

Replicate Data: K3C2F

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.003	0.003	-0.0000	0.0008	0.0002	00:08:14	Yes
2	-0.019	-0.019	-0.0002	-0.0009	0.0000	00:08:45	Yes
Mean:	-0.008	-0.008	-0.0001				
SD:	0.015	0.015	0.0001				
%RSD:	195.7	195.7	134.53				

Sequence No.: 242  
 Sample ID: K3C2M  
 Analyst:

Autosampler Location: 47  
 Date Collected: 12/2/2008 0:09:05  
 Data Type: Original

Replicate Data: K3C2M

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.016	-0.016	-0.0001	-0.0018	0.0000	00:09:58	Yes
2	0.035	0.035	0.0002	0.0027	0.0004	00:10:28	Yes
Mean:	0.009	0.009	0.0000				
SD:	0.036	0.036	0.0002				
%RSD:	384.3	384.3	621.07				

Sequence No.: 243  
 Sample ID: K3C2P  
 Analyst:

Autosampler Location: 48  
 Date Collected: 12/2/2008 0:10:49  
 Data Type: Original

Replicate Data: K3C2P

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.018	-0.018	-0.0001	-0.0015	0.0000	00:11:41	Yes
2	0.002	0.002	-0.0000	0.0009	0.0002	00:12:12	Yes
Mean:	-0.008	-0.008	-0.0001				
SD:	0.014	0.014	0.0001				
%RSD:	170.3	170.3	118.55				

Sequence No.: 244  
 Sample ID: CCV  
 Analyst:

Autosampler Location: 6  
 Date Collected: 12/2/2008 0:12:33  
 Data Type: Original

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.675	5.675	0.0390	0.1773	0.0391	00:13:27	Yes
2	5.674	5.674	0.0389	0.1776	0.0391	00:13:57	Yes
Mean:	5.674	5.674	0.0389				
SD:	0.001	0.001	0.0000				
%RSD:	0.013	0.013	0.01				

QC value within limits for Hg 253.7 Recovery = 113.49%  
 All analyte(s) passed QC.

Sequence No.: 245  
 Sample ID: CCB  
 Analyst:

Autosampler Location: 1  
 Date Collected: 12/2/2008 0:14:18  
 Data Type: Original

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.013	0.013	0.0001	0.0016	0.0002	00:15:10	Yes
2	-0.006	-0.006	-0.0001	-0.0007	0.0001	00:15:41	Yes
Mean:	0.003	0.003	-0.0000				
SD:	0.014	0.014	0.0001				

%RSD: 399.9 399.9 >999.9%  
QC value within limits for Hg 353.7 Recovery = Not calculated  
All analyte(s) passed QC.

Sequence No.: 246  
Sample ID: K3DF9  
Analyst:

Autosampler Location: 49  
Date Collected: 12/2/2008 0:16:00  
Data Type: Original

Replicate Data: K3DF9

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.015	0.015	0.0001	0.0020	0.0003	00:16:53	Yes
2	0.031	0.031	0.0002	0.0028	0.0004	00:17:24	Yes
Mean:	0.023	0.023	0.0001				
SD:	0.012	0.012	0.0001				
%RSD:	50.33	50.33	59.51				

Sequence No.: 247  
Sample ID: K3PKFB  
Analyst:

Autosampler Location: 50  
Date Collected: 12/2/2008 0:17:44  
Data Type: Original

*NA*

*reprepare*

Replicate Data: K3PKFB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.010	0.010	0.0000	0.0019	0.0002	00:18:38	Yes
2	0.036	0.036	0.0002	0.0023	0.0004	00:19:08	Yes
Mean:	0.023	0.023	0.0001				
SD:	0.019	0.019	0.0001				
%RSD:	80.33	80.33	94.90				

*as 12/2/08*

Sequence No.: 248  
Sample ID: K3PKFC  
Analyst:

Autosampler Location: 51  
Date Collected: 12/2/2008 0:19:29  
Data Type: Original

Replicate Data: K3PKFC

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.891	5.891	0.0404	0.1840	0.0406	00:20:23	Yes
2	5.874	5.874	0.0403	0.1809	0.0405	00:20:53	Yes
Mean:	5.883	5.883	0.0404				
SD:	0.012	0.012	0.0001				
%RSD:	0.209	0.209	0.21				

Sequence No.: 249  
Sample ID: K3PKFL  
Analyst:

Autosampler Location: 52  
Date Collected: 12/2/2008 0:21:14  
Data Type: Original

Replicate Data: K3PKFL

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.804	5.804	0.0398	0.1817	0.0400	00:22:07	Yes
2	5.783	5.783	0.0397	0.1802	0.0399	00:22:37	Yes
Mean:	5.793	5.793	0.0398				
SD:	0.014	0.014	0.0001				
%RSD:	0.250	0.250	0.25				

Sequence No.: 250  
Sample ID: K3C5R  
Analyst:

Autosampler Location: 53  
Date Collected: 12/2/2008 0:23:00  
Data Type: Original

Replicate Data: K3C5R



Sequence No.: 255  
Sample ID: CCB  
Analyst:

Autosampler Location: 1  
Date Collected: 12/2/2008 0:31:38  
Data Type: Original

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.003	0.003	-0.0000	0.0001	0.0002	00:32:29	Yes
2	-0.015	-0.015	-0.0001	-0.0013	0.0000	00:32:59	Yes
Mean:	-0.006	-0.006	-0.0001				
SD:	0.013	0.013	0.0001				
%RSD:	214.9	214.9	135.57				

QC value within limits for Hg 253.7 Recovery = Not calculated  
All analyte(s) passed QC.

Sequence No.: 256  
Sample ID: K3HF8  
Analyst:

Autosampler Location: 57  
Date Collected: 12/2/2008 0:33:19  
Data Type: Original

Replicate Data: K3HF8

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.018	-0.018	-0.0001	-0.0015	0.0000	00:34:09	Yes
2	-0.002	-0.002	-0.0000	-0.0004	0.0001	00:34:40	Yes
Mean:	-0.010	-0.010	-0.0001				
SD:	0.011	0.011	0.0001				
%RSD:	116.4	116.4	84.98				

*NA*  
*Prepave*  
*12/2/08*

Sequence No.: 257  
Sample ID: K3HPW  
Analyst:

Autosampler Location: 58  
Date Collected: 12/2/2008 0:34:59  
Data Type: Original

Replicate Data: K3HPW

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.004	0.004	0.0000	0.0018	0.0002	00:35:50	Yes
2	0.016	0.016	0.0001	0.0004	0.0003	00:36:21	Yes
Mean:	0.010	0.010	0.0000				
SD:	0.008	0.008	0.0001				
%RSD:	81.83	81.83	125.48				

Sequence No.: 258  
Sample ID: K3HP2  
Analyst:

Autosampler Location: 59  
Date Collected: 12/2/2008 0:36:40  
Data Type: Original

Replicate Data: K3HP2

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.012	0.012	0.0001	0.0006	0.0002	00:37:32	Yes
2	0.015	0.015	0.0001	0.0017	0.0003	00:38:03	Yes
Mean:	0.013	0.013	0.0001				
SD:	0.002	0.002	0.0000				
%RSD:	14.65	14.65	20.07				

Sequence No.: 259  
Sample ID: K3E1M  
Analyst:

Autosampler Location: 60  
Date Collected: 12/2/2008 0:38:22  
Data Type: Original

Replicate Data: K3E1M

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.052	0.052	0.0003	0.0022	0.0005	00:39:14	Yes

2 0.063 0.063 0.0004 0.0027 0.0006 00:39:44 Yes  
 Mean: 0.057 0.057 0.0004  
 SD: 0.008 0.008 0.0001  
 %RSD: 13.62 13.62 14.51

Sequence No.: 260 Autosampler Location: 61  
 Sample ID: K3E61 Date Collected: 12/2/2008 0:40:04  
 Analyst: Data Type: Original

Replicate Data: K3E61

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.003	-0.003	-0.0000	-0.0009	0.0001	00:40:56	Yes
2	-0.009	-0.009	-0.0001	-0.0011	0.0001	00:41:26	Yes
Mean:	-0.006	-0.006	-0.0001				
SD:	0.004	0.004	0.0000				
%RSD:	73.52	73.52	45.01				

Sequence No.: 261 Autosampler Location: 62  
 Sample ID: K3E7A Date Collected: 12/2/2008 0:41:46  
 Analyst: Data Type: Original

Replicate Data: K3E7A

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.007	0.007	0.0000	0.0013	0.0002	00:42:38	Yes
2	-0.020	-0.020	-0.0002	-0.0017	0.0000	00:43:09	Yes
Mean:	-0.006	-0.006	-0.0001				
SD:	0.019	0.019	0.0001				
%RSD:	306.3	306.3	196.27				

*NA* *reprepare* *by 12/2/08*

Sequence No.: 262 Autosampler Location: 63  
 Sample ID: K3JT0 Date Collected: 12/2/2008 0:43:29  
 Analyst: Data Type: Original

Replicate Data: K3JT0

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	12.70	12.70	0.0872	0.4327	0.0874	00:44:21	Yes
2	13.27	13.27	0.0911	0.4384	0.0913	00:44:52	Yes
Mean:	12.98	12.98	0.0892				
SD:	0.405	0.405	0.0028				
%RSD:	3.116	3.116	3.12				

Sample concentration is greater than that of the highest standard.  
 Sample concentration is greater than that of the highest standard.  
 Sample concentration is greater than that of the highest standard.

Sequence No.: 263 Autosampler Location: 64  
 Sample ID: K3JT1 Date Collected: 12/2/2008 0:45:23  
 Analyst: Data Type: Original

Replicate Data: K3JT1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	1.257	1.257	0.0086	0.0429	0.0088	00:46:16	Yes
2	1.254	1.254	0.0086	0.0411	0.0088	00:46:47	Yes
Mean:	1.255	1.255	0.0086				
SD:	0.002	0.002	0.0000				
%RSD:	0.171	0.171	0.17				

Sequence No.: 264 Autosampler Location: 6  
 Sample ID: CCV Date Collected: 12/2/2008 0:47:07

Analyst:

Data Type: Original

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.876	5.876	0.0403	0.1801	0.0405	00:48:01	Yes
2	5.841	5.841	0.0401	0.1787	0.0403	00:48:31	Yes
Mean:	5.859	5.859	0.0402				
SD:	0.025	0.025	0.0002				
%RSD:	0.420	0.420	0.42				

QC value within limits for Hg 253.7 Recovery = 117.17%  
All analyte(s) passed QC.

Sequence No.: 265

Autosampler Location: 1

Sample ID: CCB

Date Collected: 12/2/2008 0:48:53

Analyst:

Data Type: Original

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.014	-0.014	-0.0001	-0.0007	0.0001	00:49:45	Yes
2	0.035	0.035	0.0002	0.0034	0.0004	00:50:15	Yes
Mean:	0.011	0.011	0.0000				
SD:	0.035	0.035	0.0002				
%RSD:	324.4	324.4	487.19				

QC value within limits for Hg 253.7 Recovery = Not calculated  
All analyte(s) passed QC.

*NA* *reprepare* *CS 12/2/08*

Sequence No.: 266

Autosampler Location: 65

Sample ID: K3JT3

Date Collected: 12/2/2008 0:50:35

Analyst:

Data Type: Original

Replicate Data: K3JT3

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	39.35	39.35	0.2703	1.2845	0.2704	00:51:28	Yes
2	39.02	39.02	0.2680	1.2879	0.2682	00:51:58	Yes
Mean:	39.19	39.19	0.2691				
SD:	0.235	0.235	0.0016				
%RSD:	0.599	0.599	0.60				

Sample concentration is greater than that of the highest standard.  
Sample concentration is greater than that of the highest standard.  
Sample concentration is greater than that of the highest standard.

Sequence No.: 267

Autosampler Location: 66

Sample ID: K3JT4

Date Collected: 12/2/2008 0:52:29

Analyst:

Data Type: Original

Replicate Data: K3JT4

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	1.206	1.206	0.0083	0.0447	0.0084	00:53:22	Yes
2	1.184	1.184	0.0081	0.0422	0.0083	00:53:53	Yes
Mean:	1.195	1.195	0.0082				
SD:	0.016	0.016	0.0001				
%RSD:	1.330	1.330	1.33				

Sequence No.: 268

Autosampler Location: 67

Sample ID: K3JT5

Date Collected: 12/2/2008 0:54:14

Analyst:

Data Type: Original

Replicate Data: K3JT5



Sample concentration is greater than that of the highest standard.

Mean: 162.7 162.7 1.1174
SD: 1.853 1.853 0.0127
%RSD: 1.139 1.139 1.14

Sample concentration is greater than that of the highest standard.

Sequence No.: 273
Sample ID: K3L4V
Analyst:

Autosampler Location: 72
Date Collected: 12/2/2008 1:03:30
Data Type: Original

Replicate Data: K3L4V

Table with 8 columns: Repl #, SampleConc ug/L, StndConc ug/L, BlnkCorr Signal, Peak Area, Peak Height, Time, Peak Stored. Contains 2 replicate rows and summary statistics.

Sequence No.: 274
Sample ID: CCV
Analyst:

Autosampler Location: 6
Date Collected: 12/2/2008 1:05:11
Data Type: Original

Replicate Data: CCV

Table with 8 columns: Repl #, SampleConc ug/L, StndConc ug/L, BlnkCorr Signal, Peak Area, Peak Height, Time, Peak Stored. Contains 2 replicate rows and summary statistics.

NA Reprepave 12/2/08

QC value within limits for Hg 253.7 Recovery = 108.97%
All analyte(s) passed QC.

Sequence No.: 275
Sample ID: CCB
Analyst:

Autosampler Location: 1
Date Collected: 12/2/2008 1:06:58
Data Type: Original

Replicate Data: CCB

Table with 8 columns: Repl #, SampleConc ug/L, StndConc ug/L, BlnkCorr Signal, Peak Area, Peak Height, Time, Peak Stored. Contains 2 replicate rows and summary statistics.

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 276
Sample ID: K3L5G
Analyst:

Autosampler Location: 73
Date Collected: 12/2/2008 1:08:39
Data Type: Original

Replicate Data: K3L5G

Table with 8 columns: Repl #, SampleConc ug/L, StndConc ug/L, BlnkCorr Signal, Peak Area, Peak Height, Time, Peak Stored. Contains 2 replicate rows and summary statistics.



Sequence No.: 277  
Sample ID: CCV  
Analyst:

Autosampler Location: 6  
Date Collected: 12/2/2008 1:10:20  
Data Type: Original

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.497	5.497	0.0377	0.1732	0.0379	01:11:14	Yes
2	5.493	5.493	0.0377	0.1744	0.0379	01:11:45	Yes
Mean:	5.495	5.495	0.0377				
SD:	0.003	0.003	0.0000				
%RSD:	0.054	0.054	0.05				

QC value within limits for Hg 253.7 Recovery = 109.89%  
All analyte(s) passed QC.

*NA* *rep/repac* *12/2/08*

Sequence No.: 278  
Sample ID: CCB  
Analyst:

Autosampler Location: 1  
Date Collected: 12/2/2008 1:12:07  
Data Type: Original

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.004	-0.004	-0.0001	-0.0002	0.0001	01:12:58	Yes
2	0.026	0.026	0.0002	0.0018	0.0003	01:13:29	Yes
Mean:	0.011	0.011	0.0001				
SD:	0.022	0.022	0.0001				
%RSD:	197.1	197.1	291.72				

QC value within limits for Hg 253.7 Recovery = Not calculated  
All analyte(s) passed QC.

December 12, 2008

**Vista Project I.D.: 31223**

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

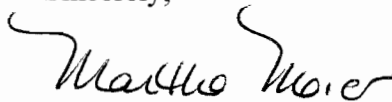
Dear Mr. Doak,

Enclosed are the results for the one aqueous sample received at Vista Analytical Laboratory on November 29, 2008 under your Project Name "IRK2828". 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](mailto:mmaier@vista-analytical.com). Thank you for choosing Vista as part of your analytical support team.

Sincerely,



Martha M. Maier  
Laboratory Director



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



**Section I: Sample Inventory Report**

**Date Received: 11/29/2008**

Vista Lab. ID

Client Sample ID

31223-001

IRK2828-01

**SECTION II**

Method Blank		EPA Method 1613			
Matrix:	Aqueous	QC Batch No.:	1751	Lab Sample:	0-MB001
Sample Size:	1.00 L	Date Extracted:	9-Dec-08	Date Analyzed DB-5:	11-Dec-08
Date Analyzed DB-225:	NA				
Analyte	Conc. (ug/L)	DL <sup>a</sup>	EMPC <sup>b</sup>	%R	LCL-UCL <sup>d</sup> Qualifiers
2,3,7,8-TCDD	ND	0.00000105		81.6	25 - 164
1,2,3,7,8-PeCDD	ND	0.00000167		72.0	25 - 181
1,2,3,4,7,8-HxCDD	ND	0.00000324		73.1	32 - 141
1,2,3,6,7,8-HxCDD	ND	0.00000316		80.4	28 - 130
1,2,3,7,8,9-HxCDD	ND	0.00000297		77.1	23 - 140
1,2,3,4,6,7,8-HpCDD	ND	0.00000531		61.5	17 - 157
OCDD	ND	0.0000127		84.9	24 - 169
2,3,7,8-TCDF	ND	0.000000808		70.7	24 - 185
1,2,3,7,8-PeCDF	ND	0.00000202		74.2	21 - 178
2,3,4,7,8-PeCDF	ND	0.00000222		68.2	26 - 152
1,2,3,4,7,8-HxCDF	ND	0.00000133		67.3	26 - 123
1,2,3,6,7,8-HxCDF	ND	0.00000143		72.8	28 - 136
2,3,4,6,7,8-HxCDF	ND	0.00000160		75.6	29 - 147
1,2,3,7,8,9-HxCDF	ND	0.00000216		67.3	28 - 143
1,2,3,4,6,7,8-HpCDF	ND	0.00000199		73.7	26 - 138
1,2,3,4,7,8,9-HpCDF	ND	0.00000240		60.7	17 - 157
OCDF	ND	0.00000460		100	35 - 197
<b>Totals</b>					
Total TCDD	ND	0.00000105			
Total PeCDD	ND	0.00000167			
Total HxCDD	ND	0.00000313			
Total HpCDD	ND	0.00000362			
Total TCDF	ND	0.000000808			
Total PeCDF	ND	0.00000212			
Total HxCDF	ND	0.00000161			
Total HpCDF	ND	0.00000217			
<b>Footnotes</b>					
	a. Sample specific estimated detection limit.				
	b. Estimated maximum possible concentration.				
	c. Method detection limit.				
	d. Lower control limit - upper control limit.				

OPR Results		EPA Method 1613					
Matrix:	Aqueous	QC Batch No.:	1751	Lab Sample:	0-OPR001		
Sample Size:	1.00 L	Date Extracted:	9-Dec-08	Date Analyzed DB-5:	11-Dec-08		
				Date Analyzed DB-225:	NA		
Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL	Qualifier
2,3,7,8-TCDD	10.0	9.24	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	70.4	25 - 164	
1,2,3,7,8-PeCDD	50.0	47.8	35 - 71	13C-1,2,3,7,8-PeCDD	60.3	25 - 181	
1,2,3,4,7,8-HxCDD	50.0	47.7	35 - 82	13C-1,2,3,4,7,8-HxCDD	66.5	32 - 141	
1,2,3,6,7,8-HxCDD	50.0	48.5	38 - 67	13C-1,2,3,6,7,8-HxCDD	75.3	28 - 130	
1,2,3,7,8,9-HxCDD	50.0	47.8	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	65.4	23 - 140	
1,2,3,4,6,7,8-HpCDD	50.0	46.5	35 - 70	13C-OCDD	44.5	17 - 157	
OCDD	100	94.5	78 - 144	13C-2,3,7,8-TCDF	74.5	24 - 169	
2,3,7,8-TCDF	10.0	9.29	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	57.2	24 - 185	
1,2,3,7,8-PeCDF	50.0	44.8	40 - 67	13C-2,3,4,7,8-PeCDF	61.8	21 - 178	
2,3,4,7,8-PeCDF	50.0	44.8	34 - 80	13C-1,2,3,4,7,8-HxCDF	62.2	26 - 152	
1,2,3,4,7,8-HxCDF	50.0	46.0	36 - 67	13C-1,2,3,6,7,8-HxCDF	63.7	26 - 123	
1,2,3,6,7,8-HxCDF	50.0	46.8	42 - 65	13C-2,3,4,6,7,8-HxCDF	65.7	28 - 136	
2,3,4,6,7,8-HxCDF	50.0	46.2	35 - 78	13C-1,2,3,7,8,9-HxCDF	66.9	29 - 147	
1,2,3,7,8,9-HxCDF	50.0	46.5	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	59.7	28 - 143	
1,2,3,4,6,7,8-HpCDF	50.0	47.4	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	55.5	26 - 138	
1,2,3,4,7,8,9-HpCDF	50.0	48.2	39 - 69	13C-OCDF	41.9	17 - 157	
OCDF	100	84.1	63 - 170	CRS 37Cl-2,3,7,8-TCDD	76.8	35 - 197	

Analyst: MAS

Approved By:

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

Sample ID: IRK2828-01		EPA Method 1613					
Client Data		Sample Data		Laboratory Data			
Name:	Test America-Irvine, CA	Matrix:	Aqueous	Lab Sample:	31223-001		
Project:	IRK2828	Sample Size:	0.999 L	QC Batch No.:	1751		
Date Collected:	26-Nov-08			Date Analyzed DB-5:	11-Dec-08		
Time Collected:	1330			Date Analyzed DB-225:	NA		
Date Received:	29-Nov-08			Date Extracted:	9-Dec-08		
Analyte	Conc. (ug/L)	DL <sup>a</sup>	EMPC <sup>b</sup>	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	ND	0.00000111		IS 13C-2,3,7,8-TCDD	81.5	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000217		13C-1,2,3,7,8-PeCDD	71.9	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000381		13C-1,2,3,4,7,8-HxCDD	73.0	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000339		13C-1,2,3,6,7,8-HxCDD	79.4	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000333		13C-1,2,3,4,6,7,8-HpCDD	81.6	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	0.0000111		13C-OCDD	66.0	17 - 157	
OCDD	0.0000502			13C-2,3,7,8-TCDF	83.5	24 - 169	
2,3,7,8-TCDF	ND	0.00000852		13C-1,2,3,7,8-PeCDF	72.7	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000129		13C-2,3,4,7,8-PeCDF	72.0	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000145		13C-1,2,3,4,7,8-HxCDF	72.1	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000921		13C-1,2,3,6,7,8-HxCDF	70.1	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.00000105		13C-2,3,4,6,7,8-HxCDF	71.8	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.00000106		13C-1,2,3,7,8,9-HxCDF	75.9	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000142		13C-1,2,3,4,6,7,8-HpCDF	69.2	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.00000184		13C-1,2,3,4,7,8,9-HpCDF	75.0	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000240		13C-OCDF	66.3	17 - 157	
OCDF	ND	0.00000491		CRS 37Cl-2,3,7,8-TCDD	87.5	35 - 197	
Totals				Footnotes			
Total TCDD	ND	0.00000163		a. Sample specific estimated detection limit.			
Total PeCDD	ND	0.00000217		b. Estimated maximum possible concentration.			
Total HxCDD	ND	0.00000351		c. Method detection limit.			
Total HpCDD	ND	0.00000833		d. Lower control limit - upper control limit.			
Total TCDF	ND	0.00000852					
Total PeCDF	ND	0.00000137					
Total HxCDF	ND	0.00000110					
Total HpCDF	ND	0.00000209					

## APPENDIX



## DATA QUALIFIERS & ABBREVIATIONS

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

**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

IRK2828

31223

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: 2A °C

Ice: (Y) N

Analysis	Units	Due	Expires	Comments
<b>Sample ID: IRK2828-01</b>	<b>Water</b>		<b>Sampled: 11/26/08 13:30</b>	
1613-Dioxin-HR-Alta	ug/l	12/09/08	12/03/08 13:30	J flags, 17 congeners, no TEQ, ug/L, sub=Vista
Level 4 Data Package - Out	N/A	12/09/08	12/24/08 13:30	
<i>Containers Supplied:</i>				
1 L Amber (C)	1 L Amber (D)			

[Signature] 11/28/08 1700  
Released By Date/Time

[Signature] 11/27/08 1100  
Received By Date/Time

Released By Date/Time

Received By Date/Time

**SAMPLE LOG-IN CHECKLIST**



Vista Project #: 31223

TAT inspected

<b>Samples Arrival:</b>	<b>Date/Time</b> 11/29/08 0859	<b>Initials:</b> DB	<b>Location:</b> WR-2
			<b>Shelf/Rack:</b> N/A
<b>Logged In:</b>	<b>Date/Time</b> 12/1/08 0908	<b>Initials:</b> C	<b>Location:</b> WR-2
			<b>Shelf/Rack:</b> B-1
<b>Delivered By:</b>	<input checked="" type="radio"/> FedEx	<input type="radio"/> UPS	<input type="radio"/> Cal
		<input type="radio"/> DHL	<input type="radio"/> Hand Delivered
<b>Preservation:</b>	<input checked="" type="radio"/> Ice	<input type="radio"/> Blue Ice	<input type="radio"/> Dry Ice
			<input type="radio"/> None
<b>Temp °C</b> 2.4	<b>Time:</b> 0910		<b>Thermometer ID:</b> IR-1

	YES	NO	NA
Adequate Sample Volume Received? (A+B bottles for each)	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill			
Trk # 7971 4437 6636	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Preservation Documented?			None
	COC	Sample Container	
Shipping Container	Vista	Client	Retain
		Return	Dispose

Comments:

## **APPENDIX G**

### **Section 6**

Outfall 006 - BMP Effectiveness, November 26, 2008

Test America Analytical Laboratory Report

## LABORATORY REPORT

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

Project: BMP Effectiveness  
Monitoring Program

Sampled: 11/26/08  
Received: 11/28/08  
Issued: 12/09/08 14:54

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.*

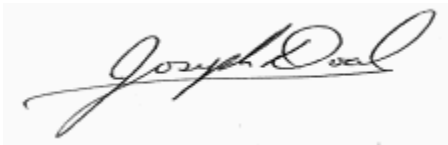
## SAMPLE CROSS REFERENCE

ADDITIONAL  
INFORMATION:

There is no data reported for IRK2873-07 sample description 006 EFF-7. The sample bottle leaked due to a small hole in the bottom causing a complete loss of sample.

LABORATORY ID	CLIENT ID	MATRIX
IRK2873-01	006 EFF-1	Water
IRK2873-02	006 EFF-2	Water
IRK2873-03	006 EFF-3	Water
IRK2873-04	006 EFF-4	Water
IRK2873-05	006 EFF-5	Water
IRK2873-06	006 EFF-6	Water
IRK2873-07	006 EFF-7	Water
IRK2873-08	006 EFF-8	Water
IRK2873-09	006 EFF-9	Water
IRK2873-10	006 EFF-10	Water

Reviewed By:



TestAmerica Irvine

Joseph Doak  
Project Manager

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

Project ID: BMP Effectiveness  
 Monitoring Program  
 Report Number: IRK2873

Sampled: 11/26/08  
 Received: 11/28/08

## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IRK2873-01 (006 EFF-1 - Water)</b>									
Reporting Units: g/cc									
Density	Displacement	8L09076	N/A	NA	1.0	1	12/09/08	12/09/08	
<b>Sample ID: IRK2873-02 (006 EFF-2 - Water)</b>									
Reporting Units: g/cc									
Density	Displacement	8L09076	N/A	NA	1.0	1	12/09/08	12/09/08	
<b>Sample ID: IRK2873-03 (006 EFF-3 - Water)</b>									
Reporting Units: g/cc									
Density	Displacement	8L09076	N/A	NA	1.0	1	12/09/08	12/09/08	
<b>Sample ID: IRK2873-04 (006 EFF-4 - Water)</b>									
Reporting Units: g/cc									
Density	Displacement	8L09076	N/A	NA	1.0	1	12/09/08	12/09/08	
<b>Sample ID: IRK2873-05 (006 EFF-5 - Water)</b>									
Reporting Units: g/cc									
Density	Displacement	8L09076	N/A	NA	1.0	1	12/09/08	12/09/08	
<b>Sample ID: IRK2873-06 (006 EFF-6 - Water)</b>									
Reporting Units: g/cc									
Density	Displacement	8L09076	N/A	NA	1.0	1	12/09/08	12/09/08	
<b>Sample ID: IRK2873-08 (006 EFF-8 - Water)</b>									
Reporting Units: g/cc									
Density	Displacement	8L09076	N/A	NA	0.99	1	12/09/08	12/09/08	
<b>Sample ID: IRK2873-09 (006 EFF-9 - Water)</b>									
Reporting Units: g/cc									
Density	Displacement	8L09076	N/A	NA	1.0	1	12/09/08	12/09/08	
<b>Sample ID: IRK2873-10 (006 EFF-10 - Water)</b>									
Reporting Units: g/cc									
Density	Displacement	8L09076	N/A	NA	1.0	1	12/09/08	12/09/08	
<b>Sample ID: IRK2873-01 (006 EFF-1 - Water)</b>									
Reporting Units: mg/l									
Sediment	ASTM D3977	8L09085	10	10	22	1	12/09/08	12/09/08	

**TestAmerica Irvine**

Joseph Doak  
 Project Manager

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

Project ID: BMP Effectiveness  
 Monitoring Program  
 Report Number: IRK2873

Sampled: 11/26/08  
 Received: 11/28/08

## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IRK2873-02 (006 EFF-2 - Water)</b>									
Reporting Units: mg/l									
Sediment	ASTM D3977	8L09085	10	10	11	1	12/09/08	12/09/08	
<b>Sample ID: IRK2873-03 (006 EFF-3 - Water)</b>									
Reporting Units: mg/l									
Sediment	ASTM D3977	8L09085	10	10	ND	1	12/09/08	12/09/08	
<b>Sample ID: IRK2873-04 (006 EFF-4 - Water)</b>									
Reporting Units: mg/l									
Sediment	ASTM D3977	8L09085	10	10	ND	1	12/09/08	12/09/08	
<b>Sample ID: IRK2873-05 (006 EFF-5 - Water)</b>									
Reporting Units: mg/l									
Sediment	ASTM D3977	8L09085	10	10	ND	1	12/09/08	12/09/08	
<b>Sample ID: IRK2873-06 (006 EFF-6 - Water)</b>									
Reporting Units: mg/l									
Sediment	ASTM D3977	8L09085	10	10	ND	1	12/09/08	12/09/08	
<b>Sample ID: IRK2873-08 (006 EFF-8 - Water)</b>									
Reporting Units: mg/l									
Sediment	ASTM D3977	8L09085	10	10	11	1	12/09/08	12/09/08	
<b>Sample ID: IRK2873-09 (006 EFF-9 - Water)</b>									
Reporting Units: mg/l									
Sediment	ASTM D3977	8L09085	10	10	ND	1	12/09/08	12/09/08	
<b>Sample ID: IRK2873-10 (006 EFF-10 - Water)</b>									
Reporting Units: mg/l									
Sediment	ASTM D3977	8L09085	10	10	ND	1	12/09/08	12/09/08	

**TestAmerica Irvine**

Joseph Doak  
 Project Manager



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

Project ID: BMP Effectiveness  
Monitoring Program  
Report Number: IRK2873

Sampled: 11/26/08  
Received: 11/28/08

## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 8L09076 Extracted: 12/09/08</b>											
<b>Duplicate Analyzed: 12/09/2008 (8L09076-DUP1)</b>						<b>Source: IRK2873-01</b>					
Density	1.01	NA	N/A	g/cc		1.01			0	20	

TestAmerica Irvine

Joseph Doak  
Project Manager

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IRK2873 <Page 4 of 6>

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

Project ID: BMP Effectiveness  
Monitoring Program  
Report Number: IRK2873

Sampled: 11/26/08  
Received: 11/28/08

## DATA QUALIFIERS AND DEFINITIONS

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

**TestAmerica Irvine**

Joseph Doak  
Project Manager

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**IRK2873 <Page 5 of 6>**

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

Project ID: BMP Effectiveness  
Monitoring Program  
Report Number: IRK2873

Sampled: 11/26/08  
Received: 11/28/08

## 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](http://www.testamericainc.com)*

### TestAmerica Irvine

Joseph Doak  
Project Manager

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## **APPENDIX G**

### **Section 7**

Outfall 006, December 15, 2008

MEC<sup>X</sup> Data Validation Reports



# DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IRL1709

Prepared by

MEC<sup>x</sup>, LP  
12269 East Vassar Drive  
Aurora, CO 80014

## I. INTRODUCTION

Task Order Title: Boeing SSFL NPDES  
 Contract Task Order: 1261.100D.00  
 Sample Delivery Group: IRL1709  
 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	IRL1709-01	D8L170218-001, F8L170169-001, 31266-001	Water	12/15/08 0833	245.1, 245.1 (Diss.), 900.0, 901.1, 903.0, 904.0, 905.0, 906.0, 908.0, 1613B

## II. Sample Management

The samples were received at TestAmerica-Irvine, TestAmerica-St. Louis, and Vista within the temperature limit of  $4 \pm 2^{\circ}\text{C}$  and received at TestAmerica-Denver below the control limit; however, the samples were not noted to be damaged or frozen. According to the case narrative for this SDG, the samples were received intact at all laboratories. 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-Denver, TestAmerica-St. Louis and Vista. If necessary, the client ID was added to the sample result summary by the reviewer.

### Data Qualifier Reference Table

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



### Qualification Code Reference Table

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

**Qualification Code Reference Table Cont.**

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

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### III. Method Analyses

#### A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: S. Dellamia

Date Reviewed: January 21, 2009

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 Dioxins and Furans (DVP-19, Rev. 0)*, *USEPA Method 1613*, and the *National Functional Guidelines Chlorinated Dioxin/Furan Data Review (8/02)*.

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.
- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.
  - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was not analyzed prior to the initial calibration sequence or at the beginning of each analytical sequence; however, the first and last eluting congeners and isomer specificity compounds were added to the midpoint of the initial calibration and to the continuing calibration standards. The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%.
  - Mass Spectrometer Performance: The mass spectrometer performance was acceptable with the static resolving power greater than 10,000.
- Calibration: Calibration criteria were met.
  - Initial Calibration: Initial calibration criteria were met. The initial calibration was acceptable with %RSDs  $\leq 20\%$  for the 16 native compounds (calibration by isotope dilution) and  $\leq 35\%$  for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the Method 1613 QC limits for all standards.
  - Continuing Calibration: Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VERs were acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits.
- Blanks: The method blank had no 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. OCDD detected below the laboratory lower calibration level in sample Outfall 006 was qualified as estimated, “J,” and coded with “DNQ,” in order to comply with the NPDES permit. Nondetects are valid to the estimated detection limit (EDL).

## B. EPA METHOD 245.1—Mercury

Reviewed By: P. Meeks

Date Reviewed: January 6, 2009

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 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  $r^2$  value was  $\geq 0.995$  and all initial and continuing calibration recoveries were within 85-115%. The CRA and check standard were recovered within the control limit of 70-130%.
- 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 laboratory-established 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 26, 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 (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, and total uranium were prepared within the five-day holding time for unpreserved samples. The aliquot for gamma spectroscopy was prepared beyond the five-day holding time for

unpreserved samples; therefore, the nondetected results for these analytes were qualified as estimated, "UJ."

- 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 an estimated detect, "J." 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 60% and was considered acceptable. The strontium and radium-226 continuing calibration results were within the laboratory 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: Radium-226 and radium-228 were detected in the method blanks but were not detected in the sample. There were no other analytes detected in the method blanks.
- Blank Spikes and Laboratory Control Samples: The radium-226 LCS recovery was 52%; therefore, the nondetected result for radium-226 was qualified as estimated, "UJ." The radium-226 and radium-228 LCS/LCSD RPDs were 53% and 38%, respectively; therefore, the nondetected results for radium-226 and radium-228 were qualified as estimated, "UJ." The remaining recoveries and the strontium-90 RPD were within laboratory-established control limits.
- Laboratory Duplicates: Laboratory duplicate analyses were performed on the sample in this SDG for gross alpha, gross beta, cesium-137, potassium-40, and strontium-90. The RPD for gross alpha was within the laboratory-established control limit. All remaining analytes were not detected in either the sample or the duplicate.
- Matrix Spike/Matrix Spike Duplicate: Matrix spike analyses were performed on the sample in this SDG for gross alpha and gross beta. The recoveries were within the laboratory established control limits.
- 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. Total uranium, normally reported in aqueous units, was converted to pCi/L using a conversion factor for naturally occurring uranium. 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:
  - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
  - Field Duplicates: There were no field duplicate samples identified for this SDG.

Sample ID: **IRL1709-01** Outfall 006 *SDM* 01-21-09 EPA Method 1613

Client Data		Sample Data		Laboratory Data			
Name:	Test America-Irvine, CA	Matrix:	Aqueous	Lab Sample:	31266-001	Date Received:	17-Dec-08
Project:	IRL1709	Sample Size:	1.04 L	QC Batch No.:	1770	Date Extracted:	17-Dec-08
Date Collected:	15-Dec-08			Date Analyzed DB-5:	18-Dec-08	Date Analyzed DB-225:	NA
Time Collected:	0935						

Analyte	Conc. (ug/L)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	ND	0.000000654			13C-2,3,7,8-TCDD	99.5	25 - 164	
1,2,3,7,8-PeCDD	ND	0.000000326			13C-1,2,3,7,8-PeCDD	110	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.000000285			13C-1,2,3,4,7,8-HxCDD	88.6	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.000002277			13C-1,2,3,6,7,8-HxCDD	97.9	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000261			13C-1,2,3,4,6,7,8-HpCDD	93.8	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	0.000000500			13C-OCDD	81.0	17 - 157	
OCDD	0.00000297			J	13C-2,3,7,8-TCDF	99.3	24 - 169	
2,3,7,8-TCDF	ND	0.000000568			13C-1,2,3,7,8-PeCDF	101	24 - 185	
1,2,3,7,8-PeCDF	ND	0.000000214			13C-2,3,4,7,8-PeCDF	103	21 - 178	
2,3,4,7,8-PeCDF	ND	0.000000216			13C-1,2,3,4,7,8-HxCDF	88.3	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000772			13C-1,2,3,6,7,8-HxCDF	85.9	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000849			13C-2,3,4,6,7,8-HxCDF	88.6	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000996			13C-1,2,3,7,8,9-HxCDF	93.6	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000000152			13C-1,2,3,4,6,7,8-HpCDF	88.1	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.000000156			13C-1,2,3,4,7,8,9-HpCDF	90.5	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.000000196			13C-OCDF	83.8	17 - 157	
OCDF	ND	0.000000212			CRS 37Cl-2,3,7,8-TCDD	91.0	35 - 197	
<b>Totals</b>								
Total TCDD	ND	0.000000654						
Total PeCDD	ND	0.000000326						
Total HxCDD	ND	0.000000274						
Total HpCDD	ND	0.000000813						
Total TCDF	ND	0.000000568						
Total PeCDF	ND	0.000000215						
Total HxCDF	ND	0.000000101						
Total HpCDF	ND	0.000000174						

Analyst: MAS Approved By: William J. Luksenburg 19-Dec-2008 11:15

**LEVEL IV**



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

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

Project ID: Routine Outfall 006

Report Number: IRL1709

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

## MCAWW 245.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL1709-01 (Outfall 006 - Water) - cont.									
Reporting Units: ug/L									
Mercury	U	MCAWW 245.1	8353495	0.027	0.2	ND	1	12/18/08	12/18/08

LEVEL IV

### TestAmerica Irvine

Joseph Doak  
Project Manager

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

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

Project ID: Routine Outfall 006

Report Number: IRL1709

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

## MCAWW 245.1-Diss

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IRL1709-01 (Outfall 006 - Water) - cont.</b>									
<b>Reporting Units: ug/L</b>									
Mercury-diss	MCAWW 245.1-Diss	8353517	0.027	0.2	ND	1	12/18/08	12/18/08	

LEVEL IV

TestAmerica Irvine

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Project Manager

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IRL1709 <Page 8 of 22>

Outfall 006  
 TestAmerica Irvine

Client Sample ID: IRL1709-01

Radiochemistry

Lab Sample ID: F8L170169-001  
 Work Order: K4VJ8  
 Matrix: WATER

Date Collected: 12/15/08 0935  
 Date Received: 12/17/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	mdc	Prep Date	Analysis Date
<b>Gamma Cs-137 &amp; Hits by EPA 901.1 MOD</b>							
Cesium 137	2.1	U	8.2	20.0	15	12/24/08	01/10/09
Potassium 40	-50	U	480		250	12/24/08	01/10/09
<b>Gross Alpha/Beta EPA 900</b>							
Gross Alpha	2.3	J	1.1	3.0	1.3	12/18/08	12/21/08
Gross Beta	4.10		0.95	4.00	0.98	12/18/08	12/21/08
<b>Radium 226 by EPA 903.0 MOD</b>							
Radium (226)	0.11	U	0.22	1.00	0.37	12/17/08	01/09/09
<b>Radium 228 by GFPC EPA 904 MOD</b>							
Radium 228	0.17	U	0.57	1.00	0.98	12/17/08	01/09/09
<b>TRITIUM (Distill) by EPA 906.0 MOD</b>							
Tritium	80	U	200	500	340	01/12/09	01/13/09
<b>SR-90 BY GFPC EPA-905 MOD</b>							
Strontium 90	-0.04	U	0.38	3.00	0.65	12/17/08	01/10/09
<b>Total Uranium by KPA ASTM 5174-91</b>							
Total Uranium	0.176	U	0.018	0.693	0.21	12/19/08	12/21/08

LEVEL IV

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC.

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

U Result is less than the sample detection limit.

## **APPENDIX G**

### **Section 8**

Outfall 006, December 15, 2008

Test America Analytical Laboratory Report

## LABORATORY REPORT

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

Project: Routine Outfall 006

Sampled: 12/15/08  
Received: 12/15/08  
Issued: 01/29/09 13:58

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

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**

IRL1709-01

**CLIENT ID**

Outfall 006

**MATRIX**

Water

Reviewed By:



**TestAmerica Irvine**

Trupti Mistry For Joseph Doak  
Project Manager

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

Project ID: Routine Outfall 006

Report Number: IRL1709

Sampled: 12/15/08

Received: 12/15/08

## METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IRL1709-01 (Outfall 006 - Water)</b>									
Reporting Units: ug/l									
Antimony	EPA 200.8	8L16092	0.20	2.0	<b>0.39</b>	1	12/16/08	12/17/08	J
Cadmium	EPA 200.8	8L16092	0.11	1.0	<b>0.11</b>	1	12/16/08	12/17/08	J
Copper	EPA 200.8	8L16092	0.75	2.0	<b>2.0</b>	1	12/16/08	12/17/08	
Lead	EPA 200.8	8L16092	0.30	1.0	<b>1.1</b>	1	12/16/08	12/17/08	
Thallium	EPA 200.8	8L16092	0.20	1.0	ND	1	12/16/08	12/17/08	

### TestAmerica Irvine

Trupti Mistry For Joseph Doak  
Project Manager

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

Project ID: Routine Outfall 006

Report Number: IRL1709

Sampled: 12/15/08

Received: 12/15/08

## DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IRL1709-01 (Outfall 006 - Water) - cont.</b>									
<b>Reporting Units: ug/l</b>									
Antimony	EPA 200.8-Diss	8L17121	0.20	2.0	<b>0.47</b>	1	12/17/08	12/18/08	B, J
Cadmium	EPA 200.8-Diss	8L17121	0.11	1.0	ND	1	12/17/08	12/18/08	
Copper	EPA 200.8-Diss	8L17121	0.75	2.0	<b>1.1</b>	1	12/17/08	12/18/08	B, J
Lead	EPA 200.8-Diss	8L17121	0.30	1.0	ND	1	12/17/08	12/18/08	
Thallium	EPA 200.8-Diss	8L17121	0.20	1.0	ND	1	12/17/08	12/18/08	

**TestAmerica Irvine**

Trupti Mistry For Joseph Doak  
 Project Manager

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

Project ID: Routine Outfall 006

Report Number: IRL1709

Sampled: 12/15/08

Received: 12/15/08

## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IRL1709-01 (Outfall 006 - Water) - cont.</b>									
<b>Reporting Units: mg/l</b>									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	8L19123	1.4	4.9	<b>3.9</b>	1	12/19/08	12/19/08	J
Chloride	EPA 300.0	8L15075	0.25	0.50	<b>23</b>	1	12/15/08	12/16/08	
Nitrate/Nitrite-N	EPA 300.0	8L16086	0.15	0.26	<b>6.4</b>	1	12/16/08	12/16/08	
Sulfate	EPA 300.0	8L15075	0.20	0.50	<b>18</b>	1	12/15/08	12/16/08	
Total Dissolved Solids	SM2540C	8L16052	10	10	<b>160</b>	1	12/16/08	12/17/08	

**TestAmerica Irvine**

Trupti Mistry For Joseph Doak  
 Project Manager



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

Project ID: Routine Outfall 006

Report Number: IRL1709

Sampled: 12/15/08

Received: 12/15/08

## DIOXIN (EPA 1613)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IRL1709-01 (Outfall 006 - Water) - cont.</b>									
<b>Reporting Units: ug/L</b>									
2,3,7,8-TCDD	1613-Dioxin-HR Alta	1770	0.00000650	0.0000481	ND	1	12/17/08	12/18/08	
1,2,3,7,8-PeCDD	1613-Dioxin-HR Alta	1770	0.00003260	0.000240	ND	1	12/17/08	12/18/08	
1,2,3,4,7,8-HxCDD	1613-Dioxin-HR Alta	1770	0.00002850	0.000240	ND	1	12/17/08	12/18/08	
1,2,3,6,7,8-HxCDD	1613-Dioxin-HR Alta	1770	0.00002770	0.000240	ND	1	12/17/08	12/18/08	
1,2,3,7,8,9-HxCDD	1613-Dioxin-HR Alta	1770	0.00002610	0.000240	ND	1	12/17/08	12/18/08	
1,2,3,4,6,7,8-HpCDD	1613-Dioxin-HR Alta	1770	0.000005	0.0000240	ND	1	12/17/08	12/18/08	
<b>OCDD</b>	1613-Dioxin-HR Alta	1770	0.00002450	0.000481	<b>0.0000297</b>	1	12/17/08	12/18/08	Ja
2,3,7,8-TCDF	1613-Dioxin-HR Alta	1770	0.00000560	0.0000481	ND	1	12/17/08	12/18/08	
1,2,3,7,8-PeCDF	1613-Dioxin-HR Alta	1770	0.00002140	0.000240	ND	1	12/17/08	12/18/08	
2,3,4,7,8-PeCDF	1613-Dioxin-HR Alta	1770	0.00002160	0.000240	ND	1	12/17/08	12/18/08	
1,2,3,4,7,8-HxCDF	1613-Dioxin-HR Alta	1770	0.000007720	0.000240	ND	1	12/17/08	12/18/08	
1,2,3,6,7,8-HxCDF	1613-Dioxin-HR Alta	1770	0.000008450	0.000240	ND	1	12/17/08	12/18/08	
2,3,4,6,7,8-HxCDF	1613-Dioxin-HR Alta	1770	0.000009960	0.000240	ND	1	12/17/08	12/18/08	
1,2,3,7,8,9-HxCDF	1613-Dioxin-HR Alta	1770	0.00001520	0.000240	ND	1	12/17/08	12/18/08	
1,2,3,4,6,7,8-HpCDF	1613-Dioxin-HR Alta	1770	0.00001560	0.000240	ND	1	12/17/08	12/18/08	
1,2,3,4,7,8,9-HpCDF	1613-Dioxin-HR Alta	1770	0.00001960	0.000240	ND	1	12/17/08	12/18/08	
OCDF	1613-Dioxin-HR Alta	1770	0.00002120	0.000481	ND	1	12/17/08	12/18/08	
Total TCDD	1613-Dioxin-HR Alta	1770	0.000006540	0.0000481	ND	1	12/17/08	12/18/08	
Total PeCDD	1613-Dioxin-HR Alta	1770	0.0000326	0.0000240	ND	1	12/17/08	12/18/08	
Total HxCDD	1613-Dioxin-HR Alta	1770	0.0000261	0.0000240	ND	1	12/17/08	12/18/08	
Total HpCDD	1613-Dioxin-HR Alta	1770	0.000005	0.0000240	ND	1	12/17/08	12/18/08	
Total TCDF	1613-Dioxin-HR Alta	1770	0.000005680	0.0000481	ND	1	12/17/08	12/18/08	
Total PeCDF	1613-Dioxin-HR Alta	1770	0.0000214	0.0000240	ND	1	12/17/08	12/18/08	
Total HxCDF	1613-Dioxin-HR Alta	1770	0.000007720	0.0000240	ND	1	12/17/08	12/18/08	
Total HpCDF	1613-Dioxin-HR Alta	1770	0.0000156	0.0000240	ND	1	12/17/08	12/18/08	

Surrogate: 13C-2,3,7,8-TCDD (25-164%)	99.5 %
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)	110 %
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)	88.6 %
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)	97.9 %
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)	93.8 %
Surrogate: 13C-OCDD (17-157%)	81 %
Surrogate: 13C-2,3,7,8-TCDF (24-169%)	99.3 %
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)	101 %
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)	103 %
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)	88.3 %
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)	85.9 %
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)	88.6 %
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)	93.6 %
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)	88.1 %
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)	90.5 %
Surrogate: 13C-OCDF (17-157%)	83.8 %

### TestAmerica Irvine

Trupti Mistry For Joseph Doak  
Project Manager

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

Project ID: Routine Outfall 006

Report Number: IRL1709

Sampled: 12/15/08

Received: 12/15/08

## DIOXIN (EPA 1613)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IRL1709-01 (Outfall 006 - Water) - cont.</b>									
Reporting Units: ug/L									
Surrogate: 37Cl-2,3,7,8-TCDD (35-197%)					91 %				

### TestAmerica Irvine

Trupti Mistry For Joseph Doak  
Project Manager

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