# **DATA QUALIFIERS & ABBREVIATIONS**

B This compound was also detected in the method blank.

**D** Dilution

E The amount detected is above the High Calibration Limit.

P The amount reported is the maximum possible concentration due to possible

chlorinated diphenylether interference.

H The signal-to-noise ratio is greater than 10:1.

I Chemical Interference

J The amount detected is below the Low Calibration Limit.

\* See Cover Letter

**Conc.** Concentration

DL Sample-specific estimated detection limit

MDL The minimum concentration of a substance that can be measured and

reported with 99% confidence that the analyte concentration is greater

than zero in the matrix tested.

**EMPC** Estimated Maximum Possible Concentration

NA Not applicable

RL Reporting Limit – concentrations that correspond to low calibration point

ND Not Detected

**TEQ** Toxic Equivalency

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

# **CERTIFICATIONS**

Accrediting Authority	Certificate Number
State of Alaska, DEC	CA413-2008
State of Arizona	AZ0639
State of Arkansas, DEQ	08-043-0
State of Arkansas, DOH	Reciprocity through CA
State of California – NELAP Primary AA	02102CA
State of Colorado	N/A
State of Connecticut	PH-0182
State of Florida, DEP	E87777
State of Indiana Department of Health	C-CA-02
Commonwealth of Kentucky	90063
State of Louisiana, Health and Hospitals	LA08000
State of Louisiana, DEQ	01977
State of Maine	2008024
State of Michigan	9932
State of Mississippi	Reciprocity through CA
Naval Facilities Engineering Service Center	NFESC413
State of Nevada	CA004132007A
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	CA200001-006
State of Pennsylvania	68-00490
State of South Carolina	87002001
State of Tennessee	TN02996
State of Texas	T104704189-08-TX
U.S. Army Corps of Engineers	N/A
State of Utah	CA16400
Commonwealth of Virginia	00013
State of Washington	C1285
State of Wisconsin	998036160
State of Wyoming	8TMS-Q

### SUBCONTRACT ORDER

# TestAmerica Irvine IRL1714



**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: CA - CALIFORNIA

Receipt Temperature: 1.4 °C

Ice: (Y)/ N

Analysis	Units	Due	Expires	Comments
Sample ID: IRL1714-01	Water		Sampled: 12/15/08 11;	30
1613-Dioxin-HR-Alta	ug/l	12/22/08	12/22/08 11:30	J flags,17 congeners,no
EDD + Level 4	N/A	12/22/08	01/12/09 11:30	TEQ,ug/L,sub=Vista Excel EDD email to pm,Include Std logs for LvI IV
Containers Supplied:				
1 L Amber (C)	1 L Amber (D)			

Released By

Program: 31288

Date/Time

Date/Time

Received By

Received

Date/Time

Date/Time

Page 109f217

# SAMPLE LOG-IN CHECKLIST



Vista Project #:	31265	<u> </u>			1	AT	5 a	lay .	2_
	Date/Time		Initials:		Loc	ation	:   ./	72	
Samples Arrival:	12/17/08 0918 C/ Shelf/Rac						ck: <u>/</u>	VA	
Logged In:	Date/Time	8 0935	Initials:	_/		ation elf/Rad	ال	l-2 -3	
Delivered By:	FedEx	UPS	Cal	DHI	-		ind rered	Oth	ner
Preservation:	lce	ВІ	ue Ice	Dı	ry Ice	!		None	
Temp °C		Time:	[7]		The	rmon	neter II	): IR-	2 ,
							1/=-	/	
the first state of the second of the		/ N	(7)	100			YES	NO	NA
Adequate Sample \	Volume Rece	ived? ( A	100	PPICS	<u>)</u>			/_	
Holding Time Acce	ptable?						-	<u>/</u>	
Shipping Container(s) Intact?								/	
Shipping Custody Seals Intact?							$\checkmark$	/	
Shipping Documen	<u>itatio</u> n Presen	it?		,				/	
Airbill Trk # 796 9099 8504									
Sample Container Intact?									
Sample Custody Seals Intact?									
Chain of Custody / Sample Documentation Present?									
COC Anomaly/Sample Acceptance Form completed?									
If Chlorinated or Dr	inking Water	Samples, Acc	ceptable Pre	servatio	n?				V
Na₂S₂O₃ Preservat	ion Documen	ted?	coc			nple ainer		None	
Shipping Container		Vista	Client	Reta	ain	Re	turn	Disp	ose
Comments:									

# **APPENDIX G**

# **Section 3**

Outfall 004 - BMP Effectiveness, December 15, 2008 Test America Analytical Laboratory Report



### LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing Project: BMP Effectiveness

618 Michillinda Avenue, Suite 200 Monitoring Program

Arcadia, CA 91007

Attention: Bronwyn Kelly
Sampled: 12/15/08
Received: 12/16/08

Issued: 12/29/08 14:48

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

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

This entire report was reviewed and approved for release.

#### SAMPLE CROSS REFERENCE

LABORATORY ID	CLIENT ID	MATRIX
IRL1894-01	004 EFF-1	Water
IRL1894-02	004 EFF-2	Water
IRL1894-03	004 EFF-3	Water
IRL1894-04	004 EFF-4	Water
IRL1894-05	004 EFF-5	Water
IRL1894-06	004 EFF-6	Water
IRL1894-07	004 EFF-7	Water
IRL1894-08	004 EFF-8	Water
IRL1894-09	004 EFF-9	Water

Reviewed By:

**TestAmerica Irvine** 

Joseph Dock

Joseph Doak Project Manager



618 Michillinda Avenue, Suite 200

Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: BMP Effectiveness

Monitoring Program

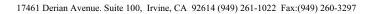
Report Number: IRL1894

Sampled: 12/15/08 Received: 12/16/08

**INORGANICS** 

		1111	JNOA	NICS						
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
Sample ID: IRL1894-01 (004 EFF-1 - W Reporting Units: g/cc	Vater)									
Density	Displacement	8L26049	N/A	NA	0.93	1	12/26/08	12/26/08		
Sample ID: IRL1894-02 (004 EFF-2 - W Reporting Units: g/cc	Vater)									
Density	Displacement	8L26049	N/A	NA	0.96	1	12/26/08	12/26/08		
Sample ID: IRL1894-03 (004 EFF-3 - W Reporting Units: g/cc										
Density	Displacement	8L26049	N/A	NA	0.94	1	12/26/08	12/26/08		
Sample ID: IRL1894-04 (004 EFF-4 - W Reporting Units: g/cc										
Density	Displacement	8L26049	N/A	NA	0.93	1	12/26/08	12/26/08		
Sample ID: IRL1894-05 (004 EFF-5 - W Reporting Units: g/cc										
Density	Displacement	8L26049	N/A	NA	0.94	1	12/26/08	12/26/08		
Sample ID: IRL1894-06 (004 EFF-6 - W Reporting Units: g/cc	Vater)									
Density	Displacement	8L26049	N/A	NA	0.95	1	12/26/08	12/26/08		
Sample ID: IRL1894-07 (004 EFF-7 - W Reporting Units: g/cc	Vater)									
Density	Displacement	8L26049	N/A	NA	0.95	1	12/26/08	12/26/08		
Sample ID: IRL1894-08 (004 EFF-8 - Water) Reporting Units: g/cc										
Density	Displacement	8L26049	N/A	NA	0.94	1	12/26/08	12/26/08		
Sample ID: IRL1894-09 (004 EFF-9 - W Reporting Units: g/cc	Vater)									
Density	Displacement	8L26049	N/A	NA	0.94	1	12/26/08	12/26/08		
Sample ID: IRL1894-01 (004 EFF-1 - W Reporting Units: mg/l	Vater)									
Sediment	ASTM D3977	8L29067	10	10	27	1	12/29/08	12/29/08		

#### **TestAmerica Irvine**





Attention: Bronwyn Kelly

618 Michillinda Avenue, Suite 200

Arcadia, CA 91007

Project ID: BMP Effectiveness

Monitoring Program

Report Number: IRL1894

Sampled: 12/15/08 Received: 12/16/08

#### **INORGANICS**

			711011	1100					
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL1894-02 (004 EFF-2 - W	ater)								
Reporting Units: mg/l									
Sediment	ASTM D3977	8L29067	10	10	14	1	12/29/08	12/29/08	
Sample ID: IRL1894-03 (004 EFF-3 - W	ater)								
Reporting Units: mg/l									
Sediment	ASTM D3977	8L29067	10	10	12	1	12/29/08	12/29/08	
Sample ID: IRL1894-04 (004 EFF-4 - W	ater)								
Reporting Units: mg/l									
Sediment	ASTM D3977	8L29067	10	10	15	1	12/29/08	12/29/08	
Sample ID: IRL1894-05 (004 EFF-5 - W	ater)								
Reporting Units: mg/l									
Sediment	ASTM D3977	8L29067	10	10	16	1	12/29/08	12/29/08	
Sample ID: IRL1894-06 (004 EFF-6 - W	ater)								
Reporting Units: mg/l		07.000.5	4.0	4.0			10/00/00	10/00/00	
Sediment	ASTM D3977	8L29067	10	10	14	1	12/29/08	12/29/08	
Sample ID: IRL1894-07 (004 EFF-7 - W	ater)								
Reporting Units: mg/l	4 CEN 4 D2077	01.2007	10	10	NID		12/20/00	12/20/00	
Sediment	ASTM D3977	8L29067	10	10	ND	1	12/29/08	12/29/08	
Sample ID: IRL1894-08 (004 EFF-8 - W	ater)								
Reporting Units: mg/l Sediment	A CTM D2077	8L29067	10	10	ND	1	12/20/09	12/20/09	
Sediment	ASTM D3977	8L29067	10	10	ND	1	12/29/08	12/29/08	
Sample ID: IRL1894-09 (004 EFF-9 - W	ater)								
Reporting Units: mg/l Sediment	ASTM D3977	8L29067	10	10	17	1	12/29/08	12/29/08	
Scument	ASTWIDS9//	0L2900/	10	10	1/	1	12/29/08	14/49/08	



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MWH-Pasadena/Boeing

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Arcadia, CA 91007

Attention: Bronwyn Kelly

Project ID: BMP Effectiveness

Monitoring Program

Report Number: IRL1894

Sampled: 12/15/08

Received: 12/16/08

### METHOD BLANK/QC DATA

#### **INORGANICS**

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L26049 Extracted: 12/26/08	-										
Duplicate Analyzed: 12/26/2008 (8L2604)	9-DUP1)				Sou	rce: IRL	1894-01				
Density	0.924	NA	N/A	g/cc		0.928			0	20	
Duplicate Analyzed: 12/26/2008 (8L2604)	9-DUP2)				Sou	rce: IRL	1893-01				
Density	0.941	NA	N/A	g/cc		0.942			0	20	



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MWH-Pasadena/Boeing

618 Michillinda Avenue, Suite 200

Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: BMP Effectiveness

Monitoring Program

Sampled: 12/15/08 Report Number: IRL1894 Received: 12/16/08

### 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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MWH-Pasadena/Boeing Project ID: BMP Effectiveness

Monitoring Program Sampled: 12/15/08

Report Number: IRL1894 Received: 12/16/08

Attention: Bronwyn Kelly

Arcadia, CA 91007

618 Michillinda Avenue, Suite 200

### **Certification Summary**

#### **TestAmerica Irvine**

Displacement

Method	Matrix	Nelac	California
ASTM D3977	Water		

Water

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

Test America Version 12/20/07	Yersion	12/20/07		CHAIN OF CUSTODY FORM	OF CUS	TOD	Y FC	RM			IRU89	346	Page 1 of 1	
Client Name/Address:	ss:			Project: Boeing BMP	ng BMP					A	ANALYSIS REQUIRĖD	QUIRÉD		
MWH-Arcadia	:	Ç.		Effectiveness Monitoring	s Monitorinç	<b>~</b>							Field recodings:	-
618 Michilinda Avenue, Suite 200 Arcadia, CA 91007	Je, Sulte z	00					-MT8					Temi	Temp = NA	
Test America Contact: Joseph Doak	:: Joseph I	Doak					jne A ,C					=		
Project Manager: Bronwyn Kelly	Sronwyn	Kelly		Phone Number:	9r:		mibe					AN II	NA NA	
Sampler: R Banaga	er.			(626) 568-6531 Fax Number: (626) 568-6515	- 2		ended Se entration 7-1997)					Time	Time of readings = NA	
Sample Sample Description Matrix		Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Conc							
	500	1	+	1	None	1	×							
	500 mL Poly	L Poly			None	2	×							
	500 mL Poly	L Poly			None	<sub>د</sub>	×							
	500 mL Poly	L Poly		12/15/08-0700	None	4	×;							
004 EFF-5 W	500 mL Poly	L Poly	- -	12/15/08-0800	None	ဂ ဖ	× >						Manager .	
	500 ml Poly	L Puly	+	12/15/08-1000	None	0 1	< >							T
	500 ml Poly	Poly	-	12/15/08-1100	None	- a	< ×							T
	500 ml Poly	Poly	+		None	σ	<×							
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														7

# **APPENDIX G**

# **Section 4**

Outfall 006, November 26, 2008 MEC<sup>X</sup> Data Validation Reports



# DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IRK2828

Prepared by

MEC<sup>X</sup>, LP 12269 East Vassar Drive Aurora, CO 80014 DATA VALIDATION REPORT SSFL NPDES

SSFL NPDES
SDG: IRK2828

#### I. INTRODUCTION

Task Order Title: Boeing SSFL NPDES

Contract Task Order: 1261.100D.00

Sample Delivery Group: IRK2828
Project Manager: B. Kelly

Matrix: Water

QC Level: IV No. of Samples: 1

No. of Reanalyses/Dilutions: 0

Laboratory: TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 006	IRK2828-01	F8L030234-001, D8K290116-001, 31223-001	Water	11/26/08 1330	245.1, 900.0, 901.1, 903.1, 904.0, 905.0, 906.0, 1613B, ASTM 5174-91

### II. Sample Management

No anomalies were observed regarding sample management. The samples were received at TestAmerica-Irvine above the temperature limit; however, the sample had insufficient time to cool during transport. The samples were received at TestAmerica-Denver and Vista below the temperature limit; however, the samples were not noted to be damaged or frozen. The samples were received at TestAmerica-St. Louis within the temperature limits. According to the case narrative for this SDG, the samples were received intact at all laboratories; however, a note on the TestAmerica-St. Louis sample receipt form indicated that the container leaked after receipt. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the sample was couriered to TestAmerica-Irvine, custody seals were not required. Custody seals were intact upon arrival at TestAmerica-St. Louis, TestAmerica-Denver, and Vista. If necessary, the client ID was added to the sample result summary by the reviewer.

DATA VALIDATION REPORT Project: SSFL NPDES SDG: IRK2828

### **Data Qualifier Reference Table**

Qualifier	Organics	Inorganics
	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.
	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.
	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
	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.
:	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 VALIDATION REPORT Project: SSFL NPDES SDG: IRK2828

### **Qualification Code 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.
1	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
Α	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	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.

3

DATA VALIDATION REPORTProject:SSFL NPDESSDG:IRK2828

### **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.
Р	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.
*  , *	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.

DATA VALIDATION REPORT SSFL NPDES
SSFL NPDES
SDG: IRK2828

#### III. Method Analyses

#### A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: E. Wessling

Date Reviewed: December 29, 2008

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

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.
- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.
  - OC 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.
  - o Initial Calibration: Initial calibration criteria were met. The initial calibration was acceptable with %RSDs ≤20% for the 16 native compounds (calibration by isotope dilution) and ≤35% for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the Method 1613 QC limits for all standards.
  - Continuing Calibration: Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VERs were acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits.
- Blanks: The method blank had no target compound detects above the EDL with the exception of an EMPC peak within the HpCDD window. The peak was reported as a total

5

DATA VALIDATION REPORT SSFL NPDES
SSFL NPDES
SDG: IRK2828

HpCDD. This same EMPC peak was present in the site sample. This peak was qualified as an estimated nondetect, "UJ."

- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria listed in Table 6 of Method 1613 for the OPR-1751.
- 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 METHOD 245.1—Metals and Mercury

Reviewed By: P. Meeks

Date Reviewed: December 12, 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 Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Method 245.1, and the National Functional Guidelines for Inorganic Data Review (10/04).

- Holding Times: The analytical holding time, 28 days for mercury, was met.
- Tuning: Not applicable to this method.
- Calibration: Calibration criteria were met. The mercury initial calibration r<sup>2</sup> value was ≥0.995 and all initial and continuing calibration recoveries were within 85-115%. The CRA

Project: SSFL NPDES

DATA VALIDATION REPORT SDG: IRK2828

and check standard was recovered below the control limit of 70-130%, at 68.5%; therefore, nondetected total and dissolved mercury in the sample were qualified as estimated, "UJ."

- Blanks: There were no applicable detects in the method blanks or CCBs.
- Interference Check Samples: Not applicable to this method.
- Blank Spikes and Laboratory Control Samples: The recovery was within the laboratoryestablished QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy was evaluated based on LCS results.
- Serial Dilution: No serial dilution analyses were performed on the sample in this SDG.
- Internal Standards Performance: Not applicable to this method.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summaries 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.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
  - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
  - Field Duplicates: There were no field duplicate samples identified for this SDG.

#### C. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks

Date Reviewed: January 13, 2009

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 (07/02).

DATA VALIDATION REPORT SSFL NPDES
SSFL NPDES
SDG: IRK2828

 Holding Times: The tritium sample was analyzed within 180 days of collection. All remaining aliquots were prepared beyond the five-day holding time for unpreserved samples; therefore, results for all analytes except tritium 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, gross alpha detected in the sample was qualified as estimated, "J." The remaining detector efficiencies were greater than 20%.

The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. The strontium-90, radium-226 and radium-228 chemical yields were greater than 50% and considered acceptable. The gamma spectroscopy analytes were determined at the maximum photopeak energy. The kinetic phosphorescence analyzer (KPA) was calibrated immediately prior to the sample analysis. All KPA calibration check standard recoveries were within 90-110% and were deemed acceptable.

- Blanks: There were no analytes detected in the method blanks or KPA CCBs.
- Blank Spikes and Laboratory Control Samples: All recoveries and the radium-226, radium-228, and strontium-90 RPDs were within the laboratory-established control limits.
- Laboratory Duplicates: Laboratory duplicate analyses were performed on the sample in this SDG for gross alpha, gross beta, tritium, cesium-137 and potassium-40. All RPDs were within the laboratory-established control limits. Method precision was evaluated based on LCS/LCSD results for radium-226, radium-228, and strontium-90.
- Matrix Spike/Matrix Spike Duplicate: Matrix spike or MS/MSD analyses were performed on the sample in this SDG for gross alpha and gross beta. The recoveries were within the laboratory-established control limits. The recovery was within the laboratory-established control limits. Method accuracy for the remaining analytes was evaluated based on LCS/LCSD 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. 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 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:

DATA VALIDATION REPORT SSFL NPDES

SSFL NPDES
SDG: IRK2828

 Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

o Field Duplicates: There were no field duplicate samples identified for this SDG.

9

Client Data		3	Sample D	Sample Data		Laboratory Data		ľ		
ed:	Test Ameri IRK2828 26-Nov-08 1330	RK2828 26-Nov-08		Matrix: Sample Size:	Aqueous 0.999 L	Lab Sample: QC Batch No.: Date Analyzed DB-5:	31223-001 1751 11-Dec-08	Date Received: Date Extracted: Date Analyzed E	Date Received: Date Extracted: Date Analyzed DB-225:	29-Nov-08 9-Dec-08 NA
Analyte	Conc.	(ug/L)	DF a	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	dard	%R	rcrncr <sub>q</sub>	Oualifiers
2,3,7,8-TCDD	N N	3	0.00000111	11		IS 13C-2,3,7,8-TCDD	DD	81.5	25 - 164	
1,2,3,7,8-PeCDD	ND		0.00000217	17		13C-1,2,3,7,8-PeCDD	eCDD	71.9	25 - 181	
1,2,3,4,7,8-HxCDD	S		0.00000381	31		13C-1,2,3,4,7,8-HxCDD	-HxCDD	73.0	32 - 141	
1,2,3,6,7,8-HxCDD	S	_	0.00000339	68		13C-1,2,3,6,7,8-HxCDD	-HxCDD	79.4	28 - 130	
1,2,3,7,8,9-HxCDD	S		0.00000333	13		13C-1,2,3,4,6,7,8-HpCDD	,8-HpCDD	81.6	23 - 140	
1,2,3,4,6,7,8-HpCDD	R	÷	0.0000111	ens:		13C-0CDD		0.99	17 - 157	
OCDD	0.000	0.0000502				13C-2,3,7,8-TCDF	DF	83.5	24 - 169	
2,3,7,8-TCDF	ND	さ	0.000000852	52		13C-1,2,3,7,8-PeCDF	eCDF	72.7	24 - 185	
1,2,3,7,8-PeCDF	S	-	0.00000129	6		13C-2,3,4,7,8-PeCDF	eCDF	72.0	21 - 178	
2,3,4,7,8-PeCDF	ND	_	0.00000145	5		13C-1,2,3,4,7,8-HxCDF	-HxCDF	72.1	26 - 152	
1,2,3,4,7,8-HxCDF	ND	_	0.00000092	21		13C-1,2,3,6,7,8-HxCDF	-HxCDF	70.1	26 - 123	
1,2,3,6,7,8-HxCDF	N		0.00000105	5		13C-2,3,4,6,7,8-HxCDF	-HxCDF	71.8	28 - 136	
2,3,4,6,7,8-HxCDF	S		0.00000106	9		13C-1,2,3,7,8,9-HxCDF	-HxCDF	75.9	29 - 147	
1,2,3,7,8,9-HxCDF	Q.	_	0.00000142	2		13C-1,2,3,4,6,7,8-HpCDF	8-HpCDF	69.2	28 - 143	
1,2,3,4,6,7,8-HpCDF	S		0.00000184	4		13C-1,2,3,4,7,8,9-HpCDF	9-HpCDF	75.0	26 - 138	
1,2,3,4,7,8,9-HpCDF	N		0.00000240	0		13C-OCDF		66.3	17 - 157	
OCDF	N	7	0.00000491			CRS 37Cl-2,3,7,8-TCDD	DD	87.5	35 - 197	
Totals						Footnotes				
Total TCDD	ND	2	0.00000163	2		a. Sample specific estimated detection limit.	d detection limit.			
Total PeCDD	N	_	0.00000217	7		b. Estimated maximum possible concentration.	sible concentration.			
Total HxCDD	ND ND	7	0.00000351			c. Method detection limit.				
Total HpCDD	ND	42/8/2n	-	0.00000833	33	d. Lower control limit - upper control limit.	per control limit,			
Total TCDF	ND	5	0.000000852	52						
Total PeCDF	ND	_	0.00000137	1						
Total HxCDF	S		0.00000110							
Total HpCDF	ND	<b>→</b>	0.00000209							

LEVEL IV

Analyst: MAS

Approved By: William J. Luksemburg 12-Dec-2008 10:50

Project 31223



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: Semi-Annual Outfall 006

Report Number: IRK2828

Sampled: 11/26/08

Received: 11/26/08

#### **MCAWW 245.1**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRK2828-01 (Outfall 00	6 - Water) - cont.								
Reporting Units: ug/L									
Mercury UJ/XIII	MCAWW 245.1	8336128	0.027	0.2	ND	1	12/01/08	12/01/08	

# **LEVEL IV**

TestAmerica Irvine

Joseph Doak Project Manager



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

MWH-Pasadena/Boeing

Project ID: Semi-Annual Outfall 006

618 Michillinda Avenue, Suite 200

Sampled: 11/26/08

Arcadia, CA 91007 Attention: Bronwyn Kelly Report Number: IRK2828

Received: 11/26/08

#### MCAWW 245.1 Diss

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRK2828-01 (Outfall 006	6 - Water) - cont.					*			
Reporting Units: ug/L Mercury-diss	MCAWW 245.1 Diss 8	3336136	0.027	0.2	ND	1	12/01/08	12/01/08	

# LEVEL IV

TestAmerica Irvine

Joseph Doak Project Manager

#### TestAmerica Irvine

#### Client Sample ID: IRK2828-01

Radiochemistry

OUTFALL 006

Work Order:

Matrix:

Lab Sample ID: F8L030234-001

K3089 WATER Date Collected:

Date Received:

11/26/08 1330 11/29/08 0915

Parameter	Result	Qual	Total Uncert. (2 g+/-)	RL	mdc	Prep Date	Analysis Date
Gamma Cs-137 & Hits	by EPA 901.1 1	MOD		pCi/L	Batch #	8344329	Yld %
Cesium 137 UJ/H	1.1	σ	5.3	20.0	10	12/09/08	12/21/08
Potassium 40 ↓ ↓	-100	σ -	3100		300	12/09/08	12/21/08
Gross Alpha/Beta EPA	900	2	20	pCi/L	Batch f	8339115	Yld %
Gross Alpha J./H,C	2.9	J	1.2	3.0	1.1	12/04/08	12/07/08
Gross Beta J./H	8.1		1.5	4.0	1.6	12/04/08	12/07/08
Radium 226 by EPA 9	03.0 MOD		30	pCi/L	Batch #	8338402	Yld % 62
Radium (226) J/H	0.119	<b>J</b> , 755 5 55	0.074	1.00	0.091	12/03/08	12/26/08
Radium 228 by GFPC E			e e sa e	pCi/L		8338404	Yld % 46
Radium 228	0.41	U .	0.69	1.00	1.2	12/03/08	12/24/08
TRITIUM (Distill) by	EPA 906.0 MOI	D		pCi/L	Batch #	8352094	Yld %
Tritium U	50	σ	170	500	290	12/17/08	12/19/08
SR-90 BY GFPC EPA-9	05 MOD			pCi/L	Batch i	8338424	Yld % 51
Strontium 90 UJ/H	0.33	σ	0.28	3.00	0.44	12/03/08	12/15/08
Total Uranium by KPA	ASTM 5174-91			pCi/L	Batch f	8345026	Yld %

NOTE (S)

Data are incomplete without the case narrative.

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

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

# **APPENDIX G**

# **Section 5**

Outfall 006, November 26, 2008
Test America Analytical Laboratory Report



#### LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing Project: Semi-Annual Outfall 006

618 Michillinda Avenue, Suite 200

Arcadia, CA 91007

Attention: Bronwyn Kelly Sampled: 11/26/08

Received: 11/26/08

Issued: 01/29/09 13:19

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

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

This entire report was reviewed and approved for release.

#### SAMPLE CROSS REFERENCE

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

ADDITIONAL

INFORMATION: This report has been revised to correct the Total Uranium units to pCi/L per client request (the original

incorrect report from TestAmerica St. Louis Laboratory has been removed).

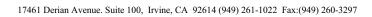
LABORATORY ID CLIENT ID MATRIX
IRK2828-01 Outfall 006 Water

Reviewed By:

**TestAmerica Irvine** 

Trupti Mistry For Joseph Doak Project Manager

history





Attention: Bronwyn Kelly

Project ID: Semi-Annual Outfall 006

Sampled: 11/26/08

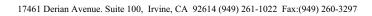
618 Michillinda Avenue, Suite 200 Arcadia, CA 91007

Report Number: IRK2828

Received: 11/26/08

#### **METALS**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRK2828-01 (Outfall 006	- Water)								
Reporting Units: ug/l									
Antimony	EPA 200.8	8L03086	0.20	2.0	0.37	1	12/03/08	12/06/08	J
Cadmium	EPA 200.8	8L03086	0.11	1.0	0.22	1	12/03/08	12/06/08	J
Copper	EPA 200.8	8L03086	0.75	2.0	2.7	1	12/03/08	12/06/08	В
Lead	EPA 200.8	8L03086	0.30	1.0	1.5	1	12/03/08	12/06/08	
Thallium	EPA 200.8	8L03086	0.20	1.0	ND	1	12/03/08	12/06/08	





618 Michillinda Avenue, Suite 200

Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Semi-Annual Outfall 006

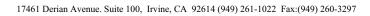
Sampled: 11/26/08

Report Number: IRK2828

Received: 11/26/08

#### **DISSOLVED METALS**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRK2828-01 (Outfall 006 - V	Vater) - cont.								
Reporting Units: ug/l									
Antimony	EPA 200.8-Diss	8L03087	0.20	2.0	0.36	1	12/03/08	12/07/08	J
Cadmium	EPA 200.8-Diss	8L03087	0.11	1.0	0.36	1	12/03/08	12/07/08	J
Copper	EPA 200.8-Diss	8L03087	0.75	2.0	1.1	1	12/03/08	12/07/08	J
Lead	EPA 200.8-Diss	8L03087	0.30	1.0	ND	1	12/03/08	12/07/08	
Thallium	EPA 200.8-Diss	8L03087	0.20	1.0	ND	1	12/03/08	12/07/08	





618 Michillinda Avenue, Suite 200 Report Number: IRK2828

Attention: Bronwyn Kelly

Arcadia, CA 91007

Project ID: Semi-Annual Outfall 006

Sampled: 11/26/08

Received: 11/26/08

#### **INORGANICS**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRK2828-01 (Outfall 006 -	Water) - cont.								
Reporting Units: mg/l									
Hexane Extractable Material (Oil &	EPA 1664A	8L09056	1.4	4.9	2.9	1	12/09/08	12/09/08	J
Grease)									
Chloride	EPA 300.0	8K26165	5.0	10	44	20	11/26/08	11/27/08	
Nitrate/Nitrite-N	EPA 300.0	8K26165	3.0	5.2	6.4	20	11/26/08	11/27/08	
Sulfate	EPA 300.0	8K26165	0.20	0.50	47	1	11/26/08	11/27/08	
<b>Total Dissolved Solids</b>	SM2540C	8L01069	10	10	280	1	12/01/08	12/01/08	
Sample ID: IRK2828-01 (Outfall 006 -	Water)								
Reporting Units: ug/l									
Perchlorate	EPA 314.0	8L03056	0.90	4.0	ND	1	12/03/08	12/03/08	



MWH-Pasadena/Boeing

618 Michillinda Avenue, Suite 200

Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Semi-Annual Outfall 006

Sampled: 11/26/08

Report Number: IRK2828 Received: 11/26/08

### **DIOXIN (EPA 1613)**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result		Date Extracted	Date Analyzed	Data Qualifiers
•		240011		2	1105411	1 40101	2300 0000	1111117204	<b>C</b>
Sample ID: IRK2828-01 (Outfall 000	6 - Water) - cont.								
Reporting Units: ug/L	1612 D' ' IID A1	1751	0.0000011	10.00000501	NID		12/00/00	10/11/00	
2,3,7,8-TCDD	1613-Dioxin-HR Alta	1751		10.00000501	ND	1	12/09/08	12/11/08	
1,2,3,7,8-PeCDD	1613-Dioxin-HR Alta	1751		70.0000250	ND	1	12/09/08	12/11/08	
1,2,3,4,7,8-HxCDD	1613-Dioxin-HR Alta	1751		310.0000250	ND	1	12/09/08	12/11/08	
1,2,3,6,7,8-HxCDD	1613-Dioxin-HR Alta	1751		90.0000250	ND	1	12/09/08	12/11/08	
1,2,3,7,8,9-HxCDD	1613-Dioxin-HR Alta	1751		30.0000250	ND	1	12/09/08	12/11/08	
1,2,3,4,6,7,8-HpCDD	1613-Dioxin-HR Alta	1751		1 0.0000250	ND	1	12/09/08	12/11/08	
OCDD	1613-Dioxin-HR Alta	1751		50.0000501			12/09/08	12/11/08	
2,3,7,8-TCDF	1613-Dioxin-HR Alta	1751		5D.00000501	ND	1	12/09/08	12/11/08	
1,2,3,7,8-PeCDF	1613-Dioxin-HR Alta	1751		90.0000250	ND	1	12/09/08	12/11/08	
2,3,4,7,8-PeCDF	1613-Dioxin-HR Alta	1751		50.0000250	ND	1	12/09/08	12/11/08	
1,2,3,4,7,8-HxCDF	1613-Dioxin-HR Alta	1751		210.0000250	ND	1	12/09/08	12/11/08	
1,2,3,6,7,8-HxCDF	1613-Dioxin-HR Alta	1751		50.0000250	ND	1	12/09/08	12/11/08	
2,3,4,6,7,8-HxCDF	1613-Dioxin-HR Alta	1751		60.0000250	ND	1	12/09/08	12/11/08	
1,2,3,7,8,9-HxCDF	1613-Dioxin-HR Alta	1751		20.0000250	ND	1	12/09/08	12/11/08	
1,2,3,4,6,7,8-HpCDF	1613-Dioxin-HR Alta	1751		40.0000250	ND	1	12/09/08	12/11/08	
1,2,3,4,7,8,9-HpCDF	1613-Dioxin-HR Alta	1751		4 0.0000250	ND	1	12/09/08	12/11/08	
OCDF	1613-Dioxin-HR Alta	1751		10.0000501	ND	1	12/09/08	12/11/08	
Total TCDD	1613-Dioxin-HR Alta	1751		10.00000501	ND	1	12/09/08	12/11/08	
Total PeCDD	1613-Dioxin-HR Alta	1751		7 0.0000250	ND	1	12/09/08	12/11/08	
Total HxCDD	1613-Dioxin-HR Alta	1751		3 0.0000250	ND	1	12/09/08	12/11/08	
Total HpCDD	1613-Dioxin-HR Alta	1751		0.0000250	ND	1	12/09/08	12/11/08	
Total TCDF	1613-Dioxin-HR Alta	1751		20.00000501	ND	1	12/09/08	12/11/08	
Total PeCDF	1613-Dioxin-HR Alta	1751		9 0.0000250	ND	1	12/09/08	12/11/08	
Total HxCDF	1613-Dioxin-HR Alta	1751		10.0000250	ND	1	12/09/08	12/11/08	
Total HpCDF	1613-Dioxin-HR Alta	1751	.0000018	4 0.0000250	ND	1	12/09/08	12/11/08	
Surrogate: 13C-2,3,7,8-TCDD (25-16					81.5 %				
Surrogate: 13C-1,2,3,7,8-PeCDD (25					71.9 %				
Surrogate: 13C-1,2,3,4,7,8-HxCDD (					73 %				
Surrogate: 13C-1,2,3,6,7,8-HxCDD (					79.4 %				
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0 (23-140%)				81.6 %				
Surrogate: 13C-OCDD (17-157%)					66 %				
Surrogate: 13C-2,3,7,8-TCDF (24-16	<i>(9%)</i>				83.5 %				
Surrogate: 13C-1,2,3,7,8-PeCDF (24	· ·				72.7 %				
Surrogate: 13C-2,3,4,7,8-PeCDF (21					72 %				
Surrogate: 13C-1,2,3,4,7,8-HxCDF (2					72.1 %				
Surrogate: 13C-1,2,3,6,7,8-HxCDF (2					70.1 %				
Surrogate: 13C-2,3,4,6,7,8-HxCDF (2					71.8 %				
Surrogate: 13C-1,2,3,7,8,9-HxCDF (2	· ·				75.9 %				
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF					69.2 %				
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	(26-138%)				75 %				
Surrogate: 13C-OCDF (17-157%)					66.3 %				

#### **TestAmerica Irvine**

Trupti Mistry For Joseph Doak Project Manager



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

MWH-Pasadena/Boeing Project ID: Semi-Annual Outfall 006

618 Michillinda Avenue, Suite 200 Sampled: 11/26/08

Arcadia, CA 91007 Report Number: IRK2828 Received: 11/26/08

Attention: Bronwyn Kelly

#### **DIOXIN (EPA 1613)**

MDL Reporting Sample Dilution Date Data

Analyte Method Batch Limit Limit Result Factor Extracted Analyzed Qualifiers

Sample ID: IRK2828-01 (Outfall 006 - Water) - cont.

Reporting Units: ug/L

Surrogate: 37Cl-2,3,7,8-TCDD (35-197%) 87.5 %



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

MWH-Pasadena/Boeing Project ID: Semi-Annual Outfall 006

618 Michillinda Avenue, Suite 200
Arcadia, CA 91007

Report Number: IRK2828

Sampled: 11/26/08
Received: 11/26/08

Attention: Bronwyn Kelly

#### **MCAWW 245.1**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRK2828-01 (Outfall 006 -	Water) - cont.								
Reporting Units: ug/L Mercury	MCAWW 245.1	8336128	0.027	0.2	ND	1	12/01/08	12/01/08	



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MWH-Pasadena/Boeing

618 Michillinda Avenue, Suite 200

Arcadia, CA 91007

Attention: Bronwyn Kelly

Project ID: Semi-Annual Outfall 006

Sampled: 11/26/08

Report Number: IRK2828 Received: 11/26/08

#### MCAWW 245.1 Diss

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRK2828-01 (Outfall 006	- Water) - cont.								
Reporting Units: ug/L Mercury-diss	MCAWW 245.1 Diss	8336136	0.027	0.2	ND	1	12/01/08	12/01/08	



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: Semi-Annual Outfall 006

Sampled: 11/26/08

Report Number: IRK2828

Received: 11/26/08

### SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 006 (IRK2828-01) - Water	er				
EPA 300.0	2	11/26/2008 13:30	11/26/2008 20:45	11/26/2008 22:00	11/27/2008 04:43



618 Michillinda Avenue, Suite 200

Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Semi-Annual Outfall 006

Sampled: 11/26/08

Report Number: IRK2828 Received: 11/26/08

# METHOD BLANK/QC DATA

### **METALS**

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC	RPD	RPD Limit	Data Qualifiers
Batch: 8L03086 Extracted: 12/03/08	_										-
DI 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	. 774										
Blank Analyzed: 12/08/2008 (8L03086-Bl				_							
Antimony	ND	2.0	0.20	ug/l							
Cadmium	ND	1.0	0.11	ug/l							
Copper	1.45	2.0	0.75	ug/l							J
Lead	ND	1.0	0.30	ug/l							
Thallium	ND	1.0	0.20	ug/l							
LCS Analyzed: 12/06/2008-12/08/2008 (8	L03086-BS1)	)									
Antimony	79.9	2.0	0.20	ug/l	80.0		100	85-115			
Cadmium	78.8	1.0	0.11	ug/l	80.0		98	85-115			
Copper	75.8	2.0	0.75	ug/l	80.0		95	85-115			
Lead	78.9	1.0	0.30	ug/l	80.0		99	85-115			
Thallium	79.4	1.0	0.20	ug/1	80.0		99	85-115			
Matrix Spike Analyzed: 12/06/2008 (8L0)	3086-MS1)				Sou	rce: IRK	2649-01				
Antimony	82.2	2.0	0.20	ug/l	80.0	0.520	102	70-130			
Cadmium	77.9	1.0	0.11	ug/l	80.0	ND	97	70-130			
Copper	81.1	2.0	0.75	ug/l	80.0	1.49	99	70-130			
Lead	76.8	1.0	0.30	ug/l	80.0	ND	96	70-130			
Thallium	78.4	1.0	0.20	ug/1	80.0	0.227	98	70-130			
Matrix Spike Analyzed: 12/06/2008 (8L0)	3086-MS2)				Sou	rce: IRK	2879-04				
Antimony	83.8	2.0	0.20	ug/l	80.0	0.362	104	70-130			
Cadmium	76.6	1.0	0.11	ug/l	80.0	0.791	95	70-130			
Copper	91.4	2.0	0.75	ug/l	80.0	3.23	110	70-130			
Lead	76.4	1.0	0.30	ug/l	80.0	2.29	93	70-130			
Thallium	76.6	1.0	0.20	ug/1	80.0	0.232	95	70-130			
Matrix Spike Dup Analyzed: 12/06/2008	(8L03086-M	SD1)			Sou	rce: IRK	2649-01				
Antimony	84.8	2.0	0.20	ug/l	80.0	0.520	105	70-130	3	20	
Cadmium	79.7	1.0	0.11	ug/l	80.0	ND	100	70-130	2	20	
Copper	81.0	2.0	0.75	ug/l	80.0	1.49	99	70-130	0	20	
Lead	77.2	1.0	0.30	ug/l	80.0	ND	97	70-130	1	20	
Thallium	78.8	1.0	0.20	ug/l	80.0	0.227	98	70-130	1	20	

### **TestAmerica Irvine**



618 Michillinda Avenue, Suite 200

Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Semi-Annual Outfall 006

Sampled: 11/26/08

Report Number: IRK2828 Received: 11/26/08

# 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: 8L03087 Extracted: 12/03/08											
	_										
Blank Analyzed: 12/06/2008 (8L03087-B	LK1)										
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: 12/06/2008 (8L03087-BS	1)										
Antimony	85.8	2.0	0.20	ug/l	80.0		107	85-115			
Cadmium	82.7	1.0	0.11	ug/l	80.0		103	85-115			
Copper	84.8	2.0	0.75	ug/l	80.0		106	85-115			
Lead	79.7	1.0	0.30	ug/l	80.0		100	85-115			
Thallium	82.4	1.0	0.20	ug/l	80.0		103	85-115			
Matrix Spike Analyzed: 12/06/2008 (8L0	3087-MS1)				Sou	rce: IRK	2490-02				
Antimony	84.7	2.0	0.20	ug/l	80.0	0.428	105	70-130			
Cadmium	79.2	1.0	0.11	ug/l	80.0	ND	99	70-130			
Copper	77.4	2.0	0.75	ug/l	80.0	1.01	95	70-130			
Lead	74.9	1.0	0.30	ug/l	80.0	ND	94	70-130			
Thallium	77.4	1.0	0.20	ug/l	80.0	0.201	96	70-130			
Matrix Spike Analyzed: 12/07/2008 (8L0	3087-MS2)				Sou	rce: IRK	2847-01				
Antimony	83.3	2.0	0.20	ug/l	80.0	0.347	104	70-130			
Cadmium	76.8	1.0	0.11	ug/l	80.0	ND	96	70-130			
Copper	76.9	2.0	0.75	ug/l	80.0	1.71	94	70-130			
Lead	71.2	1.0	0.30	ug/l	80.0	ND	89	70-130			
Thallium	73.9	1.0	0.20	ug/l	80.0	0.206	92	70-130			
Matrix Spike Dup Analyzed: 12/06/2008	(8L03087-MS	D1)			Sou	rce: IRK	2490-02				
Antimony	96.7	2.0	0.20	ug/l	80.0	0.428	120	70-130	13	20	
Cadmium	89.9	1.0	0.11	ug/l	80.0	ND	112	70-130	13	20	
Copper	89.0	2.0	0.75	ug/l	80.0	1.01	110	70-130	14	20	
Lead	85.3	1.0	0.30	ug/l	80.0	ND	107	70-130	13	20	
Thallium	88.4	1.0	0.20	ug/l	80.0	0.201	110	70-130	13	20	

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MWH-Pasadena/Boeing

618 Michillinda Avenue, Suite 200

Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Semi-Annual Outfall 006

Sampled: 11/26/08

Report Number: IRK2828

Received: 11/26/08

# METHOD BLANK/QC DATA

### **INORGANICS**

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 8K26165 Extracted: 11/26/08	<u>.</u>										
Blank Analyzed: 11/27/2008 (8K26165-B	LK1)										
Chloride	ND	0.50	0.25	mg/l							
Nitrate/Nitrite-N	ND	0.26	0.15	mg/l							
Sulfate	ND	0.50	0.20	mg/l							
LCS Analyzed: 11/27/2008 (8K26165-BS	1)										
Chloride	4.60	0.50	0.25	mg/l	5.00		92	90-110			
Sulfate	9.39	0.50	0.20	mg/l	10.0		94	90-110			
Matrix Spike Analyzed: 11/27/2008 (8K2	6165-MS1)				Sou	rce: IRK	2828-01				
Chloride	89.3	10	5.0	mg/l	50.0	43.9	91	80-120			
Sulfate	135	10	4.0	mg/l	100	47.0	88	80-120			
Matrix Spike Analyzed: 11/27/2008 (8K2	6165-MS2)				Sou	rce: IRK	2848-01				
Chloride	60.1	10	5.0	mg/l	50.0	13.2	94	80-120			
Sulfate	105	10	4.0	mg/l	100	8.27	97	80-120			
Matrix Spike Dup Analyzed: 11/27/2008	(8K26165-MS	<b>D</b> 1)			Sou	rce: IRK	2828-01				
Chloride	88.7	10	5.0	mg/l	50.0	43.9	89	80-120	1	20	
Sulfate	139	10	4.0	mg/l	100	47.0	92	80-120	2	20	
Batch: 8L01069 Extracted: 12/01/08											
	_										
Blank Analyzed: 12/01/2008 (8L01069-B	LK1)										
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 12/01/2008 (8L01069-BS	1)										
Total Dissolved Solids	996	10	10	mg/l	1000		100	90-110			



618 Michillinda Avenue, Suite 200

Arcadia, CA 91007

Attention: Bronwyn Kelly

Project ID: Semi-Annual Outfall 006

Sampled: 11/26/08

Report Number: IRK2828 Received: 11/26/08

# METHOD BLANK/QC DATA

### **INORGANICS**

Analyte  Batch: 8L01069 Extracted: 12/01/08	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
	-										
<b>Duplicate Analyzed: 12/01/2008 (8L0106</b>	9-DUP1)				Sou	rce: IRK	2818-01				
Total Dissolved Solids	192	10	10	mg/l		195			2	10	
Batch: 8L03056 Extracted: 12/03/08	_										
Blank Analyzed: 12/03/2008 (8L03056-B	LK1)										
Perchlorate	ND	4.0	0.90	ug/l							
LCS Analyzed: 12/03/2008 (8L03056-BS)	n										
Perchlorate Perchlorate	25.2	4.0	0.90	ug/l	25.0		101	85-115			
Matrix Spike Analyzed: 12/03/2008 (8L0.	3056-MS1)				Sou	rce: IRL(	0164-01				
Perchlorate	25.8	4.0	0.90	ug/l	25.0	ND	103	80-120			
Matrix Spike Dup Analyzed: 12/03/2008	(8L03056-MS)	D1)			Sou	rce: IRL(	164-01				
Perchlorate	26.1	4.0	0.90	ug/l	25.0	ND	104	80-120	1	20	
Batch: 8L09056 Extracted: 12/09/08	_										
Blank Analyzed: 12/09/2008 (8L09056-B	LK1)										
Hexane Extractable Material (Oil &	ND	5.0	1.4	mg/l							
Grease)											
LCS Analyzed: 12/09/2008 (8L09056-BS)	1)										MNR1
Hexane Extractable Material (Oil & Grease)	19.4	5.0	1.4	mg/l	20.2		96	78-114			
LCS Dup Analyzed: 12/09/2008 (8L0905	6-BSD1)										
Hexane Extractable Material (Oil & Grease)	19.4	5.0	1.4	mg/l	20.2		96	78-114	0	11	

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Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Semi-Annual Outfall 006

Report Number: IRK2828 Sampled: 11/26/08
Received: 11/26/08

# METHOD BLANK/QC DATA

# DIOXIN (EPA 1613)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC	RPD	RPD Limit	Data Qualifiers
Batch: 1751 Extracted: 12/09/08											<b>C</b>
Batch: 1/31 Extracted: 12/09/06											
Blank Analyzed: 12/11/2008 (MB001)					Sou	rce:					
2,3,7,8-TCDD	ND	0.00000500 0.	.00000105	ug/L				50-150		25	
1,2,3,7,8-PeCDD	ND	0.0000250 0.	.00000167	ug/L				50-150		25	
1,2,3,4,7,8-HxCDD	ND	0.0000250 0.	.00000324	ug/L				50-150		25	
1,2,3,6,7,8-HxCDD	ND	0.0000250 0.	.00000316	ug/L				50-150		25	
1,2,3,7,8,9-HxCDD	ND	0.0000250 0.	.00000297	ug/L				50-150		25	
1,2,3,4,6,7,8-HpCDD	ND	0.0000250 0.	.00000531	ug/L				50-150		25	
OCDD	ND	0.0000500 0	.0000127	ug/L				50-150		25	
2,3,7,8-TCDF	ND	0.00000500 ).0	30800000	ug/L				50-150		25	
1,2,3,7,8-PeCDF	ND	0.0000250 0.	.00000202	ug/L				50-150		25	
2,3,4,7,8-PeCDF	ND	0.0000250 0.	.00000222	ug/L				50-150		25	
1,2,3,4,7,8-HxCDF	ND	0.0000250 0.	.00000133	ug/L				50-150		25	
1,2,3,6,7,8-HxCDF	ND	0.0000250 0.	.00000143	ug/L				50-150		25	
2,3,4,6,7,8-HxCDF	ND	0.0000250 0	.0000016	ug/L				50-150		25	
1,2,3,7,8,9-HxCDF	ND	0.0000250 0.	.00000216	ug/L				50-150		25	
1,2,3,4,6,7,8-HpCDF	ND	0.0000250 0.	.00000199	ug/L				50-150		25	
1,2,3,4,7,8,9-HpCDF	ND	0.0000250 0	.0000024	ug/L				50-150		25	
OCDF	ND	0.0000500 0	.0000046	ug/L				50-150		25	
Total TCDD	ND	0.00000500 .0	00000105	ug/L				50-150		25	
Total PeCDD	ND	0.0000250 .0	00000167	ug/L				50-150		25	
Total HxCDD	ND	0.0000250 .0	00000297	ug/L				50-150		25	
Total HpCDD	ND	0.0000250 .0	00000531	ug/L				50-150		25	
Total TCDF	ND	0.00000500 .0	80800000	ug/L				50-150		25	
Total PeCDF	ND	0.0000250 .0	00000202	ug/L				50-150		25	
Total HxCDF	ND	0.0000250 .0	00000133	ug/L				50-150		25	
Total HpCDF	ND	0.0000250 .0	00000199	ug/L				50-150		25	
Surrogate: 13C-2,3,7,8-TCDD	0.00163			ug/L	2000		82	50-150			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00144			ug/L	2000		72	50-150			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.00146			ug/L	2000		73	50-150			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00161			ug/L	2000		80	50-150			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.00154			ug/L	2000		77	50-150			
Surrogate: 13C-OCDD	0.00246			ug/L	4000		62	50-150			
Surrogate: 13C-2,3,7,8-TCDF	0.00170			ug/L	2000		85	50-150			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00141			ug/L	2000		71	50-150			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00148			ug/L	2000		74	50-150			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00136			ug/L	2000		68	50-150			

### **TestAmerica Irvine**

%REC

RPD

Data



\_\_\_\_

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200

Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Semi-Annual Outfall 006

Sampled: 11/26/08

Source

Report Number: IRK2828 Received: 11/26/08

# METHOD BLANK/QC DATA

# DIOXIN (EPA 1613)

Spike

Reporting

		Reporting			Spike	Source		%KEC		KPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
<b>Batch: 1751 Extracted: 12/09/08</b>											
Blank Analyzed: 12/11/2008 (MB001)					Sou	ırce:					
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.00135			ug/L	2000		67	50-150			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.00146			ug/L	2000		73	50-150			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.00151			ug/L	2000		76	50-150			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.00135			ug/L	2000		67	50-150			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.00147			ug/L	2000		74	50-150			
Surrogate: 13C-OCDF	0.00243			ug/L	4000		61	50-150			
Surrogate: 37Cl-2,3,7,8-TCDD	0.000803			ug/L	800		100	50-150			
LCS Analyzed: 12/11/2008 (OPR001)					Sou	ırce:					
2,3,7,8-TCDD	9.24	5.00	0.840	ug/L	10		92	50-150		25	
1,2,3,7,8-PeCDD	47.8	25.0	1.59	ug/L	50		96	50-150		25	
1,2,3,4,7,8-HxCDD	47.7	25.0	1.18	ug/L	50		95	50-150		25	
1,2,3,6,7,8-HxCDD	48.5	25.0	1.69	ug/L	50		97	50-150		25	
1,2,3,7,8,9-HxCDD	47.8	25.0	1.18	ug/L	50		96	50-150		25	
1,2,3,4,6,7,8-HpCDD	46.5	25.0	2.01	ug/L	50		93	50-150		25	
OCDD	94.5	50.0	2.45	ug/L	100		95	50-150		25	
2,3,7,8-TCDF	9.29	5.00	0.970	ug/L	10		93	50-150		25	
1,2,3,7,8-PeCDF	44.8	25.0	1.09	ug/L	50		90	50-150		25	
2,3,4,7,8-PeCDF	44.8	25.0	1.48	ug/L	50		90	50-150		25	
1,2,3,4,7,8-HxCDF	46.0	25.0	1.06	ug/L	50		92	50-150		25	
1,2,3,6,7,8-HxCDF	46.8	25.0	0.730	ug/L	50		94	50-150		25	
2,3,4,6,7,8-HxCDF	46.2	25.0	1.26	ug/L	50		92	50-150		25	
1,2,3,7,8,9-HxCDF	46.5	25.0	0.940	ug/L	50		93	50-150		25	
1,2,3,4,6,7,8-HpCDF	47.4	25.0	1.70	ug/L	50		95	50-150		25	
1,2,3,4,7,8,9-HpCDF	48.2	25.0	0.960	ug/L	50		96	50-150		25	
OCDF	84.1	50.0	3.66	ug/L	100		84	50-150		25	
Surrogate: 13C-2,3,7,8-TCDD	70.4			ug/L	100		70	50-150			
Surrogate: 13C-1,2,3,7,8-PeCDD	60.3			ug/L	100		60	50-150			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	66.5			ug/L	100		67	50-150			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	75.3			ug/L	100		75	50-150			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	65.4			ug/L	100		65	50-150			
Surrogate: 13C-OCDD	89.0			ug/L	200		45	50-150			
Surrogate: 13C-2,3,7,8-TCDF	74.5			ug/L	100		75	50-150			
Surrogate: 13C-1,2,3,7,8-PeCDF	57.2			ug/L	100		57	50-150			
Surrogate: 13C-2,3,4,7,8-PeCDF	61.8			ug/L	100		62	50-150			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	62.2			ug/L	100		62	50-150			

### **TestAmerica Irvine**



MWH-Pasadena/Boeing

618 Michillinda Avenue, Suite 200

Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Semi-Annual Outfall 006

Sampled: 11/26/08

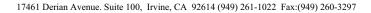
Report Number: IRK2828

Received: 11/26/08

# METHOD BLANK/QC DATA

# DIOXIN (EPA 1613)

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 1751 Extracted: 12/09/08											
LCS Analyzed: 12/11/2008 (OPR001)					Con	rce:					
LCS Allalyzeu: 12/11/2006 (OF K001)					Sou	rce.					
Surrogate: 13C-1,2,3,6,7,8-HxCDF	63.7			ug/L	100		64	50-150			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	65.7			ug/L	100		66	50-150			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	66.9			ug/L	100		67	50-150			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	59.7			ug/L	100		60	50-150			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	55.5			ug/L	100		56	50-150			
Surrogate: 13C-OCDF	83.9			ug/L	200		42	50-150			
Surrogate: 37Cl-2,3,7,8-TCDD	30.7			ug/L	40		77	50-150			





618 Michillinda Avenue, Suite 200

Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Semi-Annual Outfall 006

Sampled: 11/26/08

Report Number: IRK2828

Received: 11/26/08

# METHOD BLANK/QC DATA

### **MCAWW 245.1**

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 8336128 Extracted: 12/01/05	8_										
Matrix Spike Dup Analyzed: 12/01/200	8 (D8K2901100	01D)			Sou	rce: D8K	29011000	)1			
Mercury	5.41	0.2	0.027	ug/L	5	ND	108	90-110	0	10	
Matrix Spike Analyzed: 12/01/2008 (D8	K290110001S)				Sou	rce: D8K	29011000	)1			
Mercury	5.41	0.2	0.027	ug/L	5	ND	108	90-110	0	10	
Blank Analyzed: 12/01/2008 (D8L01000	00128B)				Sou	rce:					
Mercury	ND	0.2	0.027	ug/L				-			
LCS Analyzed: 12/01/2008 (D8L010000	128C)				Sou	rce:					
Mercury	5.27	0.2	0.027	ug/L	5		105	90-110			



618 Michillinda Avenue, Suite 200

Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Semi-Annual Outfall 006

Sampled: 11/26/08

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# METHOD BLANK/QC DATA

### MCAWW 245.1 Diss

	]	Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
<b>Batch: 8336136 Extracted: 12/01/08</b>	-										
Matrix Spike Dup Analyzed: 12/01/2008	(D8K29011000	)1D)			Sou	rce: D8K	29011000	1			
Mercury-diss	5.33	0.2	0.027	ug/L	5	ND	107	90-110	2	10	
Matrix Spike Analyzed: 12/01/2008 (D81	K290110001S)				Sou	rce: D8K	29011000	1			
Mercury-diss	5.43	0.2	0.027	ug/L	5	ND	109	90-110	2	10	
Blank Analyzed: 12/01/2008 (D8L01000)	0136B)				Sou	rce:					
Mercury-diss	ND	0.2	0.027	ug/L				-			
LCS Analyzed: 12/01/2008 (D8L0100001	36C)				Sou	rce:					
Mercury-diss	5.16	0.2	0.027	ug/L	5		103	90-110			





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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.

						Compliance
<b>LabNumber</b>	Analysis	Analyte	Units	Result	MRL	Limit
IRK2828-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	2.93	4.9	15
IRK2828-01	Antimony-200.8	Antimony	ug/l	0.37	2.0	6
IRK2828-01	Cadmium-200.8	Cadmium	ug/l	0.22	1.0	4
IRK2828-01	Chloride - 300.0	Chloride	mg/l	44	10	150
IRK2828-01	Copper-200.8	Copper	ug/l	2.67	2.0	14
IRK2828-01	Lead-200.8	Lead	ug/l	1.54	1.0	5.2
IRK2828-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	6.44	5.2	10
IRK2828-01	Perchlorate 314.0-DEFAULT	Perchlorate	ug/l	0	4.0	6
IRK2828-01	Sulfate-300.0	Sulfate	mg/l	47	0.50	250
IRK2828-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	284	10	850
IRK2828-01	Thallium-200.8	Thallium	ug/l	0.067	1.0	2



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

Sampled: 11/26/08

MWH-Pasadena/Boeing

Project ID: Semi-Annual Outfall 006

618 Michillinda Avenue, Suite 200

Arcadia, CA 91007 Report Number: IRK2828 Received: 11/26/08

Attention: Bronwyn Kelly

# DATA QUALIFIERS AND DEFINITIONS

**B** Analyte was detected in the associated Method Blank.

J Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the

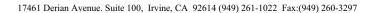
Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.

MNR1 There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike

Duplicate.

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

**RPD** Relative Percent Difference





Project ID: Semi-Annual Outfall 006

618 Michillinda Avenue, Suite 200

Report Number: IRK2828 Sampled: 11/26/08
Received: 11/26/08

Arcadia, CA 91007 Attention: Bronwyn Kelly

# **Certification Summary**

#### **TestAmerica Irvine**

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

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

#### **Subcontracted Laboratories**

#### **Alta Analytical Perspectives**

2714 Exchange Drive - Wilmington, NC 28405

Method Performed: 1613-Dioxin-HR Alta

Samples: IRK2828-01

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

4350 Transport Street, Unit 107 - Ventura, CA 93003

Analysis Performed: Bioassay-7 dy Chrnic

Samples: IRK2828-01

#### **TestAmerica Denver**

4955 Yarrow Street - Arvada, CO 80002

Method Performed: MCAWW 245.1

Samples: IRK2828-01

Method Performed: MCAWW 245.1 Diss

Samples: IRK2828-01

#### **TestAmerica Irvine**



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MWH-Pasadena/Boeing Project ID: Semi-Annual Outfall 006

618 Michillinda Avenue, Suite 200 Sampled: 11/26/08

Arcadia, CA 91007 Report Number: IRK2828 Received: 11/26/08
Attention: Bronwyn Kelly

#### TestAmerica St. Louis

13715 Rider Trail North - Earth City, MO 63045

Analysis Performed: Gamma Spec

Samples: IRK2828-01

Analysis Performed: Gross Alpha

Samples: IRK2828-01

Analysis Performed: Gross Beta

Samples: IRK2828-01

Analysis Performed: Radium, Combined

Samples: IRK2828-01

Analysis Performed: Strontium 90

Samples: IRK2828-01

Analysis Performed: Tritium

Samples: IRK2828-01

Analysis Performed: Uranium, Combined

Samples: IRK2828-01

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: IRK2828-01