

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

Project ID: Quarterly Outfall 019
 Quarterly Outfall 019
 Report Number: IUJ2388

Sampled: 10/19/11-10/21/11
 Received: 10/19/11

METHOD BLANK/QC DATA

905

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8692 Extracted: 11/04/11												
LCS Analyzed: 11/04/2011 (S110124-03)						Source:						
Strontium-90	19.2	2	N/A	pCi/L	DVP	18.9	102	80-120				
Blank Analyzed: 11/04/2011 (S110124-04)						Source:						
Strontium-90	0.099	2	N/A	pCi/L	DVP			-				U
Duplicate Analyzed: 11/04/2011 (S110124-05)						Source: IUJ2388-03						
Strontium-90	-0.23	2	N/A	pCi/L	DVP	0.245		-		0		U

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Quarterly Outfall 019
 Quarterly Outfall 019
 Report Number: IUJ2388

Sampled: 10/19/11-10/21/11
 Received: 10/19/11

METHOD BLANK/QC DATA

906

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8692 Extracted: 10/28/11												
LCS Analyzed: 10/28/2011 (S110124-03)						Source:						
Tritium	226	500	N/A	pCi/L	WK	250	90	80-120				Jb
Blank Analyzed: 10/28/2011 (S110124-04)						Source:						
Tritium	-5.5	500	N/A	pCi/L	WK			-				U
Duplicate Analyzed: 10/28/2011 (S110124-05)						Source: IUJ2388-03						
Tritium	-93.3	500	N/A	pCi/L	WK	-130		-		0		U

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Quarterly Outfall 019
Quarterly Outfall 019
Report Number: IUJ2388

Sampled: 10/19/11-10/21/11
Received: 10/19/11

METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1300117 Extracted: 10/27/11												
Blank Analyzed: 10/28/2011 (G1J270000117B)						Source:						
1,2,3,4,6,7,8-HpCDD	0.000058	0.00005	0.00004	ug/L	LH			-				J, Q
1,2,3,4,6,7,8-HpCDF	0.000034	0.00005	0.00002	ug/L	LH			-				J, Q
1,2,3,4,7,8,9-HpCDF	0.000025	0.00005	0.00003	ug/L	LH			-				J, Q
1,2,3,4,7,8-HxCDD	0.000038	0.00005	0.00001	ug/L	LH			-				J
1,2,3,4,7,8-HxCDF	0.000042	0.00005	0.000005	ug/L	LH			-				J, Q
1,2,3,6,7,8-HxCDD	0.000016	0.00005	0.00001	ug/L	LH			-				J, Q
1,2,3,6,7,8-HxCDF	0.000029	0.00005	0.000008	ug/L	LH			-				J, Q
1,2,3,7,8,9-HxCDD	0.000023	0.00005	0.000005	ug/L	LH			-				J, Q
1,2,3,7,8,9-HxCDF	0.000025	0.00005	0.000005	ug/L	LH			-				J, Q
1,2,3,7,8-PeCDD	ND	0.00005	0.000005	ug/L	LH			-				
1,2,3,7,8-PeCDF	ND	0.00005	0.000003	ug/L	LH			-				
2,3,4,6,7,8-HxCDF	0.000013	0.00005	0.000008	ug/L	LH			-				J, Q
2,3,4,7,8-PeCDF	ND	0.00005	0.000004	ug/L	LH			-				
2,3,7,8-TCDD	ND	0.00001	0.000004	ug/L	LH			-				
2,3,7,8-TCDF	ND	0.00001	0.000003	ug/L	LH			-				
OCDD	0.000037	0.0001	0.000006	ug/L	LH			-				J
OCDF	0.000055	0.0001	0.000006	ug/L	LH			-				J
Total HpCDD	0.000086	0.00005	0.000004	ug/L	LH			-				J, Q
Total HpCDF	0.000059	0.00005	0.000002	ug/L	LH			-				J, Q
Total HxCDD	0.000076	0.00005	0.000001	ug/L	LH			-				J, Q
Total HxCDF	0.000011	0.00005	0.000000	ug/L	LH			-				J, Q
Total PeCDD	ND	0.00005	0.000005	ug/L	LH			-				
Total PeCDF	ND	0.00005	0.000003	ug/L	LH			-				
Total TCDD	ND	0.00001	0.000004	ug/L	LH			-				
Total TCDF	ND	0.00001	0.000003	ug/L	LH			-				
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.001			ug/L	LH	0.002		50		23-140		
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0011			ug/L	LH	0.002		54		28-143		
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.0011			ug/L	LH	0.002		54		26-138		
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.00099			ug/L	LH	0.002		50		32-141		
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00097			ug/L	LH	0.002		49		26-152		
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.0011			ug/L	LH	0.002		56		28-130		
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.001			ug/L	LH	0.002		50		26-123		
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.001			ug/L	LH	0.002		52		29-147		
Surrogate: 13C-1,2,3,7,8-PeCDD	0.0011			ug/L	LH	0.002		56		25-181		
Surrogate: 13C-1,2,3,7,8-PeCDF	0.0011			ug/L	LH	0.002		56		24-185		

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Quarterly Outfall 019
Quarterly Outfall 019
Report Number: IUJ2388

Sampled: 10/19/11-10/21/11
Received: 10/19/11

METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1300117 Extracted: 10/27/11												
Blank Analyzed: 10/28/2011 (G1J270000117B)						Source:						
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.001			ug/L	LH	0.002		52	28-136			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.0011			ug/L	LH	0.002		57	21-178			
Surrogate: 13C-2,3,7,8-TCDD	0.00095			ug/L	LH	0.002		47	25-164			
Surrogate: 13C-2,3,7,8-TCDF	0.001			ug/L	LH	0.002		52	24-169			
Surrogate: 13C-OCDD	0.0021			ug/L	LH	0.004		53	17-157			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.00069			ug/L	LH	0.0008		87	35-197			
LCS Analyzed: 10/28/2011 (G1J270000117C)						Source:						
1,2,3,4,6,7,8-HpCDD	0.00116	0.00005	0.000011	ug/L	LH	0.001		116	70-140			Ba
1,2,3,4,6,7,8-HpCDF	0.00104	0.00005	0.00001	ug/L	LH	0.001		104	82-122			Ba
1,2,3,4,7,8,9-HpCDF	0.00109	0.00005	0.000014	ug/L	LH	0.001		109	78-138			Ba
1,2,3,4,7,8-HxCDD	0.001	0.00005	0.000004	ug/L	LH	0.001		100	70-164			Ba
1,2,3,4,7,8-HxCDF	0.0011	0.00005	0.000001	ug/L	LH	0.001		110	72-134			Ba
1,2,3,6,7,8-HxCDD	0.00111	0.00005	0.000004	ug/L	LH	0.001		111	76-134			Ba
1,2,3,6,7,8-HxCDF	0.00115	0.00005	0.000005	ug/L	LH	0.001		115	84-130			Ba
1,2,3,7,8,9-HxCDD	0.00116	0.00005	0.000003	ug/L	LH	0.001		116	64-162			Ba
1,2,3,7,8,9-HxCDF	0.00114	0.00005	0.000001	ug/L	LH	0.001		114	78-130			Ba
1,2,3,7,8-PeCDD	0.00124	0.00005	0.000005	ug/L	LH	0.001		124	70-142			
1,2,3,7,8-PeCDF	0.00103	0.00005	0.000006	ug/L	LH	0.001		103	80-134			
2,3,4,6,7,8-HxCDF	0.00113	0.00005	0.000008	ug/L	LH	0.001		113	70-156			Ba
2,3,4,7,8-PeCDF	0.00106	0.00005	0.000007	ug/L	LH	0.001		106	68-160			
2,3,7,8-TCDD	0.000222	0.00001	0.000003	ug/L	LH	0.0002		111	67-158			
2,3,7,8-TCDF	0.000219	0.00001	0.000002	ug/L	LH	0.0002		110	75-158			
OCDD	0.00221	0.0001	0.000009	ug/L	LH	0.002		110	78-144			Ba
OCDF	0.00219	0.0001	0.000003	ug/L	LH	0.002		110	63-170			Ba
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.000966			ug/L	LH	0.002		48	26-166			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.000932			ug/L	LH	0.002		47	21-158			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.00101			ug/L	LH	0.002		51	20-186			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.000858			ug/L	LH	0.002		43	21-193			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.000801			ug/L	LH	0.002		40	19-202			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.000881			ug/L	LH	0.002		44	25-163			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.000864			ug/L	LH	0.002		43	21-159			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.000925			ug/L	LH	0.002		46	17-205			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.000789			ug/L	LH	0.002		40	21-227			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.000792			ug/L	LH	0.002		40	21-192			

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Quarterly Outfall 019
 Quarterly Outfall 019
 Report Number: IUJ2388

Sampled: 10/19/11-10/21/11
 Received: 10/19/11

METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting		Units	Analyst	Spike Level	Source		%REC		RPD		Data Qualifiers
		Limit	MDL				Result	%REC	Limits	RPD	Limit		
Batch: 1300117 Extracted: 10/27/11													
LCS Analyzed: 10/28/2011 (G1J270000117C)													
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.000899			ug/L	LH	0.002	45	22-176					
Surrogate: 13C-2,3,4,7,8-PeCDF	0.000749			ug/L	LH	0.002	37	13-328					
Surrogate: 13C-2,3,7,8-TCDD	0.000809			ug/L	LH	0.002	40	20-175					
Surrogate: 13C-2,3,7,8-TCDF	0.000802			ug/L	LH	0.002	40	22-152					
Surrogate: 13C-OCDD	0.00211			ug/L	LH	0.004	53	13-199					
Surrogate: 37Cl4-2,3,7,8-TCDD	0.000707			ug/L	LH	0.0008	88	31-191					

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Quarterly Outfall 019
Quarterly Outfall 019
Report Number: IUJ2388

Sampled: 10/19/11-10/21/11
Received: 10/19/11

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IUJ2388-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0	4.7	15
IUJ2388-01	624-Boeing 001/002Q (Fr113+X+Fr1,1-Dichloroethene		ug/l	0	0.50	6
IUJ2388-01	624-Boeing 001/002Q (Fr113+X+FrTrichloroethene		ug/l	0	0.50	5
IUJ2388-01	Settleable Solids - SM2540F	Total Settleable Solids	ml/l	0	0.10	0.3

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IUJ2388-02	624-Boeing 001/002Q (Fr113+X+Fr1,1-Dichloroethene		ug/l	0	0.50	6
IUJ2388-02	624-Boeing 001/002Q (Fr113+X+FrTrichloroethene		ug/l	0	0.50	5

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IUJ2388-03	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0	0.0095	0.03
IUJ2388-03	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	5.71	13
IUJ2388-03	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	4.76	18
IUJ2388-03	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	1.70	4.76	4
IUJ2388-03	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	4.76	16
IUJ2388-03	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	4.76	16.5
IUJ2388-03	Ammonia-N, Titr 4500NH3-C (w/di:Ammonia-N (Distilled)		mg/l	0.84	0.500	10.1
IUJ2388-03	BOD - SM5210B	Biochemical Oxygen Demand	mg/l	0	2.0	30
IUJ2388-03	Cadmium-200.8	Cadmium	ug/l	0.031	1.0	3.1
IUJ2388-03	Chloride - 300.0	Chloride	mg/l	249	25	150
IUJ2388-03	Copper-200.8	Copper	ug/l	0	2.00	14
IUJ2388-03	Cyanide, Total-4500CN-E (5ppb)	Total Cyanide	ug/l	-1	5.0	8.5
IUJ2388-03	Lead-200.8	Lead	ug/l	0.37	1.0	5.2
IUJ2388-03	MBAS - SM5540C	Surfactants (MBAS)	mg/l	0.021	0.10	0.5
IUJ2388-03	Mercury - 245.1	Mercury	ug/l	0	0.20	0.1
IUJ2388-03	Nitrate-N, 300.0	Nitrate-N	mg/l	0.13	0.11	8
IUJ2388-03	Nitrite-N, 300.0	Nitrite-N	mg/l	0	0.75	1
IUJ2388-03	Nitrogen, NO3+NO2 -N EPA 300.0	Nitrate/Nitrite-N	mg/l	0.52	1.3	8
IUJ2388-03	Perchlorate 314.0 - Default	Perchlorate	ug/l	0	4.0	6

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Quarterly Outfall 019
 Quarterly Outfall 019
 Report Number: IUJ2388

Sampled: 10/19/11-10/21/11
 Received: 10/19/11

IUJ2388-03	Selenium-200.8	Selenium	ug/l	0.40	2.0	5
IUJ2388-03	Sulfate-300.0	Sulfate	mg/l	151	25	300
IUJ2388-03	TDS - SM2540C	Total Dissolved Solids	mg/l	1125	10	950
IUJ2388-03	TSS - SM2540D	Total Suspended Solids	mg/l	0	10	45
IUJ2388-03	Zinc-200.7	Zinc	ug/l	12	20.0	119

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
-----------	----------	---------	-------	--------	-----	------------------

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Quarterly Outfall 019
Quarterly Outfall 019
Report Number: IUJ2388

Sampled: 10/19/11-10/21/11
Received: 10/19/11

DATA QUALIFIERS AND DEFINITIONS

- B** Analyte was detected in the associated Method Blank.
- B-1** Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
- Ba** Method blank contamination. The associated method blank contains the target analyte at a reportable level.
- C** Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
- J** Estimated result. Result is less than the reporting limit.
- Ja** Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
- Jb** The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
- L** Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptance limits. Analyte not detected, data not impacted.
- M1** The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- M2** The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- M7** The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
- MHA** Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
- MNR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- Q** Estimated maximum possible concentration (EMPC).
- RL3** Reporting limit raised due to high concentrations of non-target analytes.
- U** The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Quarterly Outfall 019
 Quarterly Outfall 019
 Report Number: IUJ2388

Sampled: 10/19/11-10/21/11
 Received: 10/19/11

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EDD + Level 4	Water	N/A	N/A
EPA 120.1	Water	X	X
EPA 1664A	Water	X	X
EPA 180.1	Water	X	N/A
EPA 200.7-Diss	Water	X	N/A
EPA 200.7	Water	X	N/A
EPA 200.8-Diss	Water	X	N/A
EPA 200.8	Water	X	N/A
EPA 245.1-Diss	Water	X	N/A
EPA 245.1	Water	X	N/A
EPA 300.0	Water	X	N/A
EPA 314.0	Water	X	N/A
EPA 608	Water	X	X
EPA 624	Water	X	X
EPA 625	Water	X	X
Filtration	Water	N/A	N/A
SM 2540D	Water	X	X
SM2340B-Diss	Water		
SM2340B	Water	X	N/A
SM2540C	Water	X	N/A
SM2540F	Water	X	X
SM4500CN-E	Water	X	N/A
SM4500NH3-C	Water	X	X
SM5210B	Water	X	X
SM5310B	Water	X	X
SM5540-C	Water	X	N/A

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

Subcontracted Laboratories

Aquatic Testing Laboratories-SUB *California Cert #1775*

4350 Transport Street, Unit 107 - Ventura, CA 93003

Analysis Performed: Bioassay-Acute 96hr

Samples: IUJ2388-03

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Quarterly Outfall 019
Quarterly Outfall 019
Report Number: IUJ2388

Sampled: 10/19/11-10/21/11
Received: 10/19/11

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec
Samples: IUJ2388-03, IUJ2388-04

Analysis Performed: Gross Alpha
Samples: IUJ2388-03, IUJ2388-04

Analysis Performed: Gross Beta
Samples: IUJ2388-03, IUJ2388-04

Analysis Performed: Level 4 Data Package
Samples: IUJ2388-03

Analysis Performed: Radium, Combined
Samples: IUJ2388-03, IUJ2388-04

Analysis Performed: Strontium 90
Samples: IUJ2388-03, IUJ2388-04

Analysis Performed: Tritium
Samples: IUJ2388-03

Analysis Performed: Uranium, Combined
Samples: IUJ2388-03, IUJ2388-04

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Quarterly Outfall 019
Quarterly Outfall 019
Report Number: IUJ2388

Sampled: 10/19/11-10/21/11
Received: 10/19/11

TestAmerica Buffalo

10 Hazelwood Drive, Suite 106 - Amherst, NY 14228

Method Performed: 8692
Samples: IUJ2388-03, IUJ2388-04

Method Performed: 900
Samples: IUJ2388-03, IUJ2388-04

Method Performed: 901.1
Samples: IUJ2388-03, IUJ2388-04

Method Performed: 903.1
Samples: IUJ2388-03, IUJ2388-04

Method Performed: 904
Samples: IUJ2388-03, IUJ2388-04

Method Performed: 905
Samples: IUJ2388-03, IUJ2388-04

Method Performed: 906
Samples: IUJ2388-03

TestAmerica West Sacramento NELAC Cert #1119CA, Nevada Cert #CA44

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B
Samples: IUJ2388-03

TestAmerica Irvine

Debby Wilson
Project Manager

1052388

Client Name/Address: MWH-Arcadia 618 Michilinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson		Project: Boeing-SSFL NPDES Quarterly Outfall 019 COMPOSITE TIME WEIGHED		ANALYSIS REQUIRED Total Recoverable Metals: Cu, Pb, Hg, Cd, Se, Zn, Hardness as CaCO ₃ TCDD (and all congeners) BOD ₅ (20 degrees C) Surfactants (MBAS) Cl ₂ , SO ₄ , NO ₃ +NO ₂ -N, Perchlorate Nitrate-N, Nitrite-N Turbidity, TDS, TSS Ammonia-N (350.2) Alpha BHC (608) 2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs 625)										Comments			
Project Manager: Bronwyn Kelly Sampler: RICK BARNHART		Phone Number: (626) 568-6691 Fax Number: (626) 568-6515		Sampling Date/Time 10-20-11 13:41		Preservative HNO ₃		Bottle # 6A		Se, Zn, Hardness as CaCO ₃ TCDD (and all congeners) BOD ₅ (20 degrees C) Surfactants (MBAS) Cl ₂ , SO ₄ , NO ₃ +NO ₂ -N, Perchlorate Nitrate-N, Nitrite-N Turbidity, TDS, TSS Ammonia-N (350.2) Alpha BHC (608)		Comments TN 10/20/11 21-15					
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Se, Zn, Hardness as CaCO ₃	TCDD (and all congeners)	BOD ₅ (20 degrees C)	Surfactants (MBAS)	Cl ₂ , SO ₄ , NO ₃ +NO ₂ -N, Perchlorate	Nitrate-N, Nitrite-N	Turbidity, TDS, TSS	Ammonia-N (350.2)	Alpha BHC (608)	2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs 625)	Comments
Outfall 019	W	1L Poly	1	10-20-11 13:41	HNO ₃	6A	X										
Outfall 019 Dup	W	1L Poly	1		HNO ₃	6B	X										
Outfall 019	W	1L Amber	2		None	7A, 7B		X									
Outfall 019	W	1L Poly	1		None	8			X								
Outfall 019	W	500 mL Poly	2		None	9A, 9B				X							
Outfall 019	W	500 mL Poly	2		None	10A, 10B					X						
Outfall 019	W	500 mL Poly	1		None	11						X					
Outfall 019	W	500 mL Poly	2		None	12A, 12B							X				
Outfall 019	W	500 mL Poly	1		H ₂ SO ₄	13								X			
Outfall 019	W	1L Amber	2		None	14A, 14B											
Outfall 019	W	1L Amber	2	10-20-11 13:41	None	15A, 15B									X		

COC Page 2 of 3 and Page 3 of 3 are the composite samples for Outfall 019 for this storm event. These must be added to the same work order for COC page 1 of 3 for Outfall 019 for the same event.

Relinquished By <i>Pat B...</i>	Date/Time 10-20-11 15:35	Received By <i>Pat B...</i>	Date/Time 10-20-11 15:35
Relinquished By <i>Pat B...</i>	Date/Time 10-20-11 19:35	Received By <i>Pat B...</i>	Date/Time 10-20-11 19:35
Relinquished By	Date/Time	Received By	Date/Time

Turn-around time: (Check)
 24 Hour: _____ 72 Hour: _____ 10 Day: _____
 48 Hour: _____ 5 Day: _____ Normal:

Sample Integrity: (Check)
 Intact: On Ice:

Data Requirements: (Check)
 No Level IV: _____ All Level IV: _____ NPDES Level IV:

20 Nov

LABORATORY REPORT



"dedicated to providing quality aquatic toxicity testing"

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

Date: October 26, 2011

Client: Test America – Irvine
17461 Derian Ave., Suite 100
Irvine, CA 92614
Attn: Debby Wilson

Laboratory No.: A-11102002-001
Sample ID.: IUJ2388-03 Outfall 019

Sample Control: The sample was received by ATL in a chilled state, within the recommended hold time and with the chain of custody record attached.

Date Sampled: 10/20/11
Date Received: 10/20/11
Temp. Received: 5.9°C
Chlorine (TRC): 0.0 mg/l
Date Tested: 10/21/11 to 10/25/11

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

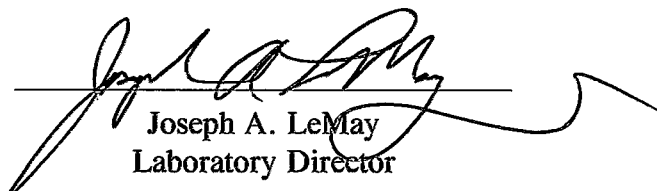
Fathead Minnow 96hr Percent Survival Bioassay (EPA Method 2000.0).

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

Result Summary:

<u>Sample ID.</u>	<u>Results</u>
IUJ2388-03	100% Survival (TUa = 0.0)

Quality Control: Reviewed and approved by:


Joseph A. LeMay
Laboratory Director

FATHEAD MINNOW PERCENT SURVIVAL TEST

EPA Method 2000.0



Lab No.: A-11102002-002
 Client/ID: TestAmerica Outfall 019
 143 2388-03

Start Date: 10/26/2011

TEST SUMMARY

Species: *Pimephales promelas*.
 Age: 14 (1-14) days.
 Regulations: NPDES.
 Test solution volume: 250 ml.
 Feeding: prior to renewal at 48 hrs.
 Number of replicates: 2.
 Control water: Moderately hard reconstituted water.
 Photoperiod: 16/8 hrs light/dark.

Source: In-laboratory Culture.
 Test type: Static-Renewal.
 Test Protocol: EPA-821-R-02-012.
 Endpoints: Percent Survival at 96 hrs.
 Test chamber: 600 ml beakers.
 Temperature: 20 +/- 1°C.
 Number of fish per chamber: 10.
 QA/QC No.: RT-111005.

TEST DATA

		°C	DO	pH	# Dead		Analyst & Time of Readings
					A	B	
INITIAL	Control	20.4	8.8	8.0	0	0	J 1130
	100%	20.4	7.5	7.2	0	0	
24 Hr	Control	20.3	7.1	7.9	0	0	J 1130
	100%	20.2	7.4	7.9	0	0	
48 Hr	Control	20.2	7.8	7.9	0	0	J 1130
	100%	20.1	7.8	8.3	0	0	
Renewal	Control	20.4	8.4	8.1	0	0	J 1130
	100%	20.4	8.0	7.7	0	0	
72 Hr	Control	20.2	7.6	7.8	0	0	J 1130
	100%	20.2	7.5	8.0	0	0	
96 Hr	Control	20.2	7.7	8.0	0	0	J 1130
	100%	20.0	7.7	8.4	0	0	

Comments:

Sample as received: Chlorine: 0.0 mg/l; pH: 7.2 ; Conductivity: 1380 umho; Temp: 5.9°C;
 DO: 7.5 mg/l; Alkalinity: 223 mg/l; Hardness: 576 mg/l; NH₃-N: 0.2 mg/l.
 Sample aerated moderately (approx. 500 ml/min) to raise or lower DO? Yes / (No)
 Control: Alkalinity: 68 mg/l; Hardness: 93 mg/l; Conductivity: 336 umho.
 Test solution aerated (not to exceed 100 bubbles/min) to maintain DO >4.0 mg/l? Yes / (No)
 Sample used for renewal is the original sample kept at 0-6°C with minimal headspace.
 Dissolved Oxygen (DO) readings in mg/l O₂.

RESULTS

Percent Survival In: Control: 100 % 100% Sample: 100 %



***REFERENCE
TOXICANT
DATA***

**FATHEAD MINNOW ACUTE
Reference Toxicant - SDS**



QA/QC Batch No.: RT-111005

TEST SUMMARY

Species: *Pimephales promelas*.
 Age: 13 days old.
 Regulations: NPDES.
 Test chamber volume: 250 ml.
 Feeding: Prior to renewal at 48 hrs.
 Temperature: 20 +/- 1°C.
 Number of replicates: 2.
 Dilution water: MHSF.

Source: In-lab culture.
 Test type: Static-Renewal.
 Test Protocol: EPA-821-R-02-012.
 Endpoints: LC50 at 96 hrs.
 Test chamber: 600 ml beakers.
 Aeration: None.
 Number of organisms per chamber: 10.
 Photoperiod: 16/8 hrs light/dark.

TEST DATA

Date/Time: Analyst:	INITIAL			24 Hr			48 Hr						
	10-5-11 11:00			10-6-11 11:00			10-7-11 11:00						
	[Signature]			[Signature]			[Signature]						
	°C	DO	pH	°C	DO	pH	# Dead		°C	DO	pH	# Dead	
A							B	A				B	
Control	20.4	8.6	8.4	19.5	8.2	8.1	0	0	19.4	8.0	8.0	0	0
1.0 mg/l	20.3	8.6	8.3	19.4	8.1	8.1	0	0	19.5	8.0	8.0	0	0
2.0 mg/l	20.4	8.6	8.3	19.3	8.0	8.0	0	0	19.3	7.9	7.9	0	0
4.0 mg/l	20.4	8.4	8.3	19.5	8.0	8.0	1	0	19.3	7.6	7.9	3	2
8.0 mg/l	20.4	8.5	8.3	19.6	7.7	7.9	10	10	-	-	-	-	-
16.0 mg/l	20.4	8.5	8.4	19.5	7.8	7.9	10	10	-	-	-	-	-

Date/Time: Analyst:	RENEWAL			72 Hr			96 Hr						
	10-7-11 11:00			10-8-11 11:00			10-9-11 11:00						
	[Signature]			[Signature]			[Signature]						
	°C	DO	pH	°C	DO	pH	# Dead		°C	DO	pH	# Dead	
A							B	A				B	
Control	19.5	8.0	8.1	19.8	7.9	8.1	0	0	19.9	7.4	7.8	0	0
1.0 mg/l	19.4	8.3	8.1	19.7	7.6	8.1	0	0	19.7	7.3	7.9	0	0
2.0 mg/l	19.3	8.3	8.1	19.6	7.7	8.1	0	0	19.7	7.2	7.9	0	0
4.0 mg/l	19.4	8.1	8.0	19.7	7.6	8.0	0	0	19.9	7.6	7.9	0	0
8.0 mg/l	-	-	-	-	-	-	-	-	-	-	-	-	-
16.0 mg/l	-	-	-	-	-	-	-	-	-	-	-	-	-

Comments: Control: Alkalinity: 7.3 mg/l; Hardness: 91 mg/l; Conductivity: 320 umho.
 SDS: Alkalinity: 7.4 mg/l; Hardness: 89 mg/l; Conductivity: 346 umho.

Concentration-response relationship acceptable? (see attached computer analysis):
 Yes (response curve normal)
 No (dose interrupted indicated or non-normal)

Acute Fish Test-96 Hr Survival

Start Date: 10/5/2011 11:00 Test ID: RT111005f Sample ID: REF-Ref Toxicant
 End Date: 10/9/2011 11:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: SDS-Sodium dodecyl sulfate
 Sample Date: 10/5/2011 Protocol: ACUTE-EPA-821-R-02-012 Test Species: PP-Pimephales promelas

Comments:

Conc-mg/L	1	2
D-Control	1.0000	1.0000
1	1.0000	1.0000
2	1.0000	1.0000
4	0.6000	0.8000
8	0.0000	0.0000
16	0.0000	0.0000

Conc-mg/L	Mean	N-Mean	Transform: Arcsin Square Root					N	Number Resp	Total Number
			Mean	Min	Max	CV%				
D-Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
1	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
2	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
4	0.7000	0.7000	0.9966	0.8861	1.1071	15.685	2	6	20	
8	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20	
16	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20	

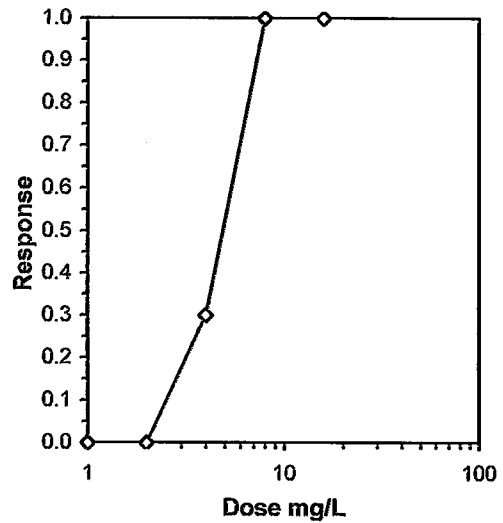
Auxiliary Tests

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

Statistic Critical Skew Kurt

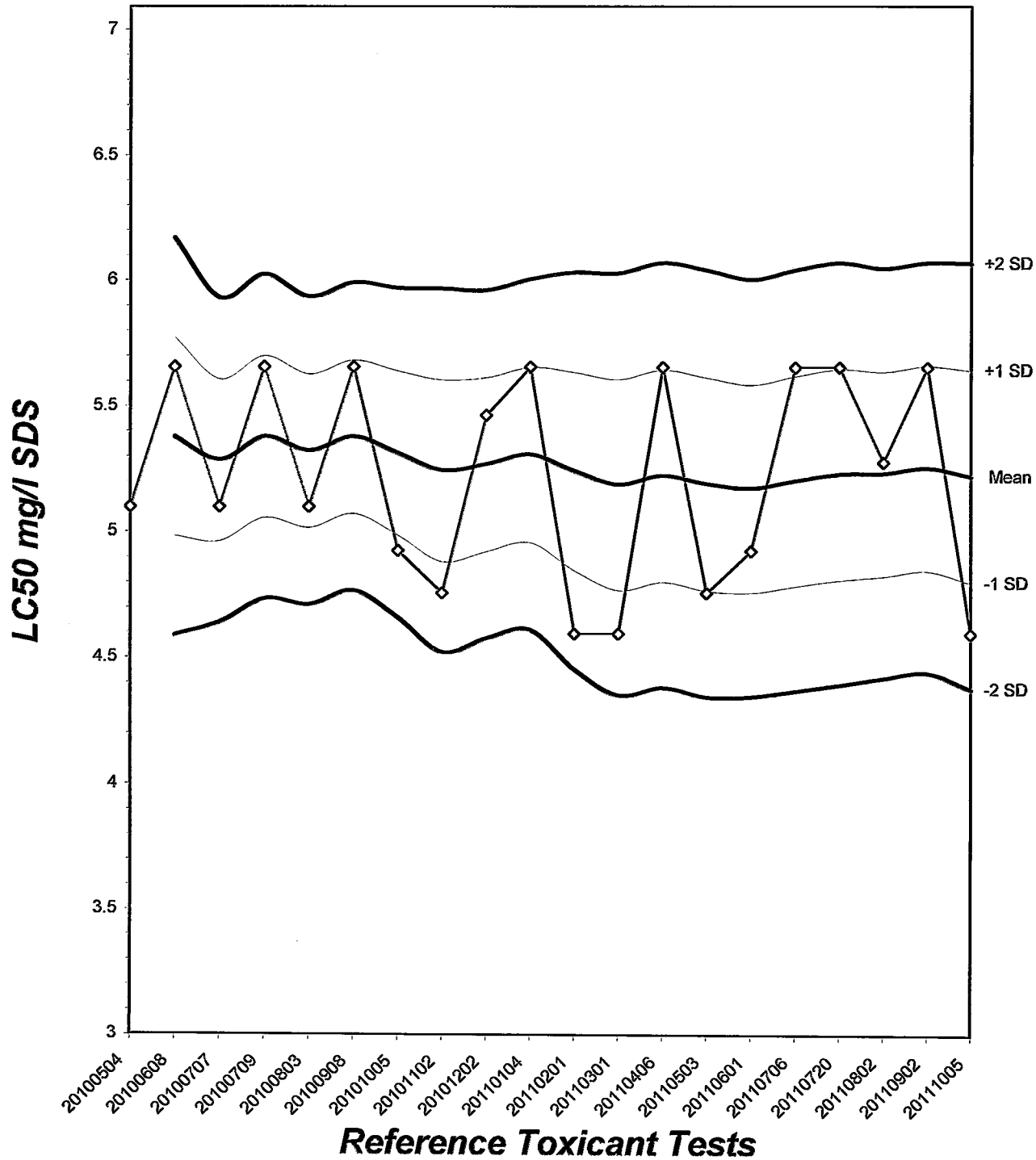
Trimmed Spearman-Kärber

Trim Level	EC50	95% CL	
0.0%	4.5948	3.9863	5.2961
5.0%	4.6576	3.9704	5.4637
10.0%	4.7177	3.9185	5.6800
20.0%	4.8227	3.6460	6.3792
Auto-0.0%	4.5948	3.9863	5.2961



Fathead Minnow Acute Laboratory Control Chart

CV% = 8.11



TEST ORGANISM LOG



FATHEAD MINNOW - LARVAL (*Pimephales promelas*)

QA/QC BATCH NO.: RT-111005

SOURCE: In-Lab Culture

DATE HATCHED: 9-22-11

APPROXIMATE QUANTITY: 4W

GENERAL APPEARANCE: good

MORTALITIES 48 HOURS PRIOR TO
TO USE IN TESTING: 0

DATE USED IN LAB: 10/5/11

AVERAGE FISH WEIGHT: 0.005 gm

LOADING LIMITS: 0.65 gm/liter @ 20°C, 0.40 gm/liter @ 25°C

Approximately 1000 fish per 10 liters limit if held overnight for acclimation without filtration @ 20°C for fish with a mean weight of 0.006 gm.

Approximately 650 fish per 10 liters limit if held overnight for acclimation without filtration @ 25°C for fish with a mean weight of 0.006 gm.

200 ml test solution volume = 0.013 gm mean fish weight limit @ 20°C; 0.008 @ 25°C

250 ml test solution volume = 0.016 gm mean fish weight limit @ 20°C; 0.010 @ 25°C

ACCLIMATION WATER QUALITY:

Temp.: 20.4 °C

pH: 8.2

Ammonia: 40.1 mg/l NH₃-N

DO: 8.6 mg/l

Alkalinity: 72 mg/l

Hardness: 72 mg/l

READINGS RECORDED BY: [Signature]

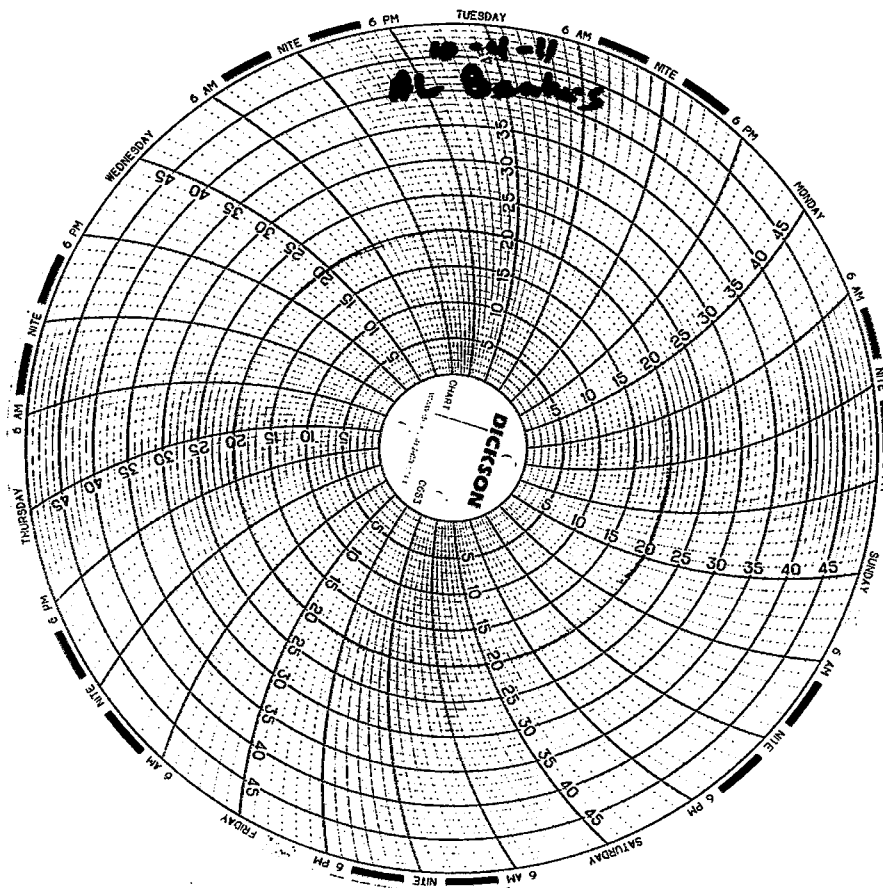
DATE: 10-6-11

Test Temperature Chart

Test No: **RT-111005**

Date Tested: **10/05/11 to 10/09/11**

Acceptable Range: **20 \pm 1 $^{\circ}$ C**





EBERLINE ANALYTICAL CORPORATION
2030 Wright Avenue
Richmond, California 94804-3849
Phone (510) 235-2633 Fax (510) 235-0438
Toll Free (800) 841-5487
www.eberlineservices.com

November 14, 2011

Ms. Debby Wilson
Test America Irvine
17461 Derian Ave., Ste. 100
Irvine, CA 92614

**Reference: Test America-Irvine IUJ2388
Eberline Analytical Report S110124-8692
Sample Delivery Group 8692**

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for two water samples received under Test America Job No. IUJ2388. The samples were received on October 22, 2011.

Please call me, if you have any questions concerning the enclosed report.

Sincerely,

Joseph Verville
Client Services Manager

NJV/mw

Enclosure: *Level IV CLP-like Data Package CD*

1.0 General Comments

Sample delivery group 8692 consists of the analytical results and supporting documentation for two water samples. Sample ID's and reference dates/times are given in the Sample Summary section of the Summary Data report. The samples were received as stated on the chain-of-custody document. Any discrepancies are noted on the Eberline Analytical Sample Receipt Checklist. No holding times were exceeded.

Tritium and gamma analyses were performed on the samples as received i.e. the samples were not filtered. The analytical volumes for all other analyses were subjected to a full nitric acid/hydrofluoric acid dissolution, and analyses were performed on the dissolution volumes.

2.0 Quality Control

Quality Control Samples consisted of laboratory control samples (LCS), method blanks, and duplicate analyses. Included in the data package are copies of the Eberline Analytical radiometrics data sheets. The radiometrics data sheets for the QC LCS and QC blank samples indicate Eberline Analytical's standard QC aliquot of 1.0 sample; results for those QC types are calculated as pCi/sample. The QC LCS and QC blank sample results reported in the Summary Data Section have been divided by the appropriate method specific aliquot (see the Lab Method Summaries for specific aliquots) in order to make the results comparable to the field sample results. All QC sample results were within required control limits.

3.0 Method Errors

The error for each result is an estimate of the significant random uncertainties incurred in the measurement process. These are propagated to each final result. They include the counting (Poisson) uncertainty, as well as those intrinsic errors due to carrier or tracer standardization, aliquoting, counter efficiencies, weights, or volumes. The following method errors were propagated to the count error to calculate the 2σ error (Total):

Analysis	Method Error
Gross alpha	20.6%
Gross beta	11.0%
Tritium	10.0%
Sr-90	10.4%
Ra-226	16.4%
Ra-228	10.4%
Uranium, Total	
Gamma Spec.	7.0%

4.0 Analysis Notes

- 4.1 **Gross Alpha/Gross Beta Analysis** – The MDA for sample IUJ2388 was 3.04 slightly greater than the required detection limit of 3.00 pCi/L, however the MDA for the duplicate analysis was 2.45 pCi/L. No other problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.2 **Tritium Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.3 **Strontium-90 Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.4 **Radium-226 Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.5 **Radium-228 Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.6 **Total Uranium Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.7 **Gamma Spectroscopy** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits. The gamma spectroscopy planchets were counted for sufficient time to meet the required Cs-137 detection limit of 20 pCi/L. As a consequence of keying to the Cs-137 RDL, the detection limit for K-40 was not achieved for the duplicate analysis.

5.0 Case Narrative Certification Statement

“I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data obtained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.”



Joseph Verville
Client Services Manager

11/14/11

Date


EBERLINE ANALYTICAL
SDG 8692


SDG 8692
Contact Joseph Verville

Client Test America, Inc.
Contract IUJ2388

S U M M A R Y D A T A S E C T I O N

T A B L E O F C O N T E N T S				
About this section	.	.	.	1
Sample Summaries	.	.	.	3
Prep Batch Summary	.	.	.	5
Work Summary	.	.	.	6
Method Blanks	.	.	.	8
Lab Control Samples	.	.	.	9
Duplicates	.	.	.	10
Data Sheets	.	.	.	11
Method Summaries	.	.	.	13
Report Guides	.	.	.	21
End of Section	.	.	.	35


Prepared by


Reviewed by

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-TOC
Version 3.06
Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

SDG 8692
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUJ2388

ABOUT THE DATA SUMMARY SECTION

The Data Summary Section of a Data Package has all data, in several useful orders, necessary for first level, routine review of the data package for a Sample Delivery Group (SDG). This section follows the Data Package Narrative, which has an overview of the data package and a discussion of special problems. It is followed by the Raw Data Section, which has full details.

The Data Summary Section has several groups of reports:

SAMPLE SUMMARIES

The Sample and QC Summary Reports show all samples, including QC samples, reported in one SDG. These reports cross-reference client and lab sample identifiers.

PREPARATION BATCH SUMMARY

The Preparation Batch Summary Report shows all preparation batches (lab groupings reflecting how work was organized) relevant to the reported SDG with information necessary to check the completeness and consistency of the SDG.

WORK SUMMARY

The Work Summary Report shows all samples and work done on them relevant to the reported SDG.

METHOD BLANKS

The Method Blank Reports, one for each Method Blank relevant to the SDG, show all results and primary supporting information for the blanks.

LAB CONTROL SAMPLES

The Lab Control Sample Reports, one for each Lab Control Sample relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

DUPLICATES

REPORT GUIDES

Page 1

SUMMARY DATA SECTION

Page 1

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

SDG 8692
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUJ2388

ABOUT THE DATA SUMMARY SECTION

The Duplicate Reports, one for each Duplicate and Original sample pair relevant to the SDG, show all results, differences and primary supporting information for these QC samples.

MATRIX SPIKES

The Matrix Spike Reports, one for each Spiked and Original sample pair relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

DATA SHEETS

The Data Sheet Reports, one for each client sample in the SDG, show all results and primary supporting information for these samples.

METHOD SUMMARIES

The Method Summary Reports, one for each test used in the SDG, show all results, QC and method performance data for one analyte on one or two pages. (A test is a short code for the method used to do certain work to the client's specification.)

REPORT GUIDES

The Report Guides, one for each of the above groups of reports, have documentation on how to read the associated reports.

EBERLINE ANALYTICAL

SDG 8692

Client Test America, Inc.

Contract IUJ2388

SDG 8692

Contact Joseph Verville

LAB SAMPLE SUMMARY

LAB						CHAIN OF	
SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CUSTODY	COLLECTED
S110124-01	IUJ2388-03	Boeing - SSFL	WATER			IUJ2388	10/20/11 13:41
S110124-02	IUJ2388-04 (TRIP-BLANK)	Boeing - SSFL	WATER			IUJ2388	10/21/11 14:00
S110124-03	Lab Control Sample		WATER				
S110124-04	Method Blank		WATER				
S110124-05	Duplicate (S110124-01)	Boeing - SSFL	WATER				10/20/11 13:41

LAB SUMMARY

Page 1

SUMMARY DATA SECTION

Page 3

Lab id EAS

Protocol TA

Version Ver 1.0

Form DVD-LS

Version 3.06

Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

SDG 8692
 Contact Joseph Verville

Client Test America, Inc.
 Contract IUJ2388

QC SUMMARY

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	LAB COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
8692	IUJ2388	IUJ2388-03	WATER		10 L		10/22/11	2	S110124-01	8692-001
		IUJ2388-04 (TRIP-BLANK)	WATER		10 L		10/22/11	1	S110124-02	8692-002
		Method Blank	WATER						S110124-04	8692-004
		Lab Control Sample	WATER						S110124-03	8692-003
		Duplicate (S110124-01)	WATER		10 L		10/22/11	2	S110124-05	8692-005

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-QS
 Version 3.06
 Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

SDG 8692
Contact Joseph Verville

PREP BATCH SUMMARY

Client Test America, Inc.
Contract IUJ2388

TEST	MATRIX	METHOD	PREPARATION ERROR		PLANCHETS ANALYZED				QUALI- FIERS
			BATCH	2σ %	CLIENT	MORE	RE	BLANK	
Beta Counting									
AC	WATER	Radium-228 in Water	7271-102	10.4	2		1	1	1/1
SR	WATER	Strontium-90 in Water	7271-102	10.4	2		1	1	1/1
Gas Proportional Counting									
80A	WATER	Gross Alpha in Water	7271-102	20.6	2		1	1	1/1
80B	WATER	Gross Beta in Water	7271-102	11.0	2		1	1	1/1
Gamma Spectroscopy									
GAM	WATER	Gamma Emitters in Water	7271-102	7.0	2		1	1	1/1
Kinetic Phosphorimetry, ug									
U_T	WATER	Uranium, Total	7271-102		2		1	1	1/1
Liquid Scintillation Counting									
H	WATER	Tritium in Water	7271-102	10.0	1		1	1	1/1
Radon Counting									
RA	WATER	Radium-226 in Water	7271-102	16.4	2		1	1	1/1

Blank, LCS, Duplicate and Spike planchets are those in the same preparation batch as some Client sample.

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

LAB WORK SUMMARY

SDG 8692
Contact Joseph Verville

Client Test America, Inc.
Contract IUJ2388

LAB SAMPLE	CLIENT SAMPLE ID										
COLLECTED	LOCATION	MATRIX		SUF-							
RECEIVED	CUSTODY	SAS no	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD		
S110124-01	IUJ2388-03		8692-001	80A/80		11/09/11	11/10/11	BW	Gross Alpha in Water		
10/20/11	Boeing - SSFL	WATER	8692-001	80B/80		11/09/11	11/10/11	BW	Gross Beta in Water		
10/22/11	IUJ2388		8692-001	AC		11/07/11	11/11/11	BW	Radium-228 in Water		
			8692-001	GAM		11/01/11	11/07/11	CSS	Gamma Emitters in Water		
			8692-001	H		10/28/11	11/01/11	BW	Tritium in Water		
			8692-001	RA		11/08/11	11/09/11	BW	Radium-226 in Water		
			8692-001	SR		11/04/11	11/10/11	BW	Strontium-90 in Water		
			8692-001	U_T		11/03/11	11/03/11	CSS	Uranium, Total		
S110124-02	IUJ2388-04 (TRIP-BLANK)		8692-002	80A/80		11/09/11	11/10/11	BW	Gross Alpha in Water		
10/21/11	Boeing - SSFL	WATER	8692-002	80B/80		11/09/11	11/10/11	BW	Gross Beta in Water		
10/22/11	IUJ2388		8692-002	AC		11/07/11	11/11/11	BW	Radium-228 in Water		
			8692-002	GAM		11/02/11	11/07/11	CSS	Gamma Emitters in Water		
			8692-002	RA		11/08/11	11/09/11	BW	Radium-226 in Water		
			8692-002	SR		11/04/11	11/10/11	BW	Strontium-90 in Water		
			8692-002	U_T		11/03/11	11/03/11	CSS	Uranium, Total		
S110124-03	Lab Control Sample		8692-003	80A/80		11/09/11	11/10/11	BW	Gross Alpha in Water		
		WATER	8692-003	80B/80		11/09/11	11/10/11	BW	Gross Beta in Water		
			8692-003	AC		11/07/11	11/11/11	BW	Radium-228 in Water		
			8692-003	GAM		11/04/11	11/07/11	CSS	Gamma Emitters in Water		
			8692-003	H		10/28/11	11/01/11	BW	Tritium in Water		
			8692-003	RA		11/08/11	11/09/11	BW	Radium-226 in Water		
			8692-003	SR		11/04/11	11/10/11	BW	Strontium-90 in Water		
			8692-003	U_T		11/03/11	11/03/11	CSS	Uranium, Total		
S110124-04	Method Blank		8692-004	80A/80		11/09/11	11/10/11	BW	Gross Alpha in Water		
		WATER	8692-004	80B/80		11/09/11	11/10/11	BW	Gross Beta in Water		
			8692-004	AC		11/07/11	11/11/11	BW	Radium-228 in Water		
			8692-004	GAM		11/04/11	11/07/11	CSS	Gamma Emitters in Water		
			8692-004	H		10/28/11	11/01/11	BW	Tritium in Water		
			8692-004	RA		11/08/11	11/09/11	BW	Radium-226 in Water		
			8692-004	SR		11/04/11	11/10/11	BW	Strontium-90 in Water		
			8692-004	U_T		11/03/11	11/03/11	CSS	Uranium, Total		

WORK SUMMARY

Page 1

SUMMARY DATA SECTION

Page 6

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

SDG 8692
Contact Joseph Verville

WORK SUMMARY, cont.

Client Test America, Inc.
Contract IUJ2388

LAB SAMPLE	CLIENT SAMPLE ID									
COLLECTED	LOCATION	MATRIX		SUF-						
RECEIVED	CUSTODY	SAS no	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD	
S110124-05	Duplicate (S110124-01)		8692-005	80A/80		11/09/11	11/10/11	BW	Gross Alpha in Water	
10/20/11	Boeing - SSFL	WATER	8692-005	80B/80		11/09/11	11/10/11	BW	Gross Beta in Water	
10/22/11			8692-005	AC		11/07/11	11/11/11	BW	Radium-228 in Water	
			8692-005	GAM		11/04/11	11/07/11	CSS	Gamma Emitters in Water	
			8692-005	H		10/28/11	11/01/11	BW	Tritium in Water	
			8692-005	RA		11/08/11	11/09/11	BW	Radium-226 in Water	
			8692-005	SR		11/04/11	11/10/11	BW	Strontium-90 in Water	
			8692-005	U_T		11/03/11	11/03/11	CSS	Uranium, Total	

COUNTS OF TESTS BY SAMPLE TYPE											
TEST	SAS no	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP	SPIKE	TOTAL
80A/80		Gross Alpha in Water	900.0		2		1	1	1		5
80B/80		Gross Beta in Water	900.0		2		1	1	1		5
AC		Radium-228 in Water	904.0		2		1	1	1		5
GAM		Gamma Emitters in Water	901.1		2		1	1	1		5
H		Tritium in Water	906.0		1		1	1	1		4
RA		Radium-226 in Water	903.1		2		1	1	1		5
SR		Strontium-90 in Water	905.0		2		1	1	1		5
U_T		Uranium, Total	D5174		2		1	1	1		5
TOTALS					15		8	8	8		39

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

8692-004

Method Blank

METHOD BLANK

SDG <u>8692</u>	Client <u>Test America, Inc.</u>
Contact <u>Joseph Verville</u>	Contract <u>IUJ2388</u>
Lab sample id <u>S110124-04</u>	Client sample id <u>Method Blank</u>
Dept sample id <u>8692-004</u>	Material/Matrix <u>WATER</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	-0.111	0.36	0.677	3.00	U	80A
Gross Beta	12587472	-0.509	0.54	0.934	4.00	U	80B
Tritium	10028178	-5.50	11	18.7	500	U	H
Radium-226	13982633	0.087	0.37	0.664	1.00	U	RA
Radium-228	15262201	-0.013	0.18	0.302	1.00	U	AC
Strontium-90	10098972	0.099	0.38	0.802	2.00	U	SR
Uranium, Total		0	0.008	0.019	1.00	U	U_T
Potassium-40	13966002	U		12.4	25.0	U	GAM
Cesium-137	10045973	U		1.05	20.0	U	GAM

QC-BLANK #80426

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>11/14/11</u>

EBERLINE ANALYTICAL

SDG 8692

8692-003

Lab Control Sample

LAB CONTROL SAMPLE

SDG <u>8692</u>	Client <u>Test America, Inc.</u>
Contact <u>Joseph Verville</u>	Contract <u>IUJ2388</u>
Lab sample id <u>S110124-03</u>	Client sample id <u>Lab Control Sample</u>
Dept sample id <u>8692-003</u>	Material/Matrix <u>WATER</u>

ANALYTE	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST	ADDED pCi/L	2σ ERR pCi/L	REC %	2σ LMTS (TOTAL)	PROTOCOL LIMITS
Gross Alpha	38.2	2.2	0.584	3.00		80A	33.7	1.3	113	75-125	70-130
Gross Beta	26.8	1.2	0.861	4.00		80B	28.6	1.1	94	88-112	70-130
Tritium	226	17	18.6	500	J	H	250	10	90	88-112	80-120
Radium-226	45.9	2.2	0.862	1.00		RA	50.1	2.0	92	84-116	80-120
Radium-228	4.74	1.3	0.277	1.00		AC	5.61	0.22	84	75-125	60-140
Strontium-90	19.2	1.5	0.833	2.00		SR	18.9	0.76	102	86-114	80-120
Uranium, Total	57.0	6.4	0.188	1.00		U_T	56.5	2.3	101	88-112	80-120
Cobalt-60	111	4.0	2.68	10.0		GAM	115	4.6	97	91-109	80-120
Cesium-137	119	3.4	2.43	20.0		GAM	124	5.0	96	92-108	80-120

QC-LCS #80425

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-LCS</u>
Version <u>3.06</u>
Report date <u>11/14/11</u>

EBERLINE ANALYTICAL

SDG 8692

8692-005

IUJ2388-03

DUPLICATE

SDG <u>8692</u> Contact <u>Joseph Verville</u> DUPLICATE Lab sample id <u>S110124-05</u> Dept sample id <u>8692-005</u>	Client <u>Test America, Inc.</u> Contract <u>IUJ2388</u> ORIGINAL Lab sample id <u>S110124-01</u> Dept sample id <u>8692-001</u> Received <u>10/22/11</u> Client sample id <u>IUJ2388-03</u> Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u> Collected/Volume <u>10/20/11 13:41</u> <u>10 L</u> Chain of custody id <u>IUJ2388</u>
---	---

ANALYTE	DUPLICATE	2σ ERR	MDA	RDL	QUALI-	TEST	ORIGINAL	2σ ERR	MDA	QUALI-	RPD	3σ	DER
	pCi/L	(COUNT)	pCi/L	pCi/L	FIERS		pCi/L	(COUNT)	pCi/L	FIERS	%	TOT	σ
Gross Alpha	1.40	1.6	2.45	3.00	U	80A	1.70	2.0	<u>3.04</u>	U	-		0.2
Gross Beta	10.4	1.8	2.60	4.00		80B	11.8	1.5	1.90		13	39	1.0
Tritium	-93.3	110	190	500	U	H	-130	100	185	U	-		0.5
Radium-226	0.372	0.43	0.702	1.00	U	RA	0.500	0.43	0.676	U	-		0.4
Radium-228	0.481	0.23	0.553	1.00	U	AC	0.178	0.20	0.529	U	-		2.0
Strontium-90	<u>-0.230</u>	0.20	0.602	2.00	U	SR	0.245	0.49	1.01	U	-		1.8
Uranium, Total	0.252	0.028	0.019	1.00	J	U_T	0.221	0.025	0.019	J	13	24	1.7
Potassium-40	U		<u>69.4</u>	25.0	U	GAM	U		<u>41.3</u>	U	-		0.7
Cesium-137	U		2.16	20.0	U	GAM	U		2.15	U	-		0

QC-DUP#1 80427

DUPLICATES

Page 1

SUMMARY DATA SECTION

Page 10

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DUP</u>
Version <u>3.06</u>
Report date <u>11/14/11</u>

EBERLINE ANALYTICAL

SDG 8692

8692-001

IUJ2388-03

DATA SHEET

SDG <u>8692</u>	Client <u>Test America, Inc.</u>
Contact <u>Joseph Verville</u>	Contract <u>IUJ2388</u>
Lab sample id <u>S110124-01</u>	Client sample id <u>IUJ2388-03</u>
Dept sample id <u>8692-001</u>	Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u>
Received <u>10/22/11</u>	Collected/Volume <u>10/20/11 13:41</u> <u>10 L</u>
	Chain of custody id <u>IUJ2388</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	1.70	2.0	<u>3.04</u>	3.00	U	80A
Gross Beta	12587472	11.8	1.5	1.90	4.00		80B
Tritium	10028178	<u>-130</u>	100	185	500	U	H
Radium-226	13982633	0.500	0.43	0.676	1.00	U	RA
Radium-228	15262201	0.178	0.20	0.529	1.00	U	AC
Strontium-90	10098972	0.245	0.49	1.01	2.00	U	SR
Uranium, Total		0.221	0.025	0.019	1.00	J	U_T
Potassium-40	13966002	U		<u>41.3</u>	25.0	U	GAM
Cesium-137	10045973	U		2.15	20.0	U	GAM

DATA SHEETS

Page 1

SUMMARY DATA SECTION

Page 11

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>11/14/11</u>

EBERLINE ANALYTICAL

SDG 8692

8692-002

IUJ2388-04 (TRIP-BLANK)

DATA SHEET

SDG <u>8692</u>	Client <u>Test America, Inc.</u>
Contact <u>Joseph Verville</u>	Contract <u>IUJ2388</u>
Lab sample id <u>S110124-02</u>	Client sample id <u>IUJ2388-04 (TRIP-BLANK)</u>
Dept sample id <u>8692-002</u>	Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u>
Received <u>10/22/11</u>	Collected/Volume <u>10/21/11 14:00</u> <u>10 L</u>
	Chain of custody id <u>IUJ2388</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	-0.006	0.14	0.269	3.00	U	80A
Gross Beta	12587472	-0.174	0.47	0.795	4.00	U	80B
Radium-226	13982633	0.209	0.38	0.661	1.00	U	RA
Radium-228	15262201	-0.055	0.098	0.246	1.00	U	AC
Strontium-90	10098972	-0.147	0.44	1.08	2.00	U	SR
Uranium, Total		0	0.008	0.019	1.00	U	U_T
Potassium-40	13966002	U		15.6	25.0	U	GAM
Cesium-137	10045973	U		1.28	20.0	U	GAM

DATA SHEETS

Page 2

SUMMARY DATA SECTION

Page 12

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>11/14/11</u>

EBERLINE ANALYTICAL

SDG 8692

LAB METHOD SUMMARY

RADIUM-228 IN WATER

BETA COUNTING

Test AC Matrix WATER
 SDG 8692
 Contact Joseph Verville

Client Test America, Inc.
 Contract IUJ2388

RESULTS

LAB RAW SUF-
 SAMPLE ID TEST FIX PLANCHET CLIENT SAMPLE ID Radium-228

Preparation batch 7271-102

S110124-01	8692-001	IUJ2388-03	U
S110124-02	8692-002	IUJ2388-04 (TRIP-BLANK)	U
S110124-03	8692-003	Lab Control Sample	ok
S110124-04	8692-004	Method Blank	U
S110124-05	8692-005	Duplicate (S110124-01)	- U

Nominal values and limits from method RDLs (pCi/L) 1.00

METHOD PERFORMANCE

LAB RAW SUF- MDA ALIQ PREP DILU- YIELD EFF COUNT FWHM DRIFT DAYS ANAL-
 SAMPLE ID TEST FIX CLIENT SAMPLE ID pCi/L L FAC TION % % min keV KeV HELD PREPARED YZED DETECTOR

Preparation batch 7271-102 2σ prep error 10.4 % Reference Lab Notebook No. 7271 pg.024

S110124-01	IUJ2388-03	0.529	1.80	82	150	18	11/07/11	11/07	GRB-221
S110124-02	IUJ2388-04 (TRIP-BLANK)	0.246	1.80	105	150	17	11/07/11	11/07	GRB-222
S110124-03	Lab Control Sample	0.277	1.80	89	150		11/07/11	11/07	GRB-223
S110124-04	Method Blank	0.302	1.80	93	150		11/07/11	11/07	GRB-224
S110124-05	Duplicate (S110124-01)	0.553	1.80	81	150	18	11/07/11	11/07	GRB-225

Nominal values and limits from method 1.00 1.80 30-105 50 180

PROCEDURES REFERENCE 904.0
 DWP-894 Sequential Separation of Actinium-228 and
 Radium-226 in Drinking Water (>1 Liter Aliquot),
 rev 5

AVERAGES ± 2 SD MDA 0.381 ± 0.295
 FOR 5 SAMPLES YIELD 90 ± 19

METHOD SUMMARIES

Page 1

SUMMARY DATA SECTION

Page 13

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-LMS
 Version 3.06
 Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

LAB METHOD SUMMARY

STRONTIUM-90 IN WATER

BETA COUNTING

Test SR Matrix WATER
 SDG 8692
 Contact Joseph Verville

Client Test America, Inc.
 Contract IUJ2388

RESULTS

LAB **RAW** **SUF-**
SAMPLE ID **TEST FIX** **PLANCHET** **CLIENT SAMPLE ID** **Strontium-90**

Preparation batch 7271-102

S110124-01	8692-001	IUJ2388-03	U
S110124-02	8692-002	IUJ2388-04 (TRIP-BLANK)	U
S110124-03	8692-003	Lab Control Sample	ok
S110124-04	8692-004	Method Blank	U
S110124-05	8692-005	Duplicate (S110124-01)	- U

Nominal values and limits from method **RDLs (pCi/L)** **2.00**

METHOD PERFORMANCE

LAB **RAW** **SUF-** **MDA** **ALIQ** **PREP** **DILU-** **YIELD** **EFF** **COUNT** **FWHM** **DRIFT** **DAYS** **ANAL-**
SAMPLE ID **TEST FIX** **CLIENT SAMPLE ID** **pCi/L** **L** **FAC** **TION** **%** **%** **min** **keV** **KeV** **HELD** **PREPARED** **YZED** **DETECTOR**

Preparation batch 7271-102 **2σ prep error 10.4 %** Reference Lab Notebook No. 7271 pg.024

S110124-01	IUJ2388-03	1.01	0.500	88	50	15	11/04/11	11/04	GRB-225
S110124-02	IUJ2388-04 (TRIP-BLANK)	1.08	0.500	80	50	14	11/04/11	11/04	GRB-227
S110124-03	Lab Control Sample	0.833	0.500	79	50		11/04/11	11/04	GRB-206
S110124-04	Method Blank	0.802	0.500	77	50		11/04/11	11/04	GRB-207
S110124-05	Duplicate (S110124-01)	0.602	0.500	91	50	15	11/04/11	11/04	GRB-222

Nominal values and limits from method **2.00** **0.500** **30-105** **50** **180**

PROCEDURES REFERENCE 905.0
 CP-380 Strontium in Water Samples, rev 5

AVERAGES ± 2 SD MDA 0.865 ± 0.376
 FOR 5 SAMPLES YIELD 83 ± 12

METHOD SUMMARIES

Page 2

SUMMARY DATA SECTION

Page 14

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-LMS
 Version 3.06
 Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

LAB METHOD SUMMARY

GROSS ALPHA IN WATER

GAS PROPORTIONAL COUNTING

Test 80A Matrix WATER
 SDG 8692
 Contact Joseph Verville

Client Test America, Inc.
 Contract IUJ2388

RESULTS

LAB	RAW	SUF-			Gross Alpha
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID		
Preparation batch 7271-102					
S110124-01	80	8692-001	IUJ2388-03		U
S110124-02	80	8692-002	IUJ2388-04 (TRIP-BLANK)		U
S110124-03	80	8692-003	Lab Control Sample		ok
S110124-04	80	8692-004	Method Blank		U
S110124-05	80	8692-005	Duplicate (S110124-01)	-	U

Nominal values and limits from method RDLs (pCi/L) 3.00

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	RESID	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	mg	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7271-102 2σ prep error 20.6 % Reference Lab Notebook No. 7271 pg.024															
S110124-01	80	IUJ2388-03	<u>3.04</u>	<u>0.140</u>			145			400		20	11/09/11	11/09	GRB-109
S110124-02	80	IUJ2388-04 (TRIP-BLANK)	0.269	0.300			1			400		19	11/09/11	11/09	GRB-111
S110124-03	80	Lab Control Sample	0.584	0.300			63			400			11/09/11	11/09	GRB-112
S110124-04	80	Method Blank	0.677	0.300			64			400			11/09/11	11/09	GRB-105
S110124-05	80	Duplicate (S110124-01)	2.45	<u>0.140</u>			142			400		20	11/09/11	11/09	GRB-107

Nominal values and limits from method 3.00 0.300 0-250 100 180

PROCEDURES REFERENCE 900.0
 DWP-121 Gross Alpha and Gross Beta in Drinking Water,
 rev 10

AVERAGES ± 2 SD MDA 1.40 ± 2.50
 FOR 5 SAMPLES RESIDUE 83 ± 122

METHOD SUMMARIES

Page 3

SUMMARY DATA SECTION

Page 15

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-LMS
 Version 3.06
 Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

LAB METHOD SUMMARY

GROSS BETA IN WATER

GAS PROPORTIONAL COUNTING

Test 80B Matrix WATER
 SDG 8692
 Contact Joseph Verville

Client Test America, Inc.
 Contract IUJ2388

RESULTS

LAB	RAW	SUF-			
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID		Gross Beta
Preparation batch 7271-102					
S110124-01	80	8692-001	IUJ2388-03		11.8
S110124-02	80	8692-002	IUJ2388-04 (TRIP-BLANK)		U
S110124-03	80	8692-003	Lab Control Sample		ok
S110124-04	80	8692-004	Method Blank		U
S110124-05	80	8692-005	Duplicate (S110124-01)		ok
Nominal values and limits from method			RDLs (pCi/L)		4.00

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	RESID	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	mg	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7271-102			2σ prep error 11.0 % Reference Lab Notebook No. 7271 pg.024												
S110124-01	80	IUJ2388-03	1.90	<u>0.140</u>			145		400			20	11/09/11	11/09	GRB-109
S110124-02	80	IUJ2388-04 (TRIP-BLANK)	0.795	0.300			1		400			19	11/09/11	11/09	GRB-111
S110124-03	80	Lab Control Sample	0.861	0.300			63		400				11/09/11	11/09	GRB-112
S110124-04	80	Method Blank	0.934	0.300			64		400				11/09/11	11/09	GRB-105
S110124-05	80	Duplicate (S110124-01)	2.60	<u>0.140</u>			142		400			20	11/09/11	11/09	GRB-107
Nominal values and limits from method			4.00	0.300			0-250		100			180			

PROCEDURES REFERENCE 900.0
 DWP-121 Gross Alpha and Gross Beta in Drinking Water,
 rev 10

AVERAGES ± 2 SD MDA 1.42 ± 1.60
 FOR 5 SAMPLES RESIDUE 83 ± 122

METHOD SUMMARIES

Page 4

SUMMARY DATA SECTION

Page 16

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-LMS
 Version 3.06
 Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

LAB METHOD SUMMARY

GAMMA EMITTERS IN WATER
GAMMA SPECTROSCOPY

Test GAM Matrix WATER
SDG 8692
Contact Joseph Verville

Client Test America, Inc.
Contract IUJ2388

RESULTS

LAB	RAW	SUF-				
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt-60	Cesium-137	
Preparation batch 7271-102						
S110124-01		8692-001	IUJ2388-03		U	
S110124-02		8692-002	IUJ2388-04 (TRIP-BLANK)		U	
S110124-03		8692-003	Lab Control Sample	ok	ok	
S110124-04		8692-004	Method Blank		U	
S110124-05		8692-005	Duplicate (S110124-01)		- U	

Nominal values and limits from method RDLs (pCi/L) 10.0 20.0

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7271-102			2σ prep error 7.0 %			Reference Lab Notebook No. 7271 pg.024									
S110124-01		IUJ2388-03		2.00					883			12	10/31/11	11/01	MB,05,00
S110124-02		IUJ2388-04 (TRIP-BLANK)		2.00					837			12	10/31/11	11/02	01,01,00
S110124-03		Lab Control Sample		2.00					924				10/31/11	11/04	01,01,00
S110124-04		Method Blank		2.00					925				10/31/11	11/04	MB,08,00
S110124-05		Duplicate (S110124-01)		2.00					925			15	10/31/11	11/04	MB,05,00

Nominal values and limits from method 6.00 2.00 400 180

PROCEDURES REFERENCE 901.1
DWP-100 Preparation of Drinking Water Samples for Gamma Spectroscopy, rev 5

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

LAB METHOD SUMMARY

URANIUM, TOTAL

KINETIC PHOSPHORIMETRY, UG

Test U T Matrix WATER
 SDG 8692
 Contact Joseph Verville

Client Test America, Inc.
 Contract IUJ2388

RESULTS

LAB	RAW	SUF-		Uranium,
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Total
Preparation batch 7271-102				
S110124-01		8692-001	IUJ2388-03	0.221 J
S110124-02		8692-002	IUJ2388-04 (TRIP-BLANK)	U
S110124-03		8692-003	Lab Control Sample	ok
S110124-04		8692-004	Method Blank	U
S110124-05		8692-005	Duplicate (S110124-01)	ok J
Nominal values and limits from method			RDLs (pCi/L)	1.00

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7271-102			2σ prep error		Reference Lab Notebook No. 7271 pg.024										
S110124-01		IUJ2388-03	0.019	0.0200								14	11/03/11	11/03	KPA-001
S110124-02		IUJ2388-04 (TRIP-BLANK)	0.019	0.0200								13	11/03/11	11/03	KPA-001
S110124-03		Lab Control Sample	0.188	0.0200									11/03/11	11/03	KPA-001
S110124-04		Method Blank	0.019	0.0200									11/03/11	11/03	KPA-001
S110124-05		Duplicate (S110124-01)	0.019	0.0200								14	11/03/11	11/03	KPA-001
Nominal values and limits from method			1.00	0.0200	180										

PROCEDURES REFERENCE D5174

AVERAGES ± 2 SD MDA 0.053 ± 0.151
 FOR 5 SAMPLES YIELD _____ ± _____

METHOD SUMMARIES

Page 6

SUMMARY DATA SECTION

Page 18

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-LMS
 Version 3.06
 Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

LAB METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Test H Matrix WATER
 SDG 8692
 Contact Joseph Verville

Client Test America, Inc.
 Contract IUJ2388

RESULTS

LAB	RAW	SUF-			
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID		Tritium
Preparation batch 7271-102					
S110124-01		8692-001	IUJ2388-03		U
S110124-03		8692-003	Lab Control Sample	ok	J
S110124-04		8692-004	Method Blank		U
S110124-05		8692-005	Duplicate (S110124-01)	-	U

Nominal values and limits from method RDLs (pCi/L) 500

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7271-102 2σ prep error 10.0 % Reference Lab Notebook No. 7271 pg.024															
S110124-01		IUJ2388-03	185	0.0100			100		150			8	10/28/11	10/28	LSC-006
S110124-03		Lab Control Sample	18.6	1.00			10		150				10/28/11	10/28	LSC-006
S110124-04		Method Blank	18.7	1.00			10		150				10/28/11	10/28	LSC-006
S110124-05		Duplicate (S110124-01)	190	0.0100			100		150			8	10/28/11	10/28	LSC-006

Nominal values and limits from method 500 0.0100 100 180

PROCEDURES REFERENCE 906.0
 DWP-212 Tritium in Drinking Water by Distillation, rev 8

AVERAGES ± 2 SD MDA 103 ± 195
 FOR 4 SAMPLES YIELD 55 ± 104

METHOD SUMMARIES

Page 7

SUMMARY DATA SECTION

Page 19

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-LMS
 Version 3.06
 Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

LAB METHOD SUMMARY

RADIUM-226 IN WATER

RADON COUNTING

Test RA Matrix WATER

SDG 8692

Contact Joseph Verville

Client Test America, Inc.

Contract IUJ2388

RESULTS

LAB	RAW	SUF-		
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Radium-226

Preparation batch 7271-102

S110124-01	8692-001	IUJ2388-03		U
S110124-02	8692-002	IUJ2388-04 (TRIP-BLANK)		U
S110124-03	8692-003	Lab Control Sample		ok
S110124-04	8692-004	Method Blank		U
S110124-05	8692-005	Duplicate (S110124-01)	-	U

Nominal values and limits from method RDLs (pCi/L) 1.00

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR

Preparation batch 7271-102 2σ prep error 16.4 % Reference Lab Notebook No. 7271 pg.024

S110124-01	IUJ2388-03	0.676	0.100				100		104		19	11/08/11	11/08	RN-012
S110124-02	IUJ2388-04 (TRIP-BLANK)	0.661	0.100				100		104		18	11/08/11	11/08	RN-013
S110124-03	Lab Control Sample	0.862	0.100				100		104			11/08/11	11/08	RN-009
S110124-04	Method Blank	0.664	0.100				100		104			11/08/11	11/08	RN-010
S110124-05	Duplicate (S110124-01)	0.702	0.100				100		104		19	11/08/11	11/08	RN-014

Nominal values and limits from method 1.00 0.100 100 180

PROCEDURES REFERENCE 903.1
DWP-881A Ra-226 Screening in Drinking Water, rev 6

AVERAGES ± 2 SD MDA 0.713 ± 0.170
FOR 5 SAMPLES YIELD 100 ± 0

METHOD SUMMARIES

Page 8

SUMMARY DATA SECTION

Page 20

Lab id EAS

Protocol TA

Version Ver 1.0

Form DVD-LMS

Version 3.06

Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

SDG 8692
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUJ2388

SAMPLE SUMMARY

The Sample and QC Summary Reports show all samples, including QC samples, reported in one Sample Delivery Group (SDG).

The Sample Summary Report fully identifies client samples and gives the corresponding lab sample identification. The QC Summary Report shows at the sample level how the lab organized the samples into batches and generated QC samples. The Preparation Batch and Method Summary Reports show this at the analysis level.

The following notes apply to these reports:

- * LAB SAMPLE ID is the lab's primary identification for a sample.
- * DEPARTMENT SAMPLE ID is an alternate lab id, for example one assigned by a radiochemistry department in a lab.
- * CLIENT SAMPLE ID is the client's primary identification for a sample. It includes any sample preparation done by the client that is necessary to identify the sample.
- * QC BATCH is a lab assigned code that groups samples to be processed and QCed together. These samples should have similar matrices.

QC BATCH is not necessarily the same as SDG, which reflects samples received and reported together.

- * All Lab Control Samples, Method Blanks, Duplicates and Matrix Spikes are shown that QC any of the samples. Due to possible reanalyses, not all results for all these QC samples may be relevant to the SDG. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.

REPORT GUIDES

Page 1

SUMMARY DATA SECTION

Page 21

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

SDG 8692
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IJJ2388

PREPARATION BATCH SUMMARY

The Preparation Batch Summary Report shows all preparation batches in one Sample Delivery Group (SDG) with information necessary to check the completeness and consistency of the SDG.

The following notes apply to this report:

- * The preparation batches are shown in the same order as the Method Summary Reports are printed.
- * Only analyses of planchets relevant to the SDG are included.
- * Each preparation batch should have at least one Method Blank and LCS in it to validate client sample results.
- * The QUALIFIERS shown are all qualifiers other than U, J, B, L and H that occur on any analysis in the preparation batch. The Method Summary Report has these qualifiers on a per sample basis.

These qualifiers should be reviewed as follows:

- X Some data has been manually entered or modified. Transcription errors are possible.
- P One or more results are 'preliminary'. The data is not ready for final reporting.
- 2 There were two or more results for one analyte on one planchet imported at one time. The results in DVD may not be the same as on the raw data sheets.

Other lab defined qualifiers may occur. In general, these should be addressed in the SDG narrative.

REPORT GUIDES

Page 2

SUMMARY DATA SECTION

Page 22

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

SDG 8692
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUJ2388

WORK SUMMARY

The Work Summary Report shows all samples, including QC samples, and all relevant analyses in one Sample Delivery Group (SDG). This report is often useful as supporting documentation for an invoice.

The following notes apply to this report:

- * TEST is a code for the method used to measure associated analytes. Results and related information for each analyte are on the Data Sheet Report. In special cases, a test code used in the summary data section is not the same as in associated raw data. In this case, both codes are shown on the Work Summary.
- * SUFFIX is the lab's code to distinguish multiple analyses (recounts, reworks, reanalyses) of a fraction of the sample. The suffix indicates which result is being reported. An empty suffix normally identifies the first attempt to analyze the sample.
- * The LAB SAMPLE ID, TEST and SUFFIX uniquely identify all supporting data for a result. The Method Summary Report for each TEST has method performance data, such as yield, for each lab sample id and suffix and procedures used in the method.
- * PLANCHET is an alternate lab identifier for work done for one test. It, combined with the TEST and SUFFIX, may be the best link to raw data.
- * For QC samples, only analyses that directly QC some regular sample are shown. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.
- * The SAS (Special Analytical Services) Number is a client or lab assigned code that reflects special processing for samples, such as rapid turn around. Counts of tests done are lists by SAS number since it is likely to affect prices.

REPORT GUIDES

Page 3

SUMMARY DATA SECTION

Page 23

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

SDG 8692
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUJ2388

DATA SHEET

The Data Sheet Report shows all results and primary supporting information for one client sample or Method Blank. This report corresponds to both the CLP Inorganics and Organics Data Sheet.

The following notes apply to this report:

- * TEST is a code for the method used to measure an analyte. If the TEST is empty, no data is available; the analyte was not analyzed for.
- * The LAB SAMPLE ID and TEST uniquely identify work within the Summary Data Section of a Data Package. The Work Summary and Method Summary Reports further identify raw data that underlies this work.

The Method Summary Report for each TEST has method performance data, such as yield, for each Lab Sample ID and a list of procedures used in the method.

- * ERRORS can be labeled TOTAL or COUNT. TOTAL implies a preparation (non-counting method) error has been added, as square root of sum of squares, to the counting error denoted by COUNT. The preparation errors, which may vary by preparation batch, are shown on the Method Summary Report.
- * A RESULT can be 'N.R.' (Not Reported). This means the lab did this work but chooses not to report it now, possibly because it was reported at another time.
- * When reporting a Method Blank, a RESULT can be 'N.A.' (Not Applicable). This means there is no reported client sample work in the same preparation batch as the Blank's result. This is likely to occur when the Method Blank is associated with reanalyses of selected work for a few samples in the SDG.

The following qualifiers are defined by the DVD system:

- U The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit.

REPORT GUIDES

Page 4

SUMMARY DATA SECTION

Page 24

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

SDG 8692
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUJ2388

DATA SHEET

J The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.

B A Method Blank associated with this sample had a result without a U flag and, after correcting for possibly different aliquots, that result is greater than or equal to the MDA for this sample.

Normally, B is not assigned if U is. When method blank subtraction is shown on this report, B flags are assigned based on the unsubtracted values while U's are assigned based on the subtracted ones. Both flags can be assigned in this case.

For each sample result, all Method Blank results in the same preparation batch are compared. The Method Summary Report documents this and other QC relationships.

L Some Lab Control Sample that QC's this sample had a low recovery. The lab can disable assignment of this qualifier.

H Similar to 'L' except the recovery was high.

P The RESULT is 'preliminary'.

X Some data necessary to compute the RESULT, ERROR or MDA was manually entered or modified.

2 There were two or more results available for this analyte. The reported result may not be the same as in the raw data.

Other qualifiers are lab defined. Definitions should be in the SDG narrative.

The following values are underlined to indicate possible problems:

- * An MDA is underlined if it is bigger than its RDL.
- * An ERROR is underlined if the 1.645 sigma counting error is bigger than both the MDA and the RESULT, implying that the MDA

REPORT GUIDES

Page 5

SUMMARY DATA SECTION

Page 25

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

SDG 8692
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUJ2388

DATA SHEET

may not be a good estimate of the 'real' minimum detectable activity.

- * A negative RESULT is underlined if it is less than the negative of its 2 sigma counting ERROR.
- * When reporting a Method Blank, a RESULT is underlined if greater than its MDA. If the MDA is blank, the 2 sigma counting error is used in the comparison.

REPORT GUIDES

Page 6

SUMMARY DATA SECTION

Page 26

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

SDG 8692
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IJJ2388

LAB CONTROL SAMPLE

The Lab Control Sample Report shows all results, recoveries and primary supporting information for one Lab Control Sample.

The following notes apply to this report:

- * All fields in common with the Data Sheet Report have similar usage. Refer to its Report Guide for details.
- * An amount ADDED is the lab's value for the actual amount spiked into this sample with its ERROR an estimate of the error of this amount.

An amount added is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

- * REC (Recovery) is RESULT divided by ADDED expressed as a percent.
- * The first, computed limits for the recovery reflect:
 1. The error of RESULT, including that introduced by rounding the result prior to printing.

If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.
 2. The error of ADDED.
 3. A lab specified, per analyte bias. The bias changes the center of the computed limits.
- * The second limits are protocol defined upper and lower QC limits for the recovery.
- * The recovery is underlined if it is outside either of these ranges.

REPORT GUIDES

Page 7

SUMMARY DATA SECTION

Page 27

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

SDG 8692
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUJ2388

DUPLICATE

The Duplicate Report shows all results, differences and primary supporting information for one Duplicate and associated Original sample.

The following notes apply to this report:

- * All fields in common with the Data Sheet Report have similar usage. This applies both to the Duplicate and Original sample data. Refer to the Data Sheet Report Guide for details.

If the Duplicate has data for a TEST and the lab did not do this test to the Original, the Original's RESULTS are underlined.

- * The RPD (Relative Percent Difference) is the absolute value of the difference of the RESULTS divided by their average expressed as a percent.

If both RESULTS are less than their MDAs, no RPD is computed and a '-' is printed.

For an analyte, if the lab did work for both samples but has data for only one, the MDA from the sample with data is used as the other's result in the RPD.

- * The first, computed limit is the sum, as square root of sum of squares, of the errors of the results divided by the average result as a percent, hence the relative error of the difference rather than the error of the relative difference. The errors include those introduced by rounding the RESULTS prior to printing.

If this limit is labeled TOT, it includes the preparation error in the RESULTS. If labeled CNT, it does not.

This value reported for this limit is at most 999.

- * The second limit for the RPD is the larger of:
 1. A fixed percentage specified in the protocol.

REPORT GUIDES

Page 8

SUMMARY DATA SECTION

Page 28

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

SDG 8692
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUJ2388

DUPLICATE

2. A protocol factor (typically 2) times the average MDA as a percent of the average result. This limit applies when the results are close to the MDAs.

- * The RPD is underlined if it is greater than either limit.
- * If specified by the lab, the second limit column is replaced by the Difference Error Ratio (DER), which is the absolute value of the difference of the results divided by the quadratic sum of their one sigma errors, the same errors as used in the first limit.

Except for differences due to rounding, the DER is the same as the RPD divided by the first RPD limit with the limit scaled to 1 sigma.

- * The DER is underlined if it is greater than the sigma factor, typically 2 or 3, shown in the header for the first RPD limit.

REPORT GUIDES

Page 9

SUMMARY DATA SECTION

Page 29

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

SDG 8692
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUJ2388

MATRIX SPIKE

The Matrix Spike Report shows all results, recoveries and primary supporting information for one Matrix Spike and associated Original sample.

The following notes apply to this report:

- * All fields in common with the Data Sheet Report have similar usage. This applies both to the Spiked and Original sample data. Refer to the Data Sheet Report Guide for details.

If the Spike has data for a TEST and the lab did not do this test to the Original, the Original's RESULTS are underlined.

- * An amount ADDED is the lab's value for the actual amount spiked into the Spike sample with its ERROR an estimate of the error of this amount.

An amount is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

- * REC (Recovery) is the Spike RESULT minus the Original RESULT divided by ADDED expressed as a percent.

- * The first, computed limits for the recovery reflect:

1. The errors of the two RESULTS, including those introduced by rounding them prior to printing.

If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.

2. The error of ADDED.

3. A lab specified, per analyte bias. The bias changes the center of the computed limits.

- * The second limits are protocol defined upper and lower QC limits for the recovery.

REPORT GUIDES

Page 10

SUMMARY DATA SECTION

Page 30

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-RG
 Version 3.06
 Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

SDG 8692
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUJ2388

MATRIX SPIKE

These limits are left blank if the Original RESULT is more than a protocol defined factor (typically 4) times ADDED. This is a way of accounting for that when the spike is small compared to the amount in the original sample, the recovery is unreliable.

- * The recovery is underlined (out of spec) if it is outside either of these ranges.

REPORT GUIDES

Page 11

SUMMARY DATA SECTION

Page 31

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

SDG 8692
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUJ2388

METHOD SUMMARY

The Method Summary Report has two tables. One shows up to five results measured using one method. The other has performance data for the method. There is one report for each TEST, as used on the Data Sheet Report.

The following notes apply to this report:

- * Each table is subdivided into sections, one for each preparation batch. A preparation batch is a group of aliquots prepared at roughly the same time in one work area of the lab using the same method.

There should be Lab Control Sample and Method Blank results in each preparation batch since this close correspondence makes the QC meaningful. Depending on lab policy, Duplicates need not occur in each batch since they QC sample dependencies such as matrix effects.

- * The RAW TEST column shows the test code used in the raw data to identify a particular analysis if it is different than the test code in the header of the report. This occurs in special cases due to method specific details about how the lab labels work.

The Lab Sample or Planchet ID combined with the (Raw) Test Code and Suffix uniquely identify the raw data for each analysis.

- * If a result is less than both its MDA and RDL, it is replaced by just 'U' on this report. If it is greater than or equal to the RDL but less than the MDA, the result is shown with a 'U' flag.

The J and X flags are as on the data sheet.

- * Non-U results for Method Blanks are underlined to indicate possible contamination of other samples in the preparation batch. The Method Blank Report has supporting data.
- * Lab Control Sample and Matrix Spike results are shown as: ok, No data, LOW or HIGH, with the last two underlined. 'No data' means no amount ADDED was specified. 'LOW' and 'HIGH'

REPORT GUIDES

Page 12

SUMMARY DATA SECTION

Page 32

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

SDG 8692
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUJ2388

METHOD SUMMARY

correspond to when the recovery is underlined on the Lab Control Sample or Matrix Spike Report. See these reports for supporting data.

- * Duplicate sample results are shown as: ok, No data, or OUT, with the last two underlined. 'No data' means there was no original sample data found for this duplicate. 'OUT' corresponds to when the RPD is underlined on the Duplicate Report. See this report for supporting data.
- * If the MDA column is labeled 'MAX MDA', there was more than one result measured by the reported method and the MDA shown is the largest MDA. If not all these results have the same RDL, the MAX MDA reflects only those results with RDL equal to the smallest one.

MDAs are underlined if greater than the printed RDL.

- * Aliquots are underlined if less than the nominal value specified for the method.
- * Preparation factors are underlined if greater than the nominal value specified for the method.
- * Dilution factors are underlined if greater than the nominal value specified for the method.
- * Residues are underlined if outside the range specified for the method. Residues are not printed if yields are.
- * Yields, which may be gravimetric, radiometric or some type of recovery depending on the method, are underlined if outside the range specified for the method.
- * Efficiencies are underlined if outside the range specified for the method. Efficiencies are detector and geometry dependent so this test is only approximate.
- * Count times are underlined if less than the nominal value

REPORT GUIDES

Page 13

SUMMARY DATA SECTION

Page 33

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

SDG 8692
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUJ2388

METHOD SUMMARY

specified for the method.

- * Resolutions (as FWHM; Full Width at Half Max) are underlined if greater than the method specified limit.
- * Tracer drifts are underlined if their absolute values are greater than the method specified limit. Tracer drifts are not printed if percent moistures are.
- * Days Held are underlined if greater than the holding time specified in the protocol.
- * Analysis dates are underlined if before their planchet's preparation date or, if a limit is specified, too far after it.

For some methods, ratios as percentages and error estimates for them are computed for pairs of results. A ratio column header like '1+3' means the ratio of the first result column and the third result column.

Ratios are not computed for Lab Control Sample, Method Blank or Matrix Spike results since their matrices are not necessarily similar to client samples'.

The error estimate for a ratio of results from one planchet reflects only counting errors since other errors should be correlated. For a ratio involving different planchets, if QC limits are computed based on total errors, the error for the ratio allows for the preparation errors for the planchets.

The ratio is underlined (out of spec) if the absolute value of its difference from the nominal value is greater than its error estimate. If no nominal value is specified, this test is not done.

For Gross Alpha or Gross Beta results, there may be a column showing the sum of other Alpha or Beta emitters. This sum includes all relevant results in the DVD database, whether reported or not. Results in the sum are weighted by a particles/decay value specified by the lab for each relevant analyte. Results less than their MDA are not included.

REPORT GUIDES

Page 14

SUMMARY DATA SECTION

Page 34

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 11/14/11

EBERLINE ANALYTICAL

SDG 8692

SDG 8692
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUJ2388

METHOD SUMMARY

No sums are computed for Lab Control, Method Blank or Matrix Spike samples since their various planchets may not be physically related.

If a ratio of total isotopic to Gross Alpha or Beta is shown, the error for the ratio reflects both the error in the Gross result and the sum, as square root of sum of squares, of the errors in the isotopic results.

For total elemental uranium or thorium results, there may be a column showing the total weight computed from associated isotopic results. Ignoring results less than their MDAs, this is a weighted sum of the isotopic results. The weights depend on the molecular weight and half-life of each isotope so as to convert activities (decays) to weight (atoms).

If a ratio of total computed to measured elemental uranium or thorium is shown, the error for the ratio reflects the errors in all the measurements.

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 11/14/11

Subcontract Order - TestAmerica Irvine (IUJ2388)

8692

SENDING LABORATORY:

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

RECEIVING LABORATORY:

Eberline Services
 2030 Wright Avenue
 Richmond, CA 94804
 Phone: (510) 235-2633
 Fax: (510) 235-0438
 Project Location: California
 Receipt Temperature: _____ °C

Ice: Y / **N**

Standard TAT is requested unless specific due date is requested. => Due Date: _____ Initials: _____

Analysis	Units	Expires	Comments
Sample ID: IUJ2388-03 (Outfall 019 (Composite) - Water)			
		Sampled: 10/20/11 13:41	
Gamma Spec-O	mg/kg	10/19/12 13:41	Out eberline k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	04/17/12 13:41	Out eberline, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	04/17/12 13:41	Out Eberline, Boeing permit, DO NOT FILTER!
Level 4 Data Package - Out	N/A	11/17/11 13:41	
Radium, Combined-O	pCi/L	10/19/12 13:41	Out eberline Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	10/19/12 13:41	Out eberline Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	10/19/12 13:41	Out eberline Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	10/19/12 13:41	Out eberline, Boeing permit, DO NOT FILTER!

Containers Supplied:

2.5 gal Poly (U) 500 mL Amber (V)

Sample ID: IUJ2388-04 (Trip Blank - Water)

Sampled: 10/21/11 14:00

Gamma Spec-O	mg/kg	10/20/12 14:00	Out eberline k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	04/18/12 14:00	Out eberline, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	04/18/12 14:00	Out Eberline, Boeing permit, DO NOT FILTER!
Radium, Combined-O	pCi/L	10/20/12 14:00	Out eberline Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	10/20/12 14:00	Out eberline Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	10/20/12 14:00	Out eberline, Boeing permit, DO NOT FILTER!

Containers Supplied:

2.5 gal Poly (A)

Released By _____ Date/Time 10/21/11 17:00

Received By FedEx Date/Time 10/21/11 17:00

Released By FedEx Date/Time _____

Received By run Date/Time 10/22/11 10:00

86



RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA
 Date/Time received 10/22/11 1000 CoC No. 1UJ2388
 Container I.D. No. RE TEST Requested TAT (Days) STD P.O. Received Yes [] No []

INSPECTION

1. Custody seals on shipping container intact? Yes [x] No [] N/A []
2. Custody seals on shipping container dated & signed? Yes [x] No [] N/A []
3. Custody seals on sample containers intact? Yes [] No [] N/A [x]
4. Custody seals on sample containers dated & signed? Yes [] No [] N/A [x]
5. Packing material is: Wet [] Dry [x]
6. Number of samples in shipping container: 2 Sample Matrix W
7. Number of containers per sample: _____ (Or see CoC X)
8. Samples are in correct container Yes [x] No []
9. Paperwork agrees with samples? Yes [x] No []
10. Samples have: Tape [] Hazard labels [] Rad labels [] Appropriate sample labels [x]
11. Samples are: In good condition [x] Leaking [] Broken Container [] Missing []
12. Samples are: Preserved [x] Not preserved [] pH < 2 Preservative HNO3
13. Describe any anomalies:

14. Was P.M. notified of any anomalies? Yes [] No [] Date _____
 15. Inspected by [Signature] Date: 10/24/11 Time: 0800

Customer Sample No.	Beta/Gamma com	Ion Chamber mR/hr	Wide	Customer Sample No.	Beta/Gamma com	Ion Chamber mR/hr	Wide
<u>All samples</u>	<u>LSO</u>						

Ion Chamber Ser. No. _____ Calibration date _____
 Alpha Meter Ser. No. _____ Calibration date _____
 Beta/Gamma Meter Ser. No. 99574 Calibration date 15 JUL 11

APPENDIX G

Section 13

Outfall 019 – November 17, 2011

MEC^X Data Validation Report



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IUK2180

Prepared by

MEC^x, 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: IUK2180
 Project Manager: B. Kelly
 Matrix: Water
 QC Level: IV
 No. of Samples: 2
 No. of Reanalyses/Dilutions: 0
 Laboratory: TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 019 Composite	IUK2180-03	G1K190418-001, S111059-01	Water	11/17/2011 11:00:00 AM	ASTM D5174, 900. 901.1, 903.1, 904, 905, 906, 180.1, 200.7, 200.7 Diss , 245.1, 245.1 Diss, 314.0, 1613B

II. Sample Management

No anomalies were observed regarding sample management. Eberline did not note the temperature upon receipt; however, due to the nonvolatile nature of the analytes, no qualifications were required. The samples were received at TestAmerica-West Sacramento below the temperature control limit at 1°C; however, as the samples were not noted to be frozen or damaged, no qualifications were required. The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the samples were couriered to TestAmerica-Irvine, custody seals were not required. Custody seals were intact upon receipt at Eberline and TestAmerica-West Sacramento. 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 or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin

Date Reviewed: January 10, 2012

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

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.
- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.
 - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was analyzed prior to the initial calibration sequence and at the beginning of each analytical sequence. The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%.
 - Mass Spectrometer Performance: The mass spectrometer performance was acceptable with the static resolving power greater than 10,000.
- Calibration: Calibration criteria were met.
 - Initial Calibration: Initial calibration criteria were met. The initial calibration was acceptable with %RSDs $\leq 20\%$ for the 15 native compounds (calibration by isotope dilution) and $\leq 35\%$ for the two native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the Method 1613 QC limits for all standards.
 - Continuing Calibration: Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VERs were acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits.
- Blanks: The method blank had detects above the EDL for 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, 1,2,3,4,7,8,9-HpCDF, total HpCDD, total HpCDF, OCDD, and OCDF. Some method blank results were reported as EMPCs; however, due to the extent of the method blank contamination, the reviewer deemed it appropriate to use all method blank results to qualify sample results. The method blank result for OCDD was insufficient

to qualify the sample result. Sample results for the remaining individual isomer method blank contaminants were qualified as nondetected, "U," at the level of contamination. The results for total HpCDD and total HpCDF were also qualified as nondetected, "U," as the peaks comprising the totals in the sample were present at comparable concentrations in the method blank.

- 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 internal standard recoveries for the sample 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 quantification 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." Individual isomer EMPCs qualified as nondetected for method blank contamination were not further qualified as EMPCs. The EMPC results for 1,2,3,6,7,8-HxCDF and 1,2,3,7,8,9-HxCDF were qualified as estimated nondetects, "UJ," at the level of the EMPC. The total for HxCDF was qualified as estimated, "J," as the total included individual isomers originally reported as EMPCs. Any detects reported between the estimated detection limit (EDL) and the reporting limit (RL) were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Nondetects are valid to the EDL.

B. EPA METHODS 200.7 and 245.1—Metals and Mercury

Reviewed By: P. Meeks

Date Reviewed: January 10, 2012

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

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

- Holding Times: Analytical holding times, six months for ICP metal and 28 days for mercury, were met.
- Tuning: Not applicable to this analysis.
- Calibration: Calibration criteria were met. Mercury initial calibration r^2 values were ≥ 0.995 and all initial and continuing calibration recoveries were within 90-110% for the ICP and metal and 85-115% for mercury. CRDL/CRI recoveries were within the control limits of 70-130%.
- Blanks: Method blanks and CCBs had no detects.
- Interference Check Samples: Recoveries were within the method-established control limits. Zinc was not present in the ICSA solution.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on total zinc and dissolved mercury. Recoveries and RPDs were within laboratory-established QC limits.
- Serial Dilution: No serial dilution analyses were performed.
- Internal Standards Performance: Not applicable to this analysis.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

Zinc was detected below the reporting limit and nominally above the MDL in both the total and dissolved aliquots but the dissolved concentration was higher, with a difference of 23%. The difference is likely attributable to the variability in instrument readings near 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 10, 2012

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

- **Holding Times:** The tritium sample was analyzed within 180 days of collection. The remaining aliquots were preserved within five days of collection.
- **Calibration:** The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability.

The gross alpha detector efficiency was less than 20%; therefore, nondetected gross alpha in the sample was qualified as estimated, "UJ." The remaining detector efficiencies were greater than 20%. The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. All chemical yields were at least 40% and were considered acceptable. The gamma spectroscopy analytes were determined at the maximum photopeak energy. The kinetic phosphorescence analyzer (KPA) was calibrated immediately prior to the sample analysis. All KPA calibration check standard recoveries were within 90-110% and were deemed acceptable.

- **Blanks:** There were no analytes detected in the method blanks or the KPA CCBs.
- **Blank Spikes and Laboratory Control Samples:** The recoveries were within laboratory-established control limits.
- **Laboratory Duplicates:** Laboratory duplicate analyses were performed on the sample in this SDG. All RPDs were within the laboratory-established control limits.
- **Matrix Spike/Matrix Spike Duplicate:** No MS/MSD analyses were performed for the sample in this SDG. Method accuracy was evaluated based on the LCS results.

- **Sample Result Verification:** An EPA Level IV review was performed for the sample in this data package. The sample results and MDAs reported on the sample result form were verified against the raw data and no calculation or transcription errors were noted. Any detects between the MDA and the reporting limit were qualified as estimated, “J,” and coded with “DNQ,” in order to comply with the NPDES permit. Reported nondetects are valid to the MDA. Total uranium, normally reported in aqueous units, was converted to pCi/L using the conversion factor of 0.67 for naturally occurring uranium.
- **Field QC Samples:** Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - **Field Blanks and Equipment Rinsates:** This SDG had no identified field blank or equipment rinsate samples.
 - **Field Duplicates:** There were no field duplicate samples identified for this SDG.

D. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks

Date Reviewed: January 10, 2012

The sample listed in Table 1 for these analyses were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0)*, *EPA Methods 180.1 and 314.0*, and the *National Functional Guidelines for Inorganic Data Review (7/02)*.

- **Holding Times:** Analytical holding times, two days from collection for turbidity and 28 days for perchlorate, were met.
- **Calibration:** Calibration criteria were met. The perchlorate initial calibration r^2 value was ≥ 0.995 . The perchlorate IPC-MA recovery was within the control limits of 80-120%. The perchlorate ICCS recovery was within 75-125% and the perchlorate ICV and CCV recoveries were within 85-115%. The turbidity CCV recovery was within 90-110%.
- **Blanks:** Method blanks and CCBs had no detects.
- **Blank Spikes and Laboratory Control Samples:** Recoveries were within method-established control limits for perchlorate. The LCS is not applicable to turbidity.
- **Laboratory Duplicates:** A laboratory duplicate analysis was performed on the sample in this SDG for turbidity. The RPD was within the laboratory-established control limits.

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

Validated Sample Result Forms IUK2180

Analysis Method 900

Sample Name Outfall 019 Composite **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: IUK2180-03 **Sample Date:** 11/17/2011 11:00:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	0.304	3	1.54	pCi/L	U	UJ	C
Gross Beta	12587472	3.65	4	1.88	pCi/L	Jb	J	DNQ

Analysis Method 901.1

Sample Name Outfall 019 Composite **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: IUK2180-03 **Sample Date:** 11/17/2011 11:00:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	ND	20	1.3	pCi/L	U	U	
Potassium-40	13966002	ND	25	15.1	pCi/L	U	U	

Analysis Method 903.1

Sample Name Outfall 019 Composite **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: IUK2180-03 **Sample Date:** 11/17/2011 11:00:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	-0.073	1	0.922	pCi/L	U	U	

Analysis Method 904

Sample Name Outfall 019 Composite **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: IUK2180-03 **Sample Date:** 11/17/2011 11:00:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	0.093	1	0.593	pCi/L	U	U	

Analysis Method 905

Sample Name Outfall 019 Composite **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: IUK2180-03 **Sample Date:** 11/17/2011 11:00:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	0.098	2	0.56	pCi/L	U	U	

Analysis Method 906

Sample Name	Outfall 019 Composite	Matrix Type:	WATER	Validation Level:	IV			
Lab Sample Name:	IUK2180-03	Sample Date:	11/17/2011 11:00:00 AM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	-68.5	500	160	pCi/L	U	U	

Analysis Method D5174

Sample Name	Outfall 019 Composite	Matrix Type:	WATER	Validation Level:	IV			
Lab Sample Name:	IUK2180-03	Sample Date:	11/17/2011 11:00:00 AM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total		0.174	1	0.017	pCi/L	Jb	J	DNQ

Analysis Method EPA 180.1

Sample Name	Outfall 019 Composite	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUK2180-03	Sample Date:	11/17/2011 11:00:00 AM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Turbidity	Turb	0.11	1.0	0.040	NTU	Ja	J	DNQ

Analysis Method EPA 200.7

Sample Name	Outfall 019 Composite	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUK2180-03	Sample Date:	11/17/2011 11:00:00 AM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Zinc	7440-66-6	6.6	20	6.0	ug/l	Ja	J	DNQ

Analysis Method EPA 200.7-Diss

Sample Name	Outfall 019 Composite	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUK2180-03	Sample Date:	11/17/2011 11:00:00 AM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Zinc	7440-66-6	8.2	20	6.0	ug/l	Ja	J	DNQ

Analysis Method EPA 245.1

Sample Name	Outfall 019 Composite	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUK2180-03	Sample Date:	11/17/2011 11:00:00 AM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	ND	0.20	0.10	ug/l		U	

Analysis Method EPA 245.1-Diss

Sample Name	Outfall 019 Composite	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUK2180-03	Sample Date:	11/17/2011 11:00:00 AM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	ND	0.20	0.10	ug/l		U	

Analysis Method EPA 314.0

Sample Name	Outfall 019 Composite	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUK2180-03	Sample Date:	11/17/2011 11:00:00 AM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Perchlorate	14797-73-0	ND	4.0	0.95	ug/l		U	

Analysis Method EPA-5 1613B

Sample Name Outfall 019 Composite **Matrix Type:** WATER **Validation Level:** IV
Lab Sample Name: IUK2180-03 **Sample Date:** 11/17/2011 11:00:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822-46-9	ND	0.00005	0.0000005	ug/L	J, Ba	U	B
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.00005	0.0000003	ug/L	J, Q, Ba	U	B
1,2,3,4,7,8,9-HpCDF	55673-89-7	DN	0.00005	0.0000004	ug/L	J, Q, Ba	U	B
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.00005	0.0000004	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	1.6e-006	0.00005	0.0000002	ug/L	J	J	DNQ
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.00005	0.0000004	ug/L		U	
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.00005	0.0000002	ug/L	J, Q	UJ	*III
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.00005	0.0000004	ug/L		U	
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.00005	0.0000002	ug/L	J, Q	UJ	*III
1,2,3,7,8-PeCDD	40321-76-4	ND	0.00005	0.0000011	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.00005	0.0000009	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.00005	0.0000002	ug/L		U	
2,3,4,7,8-PeCDF	57117-31-4	ND	0.00005	0.0000011	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.00001	0.0000006	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.00001	0.0000006	ug/L		U	
OCDD	3268-87-9	0.00012	0.0001	0.0000016	ug/L	Ba		
OCDF	39001-02-0	ND	0.0001	0.0000005	ug/L	J, Q, Ba	U	B
Total HpCDD	37871-00-4	ND	0.00005	0.0000005	ug/L	Ba, J, Q	U	B
Total HpCDF	38998-75-3	ND	0.00005	0.0000003	ug/L	Ba, J, Q	U	B
Total HxCDD	34465-46-8	ND	0.00005	0.0000004	ug/L		U	
Total HxCDF	55684-94-1	4.7e-006	0.00005	0.0000002	ug/L	J, Q	J	DNQ, *III
Total PeCDD	36088-22-9	ND	0.00005	0.0000011	ug/L		U	
Total PeCDF	30402-15-4	ND	0.00005	0.0000009	ug/L		U	
Total TCDD	41903-57-5	ND	0.00001	0.0000006	ug/L		U	
Total TCDF	55722-27-5	ND	0.00001	0.0000006	ug/L		U	

APPENDIX G

Section 14

Outfall 019 – November 16, 17, & 18, 2011
Test America Analytical Laboratory Report

LABORATORY REPORT

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

Project: Monthly Outfall 019
Monthly Outfall 019

Sampled: 11/16/11-11/18/11
Received: 11/16/11
Issued: 12/23/11 09:25

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, 3 pages, are included and are an integral part of this report.
This entire report was reviewed and approved for release.*

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 3°C, on ice and with chain of custody documentation.

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

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

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

COMMENTS: Results that fall between the MDL and RL are 'J' flagged.

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

ADDITIONAL INFORMATION: WATER, 1613B, Dioxins/Furans with Totals
Sample: 1
Some analytes in this sample and the associated method blank have an ion abundance ratio that is outside of criteria. The analytes are considered as an "estimated maximum possible concentration" (EMPC) because the quantitation is based on the theoretical ion abundance ratio. Analytical results are reported with a "Q" flag.

LABORATORY ID

IUK2180-01
IUK2180-02
IUK2180-03

CLIENT ID

Outfall 019 (Grab)
Trip Blanks
Outfall 019 Composite

MATRIX

Water
Water
Water

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

LABORATORY ID

IUK2180-04

CLIENT ID

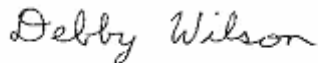
TB

MATRIX

Water

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Reviewed By:



TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUK2180-01 (Outfall 019 (Grab) - Water)					Sampled: 11/16/11				
Reporting Units: ug/l									
Benzene	EPA 624	11K3583	0.28	0.50	ND	1	SS	11/26/11	
Carbon tetrachloride	EPA 624	11K3583	0.28	0.50	ND	1	SS	11/26/11	
Chloroform	EPA 624	11K3583	0.33	0.50	ND	1	SS	11/26/11	
1,1-Dichloroethane	EPA 624	11K3583	0.40	0.50	ND	1	SS	11/26/11	
1,2-Dichloroethane	EPA 624	11K3583	0.28	0.50	ND	1	SS	11/26/11	
1,1-Dichloroethene	EPA 624	11K3583	0.42	0.50	ND	1	SS	11/26/11	
cis-1,2-Dichloroethene	EPA 624	11K3583	0.32	0.50	ND	1	SS	11/26/11	
Ethylbenzene	EPA 624	11K3583	0.25	0.50	ND	1	SS	11/26/11	
Tetrachloroethene	EPA 624	11K3583	0.32	0.50	ND	1	SS	11/26/11	
Toluene	EPA 624	11K3583	0.36	0.50	ND	1	SS	11/26/11	
1,1,1-Trichloroethane	EPA 624	11K3583	0.30	0.50	ND	1	SS	11/26/11	
1,1,2-Trichloroethane	EPA 624	11K3583	0.30	0.50	ND	1	SS	11/26/11	
Trichloroethene	EPA 624	11K3583	0.26	0.50	ND	1	SS	11/26/11	
Trichlorofluoromethane	EPA 624	11K3583	0.34	0.50	ND	1	SS	11/26/11	
Trichlorotrifluoroethane (Freon 113)	EPA 624	11K3583	0.50	5.0	ND	1	SS	11/26/11	
Vinyl chloride	EPA 624	11K3583	0.40	0.50	ND	1	SS	11/26/11	
Xylenes, Total	EPA 624	11K3583	0.90	1.5	ND	1	SS	11/26/11	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					96 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					95 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					100 %				

Sample ID: IUK2180-02 (Trip Blanks - Water)
Reporting Units: ug/l

Sampled: 11/16/11

Benzene	EPA 624	11K3583	0.28	0.50	ND	1	SS	11/26/11	
Carbon tetrachloride	EPA 624	11K3583	0.28	0.50	ND	1	SS	11/26/11	
Chloroform	EPA 624	11K3583	0.33	0.50	ND	1	SS	11/26/11	
1,1-Dichloroethane	EPA 624	11K3583	0.40	0.50	ND	1	SS	11/26/11	
1,2-Dichloroethane	EPA 624	11K3583	0.28	0.50	ND	1	SS	11/26/11	
1,1-Dichloroethene	EPA 624	11K3583	0.42	0.50	ND	1	SS	11/26/11	
cis-1,2-Dichloroethene	EPA 624	11K3583	0.32	0.50	ND	1	SS	11/26/11	
Ethylbenzene	EPA 624	11K3583	0.25	0.50	ND	1	SS	11/26/11	
Tetrachloroethene	EPA 624	11K3583	0.32	0.50	ND	1	SS	11/26/11	
Toluene	EPA 624	11K3583	0.36	0.50	ND	1	SS	11/26/11	
1,1,1-Trichloroethane	EPA 624	11K3583	0.30	0.50	ND	1	SS	11/26/11	
1,1,2-Trichloroethane	EPA 624	11K3583	0.30	0.50	ND	1	SS	11/26/11	
Trichloroethene	EPA 624	11K3583	0.26	0.50	ND	1	SS	11/26/11	
Trichlorofluoromethane	EPA 624	11K3583	0.34	0.50	ND	1	SS	11/26/11	
Trichlorotrifluoroethane (Freon 113)	EPA 624	11K3583	0.50	5.0	ND	1	SS	11/26/11	
Vinyl chloride	EPA 624	11K3583	0.40	0.50	ND	1	SS	11/26/11	
Xylenes, Total	EPA 624	11K3583	0.90	1.5	ND	1	SS	11/26/11	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					95 %				

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUK2180-02 (Trip Blanks - Water) - cont.					Sampled: 11/16/11				
Reporting Units: ug/l									
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					93 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					96 %				

TestAmerica Irvine

Debby Wilson
Project Manager

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

IUK2180 <Page 4 of 52>

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

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

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUK2180-03 (Outfall 019 Composite - Water)					Sampled: 11/17/11				
Reporting Units: ug/l									
Bis(2-ethylhexyl)phthalate	EPA 625	11K2881	1.60	4.72	2.47	0.943	UP\	11/21/11	B, Ja
2,4-Dinitrotoluene	EPA 625	11K2881	0.189	4.72	ND	0.943	UP\	11/21/11	
N-Nitrosodimethylamine	EPA 625	11K2881	0.0943	4.72	ND	0.943	UP\	11/21/11	
Pentachlorophenol	EPA 625	11K2881	0.0943	4.72	ND	0.943	UP\	11/21/11	
2,4,6-Trichlorophenol	EPA 625	11K2881	0.0943	5.66	ND	0.943	UP\	11/21/11	
Surrogate: 2,4,6-Tribromophenol (40-120%)					94 %				
Surrogate: 2-Fluorobiphenyl (50-120%)					80 %				
Surrogate: 2-Fluorophenol (30-120%)					54 %				
Surrogate: Nitrobenzene-d5 (45-120%)					77 %				
Surrogate: Phenol-d6 (35-120%)					58 %				
Surrogate: Terphenyl-d14 (50-125%)					108 %				

TestAmerica Irvine

Debby Wilson
 Project Manager

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

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUK2180-03 (Outfall 019 Composite - Water) - cont.					Sampled: 11/17/11				
Reporting Units: ug/l									
alpha-BHC	EPA 608	11K3220	0.0024	0.0094	ND	0.943	DXD	11/22/11	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					69 %				
<i>Surrogate: Tetrachloro-m-xylene (35-115%)</i>					49 %				

TestAmerica Irvine

Debby Wilson
Project Manager

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

IUK2180 <Page 6 of 52>

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUK2180-01 (Outfall 019 (Grab) - Water)					Sampled: 11/16/11				
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	11K3925	1.3	4.7	ND	1	DA	11/29/11	

TestAmerica Irvine

Debby Wilson
Project Manager

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

IUK2180 <Page 7 of 52>

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUK2180-03 (Outfall 019 Composite - Water)					Sampled: 11/17/11				
Reporting Units: ug/l									
Mercury	EPA 245.1	11K3756	0.10	0.20	ND	1	DB	11/29/11	
Cadmium	EPA 200.8	11K3002	0.10	1.0	ND	1	KB1	11/22/11	
Zinc	EPA 200.7	11K3073	6.00	20.0	6.57	1	NH	11/26/11	Ja
Copper	EPA 200.8	11K3002	0.50	2.0	0.58	1	KB1	11/22/11	Ja
Lead	EPA 200.8	11K3002	0.20	1.0	ND	1	RDC	11/22/11	
Selenium	EPA 200.8	11K3002	0.50	2.0	ND	1	KB1	11/22/11	

TestAmerica Irvine

Debby Wilson
 Project Manager

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

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUK2180-03 (Outfall 019 Composite - Water) - cont.					Sampled: 11/17/11				
Reporting Units: ug/l									
Mercury	EPA 245.1-Diss	11K3793	0.10	0.20	ND	1	DB	11/29/11	
Cadmium	EPA 200.8-Diss	11K3385	0.10	1.0	ND	1	KB1	11/23/11	
Zinc	EPA 200.7-Diss	11K2993	6.00	20.0	8.18	1	NH	11/23/11	Ja
Copper	EPA 200.8-Diss	11K3385	0.50	2.0	0.73	1	KB1	11/23/11	Ja
Lead	EPA 200.8-Diss	11K3385	0.20	1.0	ND	1	KB1	11/23/11	
Selenium	EPA 200.8-Diss	11K3385	0.50	2.0	ND	1	KB1	11/23/11	

TestAmerica Irvine

Debby Wilson
 Project Manager

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

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUK2180-03 (Outfall 019 Composite - Water) - cont.					Sampled: 11/17/11				
Reporting Units: mg/l									
Ammonia-N (Distilled)	SM4500NH3-C	11K3438	0.500	0.500	ND	1	NCP	11/23/11	
Biochemical Oxygen Demand	SM5210B	11K2890	0.50	2.0	ND	1	XL	11/24/11	
Chloride	EPA 300.0	11K2723	3.0	5.0	34	10	NN	11/18/11	
Nitrate-N	EPA 300.0	11K2723	0.060	0.11	ND	1	NN	11/18/11	
Nitrite-N	EPA 300.0	11K2723	0.090	0.15	ND	1	NN	11/18/11	
Nitrate/Nitrite-N	EPA 300.0	11K2723	0.15	0.26	ND	1	NN	11/18/11	
Sulfate	EPA 300.0	11K2723	3.0	5.0	150	10	NN	11/18/11	
Surfactants (MBAS)	SM5540-C	11K2799	0.050	0.10	ND	1	NCP	11/18/11	
Total Dissolved Solids	SM2540C	11K2927	1.0	10	490	1	MC	11/21/11	
Total Organic Carbon	SM5310B	11K2928	0.50	1.0	ND	1	FZ	11/21/11	
Total Suspended Solids	SM 2540D	11K3088	1.0	10	ND	1	MC	11/21/11	

TestAmerica Irvine

Debby Wilson
 Project Manager

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

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUK2180-01 (Outfall 019 (Grab) - Water)					Sampled: 11/16/11				
Reporting Units: ml/l									
Total Settleable Solids	SM2540F	11K2528	0.10	0.10	ND	1	RRZ	11/17/11	
Sample ID: IUK2180-03 (Outfall 019 Composite - Water)					Sampled: 11/17/11				
Reporting Units: NTU									
Turbidity	EPA 180.1	11K2893	0.040	1.0	0.11	1	ST	11/19/11	Ja
Sample ID: IUK2180-03 (Outfall 019 Composite - Water)					Sampled: 11/17/11				
Reporting Units: ug/l									
Perchlorate	EPA 314.0	11K2964	0.95	4.0	ND	1	mn	11/21/11	
Total Cyanide	SM4500CN-E	11L0134	2.2	5.0	ND	1	SLA	12/01/11	

TestAmerica Irvine

Debby Wilson
 Project Manager

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

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

900

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUK2180-03 (Outfall 019 Composite - Water) - cont.					Sampled: 11/17/11				
Reporting Units: pCi/L									
Gross Alpha	900	8695	1.54	3	0.304	1	DVP	12/02/11	U
Gross Beta	900	8695	1.88	4	3.65	1	DVP	12/02/11	Jb
Sample ID: IUK2180-04 (TB - Water)					Sampled: 11/18/11				
Reporting Units: pCi/L									
Gross Alpha	900	8695	0.278	3	0.069	1	DVP	12/02/11	U
Gross Beta	900	8695	1.07	4	-0.544	1	DVP	12/02/11	U

TestAmerica Irvine

Debby Wilson
 Project Manager

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

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

901.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUK2180-03 (Outfall 019 Composite - Water)					Sampled: 11/17/11				
Reporting Units: pCi/L									
Cesium-137	901.1	8695	1.3	20	ND	1	LS	11/29/11	U
Potassium-40	901.1	8695	15.1	25	ND	1	LS	11/29/11	U
Sample ID: IUK2180-04 (TB - Water)					Sampled: 11/18/11				
Reporting Units: pCi/L									
Cesium-137	901.1	8695	1.23	20	ND	1	LS	11/29/11	U
Potassium-40	901.1	8695	23.3	25	ND	1	LS	11/29/11	U

TestAmerica Irvine

Debby Wilson
 Project Manager

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

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

903.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUK2180-03 (Outfall 019 Composite - Water)					Sampled: 11/17/11				
Reporting Units: pCi/L									
Radium-226	903.1	8695	0.922	1	-0.073	1	TM	12/13/11	U
Sample ID: IUK2180-04 (TB - Water)					Sampled: 11/18/11				
Reporting Units: pCi/L									
Radium-226	903.1	8695	0.806	1	0.169	1	TM	12/13/11	U

TestAmerica Irvine

Debby Wilson
Project Manager

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

IUK2180 <Page 14 of 52>

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

904

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUK2180-03 (Outfall 019 Composite - Water)					Sampled: 11/17/11				
Reporting Units: pCi/L									
Radium-228	904	8695	0.593	1	0.093	1	ASM	12/06/11	U
Sample ID: IUK2180-04 (TB - Water)					Sampled: 11/18/11				
Reporting Units: pCi/L									
Radium-228	904	8695	0.591	1	-0.271	1	ASM	12/06/11	U

TestAmerica Irvine

Debby Wilson
Project Manager

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

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

905

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUK2180-03 (Outfall 019 Composite - Water)					Sampled: 11/17/11				
Reporting Units: pCi/L									
Strontium-90	905	8695	0.56	2	0.098	1	WL	12/02/11	U
Sample ID: IUK2180-04 (TB - Water)					Sampled: 11/18/11				
Reporting Units: pCi/L									
Strontium-90	905	8695	0.518	2	-0.032	1	WL	12/02/11	U

TestAmerica Irvine

Debby Wilson
Project Manager

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

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

906

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUK2180-03 (Outfall 019 Composite - Water)					Sampled: 11/17/11				
Reporting Units: pCi/L									
Tritium	906	8695	160	500	-68.5	1	WL	12/05/11	U

TestAmerica Irvine

Debby Wilson
Project Manager

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

IUK2180 <Page 17 of 52>

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

ASTM-D5174

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUK2180-03 (Outfall 019 Composite - Water) - cont.					Sampled: 11/17/11				
Reporting Units: pCi/L									
Uranium, Total	D5174	8695	0.017	1	0.174	1	LS	12/01/11	Jb
Sample ID: IUK2180-04 (TB - Water)					Sampled: 11/18/11				
Reporting Units: pCi/L									
Uranium, Total	D5174	8695	0.017	1	0.003	1	LS	12/01/11	U

TestAmerica Irvine

Debby Wilson
 Project Manager

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

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

EPA-5 1613Bx

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUK2180-03 (Outfall 019 Composite - Water)					Sampled: 11/17/11				
Reporting Units: ug/L									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	1325148	0.00000057	0.00005	6.3e-006	0.96	LH	11/22/11	J, Ba
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	1325148	0.00000035	0.00005	2.7e-006	0.96	LH	11/22/11	J, Q, Ba
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	1325148	0.00000043	0.00005	1.4e-006	0.96	LH	11/22/11	J, Q, Ba
1,2,3,4,7,8-HxCDD	EPA-5 1613B	1325148	0.00000048	0.00005	ND	0.96	LH	11/22/11	
1,2,3,4,7,8-HxCDF	EPA-5 1613B	1325148	0.00000023	0.00005	1.6e-006	0.96	LH	11/22/11	J
1,2,3,6,7,8-HxCDD	EPA-5 1613B	1325148	0.00000043	0.00005	ND	0.96	LH	11/22/11	
1,2,3,6,7,8-HxCDF	EPA-5 1613B	1325148	0.00000022	0.00005	4.8e-007	0.96	LH	11/22/11	J, Q
1,2,3,7,8,9-HxCDD	EPA-5 1613B	1325148	0.00000042	0.00005	ND	0.96	LH	11/22/11	
1,2,3,7,8,9-HxCDF	EPA-5 1613B	1325148	0.00000024	0.00005	5.5e-007	0.96	LH	11/22/11	J, Q
1,2,3,7,8-PeCDD	EPA-5 1613B	1325148	0.0000011	0.00005	ND	0.96	LH	11/22/11	
1,2,3,7,8-PeCDF	EPA-5 1613B	1325148	0.00000097	0.00005	ND	0.96	LH	11/22/11	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	1325148	0.00000021	0.00005	ND	0.96	LH	11/22/11	
2,3,4,7,8-PeCDF	EPA-5 1613B	1325148	0.0000011	0.00005	ND	0.96	LH	11/22/11	
2,3,7,8-TCDD	EPA-5 1613B	1325148	0.00000065	0.00001	ND	0.96	LH	11/22/11	
2,3,7,8-TCDF	EPA-5 1613B	1325148	0.00000063	0.00001	ND	0.96	LH	11/22/11	
OCDD	EPA-5 1613B	1325148	0.0000016	0.0001	0.00012	0.96	LH	11/22/11	Ba
OCDF	EPA-5 1613B	1325148	0.00000055	0.0001	1.2e-005	0.96	LH	11/22/11	J, Q, Ba
Total HpCDD	EPA-5 1613B	1325148	0.00000057	0.00005	1.1e-005	0.96	LH	11/22/11	Ba, J, Q
Total HpCDF	EPA-5 1613B	1325148	0.00000039	0.00005	7e-006	0.96	LH	11/22/11	Ba, J, Q
Total HxCDD	EPA-5 1613B	1325148	0.00000042	0.00005	ND	0.96	LH	11/22/11	
Total HxCDF	EPA-5 1613B	1325148	0.00000022	0.00005	4.7e-006	0.96	LH	11/22/11	J, Q
Total PeCDD	EPA-5 1613B	1325148	0.0000011	0.00005	ND	0.96	LH	11/22/11	
Total PeCDF	EPA-5 1613B	1325148	0.00000097	0.00005	ND	0.96	LH	11/22/11	
Total TCDD	EPA-5 1613B	1325148	0.00000065	0.00001	ND	0.96	LH	11/22/11	
Total TCDF	EPA-5 1613B	1325148	0.00000063	0.00001	ND	0.96	LH	11/22/11	

Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%) 43 %
 Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%) 45 %
 Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%) 44 %
 Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%) 48 %
 Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%) 46 %
 Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%) 50 %
 Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%) 48 %
 Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%) 49 %
 Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%) 49 %
 Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%) 47 %
 Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%) 48 %
 Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%) 52 %
 Surrogate: 13C-2,3,7,8-TCDD (25-164%) 50 %
 Surrogate: 13C-2,3,7,8-TCDF (24-169%) 50 %
 Surrogate: 13C-OCDD (17-157%) 43 %
 Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%) 95 %

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 019 (Grab) (IUK2180-01) - Water					
SM2540F	2	11/16/2011 10:30	11/16/2011 19:10	11/17/2011 09:10	11/17/2011 09:10
Sample ID: Outfall 019 Composite (IUK2180-03) - Water					
EPA 180.1	2	11/17/2011 11:00	11/16/2011 19:10	11/19/2011 11:00	11/19/2011 11:00
EPA 300.0	2	11/17/2011 11:00	11/16/2011 19:10	11/18/2011 10:00	11/18/2011 16:31
Filtration	1	11/17/2011 11:00	11/16/2011 19:10	11/18/2011 20:11	11/18/2011 20:12
SM5210B	2	11/17/2011 11:00	11/16/2011 19:10	11/19/2011 10:33	11/24/2011 08:40
SM5540-C	2	11/17/2011 11:00	11/16/2011 19:10	11/18/2011 14:00	11/18/2011 16:51

TestAmerica Irvine

Debby Wilson
Project Manager

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

IUK2180 <Page 20 of 52>

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting			Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
		Limit	MDL	Units								
Batch: 11K3583 Extracted: 11/26/11												
Blank Analyzed: 11/26/2011 (11K3583-BLK1)												
Benzene	ND	0.50	0.28	ug/l	SS							
Carbon tetrachloride	ND	0.50	0.28	ug/l	SS							
Chloroform	ND	0.50	0.33	ug/l	SS							
1,1-Dichloroethane	ND	0.50	0.40	ug/l	SS							
1,2-Dichloroethane	ND	0.50	0.28	ug/l	SS							
1,1-Dichloroethene	ND	0.50	0.42	ug/l	SS							
cis-1,2-Dichloroethene	ND	0.50	0.32	ug/l	SS							
Ethylbenzene	ND	0.50	0.25	ug/l	SS							
Tetrachloroethene	ND	0.50	0.32	ug/l	SS							
Toluene	ND	0.50	0.36	ug/l	SS							
1,1,1-Trichloroethane	ND	0.50	0.30	ug/l	SS							
1,1,2-Trichloroethane	ND	0.50	0.30	ug/l	SS							
Trichloroethene	ND	0.50	0.26	ug/l	SS							
Trichlorofluoromethane	ND	0.50	0.34	ug/l	SS							
Trichlorotrifluoroethane (Freon 113)	ND	5.0	0.50	ug/l	SS							
Vinyl chloride	ND	0.50	0.40	ug/l	SS							
Xylenes, Total	ND	1.5	0.90	ug/l	SS							
Surrogate: 4-Bromofluorobenzene	23.2			ug/l	SS	25.0		93	80-120			
Surrogate: Dibromofluoromethane	23.3			ug/l	SS	25.0		93	80-120			
Surrogate: Toluene-d8	25.1			ug/l	SS	25.0		100	80-120			

LCS Analyzed: 11/26/2011 (11K3583-BS1)

Benzene	24.8	0.50	0.28	ug/l	SS	25.0		99	70-120			
Carbon tetrachloride	26.1	0.50	0.28	ug/l	SS	25.0		105	65-140			
Chloroform	25.3	0.50	0.33	ug/l	SS	25.0		101	70-130			
1,1-Dichloroethane	24.5	0.50	0.40	ug/l	SS	25.0		98	70-125			
1,2-Dichloroethane	24.6	0.50	0.28	ug/l	SS	25.0		98	60-140			
1,1-Dichloroethene	25.8	0.50	0.42	ug/l	SS	25.0		103	70-125			
cis-1,2-Dichloroethene	27.4	0.50	0.32	ug/l	SS	25.0		110	70-125			
Ethylbenzene	25.1	0.50	0.25	ug/l	SS	25.0		100	75-125			
Tetrachloroethene	25.5	0.50	0.32	ug/l	SS	25.0		102	70-125			
Toluene	24.7	0.50	0.36	ug/l	SS	25.0		99	70-120			
1,1,1-Trichloroethane	25.0	0.50	0.30	ug/l	SS	25.0		100	65-135			
1,1,2-Trichloroethane	26.7	0.50	0.30	ug/l	SS	25.0		107	70-125			
Trichloroethene	26.2	0.50	0.26	ug/l	SS	25.0		105	70-125			
Trichlorofluoromethane	26.1	0.50	0.34	ug/l	SS	25.0		104	65-145			

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11K3583 Extracted: 11/26/11												
LCS Analyzed: 11/26/2011 (11K3583-BS1)												
Vinyl chloride	23.5	0.50	0.40	ug/l	SS	25.0		94	55-135			
Xylenes, Total	77.1	1.5	0.90	ug/l	SS	75.0		103	70-125			
Surrogate: 4-Bromofluorobenzene	24.3			ug/l	SS	25.0		97	80-120			
Surrogate: Dibromofluoromethane	23.3			ug/l	SS	25.0		93	80-120			
Surrogate: Toluene-d8	24.4			ug/l	SS	25.0		98	80-120			
Matrix Spike Analyzed: 11/26/2011 (11K3583-MS1)						Source: IUK2223-01						
Benzene	24.1	0.50	0.28	ug/l	SS	25.0	ND	96	65-125			
Carbon tetrachloride	25.8	0.50	0.28	ug/l	SS	25.0	ND	103	65-140			
Chloroform	25.6	0.50	0.33	ug/l	SS	25.0	ND	102	65-135			
1,1-Dichloroethane	24.0	0.50	0.40	ug/l	SS	25.0	ND	96	65-130			
1,2-Dichloroethane	25.0	0.50	0.28	ug/l	SS	25.0	ND	100	60-140			
1,1-Dichloroethene	25.6	0.50	0.42	ug/l	SS	25.0	ND	102	60-130			
cis-1,2-Dichloroethene	28.3	0.50	0.32	ug/l	SS	25.0	ND	113	65-130			
Ethylbenzene	26.4	0.50	0.25	ug/l	SS	25.0	ND	106	65-130			
Tetrachloroethene	26.1	0.50	0.32	ug/l	SS	25.0	ND	104	65-130			
Toluene	25.1	0.50	0.36	ug/l	SS	25.0	ND	100	70-125			
1,1,1-Trichloroethane	24.9	0.50	0.30	ug/l	SS	25.0	ND	100	65-140			
1,1,2-Trichloroethane	28.0	0.50	0.30	ug/l	SS	25.0	ND	112	65-130			
Trichloroethene	25.7	0.50	0.26	ug/l	SS	25.0	ND	103	65-125			
Trichlorofluoromethane	26.6	0.50	0.34	ug/l	SS	25.0	ND	106	60-145			
Vinyl chloride	24.5	0.50	0.40	ug/l	SS	25.0	ND	98	45-140			
Xylenes, Total	81.8	1.5	0.90	ug/l	SS	75.0	1.63	107	60-130			
Surrogate: 4-Bromofluorobenzene	25.8			ug/l	SS	25.0		103	80-120			
Surrogate: Dibromofluoromethane	23.1			ug/l	SS	25.0		93	80-120			
Surrogate: Toluene-d8	24.8			ug/l	SS	25.0		99	80-120			
Matrix Spike Dup Analyzed: 11/26/2011 (11K3583-MSD1)						Source: IUK2223-01						
Benzene	25.0	0.50	0.28	ug/l	SS	25.0	ND	100	65-125	4		20
Carbon tetrachloride	26.4	0.50	0.28	ug/l	SS	25.0	ND	106	65-140	2		25
Chloroform	26.2	0.50	0.33	ug/l	SS	25.0	ND	105	65-135	3		20
1,1-Dichloroethane	25.0	0.50	0.40	ug/l	SS	25.0	ND	100	65-130	4		20
1,2-Dichloroethane	25.6	0.50	0.28	ug/l	SS	25.0	ND	102	60-140	2		20
1,1-Dichloroethene	26.3	0.50	0.42	ug/l	SS	25.0	ND	105	60-130	3		20
cis-1,2-Dichloroethene	28.7	0.50	0.32	ug/l	SS	25.0	ND	115	65-130	1		20
Ethylbenzene	26.6	0.50	0.25	ug/l	SS	25.0	ND	106	65-130	0.8		20

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting			Analyst	Spike Level	Source		%REC		RPD	RPD Limit	Data Qualifiers
		Limit	MDL	Units			Result	%REC	Limits	RPD			
Batch: 11K3583 Extracted: 11/26/11													
Matrix Spike Dup Analyzed: 11/26/2011 (11K3583-MSD1)						Source: IUK2223-01							
Tetrachloroethene	26.3	0.50	0.32	ug/l	SS	25.0	ND	105	65-130	0.8		20	
Toluene	25.3	0.50	0.36	ug/l	SS	25.0	ND	101	70-125	0.6		20	
1,1,1-Trichloroethane	26.3	0.50	0.30	ug/l	SS	25.0	ND	105	65-140	6		20	
1,1,2-Trichloroethane	27.8	0.50	0.30	ug/l	SS	25.0	ND	111	65-130	0.8		25	
Trichloroethene	25.7	0.50	0.26	ug/l	SS	25.0	ND	103	65-125	0.08		20	
Trichlorofluoromethane	27.6	0.50	0.34	ug/l	SS	25.0	ND	110	60-145	4		25	
Vinyl chloride	26.4	0.50	0.40	ug/l	SS	25.0	ND	105	45-140	7		30	
Xylenes, Total	81.9	1.5	0.90	ug/l	SS	75.0	1.63	107	60-130	0.1		20	
Surrogate: 4-Bromofluorobenzene	23.6			ug/l	SS	25.0		95	80-120				
Surrogate: Dibromofluoromethane	22.9			ug/l	SS	25.0		92	80-120				
Surrogate: Toluene-d8	24.3			ug/l	SS	25.0		97	80-120				

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 11K2881 Extracted: 11/19/11												
Blank Analyzed: 11/21/2011 (11K2881-BLK1)												
Bis(2-ethylhexyl)phthalate	1.74	5.00	1.70	ug/l	jv/up							Ja
2,4-Dinitrotoluene	ND	5.00	0.200	ug/l	jv/up							
N-Nitrosodimethylamine	ND	5.00	0.100	ug/l	jv/up							
Pentachlorophenol	ND	5.00	0.100	ug/l	jv/up							
2,4,6-Trichlorophenol	ND	6.00	0.100	ug/l	jv/up							
Surrogate: 2,4,6-Tribromophenol	12.1			ug/l	jv/up	20.0		61	40-120			
Surrogate: 2-Fluorobiphenyl	6.02			ug/l	jv/up	10.0		60	50-120			
Surrogate: 2-Fluorophenol	5.42			ug/l	jv/up	20.0		27	30-120			Z6
Surrogate: Nitrobenzene-d5	5.26			ug/l	jv/up	10.0		53	45-120			
Surrogate: Phenol-d6	1.18			ug/l	jv/up	20.0		6	35-120			Z6
Surrogate: Terphenyl-d14	9.10			ug/l	jv/up	10.0		91	50-125			
LCS Analyzed: 11/21/2011 (11K2881-BS1)												
Bis(2-ethylhexyl)phthalate	11.9	5.00	1.70	ug/l	jv/up	10.0		119	65-130			
2,4-Dinitrotoluene	9.80	5.00	0.200	ug/l	jv/up	10.0		98	65-120			
N-Nitrosodimethylamine	8.84	5.00	0.100	ug/l	jv/up	10.0		88	45-120			
Pentachlorophenol	10.6	5.00	0.100	ug/l	jv/up	10.0		106	24-121			
2,4,6-Trichlorophenol	10.5	6.00	0.100	ug/l	jv/up	10.0		105	55-120			
Surrogate: 2,4,6-Tribromophenol	21.5			ug/l	jv/up	20.0		108	40-120			
Surrogate: 2-Fluorobiphenyl	8.80			ug/l	jv/up	10.0		88	50-120			
Surrogate: 2-Fluorophenol	15.5			ug/l	jv/up	20.0		78	30-120			
Surrogate: Nitrobenzene-d5	8.84			ug/l	jv/up	10.0		88	45-120			
Surrogate: Phenol-d6	17.0			ug/l	jv/up	20.0		85	35-120			
Surrogate: Terphenyl-d14	10.1			ug/l	jv/up	10.0		101	50-125			
LCS Dup Analyzed: 11/21/2011 (11K2881-BSD1)												
Bis(2-ethylhexyl)phthalate	11.9	5.00	1.70	ug/l	jv/up	10.0		119	65-130	0	20	
2,4-Dinitrotoluene	9.72	5.00	0.200	ug/l	jv/up	10.0		97	65-120	0.8	20	
N-Nitrosodimethylamine	9.72	5.00	0.100	ug/l	jv/up	10.0		97	45-120	9	20	
Pentachlorophenol	10.2	5.00	0.100	ug/l	jv/up	10.0		102	24-121	3	25	
2,4,6-Trichlorophenol	10.0	6.00	0.100	ug/l	jv/up	10.0		100	55-120	5	30	
Surrogate: 2,4,6-Tribromophenol	21.3			ug/l	jv/up	20.0		106	40-120			
Surrogate: 2-Fluorobiphenyl	8.82			ug/l	jv/up	10.0		88	50-120			
Surrogate: 2-Fluorophenol	15.5			ug/l	jv/up	20.0		77	30-120			
Surrogate: Nitrobenzene-d5	9.18			ug/l	jv/up	10.0		92	45-120			
Surrogate: Phenol-d6	16.5			ug/l	jv/up	20.0		83	35-120			

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11K2881 Extracted: 11/19/11												
LCS Dup Analyzed: 11/21/2011 (11K2881-BSD1)												
Surrogate: Terphenyl-d14	10.7			ug/l	jv/up	10.0		107	50-125			

TestAmerica Irvine

Debby Wilson
Project Manager

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

IUK2180 <Page 25 of 52>

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11K3220 Extracted: 11/22/11												
Blank Analyzed: 11/23/2011 (11K3220-BLK1)												
alpha-BHC	ND	0.010	0.0025	ug/l	DXD							
Surrogate: Decachlorobiphenyl	0.478			ug/l	DXD	0.500		96	45-120			
Surrogate: Tetrachloro-m-xylene	0.441			ug/l	DXD	0.500		88	35-115			
LCS Analyzed: 11/22/2011 (11K3220-BS1)												
alpha-BHC	0.441	0.010	0.0025	ug/l	DXD	0.500		88	45-115			MNR1
Surrogate: Decachlorobiphenyl	0.432			ug/l	DXD	0.500		86	45-120			
Surrogate: Tetrachloro-m-xylene	0.409			ug/l	DXD	0.500		82	35-115			
LCS Dup Analyzed: 11/22/2011 (11K3220-BSD1)												
alpha-BHC	0.443	0.010	0.0025	ug/l	DXD	0.500		89	45-115	0.5	30	
Surrogate: Decachlorobiphenyl	0.431			ug/l	DXD	0.500		86	45-120			
Surrogate: Tetrachloro-m-xylene	0.412			ug/l	DXD	0.500		82	35-115			

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

METHOD BLANK/QC DATA

HEXANE EXTRACTABLE MATERIAL

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11K3925 Extracted: 11/29/11</u>												
Blank Analyzed: 11/29/2011 (11K3925-BLK1)												
Hexane Extractable Material (Oil & Grease)	ND	5.0	1.4	mg/l	DA							
LCS Analyzed: 11/29/2011 (11K3925-BS1)												
Hexane Extractable Material (Oil & Grease)	17.8	5.0	1.4	mg/l	DA	20.0		89	78-114			MNR1
LCS Dup Analyzed: 11/29/2011 (11K3925-BSD1)												
Hexane Extractable Material (Oil & Grease)	18.4	5.0	1.4	mg/l	DA	20.0		92	78-114	3	11	

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 11K3002 Extracted: 11/21/11												
Blank Analyzed: 11/22/2011 (11K3002-BLK1)												
Cadmium	ND	1.0	0.10	ug/l	KB1							
Copper	ND	2.0	0.50	ug/l	KB1							
Lead	ND	1.0	0.20	ug/l	KB1							
Selenium	ND	2.0	0.50	ug/l	KB1							
LCS Analyzed: 11/22/2011 (11K3002-BS1)												
Cadmium	87.5	1.0	0.10	ug/l	KB1	80.0		109	85-115			
Copper	82.1	2.0	0.50	ug/l	KB1	80.0		103	85-115			
Lead	81.6	1.0	0.20	ug/l	KB1	80.0		102	85-115			
Selenium	86.2	2.0	0.50	ug/l	KB1	80.0		108	85-115			
Matrix Spike Analyzed: 11/22/2011 (11K3002-MS1)						Source: IUK2403-05						
Cadmium	82.7	2.0	0.20	ug/l	KB1	80.0	0.418	103	70-130			
Copper	104	4.0	1.0	ug/l	KB1	80.0	23.8	100	70-130			
Lead	77.4	2.0	0.40	ug/l	KB1	80.0	0.960	96	70-130			
Selenium	219	4.0	1.0	ug/l	KB1	80.0	136	104	70-130			
Matrix Spike Analyzed: 11/22/2011 (11K3002-MS2)						Source: IUK2403-06						
Cadmium	85.4	2.0	0.20	ug/l	KB1	80.0	0.534	106	70-130			
Copper	89.6	4.0	1.0	ug/l	KB1	80.0	7.88	102	70-130			
Lead	76.8	2.0	0.40	ug/l	KB1	80.0	0.407	96	70-130			
Selenium	198	4.0	1.0	ug/l	KB1	80.0	114	104	70-130			
Matrix Spike Dup Analyzed: 11/22/2011 (11K3002-MSD1)						Source: IUK2403-05						
Cadmium	82.6	2.0	0.20	ug/l	KB1	80.0	0.418	103	70-130	0.2	20	
Copper	102	4.0	1.0	ug/l	KB1	80.0	23.8	98	70-130	1	20	
Lead	75.9	2.0	0.40	ug/l	KB1	80.0	0.960	94	70-130	2	20	
Selenium	218	4.0	1.0	ug/l	KB1	80.0	136	103	70-130	0.4	20	

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<u>Batch: 11K3073 Extracted: 11/21/11</u>												
Blank Analyzed: 11/26/2011 (11K3073-BLK1)												
Zinc	ND	20.0	6.00	ug/l	NH							
LCS Analyzed: 11/26/2011 (11K3073-BS1)												
Zinc	522	20.0	6.00	ug/l	NH	500		104	85-115			
Matrix Spike Analyzed: 11/26/2011 (11K3073-MS1)												
Zinc	504	20.0	6.00	ug/l	NH	500	6.57	99	70-130			
Matrix Spike Analyzed: 11/26/2011 (11K3073-MS2)												
Zinc	549	20.0	6.00	ug/l	NH	500	16.8	106	70-130			
Matrix Spike Dup Analyzed: 11/26/2011 (11K3073-MSD1)												
Zinc	518	20.0	6.00	ug/l	NH	500	6.57	102	70-130	3	20	
<u>Batch: 11K3756 Extracted: 11/28/11</u>												
Blank Analyzed: 11/29/2011 (11K3756-BLK1)												
Mercury	ND	0.20	0.10	ug/l	DB							
LCS Analyzed: 11/29/2011 (11K3756-BS1)												
Mercury	7.65	0.20	0.10	ug/l	DB	8.00		96	85-115			
Matrix Spike Analyzed: 11/29/2011 (11K3756-MS1)												
Mercury	7.39	0.20	0.10	ug/l	DB	8.00	ND	92	70-130			
Matrix Spike Dup Analyzed: 11/29/2011 (11K3756-MSD1)												
Mercury	7.45	0.20	0.10	ug/l	DB	8.00	ND	93	70-130	0.9	20	

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<u>Batch: 11K2993 Extracted: 11/21/11</u>												
Blank Analyzed: 11/22/2011 (11K2993-BLK1)												
Zinc	ND	20.0	6.00	ug/l	NH							
LCS Analyzed: 11/22/2011 (11K2993-BS1)												
Zinc	483	20.0	6.00	ug/l	NH	500		97	85-115			
Matrix Spike Analyzed: 11/22/2011 (11K2993-MS1)												
Zinc	581	20.0	6.00	ug/l	NH	500	108	95	70-130			
Matrix Spike Analyzed: 11/22/2011 (11K2993-MS2)												
Zinc	499	20.0	6.00	ug/l	NH	500	15.5	97	70-130			
Matrix Spike Dup Analyzed: 11/22/2011 (11K2993-MSD1)												
Zinc	591	20.0	6.00	ug/l	NH	500	108	97	70-130	2	20	
<u>Batch: 11K3385 Extracted: 11/23/11</u>												
Blank Analyzed: 11/23/2011 (11K3385-BLK1)												
Cadmium	ND	1.0	0.10	ug/l	KB1							
Copper	ND	2.0	0.50	ug/l	KB1							
Lead	ND	1.0	0.20	ug/l	KB1							
Selenium	ND	2.0	0.50	ug/l	KB1							
LCS Analyzed: 11/23/2011 (11K3385-BS1)												
Cadmium	80.2	1.0	0.10	ug/l	KB1	80.0		100	85-115			
Copper	80.4	2.0	0.50	ug/l	KB1	80.0		100	85-115			
Lead	78.2	1.0	0.20	ug/l	KB1	80.0		98	85-115			
Selenium	83.2	2.0	0.50	ug/l	KB1	80.0		104	85-115			

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11K3385 Extracted: 11/23/11</u>												
Matrix Spike Analyzed: 11/23/2011 (11K3385-MS1)						Source: IUK2660-01						
Cadmium	81.6	1.0	0.10	ug/l	KB1	80.0	ND	102	70-130			
Copper	81.8	2.0	0.50	ug/l	KB1	80.0	2.76	99	70-130			
Lead	78.4	1.0	0.20	ug/l	KB1	80.0	0.488	97	70-130			
Selenium	80.4	2.0	0.50	ug/l	KB1	80.0	ND	101	70-130			
Matrix Spike Dup Analyzed: 11/23/2011 (11K3385-MSD1)						Source: IUK2660-01						
Cadmium	81.7	1.0	0.10	ug/l	KB1	80.0	ND	102	70-130	0.1	20	
Copper	82.6	2.0	0.50	ug/l	KB1	80.0	2.76	100	70-130	0.9	20	
Lead	80.0	1.0	0.20	ug/l	KB1	80.0	0.488	99	70-130	2	20	
Selenium	83.3	2.0	0.50	ug/l	KB1	80.0	ND	104	70-130	4	20	
<u>Batch: 11K3793 Extracted: 11/28/11</u>												
Blank Analyzed: 11/29/2011 (11K3793-BLK1)												
Mercury	ND	0.20	0.10	ug/l	DB							
LCS Analyzed: 11/29/2011 (11K3793-BS1)												
Mercury	7.55	0.20	0.10	ug/l	DB	8.00		94	85-115			
Matrix Spike Analyzed: 11/29/2011 (11K3793-MS1)						Source: IUK2180-03						
Mercury	7.63	0.20	0.10	ug/l	DB	8.00	ND	95	70-130			
Matrix Spike Dup Analyzed: 11/29/2011 (11K3793-MSD1)						Source: IUK2180-03						
Mercury	7.58	0.20	0.10	ug/l	DB	8.00	ND	95	70-130	0.6	20	

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 11K2723 Extracted: 11/18/11												
Blank Analyzed: 11/18/2011 (11K2723-BLK1)												
Chloride	ND	0.50	0.30	mg/l	NN							
Nitrate-N	ND	0.11	0.060	mg/l	NN							
Nitrite-N	ND	0.15	0.090	mg/l	NN							
Nitrate/Nitrite-N	ND	0.26	0.15	mg/l	NN							
Sulfate	ND	0.50	0.30	mg/l	NN							
LCS Analyzed: 11/18/2011 (11K2723-BS1)												
Chloride	4.88	0.50	0.30	mg/l	NN	5.00		98	90-110			
Nitrate-N	1.14	0.11	0.060	mg/l	NN	1.13		101	90-110			
Nitrite-N	1.48	0.15	0.090	mg/l	NN	1.52		97	90-110			
Sulfate	9.66	0.50	0.30	mg/l	NN	10.0		97	90-110			
Matrix Spike Analyzed: 11/18/2011 (11K2723-MS1)						Source: IUK2397-01						
Chloride	129	10	6.0	mg/l	NN	50.0	80.5	97	80-120			
Nitrate-N	15.7	2.2	1.2	mg/l	NN	11.3	3.30	110	80-120			
Nitrite-N	16.3	3.0	1.8	mg/l	NN	15.2	ND	107	80-120			
Sulfate	290	10	6.0	mg/l	NN	100	190	100	80-120			
Matrix Spike Dup Analyzed: 11/18/2011 (11K2723-MSD1)						Source: IUK2397-01						
Chloride	128	10	6.0	mg/l	NN	50.0	80.5	94	80-120	1	20	
Nitrate-N	16.1	2.2	1.2	mg/l	NN	11.3	3.30	113	80-120	2	20	
Nitrite-N	15.8	3.0	1.8	mg/l	NN	15.2	ND	104	80-120	3	20	
Sulfate	289	10	6.0	mg/l	NN	100	190	99	80-120	0.4	20	

Batch: 11K2799 Extracted: 11/18/11

Blank Analyzed: 11/18/2011 (11K2799-BLK1)

Surfactants (MBAS) ND 0.10 0.050 mg/l NCP

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11K2799 Extracted: 11/18/11</u>												
LCS Analyzed: 11/18/2011 (11K2799-BS1)												
Surfactants (MBAS)	0.241	0.10	0.050	mg/l	NCP	0.250		97	90-110			
Matrix Spike Analyzed: 11/18/2011 (11K2799-MS1)												
Surfactants (MBAS)	0.286	0.10	0.050	mg/l	NCP	0.250	ND	114	50-125			
Matrix Spike Dup Analyzed: 11/18/2011 (11K2799-MSD1)												
Surfactants (MBAS)	0.268	0.10	0.050	mg/l	NCP	0.250	ND	107	50-125	6	20	
<u>Batch: 11K2890 Extracted: 11/19/11</u>												
Blank Analyzed: 11/24/2011 (11K2890-BLK1)												
Biochemical Oxygen Demand	ND	2.0	0.50	mg/l	XL							
LCS Analyzed: 11/24/2011 (11K2890-BS1)												
Biochemical Oxygen Demand	183	100	25	mg/l	XL	198		92	85-115			
LCS Dup Analyzed: 11/24/2011 (11K2890-BSD1)												
Biochemical Oxygen Demand	181	100	25	mg/l	XL	198		91	85-115	1	20	
<u>Batch: 11K2893 Extracted: 11/19/11</u>												
Blank Analyzed: 11/19/2011 (11K2893-BLK1)												
Turbidity	ND	1.0	0.040	NTU	ST							
Duplicate Analyzed: 11/19/2011 (11K2893-DUP1)												
Turbidity	0.120	1.0	0.040	NTU	ST		0.110			9	20	Ja

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11K2927 Extracted: 11/21/11</u>												
Blank Analyzed: 11/21/2011 (11K2927-BLK1)												
Total Dissolved Solids	ND	10	1.0	mg/l	MC							
LCS Analyzed: 11/21/2011 (11K2927-BS1)												
Total Dissolved Solids	994	10	1.0	mg/l	MC	1000		99	90-110			
Duplicate Analyzed: 11/21/2011 (11K2927-DUP1)												
Total Dissolved Solids	990	10	1.0	mg/l	MC		993			0.3	10	
<u>Batch: 11K2928 Extracted: 11/21/11</u>												
Blank Analyzed: 11/21/2011 (11K2928-BLK1)												
Total Organic Carbon	ND	1.0	0.50	mg/l	FZ							
LCS Analyzed: 11/21/2011 (11K2928-BS1)												
Total Organic Carbon	9.83	1.0	0.50	mg/l	FZ	10.0		98	90-110			
Matrix Spike Analyzed: 11/21/2011 (11K2928-MS1)												
Total Organic Carbon	2.80	1.0	0.50	mg/l	FZ	5.00	ND	56	80-120			M2
Matrix Spike Dup Analyzed: 11/21/2011 (11K2928-MSD1)												
Total Organic Carbon	3.42	1.0	0.50	mg/l	FZ	5.00	ND	68	80-120	20	20	M2
<u>Batch: 11K2964 Extracted: 11/21/11</u>												
Blank Analyzed: 11/21/2011 (11K2964-BLK1)												
Perchlorate	ND	4.0	0.95	ug/l	mn							

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11K2964 Extracted: 11/21/11</u>												
LCS Analyzed: 11/21/2011 (11K2964-BS1)												
Perchlorate	25.9	4.0	0.95	ug/l	mn	25.0		104	85-115			
Matrix Spike Analyzed: 11/21/2011 (11K2964-MS1)												
Perchlorate	25.5	4.0	0.95	ug/l	mn	25.0	ND	102	80-120			
Matrix Spike Dup Analyzed: 11/21/2011 (11K2964-MSD1)												
Perchlorate	24.8	4.0	0.95	ug/l	mn	25.0	ND	99	80-120	3	20	
<u>Batch: 11K3088 Extracted: 11/21/11</u>												
Blank Analyzed: 11/21/2011 (11K3088-BLK1)												
Total Suspended Solids	ND	10	1.0	mg/l	MC							
LCS Analyzed: 11/21/2011 (11K3088-BS1)												
Total Suspended Solids	978	10	1.0	mg/l	MC	1000		98	85-115			
Duplicate Analyzed: 11/21/2011 (11K3088-DUP1)												
Total Suspended Solids	9.00	10	1.0	mg/l	MC		9.00			0	10	Ja
<u>Batch: 11K3438 Extracted: 11/23/11</u>												
Blank Analyzed: 11/23/2011 (11K3438-BLK1)												
Ammonia-N (Distilled)	ND	0.500	0.500	mg/l	NCP							
LCS Analyzed: 11/23/2011 (11K3438-BS1)												
Ammonia-N (Distilled)	9.52	0.500	0.500	mg/l	NCP	10.0		95	80-115			

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<u>Batch: 11K3438 Extracted: 11/23/11</u>												
Matrix Spike Analyzed: 11/23/2011 (11K3438-MS1)						Source: IUK2711-01						
Ammonia-N (Distilled)	14.0	0.500	0.500	mg/l	NCP	10.0	4.76	92	70-120			
Matrix Spike Dup Analyzed: 11/23/2011 (11K3438-MSD1)						Source: IUK2711-01						
Ammonia-N (Distilled)	14.6	0.500	0.500	mg/l	NCP	10.0	4.76	98	70-120	4	15	
<u>Batch: 11L0134 Extracted: 12/01/11</u>												
Blank Analyzed: 12/01/2011 (11L0134-BLK1)												
Total Cyanide	ND	5.0	2.2	ug/l	SLA							
LCS Analyzed: 12/01/2011 (11L0134-BS1)												
Total Cyanide	101	5.0	2.2	ug/l	SLA	100		101	90-110			
Matrix Spike Analyzed: 12/01/2011 (11L0134-MS1)						Source: IUK2640-02						
Total Cyanide	104	5.0	2.2	ug/l	SLA	100	ND	104	70-115			
Matrix Spike Dup Analyzed: 12/01/2011 (11L0134-MSD1)						Source: IUK2640-02						
Total Cyanide	107	5.0	2.2	ug/l	SLA	100	ND	107	70-115	2	15	

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

METHOD BLANK/QC DATA

900

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8695 Extracted: 12/01/11												
LCS Analyzed: 12/02/2011 (S111059-03)						Source:						
Gross Alpha	43.4	3	0.462	pCi/L	DVP	37		117	70-130			
Gross Beta	33.8	4	0.938	pCi/L	DVP	34.3		99	70-130			
Blank Analyzed: 12/06/2011 (S111059-04)						Source:						
Gross Alpha	0.027	3	0.337	pCi/L	DVP			-				U
Gross Beta	-0.312	4	0.95	pCi/L	DVP			-				U
Duplicate Analyzed: 12/02/2011 (S111059-05)						Source: IUK2180-03						
Gross Alpha	-0.406	3	1.65	pCi/L	DVP		0.304	-		0		U
Gross Beta	3.16	4	1.62	pCi/L	DVP		3.65	-		14		Jb

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

METHOD BLANK/QC DATA

901.1

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8695 Extracted: 11/28/11												
LCS Analyzed: 11/29/2011 (S111059-03)						Source:						
Cobalt-60	110	10	2.77	pCi/L	LS	114		96	80-120			
Cesium-137	120	20	3.6	pCi/L	LS	124		97	80-120			
Blank Analyzed: 11/29/2011 (S111059-04)						Source:						
Cesium-137	ND	20	1.33	pCi/L	LS				-			U
Potassium-40	ND	25	16.8	pCi/L	LS				-			U
Duplicate Analyzed: 11/30/2011 (S111059-05)						Source: IUK2180-03						
Cesium-137	ND	20	0.88	pCi/L	LS		0		-	0		U
Potassium-40	ND	25	11.4	pCi/L	LS		0		-	0		U

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

METHOD BLANK/QC DATA

903.1

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 8695 Extracted: 12/13/11												
LCS Analyzed: 12/13/2011 (S111059-03)						Source:						
Radium-226	51.8	1	0.645	pCi/L	TM	50.1	103	80-120				
Blank Analyzed: 12/13/2011 (S111059-04)						Source:						
Radium-226	0.017	1	0.86	pCi/L	TM			-				U
Duplicate Analyzed: 12/13/2011 (S111059-05)						Source: IUK2180-03						
Radium-226	0.342	1	0.798	pCi/L	TM	-0.073		-	0			U

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

METHOD BLANK/QC DATA

904

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8695 Extracted: 12/06/11												
LCS Analyzed: 12/06/2011 (S111059-03)						Source:						
Radium-228	4.89	1	0.606	pCi/L	ASM	4.63	106	60-140				
Blank Analyzed: 12/06/2011 (S111059-04)						Source:						
Radium-228	-0.193	1	0.563	pCi/L	ASM			-				U
Duplicate Analyzed: 12/06/2011 (S111059-05)						Source: IUK2180-03						
Radium-228	0.031	1	0.612	pCi/L	ASM	0.093		-		0		U

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

METHOD BLANK/QC DATA

905

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8695 Extracted: 12/02/11												
LCS Analyzed: 12/02/2011 (S111059-03)						Source:						
Strontium-90	17.9	2	0.642	pCi/L	WL	17.2	104		80-120			
Blank Analyzed: 12/02/2011 (S111059-04)						Source:						
Strontium-90	0.3	2	0.794	pCi/L	WL				-			U
Duplicate Analyzed: 12/02/2011 (S111059-05)						Source: IUK2180-03						
Strontium-90	0.035	2	0.71	pCi/L	WL		0.098		-	0		U

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

METHOD BLANK/QC DATA

906

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8695 Extracted: 12/05/11												
LCS Analyzed: 12/05/2011 (S111059-03)						Source:						
Tritium	248	500	15.3	pCi/L	WL	249	100	80-120				Jb
Blank Analyzed: 12/05/2011 (S111059-04)						Source:						
Tritium	-7.63	500	15.2	pCi/L	WL			-				U
Duplicate Analyzed: 12/05/2011 (S111059-05)						Source: IUK2180-03						
Tritium	-43.7	500	153	pCi/L	WL		-68.5	-	0			U

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

METHOD BLANK/QC DATA

ASTM-D5174

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8695 Extracted: 12/01/11												
LCS Analyzed: 12/01/2011 (S111059-03)						Source:						
Uranium, Total	55.6	1	0.168	pCi/L	LS	56.5		98	80-120			
Blank Analyzed: 12/01/2011 (S111059-04)						Source:						
Uranium, Total	ND	1	0.017	pCi/L	LS				-			U
Duplicate Analyzed: 12/01/2011 (S111059-05)						Source: IUK2180-03						
Uranium, Total	0.181	1	0.017	pCi/L	LS		0.174		-	4		Jb

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1325148 Extracted: 11/21/11												
Blank Analyzed: 11/22/2011 (G1K210000148B)						Source:						
1,2,3,4,6,7,8-HpCDD	1.2e-006	0.00005	0.000003	ug/L	LH			-				J
1,2,3,4,6,7,8-HpCDF	1.8e-006	0.00005	0.000000	ug/L	LH			-				J, Q
1,2,3,4,7,8,9-HpCDF	1.9e-006	0.00005	0.000007	ug/L	LH			-				J, Q
1,2,3,4,7,8-HxCDD	ND	0.00005	0.000004	ug/L	LH			-				
1,2,3,4,7,8-HxCDF	ND	0.00005	0.000001	ug/L	LH			-				
1,2,3,6,7,8-HxCDD	ND	0.00005	0.000004	ug/L	LH			-				
1,2,3,6,7,8-HxCDF	ND	0.00005	0.000004	ug/L	LH			-				
1,2,3,7,8,9-HxCDD	ND	0.00005	0.000004	ug/L	LH			-				
1,2,3,7,8,9-HxCDF	ND	0.00005	0.000005	ug/L	LH			-				
1,2,3,7,8-PeCDD	ND	0.00005	0.000001	ug/L	LH			-				
1,2,3,7,8-PeCDF	ND	0.00005	0.000005	ug/L	LH			-				
2,3,4,6,7,8-HxCDF	ND	0.00005	0.000000	ug/L	LH			-				
2,3,4,7,8-PeCDF	ND	0.00005	0.000005	ug/L	LH			-				
2,3,7,8-TCDD	ND	0.00001	0.000003	ug/L	LH			-				
2,3,7,8-TCDF	ND	0.00001	0.000006	ug/L	LH			-				
OCDD	7.9e-006	0.0001	0.000001	ug/L	LH			-				J
OCDF	2.7e-006	0.0001	0.000001	ug/L	LH			-				J, Q
Total HpCDD	2.4e-006	0.00005	0.000003	ug/L	LH			-				J, Q
Total HpCDF	4.8e-006	0.00005	0.000006	ug/L	LH			-				J, Q
Total HxCDD	ND	0.00005	0.000004	ug/L	LH			-				
Total HxCDF	ND	0.00005	0.000000	ug/L	LH			-				
Total PeCDD	ND	0.00005	0.000001	ug/L	LH			-				
Total PeCDF	ND	0.00005	0.000005	ug/L	LH			-				
Total TCDD	ND	0.00001	0.000003	ug/L	LH			-				
Total TCDF	ND	0.00001	0.000006	ug/L	LH			-				
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.00093			ug/L	LH	0.002		47		23-140		
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.00094			ug/L	LH	0.002		47		28-143		
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.00095			ug/L	LH	0.002		47		26-138		
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.001			ug/L	LH	0.002		50		32-141		
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00099			ug/L	LH	0.002		50		26-152		
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.0011			ug/L	LH	0.002		53		28-130		
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.001			ug/L	LH	0.002		51		26-123		
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.001			ug/L	LH	0.002		51		29-147		
Surrogate: 13C-1,2,3,7,8-PeCDD	0.001			ug/L	LH	0.002		50		25-181		
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00091			ug/L	LH	0.002		45		24-185		

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1325148 Extracted: 11/21/11												
Blank Analyzed: 11/22/2011 (G1K210000148B)						Source:						
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.001			ug/L	LH	0.002		52	28-136			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.001			ug/L	LH	0.002		52	21-178			
Surrogate: 13C-2,3,7,8-TCDD	0.00096			ug/L	LH	0.002		48	25-164			
Surrogate: 13C-2,3,7,8-TCDF	0.00096			ug/L	LH	0.002		48	24-169			
Surrogate: 13C-OCDD	0.0018			ug/L	LH	0.004		45	17-157			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.00076			ug/L	LH	0.0008		96	35-197			
LCS Analyzed: 11/22/2011 (G1K210000148C)						Source:						
1,2,3,4,6,7,8-HpCDD	0.00103	0.00005	0.000002	ug/L	LH	0.001		103	70-140			Ba
1,2,3,4,6,7,8-HpCDF	0.00111	0.00005	0.000003	ug/L	LH	0.001		111	82-122			Ba
1,2,3,4,7,8,9-HpCDF	0.00108	0.00005	0.000004	ug/L	LH	0.001		108	78-138			Ba
1,2,3,4,7,8-HxCDD	0.00108	0.00005	0.000003	ug/L	LH	0.001		108	70-164			
1,2,3,4,7,8-HxCDF	0.00112	0.00005	0.000000	ug/L	LH	0.001		112	72-134			
1,2,3,6,7,8-HxCDD	0.000926	0.00005	0.000000	ug/L	LH	0.001		93	76-134			
1,2,3,6,7,8-HxCDF	0.00113	0.00005	0.000005	ug/L	LH	0.001		113	84-130			
1,2,3,7,8,9-HxCDD	0.00101	0.00005	0.000002	ug/L	LH	0.001		101	64-162			
1,2,3,7,8,9-HxCDF	0.00112	0.00005	0.000000	ug/L	LH	0.001		112	78-130			
1,2,3,7,8-PeCDD	0.00103	0.00005	0.000001	ug/L	LH	0.001		103	70-142			
1,2,3,7,8-PeCDF	0.00109	0.00005	0.000002	ug/L	LH	0.001		109	80-134			
2,3,4,6,7,8-HxCDF	0.00107	0.00005	0.000005	ug/L	LH	0.001		107	70-156			
2,3,4,7,8-PeCDF	0.00106	0.00005	0.000002	ug/L	LH	0.001		106	68-160			
2,3,7,8-TCDD	0.000208	0.00001	0.000002	ug/L	LH	0.0002		104	67-158			
2,3,7,8-TCDF	0.000228	0.00001	0.000005	ug/L	LH	0.0002		114	75-158			
OCDD	0.00228	0.0001	0.000002	ug/L	LH	0.002		114	78-144			Ba
OCDF	0.00247	0.0001	0.000004	ug/L	LH	0.002		123	63-170			Ba
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.00104			ug/L	LH	0.002		52	26-166			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.00109			ug/L	LH	0.002		54	21-158			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.0011			ug/L	LH	0.002		55	20-186			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.00117			ug/L	LH	0.002		58	21-193			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00114			ug/L	LH	0.002		57	19-202			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00123			ug/L	LH	0.002		62	25-163			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.00115			ug/L	LH	0.002		57	21-159			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.00119			ug/L	LH	0.002		59	17-205			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00118			ug/L	LH	0.002		59	21-227			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00109			ug/L	LH	0.002		55	21-192			

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting			Spike Level	Source		%REC		RPD		Data Qualifiers
		Limit	MDL	Units		Analyst	Result	%REC	Limits	RPD	Limit	
Batch: 1325148 Extracted: 11/21/11												
LCS Analyzed: 11/22/2011 (G1K210000148C)						Source:						
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.00118			ug/L	LH	0.002	59	22-176				
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00124			ug/L	LH	0.002	62	13-328				
Surrogate: 13C-2,3,7,8-TCDD	0.00112			ug/L	LH	0.002	56	20-175				
Surrogate: 13C-2,3,7,8-TCDF	0.00115			ug/L	LH	0.002	58	22-152				
Surrogate: 13C-OCDD	0.00204			ug/L	LH	0.004	51	13-199				
Surrogate: 37Cl4-2,3,7,8-TCDD	0.000764			ug/L	LH	0.0008	96	31-191				

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IUK2180-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0.095	4.7	15
IUK2180-01	624-Boeing 001/002Q (Fr113+X+Fr1,1-Dichloroethene		ug/l	0	0.50	6
IUK2180-01	624-Boeing 001/002Q (Fr113+X+FrTrichloroethene		ug/l	0	0.50	5
IUK2180-01	Settleable Solids - SM2540F	Total Settleable Solids	ml/l	0	0.10	0.3

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IUK2180-02	624-Boeing 001/002Q (Fr113+X+Fr1,1-Dichloroethene		ug/l	0	0.50	6
IUK2180-02	624-Boeing 001/002Q (Fr113+X+FrTrichloroethene		ug/l	0	0.50	5

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IUK2180-03	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0.00098	0.0094	0.03
IUK2180-03	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	5.66	13
IUK2180-03	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	4.72	18
IUK2180-03	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	2.47	4.72	4
IUK2180-03	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	4.72	16
IUK2180-03	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	4.72	16.5
IUK2180-03	Ammonia-N, Titr 4500NH3-C (w/di:Ammonia-N (Distilled)		mg/l	0.28	0.500	10.1
IUK2180-03	BOD - SM5210B	Biochemical Oxygen Demand	mg/l	0.40	2.0	30
IUK2180-03	Cadmium-200.8	Cadmium	ug/l	0	1.0	3.1
IUK2180-03	Chloride - 300.0	Chloride	mg/l	34	5.0	150
IUK2180-03	Copper-200.8	Copper	ug/l	0.58	2.0	14
IUK2180-03	Cyanide, Total-4500CN-E (5ppb)	Total Cyanide	ug/l	-1	5.0	8.5
IUK2180-03	Lead-200.8	Lead	ug/l	0	1.0	5.2
IUK2180-03	MBAS - SM5540C	Surfactants (MBAS)	mg/l	0.019	0.10	0.5
IUK2180-03	Mercury - 245.1	Mercury	ug/l	0	0.20	0.1
IUK2180-03	Nitrate-N, 300.0	Nitrate-N	mg/l	0.058	0.11	8
IUK2180-03	Nitrite-N, 300.0	Nitrite-N	mg/l	0	0.15	1
IUK2180-03	Nitrogen, NO3+NO2 -N EPA 300.0	Nitrate/Nitrite-N	mg/l	0.058	0.26	8
IUK2180-03	Perchlorate 314.0 - Default	Perchlorate	ug/l	0	4.0	6

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Monthly Outfall 019
 Monthly Outfall 019
 Report Number: IUK2180

Sampled: 11/16/11-11/18/11
 Received: 11/16/11

IUK2180-03	Selenium-200.8	Selenium	ug/l	0.098	2.0	5
IUK2180-03	Sulfate-300.0	Sulfate	mg/l	145	5.0	300
IUK2180-03	TDS - SM2540C	Total Dissolved Solids	mg/l	491	10	950
IUK2180-03	TSS - SM2540D	Total Suspended Solids	mg/l	0	10	45
IUK2180-03	Zinc-200.7	Zinc	ug/l	6.57	20.0	119

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
-----------	----------	---------	-------	--------	-----	------------------

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

DATA QUALIFIERS AND DEFINITIONS

- B** Analyte was detected in the associated Method Blank.
- Ba** Method blank contamination. The associated method blank contains the target analyte at a reportable level.
- J** Estimated result. Result is less than the reporting limit.
- Ja** Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
- Jb** The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
- M2** The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- MNR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- Q** Estimated maximum possible concentration (EMPC).
- U** The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit.
- Z6** Surrogate recovery was below acceptance limits.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 1664A	Water	X	X
EPA 180.1	Water	X	N/A
EPA 200.7-Diss	Water	X	N/A
EPA 200.7	Water	X	N/A
EPA 200.8-Diss	Water	X	N/A
EPA 200.8	Water	X	N/A
EPA 245.1-Diss	Water	X	N/A
EPA 245.1	Water	X	N/A
EPA 300.0	Water	X	N/A
EPA 314.0	Water	X	N/A
EPA 608	Water	X	X
EPA 624	Water	X	X
EPA 625	Water	X	X
Filtration	Water	N/A	N/A
SM 2540D	Water	X	X
SM2540C	Water	X	N/A
SM2540F	Water	X	X
SM4500CN-E	Water	X	N/A
SM4500NH3-C	Water	X	X
SM5210B	Water	X	X
SM5310B	Water	X	X
SM5540-C	Water	X	N/A

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

TestAmerica Irvine

Debby Wilson
Project Manager

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

IUK2180 <Page 50 of 52>

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec
Samples: IUK2180-03, IUK2180-04

Analysis Performed: Gross Alpha
Samples: IUK2180-03, IUK2180-04

Analysis Performed: Gross Beta
Samples: IUK2180-03, IUK2180-04

Analysis Performed: Radium, Combined
Samples: IUK2180-03, IUK2180-04

Analysis Performed: Strontium 90
Samples: IUK2180-03, IUK2180-04

Analysis Performed: Tritium
Samples: IUK2180-03

Analysis Performed: Uranium, Combined
Samples: IUK2180-03, IUK2180-04

Method Performed: 900
Samples: IUK2180-03, IUK2180-04

Method Performed: 901.1
Samples: IUK2180-03, IUK2180-04

Method Performed: 903.1
Samples: IUK2180-03, IUK2180-04

Method Performed: 904
Samples: IUK2180-03, IUK2180-04

Method Performed: 905
Samples: IUK2180-03, IUK2180-04

Method Performed: 906
Samples: IUK2180-03

Method Performed: D5174
Samples: IUK2180-03, IUK2180-04

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Monthly Outfall 019
Monthly Outfall 019
Report Number: IUK2180

Sampled: 11/16/11-11/18/11
Received: 11/16/11

TestAmerica West Sacramento *NELAC Cert #1119CA, Nevada Cert #CA44*

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B
Samples: IUK2180-03

TestAmerica Irvine

Debby Wilson
Project Manager

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

IUK2180 <Page 52 of 52>

EUK2180

Client Name/Address: MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007				Project: Boeing-SSFL NPDES Monthly Outfall 019 GRAB			ANALYSIS REQUIRED																			
Test America Contact: Debby Wilson				Project Manager: Bronwyn Kelly			VOCs (624)	Oil & Grease (1664-HEM)	Settleable Solids																	Field readings: (Log in and include in report Temp and pH) Temp °F = 57.0 pH = 7.1 DO = 5.00 mg Time of readings = 10:30
Sampler: Rick BANAGA				Phone Number: (626) 568-6691 Fax Number: (626) 568-6515																						
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #																				
Outfall 019	W	VOAs	5	11-16-2011 10:30	HCl	1A, 1B, 1C, 1D, 1E	X																			
Outfall 019	W	1L Amber	2		HCl	2A, 2B		X																		
Outfall 019	W	1L Poly	1		None	3			X																	
Trip Blanks	W	VOAs	3	11-16-2011 10:30	HCl	4A, 4B, 4C	X																			

OO
11/17/11
4:35

These Samples are the Grab Portion of Outfall 019 for this storm event. Composite samples will follow and are to be added to this work order.

Relinquished By <i>Rick Banaga</i>	Date/Time: 11-16-2011	Received By <i>Stephane</i>	Date/Time: 11-16-11 15:10	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: _____ 48 Hour: _____ 5 Day: _____ Normal: <input checked="" type="checkbox"/> Sample Integrity: (Check) Intact: <input checked="" type="checkbox"/> On Ice: <input checked="" type="checkbox"/> Data Requirements: (Check) No Level IV: _____ All Level IV: _____ NPDES Level IV: <input checked="" type="checkbox"/>
Relinquished By <i>Stephane</i>	Date/Time: 11-16-11 19:40	Received By <i>Stephane</i>	Date/Time: 11/16/11	
Relinquished By	Date/Time:	Received By	Date/Time:	

161105

CHAIN OF CUSTODY FORM

Client Name/Address: MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson				Project: Boeing-SSFL NPDES Monthly Outfall 019 COMPOSITE			ANALYSIS REQUIRED																																				
Project Manager: Bronwyn Kelly Sampler: <i>RICK BANAGA</i>				Phone Number: (626) 568-6691 Fax Number: (626) 568-6515			Total Recoverable Metals: Cu, Pb, Hg, Cd, Se, Zn	TCDD (and all congeners)	BOD ₅ (20 degrees C)	Surfactants (MBAS)	Cl ⁻ , SO ₄ , NO ₃ +NO ₂ -N, Perchlorate	Nitrate-N, Nitrite-N	Turbidity, TDS, TSS	Ammonia-N (350.2)	Alpha BHC (608)	2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs 625)									Comments																		
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #																																					
Outfall 019	W	1L Poly	1	<i>11-17-2011 11:00</i>	HNO ₃	5A																				X																	
Outfall 019 Dup	W	1L Poly	1		HNO ₃	5B																				X																	
Outfall 019	W	1L Amber	2		None	6A, 6B																					X																
Outfall 019	W	1L Poly	1		None	7																						X															
Outfall 019	W	500 mL Poly	2		None	8A, 8B																							X														
Outfall 019	W	500 mL Poly	2		None	9A, 9B																							X														
Outfall 019	W	500 mL Poly	1		None	10																								X													
Outfall 019	W	500 mL Poly	2		None	11A, 11B																									X												<i>BR</i>
Outfall 019	W	500 mL Poly	1		H ₂ SO ₄	12																										X											<i>11-18-11</i>
Outfall 019	W	1L Amber	2		None	13A, 13B																											X										
Outfall 019	W	1L Amber	2	<i>11-17-2011 11:00</i>	None	14A, 14B																												X									<i>16:45</i>

COC Page 2 of 3 and Page 3 of 3 are the composite samples for Outfall 019 for this storm event.

These must be added to the same work order for COC Page 1 of 3 for Outfall 019 for the same event.

Relinquished By <i>Rick Banaga</i>	Date/Time: <i>11-18-11 11:55</i>	Received By <i>Stephanie Anik</i>	Date/Time: <i>11-18-11 11:55</i>	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: _____ 48 Hour: _____ 5 Day: _____ Normal: <input checked="" type="checkbox"/>	
Relinquished By <i>Stephanie Anik</i>	Date/Time: <i>11-18-11 14:15</i>	Received By	Date/Time:		Sample Integrity: (Check) Intact: <input checked="" type="checkbox"/> On Ice: <input checked="" type="checkbox"/>
Relinquished By	Date/Time:	Received By <i>Stephanie Anik</i>	Date/Time: <i>11/18/11</i>		Data Requirements: (Check) No Level IV: _____ All Level IV: _____ NPDES Level IV: <input checked="" type="checkbox"/>

18 Nov 2011 4:50 C



EBERLINE

SERVICES

EBERLINE ANALYTICAL CORPORATION

2030 Wright Avenue

Richmond, California 94804-3849

Phone (510) 235-2633 Fax (510) 235-0438

Toll Free (800) 841-5487

www.eberlineservices.com

December 19, 2011

Ms. Debby Wilson
Test America Irvine
17461 Derian Ave., Ste. 100
Irvine, CA 92614

**Reference: Test America-Irvine IUK2180
Eberline Analytical Report S111059-8695
Sample Delivery Group 8695**

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for two water samples received under Test America Job No. IUK2180. The samples were received on November 22, 2011.

Please call me, if you have any questions concerning the enclosed report.

Sincerely,

Joseph Verville
Client Services Manager

NJV/mw

Enclosure: Level IV CLP-like Data Package CD

1.0 General Comments

Sample delivery group 8695 consists of the analytical results and supporting documentation for two water samples. Sample ID's and reference dates/times are given in the Sample Summary section of the Summary Data report. The samples were received as stated on the chain-of-custody document. Any discrepancies are noted on the Eberline Analytical Sample Receipt Checklist. No holding times were exceeded.

Tritium and gamma analyses were performed on the samples as received i.e. the samples were not filtered. The analytical volumes for all other analyses were subjected to a full nitric acid/hydrofluoric acid dissolution, and analyses were performed on the dissolution volumes.

2.0 Quality Control

Quality Control Samples consisted of laboratory control samples (LCS), method blanks, and duplicate analyses. Included in the data package are copies of the Eberline Analytical radiometrics data sheets. The radiometrics data sheets for the QC LCS and QC blank samples indicate Eberline Analytical's standard QC aliquot of 1.0 sample; results for those QC types are calculated as pCi/sample. The QC LCS and QC blank sample results reported in the Summary Data Section have been divided by the appropriate method specific aliquot (see the Lab Method Summaries for specific aliquots) in order to make the results comparable to the field sample results. All QC sample results were within required control limits.

3.0 Method Errors

The error for each result is an estimate of the significant random uncertainties incurred in the measurement process. These are propagated to each final result. They include the counting (Poisson) uncertainty, as well as those intrinsic errors due to carrier or tracer standardization, aliquoting, counter efficiencies, weights, or volumes. The following method errors were propagated to the count error to calculate the 2σ error (Total):

Analysis	Method Error
Gross alpha	20.6%
Gross beta	11.0%
Tritium	10.0%
Sr-90	10.4%
Ra-226	16.4%
Ra-228	10.4%
Uranium, Total	
Gamma Spec.	7.0%

4.0 Analysis Notes

- 4.1 Gross Alpha/Gross Beta Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.2 Tritium Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.3 Strontium-90 Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.4 Radium-226 Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.5 Radium-228 Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.6 Total Uranium Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.7 Gamma Spectroscopy** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

5.0 Case Narrative Certification Statement

"I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data obtained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature."



Joseph Verville
Client Services Manager

12/19/11
Date

EBERLINE ANALYTICAL
SDG 8695

SDG 8695
Contact Joseph Verville

Client Test America, Inc.
Contract IUK2180

S U M M A R Y D A T A S E C T I O N

T A B L E O F C O N T E N T S				
About this section	.	.	.	1
Sample Summaries	.	.	.	3
Prep Batch Summary	.	.	.	5
Work Summary	.	.	.	6
Method Blanks	.	.	.	8
Lab Control Samples	.	.	.	9
Duplicates	.	.	.	10
Data Sheets	.	.	.	11
Method Summaries	.	.	.	13
Report Guides	.	.	.	21
End of Section	.	.	.	35

Jim Wyse
Prepared by

n. J. Smith
Reviewed by

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-TOC
Version 3.06
Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

SDG 8695
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUK2180

ABOUT THE DATA SUMMARY SECTION

The Data Summary Section of a Data Package has all data, in several useful orders, necessary for first level, routine review of the data package for a Sample Delivery Group (SDG). This section follows the Data Package Narrative, which has an overview of the data package and a discussion of special problems. It is followed by the Raw Data Section, which has full details.

The Data Summary Section has several groups of reports:

SAMPLE SUMMARIES

The Sample and QC Summary Reports show all samples, including QC samples, reported in one SDG. These reports cross-reference client and lab sample identifiers.

PREPARATION BATCH SUMMARY

The Preparation Batch Summary Report shows all preparation batches (lab groupings reflecting how work was organized) relevant to the reported SDG with information necessary to check the completeness and consistency of the SDG.

WORK SUMMARY

The Work Summary Report shows all samples and work done on them relevant to the reported SDG.

METHOD BLANKS

The Method Blank Reports, one for each Method Blank relevant to the SDG, show all results and primary supporting information for the blanks.

LAB CONTROL SAMPLES

The Lab Control Sample Reports, one for each Lab Control Sample relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

DUPLICATES

REPORT GUIDES

Page 1

SUMMARY DATA SECTION

Page 1

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

SDG 8695
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUK2180

ABOUT THE DATA SUMMARY SECTION

The Duplicate Reports, one for each Duplicate and Original sample pair relevant to the SDG, show all results, differences and primary supporting information for these QC samples.

MATRIX SPIKES

The Matrix Spike Reports, one for each Spiked and Original sample pair relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

DATA SHEETS

The Data Sheet Reports, one for each client sample in the SDG, show all results and primary supporting information for these samples.

METHOD SUMMARIES

The Method Summary Reports, one for each test used in the SDG, show all results, QC and method performance data for one analyte on one or two pages. (A test is a short code for the method used to do certain work to the client's specification.)

REPORT GUIDES

The Report Guides, one for each of the above groups of reports, have documentation on how to read the associated reports.

REPORT GUIDES

Page 2

SUMMARY DATA SECTION

Page 2

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

LAB SAMPLE SUMMARY

SDG 8695
 Contact Joseph Verville

Client Test America, Inc.
 Contract IUK2180

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S111059-01	IUK2180-03	BOEING - SSFL	WATER			IUK2180	11/17/11 11:00
S111059-02	IUK2180-04 (TRIP-BLANK)	BOEING - SSFL	WATER			IUK2180	11/18/11 15:25
S111059-03	Lab Control Sample		WATER				
S111059-04	Method Blank		WATER				
S111059-05	Duplicate (S111059-01)	BOEING - SSFL	WATER				11/17/11 11:00

LAB SUMMARY

Page 1

SUMMARY DATA SECTION

Page 3

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-LS
 Version 3.06
 Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

SDG 8695
 Contact Joseph Verville

Client Test America, Inc.
 Contract IUK2180

QC SUMMARY

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	LAB COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
8695	IUK2180	IUK2180-03	WATER		10.0 L		11/22/11	5	S111059-01	8695-001
		IUK2180-04 (TRIP-BLANK)	WATER		5.5 L		11/22/11	4	S111059-02	8695-002
		Method Blank	WATER						S111059-04	8695-004
		Lab Control Sample	WATER						S111059-03	8695-003
		Duplicate (S111059-01)	WATER		10.0 L		11/22/11	5	S111059-05	8695-005

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-QS
 Version 3.06
 Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

SDG 8695
 Contact Joseph Verville

PREP BATCH SUMMARY

Client Test America, Inc.
 Contract IUK2180

TEST	MATRIX	METHOD	PREPARATION ERROR		PLANCHETS ANALYZED				QUALI- FIERS
			BATCH	2σ %	CLIENT	MORE	RE BLANK	LCS	
Beta Counting									
AC	WATER	Radium-228 in Water	7281-184	10.4	2		1	1	1/1
SR	WATER	Strontium-90 in Water	7281-184	10.4	2		1	1	1/1
Gas Proportional Counting									
80A	WATER	Gross Alpha in Water	7281-184	20.6	2		1	1	1/1
80B	WATER	Gross Beta in Water	7281-184	11.0	2		1	1	1/1
Gamma Spectroscopy									
GAM	WATER	Gamma Emitters in Water	7281-184	7.0	2		1	1	1/1
Kinetic Phosphorimetry, ug									
U_T	WATER	Uranium, Total	7281-184		2		1	1	1/1
Liquid Scintillation Counting									
H	WATER	Tritium in Water	7281-184	10.0	1		1	1	1/1
Radon Counting									
RA	WATER	Radium-226 in Water	7281-184	16.4	2		1	1	1/1

Blank, LCS, Duplicate and Spike planchets are those in the same preparation batch as some Client sample.

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-PBS
 Version 3.06
 Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

LAB WORK SUMMARY

SDG 8695
Contact Joseph Verville

Client Test America, Inc.
Contract IUK2180

LAB SAMPLE	CLIENT SAMPLE ID									
COLLECTED	LOCATION	MATRIX		SUF-						
RECEIVED	CUSTODY	SAS no	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD	
S111059-01	IUK2180-03		8695-001	80A/80		12/02/11	12/05/11	BW	Gross Alpha in Water	
11/17/11	BOEING - SSFL	WATER	8695-001	80B/80		12/02/11	12/05/11	BW	Gross Beta in Water	
11/22/11	IUK2180		8695-001	AC		12/06/11	12/07/11	KWP	Radium-228 in Water	
			8695-001	GAM		11/29/11	12/02/11	CSS	Gamma Emitters in Water	
			8695-001	H		12/05/11	12/08/11	KWP	Tritium in Water	
			8695-001	RA	AOR1	12/13/11	12/16/11	MWT	Radium-226 in Water	
			8695-001	SR		12/02/11	12/08/11	BW	Strontium-90 in Water	
			8695-001	U_T		12/01/11	12/01/11	CSS	Uranium, Total	
S111059-02	IUK2180-04 (TRIP-BLANK)		8695-002	80A/80		12/02/11	12/05/11	BW	Gross Alpha in Water	
11/18/11	BOEING - SSFL	WATER	8695-002	80B/80		12/02/11	12/05/11	BW	Gross Beta in Water	
11/22/11	IUK2180		8695-002	AC		12/06/11	12/07/11	KWP	Radium-228 in Water	
			8695-002	GAM		11/29/11	12/02/11	CSS	Gamma Emitters in Water	
			8695-002	RA	AOR1	12/13/11	12/16/11	MWT	Radium-226 in Water	
			8695-002	SR		12/02/11	12/08/11	BW	Strontium-90 in Water	
			8695-002	U_T		12/01/11	12/01/11	CSS	Uranium, Total	
S111059-03	Lab Control Sample		8695-003	80A/80		12/02/11	12/05/11	BW	Gross Alpha in Water	
		WATER	8695-003	80B/80		12/02/11	12/05/11	BW	Gross Beta in Water	
			8695-003	AC		12/06/11	12/07/11	KWP	Radium-228 in Water	
			8695-003	GAM		11/29/11	12/02/11	CSS	Gamma Emitters in Water	
			8695-003	H		12/05/11	12/08/11	KWP	Tritium in Water	
			8695-003	RA	AOR1	12/13/11	12/16/11	MWT	Radium-226 in Water	
			8695-003	SR		12/02/11	12/08/11	BW	Strontium-90 in Water	
			8695-003	U_T		12/01/11	12/01/11	CSS	Uranium, Total	
S111059-04	Method Blank		8695-004	80A/80		12/06/11	12/05/11	BW	Gross Alpha in Water	
		WATER	8695-004	80B/80		12/06/11	12/05/11	BW	Gross Beta in Water	
			8695-004	AC		12/06/11	12/07/11	KWP	Radium-228 in Water	
			8695-004	GAM		11/29/11	12/02/11	CSS	Gamma Emitters in Water	
			8695-004	H		12/05/11	12/08/11	KWP	Tritium in Water	
			8695-004	RA	AOR1	12/13/11	12/16/11	MWT	Radium-226 in Water	
			8695-004	SR		12/02/11	12/08/11	BW	Strontium-90 in Water	
			8695-004	U_T		12/01/11	12/01/11	CSS	Uranium, Total	

WORK SUMMARY

Page 1

SUMMARY DATA SECTION

Page 6

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

WORK SUMMARY, cont.

SDG 8695
Contact Joseph Verville

Client Test America, Inc.
Contract IUK2180

LAB SAMPLE	CLIENT SAMPLE ID									
COLLECTED	LOCATION	MATRIX		SUF-						
RECEIVED	CUSTODY	SAS no	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD	
S111059-05	Duplicate (S111059-01)		8695-005	80A/80		12/02/11	12/05/11	BW	Gross Alpha in Water	
11/17/11	BOEING - SSFL	WATER	8695-005	80B/80		12/02/11	12/05/11	BW	Gross Beta in Water	
11/22/11			8695-005	AC		12/06/11	12/07/11	KWP	Radium-228 in Water	
			8695-005	GAM		11/30/11	12/02/11	CSS	Gamma Emitters in Water	
			8695-005	H		12/05/11	12/08/11	KWP	Tritium in Water	
			8695-005	RA	AOR1	12/13/11	12/16/11	MWT	Radium-226 in Water	
			8695-005	SR		12/02/11	12/08/11	BW	Strontium-90 in Water	
			8695-005	U_T		12/01/11	12/01/11	CSS	Uranium, Total	

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAS no	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP SPIKE	TOTAL
80A/80		Gross Alpha in Water	900.0	2			1	1	1	5
80B/80		Gross Beta in Water	900.0	2			1	1	1	5
AC		Radium-228 in Water	904.0	2			1	1	1	5
GAM		Gamma Emitters in Water	901.1	2			1	1	1	5
H		Tritium in Water	906.0	1			1	1	1	4
RA		Radium-226 in Water	903.1	2			1	1	1	5
SR		Strontium-90 in Water	905.0	2			1	1	1	5
U_T		Uranium, Total	D5174	2			1	1	1	5
TOTALS				15			8	8	8	39

WORK SUMMARY

Page 2

SUMMARY DATA SECTION

Page 7

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

8695-004

Method Blank

METHOD BLANK

SDG <u>8695</u>	Client <u>Test America, Inc.</u>
Contact <u>Joseph Verville</u>	Contract <u>IUK2180</u>
Lab sample id <u>S111059-04</u>	Client sample id <u>Method Blank</u>
Dept sample id <u>8695-004</u>	Material/Matrix <u>WATER</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	0.027	0.16	0.337	3.00	U	80A
Gross Beta	12587472	-0.312	0.56	0.950	4.00	U	80B
Tritium	10028178	-7.63	8.7	15.2	500	U	H
Radium-226	13982633	0.017	0.47	0.860	1.00	U	RA
Radium-228	15262201	-0.193	0.21	0.563	1.00	U	AC
Strontium-90	10098972	0.300	0.39	0.794	2.00	U	SR
Uranium, Total		0	0.007	0.017	1.00	U	U_T
Potassium-40	13966002	U		16.8	25.0	U	GAM
Cesium-137	10045973	U		1.33	20.0	U	GAM

QC-BLANK #80636

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>12/19/11</u>

EBERLINE ANALYTICAL

SDG 8695

8695-003

Lab Control Sample

LAB CONTROL SAMPLE

SDG <u>8695</u> Contact <u>Joseph Verville</u>	Client <u>Test America, Inc.</u> Contract <u>IUK2180</u>
Lab sample id <u>S111059-03</u> Dept sample id <u>8695-003</u>	Client sample id <u>Lab Control Sample</u> Material/Matrix <u>WATER</u>

ANALYTE	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST	ADDED pCi/L	2σ ERR pCi/L	REC %	2σ LMTS (TOTAL)	PROTOCOL LIMITS
Gross Alpha	43.4	2.3	0.462	3.00		80A	37.0	1.5	117	75-125	70-130
Gross Beta	33.8	1.3	0.938	4.00		80B	34.3	1.4	99	88-112	70-130
Tritium	248	15	15.3	500	J	H	249	10	100	88-112	80-120
Radium-226	51.8	2.3	0.645	1.00		RA	50.1	2.0	103	82-118	80-120
Radium-228	4.89	0.43	0.606	1.00		AC	4.63	0.19	106	85-115	60-140
Strontium-90	17.9	1.4	0.642	2.00		SR	17.2	0.69	104	86-114	80-120
Uranium, Total	55.6	6.3	0.168	1.00		U_T	56.5	2.3	98	88-112	80-120
Cobalt-60	110	5.6	2.77	10.0		GAM	114	4.6	96	91-109	80-120
Cesium-137	120	5.0	3.60	20.0		GAM	124	5.0	97	91-109	80-120

QC-LCS #80635

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-LCS</u>
Version <u>3.06</u>
Report date <u>12/19/11</u>

EBERLINE ANALYTICAL

SDG 8695

8695-005

IUK2180-03

DUPLICATE

SDG <u>8695</u> Contact <u>Joseph Verville</u> DUPLICATE Lab sample id <u>S111059-05</u> Dept sample id <u>8695-005</u>	ORIGINAL Lab sample id <u>S111059-01</u> Dept sample id <u>8695-001</u> Received <u>11/22/11</u>	Client <u>Test America, Inc.</u> Contract <u>IUK2180</u> Client sample id <u>IUK2180-03</u> Location/Matrix <u>BOEING - SSFL</u> <u>WATER</u> Collected/Volume <u>11/17/11 11:00</u> <u>10.0 L</u> Chain of custody id <u>IUK2180</u>
---	---	--

ANALYTE	DUPLICATE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST	ORIGINAL pCi/L	2σ ERR (COUNT)	MDA pCi/L	QUALI- FIERS	RPD %	3σ TOT	DER σ
Gross Alpha	-0.406	0.70	1.65	3.00	U	80A	0.304	0.92	1.54	U	-		1.2
Gross Beta	3.16	1.1	1.62	4.00	J	80B	3.65	1.2	1.88	J	14	75	0.6
Tritium	-43.7	89	153	500	U	H	-68.5	92	160	U	-		0.4
Radium-226	0.342	0.48	0.798	1.00	U	RA	-0.073	0.50	0.922	U	-		1.2
Radium-228	0.031	0.24	0.612	1.00	U	AC	0.093	0.24	0.593	U	-		0.4
Strontium-90	0.035	0.33	0.710	2.00	U	SR	0.098	0.26	0.560	U	-		0.3
Uranium, Total	0.181	0.021	0.017	1.00	J	U_T	0.174	0.020	0.017	J	4	25	0.5
Potassium-40	U		11.4	25.0	U	GAM	U		15.1	U	-		0.4
Cesium-134	U		1.42	20.0	U	GAM	U			J	0	212	0
Cesium-137	U		0.880	20.0	U	GAM	U		1.30	U	-		0.5

QC-DUP#1 80637
 QC-DUP#1 80637

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DUP</u>
Version <u>3.06</u>
Report date <u>12/19/11</u>

DUPLICATES

Page 1

SUMMARY DATA SECTION

Page 10

EBERLINE ANALYTICAL

SDG 8695

8695-001

IUK2180-03

DATA SHEET

SDG <u>8695</u>	Client <u>Test America, Inc.</u>
Contact <u>Joseph Verville</u>	Contract <u>IUK2180</u>
Lab sample id <u>S111059-01</u>	Client sample id <u>IUK2180-03</u>
Dept sample id <u>8695-001</u>	Location/Matrix <u>BOEING - SSFL</u> <u>WATER</u>
Received <u>11/22/11</u>	Collected/Volume <u>11/17/11 11:00</u> <u>10.0 L</u>
	Chain of custody id <u>IUK2180</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	0.304	0.92	1.54	3.00	U	80A
Gross Beta	12587472	3.65	1.2	1.88	4.00	J	80B
Tritium	10028178	-68.5	92	160	500	U	H
Radium-226	13982633	-0.073	0.50	0.922	1.00	U	RA
Radium-228	15262201	0.093	0.24	0.593	1.00	U	AC
Strontium-90	10098972	0.098	0.26	0.560	2.00	U	SR
Uranium, Total		0.174	0.020	0.017	1.00	J	U_T
Potassium-40	13966002	U		15.1	25.0	U	GAM
Cesium-137	10045973	U		1.30	20.0	U	GAM

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>12/19/11</u>

EBERLINE ANALYTICAL

SDG 8695

8695-002

IUK2180-04 (TRIP-BLANK)

DATA SHEET

SDG <u>8695</u>	Client <u>Test America, Inc.</u>
Contact <u>Joseph Verville</u>	Contract <u>IUK2180</u>
Lab sample id <u>S111059-02</u>	Client sample id <u>IUK2180-04 (TRIP-BLANK)</u>
Dept sample id <u>8695-002</u>	Location/Matrix <u>BOEING - SSFL</u> <u>WATER</u>
Received <u>11/22/11</u>	Collected/Volume <u>11/18/11 15:25</u> <u>5.5 L</u>
	Chain of custody id <u>IUK2180</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	0.069	0.16	0.278	3.00	U	80A
Gross Beta	12587472	-0.544	0.64	1.07	4.00	U	80B
Radium-226	13982633	0.169	0.45	0.806	1.00	U	RA
Radium-228	15262201	-0.271	0.22	0.591	1.00	U	AC
Strontium-90	10098972	-0.032	0.21	0.518	2.00	U	SR
Uranium, Total		0.003	0.007	0.017	1.00	U	U_T
Potassium-40	13966002	U		23.3	25.0	U	GAM
Cesium-137	10045973	U		1.23	20.0	U	GAM

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>12/19/11</u>

EBERLINE ANALYTICAL

SDG 8695

LAB METHOD SUMMARY

RADIUM-228 IN WATER
BETA COUNTING

Test AC Matrix WATER
SDG 8695
Contact Joseph Verville

Client Test America, Inc.
Contract IUK2180

RESULTS

LAB	RAW	SUF-		
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Radium-228
Preparation batch 7281-184				
S111059-01			8695-001 IUK2180-03	U
S111059-02			8695-002 IUK2180-04 (TRIP-BLANK)	U
S111059-03			8695-003 Lab Control Sample	ok
S111059-04			8695-004 Method Blank	U
S111059-05			8695-005 Duplicate (S111059-01)	- U

Nominal values and limits from method RDLs (pCi/L) 1.00

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD PREPARED	YZED DETECTOR
Preparation batch 7281-184 2σ prep error 10.4 % Reference Lab Notebook No. 7271 pg.012													
S111059-01		IUK2180-03	0.593	1.80			82		150		19	12/06/11	12/06 GRB-217
S111059-02		IUK2180-04 (TRIP-BLANK)	0.591	1.80			83		150		18	12/06/11	12/06 GRB-220
S111059-03		Lab Control Sample	0.606	1.80			80		150			12/06/11	12/06 GRB-221
S111059-04		Method Blank	0.563	1.80			81		150			12/06/11	12/06 GRB-222
S111059-05		Duplicate (S111059-01)	0.612	1.80			77		150		19	12/06/11	12/06 GRB-223

Nominal values and limits from method 1.00 1.80 30-105 50 180

PROCEDURES REFERENCE 904.0
DWP-894 Sequential Separation of Actinium-228 and Radium-226 in Drinking Water (>1 Liter Aliquot), rev 5

AVERAGES ± 2 SD MDA 0.593 ± 0.038
FOR 5 SAMPLES YIELD 81 ± 5

METHOD SUMMARIES

Page 1

SUMMARY DATA SECTION

Page 13

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

Test SR Matrix WATER

SDG 8695

Contact Joseph Verville

Client Test America, Inc.

Contract IUK2180

LAB METHOD SUMMARY

STRONTIUM-90 IN WATER

BETA COUNTING

RESULTS

LAB	RAW	SUF-		
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Strontium-90
Preparation batch 7281-184				
S111059-01		8695-001	IUK2180-03	U
S111059-02		8695-002	IUK2180-04 (TRIP-BLANK)	U
S111059-03		8695-003	Lab Control Sample	ok
S111059-04		8695-004	Method Blank	U
S111059-05		8695-005	Duplicate (S111059-01)	- U

Nominal values and limits from method RDLs (pCi/L) 2.00

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7281-184 2σ prep error 10.4 % Reference Lab Notebook No. 7271 pg.012															
S111059-01		IUK2180-03	0.560	0.600			84		50			15	12/02/11	12/02	GRB-221
S111059-02		IUK2180-04 (TRIP-BLANK)	0.518	0.600			84		50			14	12/02/11	12/02	GRB-202
S111059-03		Lab Control Sample	0.642	0.500			83		50				12/02/11	12/02	GRB-203
S111059-04		Method Blank	0.794	0.500			82		50				12/02/11	12/02	GRB-204
S111059-05		Duplicate (S111059-01)	0.710	0.600			86		50			15	12/02/11	12/02	GRB-206

Nominal values and limits from method 2.00 0.500 30-105 50 180

PROCEDURES REFERENCE 905.0
CP-380 Strontium in Water Samples, rev 5

AVERAGES ± 2 SD MDA 0.645 ± 0.223
FOR 5 SAMPLES YIELD 84 ± 3

METHOD SUMMARIES

Page 2

SUMMARY DATA SECTION

Page 14

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

LAB METHOD SUMMARY

GROSS ALPHA IN WATER
GAS PROPORTIONAL COUNTING

Test 80A Matrix WATER
SDG 8695
Contact Joseph Verville

Client Test America, Inc.
Contract IUK2180

RESULTS

LAB	RAW	SUF-			Gross Alpha
SAMPLE ID	TEST	FIX	PLANCHET	CLIENT SAMPLE ID	
Preparation batch 7281-184					
S111059-01	80		8695-001	IUK2180-03	U
S111059-02	80		8695-002	IUK2180-04 (TRIP-BLANK)	U
S111059-03	80		8695-003	Lab Control Sample	ok
S111059-04	80		8695-004	Method Blank	U
S111059-05	80		8695-005	Duplicate (S111059-01)	- U

Nominal values and limits from method RDLs (pCi/L) 3.00

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	RESID	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-				
SAMPLE ID	TEST	FIX	CLIENT	SAMPLE ID	pCi/L	L	FAC	TION	mg	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7281-184 2σ prep error 20.6 % Reference Lab Notebook No. 7271 pg.012																	
S111059-01	80		IUK2180-03		1.54	<u>0.150</u>			83			400		15	12/01/11	12/02	GRB-105
S111059-02	80		IUK2180-04 (TRIP-BLANK)		0.278	0.300			0			400		14	12/01/11	12/02	GRB-107
S111059-03	80		Lab Control Sample		0.462	0.300			64			400			12/01/11	12/02	GRB-101
S111059-04	80		Method Blank		0.337	0.300			63			400			12/01/11	12/06	GRB-101
S111059-05	80		Duplicate (S111059-01)		1.65	<u>0.150</u>			84			400		15	12/01/11	12/02	GRB-104

Nominal values and limits from method 3.00 0.300 0-250 100 180

PROCEDURES REFERENCE 900.0
DWP-121 Gross Alpha and Gross Beta in Drinking Water,
rev 10

AVERAGES ± 2 SD MDA 0.853 ± 1.36
FOR 5 SAMPLES RESIDUE 59 ± 69

METHOD SUMMARIES

Page 3

SUMMARY DATA SECTION

Page 15

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

LAB METHOD SUMMARY

GROSS BETA IN WATER

GAS PROPORTIONAL COUNTING

Test 80B Matrix WATER
 SDG 8695
 Contact Joseph Verville

Client Test America, Inc.
 Contract IUK2180

RESULTS

LAB	RAW	SUF-			
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID		Gross Beta
Preparation batch 7281-184					
S111059-01	80	8695-001	IUK2180-03		3.65 J
S111059-02	80	8695-002	IUK2180-04 (TRIP-BLANK)		U
S111059-03	80	8695-003	Lab Control Sample		ok
S111059-04	80	8695-004	Method Blank		U
S111059-05	80	8695-005	Duplicate (S111059-01)		ok J

Nominal values and limits from method RDLs (pCi/L) 4.00

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	RESID	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	mg	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7281-184 2σ prep error 11.0 % Reference Lab Notebook No. 7271 pg.012															
S111059-01	80	IUK2180-03	1.88	<u>0.150</u>			83		400			15	12/01/11	12/02	GRB-105
S111059-02	80	IUK2180-04 (TRIP-BLANK)	1.07	0.300			0		400			14	12/01/11	12/02	GRB-107
S111059-03	80	Lab Control Sample	0.938	0.300			64		400				12/01/11	12/02	GRB-101
S111059-04	80	Method Blank	0.950	0.300			63		400				12/01/11	12/06	GRB-101
S111059-05	80	Duplicate (S111059-01)	1.62	<u>0.150</u>			84		400			15	12/01/11	12/02	GRB-104

Nominal values and limits from method 4.00 0.300 0-250 100 180

PROCEDURES REFERENCE 900.0
 DWP-121 Gross Alpha and Gross Beta in Drinking Water,
 rev 10

AVERAGES ± 2 SD MDA 1.29 ± 0.863
 FOR 5 SAMPLES RESIDUE 59 ± 69

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-LMS
 Version 3.06
 Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

LAB METHOD SUMMARY

GAMMA EMITTERS IN WATER
GAMMA SPECTROSCOPY

Test GAM Matrix WATER
SDG 8695
Contact Joseph Verville

Client Test America, Inc.
Contract IUK2180

RESULTS

LAB	RAW	SUF-			
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt-60	Cesium-137
Preparation batch 7281-184					
S111059-01		8695-001	IUK2180-03		U
S111059-02		8695-002	IUK2180-04 (TRIP-BLANK)		U
S111059-03		8695-003	Lab Control Sample	ok	ok
S111059-04		8695-004	Method Blank		U
S111059-05		8695-005	Duplicate (S111059-01)		- U

Nominal values and limits from method RDLs (pCi/L) 10.0 20.0

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7281-184 2σ prep error 7.0 % Reference Lab Notebook No. 7271 pg.012															
S111059-01		IUK2180-03	2.00									12	11/28/11	11/29	01,01,00
S111059-02		IUK2180-04 (TRIP-BLANK)	2.00									11	11/28/11	11/29	01,02,00
S111059-03		Lab Control Sample	2.00										11/28/11	11/29	MB,05,00
S111059-04		Method Blank	2.00										11/28/11	11/29	01,03,00
S111059-05		Duplicate (S111059-01)	2.00									13	11/28/11	11/30	MB,08,00

Nominal values and limits from method 6.00 2.00 400 180

PROCEDURES REFERENCE 901.1
DWP-100 Preparation of Drinking Water Samples for Gamma Spectroscopy, rev 5

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

LAB METHOD SUMMARY

URANIUM, TOTAL

KINETIC PHOSPHORIMETRY, UG

Test U T Matrix WATER

SDG 8695

Contact Joseph Verville

Client Test America, Inc.

Contract IUK2180

RESULTS

LAB	RAW	SUF-		Uranium,	
SAMPLE ID	TEST	FIX	PLANCHET	CLIENT SAMPLE ID	Total
Preparation batch 7281-184					
S111059-01			8695-001	IUK2180-03	0.174 J
S111059-02			8695-002	IUK2180-04 (TRIP-BLANK)	U
S111059-03			8695-003	Lab Control Sample	ok
S111059-04			8695-004	Method Blank	U
S111059-05			8695-005	Duplicate (S111059-01)	ok J

Nominal values and limits from method RDLs (pCi/L) 1.00

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-			
SAMPLE ID	TEST	FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7281-184			2σ prep error		Reference Lab Notebook No. 7271 pg.012											
S111059-01			IUK2180-03	0.017	0.0200								14	12/01/11	12/01	KPA-001
S111059-02			IUK2180-04 (TRIP-BLANK)	0.017	0.0200								13	12/01/11	12/01	KPA-001
S111059-03			Lab Control Sample	0.168	0.0200									12/01/11	12/01	KPA-001
S111059-04			Method Blank	0.017	0.0200									12/01/11	12/01	KPA-001
S111059-05			Duplicate (S111059-01)	0.017	0.0200								14	12/01/11	12/01	KPA-001

Nominal values and limits from method 1.00 0.0200 180

PROCEDURES REFERENCE D5174

AVERAGES ± 2 SD MDA 0.047 ± 0.135
FOR 5 SAMPLES YIELD _____ ± _____

METHOD SUMMARIES

Page 6

SUMMARY DATA SECTION

Page 18

Lab id EAS

Protocol TA

Version Ver 1.0

Form DVD-LMS

Version 3.06

Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

LAB METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Test H Matrix WATER
SDG 8695
Contact Joseph Verville

Client Test America, Inc.
Contract IUK2180

RESULTS

LAB RAW SUF- SAMPLE ID TEST FIX PLANCHET CLIENT SAMPLE ID Tritium

Preparation batch 7281-184

Table with 5 columns: SAMPLE ID, TEST FIX, PLANCHET, CLIENT SAMPLE ID, Tritium. Rows include S111059-01 to S111059-05 with various sample descriptions and results.

Nominal values and limits from method RDLs (pCi/L) 500

METHOD PERFORMANCE

LAB RAW SUF- MDA ALIQ PREP DILU- YIELD EFF COUNT FWHM DRIFT DAYS ANAL- SAMPLE ID TEST FIX CLIENT SAMPLE ID pCi/L L FAC TION % % min keV KeV HELD PREPARED YZED DETECTOR

Preparation batch 7281-184 2σ prep error 10.0 % Reference Lab Notebook No. 7271 pg.012

Table with 14 columns: SAMPLE ID, TEST FIX, CLIENT SAMPLE ID, MDA pCi/L, ALIQ L, FAC, DILUTION, YIELD %, EFF %, COUNT min, FWHM keV, DRIFT KeV, DAYS HELD, PREPARED, ANALYZED, DETECTOR. Rows include S111059-01 to S111059-05.

Nominal values and limits from method 500 0.0100 100 180

PROCEDURES REFERENCE 906.0
DWP-212 Tritium in Drinking Water by Distillation, rev 8

AVERAGES ± 2 SD MDA 85.9 ± 163
FOR 4 SAMPLES YIELD 55 ± 104

METHOD SUMMARIES

Page 7

SUMMARY DATA SECTION

Page 19

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

LAB METHOD SUMMARY

RADIUM-226 IN WATER
RADON COUNTING

Test RA Matrix WATER
SDG 8695
Contact Joseph Verville

Client Test America, Inc.
Contract IUK2180

RESULTS

LAB RAW SUF-
SAMPLE ID TEST FIX PLANCHET CLIENT SAMPLE ID Radium-226

Preparation batch 7281-184

S111059-01	AOR1	8695-001	IUK2180-03	U
S111059-02	AOR1	8695-002	IUK2180-04 (TRIP-BLANK)	U
S111059-03	AOR1	8695-003	Lab Control Sample	ok
S111059-04	AOR1	8695-004	Method Blank	U
S111059-05	AOR1	8695-005	Duplicate (S111059-01)	- U

Nominal values and limits from method RDLs (pCi/L) 1.00

METHOD PERFORMANCE

LAB RAW SUF- MDA ALIQ PREP DILU- YIELD EFF COUNT FWHM DRIFT DAYS ANAL-
SAMPLE ID TEST FIX CLIENT SAMPLE ID pCi/L L FAC TION % % min keV KeV HELD PREPARED YZED DETECTOR

Preparation batch 7281-184 2σ prep error 16.4 % Reference Lab Notebook No. 7271 pg.012

S111059-01	AOR1	IUK2180-03	0.922	0.100				100		102		26	12/13/11	12/13	RN-009
S111059-02	AOR1	IUK2180-04 (TRIP-BLANK)	0.806	0.100				100		<u>71</u>		25	12/13/11	12/13	RN-012
S111059-03	AOR1	Lab Control Sample	0.645	0.100				100		111			12/13/11	12/13	RN-014
S111059-04	AOR1	Method Blank	0.860	0.100				100		<u>85</u>			12/13/11	12/13	RN-016
S111059-05	AOR1	Duplicate (S111059-01)	0.798	0.100				100		<u>83</u>		26	12/13/11	12/13	RN-012

Nominal values and limits from method 1.00 0.100 100 180

PROCEDURES REFERENCE 903.1
DWP-881A Ra-226 Screening in Drinking Water, rev 6

AVERAGES ± 2 SD MDA 0.806 ± 0.206
FOR 5 SAMPLES YIELD 100 ± 0

METHOD SUMMARIES

Page 8

SUMMARY DATA SECTION

Page 20

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

SDG 8695
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUK2180

SAMPLE SUMMARY

The Sample and QC Summary Reports show all samples, including QC samples, reported in one Sample Delivery Group (SDG).

The Sample Summary Report fully identifies client samples and gives the corresponding lab sample identification. The QC Summary Report shows at the sample level how the lab organized the samples into batches and generated QC samples. The Preparation Batch and Method Summary Reports show this at the analysis level.

The following notes apply to these reports:

- * LAB SAMPLE ID is the lab's primary identification for a sample.
- * DEPARTMENT SAMPLE ID is an alternate lab id, for example one assigned by a radiochemistry department in a lab.
- * CLIENT SAMPLE ID is the client's primary identification for a sample. It includes any sample preparation done by the client that is necessary to identify the sample.
- * QC BATCH is a lab assigned code that groups samples to be processed and QCed together. These samples should have similar matrices.

QC BATCH is not necessarily the same as SDG, which reflects samples received and reported together.

- * All Lab Control Samples, Method Blanks, Duplicates and Matrix Spikes are shown that QC any of the samples. Due to possible reanalyses, not all results for all these QC samples may be relevant to the SDG. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.

REPORT GUIDES

Page 1

SUMMARY DATA SECTION

Page 21

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

SDG 8695
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUK2180

PREPARATION BATCH SUMMARY

The Preparation Batch Summary Report shows all preparation batches in one Sample Delivery Group (SDG) with information necessary to check the completeness and consistency of the SDG.

The following notes apply to this report:

- * The preparation batches are shown in the same order as the Method Summary Reports are printed.
- * Only analyses of planchets relevant to the SDG are included.
- * Each preparation batch should have at least one Method Blank and LCS in it to validate client sample results.
- * The QUALIFIERS shown are all qualifiers other than U, J, B, L and H that occur on any analysis in the preparation batch. The Method Summary Report has these qualifiers on a per sample basis.

These qualifiers should be reviewed as follows:

- X Some data has been manually entered or modified. Transcription errors are possible.
- P One or more results are 'preliminary'. The data is not ready for final reporting.
- 2 There were two or more results for one analyte on one planchet imported at one time. The results in DVD may not be the same as on the raw data sheets.

Other lab defined qualifiers may occur. In general, these should be addressed in the SDG narrative.

REPORT GUIDES

Page 2

SUMMARY DATA SECTION

Page 22

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

SDG 8695
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUK2180

WORK SUMMARY

The Work Summary Report shows all samples, including QC samples, and all relevant analyses in one Sample Delivery Group (SDG). This report is often useful as supporting documentation for an invoice.

The following notes apply to this report:

- * TEST is a code for the method used to measure associated analytes. Results and related information for each analyte are on the Data Sheet Report. In special cases, a test code used in the summary data section is not the same as in associated raw data. In this case, both codes are shown on the Work Summary.
- * SUFFIX is the lab's code to distinguish multiple analyses (recounts, reworks, reanalyses) of a fraction of the sample. The suffix indicates which result is being reported. An empty suffix normally identifies the first attempt to analyze the sample.
- * The LAB SAMPLE ID, TEST and SUFFIX uniquely identify all supporting data for a result. The Method Summary Report for each TEST has method performance data, such as yield, for each lab sample id and suffix and procedures used in the method.
- * PLANCHET is an alternate lab identifier for work done for one test. It, combined with the TEST and SUFFIX, may be the best link to raw data.
- * For QC samples, only analyses that directly QC some regular sample are shown. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.
- * The SAS (Special Analytical Services) Number is a client or lab assigned code that reflects special processing for samples, such as rapid turn around. Counts of tests done are lists by SAS number since it is likely to affect prices.

REPORT GUIDES

Page 3

SUMMARY DATA SECTION

Page 23

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

SDG 8695
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUK2180

DATA SHEET

The Data Sheet Report shows all results and primary supporting information for one client sample or Method Blank. This report corresponds to both the CLP Inorganics and Organics Data Sheet.

The following notes apply to this report:

- * TEST is a code for the method used to measure an analyte. If the TEST is empty, no data is available; the analyte was not analyzed for.
- * The LAB SAMPLE ID and TEST uniquely identify work within the Summary Data Section of a Data Package. The Work Summary and Method Summary Reports further identify raw data that underlies this work.

The Method Summary Report for each TEST has method performance data, such as yield, for each Lab Sample ID and a list of procedures used in the method.

- * ERRORS can be labeled TOTAL or COUNT. TOTAL implies a preparation (non-counting method) error has been added, as square root of sum of squares, to the counting error denoted by COUNT. The preparation errors, which may vary by preparation batch, are shown on the Method Summary Report.
- * A RESULT can be 'N.R.' (Not Reported). This means the lab did this work but chooses not to report it now, possibly because it was reported at another time.
- * When reporting a Method Blank, a RESULT can be 'N.A.' (Not Applicable). This means there is no reported client sample work in the same preparation batch as the Blank's result. This is likely to occur when the Method Blank is associated with reanalyses of selected work for a few samples in the SDG.

The following qualifiers are defined by the DVD system:

- U The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit.

REPORT GUIDES

Page 4

SUMMARY DATA SECTION

Page 24

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

SDG 8695
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUK2180

DATA SHEET

J The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.

B A Method Blank associated with this sample had a result without a U flag and, after correcting for possibly different aliquots, that result is greater than or equal to the MDA for this sample.

Normally, B is not assigned if U is. When method blank subtraction is shown on this report, B flags are assigned based on the unsubtracted values while U's are assigned based on the subtracted ones. Both flags can be assigned in this case.

For each sample result, all Method Blank results in the same preparation batch are compared. The Method Summary Report documents this and other QC relationships.

L Some Lab Control Sample that QC's this sample had a low recovery. The lab can disable assignment of this qualifier.

H Similar to 'L' except the recovery was high.

P The RESULT is 'preliminary'.

X Some data necessary to compute the RESULT, ERROR or MDA was manually entered or modified.

2 There were two or more results available for this analyte. The reported result may not be the same as in the raw data.

Other qualifiers are lab defined. Definitions should be in the SDG narrative.

The following values are underlined to indicate possible problems:

- * An MDA is underlined if it is bigger than its RDL.
- * An ERROR is underlined if the 1.645 sigma counting error is bigger than both the MDA and the RESULT, implying that the MDA

REPORT GUIDES

Page 5

SUMMARY DATA SECTION

Page 25

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

SDG 8695
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUK2180

DATA SHEET

may not be a good estimate of the 'real' minimum detectable activity.

- * A negative RESULT is underlined if it is less than the negative of its 2 sigma counting ERROR.
- * When reporting a Method Blank, a RESULT is underlined if greater than its MDA. If the MDA is blank, the 2 sigma counting error is used in the comparison.

REPORT GUIDES

Page 6

SUMMARY DATA SECTION

Page 26

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

SDG 8695
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUK2180

LAB CONTROL SAMPLE

The Lab Control Sample Report shows all results, recoveries and primary supporting information for one Lab Control Sample.

The following notes apply to this report:

- * All fields in common with the Data Sheet Report have similar usage. Refer to its Report Guide for details.
- * An amount ADDED is the lab's value for the actual amount spiked into this sample with its ERROR an estimate of the error of this amount.

An amount added is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

- * REC (Recovery) is RESULT divided by ADDED expressed as a percent.
- * The first, computed limits for the recovery reflect:
 1. The error of RESULT, including that introduced by rounding the result prior to printing.

If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.
 2. The error of ADDED.
 3. A lab specified, per analyte bias. The bias changes the center of the computed limits.
- * The second limits are protocol defined upper and lower QC limits for the recovery.
- * The recovery is underlined if it is outside either of these ranges.

REPORT GUIDES

Page 7

SUMMARY DATA SECTION

Page 27

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

SDG 8695
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUK2180

DUPLICATE

The Duplicate Report shows all results, differences and primary supporting information for one Duplicate and associated Original sample.

The following notes apply to this report:

- * All fields in common with the Data Sheet Report have similar usage. This applies both to the Duplicate and Original sample data. Refer to the Data Sheet Report Guide for details.

If the Duplicate has data for a TEST and the lab did not do this test to the Original, the Original's RESULTS are underlined.

- * The RPD (Relative Percent Difference) is the absolute value of the difference of the RESULTS divided by their average expressed as a percent.

If both RESULTS are less than their MDAs, no RPD is computed and a '-' is printed.

For an analyte, if the lab did work for both samples but has data for only one, the MDA from the sample with data is used as the other's result in the RPD.

- * The first, computed limit is the sum, as square root of sum of squares, of the errors of the results divided by the average result as a percent, hence the relative error of the difference rather than the error of the relative difference. The errors include those introduced by rounding the RESULTS prior to printing.

If this limit is labeled TOT, it includes the preparation error in the RESULTS. If labeled CNT, it does not.

This value reported for this limit is at most 999.

- * The second limit for the RPD is the larger of:

1. A fixed percentage specified in the protocol.

EBERLINE ANALYTICAL

SDG 8695

SDG 8695
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUK2180

DUPLICATE

2. A protocol factor (typically 2) times the average MDA as a percent of the average result. This limit applies when the results are close to the MDAs.

- * The RPD is underlined if it is greater than either limit.
- * If specified by the lab, the second limit column is replaced by the Difference Error Ratio (DER), which is the absolute value of the difference of the results divided by the quadratic sum of their one sigma errors, the same errors as used in the first limit.

Except for differences due to rounding, the DER is the same as the RPD divided by the first RPD limit with the limit scaled to 1 sigma.

- * The DER is underlined if it is greater than the sigma factor, typically 2 or 3, shown in the header for the first RPD limit.

REPORT GUIDES

Page 9

SUMMARY DATA SECTION

Page 29

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

SDG 8695
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUK2180

MATRIX SPIKE

The Matrix Spike Report shows all results, recoveries and primary supporting information for one Matrix Spike and associated Original sample.

The following notes apply to this report:

- * All fields in common with the Data Sheet Report have similar usage. This applies both to the Spiked and Original sample data. Refer to the Data Sheet Report Guide for details.

If the Spike has data for a TEST and the lab did not do this test to the Original, the Original's RESULTS are underlined.

- * An amount ADDED is the lab's value for the actual amount spiked into the Spike sample with its ERROR an estimate of the error of this amount.

An amount is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

- * REC (Recovery) is the Spike RESULT minus the Original RESULT divided by ADDED expressed as a percent.

- * The first, computed limits for the recovery reflect:

1. The errors of the two RESULTS, including those introduced by rounding them prior to printing.

If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.

2. The error of ADDED.

3. A lab specified, per analyte bias. The bias changes the center of the computed limits.

- * The second limits are protocol defined upper and lower QC limits for the recovery.

REPORT GUIDES

Page 10

SUMMARY DATA SECTION

Page 30

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

SDG 8695
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUK2180

MATRIX SPIKE

These limits are left blank if the Original RESULT is more than a protocol defined factor (typically 4) times ADDED. This is a way of accounting for that when the spike is small compared to the amount in the original sample, the recovery is unreliable.

- * The recovery is underlined (out of spec) if it is outside either of these ranges.

REPORT GUIDES

Page 11

SUMMARY DATA SECTION

Page 31

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

SDG 8695
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUK2180

METHOD SUMMARY

The Method Summary Report has two tables. One shows up to five results measured using one method. The other has performance data for the method. There is one report for each TEST, as used on the Data Sheet Report.

The following notes apply to this report:

- * Each table is subdivided into sections, one for each preparation batch. A preparation batch is a group of aliquots prepared at roughly the same time in one work area of the lab using the same method.

There should be Lab Control Sample and Method Blank results in each preparation batch since this close correspondence makes the QC meaningful. Depending on lab policy, Duplicates need not occur in each batch since they QC sample dependencies such as matrix effects.

- * The RAW TEST column shows the test code used in the raw data to identify a particular analysis if it is different than the test code in the header of the report. This occurs in special cases due to method specific details about how the lab labels work.

The Lab Sample or Planchet ID combined with the (Raw) Test Code and Suffix uniquely identify the raw data for each analysis.

- * If a result is less than both its MDA and RDL, it is replaced by just 'U' on this report. If it is greater than or equal to the RDL but less than the MDA, the result is shown with a 'U' flag.

The J and X flags are as on the data sheet.

- * Non-U results for Method Blanks are underlined to indicate possible contamination of other samples in the preparation batch. The Method Blank Report has supporting data.

- * Lab Control Sample and Matrix Spike results are shown as: ok, No data, LOW or HIGH, with the last two underlined. 'No data' means no amount ADDED was specified. 'LOW' and 'HIGH'

REPORT GUIDES

Page 12

SUMMARY DATA SECTION

Page 32

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

SDG 8695
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUK2180

METHOD SUMMARY

correspond to when the recovery is underlined on the Lab Control Sample or Matrix Spike Report. See these reports for supporting data.

- * Duplicate sample results are shown as: ok, No data, or OUT, with the last two underlined. 'No data' means there was no original sample data found for this duplicate. 'OUT' corresponds to when the RPD is underlined on the Duplicate Report. See this report for supporting data.
- * If the MDA column is labeled 'MAX MDA', there was more than one result measured by the reported method and the MDA shown is the largest MDA. If not all these results have the same RDL, the MAX MDA reflects only those results with RDL equal to the smallest one.

MDAs are underlined if greater than the printed RDL.

- * Aliquots are underlined if less than the nominal value specified for the method.
- * Preparation factors are underlined if greater than the nominal value specified for the method.
- * Dilution factors are underlined if greater than the nominal value specified for the method.
- * Residues are underlined if outside the range specified for the method. Residues are not printed if yields are.
- * Yields, which may be gravimetric, radiometric or some type of recovery depending on the method, are underlined if outside the range specified for the method.
- * Efficiencies are underlined if outside the range specified for the method. Efficiencies are detector and geometry dependent so this test is only approximate.
- * Count times are underlined if less than the nominal value

REPORT GUIDES

Page 13

SUMMARY DATA SECTION

Page 33

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

SDG 8695
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUK2180

METHOD SUMMARY

specified for the method.

- * Resolutions (as FWHM; Full Width at Half Max) are underlined if greater than the method specified limit.
- * Tracer drifts are underlined if their absolute values are greater than the method specified limit. Tracer drifts are not printed if percent moistures are.
- * Days Held are underlined if greater than the holding time specified in the protocol.
- * Analysis dates are underlined if before their planchet's preparation date or, if a limit is specified, too far after it.

For some methods, ratios as percentages and error estimates for them are computed for pairs of results. A ratio column header like '1+3' means the ratio of the first result column and the third result column.

Ratios are not computed for Lab Control Sample, Method Blank or Matrix Spike results since their matrices are not necessarily similar to client samples'.

The error estimate for a ratio of results from one planchet reflects only counting errors since other errors should be correlated. For a ratio involving different planchets, if QC limits are computed based on total errors, the error for the ratio allows for the preparation errors for the planchets.

The ratio is underlined (out of spec) if the absolute value of its difference from the nominal value is greater than its error estimate. If no nominal value is specified, this test is not done.

For Gross Alpha or Gross Beta results, there may be a column showing the sum of other Alpha or Beta emitters. This sum includes all relevant results in the DVD database, whether reported or not. Results in the sum are weighted by a particles/decay value specified by the lab for each relevant analyte. Results less than their MDA are not included.

REPORT GUIDES

Page 14

SUMMARY DATA SECTION

Page 34

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 12/19/11

EBERLINE ANALYTICAL

SDG 8695

SDG 8695
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUK2180

METHOD SUMMARY

No sums are computed for Lab Control, Method Blank or Matrix Spike samples since their various planchets may not be physically related.

If a ratio of total isotopic to Gross Alpha or Beta is shown, the error for the ratio reflects both the error in the Gross result and the sum, as square root of sum of squares, of the errors in the isotopic results.

For total elemental uranium or thorium results, there may be a column showing the total weight computed from associated isotopic results. Ignoring results less than their MDAs, this is a weighted sum of the isotopic results. The weights depend on the molecular weight and half-life of each isotope so as to convert activities (decays) to weight (atoms).

If a ratio of total computed to measured elemental uranium or thorium is shown, the error for the ratio reflects the errors in all the measurements.

REPORT GUIDES

Page 15

SUMMARY DATA SECTION

Page 35

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 12/19/11

Subcontract Order - TestAmerica Irvine (IUK2180)

8695 81-01-05

SENDING LABORATORY:

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

RECEIVING LABORATORY:

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

Standard TAT is requested unless specific due date is requested. => Due Date: _____ Initials: _____

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

Sample ID: IUK2180-03 (Outfall 019 Composite - Water)

Sampled: 11/17/11 11:00

Gamma Spec-O	mg/kg	11/16/12 11:00	Out eberline k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	05/15/12 11:00	Out eberline, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	05/15/12 11:00	Out Eberline, Boeing permit, DO NOT FILTER!
Radium, Combined-O	pCi/L	11/16/12 11:00	Out eberline Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	11/16/12 11:00	Out eberline Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	11/16/12 11:00	Out eberline Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	11/16/12 11:00	Out eberline, Boeing permit, DO NOT FILTER!

Containers Supplied:

2.5 gal Poly (T) 500 mL Amber (U)

Sample ID: IUK2180-04 (TB - Water)

Sampled: 11/18/11 15:25

Gamma Spec-O	mg/kg	11/17/12 15:25	Out eberline k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	05/16/12 15:25	Out eberline, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	05/16/12 15:25	Out Eberline, Boeing permit, DO NOT FILTER!
Radium, Combined-O	pCi/L	11/17/12 15:25	Out eberline Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	11/17/12 15:25	Out eberline Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	11/17/12 15:25	Out eberline, Boeing permit, DO NOT FILTER!

Containers Supplied:

2.5 gal Poly (A)

Va Bank
 Released By _____
 Date/Time _____

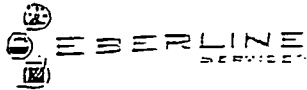
11/21/11 17:00
 Date/Time _____

Fedex
 Received By _____
 Date/Time _____

FED EX
 Released By _____
 Date/Time _____

Jess Kellum
 Received By _____
 Date/Time _____

11/22/11 10:15
 Date/Time _____



RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City: IRVINE State: CA

Date/Time received: 11/22/11 10:15 CoC No.: N/A

Container I.D. No.: N/A Requested TAT (Days): STANDARD .D. Received Yes [] No []

INSPECTION

1. Custody seals on shipping container intact? Yes No [] N/A []
2. Custody seals on shipping container dated & signed? Yes No [] N/A []
3. Custody seals on sample containers intact? Yes [] No [] N/A [] N/A ✓
4. Custody seals on sample containers dated & signed? Yes [] No [] N/A [] N/A ✓
5. Packing material is: Wet [] Dry [] N/A ✓
6. Number of samples in shipping container: 2 Sample Matrix: WATER
7. Number of containers per sample: _____ (Or see CoC)
8. Samples are in correct container Yes No []
9. Paperwork agrees with samples? Yes No []
10. Samples have: Tape [] Hazard labels [] Rad labels [] Appropriate sample labels
11. Samples are: In good condition Leaking [] Broken Container [] Missing []
12. Samples are: Preserved Not preserved pH: 2/6 Preservative _____
13. Describe any anomalies: _____

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

15. Inspected by: JFK Date: 11/22/11 Time: 11:10

Customer Sample No.	Beta/Gamma com	Ion Chamber mR/hr	Wide	Customer Sample No.	Beta/Gamma com	Ion Chamber mR/hr	Wide
<u>All Samples</u>	<u>< 80</u>						

Ion Chamber Ser. No. _____
Alpha Meter Ser. No. _____
Beta/Gamma Meter Ser. No. 996574

Calibration date _____
Calibration date _____
Calibration date 15 Jul 2011

APPENDIX G

Section 15

Arroyo Simi-Frontier Park – November 10, 2011

MEC^X Data Validation Report



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IUK1529

Prepared by

MEC^x, 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: IUK1529
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
Arroyo Simi-FP	IUK1529-01	N/A	Water	11/10/2011 12:30:00 PM	EPA 200.7, SM2340B

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the samples were couriered to TestAmerica-Irvine, custody seals were not required. 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 or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 200.7

Reviewed By: P. Meeks

Date Reviewed: November 14, 2011

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *MEC^x Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0)*, *EPA Method 200.7 and SM2340B*, and the *National Functional Guidelines for Inorganic Data Review (7/02)*.

- Holding Times: The analytical holding time, six months for the ICP metals, was met.
- Tuning: Not applicable to this analysis.
- Calibration: Calibration criteria were met. Initial and continuing calibration recoveries were within 90-110%. CRI recoveries were within the control limits of 70-130%.
- Blanks: Method blanks and CCBs had no detects.
- Interference Check Samples: Calcium and magnesium recoveries were within the method-established control limits.
- Blank Spikes and Laboratory Control Samples: Recoveries were within method-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.
- Internal Standards Performance: Not applicable to this analysis.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the 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.

Validated Sample Result Forms IUK1529

Analysis Method EPA 200.7

Sample Name Arroyo Simi-FP **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: IUK1529-01 **Sample Date:** 11/10/2011 12:30:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Calcium	7440-70-2	220	0.10	0.050	mg/l			
Magnesium	7439-95-4	66	0.020	0.012	mg/l			

Analysis Method SM2340B

Sample Name Arroyo Simi-FP **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: IUK1529-01 **Sample Date:** 11/10/2011 12:30:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Hardness (as CaCO3)	NA	820	0.33	0.17	mg/l			

APPENDIX G

Section 16

Arroyo Simi-Frontier Park – November 10, 2011

Test America Analytical Laboratory Report

LABORATORY REPORT

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

Project: Quarterly Arroyo Simi-Frontier
Park
Quarterly Arroyo Simi-Frontier
Sampled: 11/10/11
Received: 11/10/11
Issued: 11/20/11 17:30

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

IUK1529-01

CLIENT ID

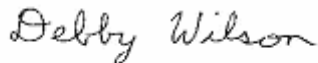
Arroyo Simi-FP

MATRIX

Water

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Reviewed By:



TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Quarterly Arroyo Simi-Frontier Park
Quarterly Arroyo Simi-Frontier Park
Report Number: IUK1529

Sampled: 11/10/11
Received: 11/10/11

ORGANIC COMPOUNDS BY GC/MS (EPA 525.2)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUK1529-01 (Arroyo Simi-FP - Water)									
Reporting Units: ug/l									
Chlorpyrifos	EPA 525.2	11K1587	0.080	1.0	ND	1	JM	11/14/11	
Diazinon	EPA 525.2	11K1587	0.040	0.25	ND	1	JM	11/14/11	
<i>Surrogate: 1,3-Dimethyl-2-nitrobenzene (70-130%)</i>					93 %				
<i>Surrogate: Triphenylphosphate (70-130%)</i>					114 %				
<i>Surrogate: Perylene-d12 (70-130%)</i>					105 %				

TestAmerica Irvine

Debby Wilson
Project Manager

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

IUK1529 <Page 2 of 12>

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

Project ID: Quarterly Arroyo Simi-Frontier Park
 Quarterly Arroyo Simi-Frontier Park
 Report Number: IUK1529

Sampled: 11/10/11
 Received: 11/10/11

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUK1529-01 (Arroyo Simi-FP - Water) - cont.									
Reporting Units: ug/l									
4,4'-DDD	EPA 608	11K1844	0.0038	0.0048	ND	0.952	CN	11/14/11	
4,4'-DDE	EPA 608	11K1844	0.0029	0.0048	ND	0.952	CN	11/14/11	
4,4'-DDT	EPA 608	11K1844	0.0038	0.0095	ND	0.952	CN	11/14/11	C5
Dieldrin	EPA 608	11K1844	0.0019	0.0048	ND	0.952	CN	11/14/11	
Chlordane	EPA 608	11K1844	0.076	0.095	ND	0.952	CN	11/14/11	
Toxaphene	EPA 608	11K1844	0.24	0.48	ND	0.952	CN	11/14/11	
Surrogate: Decachlorobiphenyl (45-120%)					81 %				
Surrogate: Tetrachloro-m-xylene (35-115%)					66 %				

TestAmerica Irvine

Debby Wilson
 Project Manager

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

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

Project ID: Quarterly Arroyo Simi-Frontier Park
 Quarterly Arroyo Simi-Frontier Park
 Report Number: IUK1529

Sampled: 11/10/11
 Received: 11/10/11

TOTAL PCBS (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUK1529-01 (Arroyo Simi-FP - Water) - cont.									
Reporting Units: ug/l									
Aroclor 1016	EPA 608	11K1844	0.24	0.48	ND	0.952	DXD	11/14/11	
Aroclor 1221	EPA 608	11K1844	0.24	0.48	ND	0.952	DXD	11/14/11	
Aroclor 1232	EPA 608	11K1844	0.24	0.48	ND	0.952	DXD	11/14/11	
Aroclor 1242	EPA 608	11K1844	0.24	0.48	ND	0.952	DXD	11/14/11	
Aroclor 1248	EPA 608	11K1844	0.24	0.48	ND	0.952	DXD	11/14/11	
Aroclor 1254	EPA 608	11K1844	0.24	0.48	ND	0.952	DXD	11/14/11	
Aroclor 1260	EPA 608	11K1844	0.24	0.48	ND	0.952	DXD	11/14/11	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					80 %				

TestAmerica Irvine

Debby Wilson
 Project Manager

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

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

Project ID: Quarterly Arroyo Simi-Frontier Park
Quarterly Arroyo Simi-Frontier Park
Report Number: IUK1529

Sampled: 11/10/11
Received: 11/10/11

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUK1529-01 (Arroyo Simi-FP - Water) - cont.									
Reporting Units: mg/l									
Hardness (as CaCO ₃)	SM2340B	[CALC]		0.33	820	1	NH	11/16/11	
Calcium	EPA 200.7	11K1653	0.050	0.10	220	1	NH	11/16/11	
Magnesium	EPA 200.7	11K1653	0.012	0.020	66	1	NH	11/16/11	

TestAmerica Irvine

Debby Wilson
Project Manager

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

IUK1529 <Page 5 of 12>

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

Project ID: Quarterly Arroyo Simi-Frontier Park
Quarterly Arroyo Simi-Frontier Park
Report Number: IUK1529

Sampled: 11/10/11
Received: 11/10/11

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Arroyo Simi-FP (IUK1529-01) - Water EPA 525.2	1	11/10/2011 12:30	11/10/2011 20:00	11/11/2011 06:18	11/14/2011 13:22

TestAmerica Irvine

Debby Wilson
Project Manager

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

IUK1529 <Page 6 of 12>

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

Project ID: Quarterly Arroyo Simi-Frontier Park
 Quarterly Arroyo Simi-Frontier Park
 Report Number: IUK1529

Sampled: 11/10/11
 Received: 11/10/11

METHOD BLANK/QC DATA

ORGANIC COMPOUNDS BY GC/MS (EPA 525.2)

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 11K1587 Extracted: 11/11/11												
Blank Analyzed: 11/14/2011 (11K1587-BLK1)												
Chlorpyrifos	ND	1.0	0.080	ug/l	JM							
Diazinon	ND	0.25	0.040	ug/l	JM							
Surrogate:	4.83			ug/l	JM	5.00		97	70-130			
1,3-Dimethyl-2-nitrobenzene												
Surrogate: Triphenylphosphate	5.72			ug/l	JM	5.00		114	70-130			
Surrogate: Perylene-d12	5.11			ug/l	JM	5.00		102	70-130			
LCS Analyzed: 11/14/2011 (11K1587-BS1)												
Chlorpyrifos	4.73	1.0	0.080	ug/l	JM	5.00		95	70-130			MNR1
Diazinon	4.46	0.25	0.040	ug/l	JM	5.00		89	70-130			
Surrogate:	4.89			ug/l	JM	5.00		98	70-130			
1,3-Dimethyl-2-nitrobenzene												
Surrogate: Triphenylphosphate	5.36			ug/l	JM	5.00		107	70-130			
Surrogate: Perylene-d12	5.13			ug/l	JM	5.00		103	70-130			
LCS Dup Analyzed: 11/14/2011 (11K1587-BSD1)												
Chlorpyrifos	4.70	1.0	0.080	ug/l	JM	5.00		94	70-130	0.6	30	
Diazinon	4.54	0.25	0.040	ug/l	JM	5.00		91	70-130	2	30	
Surrogate:	4.93			ug/l	JM	5.00		99	70-130			
1,3-Dimethyl-2-nitrobenzene												
Surrogate: Triphenylphosphate	5.48			ug/l	JM	5.00		110	70-130			
Surrogate: Perylene-d12	5.17			ug/l	JM	5.00		103	70-130			

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Quarterly Arroyo Simi-Frontier Park
Quarterly Arroyo Simi-Frontier Park
Report Number: IUK1529

Sampled: 11/10/11
Received: 11/10/11

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11K1844 Extracted: 11/13/11												
Blank Analyzed: 11/14/2011 (11K1844-BLK1)												
4,4'-DDD	ND	0.0050	0.0040	ug/l	CN							
4,4'-DDE	ND	0.0050	0.0030	ug/l	CN							
4,4'-DDT	ND	0.010	0.0040	ug/l	CN							
Dieldrin	ND	0.0050	0.0020	ug/l	CN							
Chlordane	ND	0.10	0.080	ug/l	CN							
Toxaphene	ND	0.50	0.25	ug/l	CN							
Surrogate: Decachlorobiphenyl	0.376			ug/l	CN	0.500		75	45-120			
Surrogate: Tetrachloro-m-xylene	0.340			ug/l	CN	0.500		68	35-115			
LCS Analyzed: 11/14/2011 (11K1844-BS1)												
4,4'-DDD	0.438	0.0050	0.0040	ug/l	CN	0.500		88	55-120			
4,4'-DDE	0.422	0.0050	0.0030	ug/l	CN	0.500		84	50-120			
4,4'-DDT	0.444	0.010	0.0040	ug/l	CN	0.500		89	55-120			
Dieldrin	0.430	0.0050	0.0020	ug/l	CN	0.500		86	55-115			
Surrogate: Decachlorobiphenyl	0.434			ug/l	CN	0.500		87	45-120			
Surrogate: Tetrachloro-m-xylene	0.384			ug/l	CN	0.500		77	35-115			
Matrix Spike Analyzed: 11/14/2011 (11K1844-MS1)						Source: IUK1106-01						
4,4'-DDD	0.410	0.0050	0.0040	ug/l	CN	0.500	ND	82	50-125			
4,4'-DDE	0.387	0.0050	0.0030	ug/l	CN	0.500	ND	77	45-125			
4,4'-DDT	0.424	0.010	0.0040	ug/l	CN	0.500	ND	85	50-125			
Dieldrin	0.391	0.0050	0.0020	ug/l	CN	0.500	ND	78	50-120			
Surrogate: Decachlorobiphenyl	0.409			ug/l	CN	0.500		82	45-120			
Surrogate: Tetrachloro-m-xylene	0.215			ug/l	CN	0.500		43	35-115			
Matrix Spike Dup Analyzed: 11/14/2011 (11K1844-MSD1)						Source: IUK1106-01						
4,4'-DDD	0.372	0.0048	0.0038	ug/l	CN	0.476	ND	78	50-125	10	30	
4,4'-DDE	0.355	0.0048	0.0029	ug/l	CN	0.476	ND	75	45-125	9	30	
4,4'-DDT	0.389	0.0095	0.0038	ug/l	CN	0.476	ND	82	50-125	9	30	
Dieldrin	0.361	0.0048	0.0019	ug/l	CN	0.476	ND	76	50-120	8	30	
Surrogate: Decachlorobiphenyl	0.373			ug/l	CN	0.476		78	45-120			
Surrogate: Tetrachloro-m-xylene	0.220			ug/l	CN	0.476		46	35-115			

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Quarterly Arroyo Simi-Frontier Park
 Quarterly Arroyo Simi-Frontier Park
 Report Number: IUK1529

Sampled: 11/10/11
 Received: 11/10/11

METHOD BLANK/QC DATA

TOTAL PCBS (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 11K1844 Extracted: 11/13/11												
Blank Analyzed: 11/14/2011 (11K1844-BLK1)												
Aroclor 1016	ND	0.50	0.25	ug/l	DXD							
Aroclor 1221	ND	0.50	0.25	ug/l	DXD							
Aroclor 1232	ND	0.50	0.25	ug/l	DXD							
Aroclor 1242	ND	0.50	0.25	ug/l	DXD							
Aroclor 1248	ND	0.50	0.25	ug/l	DXD							
Aroclor 1254	ND	0.50	0.25	ug/l	DXD							
Aroclor 1260	ND	0.50	0.25	ug/l	DXD							
Surrogate: Decachlorobiphenyl	0.402			ug/l	DXD	0.500		80	45-120			
LCS Analyzed: 11/14/2011 (11K1844-BS2)												
Aroclor 1016	3.53	0.50	0.25	ug/l	DXD	4.00		88	50-115			
Aroclor 1260	3.14	0.50	0.25	ug/l	DXD	4.00		78	60-120			
Surrogate: Decachlorobiphenyl	0.419			ug/l	DXD	0.500		84	45-120			
Matrix Spike Analyzed: 11/14/2011 (11K1844-MS2)						Source: IUK1106-01						
Aroclor 1016	3.17	0.48	0.24	ug/l	DXD	3.85	ND	82	45-120			
Aroclor 1260	2.90	0.48	0.24	ug/l	DXD	3.85	ND	75	55-125			
Surrogate: Decachlorobiphenyl	0.379			ug/l	DXD	0.481		79	45-120			
Matrix Spike Dup Analyzed: 11/14/2011 (11K1844-MSD2)						Source: IUK1106-01						
Aroclor 1016	3.11	0.48	0.24	ug/l	DXD	3.81	ND	82	45-120	2	30	
Aroclor 1260	2.85	0.48	0.24	ug/l	DXD	3.81	ND	75	55-125	2	25	
Surrogate: Decachlorobiphenyl	0.375			ug/l	DXD	0.476		79	45-120			

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Quarterly Arroyo Simi-Frontier Park
 Quarterly Arroyo Simi-Frontier Park
 Report Number: IUK1529

Sampled: 11/10/11
 Received: 11/10/11

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Analyst	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 11K1653 Extracted: 11/11/11												
Blank Analyzed: 11/15/2011 (11K1653-BLK1)												
Calcium	0.0817	0.10	0.050	mg/l	NH							J
Magnesium	ND	0.020	0.012	mg/l	NH							
LCS Analyzed: 11/16/2011 (11K1653-BS1)												
Calcium	2.62	0.10	0.050	mg/l	NH	2.50		105	85-115			
Magnesium	2.67	0.020	0.012	mg/l	NH	2.50		107	85-115			
Matrix Spike Analyzed: 11/16/2011 (11K1653-MS1)						Source: IUK1062-01						
Calcium	55.7	0.10	0.050	mg/l	NH	2.50	53.6	85	70-130			MHA
Magnesium	68.3	0.020	0.012	mg/l	NH	2.50	65.9	97	70-130			MHA
Matrix Spike Analyzed: 11/16/2011 (11K1653-MS2)						Source: IUK1079-01						
Calcium	86.8	0.10	0.050	mg/l	NH	2.50	82.7	163	70-130			MHA
Magnesium	53.1	0.020	0.012	mg/l	NH	2.50	49.4	150	70-130			MHA
Matrix Spike Dup Analyzed: 11/16/2011 (11K1653-MSD1)						Source: IUK1062-01						
Calcium	57.2	0.10	0.050	mg/l	NH	2.50	53.6	146	70-130	3	20	MHA
Magnesium	69.4	0.020	0.012	mg/l	NH	2.50	65.9	141	70-130	2	20	MHA

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Quarterly Arroyo Simi-Frontier Park
Quarterly Arroyo Simi-Frontier Park
Report Number: IUK1529

Sampled: 11/10/11
Received: 11/10/11

DATA QUALIFIERS AND DEFINITIONS

- C5** Calibration Verification recovery was below the method control limit for this analyte. An additional check standard was analyzed at the reporting limit to ensure instrument sensitivity at the reporting limit. Samples ND.
- J** Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
- MHA** Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
- MNR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

TestAmerica Irvine

Debby Wilson
Project Manager

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

IUK1529 <Page 11 of 12>

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

Project ID: Quarterly Arroyo Simi-Frontier Park
Quarterly Arroyo Simi-Frontier Park
Report Number: IUK1529

Sampled: 11/10/11
Received: 11/10/11

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EDD + Level 4	Water	N/A	N/A
EPA 200.7	Water	X	N/A
EPA 525.2	Water	X	N/A
EPA 608	Water	X	X
SM2340B	Water	X	N/A

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

TestAmerica Irvine

Debby Wilson
Project Manager

