND	0.000003	37			13С-1,2,3,6,7,8-Н	xCDD	76.2	28 - 130	
1,2,3,7,8,9-HxCDD	) ND	0.000003	22			13C-1,2,3,4,6,7,8-	HpCDD	72.2	23 - 140	
1,2,3,4,6,7,8-HpCE	DD 0.0000326					13C-OCDD		66.4	17 - 157	
OCDD	0.000536					13C-2,3,7,8-TCDI	7	120	24 - 169	
2,3,7,8-TCDF	ND	0.000001	08			13C-1,2,3,7,8-PeC	DF	100	24 - 185	
1,2,3,7,8-PeCDF	ND	0.000001	12			13C-2,3,4,7,8-PeC	DF	100	21 - 178	
2,3,4,7,8-PeCDF	ND	0.000001	16			13С-1,2,3,4,7,8-Н	xCDF	67.2	26 - 152	
1,2,3,4,7,8-HxCDF	S ND	0.000000	726			13С-1,2,3,6,7,8-Н	xCDF	82.0	26 - 123	
1,2,3,6,7,8-HxCDF	7 ND	0.000000	717			13С-2,3,4,6,7,8-Н	xCDF	73.2	28 - 136	
2,3,4,6,7,8-HxCDF	7 ND	0.000000	844			13С-1,2,3,7,8,9-Н	xCDF	72.4	29 - 147	
1,2,3,7,8,9-HxCDF	7 ND	0.000001	08			13C-1,2,3,4,6,7,8-	HpCDF	67.9	28 - 143	
1,2,3,4,6,7,8-HpCE	OF 0.00000409			J		13C-1,2,3,4,7,8,9-	HpCDF	68.2	26 - 138	
1,2,3,4,7,8,9-HpCE	DF ND	0.000001	48			13C-OCDF		66.1	17 - 157	
OCDF	0.0000127			J	<u>CRS</u>	37Cl-2,3,7,8-TCD	D	113	35 - 197	
Totals					Foo	otnotes				
Total TCDD	ND	0.000001	12		a. Sa	mple specific estimated of	letection limit.			
Total PeCDD	ND	0.000002	17		b. Es	stimated maximum possib	ble concentration.			
Total HxCDD	ND	0.000005	59		c. M	ethod detection limit.				
Total HpCDD	0.0000651				d. Le	ower control limit - upper	control limit.			
Total TCDF	ND	0.000001	08							
Total PeCDF	ND	0.000001	14							
Total HxCDF	0.00000240									
Total HpCDF	0.0000188									

Analyst: MAS
APPENDIX

## **DATA QUALIFIERS & ABBREVIATIONS**

В	This compound was also detected in the method blank.
D	Dilution
Ε	The amount detected is above the High Calibration Limit.
Р	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
Н	The signal-to-noise ratio is greater than 10:1.
Ι	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



30302 2.1%

## **SUBCONTRACT ORDER - PROJECT # IRB2400**

#### 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

Standard TAT is requested unless specific due date is requested. => Due Date: Initials:								
Analysis	Expiration	Comments						
Sample ID: IRB2400-01 1613-Dioxin-HR-Alta EDD + Level 4	Water Sampled: 02/24/08 10:45 03/02/08 10:45 03/23/08 10:45	ph=8.2. temp=47.8	J flags,17 congeners,no TEQ,ug/L,sub=Vista Excel EDD email to pm,Include Std logs for Lvl IV					
Containers Supplied: 1 L Amber (IRB2400-01 1 L Amber (IRB2400-01	C) D)							

	SAMPLE INTEGRITY:											
All containers intact: Custody Seals Present:		Yes Yes	□ No □ No		Sample labels/COC Samples Preserved I	agree:	Yes E Yes E	] No ] No	Samples Recei Samples Recei	ved On Ice:: ved at (temp):	☐ Yes	□ No
Maga Released By	U	ÌŪ-	ku	LOH Date	Time	<u><u> </u></u>	knig ived By	<u>IBenl</u>	dict	2/26/0 Date	8	1521 Time
Released By				Date	Time	Recei	ived By			Date	<u> </u>	lime
roject 30302											NPDI P	Page 1 of 1 ES - 1207 Page 10 of 249

Project 30302

### SAMPLE LOG-IN CHECKLIST



Vista Project #:	30302			TAT_	Star	ndard		
	Date/Time	Ini	tials:	Locatio	n: W	R-2		
Samples Arrival:	2/26/08 0910		ASB.	Shelf/R	Shelf/Rack: N/A			
	Date/Time	ini	tials:	Locatio	on:	WR-2		
Logged In:	2/26/08 15	31 1	BB	Shelf/R	ack:	E-2		
Delivered By:	FedEx UPS	S C	al DH	IL F De	land livered	Other		
Preservation:	lce	Blue Ice	e	Dry Ice		None		
Temp °C 2.	l Time:	096	)4	Thermo	ometer l	<b>D:</b> IR-1		

					÷.	YES	NO	NA
Adequate Sample Volume Recei	ved?					V		
Holding Time Acceptable?						$\nu$		
Shipping Container(s) Intact?				P		V		
Shipping Custody Seals Intact?		1. 1. 1. 1. 1. 1.	* ¥ /			V		
Shipping Documentation Presen	:?	•		•	.×	V		
Airbill Trk #	1992 -	77998	72	6		V		
Sample Container Intact?		V	¢					
Sample Custody Seals Intact?								V
Chain of Custody / Sample Docu	mentation P	resent?	•			-	/	
COC Anomaly/Sample Acceptar	ice Form con	npleted?			:		$\checkmark$	
If Chlorinated or Drinking Water	Samples, Ac	ceptable Pres	serva	tion?				V
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Preservation Document	ed?	COC Sample Container						
Shipping Container	Vista	Client	Re	etain	Re	turn	Disp	ose
Comments:		0	• • • • • •		U	$\sim$		· · · · · · · · · · · · · · · · · · ·

## **APPENDIX G**

## Section 29

Outfall 004 - BMP Effectiveness, February 24, 2008 Test America Analytical Laboratory Report

THE LEADER IN ENVIRONMENTAL TESTING

## LABORATORY REPORT

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

Sampled: 02/24/08 Received: 02/25/08 Issued: 03/06/08 13:48

#### 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.

#### SAMPLE CROSS REFERENCE

LABORATORY ID	CLIENT ID	MATRIX
IRB2516-01	004 EFF-1	Water
IRB2516-02	004 EFF-2	Water
IRB2516-03	004 EFF-3	Water
IRB2516-04	004 EFF-4	Water
IRB2516-05	004 EFF-5	Water
IRB2516-06	004 EFF-6	Water
IRB2516-07	004 EFF-7	Water
IRB2516-08	004 EFF-8	Water
IRB2516-09	004 EFF-9	Water
IRB2516-10	004 EFF-10	Water
IRB2516-11	004 EFF-11	Water
IRB2516-12	004 EFF-12	Water
IRB2516-13	004 EFF-13	Water
IRB2516-14	004 EFF-14	Water
IRB2516-15	004 EFF-15	Water
IRB2516-16	004 EFF-16	Water
IRB2516-17	004 EFF-17	Water
IRB2516-18	004 EFF-18	Water
IRB2516-19	004 EFF-19	Water
IRB2516-20	004 EFF-20	Water
IRB2516-21	004 EFF-21	Water
IRB2516-22	004 EFF-22	Water
IRB2516-23	004 EFF-23	Water

**TestAmerica** Irvine



MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: BMP Effectiveness Monitoring Program Report Number: IRB2516

Sampled: 02/24/08 Received: 02/25/08

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

LABORATORY ID IRB2516-24 **CLIENT ID** 004 EFF-24 MATRIX

Water

Reviewed By:

Joseph Dock

**TestAmerica Irvine** Joseph Doak Project Manager

THE LEADER IN ENVIRONMENTAL TESTING

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

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: BMP Effectiveness Monitoring Program Report Number: IRB2516

Sampled: 02/24/08 Received: 02/25/08

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRB2516-01 (004 EFF-1 - W Reporting Units: g/cc	Vater)								
Density	Displacement	8C04034	N/A	NA	1.0	1	03/04/08	03/04/08	
Sample ID: IRB2516-02 (004 EFF-2 - W Reporting Units: g/cc	Vater)								
Density	Displacement	8C04034	N/A	NA	1.0	1	03/04/08	03/04/08	
Sample ID: IRB2516-03 (004 EFF-3 - W Reporting Units: g/cc	Vater)								
Density	Displacement	8C04034	N/A	NA	1.0	1	03/04/08	03/04/08	
Sample ID: IRB2516-04 (004 EFF-4 - W Reporting Units: g/cc	vater)								
Density	Displacement	8C04034	N/A	NA	0.99	1	03/04/08	03/04/08	
Sample ID: IRB2516-05 (004 EFF-5 - W Reporting Units: g/cc	vater)								
Density	Displacement	8C04034	N/A	NA	0.99	1	03/04/08	03/04/08	
Sample ID: IRB2516-06 (004 EFF-6 - W Reporting Units: g/cc	vater)								
Density	Displacement	8C04034	N/A	NA	1.0	1	03/04/08	03/04/08	
Sample ID: IRB2516-07 (004 EFF-7 - W Reporting Units: g/cc	Vater)								
Density	Displacement	8C04034	N/A	NA	0.99	1	03/04/08	03/04/08	
Sample ID: IRB2516-08 (004 EFF-8 - W Reporting Units: g/cc	Vater)								
Density	Displacement	8C04034	N/A	NA	1.0	1	03/04/08	03/04/08	
Sample ID: IRB2516-09 (004 EFF-9 - W Reporting Units: g/cc	vater)								
Density	Displacement	8C04034	N/A	NA	0.99	1	03/04/08	03/04/08	
Sample ID: IRB2516-10 (004 EFF-10 - V Reporting Units: g/cc	Water)								
Density	Displacement	8C04034	N/A	NA	1.0	1	03/04/08	03/04/08	

**TestAmerica** Irvine

THE LEADER IN ENVIRONMENTAL TESTING

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

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: BMP Effectiveness Monitoring Program Report Number: IRB2516

Sampled: 02/24/08 Received: 02/25/08

		INC							
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRB2516-11 (004 EFF-1 Reporting Units: g/cc	1 - Water)								
Density	Displacement	8C04034	N/A	NA	0.99	1	03/04/08	03/04/08	
Sample ID: IRB2516-12 (004 EFF-12 Reporting Units: g/cc	2 - Water)								
Density	Displacement	8C04034	N/A	NA	1.0	1	03/04/08	03/04/08	
Sample ID: IRB2516-13 (004 EFF-1. Reporting Units: g/cc	3 - Water)								
Density	Displacement	8C04034	N/A	NA	1.0	1	03/04/08	03/04/08	
Sample ID: IRB2516-14 (004 EFF-14 Reporting Units: g/cc	4 - Water)								
Density	Displacement	8C04034	N/A	NA	1.0	1	03/04/08	03/04/08	
Sample ID: IRB2516-15 (004 EFF-1: Reporting Units: g/cc	5 - Water)								
Density	Displacement	8C04035	N/A	NA	1.0	1	03/04/08	03/04/08	
Sample ID: IRB2516-16 (004 EFF-1) Reporting Units: g/cc	6 - Water)								
Density	Displacement	8C04035	N/A	NA	1.0	1	03/04/08	03/04/08	
Sample ID: IRB2516-17 (004 EFF-1' Reporting Units: g/cc	7 - Water)								
Density	Displacement	8C04035	N/A	NA	0.99	1	03/04/08	03/04/08	
Sample ID: IRB2516-18 (004 EFF-18 Reporting Units: g/cc	8 - Water)								
Density	Displacement	8C04035	N/A	NA	1.0	1	03/04/08	03/04/08	
Sample ID: IRB2516-19 (004 EFF-19 Reporting Units: g/cc	9 - Water)								
Density	Displacement	8C04035	N/A	NA	1.0	1	03/04/08	03/04/08	
Sample ID: IRB2516-20 (004 EFF-20 Reporting Units: g/cc	0 - Water)								
Density	Displacement	8C04035	N/A	NA	1.0	1	03/04/08	03/04/08	

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: BMP Effectiveness Monitoring Program Report Number: IRB2516

Sampled: 02/24/08 Received: 02/25/08

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRB2516-21 (004 EFF-21 - Reporting Units: g/cc	Water)								
Density	Displacement	8C04035	N/A	NA	1.0	1	03/04/08	03/04/08	
Sample ID: IRB2516-22 (004 EFF-22 - Reporting Units: g/cc	Water)								
Density	Displacement	8C04035	N/A	NA	1.0	1	03/04/08	03/04/08	
Sample ID: IRB2516-23 (004 EFF-23 - Reporting Units: g/cc	Water)								
Density	Displacement	8C04035	N/A	NA	1.0	1	03/04/08	03/04/08	
Sample ID: IRB2516-24 (004 EFF-24 - Reporting Units: g/cc	Water)								
Density	Displacement	8C04035	N/A	NA	1.0	1	03/04/08	03/04/08	
Sample ID: IRB2516-01 (004 EFF-1 - V Reporting Units: mg/l	Vater)								
Sediment	ASTM D3977	8C05051	10	10	10	1	03/05/08	03/05/08	
Sample ID: IRB2516-02 (004 EFF-2 - V Reporting Units: mg/l	Vater)								
Sediment	ASTM D3977	8C05051	10	10	15	1	03/05/08	03/05/08	
Sample ID: IRB2516-03 (004 EFF-3 - V Reporting Units: mg/l	Vater)								
Sediment	ASTM D3977	8C05051	10	10	11	1	03/05/08	03/05/08	
Sample ID: IRB2516-04 (004 EFF-4 - V Reporting Units: mg/l	Vater)								
Sediment	ASTM D3977	8C05051	10	10	13	1	03/05/08	03/05/08	
Sample ID: IRB2516-05 (004 EFF-5 - V Reporting Units: mg/l	Vater)								
Sediment	ASTM D3977	8C05051	10	10	10	1	03/05/08	03/05/08	
Sample ID: IRB2516-06 (004 EFF-6 - V Reporting Units: mg/l	Vater)								
Sediment	ASTM D3977	8C05051	10	10	12	1	03/05/08	03/05/08	

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Sampled: 02/24/08 Received: 02/25/08

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRB2516-07 (004 EFF-7 Reporting Units: mg/l	- Water)								
Sediment	ASTM D3977	8C05051	10	10	12	1	03/05/08	03/05/08	
Sample ID: IRB2516-08 (004 EFF-8 Reporting Units: mg/l	- Water)								
Sediment	ASTM D3977	8C05051	10	10	11	1	03/05/08	03/05/08	
Sample ID: IRB2516-09 (004 EFF-9 Reporting Units: mg/l	- Water)								
Sediment	ASTM D3977	8C05051	10	10	29	1	03/05/08	03/05/08	
Sample ID: IRB2516-10 (004 EFF-1) Reporting Units: mg/l	) - Water)								
Sediment	ASTM D3977	8C05051	10	10	19	1	03/05/08	03/05/08	
Sample ID: IRB2516-11 (004 EFF-1) Reporting Units: mg/l	l - Water)								
Sediment	ASTM D3977	8C05051	10	10	16	1	03/05/08	03/05/08	
Sample ID: IRB2516-12 (004 EFF-12 Reporting Units: mg/l	2 - Water)								
Sediment	ASTM D3977	8C05051	10	10	12	1	03/05/08	03/05/08	
Sample ID: IRB2516-13 (004 EFF-13 Reporting Units: mg/l	3 - Water)								
Sediment	ASTM D3977	8C05051	10	10	11	1	03/05/08	03/05/08	
Sample ID: IRB2516-14 (004 EFF-14 Reporting Units: mg/l	4 - Water)								
Sediment	ASTM D3977	8C05051	10	10	ND	1	03/05/08	03/05/08	
Sample ID: IRB2516-15 (004 EFF-15 Reporting Units: mg/l	5 - Water)								
Sediment	ASTM D3977	8C05051	10	10	ND	1	03/05/08	03/05/08	
Sample ID: IRB2516-16 (004 EFF-16 Reporting Units: mg/l	5 - Water)								
Sediment	ASTM D3977	8C05052	10	10	11	1	03/05/08	03/05/08	

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Sampled: 02/24/08 Received: 02/25/08

		INC							
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRB2516-17 (004 EFF-17 Reporting Units: mg/l	- Water)								
Sediment	ASTM D3977	8C05052	10	10	ND	1	03/05/08	03/05/08	
Sample ID: IRB2516-18 (004 EFF-18 Reporting Units: mg/l	- Water)								
Sediment	ASTM D3977	8C05052	10	10	ND	1	03/05/08	03/05/08	
Sample ID: IRB2516-19 (004 EFF-19 Reporting Units: mg/l	- Water)								
Sediment	ASTM D3977	8C05052	10	10	ND	1	03/05/08	03/05/08	
Sample ID: IRB2516-20 (004 EFF-20 Reporting Units: mg/l	- Water)								
Sediment	ASTM D3977	8C05052	10	10	ND	1	03/05/08	03/05/08	
Sample ID: IRB2516-21 (004 EFF-21 Reporting Units: mg/l	- Water)								
Sediment	ASTM D3977	8C05052	10	10	ND	1	03/05/08	03/05/08	
Sample ID: IRB2516-22 (004 EFF-22 Reporting Units: mg/l	- Water)								
Sediment	ASTM D3977	8C05052	10	10	ND	1	03/05/08	03/05/08	
Sample ID: IRB2516-23 (004 EFF-23 Reporting Units: mg/l	- Water)								
Sediment	ASTM D3977	8C05052	10	10	11	1	03/05/08	03/05/08	
Sample ID: IRB2516-24 (004 EFF-24 Reporting Units: mg/l	- Water)								
Sediment	ASTM D3977	8C05052	10	10	ND	1	03/05/08	03/05/08	

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Sampled: 02/24/08 Received: 02/25/08

#### **METHOD BLANK/QC DATA**

#### **INORGANICS**

A <b>I</b> 4	D14	Reporting	MDI	T	Spike	Source	0/DEC	%REC	DDD	RPD Limit	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	KPD	Limit	Quaimers
Batch: 8C04034 Extracted: 03/04/08											
					C	IDDA	514 10				
Duplicate Analyzed: 03/04/2008 (8C04034	-DUPI)				Sour	ce: IKB2	514-19				
Density	0.994	NA	N/A	g/cc		0.992			0	20	
Batch: 8C04035 Extracted: 03/04/08											
Duplicate Analyzed: 03/04/2008 (8C04035	S-DUP1)				Sour	ce: IRB2	516-15				
Density	1.00	NA	N/A	g/cc		1.00			0	20	

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#### DATA QUALIFIERS AND DEFINITIONS

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

**RPD** Relative Percent Difference

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Sampled: 02/24/08 Received: 02/25/08

#### **Certification Summary**

#### TestAmerica Irvine

Method	Matrix	Nelac	California
ASTM D3977	Water		
Displacement	Water		

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

**TestAmerica** Irvine

Page 1 of 1					COMMENTS	20°	7																						um around Time: (check)		3 Hours 10 Days		ample Integrity: (check) tact On Ice:	5.2/3.2	
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CHAIN OF CI	Project: Boeing BMP	Effectiveness Monito Program		Phone Number:	(626) 568-6691 Fax Number:	(626) 568-6515	f Sampling Preservati it. Date/Time	2/24/08-0056 None	2/24/08-0156 None	2/24/08-0256 None	2/24/08-0356 None	2/24/00-0430 NOILE	2/24/08-0330 None	2/24/08-0756 None	2/24/08-0856 None	2/24/08-0956 None	2/24/08-1056 None	2/24/08-1156 None	2/24/08-1256 None	2/24/00-1330 14016	2/24/08-1556 None	2/24/08-1656 None	2/24/08-1756 None	2/24/08-1856 None	2/24/08-1956 None 2/24/08-2056 None	2/24/08-2156 None	2/24/08-2256 None	2/24/08-2356 None	Time:	12/U LA	Time: Received	(25/62 173)	Time: Received		
Arreion 12/00/07		Suite 200	oseph Doak	nwyn Kelly	5 <b>6</b> 7	۶• ۲	Container # o Type Con	500 mL Poly 1		500 ml Polv 1	500 mL Poly 1	500 ml Daly	500 mL Polv 1	500 mL Poly 1	500 mL Polv 1	500 mL Poly 1	500 mL Poly 1	-JJ-08 Date/		Date/	A AR	Date/													
Test America	Client Name/Address	MWH-Arcadia 618 Michillinda Avenue.	Arcadia, CA 91007 Test America Contact: Jo	Project Manager: Bro	Sampler J MARIS	Validation R. Barr	Sample Sample Description Matrix	004 EFF-1 W	004 EFF-2 W	004 EFF-3 W	004 EFF-4 W	004 EFF-5 W	004 EFF-0 W	004 EFF-9 W	004 EFF-9 W	004 EFF-10 W	004 EFF-11 W	004 EFF-12 W	004 EFF-13 W	004 EFF-14 W	004 EFF-15 W	004 EFF-17 W	004 EFF-18 W	004 EFF-19 W	004 EFF-20 W	004 EFE-22 W	004 EFF-23 W	004 EFF-24 W	Relinquished By 3	I'm / m	Relinquished By	Jos Bru	Relinquished By	)	

## **APPENDIX G**

## Section 30

Outfall 005, February 1, 2008 MEC<sup>X</sup> Data Validation Reports



## DATA VALIDATION REPORT

## Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IRB0073

Prepared by

MEC<sup>X</sup>, 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:	IRB0073
Project Manager:	B. Kelly
Matrix:	Water
QC Level:	IV
No. of Samples:	1
No. of Reanalyses/Dilutions:	1
Laboratory:	TestAmerica-Irvine

#### Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 005	IRB0073-01	30229-001, 8020449-02, 8693- 001	Water	02/01/08 0830	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
Outfall 005	IRB0073-01 RE	N/A	Water	02/01/08 0830	525.2

#### II. Sample Management

No anomalies were observed regarding sample management. The sample in this SDG was received at TestAmerica-Irvine, Vista, and Eberline within the temperature limits of 4°C ±2°C. The sample was received marginally below the temperature limit at Weck; however, the sample was not noted to be damaged or frozen. 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.

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

#### Data Qualifier Reference Table

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

### **Qualification Code Reference Table**

### **Qualification Code Reference Table Cont.**

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
Ρ	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*11, *111	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

### III. Method Analyses

### A. EPA METHOD 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<sup>×</sup> Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613,* and the *National Functional Guidelines Chlorinated Dioxin/Furan Data Review* (8/02).

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.
- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.
  - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was not analyzed prior to the initial calibration sequence or at the beginning of each analytical sequence; however, the first and last eluting congeners and isomer specificity compounds were added to the midpoint of the initial calibration and to the continuing calibration standards. The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%.
  - Mass Spectrometer Performance: The mass spectrometer performance was acceptable with the static resolving power greater than 10,000.
- Calibration: Calibration criteria were met.
  - Initial Calibration: Initial calibration criteria were met. The initial calibration was acceptable with %RSDs ≤20% for the 16 native compounds (calibration by isotope dilution) and ≤35% for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the Method 1613 QC limits for all standards.
  - Continuing Calibration: Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VERs were acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits.
- Blanks: OCDD was reported in the method blank at  $0.00000899\mu/L$ ; however, the concentration of OCDD in the sample exceeded five times the amount in the method blank

and required no qualifications. 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 27, 2008

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC<sup>x</sup>* Data Validation Procedure for 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 ≤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<sup>2</sup> 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: There were no applicable detects in the method blanks or CCBs.
- Interference Check Samples: ICSA/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 ICSA 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 laboratoryestablished QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on the sample in this SDG for the dissolved 6010 and 6020 analytes. Matrix spike recoveries are not evaluated when the native concentration exceeds the spiked amount by 4× or more. All recoveries and RPDs were within the laboratory-established control limits. Evaluation of mercury 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 calcium was detected at a slightly higher concentration in the dissolved metals sample fraction. The difference between the calcium 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: April 5, 2008

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the  $MEC^{\times}$  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: Both the original sample, Outfall 005 and the re-extracted sample, Outfall 005 RE were pH-adjusted four days after collection. As this exceeded the 24-hour holding time; both diazinon results were rejected, "R." 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 ≤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: Three of the four internal standards below the control limit; therefore, the sample was re-extracted at a 2× dilution and reanalyzed with acceptable internal standard recoveries. The reviewer rejected, "R," the original chlorpyrifos results in Outfall 005 in favor of the reanalysis reported in Outfall 005 RE.
- 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 laboratoryestablished control limits.
- Laboratory Duplicates: Laboratory duplicate analyses were performed on the sample in this SDG for all analytes except radium-226. All RPDs were within the laboratory-established control limits.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed for the sample in this SDG for gross alpha, gross beta, tritium, radium-226, and total uranium. The gross alpha recovery was above the control limits; however, gross alpha was not detected in the site sample. All remaining recoveries were within the laboratory-established control limits. Accuracy for the remaining methods 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  $MEC^{\times}$  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 laboratoryestablished 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.

Matrix piece         Institute         Aqueous (123,0,3,8,HCDD)         Matrix piece         Aqueous (123,0,3,8,HCDD)         Ion Scattering (123,3,7,8,HCDD)         Society (123,1,8,HCDD)         Society (123,1,4,8,HCDD)         Society (123,1,4,8,HCDD)         Society (123,1,4,8,HCDD)         Society (123,1,4,8,HCDD)         Society (123,1,4,7,8,HCDD)	Matrix Instructured Analyte         Matrix (a)         Approxis         Matrix (a)         Approxis         Open- (a)         Second (a)		Client Data				Sample Data		Laboratory Data				
Analyte         Conc. (ug/l)         DL.         a EMPC <sup>b</sup> Qualifiers         Laboled Standard         y.R.         LCL-UCL <sup>d</sup> 1,23,7,8+7CDD         ND         0.00000623         152,23,7,8+7CDD         87.9         5-164           1,23,7,8+7CDD         ND         0.00000172         151.23,4,7,8+7CDD         83.3         5-181           1,23,7,8+7CDD         ND         0.0000173         151.23,4,7,8+7CDD         83.2         5-141           1,23,5,7,8+7CDD         ND         0.0000173         135.1,23,4,7,8+7CDD         83.2         5-141           1,23,5,7,8+7CDD         ND         0.000013         135.1,23,4,7,8+7CDD         83.2         5-141           M         1,23,4,7,8+7CDF         ND         0.000013         135.1,23,4,7,8+7CDD         83.2         5-146           M         1,23,4,7,8+7CDF         ND         0.000013         135.1,23,4,7,8+7CDF         79.9         4-185           M         1,23,4,7,8+7CDF         ND         0.0000032         135.1,23,4,7,8+7CDF         79.9         4-185           M         1,23,4,7,8+7CDF         ND         0.0000032         135.1,23,4,54CDF         79.9         4-185           L1,23,4,7,8+7CDF         ND         0.0000032         135.1,23,4,7,8+7CDF </th <th>Analyte         Cone. (og/L)         DL.         a         EMPC<sup>b</sup>         Qualifiers         Laboled Standard         9,R         LCL-UCI.<sup>d</sup>         Onalifiers           23.7.3.7.3-7CDD         ND         0.00000053         135-123,7,8+FCDD         879         55-164           12.3.7.3.7.8-FCDD         ND         0.0000073         135-123,7,8+FCDD         879         55-164           12.3.7.3.7.8-FCDD         ND         0.00000173         135-123,7,8+FCDD         832         25-140           12.3.3.7.8-FFCDD         ND         0.0000173         135-123,7,8+FCDD         832         25-141           12.3.7.89+FFCDF         ND         0.000018         1         12-123,4,7,8+FCDD         832         25-141           12.3.7.87+FFCDF         ND         0.000018         1         12-123,4,7,8+FCDF         902         24-155           12.3.7.87+FCDF         ND         0.000018         1         12-123,4,7,8+FCDF         902         24-155           12.3.7.87+FCDF         ND         0.0000182         135-123,7,7,8+FCDF         709         21-158           12.3.7.87+FCDF         ND         0.0000182         135-123,7,7,8+FCDF         709         21-158           12.3.7.87+FCDF         ND         0.0000125         <t< th=""><th></th><th>Name: Project: Date Collected: Time Collected: 0</th><th>Fest America RB0073 -Feb-08 830</th><th>t-Irvine, CA</th><th></th><th>Matrix: Sample Size:</th><th>Aqueous 0.997 L</th><th>Lab Sample: QC Batch No.: Date Analyzed DB-5:</th><th>30229-001 9953 19-Feb-08</th><th>Date Receiveo Date Extracteo Date Analyzeo</th><th>ed: ed: ed DB-225:</th><th>5-Feb-08 15-Feb-08 NA</th></t<></th>	Analyte         Cone. (og/L)         DL.         a         EMPC <sup>b</sup> Qualifiers         Laboled Standard         9,R         LCL-UCI. <sup>d</sup> Onalifiers           23.7.3.7.3-7CDD         ND         0.00000053         135-123,7,8+FCDD         879         55-164           12.3.7.3.7.8-FCDD         ND         0.0000073         135-123,7,8+FCDD         879         55-164           12.3.7.3.7.8-FCDD         ND         0.00000173         135-123,7,8+FCDD         832         25-140           12.3.3.7.8-FFCDD         ND         0.0000173         135-123,7,8+FCDD         832         25-141           12.3.7.89+FFCDF         ND         0.000018         1         12-123,4,7,8+FCDD         832         25-141           12.3.7.87+FFCDF         ND         0.000018         1         12-123,4,7,8+FCDF         902         24-155           12.3.7.87+FCDF         ND         0.000018         1         12-123,4,7,8+FCDF         902         24-155           12.3.7.87+FCDF         ND         0.0000182         135-123,7,7,8+FCDF         709         21-158           12.3.7.87+FCDF         ND         0.0000182         135-123,7,7,8+FCDF         709         21-158           12.3.7.87+FCDF         ND         0.0000125 <t< th=""><th></th><th>Name: Project: Date Collected: Time Collected: 0</th><th>Fest America RB0073 -Feb-08 830</th><th>t-Irvine, CA</th><th></th><th>Matrix: Sample Size:</th><th>Aqueous 0.997 L</th><th>Lab Sample: QC Batch No.: Date Analyzed DB-5:</th><th>30229-001 9953 19-Feb-08</th><th>Date Receiveo Date Extracteo Date Analyzeo</th><th>ed: ed: ed DB-225:</th><th>5-Feb-08 15-Feb-08 NA</th></t<>		Name: Project: Date Collected: Time Collected: 0	Fest America RB0073 -Feb-08 830	t-Irvine, CA		Matrix: Sample Size:	Aqueous 0.997 L	Lab Sample: QC Batch No.: Date Analyzed DB-5:	30229-001 9953 19-Feb-08	Date Receiveo Date Extracteo Date Analyzeo	ed: ed: ed DB-225:	5-Feb-08 15-Feb-08 NA
(L)         (2.3.7.8-FCDD)         ND         0.00000623         [S]         (S)	(1)         (2,3,7,3+7CDD         ND         (0,0000053)         [1,2,3,7,3+7CDD         87.9         25-161           (1,2,3,7,3+7CDD         ND         0.00000123         13C-1,2,3,7,3+7,6+7CDD         87.3         25-181           (1,2,3,7,3+7CDD         ND         0.0000133         13C-1,2,3,7,3+7,6+7CDD         86.2         25-140           (1,2,3,7,3+7CDF         ND         0.0000133         13C-1,2,3,4,7,8+7CDD         88.2         25-140           (1,2,3,7,8+7CDF         ND         0.000163         13C-1,2,3,4,7,8+7CDF         82.3         17-157           (1,2,3,7,8+7CDF         ND         0.000163         13C-1,2,3,4,7,8+7CDF         82.3         17-157           (1,2,3,7,8+7CDF         ND         0.0000032         13C-1,2,3,4,7,8+7CDF         80.2         21-135           (1,2,3,4,7,8+7CDF         ND         0.0000032         13C-1,2,3,4,7,8+7CDF         80.2         21-135           (1,2,3,4,7,8+7CDF         ND         0.0000013         13C-1,2,3,4,7,8+7CDF         80.2         21-135           (1,2,3,4,7,8+7CDF         ND         0.0000013         13C-1,2,3,4,7,8+7CDF         80.2         21-135           (1,2,3,4,7,8+7CDF         ND         0.0000013         13C-1,2,3,4,7,8+7CDF         80.2         21-135		Analyte	Conc. (	ug/L)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Sta	ndard	%R LC	L-UCL <sup>d</sup>	Oualifiers
12.3.7.8.PECDD         ND         0.00000122         13.C.12,3,7,8.PECDD         78.3         25-181           12.3.4.7.8.HECDD         ND         0.000013         13.C.12,3,7,8.PECDD         83.4         25-141           12.3.4.6.7.8.HECDD         ND         0.000013         13.C.12,3,6.7.8.HECDD         80.6         23-141           12.3.4.6.7.8.HECDD         ND         0.000013         13.C.12,3,6.7.8.HECDD         80.5         23-140           12.3.4.6.7.8.HECDD         0.000101         1         13.C.12,3,6.7.8.HECDD         80.2         23-140           12.3.4.6.7.8.HECDF         ND         0.0000105         1         13.C.12,3,6.7.8.HECDD         82.3         17-157           12.3.4.6.7.8.HECDF         ND         0.0000055         1         13.C.23,7.8.FECDF         90.2         24-165           12.3.4.6.7.8.HECDF         ND         0.0000052         13.C.12,3,7.8.FECDF         90.2         24-165           12.3.4.6.7.8.HECDF         ND         0.00000032         13.C.12,3,7.8.FECDF         90.2         24-165           12.3.4.6.7.8.HECDF         ND         0.00000032         13.C.2,3,7.8.HECDF         70.9         24-185           12.3.4.6.7.8.HECDF         ND         0.00000032         13.C.2,3,7.8.HECDF         70.9	1123/3.8 HCDD         ND         0.00000123         13C.1.23.4/3.8 HCDD         8:3         2:-181           1.123/3.8 HKCDD         ND         0.0000138         13C.1.23.4/3.8 HKCDD         8:6         2:-141           1.123.4/3.8 HKCDD         ND         0.0000138         13C.1.23.4/3.8 HKCDD         8:6         2:-141           1.123.4/3.8 HKCDD         ND         0.000165         13C.1.23.4/3.8 HCCD         8:0         2:-141           1.123.4/3.8 HKCDF         ND         0.000165         13C.1.23.4/3.8 HCCDF         8:0         2:-153           1.123.4/3.8 HKCDF         ND         0.00000565         13C.2.12.3/4.8 HCCDF         8:0         2:-153           1.123.4/3.8 HCCDF         ND         0.00000555         13C.1.23.4/3.8 HCCDF         8:0         2:-133           1.123.4/3.8 HCCDF         ND         0.00000125         13C.1.23.4/3.8 HCCDF         8:0         2:-133           1.123.4/3.8 HCCDF         ND         0.00000125         13C.1.23.4/3.8 HCCDF         8:0         2:-133           1.123.4/3.8 HCCPF         ND         0.00000125         13C.1.23.4/3.8 HCCPF         8:0         2:-133           1.123.4/3.8 HCCPF         ND         0.0000125         13C.1.23.4/3.8 HCCPF         8:0         2:-134           1.1	3.	2,3,7,8-TCDD	£		0.000000	623	「「「「「「「「」」」」	<u>IS</u> 13C-2,3,7,8-T	CDD	87.9 25	5 - 164	A Property of the second
12.3.4/3.8-HXCDD         ND         0.000012         13.5(1,2,3,4,7,8-HXCDD         81.4         22.14)           12.3.5/5.78-HXCDD         ND         0.000013         13.5(1,2,3,4,7,8-HXCDD         80.6         28-130           12.3.5/5.78-HXCDD         ND         0.000013         1         12.3.1,5,7,8-HXCDD         80.6         28-130           12.3.7,8-FCDF         ND         0.000101         1         1         13.5(-1,2,3,7,8-HCDD         80.2         31.157           0.015         0.000101         1         1         13.5(-1,2,3,7,8-HCDF         80.5         28-130           1.2.3.7,8-FCDF         ND         0.0000055         8         13.5(-1,2,3,7,8-HCDF         80.2         31.157           2.3.7,8-FCDF         ND         0.0000052         13.5(-1,2,3,7,8-HCDF         80.0         28-136           1.2.3,7,8-FCDF         ND         0.0000052         13.5(-1,2,3,7,8-HCDF         80.0         28-136           2.3,4,7,8-HCDF         ND         0.0000032         13.5(-1,2,3,7,8-HCDF         80.0         28-136           2.3,4,7,8-HCDF         ND         0.0000032         13.5(-1,2,3,7,8-HCDF         80.0         28-136           2.3,4,7,8-HCDF         ND         0.0000015         13.5(-1,2,3,7,8-HCDF <td< td=""><td>11234738436000         ND         0.0000123         135C.1234738436000         81.4         22.141           11234738436000         ND         0.000013         135C.123473845000         86.8         23.130           11234738436000         ND         0.000013         135C.123473845000         86.8         23.131           N         12345784500         0.000163         135C.123473845000         80.2         24.169           N         0.000165         0.0000055         135C.123473845000         80.2         24.169           0.000165         0.0000055         135C.123473845000         80.2         24.169         23.17.173           1.23473845007         ND         0.0000052         135C.123473845007         80.2         24.169           1.23473845007         ND         0.0000013         135C.123473845007         80.2         24.169           1.23473845007         ND         0.0000013         135C.123473845007         80.2         24.169           1.23473845007         ND         0.0000013         135C.123473845007         80.2         24.169           1.23473845007         ND         0.000013         135C.123473845007         80.2         24.169           1.23473847607         ND         0.000013</td><td></td><td>1,2,3,7,8-PeCDD</td><td>Ð</td><td>in the second second second second</td><td>0.000000</td><td>755</td><td></td><td>13C-1,2,3,7,8-</td><td>-PeCDD</td><td>78.3 25</td><td>5 - 181</td><td></td></td<>	11234738436000         ND         0.0000123         135C.1234738436000         81.4         22.141           11234738436000         ND         0.000013         135C.123473845000         86.8         23.130           11234738436000         ND         0.000013         135C.123473845000         86.8         23.131           N         12345784500         0.000163         135C.123473845000         80.2         24.169           N         0.000165         0.0000055         135C.123473845000         80.2         24.169           0.000165         0.0000055         135C.123473845000         80.2         24.169         23.17.173           1.23473845007         ND         0.0000052         135C.123473845007         80.2         24.169           1.23473845007         ND         0.0000013         135C.123473845007         80.2         24.169           1.23473845007         ND         0.0000013         135C.123473845007         80.2         24.169           1.23473845007         ND         0.0000013         135C.123473845007         80.2         24.169           1.23473845007         ND         0.000013         135C.123473845007         80.2         24.169           1.23473847607         ND         0.000013		1,2,3,7,8-PeCDD	Ð	in the second second second second	0.000000	755		13C-1,2,3,7,8-	-PeCDD	78.3 25	5 - 181	
12.3.5.7.8-HACDD         ND         0.0000138         13C-12.3.6.7.8-HACDD         80.6         28-130           12.3.7.8-FACDD         ND         0.000013         1         13C-12.3.4.6.7.8-HPCDD         80.6         28-130           12.3.7.8-FACDD         ND         0.000013         1         13C-12.3.4.6.7.8-HPCDD         80.2         24-169           12.3.7.8-FCDF         ND         0.000165         1         13C-12.3.7.8-FCDF         90.2         24-169           12.3.7.8-FCDF         ND         0.000165         1         13C-12.3.7.8-FCDF         90.2         24-169           12.3.7.8-FCDF         ND         0.0000032         13C-12.3.7.8-FCDF         77.9         24-169           12.3.7.8-FCDF         ND         0.0000032         13C-12.3.7.8-FCDF         79.0         26-123           12.3.7.8-FCDF         ND         0.0000032         13C-12.3.7.7.8-FCDF         79.0         26-123           12.3.4.6.7.8-HACDF         ND         0.0000032         13C-12.3.7.7.8-FACDF         79.0         26-123           12.3.4.6.7.8-HACDF         ND         0.0000032         13C-12.3.7.7.8-FACDF         79.0         26-123           12.3.4.6.7.8-HACDF         ND         0.0000012         13C-12.3.7.7.8-HACDF         70.0	1/2.367,8+HcCDD         ND         00000158         13C-1,23,67,8+HcCDD         80.6         28-130           1/2.37,89+HcCDD         ND         0000101         J         <		1,2,3,4,7,8-HxCDL	e e		10000070	72		13C-1,2,3,4,7,	,8-HxCDD	81.4 32	141	
12.3.7.8.9-HXCDD         ND         0.000168         13C-12,3,4,6,7,8-HpCDD         88.2         23-140           1.2.3.7.8-FCDF         ND         0.000165         1         13C-CCDD         82.3         17-157           0.0DD         0.000165         1         13C-23,7,8-FCDF         ND         0.02         24-169           1.2.3.7,8-FCDF         ND         0.0000055         13C-12,3,4,7,8-HCDF         79.2         24-169           1.2.3.7,8-FCDF         ND         0.00000512         13C-12,3,4,7,8-HCDF         79.2         24-18           1.2.3.7,8-FCDF         ND         0.00000512         13C-12,3,4,7,8-HCDF         76.9         21-178           2.3.4,7,8-HXCDF         ND         0.00000312         13C-12,3,4,7,8-HXCDF         76.9         21-178           2.3.4,6,7,8-HXCDF         ND         0.0000032         13C-12,3,4,7,8-HXCDF         76.9         21-178           2.3.4,6,7,8-HXCDF         ND         0.0000012         13C-12,3,4,7,8-HXCDF         76.9         26-123           2.3.4,6,7,8-HXCDF         ND         0.0000012         13C-12,3,4,7,8-HXCDF         76.8         26-138           2.3.4,6,7,8-HXCDF         ND         0.0000013         13C-12,3,4,6,7,8-HXCDF         76.8         26-131	No.         132.37.83-BBCDD         ND         0.000018         137.13.46/7.8-HpCDD         88.2         23. 17-157           1.2.3.7.83-TCDF         ND         0.000101         J	-	1,2,3,6,7,8-HxCDI	R	A DI PROCESSION CONTRACTOR CONTRACTOR	0.000001	58		13C-1,2,3,6,7,	,8-HxCDD	80.6 28	28 - 130	
Model         J         JIC-OCDD         823         17-157           OCDD         0.000165         B         13C23/3.87CDF         902         24-165           12,3,3,87FCDF         ND         0.0000565         B         13C23,3,87FCDF         902         24-165           12,3,3,87FCDF         ND         0.00000523         13C-12,3,7,87FCDF         902         24-165           12,3,4,7,87FCDF         ND         0.00000822         13C-12,3,4,7,87FCDF         769         21-178           12,3,4,7,87FCDF         ND         0.00000822         13C-12,3,4,7,87FCDF         700         26-123           12,3,4,7,87FCDF         ND         0.00000822         13C-12,3,4,7,87FCDF         800         26-123           12,3,4,7,87FCDF         ND         0.0000012         13C-12,3,4,7,87FCDF         800         26-123           12,3,4,7,87FCDF         ND         0.0000125         13C-12,3,4,7,87FCDF         800         26-135           12,3,4,6,7,84FCDF         ND         0.0000125         13C-12,3,4,7,84FCDF         700         27-135           12,3,4,6,7,84FCDF         ND         0.0000125         13C-12,3,4,7,84FCDF         800         26-135           12,3,4,6,7,84FCDF         ND         0.000013         13C	12.3.4.6.7.8-HpCDD         0.000101         J         13C-OCDD         82.3         17-157           0.CDD         0.000165         B         13C-37,8-FCDF         79.2         24-169           1.2.3.7.8-FCDF         ND         0.0000655         B         13C-2,37,8-FCDF         79.2         1-157           1.2.3.7.8-FCDF         ND         0.0000055         13C-1,23,7,8-FCDF         70.2         2-1.153           2.3.47,8-FCDF         ND         0.00000822         13C-1,23,47,8-FCDF         70.2         2-1.153           2.3.47,8-FCDF         ND         0.00000822         13C-1,23,47,8-FCDF         70.2         2-1.153           2.3.46,7,8-HFCDF         ND         0.00000125         13C-1,2,3,47,8-FCDF         70.0         2-1.123           1.2.3,4,6,7,8-HFCDF         ND         0.0000125         13C-1,2,3,4,6,7,8-HFCDF         70.0         2-1.123           1.2.3,4,6,7,8-HFCDF         ND         0.0000101         13C-1,2,3,4,6,7,8-HFCDF         70.0         2-1.133           1.2.3,4,6,7,8-HFCDF         ND         0.0000125         13C-1,2,3,4,7,8,HFCDF         70.0         2-1.133           1.2.3,4,6,7,8-HFCDF         ND         0.0000113         13C-1,2,3,4,7,8,HFCDF         70.0         2-1.133           1.2.3	>	1,2,3,7,8,9-HxCDI	R R		0.000001	58		13C-1,2,3,4,6,	,7,8-HpCDD	88.2 23	3 - 140	
U         0.0DD         0.000165         B         13C-2,3,7,8-FCDF         90.2         24-169           12,3,7,8-FCDF         ND         0.00000812         13C-1,2,3,7,8-FCDF         77.9         24-185           12,3,7,8-FCDF         ND         0.00000812         13C-1,2,3,7,8-FCDF         76.9         21-173           12,3,4,7,8-FCDF         ND         0.00000812         13C-1,2,3,4,7,8-FCDF         76.9         21-173           12,3,4,7,8-FCDF         ND         0.00000822         13C-1,2,3,4,7,8-FCDF         76.9         21-173           12,3,4,5,7,8-HCDF         ND         0.00000822         13C-1,2,3,4,5,7,8-HCDF         70.0         21-173           12,3,4,5,7,8-HCDF         ND         0.0000032         13C-1,2,3,4,6,7,8-HCDF         76.9         21-133           12,3,4,5,7,8-HCDF         ND         0.0000012         13C-1,2,3,4,6,7,8-HCDF         76.9         21-133           12,3,4,5,7,8-HCDF         ND         0.0000012         13C-1,2,3,4,6,7,8-HCDF         76.9         21-133           12,3,4,6,7,8-HCDF         ND         0.0000012         13C-1,2,3,4,6,7,8-HCDF         76.8         21-147           12,3,4,6,7,8-HCDF         ND         0.0000012         13C-1,2,3,4,6,7,8-HCDF         76.8         21-147 <tr< td=""><td>0CDD         0000165         B         13C23,7,8-FCDF         90.2         24-169           2.3.7,8-FCDF         ND         0.00000653         B         13C-12,3,7,8-FCDF         77.9         24-169           2.3.4,7,8-FCDF         ND         0.00000812         13C-12,3,7,8-FCDF         77.9         24-165           2.3.4,7,8-FCDF         ND         0.00000823         13C-12,3,4,7,8-HCDF         76.9         21-73           2.3.4,7,8-FCDF         ND         0.00000823         13C-12,3,4,7,8-HCDF         70.0         25.4           2.3.4,7,8-FCDF         ND         0.00000902         13C-12,3,4,7,8-HCDF         70.0         25.2           2.3.4,6,7,8-HCDF         ND         0.00000101         13C-12,3,4,7,8-HCDF         79.0         25.4           2.3.4,6,7,8-HCDF         ND         0.0000102         13C-12,3,4,7,8-HCDF         79.0         25.4           2.3.4,6,7,8-HCDF         ND         0.0000115         13C-12,3,4,7,8-HCDF         79.0         25.4           1.2.3,4,6,7,8-HCDF         ND         0.00000125         13C-12,3,4,7,8-HCDF         70.0         25.4           1.2.3,4,6,7,8-HCDF         ND         0.0000013         13C-12,3,4,6,7,8-HCDF         70.0         25.4           1.2.3,4,6,7,8-HCDF</td><td>NA</td><td>× 1,2,3,4,6,7,8-HpCI</td><td>00000 CC</td><td>101</td><td>aller - manual and a second</td><td>A STREET, STRE</td><td>J</td><td>13C-OCDD</td><td></td><td>82.3 17</td><td>7 - 157</td><td></td></tr<>	0CDD         0000165         B         13C23,7,8-FCDF         90.2         24-169           2.3.7,8-FCDF         ND         0.00000653         B         13C-12,3,7,8-FCDF         77.9         24-169           2.3.4,7,8-FCDF         ND         0.00000812         13C-12,3,7,8-FCDF         77.9         24-165           2.3.4,7,8-FCDF         ND         0.00000823         13C-12,3,4,7,8-HCDF         76.9         21-73           2.3.4,7,8-FCDF         ND         0.00000823         13C-12,3,4,7,8-HCDF         70.0         25.4           2.3.4,7,8-FCDF         ND         0.00000902         13C-12,3,4,7,8-HCDF         70.0         25.2           2.3.4,6,7,8-HCDF         ND         0.00000101         13C-12,3,4,7,8-HCDF         79.0         25.4           2.3.4,6,7,8-HCDF         ND         0.0000102         13C-12,3,4,7,8-HCDF         79.0         25.4           2.3.4,6,7,8-HCDF         ND         0.0000115         13C-12,3,4,7,8-HCDF         79.0         25.4           1.2.3,4,6,7,8-HCDF         ND         0.00000125         13C-12,3,4,7,8-HCDF         70.0         25.4           1.2.3,4,6,7,8-HCDF         ND         0.0000013         13C-12,3,4,6,7,8-HCDF         70.0         25.4           1.2.3,4,6,7,8-HCDF	NA	× 1,2,3,4,6,7,8-HpCI	00000 CC	101	aller - manual and a second	A STREET, STRE	J	13C-OCDD		82.3 17	7 - 157	
U         23,7.8-TCDF         ND         0.00000565         13C-1,2,3,7,8-PCDF         77.9         24-185           1,2,3,7,8-PCDF         ND         0.00000812         13C-1,2,3,7,8-PCDF         76.9         21-178           2,3,4,7,8-PCDF         ND         0.00000822         13C-1,2,3,4,7,8-PCDF         76.9         21-178           2,3,4,7,8-PCDF         ND         0.00000822         13C-1,2,3,4,7,8-PKCDF         80.0         26-123           1,2,3,4,7,8-HKCDF         ND         0.00000125         13C-1,2,3,4,7,8-HKCDF         76.8         23-147           1,2,3,4,7,8-HKCDF         ND         0.0000101         13C-1,2,3,4,7,8-HKCDF         76.8         22-143           1,2,3,4,7,8-HKCDF         ND         0.0000101         13C-1,2,3,4,7,8-HKCDF         76.8         22-143           1,2,3,4,6,7,8-HKCDF         ND         0.0000101         13C-1,2,3,4,7,8,9-HKCDF         76.8         22-143           1,2,3,4,6,7,8-HKCDF         ND         0.00000125         13C-1,2,3,4,7,8,9-HKCDF         76.8         22-143           1,2,3,4,6,7,8-HKCDF         ND         0.00000155         13C-1,2,3,4,6,7,8-HKCDF         76.8         22-143           1,2,3,4,6,7,8-HKCDF         ND         0.00000155         13C-1,2,3,4,6,7,8-HKCDF         76.8 <td< td=""><td>1         13.7.1.8-FCDF         ND         0.00000655         13.C.1.3.7,8-FCDF         77.9         24.185           1.2.3.7,8-FCDF         ND         0.00000812         13.C.1.23,47,8-FCDF         76.9         21.178           1.2.3.7,8-FCDF         ND         0.00000823         13.C.1.23,47,8-FCDF         76.9         21.178           1.2.3.7,8-FCDF         ND         0.00000823         13.C.1.23,47,8-FCDF         76.9         21.178           1.2.3.47,8-FCDF         ND         0.00000823         13.C.1.23,47,8-FLCDF         70.0         26.123           1.2.3.47,8-FLCDF         ND         0.00000125         13.C.1.23,47,8-FLCDF         70.0         26.123           1.2.3.46,7,8-HPCDF         ND         0.0000115         1         13.C.1.2,3,7,8-FLCDF         70.0         26.123           1.2.3.47,89-HPCDF         ND         0.0000115         1         13.C.1.2,3,7,8-FLCDF         70.0         26.123           1.2.3.4,67,8-HPCDF         ND         0.00000115         1         13.C.1.2,3,7,8,9-HPCDF         70.0         26.143           1.2.3.4,67,8-HPCDF         ND         0.00000115         1         13.C.1.2,3,7,8,9-HPCDF         70.0         26.123         13.C.1.2,3,7,8,9-HPCDF         70.0         26.123,7,4,7,8,9-HPCDF         70</td><td></td><td>OCDD</td><td>0.0001</td><td>65,</td><td></td><td></td><td>B</td><td>13C-2,3,7,8-T</td><td>CDF</td><td>90.2</td><td>24 - 169</td><td>「たたで、気いい</td></td<>	1         13.7.1.8-FCDF         ND         0.00000655         13.C.1.3.7,8-FCDF         77.9         24.185           1.2.3.7,8-FCDF         ND         0.00000812         13.C.1.23,47,8-FCDF         76.9         21.178           1.2.3.7,8-FCDF         ND         0.00000823         13.C.1.23,47,8-FCDF         76.9         21.178           1.2.3.7,8-FCDF         ND         0.00000823         13.C.1.23,47,8-FCDF         76.9         21.178           1.2.3.47,8-FCDF         ND         0.00000823         13.C.1.23,47,8-FLCDF         70.0         26.123           1.2.3.47,8-FLCDF         ND         0.00000125         13.C.1.23,47,8-FLCDF         70.0         26.123           1.2.3.46,7,8-HPCDF         ND         0.0000115         1         13.C.1.2,3,7,8-FLCDF         70.0         26.123           1.2.3.47,89-HPCDF         ND         0.0000115         1         13.C.1.2,3,7,8-FLCDF         70.0         26.123           1.2.3.4,67,8-HPCDF         ND         0.00000115         1         13.C.1.2,3,7,8,9-HPCDF         70.0         26.143           1.2.3.4,67,8-HPCDF         ND         0.00000115         1         13.C.1.2,3,7,8,9-HPCDF         70.0         26.123         13.C.1.2,3,7,8,9-HPCDF         70.0         26.123,7,4,7,8,9-HPCDF         70		OCDD	0.0001	65,			B	13C-2,3,7,8-T	CDF	90.2	24 - 169	「たたで、気いい
12.3.7.8-F6CDF         ND         0.00000812         13.5.2.3.4.7.8-F6CDF         %6.9         21178           2.3.4.7.8-F6CDF         ND         0.00000832         13.5.2.3.4.7.8-F4CDF         80.0         26-152           12.3.4.7.8-F6CDF         ND         0.00000832         13.5.1.2.3,6.7.8-H4CDF         80.0         26-152           12.3.4.7.8-F4CDF         ND         0.00000922         13.5.1.2,3.6.7.8-H4CDF         79.0         26-123           12.3.4.6.7.8-H4CDF         ND         0.0000101         13.5.1.2,3.7.8.9-H4CDF         76.8         28-136           12.3.3.6.7.8-H4CDF         ND         0.0000101         13.5.2.3.4.6.7.8-H4CDF         76.8         28-136           12.3.3.6.7.8-H4CDF         ND         0.0000113         13.5.2.3.7.8.7.H4CDF         76.8         28-136           12.3.3.6.7.8-H4CDF         ND         0.0000113         J         13.5.2.3.7.8.7.H4CDF         76.8         29-147           12.3.3.6.7.8-H4CDF         ND         0.00000125         J         J         13.5.2.2.3.7.8.7.H4CDF         76.8         29-147           12.3.3.6.7.8-H4CDF         ND         0.00000125         J         J         26-123         29-147           12.3.3.6.7.8-H4CDF         ND         0.0000015         J	112.3.7.8-FGDF         ND         0.00000812         13C.2,3,4,7,8-FGDF         7.6,9         21-178           2.3,4,7,8-FGDF         ND         0.00000823         13C-1,2,3,4,7,8-FECDF         76,9         21-178           2.3,4,7,8-FECDF         ND         0.00000823         13C-1,2,3,4,7,8-FECDF         76,9         21-178           2.3,4,7,8-FECDF         ND         0.00000823         13C-1,2,3,4,7,8-FECDF         76,9         26-152           2.12,3,6,7,8-HECDF         ND         0.00000101         13C-1,2,3,4,5,7,8-HECDF         76,8         26-133           2.12,3,6,7,8-HECDF         ND         0.0000125         1         13C-1,2,3,4,6,7,8-HECDF         76,8         26-143           2.12,3,7,8,9-HECDF         ND         0.0000125         1         13C-1,2,3,4,7,8,9-HECDF         70,0         28-143           1.2,3,4,6,7,8-HECDF         ND         0.0000125         1         13C-1,2,3,4,7,8,9-HECDF         70,0         28-136           1.2,3,4,6,7,8-HECDF         ND         0.0000125         1         13C-1,2,3,4,7,8,9-HECDF         70,0         28-136           1.2,3,4,6,7,8-HECDF         ND         0.0000013         1         13C-1,2,3,4,7,8,9-HECDF         70,0         28-136           1.2,3,4,6,7,8-HECDF         ND         <	3.	2,3,7,8-TCDF	£	Alt is the disc face of the second	0.000000.0	565	and the second	13C-1,2,3,7,8	-PeCDF	77.9 24	24 - 185	
2.3.4.7.8-PECDF         ND         0.00000823         13C-1.2,3,4,7,8-HxCDF         80.0         26-152           1.2.3.4.7.8-HxCDF         ND         0.00000832         13C-1.2,3,6,7,8-HxCDF         79.0         26-123           1.2.3.6,7,8-HxCDF         ND         0.00000032         13C-1.2,3,6,7,8-HxCDF         79.0         26-123           1.2.3,6,7,8-HxCDF         ND         0.00000101         13C-1.2,3,6,7,8-HxCDF         76.8         28-136           1.2.3,6,7,8-HxCDF         ND         0.00001015         J         13C-1,2,3,7,8,9-HxCDF         76.3         26-133           1.2.3,4,6,7,8-HxCDF         ND         0.0000125         J         J         13C-1,2,3,7,8,9-HyCDF         70.0         26-133           1.2.3,4,6,7,8-HxCDF         ND         0.0000113         J         J3C-1,2,3,7,8,9-HyCDF         70.0         26-133           1.2.3,4,6,7,8-HxCDF         ND         0.0000013         J         J3C-1,2,3,7,8,9-HyCDF         70.0         26-133           1.2.3,4,6,7,8-HxCDF         ND         0.0000013         J         J3C-1,2,3,7,8,9-HyCDF         70.0         26-133           1.2.3,4,7,8,9-HyCDF         ND         0.0000013         J         CNS         J3C-1,2,3,7,8,7-HyCDF         70.0         27-157	2,3,4,7,8+PCDF       ND       0,00000823       13C-1,2,3,4,7,8-HrCDF       800       26-152         1,2,3,4,7,8-HrCDF       ND       0,00000832       13C-1,2,3,6,7,8-HrCDF       790       26-123         1,2,3,6,7,8-HrCDF       ND       0,0000013       13C-1,2,3,6,7,8-HrCDF       780       26-123         1,2,3,6,7,8-HrCDF       ND       0,0000101       13C-1,2,3,6,7,8-HrCDF       82,7       29-147         1,2,3,6,7,8-HrCDF       ND       0,0000125       13C-1,2,3,7,8,9-HrCDF       82,7       29-147         1,2,3,7,8,9-HrCDF       ND       0,0000125       13C-1,2,3,4,6,7,8-HrCDF       82,7       29-147         1,2,3,7,8,9-HrCDF       ND       0,0000125       13C-1,2,3,4,6,7,8-HrCDF       82,7       29-147         1,2,3,4,7,8-HrCDF       ND       0,0000013       13C-1,2,3,4,7,8,9-HrCDF       82,7       29-147         1,2,3,4,7,8,9-HrCDF       ND       0,0000013       13C-1,2,3,4,7,8,9-HrCDF       70,0       82,1,157         1,2,3,4,7,8,9-HrCDF       ND       0,0000013       13C-1,2,3,4,7,8,9-HrCDF       70,0       82,1,157         1,2,3,4,7,8,9-HrCDF       ND       0,0000013       13C-1,2,3,4,7,8,9-HrCDF       70,0       82,1,157         1,2,3,4,7,8,9-HrCDF       ND       0,0000013       13C		1,2,3,7,8-PeCDF	Ð	院での「大学校の	0.000000	812		13C-2,3,4,7,8	-PeCDF	76.9 21	1 - 178	
1.2.3.4.7.8-HxCDF         ND         0.00000332         13.C-1,2,3,5,7,8-HxCDF         79.0         26-123           1.2.3,6,7,8-HxCDF         ND         0.0000002         13.C-1,2,3,6,7,8-HxCDF         76.8         28-136           1.2.3,6,7,8-HxCDF         ND         0.00000101         13.C-1,2,3,7,8,9-HxCDF         76.8         28-136           1.2.3,4,6,7,8-HxCDF         ND         0.0000125         J         13.C-1,2,3,7,8,9-HxCDF         76.8         28-143           1.2.3,4,6,7,8-HxCDF         ND         0.0000125         J         13.C-1,2,3,7,8,9-HpCDF         82.7         29-147           1.2.3,4,6,7,8-HxCDF         ND         0.0000113         J         13.C-1,2,3,7,8,9-HpCDF         70.0         28-138           1.2.3,4,6,7,8-HxCDF         ND         0.00000113         J         13.C-1,2,3,7,8,9-HpCDF         70.0         28-138           1.2.3,4,6,7,8-HxCDF         ND         0.00000113         J         13.C-1,2,3,7,3,9-HpCDF         70.0         28-138           1.2.3,4,6,7,8-HyCDF         ND         0.00000113         J         J         13.C-1,2,3,7,3,9-HpCDF         70.0         28-138           1.2.3,4,7,8,9-HpCDF         ND         0.00000310         J         J         J         J         J         J	12.3.4/3.HxCDF       ND       0.0000032       13C-12.3,6/7,8-HxCDF       79.0       26-123         12.3.6/7.8-HxCDF       ND       0.0000101       13C-12.3,6/7,8-HxCDF       76.8       28-136         12.3.6/7.8-HxCDF       ND       0.0000101       13C-12.3,6/7,8-HxCDF       76.8       28-136         12.3.4,6/7,8-HxCDF       ND       0.0000125       13C-12.3,7,89-HxCDF       82.7       29-147         12.3.4,6/7,8-HxCDF       ND       0.0000125       13C-12.3,7,89-HxCDF       82.7       29-147         12.3,4/6/7,8-HxCDF       ND       0.0000113       13C-12.3,4,7,89-HxCDF       82.7       29-147         12.3,4/6/7,8-HxCDF       ND       0.00000113       1       13C-12.3,4,67,8-HxCDF       82.7       29-147         12.3,4/6/7,8-HxCDF       ND       0.00000113       1       13C-12.3,4,7,89-HxCDF       82.1       17-157         12.3,4/7,89-HyCDF       ND       0.00000113       J       13C-12.2,4,7,8,9-HxCDF       83.2       17-157         12.3,4/7,89-HyCDF       ND       0.00000113       J       JSC-12.2,3,7,8-HxCDF       83.2       17-157         12.3,4/7,89-HyCDF       ND       0.0000013       J       JSC-12.2,3,7,8-HxCDF       83.2       17-157         Total <td< td=""><td></td><td>2,3,4,7,8-PeCDF</td><td>£</td><td>Contraction of the second seco</td><td>0.000000</td><td>823</td><td></td><td>13C-1,2,3,4,7,</td><td>,8-HxCDF</td><td>80.0 26</td><td>26 - 152</td><td></td></td<>		2,3,4,7,8-PeCDF	£	Contraction of the second seco	0.000000	823		13C-1,2,3,4,7,	,8-HxCDF	80.0 26	26 - 152	
1.2,3,6,7,8-HxCDF         ND         0.0000000         13C-2,3,4,6,7,8-HxCDF         7.8         28-136           2.3,4,6,7,8-HxCDF         ND         0.0000101         13C-1,2,3,7,8,9-HxCDF         7.8         23, 4,6,7,8-HxCDF         7.0         28-143           1.2,3,7,8,9-HxCDF         ND         0.0000125         1         13C-1,2,3,7,8,9-HxCDF         7.0         28-143           1.2,3,7,8,9-HxCDF         ND         0.0000113         1         13C-1,2,3,7,8,9-HpCDF         7.0         28-143           1.2,3,4,5,7,8-HpCDF         ND         0.0000113         1         1         13C-1,2,3,7,8,9-HpCDF         7.0         28-138           1.2,3,4,7,8,9-HpCDF         ND         0.00000113         1         1         1         27-1,2,3,7,8,9-HpCDF         7.0         28-138           0.2,3,4,7,8,9-HpCDF         ND         0.00000113         1	12.3,6/7,8-HxCDF         ND         0.00000002         13C-2,3,4,6,7,8-HxCDF         7.6.8         28-136           2.3,4,6,7,8-HxCDF         ND         0.00000101         13C-1,2,3,7,8,9-HxCDF         82,7         29-147           1.2,3,7,8,9-HxCDF         ND         0.00000125         J         13C-1,2,3,4,6,7,8-HxCDF         82,7         29-147           1.2,3,7,8,9-HxCDF         ND         0.0000113         J         13C-1,2,3,4,6,7,8-HpCDF         82,7         29-147           1.2,3,4,7,8,9-HpCDF         ND         0.0000113         J         13C-1,2,3,4,6,7,8-HpCDF         83,2         17-157           1.2,3,4,7,8,9-HpCDF         ND         0.0000113         J         13C-1,2,3,4,6,7,8-HpCDF         83,2         17-157           1.2,3,4,7,8,9-HpCDF         ND         0.00000130         J         I3C-1,2,3,7,8,9-HpCDF         83,2         17-157           OCDF         0.00000310         J         CRS         37C1,2,3,7,8,-TCDD         83,1         35-197           Total         TDD         ND         0.00000123         Asmple specific estimated detection limit.         17-157           Total         TDD         ND         0.00000139         A fower control intertaintertain         17-157           Total         PCDD		1,2,3,4,7,8-HxCDF	£	したので、「日本」	0,000000	832		13C-1,2,3,6,7,	,8-HxCDF	79.0 26	26 - 123	
2,3,4,6,7,8-HxCDF       ND       0,0000101       13C-1,2,3,7,8,9-HxCDF       82.7       29-147         1,2,3,7,8,9-HxCDF       ND       0,0000125       1       13C-1,2,3,4,6,7,8-HpCDF       77.0       28-143         1,2,3,4,6,7,8-HpCDF       0,0000156       1       13C-1,2,3,4,6,7,8-HpCDF       77.0       28-143         1,2,3,4,6,7,8-HpCDF       0,00000156       1       13C-1,2,3,4,6,7,8-HpCDF       77.0       28-143         1,2,3,4,7,8,9-HpCDF       ND       0,00000113       1       13C-1,2,3,4,6,7,8,4HpCDF       83.9       26-138         1,2,3,4,7,8,9-HpCDF       ND       0,00000113       1       13C-1,2,3,4,6,7,8,9-HpCDF       83.9       26-138         1,2,3,4,7,8,9-HpCDF       ND       0,00000113       1       1       13C-1,2,3,7,8,9-HpCDF       83.1       35-197         OCDF       0,00000310       ND       0,00000623       I       I       1<	2.3.4.6/7.8-HXCDF       ND       0.0000101       13C-1,2,3,7,8,9-HXCDF       82,7       29-147         1.2.3.7.89-HXCDF       ND       0.00000125       J       13C-1,2,3,4,6,7,8-HpCDF       77.0       28-143         1.2.3.4.6,7,8-HpCDF       ND       0.00000125       J       13C-1,2,3,4,7,8,9-HpCDF       83.9       26-138         1.2.3.4.6,7,8-HpCDF       ND       0.0000013       J       J3C-1,2,3,4,7,8,9-HpCDF       83.2       17-157         1.2.3.4,7,8,9-HpCDF       ND       0.0000013       J       J3C-1,2,3,4,7,8,9-HpCDF       83.2       17-157         0.2.05       0.00000310       J       J3C-1,2,3,4,7,8,9-HpCDF       83.1       35-197         1.2.3,4,7,8,9-HpCDF       ND       0.00000310       J       J3C-1,2,3,4,7,8,9-HpCDF       83.3       26-138         1.2.3,4,7,8,9-HpCDF       ND       0.00000310       J       J3C-1,2,3,4,7,8,9-HpCDF       83.2       17-157         2.2.17       State       0.00000310       J       ZES       J3C-1,2,3,7,8,9-HpCDF       83.1       35-197         2.2.13,4,7,8,9-HpCDF       ND       0.0000033       Lotal record       Lotal record       State       J3C-1,2,3,7,8,9-HpCDF       J3C-1,2,3,7,8,9-HpCDF       J3C-1,2,3,7,8,9-HpCDF       J3C-1,2,3,7,8,9-HpCDF <t< td=""><td></td><td>1,2,3,6,7,8-HxCDF</td><td>£</td><td></td><td>0.000000</td><td>902</td><td>A REAL PROPERTY AND A REAL</td><td>13C-2,3,4,6,7,</td><td>,8-HxCDF</td><td>76.8 28</td><td>28 - 136</td><td></td></t<>		1,2,3,6,7,8-HxCDF	£		0.000000	902	A REAL PROPERTY AND A REAL	13C-2,3,4,6,7,	,8-HxCDF	76.8 28	28 - 136	
W         1,2,3,7,8,9-HxCDF         ND         0.00000125         J         13C-1,2,3,4,6,7,8-HpCDF         77.0         28 - 143           1,2,3,4,6,7,8-HpCDF         0.00000156         J         J         13C-1,2,3,4,6,7,8-HpCDF         77.0         28 - 138           1,2,3,4,6,7,8-HpCDF         ND         0.00000113         J         J         J3C-1,2,3,4,6,7,8-HpCDF         83.9         26 - 138           1,2,3,4,7,8,9-HpCDF         ND         0.00000113         J         J3C-0CDF         83.1         35 - 197           1,2,3,4,7,8,9-HpCDF         ND         0.00000113         J         ZKS 37C1-2,3,4,8,7,8,9-HpCDF         83.2         17 - 157           OCDF         ND         0.00000130         J         ZKS 37C1-2,3,7,8,7GDD         88.1         35 - 197           Total TCDD         ND         0.00000623         a. sample specific estimated detection limit.         Lotal HzCDD         ND         0.00000139         b. Estimated maximum possible concentration.           1         Total HzCDD         ND         0.00000338         a. sample specific estimated detection limit.         Interfor the control limit.           1         Total HzCDD         ND         0.00000338         b. Estimated maximum possible concentration.         Interfor the control limit.           I	W         1.3.3/18,9-HxCDF         ND         0.00000125         J         13C-1.2.3,4,6,7,8-HpCDF         77.0         28-143           1.2.3,4,6,7,8-HpCDF         0.00000156         J         J         13C-1.2.3,4,6,7,8-HpCDF         77.0         28-138           1.2.3,4,7,8,9-HpCDF         0.00000156         J         J         13C-1.2,3,4,7,8,9-HpCDF         83.9         26-138           1.2.3,4,7,8,9-HpCDF         ND         0.00000113         J         I3C-1.2,3,4,7,8,9-HpCDF         83.9         26-138           0CDF         0.000000310         J         CRS         JC-1.2,3,7,8,9-HpCDF         83.1         35-197           0CDF         0.00000310         J         CRS         JC-1.2,3,7,8,9-HpCDF         88.1         35-197           12.3,4,7,8,9-HpCDD         ND         0.00000310         J         CRS         37C1-2,3,7,8,9-HpCDF         88.1         35-197           Total TCDD         ND         0.00000033         a Sample specific estimated detection limit.         Footnotes         Total HpCDD         0.00000033         a Sample specific estimated detection limit.           Total HpCDD         ND         0.0000033         a Sample specific estimated detection limit.         Total HpCDF         Total HpCDF           Total HpCDF         ND		2,3,4,6,7,8-HxCDF	£		0.000001	01		13C-1,2,3,7,8,	,9-HxCDF	82.7 29	9 - 147	
12,3,4,6,7,8-HpCDF       0.00000156       J       J3C-12,3,4,7,8,9-HpCDF       83.9       26-138         12,3,4,7,8,9-HpCDF       ND       0.00000310       0.00000113       J3C-0CDF       83.1       35-197         12,3,4,7,8,9-HpCDF       ND       0.00000310       0.0000013       S3.1       35-197         OCDF       ND       0.00000310       A.       Rootnotes       S3.1       35-197         Total       ND       0.0000030       A.       A.       S37Ci-2,3,7,8-TCDD       S3.1       35-197         Total       Total       ND       0.00000623       a.       Sample specific estimated detection limit.         Total       HxCDD       ND       0.00000338       a.       sample specific estimated detection limit.         Total       HxCDD       ND       0.00000338       a.       setimated maximum possible concentration.         Total       HpCDP       ND       0.00000338       c. Method detection limit.       A. Lower control limit.         Total       ND       0.00000365       d. Lower control limit.       A. Lower control limit.         Total       ND       0.000000563       d. Lower control limit.       A. Lower control limit.         Total       ND       0.000000563       d. L	12.3,4,6,7,8-HpCDF       0.00000156       J       13.C-12,3,4,7,8,9-HpCDF       83.9       26 - 138         12.3,4,7,8,9-HpCDF       ND       0.00000113       J       13.C-0CDF       83.2       17 - 157         OCDF       0.00000310       0.00000113       J       CRS       37.C-2,3,7,8-TCDD       88.1       35 - 197         Ital       Total       CODF       ND       0.00000123       A sample specific estimated detection limit.         Total TCDD       ND       0.00000123       a sample specific estimated detection limit.       88.1       35 - 197         Total TCDD       ND       0.00000189       b. Estimated maximum possible concentration.       10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	>	1,2,3,7,8,9-HxCDF	£	10 - 10 - 2010	0.000001	25		13C-1,2,3,4,6,	,7,8-HpCDF	77.0 28	28 - 143	
1,2,3,4,7,8,9-HpCDF         ND         0.00000113         13C-OCDF         83.2         17-157           OCDF         0.00000310         J         J         CRS         37CI-2,3,7,8-TCDD         88.1         35-197           Total         Total         I         A         CRS         37CI-2,3,7,8-TCDD         88.1         35-197           Total         Total         I         I         E         Rootnotes         88.1         35-197           Total         TOD         ND         0.00000623         a Sample specific estimated detection limit.         88.1         35-197           Total         TOD         ND         0.00000189         a Sample specific estimated detection limit.         6. Estimated maximum possible concentration.         6. Estimated maximum possible concentration.           Model         Total         ND         0.00000338         0.00000338         1. Lower control limit.           Model         Total         ND         0.00000338         1. Lower control limit.         1. Lower control limit.           Model         Total         ND         0.00000355         1. Lower control limit.         1. Lower control limit.           Model         Total         ND         0.00000055         1. Lower control limit.         1. Lower contro	1.2.3.4,7,8,9-HpCDF       ND       0.00000113       13C-OCDF       83.2       17-157         OCDF       0.00000310       N       23.2       17-157       88.1       35-197         Total       Total       TODD       ND       0.00000623       Rootnotes       88.1       35-197         Total TCDD       ND       0.00000623       a sample specific estimated detection limit.       Ended detection limit.       85.1       35-197         Total TCDD       ND       0.00000053       a sample specific estimated detection limit.       Ended detection limit.       Ended detection limit.         Total HxCDD       ND       0.00000189       e. Method detection limit.       Ended detection limit.         Total HxCDF       ND       0.00000053       e. Method detection limit.       Ended detection limit.         Total TCDF       ND       0.00000338       e. Method detection limit.       Ended detection limit.         Total HxCDF       ND       0.00000055       d. Lower councel limit.       A.Lower councel limit.         Total HxCDF       ND       0.000000517       d. Lower councel limit.       A.Lower councel limit.         Total HxCDF       ND       0.000000517       d. Lower councel limit.       A.Lower councel limit.         Total HxCDF	Z.	1,2,3,4,6,7,8-HpCD	F 0.0000	0156				13C-1,2,3,4,7,	,8,9-HpCDF	83.9 26	26 - 138	
OCDF0.00000310JCRS 37C1-2,3,7,8-TCDD88.135-197Total TCDDND0.00000623Footnotes8.135-197Total TCDDND0.00000623a sample specific estimated detection limit.Total HCDDND0.00000338b. Estimated maximum possible concentration.Total HCDDND0.00000338c. Method detection limit.Total HCDD0.00000338c. Method detection limit.Total HCDFND0.000000565d. Lower control limit.	OCDF     0.00000310     J     CRS     37C1-2,37,8-TCDD     88.1     35 - 197       Totals     Total TCDD     ND     0.00000623     a sample specific estimated detection limit.       Total TCDD     ND     0.00000189     b. Estimated maximum possible concentration.       Total TCDD     ND     0.00000133     a cample specific estimated detection limit.       Total TCDD     ND     0.00000333     b. Estimated maximum possible concentration.       Total HxCDD     ND     0.00000333     c. Method detection limit.       Total HxCDF     ND     0.00000333     c. Method detection limit.       Total HxCDF     ND     0.00000333     c. Method detection limit.       Total TCDF     ND     0.00000333     c. Method detection limit.       Total HxCDF     ND     0.00000317     d. Lower control limit.       Total HxCDF     ND     0.000000555     d. Lower control limit.       Total HxCDF     ND     0.000000555     d. Lower control limit.	55	1,2,3,4,7,8,9-HpCD	E B	ALC: A MULTING AND ALC: AND	0.000001	13	And a second	13C-OCDF		83.2 17	7 - 157	
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VTotal TCDDND0.00000623a. sample specific estimated detection limit.Total PeCDDND0.00000189b. Estimated maximum possible concentration.Total HxCDDND0.00000338c. Method detection limit.Total HpCDDND0.00000338c. Method detection limit.Total HpCDDND0.000003565d. Lower control limit.Total HpCDFND0.000000565d. Lower control limit.	Total TCDDND0.00000623a. Sample specific estimated detection limit.Total PeCDDND0.00000189b. Estimated maximum possible concentration.Total HxCDDND0.00000338c. Method detection limit.Total HpCDD0.0000217c. Method detection limit.Total TCDFND0.00000565Total HpCDFND0.00000850Total HpCDFND0.00000850Total HpCDF0.00000317Total HpCDF0.00000359		Totals						Footnotes				
Total PeCDDND0.00000189b. Estimated maximum possible concentration.Total HxCDDND0.00000338a. Method detection limit.Total HpCDD0.00000217a. Method detection limit.Total TCDFND0.000000565d. Lower control limit.Total HpCDFND0.000000817d. Lower control limit.Total HxCDFND0.00000859d. Lower control limit.Total HpCDFND0.00000859d. Lower control limit.	Total FeCDD     ND     0.00000189     b. Estimated maximum possible concentration.       Total HxCDD     ND     0.00000338     b. Estimated maximum possible concentration.       Total HxCDD     ND     0.00000338     c. Method detection limit.       Total HpCDD     0.00000217     c. Method detection limit.       Total HpCDF     ND     0.000000565       Total HxCDF     ND     0.000000817       Total HxCDF     ND     0.000000817       Total HxCDF     ND     0.000000817       Total HxCDF     ND     0.000000817	3	Total TCDD	Q		0.000000	523		a. Sample specific estim	nated detection limit.			
Total HxCDD         ND         0.0000338         e. Method detection limit.           Total HpCDD         0.0000217         0.00000365         d. Lower control limit.           India TCDF         ND         0.000000565         d. Lower control limit.           India TCDF         ND         0.000000565         d. Lower control limit.           India TCDF         ND         0.000000555         d. Lower control limit.           India PeCDF         ND         0.000000817         d. Lower control limit.           India HxCDF         ND         0.00000859         d. Lower control limit.	Total HxCDD     ND     0.0000338     c. Method detection limit.       Total HpCDD     0.00000217     c. Method detection limit.       Total TCDF     ND     0.000000565       Total PeCDF     ND     0.000000565       Total HxCDF     ND     0.000000565       Total HxCDF     ND     0.000000565       Total HxCDF     ND     0.000000817       Total HxCDF     ND     0.000000859		Total PeCDD	Ð		0.0000018	39		b. Estimated maximum ]	possible concentration.		のである。	
Total HpCDD     0.0000217     d. Lower control limit.       U     Total TCDF     ND     0.00000565       U     Total PeCDF     ND     0.000000565       U     Total HeCDF     ND     0.000000817       Total HxCDF     ND     0.00000859     0.00000859	Total HpCDD     0.0000217     d. Lower control limit - upper control limit.       Total TCDF     ND     0.00000565       Total TCDF     ND     0.000000565       Total HxCDF     ND     0.000000817       Total HxCDF     ND     0.00000859       Total HxCDF     0.00000391	>	Total HxCDD	Ð		0.000003	38		c. Method detection limi	it.		1040° - 1040° - 1060° - 1070° - 1070°	and the second of the first of the second second
<ul> <li></li></ul>	Total TCDF     ND     0.000000565       Intro PecDF     ND     0.000000817       Total HxCDF     ND     0.000000859       Intro HpCDF     0.00000391     0.00000859		Total HpCDD	0.0000	217				d. Lower control limit -	upper control limit.			
<ul> <li>Total PeCDF ND</li> <li>① 704al HxCDF ND</li> <li>① 0.00000391</li> <li>① 704al HpCDF</li> <li>① 0.00000391</li> <li>① 0.00000391</li> </ul>	Total PECDF ND 0.00000817 Total HxCDF ND 0.00000359 Total HpCDF 0.00000391	3=	Total TCDF	Ð	THE A CONTRACT OF A DECK	0.000000.0	565					the second science is a	A LOUGH WALL HAR LINE AND
(正 Total HxCDF ND 0.00000391 0.00000859 0.00000859	Total HxCDF ND 0.00000391 0.00000859 0.00000859	5	Total PeCDF	Ð		0.000000	817						
Total HpCDF	Total HpCDF 0.0000391	目	Total HxCDF	£			0.00000	859					
	Anducti 21AC		Total HpCDF	0.0000	0391					注意 「「「「「「「「」」」		単大学の日本	

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

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

Report Number: IRB0073

Sampled: 02/01/08 Received: 02/01/08

**METALS** MDL Data Reporting Sample Dilution Date Date Qualifiers Method Limit Limit Result Factor Extracted Analyzed Analyte Batch Sample ID: IRB0073-01 (Outfall 005 - Water) - cont. Reporting Units: mg/l 02/05/08 Hardness as CaCO3 SM2340B [CALC] N/A 0.33 170 1 02/05/08 8B05087 0.020 0.050 0.034 1 02/05/08 02/05/08 J Boron J/DNQ EPA 200.7 0.050 54 02/05/08 02/05/08 Calcium EPA 200.7 8B05087 0.10 1 0.015 0.040 1 02/05/08 02/05/08 Iron EPA 200.7 8B05087 3.4 Magnesium EPA 200.7 8B05087 0.012 0.020 8.1 1 02/05/08 02/05/08

Project ID: Annual Outfall 005

EVEL IV

**TestAmerica** Irvine

Joseph Doak Project Manager

IRB0073 <Page 9 of 55>



LEVEL IV

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

Project ID: Annual Outfall 005

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

Report Number: IRB0073

Sampled: 02/01/08 Received: 02/01/08

METALS

AnalyteMethodBatchLimitLimitResultFactorExtractedAnalyzedQualifiersSample LJ: IRB0073-01 (Outfall 005 - Water) - cont. Reporting Units: ug/				MDL	Reporting	Sample	Dilution	Date	Date	Data
Sample ID: IRB0073-01 (Outfall 005 - Water) - cont.         Reporting Units: ug/         Aluminum       EPA 200.7       8B05087       40       50       3800       1       02/05/08       02/05/08         Antimony TONK       EPA 200.8       8B05090       0.20       2.0       0.43       1       02/05/08       02/05/08       J         Arsenic       EPA 200.7       8B05087       7.0       10       ND       1       02/05/08       02/05/08       J         Beryllium       EPA 200.7       8B05087       0.90       2.0       ND       1       02/05/08       02/05/08       J         Cadmium       TONK       EPA 200.7       8B05087       0.90       2.0       ND       1       02/05/08       02/05/08       J         Chromium       EPA 200.7       8B05087       2.0       5.0       4.2       1       02/05/08       J         Copper       EPA 200.8       8B05090       0.75       2.0       3.8       1       02/05/08       Q/05/08         Lead       EPA 200.7       8B0587       2.0       10       15       1       02/05/08       02/05/08         Silver       EPA 200.7       8B05087       6.0       10 <th>Analyte</th> <th>Method</th> <th>Batch</th> <th>Limit</th> <th>Limit</th> <th>Result</th> <th>Factor</th> <th>Extracted</th> <th>Analyzed</th> <th>Qualifiers</th>	Analyte	Method	Batch	Limit	Limit	Result	Factor	Extracted	Analyzed	Qualifiers
Reporting Units: ug/l         Aluminum       EPA 200.7       8B05087       40       50       3800       1       02/05/08       02/05/08         Antimony       CDNC       EPA 200.8       8B05090       0.20       2.0       0.43       1       02/05/08       02/05/08       J         Arsenic       EPA 200.7       8B05087       7.0       10       ND       1       02/05/08       02/05/08       J         Beryllium       EPA 200.7       8B05087       0.90       2.0       ND       1       02/05/08       02/05/08       J         Cadmium       CPA 200.7       8B05087       0.90       2.0       ND       1       02/05/08       02/05/08       J         Cadmium       CPA 200.7       8B05087       2.0       5.0       4.2       1       02/05/08       02/05/08       J         Chromium       EPA 200.7       8B05090       0.30       1.0       1.4       02/05/08       02/05/08       J         Copper       EPA 200.7       8B05087       2.0       10       1.4       1       02/05/08       02/05/08         Stelenium       EPA 200.7       8B05087       2.0       10       1.5       1       <	Sample ID: IRB0073-01 (Outfall 005 - V	Vater) - cont.								
Aluminum       EPA 200.7       8B05087       40       50       3800       1       02/05/08       02/05/08         Antimony       T/DNG       EPA 200.8       8B05090       0.20       2.0       0.43       1       02/05/08       02/05/08       J         Arsenic       U       EPA 200.7       8B05087       7.0       10       ND       1       02/05/08       02/05/08       J         Beryllium       U       EPA 200.7       8B05087       0.90       2.0       ND       1       02/05/08       02/05/08       J         Cadmium       J/DNG       EPA 200.7       8B05087       0.90       2.0       ND       1       02/05/08       02/05/08       J         Chromium       V       EPA 200.7       8B05087       2.0       5.0       4.2       1       02/05/08       02/05/08       J         Copper       EPA 200.8       8B05090       0.75       2.0       3.8       1       02/05/08       02/05/08       02/05/08       J         Copper       EPA 200.8       8B05090       0.30       1.0       1.4       1       02/05/08       02/05/08         Stelenium       U       EPA 200.7       8B05087       6.0 </th <th>Reporting Units: ug/l</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	Reporting Units: ug/l									
Antimony	Aluminum	EPA 200.7	8B05087	40	50	3800	1	02/05/08	02/05/08	
Arsenic $\bigcup$ EPA 200.7 $\$B05087$ $7.0$ $10$ ND $1$ $02/05/08$ $02/05/08$ BerylliumEPA 200.7 $\$B05087$ $0.90$ $2.0$ ND $1$ $02/05/08$ $02/05/08$ $02/05/08$ Cadmium $\bigcup$ $DNQ$ EPA 200.8 $\$B05090$ $0.11$ $1.0$ $0.48$ $1$ $02/05/08$ $02/05/08$ $J$ Chromium $\checkmark$ EPA 200.7 $\$B05087$ $2.0$ $5.0$ $4.2$ $1$ $02/05/08$ $02/05/08$ $J$ CopperEPA 200.8 $\$B05090$ $0.75$ $2.0$ $3.8$ $1$ $02/05/08$ $02/05/08$ $J$ LeadEPA 200.8 $\$B05090$ $0.30$ $1.0$ $1.4$ $1$ $02/05/08$ $02/05/08$ $J$ NickelEPA 200.7 $\$B05087$ $2.0$ $10$ $15$ $1$ $02/05/08$ $02/05/08$ $J$ Selenium $O$ EPA 200.7 $\$B05087$ $8.0$ $10$ $ND$ $1$ $02/05/08$ $02/05/08$ $J$ SilverEPA 200.7 $\$B05087$ $6.0$ $10$ $ND$ $1$ $02/05/08$ $02/05/08$ $J$ SilverEPA 200.8 $\$B05090$ $0.20$ $1.0$ $ND$ $1$ $02/05/08$ $02/05/08$ $J$ Vanadium $$ EPA 200.7 $\$B05087$ $6.0$ $10$ $ND$ $1$ $02/05/08$ $02/05/08$ $J$ LeadEPA 200.7 $\$B05087$ $3.0$ $10$ $ND$ $1$ $02/05/08$ $02/05/08$ $02/05/08$ <	Antimony JONG	EPA 200.8	8B05090	0.20	2.0	0.43	1	02/05/08	02/05/08	J
Beryllium       EPA 200.7       8B05087       0.90       2.0       ND       1       02/05/08       02/05/08         Cadmium       J/DNQ       EPA 200.8       8B05090       0.11       1.0       0.48       1       02/05/08       02/05/08       J         Chromium       V       EPA 200.7       8B05087       2.0       5.0       4.2       1       02/05/08       02/05/08       J         Copper       EPA 200.8       8B05090       0.75       2.0       3.8       1       02/05/08       02/05/08       Lead         Lead       EPA 200.7       8B05087       2.0       10       1.4       1       02/05/08       02/05/08       Lead         Nickel       EPA 200.7       8B05087       2.0       10       15       1       02/05/08       02/05/08       Lead         Silver       EPA 200.7       8B05087       8.0       10       ND       1       02/05/08       02/05/08       S         Silver       EPA 200.7       8B05087       6.0       10       ND       1       02/05/08       S       S         Thallium       EPA 200.7       8B05087       3.0       10       ND       1       02/05/08 <td< th=""><th>Arsenic U</th><th>EPA 200.7</th><th>8B05087</th><th>7.0</th><th>10</th><th>ND</th><th>1</th><th>02/05/08</th><th>02/05/08</th><th></th></td<>	Arsenic U	EPA 200.7	8B05087	7.0	10	ND	1	02/05/08	02/05/08	
Cadmium       Image: Constraint of the system       EPA 200.8       8B05090       0.11       1.0       0.48       1       02/05/08       02/05/08       J         Chromium       Image: Constraint of the system       EPA 200.7       8B05087       2.0       5.0       4.2       1       02/05/08       02/05/08       J         Copper       EPA 200.8       8B05090       0.75       2.0       3.8       1       02/05/08       02/05/08       J         Lead       EPA 200.8       8B05090       0.30       1.0       1.4       1       02/05/08       02/05/08       Z         Nickel       EPA 200.7       8B05087       2.0       10       15       1       02/05/08       02/05/08       Z         Selenium       U       EPA 200.7       8B05087       8.0       10       ND       1       02/05/08       02/05/08       Z         Silver       EPA 200.7       8B05087       6.0       10       ND       1       02/05/08       02/05/08       Z         Thallium       EPA 200.8       8B05090       0.20       1.0       ND       1       02/05/08       Q2/05/08       Z         Vanadium       T/DNC       EPA 200.7       8B0508	Beryllium V	EPA 200.7	8B05087	0.90	2.0	ND	1	02/05/08	02/05/08	
Chromium       EPA 200.7       8B05087       2.0       5.0       4.2       1       02/05/08       02/05/08       J         Copper       EPA 200.8       8B05090       0.75       2.0       3.8       1       02/05/08       02/05/08       J         Lead       EPA 200.8       8B05090       0.30       1.0       1.4       1       02/05/08       02/05/08       Z         Nickel       EPA 200.7       8B05087       2.0       10       15       1       02/05/08       02/05/08       Z         Selenium       O       EPA 200.7       8B05087       8.0       10       ND       1       02/05/08       02/05/08       Z         Silver       EPA 200.7       8B05087       6.0       10       ND       1       02/05/08       02/05/08       Z         Thallium       EPA 200.7       8B05087       6.0       10       ND       1       02/05/08       02/05/08         Vanadium       T/DNC       EPA 200.7       8B05087       3.0       10       ND       1       02/05/08       J         Zinc       EPA 200.7       8B05087       3.0       10       7.2       1       02/05/08       J	Cadmium J/DNQ	EPA 200.8	8B05090	0.11	1.0	0.48	1	02/05/08	02/05/08	J
Copper       EPA 200.8       8B05090       0.75       2.0       3.8       1       02/05/08       02/05/08         Lead       EPA 200.8       8B05090       0.30       1.0       1.4       1       02/05/08       02/05/08         Nickel       EPA 200.7       8B05087       2.0       10       15       1       02/05/08       02/05/08         Selenium       O       EPA 200.7       8B05087       8.0       10       ND       1       02/05/08       02/05/08         Silver       EPA 200.7       8B05087       6.0       10       ND       1       02/05/08       02/05/08         Thallium       EPA 200.7       8B05087       6.0       10       ND       1       02/05/08       02/05/08         Vanadium       T/DNG       EPA 200.7       8B05087       3.0       10       ND       1       02/05/08       02/05/08         Vanadium       T/DNG       EPA 200.7       8B05087       3.0       10       7.2       1       02/05/08       J         Zinc       EPA 200.7       8B05087       6.0       20       25       1       02/05/08       J	Chromium $\psi$	EPA 200.7	8B05087	2.0	5.0	4.2	1	02/05/08	02/05/08	J
Lead       EPA 200.8       8B05090       0.30       1.0       1.4       1       02/05/08       02/05/08         Nickel       EPA 200.7       8B05087       2.0       10       15       1       02/05/08       02/05/08         Selenium       U       EPA 200.7       8B05087       8.0       10       ND       1       02/05/08       02/05/08         Silver       EPA 200.7       8B05087       6.0       10       ND       1       02/05/08       02/05/08         Thallium       EPA 200.7       8B05087       6.0       10       ND       1       02/05/08       02/05/08         Vanadium       T/DNG       EPA 200.7       8B05087       3.0       10       ND       1       02/05/08       02/05/08         Zinc       EPA 200.7       8B05087       3.0       10       ND       1       02/05/08       02/05/08	Copper	EPA 200.8	8B05090	0.75	2.0	3.8	1	02/05/08	02/05/08	
Nickel       EPA 200.7       8B05087       2.0       10       15       1       02/05/08       02/05/08         Selenium       U       EPA 200.7       8B05087       8.0       10       ND       1       02/05/08       02/05/08         Silver       EPA 200.7       8B05087       6.0       10       ND       1       02/05/08       02/05/08         Thallium       EPA 200.8       8B05090       0.20       1.0       ND       1       02/05/08       02/05/08         Vanadium       T/DNG       EPA 200.7       8B05087       3.0       10       7.2       1       02/05/08       02/05/08       J         Zinc       EPA 200.7       8B05087       6.0       20       25       1       02/05/08       02/05/08	Lead	EPA 200.8	8B05090	0.30	1.0	1.4	1	02/05/08	02/05/08	
Selenium       U       EPA 200.7       8B05087       8.0       10       ND       1       02/05/08       02/05/08         Silver       EPA 200.7       8B05087       6.0       10       ND       1       02/05/08       02/05/08         Thallium       EPA 200.8       8B05090       0.20       1.0       ND       1       02/05/08       02/05/08         Vanadium       T/DNG       EPA 200.7       8B05087       3.0       10       7.2       1       02/05/08       02/05/08       J         Zinc       EPA 200.7       8B05087       6.0       20       25       1       02/05/08       02/05/08	Nickel	EPA 200.7	8B05087	2.0	10	15	1	02/05/08	02/05/08	
Silver       EPA 200.7       8B05087       6.0       10       ND       1       02/05/08       02/05/08         Thallium       EPA 200.8       8B05090       0.20       1.0       ND       1       02/05/08       02/05/08         Vanadium       J/DNG       EPA 200.7       8B05087       3.0       10       7.2       1       02/05/08       02/05/08       J         Zinc       EPA 200.7       8B05087       6.0       20       25       1       02/05/08       02/05/08	Selenium U	EPA 200.7	8B05087	8.0	10	ND	1	02/05/08	02/05/08	
Thallium       ✓       EPA 200.8       8B05090       0.20       1.0       ND       1       02/05/08       02/05/08         Vanadium       ¬/DNG       EPA 200.7       8B05087       3.0       10       7.2       1       02/05/08       02/05/08       J         Zinc       EPA 200.7       8B05087       6.0       20       25       1       02/05/08       02/05/08	Silver	EPA 200.7	8B05087	6.0	10	ND	1	02/05/08	02/05/08	
Vanadium J/DNG         EPA 200.7         8B05087         3.0         10         7.2         1         02/05/08         02/05/08         J           Zinc         EPA 200.7         8B05087         6.0         20         25         1         02/05/08         02/05/08         J	Thallium V	EPA 200.8	8B05090	0.20	1.0	ND	1	02/05/08	02/05/08	
Zinc EPA 200.7 8B05087 6.0 20 25 1 02/05/08 02/05/08	Vanadium J/DNQ	EPA 200.7	8B05087	3.0	10	7.2	1	02/05/08	02/05/08	J
	Zinc	EPA 200.7	8B05087	6.0	20	25	1	02/05/08	02/05/08	

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

Project ID: Annual Outfall 005

Report Number: IRB0073

8B05111

Sampled: 02/01/08 Received: 02/01/08

Data

J

MHA

J

#### MDL Reporting Sample Dilution Date Date Qualifiers Method Factor Extracted Analyzed Analyte Batch Limit Limit Result Sample ID: IRB0073-01 (Outfall 005 - Water) - cont. Reporting Units: mg/l EPA 200.7-Diss 8B05111 0.020 0.050 0.031 1 02/05/08 02/06/08 Boron J/DNQ 0.050 02/06/08 Calcium EPA 200.7-Diss 8B05111 0.10 55 1 02/05/08 0.030 02/06/08 Iron J/DNQ EPA 200.7-Diss 0.015 0.040 02/05/08 8B05111 1 0.020 02/06/08 Magnesium EPA 200.7-Diss 8B05111 0.012 7.5 1 02/05/08

1.0

1.0

170

1

02/05/08

02/06/08

**DISSOLVED METALS** 

Hardness (as CaCO3)

LEVELIU

SM2340B

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

LEVELIV

Project ID: Annual Outfall 005

Report Number: IRB0073

Sampled: 02/01/08 Received: 02/01/08

#### **DISSOLVED METALS**

			MDL	Reporting	Sample	Dilution	Date	Date	Data
Analyte	Method	Batch	Limit	Limit	Result	Factor	Extracted	Analyzed	Qualifiers
Sample ID: IRB0073-01 (Outfall 005 -	Water) - cont.								
Reporting Units: ug/l									
Aluminum	EPA 200.7-Diss	8B05111	40	50	62	1	02/05/08	02/06/08	
Antimony JACTT, DNG	EPA 200.8-Diss	8B04144	0.20	2.0	0.30	1	02/04/08	02/05/08	J
Arsenic U	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 J/DNQ	EPA 200.8-Diss	8B04144	0.11	1.0	0.22	1	02/04/08	02/05/08	J
Chromium U	EPA 200.7-Diss	8B05111	2.0	5.0	ND	1	02/05/08	02/06/08	
Copper J/DNR	EPA 200.8-Diss	8B04144	0.75	2.0	1.7	1	02/04/08	02/05/08	J
Lead JAKTI	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	12	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 UJ/HIT	EPA 200.8-Diss	8B04144	0.20	1.0	ND	1	02/04/08	02/05/08	
Vanadium U	EPA 200.7-Diss	8B05111	3.0	10	ND	1	02/05/08	02/06/08	
Zinc J/DNQ	EPA 200.7-Diss	8B05111	6.0	20	12	1	02/05/08	02/06/08	J

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Report Number: IRB0073

EVEL IV

Sampled: 02/01/08 Received: 02/01/08

#### Metals by EPA 200 Series Methods

Analyte	М	[ethod ]	N Batch I	MDL R Limit	eporting S Limit	Sample I Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRB0073-0	1 (Outfall 005 - Water) -	- cont.								
Reporting Units: u	g/l									
Mercury, Dissolved	U EP	PA 245.1 W	8B0147 (	0.050	0.20	ND	1	02/05/08	02/07/08	
Mercury, Total	U EP	PA 245.1 W	8B0147 (	0.050	0.20	ND	1	02/05/08	02/07/08	

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Annual Outfall 005

Report Number: IRB0073

Sampled: 02/01/08 Received: 02/01/08

### **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: IRB0073-01 (Outfall 005 - Water) - cont.									N1, P, pHa
Reporting Units: ug/l									
Chlorpyrifos R/D	EPA 525.2	C8B0516	0.10	1.0	ND	1	02/05/08	02/07/08	
Diazinon R/H	EPA 525.2	C8B0516	0.24	0.25	ND	1	02/05/08	02/07/08	
Surrogate: 1,3-Dimethyl-2-nitrobenzene (70-130%)					97 %				
Surrogate: Triphenylphosphate (70-130%)					112 %				
Surrogate: Perylene-d12 (70-130%)					97 %				

LEVEL IV

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Report Number: IRB0073

Sampled: 02/01/08 Received: 02/01/08

## ORGANIC COMPOUNDS BY GC/MS (EPA 525.2)

			MDL	Reporting	Sample	Dilution	Date	Date	Data
Analyte	Method	Batch	Limit	Limit	Result	Factor	Extracted	Analyzed	Qualifiers
Sample ID: IRB0073-01RE1 (Outfall 0	05 - Water) - cont.								
Reporting Units: ug/l									
Chlorpyrifos U	EPA 525.2	C8B1302	0.21	2.0	ND	2	02/05/08	02/14/08	
Diazinon R/H	EPA 525.2	C8B1302	0.48	0.50	ND	2	02/05/08	02/14/08	H2
Surrogate: 1,3-Dimethyl-2-nitrobenzene	(70-130%)				112 %				
Surrogate: Triphenylphosphate (70-1309	(6)				111 %				
Surrogate: Perylene-d12 (70-130%)					93 %				

LEVEL IV

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## Eberline Services

SDG <u>8693</u> Work Order <u>R8020</u> Received Date <u>02/05</u>							
Client	Lab	÷		ě.	а •		
Sample ID Outfall 005	Sample ID	Collected	Analyzed	Nuclide	<u>Results ± 20</u>	Units	MDA
IRB0073-01	8693-001	02/01/08	02/27/08	GrossAlpha	0.763 ± 0.99	pCi/L	1.3 5/
			02/27/08	Gross Beta	14.2 ± 0.93	pCi/L	0.97
			02/27/08	Ra-228	0.295 ± 0.19	pCi/L	0.49 UJ/H
			02/23/08	K-40 (G)	24.0 ± 11	pCi/L	8.2 J/H
			02/23/08	Cs-137 (G)	υ	pCi/L	0.86 U/H
	Χ.		02/28/08	H-3	7.12 ± 78	pCi/L	130 U
			03/03/08	Ra-226	$0.426 \pm 0.44$	pCi/L	0.70 03/
			02/18/08	Sr-90	0.026 ± 0.31	pCi/L	.0.72 🗸
			02/26/08	Total U	0.578 ± 0.064	pCi/L	0.022 J/4

# ANALYSIS RESULTS

LEVEL IV

0	
Certified by nip	
Report Date 03/11/08	
Page 1	

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Project ID: Annual Outfall 005

Report Number: IRB0073

Sampled: 02/01/08 Received: 02/01/08

in the second se											
Analyte		Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
Sample ID: IRB0073-01 (Outfall	005 - W	ater) - cont.									
Reporting Units: mg/l											
Hexane Extractable Material (Oil &	×	EPA 1664A	8B11060	1.3	4.8	2.2	1	02/11/08	02/11/08	J	
Grease)	1										
Chloride		EPA 300.0	8B01050	0.25	0.50	13	1	02/01/08	02/01/08		
Fluoride		EPA 300.0	8B01050	0.15	0.50	0.27	1	02/01/08	02/01/08	J	
Nitrate/Nitrite-N	1	EPA 300.0	8B01050	0.15	0.26	0.17	1	02/01/08	02/01/08	J	
Sulfate	1.	EPA 300.0	8B01050	4.0	10	140	20	02/01/08	02/01/08	M-3	
Total Dissolved Solids	$\nabla$	SM2540C	8B07122	10	10	310	1	02/07/08	02/07/08		
Total Suspended Solids		EPA 160.2	8B04128	10	- 10	55	1	02/04/08	02/04/08		
		15 1 1	1								

INOPCANICS

Analysis not validated LEVEL IV

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