APPENDIX G

Section 31

Outfall 009 – December 26, 2010 MECX Data Validation Report THIS PAGE LEFT INTENTIONALLY BLANK



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ITL2486

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:	ITL2486
Project Manager:	B. Kelly
Matrix:	Water
QC Level:	IV
No. of Samples:	1
No. of Reanalyses/Dilutions:	0
Laboratory:	TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 009 (Composite)	ITL2486-02	G0L290489-001, S012366-01	Water	12/26/2010 10:01:00 AM	1613B, 900, 901.1, 903.1, 904, 905, 906, 245.1, 245.1-Diss, SM 2540D, D5174

II. Sample Management

No anomalies were observed regarding sample management. The temperature upon receipt was not noted by Eberline; however, due to the nonvolatile nature of the analytes, no qualifications were required. The remaining samples in this SDG were received at the laboratories 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 in this SDG were delivered by courier, custody seals were not required.

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

Data Qualifier Reference Table

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

Qualification Code Reference Table

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin Date Reviewed: January 19, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the MEC^{\times} 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 ≤20% for the 15 native compounds (calibration by isotope dilution) and ≤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 between the EDL and the RL for several isomers and totals. Most method blank detects were reported as EMPCs; however, due to the extent of the method blank contamination, the reviewer considered it appropriate to use the EMPCs to qualify sample results. All individual isomers detected in both the method blank and site sample were qualified as nondetected, "U" at the EDL, or at the level of

contamination in the sample. The sample totals containing one or more peaks detected in the method blank were qualified as estimated, "J."

- Blank Spikes and Laboratory Control Samples: OCDD and 1,2,3,4,6,7,8-HpCDF were recovered above the control limits in the LCS; however, neither isomer was reportable in the associated sample. The remaining LCS recoveries were within the acceptance criteria listed in Table 6 of Method 1613.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Internal Standards Performance: The labeled standard recoveries in 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 quantitation was verified by recalculating a representative number of reportable sample results. Any individual isomers reported as EMPCs previously qualified as nondetected for method blank contamination were not further qualified as EMPCs. Any totals including EMPC peaks were qualified as estimated, "J." 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 METHOD 245.1—Mercury

Reviewed By: P. Meeks Date Reviewed: January 14, 2011

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *MEC[×]* Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Method 245.1, and the National Functional Guidelines for Inorganic Data Review (7/02).

- Holding Times: The analytical holding time, 28 days for mercury, was met.
- Tuning: Not applicable to this analysis.

- Calibration: Calibration criteria were met. Initial calibration r² values were ≥0.995 and all initial and continuing calibration recoveries were within 85-115%. CRDL/CRI recoveries were within the control limits of 70-130%.
- Blanks: Method blanks and CCBs had no detects.
- Interference Check Samples: Not applicable to this analysis.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratoryestablished QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: Although not reported, MS/MSD analyses were performed on the dissolved fraction of the sample in this SDG. Recoveries and RPDs were within the method-established control limits.
- Serial Dilution: No serial dilution analyses were performed on the sample in this SDG.
- 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.

C. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks Date Reviewed: February 8, 2011

The samples 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 prepared within the five-day analytical holding time for unpreserved samples.
- Calibration: The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability.

The gross alpha detector efficiency was less than 20%; therefore, gross alpha detected in the sample was qualified as estimated, "J." The remaining detector efficiencies were greater than 20%.

The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. 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.

- Blanks: There were no analytes detected in the method blanks.
- Blank Spikes and Laboratory Control Samples: The recoveries were within laboratoryestablished control limits.
- Laboratory Duplicates: There were no laboratory duplicate analyses were performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed for the sample in this SDG. Method accuracy was evaluated based on the LCS results.
- Sample Result Verification: An EPA Level IV review was performed for the sample in this data package. The sample results and MDAs reported on the sample result form were verified against the raw data and no calculation or transcription errors were noted. 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.

A notation in the sample preparation logbook indicated that the aliquots for radium-226, radium-228, and strontium were filtered and that the filter was digested and added to the aliquot.

- 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 17, 2011

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^x* Data Validation Procedure for General Minerals (DVP-6, Rev. 0), EPA Standard Method SM2540D, and the National Functional Guidelines for Inorganic Data Review (7/02).

- Holding Times: The analytical holding time, seven days from collection, was met.
- Calibration: The balance logs were acceptable.
- Blanks: TSS was not detected in the method blank.
- Blank Spikes and Laboratory Control Samples: The recovery was within laboratoryestablished QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy was evaluated based on LCS results.
- 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 ITL2486

Analysis Method 8651

Sample Name	Outfall 009 (Comp)	Matri	x Type:	WATER	Validation Level: IV			
Lab Sample Name:	ITL2486-02	Sam	ple Date:	12/26/20	010 12:01:00 A	АМ			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes	
Uranium, Total		0.126	1	0.017	pCi/L	Jb	J	DNQ	
Analysis Method	d 900								
Sample Name	Outfall 009 (0	Comp)	Matri	x Type:	WATER	I I	alidation Le	vel: IV	
Lab Sample Name:	ITL2486-02	Sam	ple Date:	12/26/20	010 12:01:00 A	АМ			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes	
Gross Alpha	12587461	1.19	3	0.38	pCi/L	Jb	J	C, DNQ	
Gross Beta	12587472	2.66	4	0.864	pCi/L	Jb	J	DNQ	
Analysis Method	d 901.1								
Sample Name	Outfall 009 (0	(Comp) Matrix Type: WATER				Validation Level: IV			
Lab Sample Name:	ITL2486-02	Sam	ple Date:	12/26/20	010 12:01:00 A	AM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes	
Cesium-137	10045973	ND	20	1.45	pCi/L	U	U		
Potassium-40	13966002	ND	25	17.5	pCi/L	U	U		
Analysis Method	d 903.1								
Sample Name	Outfall 009 (0	Comp)	Matri	x Type:	WATER	V	alidation Le	vel: IV	
Lab Sample Name:	ITL2486-02	Sam	ple Date:	12/26/20	010 12:01:00 #	AM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes	
Radium-226	13982633	0.222	1	0.584	pCi/L	U	U		
Analysis Method	d 904								
Sample Name	Outfall 009 (0	Comp)	Matri	x Type:	WATER	V	alidation Le	vel: IV	
Lab Sample Name:	ITL2486-02	Sam	ple Date:	12/26/20	010 12:01:00 A	AM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes	
Radium-228	15262201	0.008	1	0.422	pCi/L	U	U		

Tuesday, February 08, 2011

Sample Name	Outfall 009 (0	Comp)	Matri	x Type:	WATER	Validation Level: IV				
Lab Sample Name:	ITL2486-02	Sam	ple Date:	12/26/20	10 12:01:00 A	AM				
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes		
Strontium-90	10098972	0.063	2	0.652	pCi/L	U	U			
Analysis Metho	od 906									
Sample Name	Outfall 009 (0	Comp)	Matri	x Type:	WATER	١	alidation Le	vel: IV		
Lab Sample Name:	ITL2486-02	Sam	ple Date:	12/26/20	10 12:01:00 A	AM				
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes		
Tritium	10028178	82.7	500	293	pCi/L	U	U			
Analysis Metho	od EPA	245.1								
Sample Name	Outfall 009 (0	Comp)	Matri	x Type:	Water	V	alidation Le	vel: IV		
Lab Sample Name:	ITL2486-02	Sam	ple Date:	12/26/20	10 12:01:00 A	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 Metho	od EPA	245.1 <i>-</i> L	Diss							
Sample Name	Outfall 009 (0	Comp)	Matri	x Type:	Water	Validation Level: IV				
Lab Sample Name:	ITL2486-02	Sam	ple Date:	12/26/20	10 12:01:00 A	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 905

Sample Name	Outfall 009 (C	Comp)	Matri	x Type:	WATER	,	Validation Level: IV				
Lab Sample Name:	ITL2486-02	Sam	ple Date:	12/26/2010	12:01:00	AM	Μ				
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	0.0000008	ug/L	J, B	U	В			
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.00005	0.0000002	ug/L	J, B	U	В			
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.00005	0.0000003	ug/L		U				
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.00005	0.0000005	ug/L		U				
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.00005	0.0000006	ug/L		U				
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.00005	0.0000002	ug/L	J, Q, B	U	В			
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.00005	0.0000003	ug/L		U				
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.00005	0.0000002	ug/L	J, Q, B	U	В			
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.00005	0.0000003	ug/L		U				
1,2,3,7,8-PeCDD	40321-76-4	ND	0.00005	0.0000012	ug/L		U				
1,2,3,7,8-PeCDF	57117-41-6	ND	0.00005	0.0000004	ug/L		U				
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.00005	0.0000003	ug/L		U				
2,3,4,7,8-PeCDF	57117-31-4	ND	0.00005	0.0000004	ug/L		U				
2,3,7,8-TCDD	1746-01-6	ND	0.00001	0.0000003	ug/L		U				
2,3,7,8-TCDF	51207-31-9	ND	0.00001	0.0000004	ug/L		U				
OCDD	3268-87-9	ND	0.0001	0.00049	ug/L	В	U	В			
OCDF	39001-02-0	ND	0.0001	0.0000007	ug/L	J, B	U	В			
Total HpCDD	37871-00-4	6.1e-005	0.00005	0.0000008	ug/L	J, B	J	B, DNQ			
Total HpCDF	38998-75-3	1.8e-005	0.00005	0.0000003	ug/L	J, Q, B	J	B, DNQ, *III			
Total HxCDD	34465-46-8	5.9e-006	0.00005	0.0000003	ug/L	J, Q, B	J	B, DNQ, *III			
Total HxCDF	55684-94-1	3.5e-006	0.00005	0.0000003	ug/L	J, Q, B	J	B, DNQ, *III			
Total PeCDD	36088-22-9	ND	0.00005	0.0000012	ug/L		U				
Total PeCDF	30402-15-4	ND	0.00005	0.0000004	ug/L		U				
Total TCDD	41903-57-5	ND	0.00001	0.0000004	ug/L		U				
Total TCDF	55722-27-5	ND	0.00001	0.0000004	ug/L		U				
Analysis Method	d SM 25	540D									
Sample Name	Outfall 009 (C	Comp)	Matri	x Type:	Water	V	alidation Le	vel: IV			
Lab Sample Name:	ITL2486-02	Sam	ple Date:	12/26/2010	12:01:00	AM					

Analysis Method EPA-5 1613B

Tuesday, February 08, 2011

Analyte

Total Suspended Solids

CAS No

TSS

Result

19

Value

RL

10

MDL

1.0

Result

Units

mg/l

Lab

Qualifier

Validation Validation

Notes

Qualifier

APPENDIX G

Section 32

Outfall 009 – December 26, 2010 Test America Analytical Laboratory Report THIS PAGE LEFT INTENTIONALLY BLANK

THE LEADER IN ENVIRONMENTAL TESTING

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

LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project: Routine Outfall 009 2010 Routine Outfall 009

Sampled: 12/26/10-12/26/11 Received: 12/27/10 Issued: 02/06/11 16:46

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, 4 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 2°C, on ice and with chain of custody documentation.HOLDING TIMES:All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica
Sample Acceptance Policy unless otherwise noted in the report.PRESERVATION:Samples requiring preservation were verified prior to sample analysis.QA/QC CRITERIA:All analyses met method criteria, except as noted in the report with data qualifiers.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.

THE LEADER IN ENVIRONMENTAL TESTING

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

ADDITIONAL INFORMATION:

Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2486

Sampled: 12/26/10-12/26/11 Received: 12/27/10

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

WATER, 1613B, Dioxins/Furans with Totals

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.

The method blank associated with this extraction batch has a detected concentration of OCDD above the reporting limit (RL) indicating a potential high bias in the data. After discussion with the client, the data is reported with a "B" flag and no further action is required for this sample.

The laboratory control sample (LCS) associated with this extraction batch has percent recoveries for 1,2,3,4,6,7,8-HpCDF and OCDD above the established control limits indicating a potential high bias in the data. It was determined that the cause of the elevated recoveries is due the spiking solution used for the LCS had concentrated. The QC Check data is included in the sample extraction section of the raw data. After discussion with the client, the data is reported and no further action is required for this sample.

LABORATORY ID	CLIENT ID	MATRIX
ITL2486-01	Outfall 009 (Grab)	Water
ITL2486-02	Outfall 009 (Comp)	Water
ITL2486-03	Trip Blank	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:

Debby Wilson

TestAmerica Irvine Debby Wilson Project Manager



MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2486

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

Sampled: 12/26/10-12/26/11 Received: 12/27/10

HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: ITL2486-01 (Outfall 009 (Gu	rab) - Water)				Sample	d: 12/26/10)		
Reporting Units: mg/l									
Hexane Extractable Material (Oil &	EPA 1664A	11A0059	1.3	4.7	ND	1	DA	01/03/11	
Grease)									

TestAmerica Irvine

THE LEADER IN ENVIRONMENTAL TESTING

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

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2486

Sampled: 12/26/10-12/26/11 Received: 12/27/10

METALS MDL Reporting Sample Dilution Date Data Qualifiers Analyte Method Batch Limit Limit Result Factor Analyst Analyzed Sample ID: ITL2486-02 (Outfall 009 (Comp) - Water) Sampled: 12/26/10 Reporting Units: ug/l EPA 245.1 0.10 0.20 ND Mercury 10L3468 1 DB 12/30/10 Antimony EPA 200.8 10L3064 0.30 2.0 1.6 RDC 12/29/10 1 Ja Cadmium EPA 200.8 10L3064 0.10 1.0 ND 1 RDC 12/29/10 Copper EPA 200.8 10L3064 0.500 2.00 4.16 RDC 12/29/10 1 Lead EPA 200.8 10L3064 0.20 1.0 2.4 1 RDC 12/29/10 Thallium EPA 200.8 ND RDC 12/29/10 10L3064 0.20 1.0 1

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2486

Sampled: 12/26/10-12/26/11 Received: 12/27/10

MDL Reporting Sample Dilution Date Data Qualifiers Analyte Method Batch Limit Limit Result Factor Analyzed Analyst Sample ID: ITL2486-02 (Outfall 009 (Comp) - Water) - cont. Sampled: 12/26/10 Reporting Units: ug/l 0.20 Mercury EPA 245.1-Diss 10L3474 0.10 ND 1 DB 12/30/10 Antimony EPA 200.8-Diss 10L3120 0.30 2.0 1.5 RDC 12/28/10 Ja 1 Cadmium EPA 200.8-Diss 10L3120 0.10 1.0 ND 1 RDC 12/28/10 Copper EPA 200.8-Diss 10L3120 0.500 2.00 3.50 RDC 12/28/10 1 Lead EPA 200.8-Diss 10L3120 0.20 1.0 0.38 1 RDC 12/28/10 Ja 12/28/10 Thallium EPA 200.8-Diss 10L3120 0.20 1.0 ND 1 RDC

DISSOLVED METALS

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2486

Sampled: 12/26/10-12/26/11 Received: 12/27/10

INORGANICS									
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: ITL2486-02 (Outfall 00	9 (Comp) - Water) - coi	nt.			Sample	ed: 12/26/1	0		
Reporting Units: mg/l									
Chloride	EPA 300.0	10L3000	0.25	0.50	5.1	1	KS	12/27/10	
Nitrate/Nitrite-N	EPA 300.0	10L3000	0.15	0.26	1.1	1	KS	12/27/10	
Sulfate	EPA 300.0	10L3000	0.20	0.50	7.8	1	KS	12/27/10	
Total Dissolved Solids	SM2540C	10L3089	1.0	10	62	1	DC	12/28/10	
Total Suspended Solids	SM 2540D	10L3355	1.0	10	19	1	DK	12/29/10	
Sample ID: ITL2486-02 (Outfall 00	9 (Comp) - Water)				Sample	ed: 12/26/1	0		
Reporting Units: ug/l									
Total Cyanide	SM4500CN-E	10L3114	2.2	5.0	ND	1	HH	12/28/10	

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Reporting Units: pCi/L

Uranium, Total

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CSS

1

01/20/11

U

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly	Repo	Project ID: rt Number:	Routine Outfall 009 2010 Routine Outfall 009 ITL2486			Sampled: Received:	12/26/10- 12/27/10	12/26/11	
			8651						
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: ITL2486-02 (Outfall 009 (Com Reporting Units: pCi/L	p) - Water) - co	ont.			Sample	ed: 12/26/10)		
Uranium, Total	8651	8651		1	0.126	1	CSS	01/20/11	Jb
Sample ID: ITL2486-03 (Trip Blank - Wat	ter)				Sample	ed: 12/26/11	L		

1

ND

8651

8651

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly	Project ID: Report Number:	Routine Outfall 009 2010 Routine Outfall 009 ITL2486	Sampled: Received:	12/26/10-12/26/11 12/27/10
		900		

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: ITL2486-02 (Outfall 009 (Comp) - Water)				Sample	ed: 12/26/10)		
Reporting Units: pCi/L									
Gross Alpha	900	8651		3	1.19	1	KT	01/06/11	Jb
Gross Beta	900	8651		4	2.66	1	KT	01/06/11	Jb
Sample ID: ITL2486-03 (Trip Blank - Wate	r)				Sample	ed: 12/26/11			
Reporting Units: pCi/L									
Gross Alpha	900	8651		3	-0.06	1	KT	01/14/11	U
Gross Beta	900	8651		4	-0.227	1	KT	01/14/11	U

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MWH-Pasadena/BoeingProject ID:Routine Outfall 009 2010618 Michillinda Avenue, Suite 200Routine Outfall 009Sampled:Arcadia, CA 91007Report Number:ITL 2486Received:Attention:Bronwyn KellyItl 2000

			901.1						
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: ITL2486-02 (Outfall 009 (Comp) - Water)				Sample	d: 12/26/10			
Reporting Units: pCi/L									
Cesium-137	901.1	8651		20	ND	1	LS	01/14/11	U
Potassium-40	901.1	8651		25	ND	1	LS	01/14/11	U
Sample ID: ITL2486-03 (Trip Blank - Water	r)				Sample	d: 12/26/11			
Reporting Units: pCi/L									
Cesium-137	901.1	8651		20	ND	1	LS	01/13/11	U
Potassium-40	901.1	8651		25	ND	1	LS	01/13/11	U

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly	I Repor	Project ID: t Number:	Routine Or Routine Or ITL2486	utfall 009 201 utfall 009	0		Sampled: Received:	12/26/10- 12/27/10	12/26/11
			903.1 mdl	Reporting	Sample	Dilution		Date	Data
Amaluta	Mathad	Datah	T :	I imit	Decult	Fastar	Amalwat	Analyzad	Qualifiare

Analyte	Method	Batch	Limit	Limit	Result	Factor	Analyst	Analyzed	Qualifiers
Sample ID: ITL2486-02 (Outfall 009 (Co	omp) - Water)				Sample	d: 12/26/10)		
Reporting Units: pCi/L					-				
Radium-226	903.1	8651		1	0.222	1	TM	01/22/11	U
Sample ID: ITL2486-03 (Trip Blank - W	Vater)				Sample	d: 12/26/1	l		
Reporting Units: pCi/L									
Radium-226	903.1	8651		1	0.193	1	TM	01/22/11	U

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THE LEADER IN ENVIRONMENTAL TESTING

Reporting Units: pCi/L

Radium-228

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ASM 01/26/11

U

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly	Repo	Project ID: ort Number:	Routine Ou Routine Ou ITL2486	utfall 009 201 utfall 009	0		Sampled: Received:	12/26/10-1 12/27/10	12/26/11
			904						
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: ITL2486-02 (Outfall 009 (Comp Reporting Units: pCi/L) - Water)				Sample	ed: 12/26/10)		
Radium-228	904	8651		1	0.008	1	ASM	01/24/11	U
Sample ID: ITL2486-03 (Trip Blank - Wate	r)				Sample	ed: 12/26/11			

1

-0.298

1

8651

904

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Sampled: 12/26/11

1

ASM

01/24/11

U

-0.025

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly	I Repor	Project ID: t Number:	Routine Ou Routine Ou ITL2486	utfall 009 201 utfall 009	0		Sampled: Received:	12/26/10-1 12/27/10	12/26/11
Analyte	Method	Batch	905 MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: ITL2486-02 (Outfall 009 (Co	omp) - Water)				Sample	ed: 12/26/1	0		
Strontium-90	905	8651		2	0.063	1	PAS	01/13/11	U

8651

2

Strontium-90	905
Sample ID: ITL2486-03 (Trip Blank - Water)	
Reporting Units: pCi/L	
Strontium-90	905

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly	Proje Report Nu	ect ID: mber:	Routine Or Routine Or ITL2486	utfall 009 201 utfall 009	0		Sampled: Received:	12/26/10-1 12/27/10	12/26/11
Analyte	Method	Batch	906 MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers

Sample ID: ITL2486-02 (Outfall 009 (Comp) -	- Water)			Sampled: 1	12/26/10			
Reporting Units: pCi/L								
Tritium	906	8651	500	82.7	1	JO	01/12/11	U

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THE LEADER IN ENVIRONMENTAL TESTING

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly 17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2486

EPA-5 1613Bx

Sampled: 12/26/10-12/26/11 Received: 12/27/10

MDL Sample Dilution Data Reporting Date Qualifiers Method Result Factor Analyte Batch Limit Limit Analyst Analyzed Sample ID: ITL2486-02 (Outfall 009 (Comp) - Water) - cont. Sampled: 12/26/10 Reporting Units: ug/L 0.98 1,2,3,4,6,7,8-HpCDD EPA-5 1613B 363256 0.00000085 0.00005 2.8e-005 MO 12/30/10 J, B 1,2,3,4,6,7,8-HpCDF EPA-5 1613B 363256 0.00000029 0.00005 7e-006 0.98 MO 12/30/10 J, B 1,2,3,4,7,8,9-HpCDF EPA-5 1613B 363256 0.00000038 0.00005 ND 0.98 MO 12/30/10 1,2,3,4,7,8-HxCDD EPA-5 1613B 363256 0.00000059 0.00005 ND 0.98 MO 12/30/10 EPA-5 1613B 363256 0.00000067 0.00005 ND 0.98 12/30/10 1,2,3,4,7,8-HxCDF MO EPA-5 1613B 363256 0.00000028 0.00005 8.9e-007 0.98 1,2,3,6,7,8-HxCDD MO 12/30/10 J, Q, B 1,2,3,6,7,8-HxCDF EPA-5 1613B 363256 0.0000003 0.00005 ND 0.98 MO 12/30/10 1,2,3,7,8,9-HxCDD EPA-5 1613B 363256 0.00000029 0.00005 1e-006 0.98 MO 12/30/10 J, Q, B 1,2,3,7,8,9-HxCDF EPA-5 1613B 363256 0.00000035 0.00005 ND 0.98 MO 12/30/10 1,2,3,7,8-PeCDD EPA-5 1613B 363256 0.0000012 0.00005 0.98 MO ND 12/30/10 363256 0.00000042 0.00005 0.98 1,2,3,7,8-PeCDF EPA-5 1613B ND MO 12/30/10 2,3,4,6,7,8-HxCDF EPA-5 1613B 363256 0.0000003 0.00005 ND 0.98 MO 12/30/10 2,3,4,7,8-PeCDF EPA-5 1613B 363256 0.00000049 0.00005 ND 0.98 MO 12/30/10 ND EPA-5 1613B 363256 0.00000037 0.00001 0.98 2,3,7,8-TCDD MO 12/30/10 363256 0.00000042 0.00001 2,3,7,8-TCDF EPA-5 1613B ND 0.98 MO 12/30/10 OCDD EPA-5 1613B 363256 0.00000082 0.0001 0.00049 0.98 MO 12/30/10 В OCDF EPA-5 1613B 363256 0.00000073 0.0001 2.8e-005 0.98 MO 12/30/10 J, B **Total HpCDD** EPA-5 1613B 363256 0.00000085 0.00005 6.1e-005 0.98 MO 12/30/10 J, B **Total HpCDF** EPA-5 1613B 363256 0.00000033 0.00005 1.8e-005 0.98 MO 12/30/10 J, Q, B **Total HxCDD** EPA-5 1613B 363256 0.0000003 0.00005 5.9e-006 0.98 MO 12/30/10 J, Q, B 363256 0.00000031 0.00005 **Total HxCDF** EPA-5 1613B 3.5e-006 0.98 MO 12/30/10 J, Q, B Total PeCDD 363256 0.0000012 0.00005 ND 0.98 12/30/10 EPA-5 1613B MO Total PeCDF 363256 0.00000042 0.00005 ND 0.98 MO 12/30/10 EPA-5 1613B Total TCDD EPA-5 1613B 363256 0.0000004 0.00001 ND 0.98 MO 12/30/10 Total TCDF EPA-5 1613B 363256 0.00000042 0.00001 ND 0.98 MO 12/30/10 Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%) 98 % Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%) 82 % Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%) 87% Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%) 74 % Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%) 72 % Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%) 90 % Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%) 74 % Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%) 69 % Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%) 80 % Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%) 80 % Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%) 72% Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%) 76 % Surrogate: 13C-2,3,7,8-TCDD (25-164%) 78 % Surrogate: 13C-2,3,7,8-TCDF (24-169%) 70% Surrogate: 13C-OCDD (17-157%) 78 % Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%) 89 %

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Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2486

Sampled: 12/26/10-12/26/11 Received: 12/27/10

EPA-5 1613Bx MDL Reporting Sample Dilution Date Data Qualifiers Analyte Method Batch Limit Limit Result Factor Analyzed Analyst Sample ID: ITL2486-02 (Outfall 009 (Comp) - Water) - cont. Sampled: 12/26/10 Reporting Units: ug/L

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2486

Sampled: 12/26/10-12/26/11 Received: 12/27/10

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SHORT HOLD TIME DETAIL REPORT

Sample ID: Outfall 009 (Comp) (ITL2486-02)	Hold Time (in days) - Water	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
EPA 300.0	2	12/26/2010 00:01	12/27/2010 08:15	12/27/2010 18:00	12/27/2010 19:44
Filtration	1	12/26/2010 00:01	12/27/2010 08:15	12/27/2010 20:50	12/27/2010 20:50

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Sampled: 12/26/10-12/26/11

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Sampled: 12/26/10-12/26/11 Received: 12/27/10

METHOD BLANK/QC DATA

HEXANE EXTRACTABLE MATERIAL

		Reporting		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 11A0059 Extracted: 01/03/11										
Blank Analyzed: 01/03/2011 (11A0059-Bl	L K1)									
Hexane Extractable Material (Oil & Grease)	ND	5.0	mg/l							
LCS Analyzed: 01/03/2011 (11A0059-BS1	l)									MNR1
Hexane Extractable Material (Oil & Grease)	20.8	5.0	mg/l	20.0		104	78-114			
LCS Dup Analyzed: 01/03/2011 (11A0059	9-BSD1)									
Hexane Extractable Material (Oil & Grease)	21.2	5.0	mg/l	20.0		106	78-114	2	11	

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Sampled: 12/26/10-12/26/11 Received: 12/27/10

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METHOD BLANK/QC DATA

METALS

Analyte	Reporting			Spike Source	Source		%REC		RPD	Data
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 10L3064 Extracted: 12/28/10										
Blank Analyzed: 12/29/2010 (10L3064-	BLK1)									
Antimony	ND	2.0	ug/l							
Cadmium	ND	1.0	ug/l							
Copper	ND	2.00	ug/l							
Lead	ND	1.0	ug/l							
Thallium	ND	1.0	ug/l							
LCS Analyzed: 12/29/2010 (10L3064-B	S1)									
Antimony	84.8	2.0	ug/l	80.0		106	85-115			
Cadmium	83.4	1.0	ug/l	80.0		104	85-115			
Copper	83.9	2.00	ug/l	80.0		105	85-115			
Lead	83.4	1.0	ug/l	80.0		104	85-115			
Thallium	85.9	1.0	ug/l	80.0		107	85-115			
Matrix Spike Analyzed: 12/29/2010 (10L3064-MS1)				Source: ITL2444-01						
Antimony	84.1	2.0	ug/l	80.0	ND	105	70-130			
Cadmium	78.9	1.0	ug/l	80.0	ND	99	70-130			
Copper	69.9	2.00	ug/l	80.0	0.843	86	70-130			
Lead	73.2	1.0	ug/l	80.0	ND	91	70-130			
Thallium	68.9	1.0	ug/l	80.0	ND	86	70-130			
Matrix Spike Analyzed: 12/29/2010 (10L3064-MS2)				Source: ITL2444-02						
Antimony	85.3	2.0	ug/l	80.0	ND	107	70-130			
Cadmium	81.7	1.0	ug/l	80.0	ND	102	70-130			
Copper	73.4	2.00	ug/l	80.0	0.584	91	70-130			
Lead	77.7	1.0	ug/l	80.0	ND	97	70-130			
Thallium	71.0	1.0	ug/l	80.0	ND	89	70-130			
Matrix Spike Dup Analyzed: 12/29/2010 (10L3064-MSD1)				Source: ITL2444-01						
Antimony	84.4	2.0	ug/l	80.0	ND	105	70-130	0.3	20	
Cadmium	80.6	1.0	ug/l	80.0	ND	101	70-130	2	20	
Copper	69.9	2.00	ug/l	80.0	0.843	86	70-130	0.05	20	
Lead	75.3	1.0	ug/l	80.0	ND	94	70-130	3	20	
Thallium	70.6	1.0	ug/l	80.0	ND	88	70-130	3	20	

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2486

Sampled: 12/26/10-12/26/11 Received: 12/27/10

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L3468 Extracted: 12/30/10										
Blank Analyzed: 12/30/2010 (10L3468-Bl	L K1)									
Mercury	ND	0.20	ug/l							
LCS Analyzed: 12/30/2010 (10L3468-BS1)									
Mercury	8.62	0.20	ug/l	8.00		108	85-115			
Matrix Spike Analyzed: 12/30/2010 (10L3	3468-MS1)				Source: I	TL2438-0	1			
Mercury	7.80	0.20	ug/l	8.00	ND	98	70-130			
Matrix Spike Dup Analyzed: 12/30/2010	(10L3468-M	(SD1)			Source: I	TL2438-0	1			
Mercury	7.94	0.20	ug/l	8.00	ND	99	70-130	2	20	

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Sampled: 12/26/10-12/26/11 Received: 12/27/10

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METHOD BLANK/QC DATA

DISSOLVED METALS

		Reporting		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 10L3120 Extracted: 12/28/10										
Blank Analyzed: 12/28/2010 (10L3120-I	BLK1)									
Antimony	ND	2.0	ug/l							
Cadmium	ND	1.0	ug/l							
Copper	ND	2.00	ug/l							
Lead	ND	1.0	ug/l							
Thallium	ND	1.0	ug/l							
LCS Analyzed: 12/28/2010 (10L3120-BS	51)									
Antimony	84.9	2.0	ug/l	80.0		106	85-115			
Cadmium	82.5	1.0	ug/l	80.0		103	85-115			
Copper	81.0	2.00	ug/l	80.0		101	85-115			
Lead	84.2	1.0	ug/l	80.0		105	85-115			
Thallium	83.0	1.0	ug/l	80.0		104	85-115			
Matrix Spike Analyzed: 12/28/2010 (10)	L3120-MS1)				Source: I	TL2486-0	2			
Antimony	83.9	2.0	ug/l	80.0	1.55	103	70-130			
Cadmium	80.1	1.0	ug/l	80.0	ND	100	70-130			
Copper	79.5	2.00	ug/l	80.0	3.50	95	70-130			
Lead	81.7	1.0	ug/l	80.0	0.379	102	70-130			
Thallium	82.3	1.0	ug/l	80.0	ND	103	70-130			
Matrix Spike Dup Analyzed: 12/28/2010) (10L3120-N	(ISD1)			Source: I	TL2486-0	2			
Antimony	84.5	2.0	ug/l	80.0	1.55	104	70-130	0.7	20	
Cadmium	81.2	1.0	ug/l	80.0	ND	102	70-130	1	20	
Copper	79.6	2.00	ug/l	80.0	3.50	95	70-130	0.2	20	
Lead	82.9	1.0	ug/l	80.0	0.379	103	70-130	1	20	
Thallium	83.9	1.0	ug/l	80.0	ND	105	70-130	2	20	

TestAmerica Irvine



MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2486

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

Sampled: 12/26/10-12/26/11 Received: 12/27/10

METHOD BLANK/QC DATA

DISSOLVED METALS

		Reporting		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 10L3474 Extracted: 12/30/10										
Blank Analyzed: 12/30/2010 (10L3474-Bl	L K1)									
Mercury	ND	0.20	ug/l							
LCS Analyzed: 12/30/2010 (10L3474-BS1)									
Mercury	8.08	0.20	ug/l	8.00		101	85-115			
Matrix Spike Analyzed: 12/30/2010 (10L	3474-MS1)				Source: I	TL2299-0	7			
Mercury	8.16	0.20	ug/l	8.00	ND	102	70-130			
Matrix Spike Dup Analyzed: 12/30/2010	(10L3474-M	ISD1)			Source: I	TL2299-0	7			
Mercury	8.23	0.20	ug/l	8.00	ND	103	70-130	0.9	20	

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Sampled: 12/26/10-12/26/11 Received: 12/27/10

METHOD BLANK/QC DATA

INORGANICS

		Reporting		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 10L3000 Extracted: 12/27/10										
Blank Analyzed: 12/27/2010 (10L3000-	BLK1)									
Chloride	ND	0.50	mg/l							
Nitrate/Nitrite-N	ND	0.26	mg/l							
Sulfate	ND	0.50	mg/l							
LCS Analyzed: 12/27/2010 (10L3000-B	S1)									
Chloride	4.51	0.50	mg/l	5.00		90	90-110			
Sulfate	9.05	0.50	mg/l	10.0		90	90-110			
Matrix Spike Analyzed: 12/27/2010 (10	L3000-MS1)				Source: I	TL2459-0	1			
Chloride	6.01	0.50	mg/l	5.00	1.62	88	80-120			
Sulfate	13.5	0.50	mg/l	10.0	4.49	90	80-120			
Matrix Spike Dup Analyzed: 12/27/201	0 (10L3000-M	(SD1)			Source: I	TL2459-0	1			
Chloride	6.15	0.50	mg/l	5.00	1.62	90	80-120	2	20	
Sulfate	14.1	0.50	mg/l	10.0	4.49	97	80-120	5	20	
Batch: 10L3089 Extracted: 12/28/10										
Blank Analyzed: 12/28/2010 (10L3089-)	BLK1)									
Total Dissolved Solids	ND	10	mg/l							
LCS Analyzed: 12/28/2010 (10L3089-B Total Dissolved Solids	S1) 992	10	mg/l	1000		99	90-110			
Duplicate Analyzed: 12/28/2010 (10L30	89-DUP1)				Source: I	TL2438-0	1			
Total Dissolved Solids	1650	10	mg/l		1630			2	10	

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Sampled: 12/26/10-12/26/11 Received: 12/27/10

METHOD BLANK/QC DATA

INORGANICS

		Reporting		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 10L3114 Extracted: 12/28/10										
Blank Analyzed: 12/28/2010 (10L3114-	BLK1)									
Total Cyanide	ND	5.0	ug/l							
LCS Analyzed: 12/28/2010 (10L3114-B	S1)									
Total Cyanide	190	5.0	ug/l	200		95	90-110			
Matrix Spike Analyzed: 12/28/2010 (10	L3114-MS1)				Source: I	TL2487-0	2			
Total Cyanide	188	5.0	ug/l	200	ND	94	70-115			
Matrix Spike Dup Analyzed: 12/28/201	0 (10L3114-N	ASD1)			Source: I	TL2487-0	2			
Total Cyanide	188	5.0	ug/l	200	ND	94	70-115	0.3	15	
Batch: 10L3355 Extracted: 12/29/10										
Blank Analyzed: 12/29/2010 (10L3355-	BLK1)									
Total Suspended Solids	ND	10	mg/l							
LCS Analyzed: 12/29/2010 (10L3355-B	S1)									
Total Suspended Solids	992	10	mg/l	1000		99	85-115			
Duplicate Analyzed: 12/29/2010 (10L33	55-DUP1)				Source: I	TL2438-0	9			
Total Suspended Solids	34.0	10	mg/l		34.0			0	10	

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Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2486

Sampled: 12/26/10-12/26/11 Received: 12/27/10

METHOD BLANK/QC DATA

EPA-5 1613Bx

		Reporting		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 363256 Extracted: 12/29/10										
Blank Analyzed: 12/30/2010 (G0L29	0000256B)				Source:					
1,2,3,4,6,7,8-HpCDD	1.7e-005	0.00005	ug/L				-			J
1,2,3,4,6,7,8-HpCDF	4.2e-006	0.00005	ug/L				-			J, Q
1,2,3,4,7,8,9-HpCDF	ND	0.00005	ug/L				-			
1,2,3,4,7,8-HxCDD	ND	0.00005	ug/L				-			
1,2,3,4,7,8-HxCDF	9.5e-007	0.00005	ug/L				-			J, Q
1,2,3,6,7,8-HxCDD	ND	0.00005	ug/L				-			
1,2,3,6,7,8-HxCDF	ND	0.00005	ug/L				-			
1,2,3,7,8,9-HxCDD	1.3e-006	0.00005	ug/L				-			J, Q
1,2,3,7,8,9-HxCDF	ND	0.00005	ug/L				-			
1,2,3,7,8-PeCDD	ND	0.00005	ug/L				-			
1,2,3,7,8-PeCDF	ND	0.00005	ug/L				-			
2,3,4,6,7,8-HxCDF	ND	0.00005	ug/L				-			
2,3,4,7,8-PeCDF	ND	0.00005	ug/L				-			
2,3,7,8-TCDD	ND	0.00001	ug/L				-			
2,3,7,8-TCDF	ND	0.00001	ug/L				-			
OCDD	0.00044	0.0001	ug/L				-			
OCDF	2.1e-005	0.0001	ug/L				-			J, Q
Total HpCDD	3.6e-005	0.00005	ug/L				-			J
Total HpCDF	1.4e-005	0.00005	ug/L				-			J, Q
Total HxCDD	1.3e-006	0.00005	ug/L				-			J, Q
Total HxCDF	2e-006	0.00005	ug/L				-			J, Q
Total PeCDD	ND	0.00005	ug/L				-			
Total PeCDF	ND	0.00005	ug/L				-			
Total TCDD	ND	0.00001	ug/L				-			
Total TCDF	ND	0.00001	ug/L				-			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.0019		ug/L	0.002		96	23-140			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0016		ug/L	0.002		80	28-143			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.0017		ug/L	0.002		87	26-138			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.0015		ug/L	0.002		74	32-141			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.0014		ug/L	0.002		70	26-152			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.0018		ug/L	0.002		89	28-130			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.0014		ug/L	0.002		71	26-123			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.0014		ug/L	0.002		68	29-147			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.0016		ug/L	0.002		79	25-181			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.0016		ug/L	0.002		80	24-185			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.0015		ug/L	0.002		73	28-136			

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2486

Sampled: 12/26/10-12/26/11 Received: 12/27/10

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

METHOD BLANK/QC DATA

EPA-5 1613Bx

		Reporting	3	Spike	Spike Source		%REC	C 1	RPD	Data
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 363256 Extracted: 12/29/10										
Blank Analyzed: 12/30/2010 (G0L29	0000256B)				Source:					
Surrogate: 13C-2,3,4,7,8-PeCDF	0.0015		ug/L	0.002		75	21-178			
Surrogate: 13C-2,3,7,8-TCDD	0.0015		ug/L	0.002		73	25-164			
Surrogate: 13C-2,3,7,8-TCDF	0.0013		ug/L	0.002		64	24-169			
Surrogate: 13C-OCDD	0.0031		ug/L	0.004		78	17-157			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.00077		ug/L	0.0008		96	35-197			
LCS Analyzed: 12/30/2010 (G0L2900	000256C)				Source:					
1,2,3,4,6,7,8-HpCDD	0.00116	0.00005	ug/L	0.001		116	70-140			
1,2,3,4,6,7,8-HpCDF	0.00125	0.00005	ug/L	0.001		125	82-122			а
1,2,3,4,7,8,9-HpCDF	0.0012	0.00005	ug/L	0.001		120	78-138			
1,2,3,4,7,8-HxCDD	0.00126	0.00005	ug/L	0.001		126	70-164			
1,2,3,4,7,8-HxCDF	0.00113	0.00005	ug/L	0.001		113	72-134			
1,2,3,6,7,8-HxCDD	0.00108	0.00005	ug/L	0.001		108	76-134			
1,2,3,6,7,8-HxCDF	0.00118	0.00005	ug/L	0.001		118	84-130			
1,2,3,7,8,9-HxCDD	0.0012	0.00005	ug/L	0.001		120	64-162			
1,2,3,7,8,9-HxCDF	0.00121	0.00005	ug/L	0.001		121	78-130			
1,2,3,7,8-PeCDD	0.00118	0.00005	ug/L	0.001		118	70-142			
1,2,3,7,8-PeCDF	0.00113	0.00005	ug/L	0.001		113	80-134			
2,3,4,6,7,8-HxCDF	0.00117	0.00005	ug/L	0.001		117	70-156			
2,3,4,7,8-PeCDF	0.00112	0.00005	ug/L	0.001		112	68-160			
2,3,7,8-TCDD	0.000227	0.00001	ug/L	0.0002		114	67-158			
2,3,7,8-TCDF	0.000218	0.00001	ug/L	0.0002		109	75-158			
OCDD	0.00297	0.0001	ug/L	0.002		149	78-144			а
OCDF	0.00208	0.0001	ug/L	0.002		104	63-170			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.002		ug/L	0.002		100	26-166			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.00166		ug/L	0.002		83	21-158			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.00183		ug/L	0.002		92	20-186			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.00144		ug/L	0.002		72	21-193			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00134		ug/L	0.002		67	19-202			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00168		ug/L	0.002		84	25-163			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.00135		ug/L	0.002		67	21-159			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.00139		ug/L	0.002		70	17-205			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00165		ug/L	0.002		82	21-227			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00162		ug/L	0.002		81	21-192			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.00139		ug/L	0.002		70	22-176			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00154		ug/L	0.002		77	13-328			

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly 17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2486

Sampled: 12/26/10-12/26/11 Received: 12/27/10

METHOD BLANK/QC DATA

EPA-5 1613Bx

		Reporting		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 363256 Extracted: 12/29/10	<u>_</u>									
LCS Analyzed: 12/30/2010 (G0L29	0000256C)				Source:					
Surrogate: 13C-2,3,7,8-TCDD	0.00144		ug/L	0.002		72	20-175			
Surrogate: 13C-2,3,7,8-TCDF	0.00125		ug/L	0.002		63	22-152			
Surrogate: 13C-OCDD	0.00348		ug/L	0.004		87	13-199			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.000761		ug/L	0.0008		95	31-191			

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2486

Sampled: 12/26/10-12/26/11 Received: 12/27/10

Compliance Check

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

						Compliance
<u>LabNumber</u>	Analysis	Analyte	Units	Result	MRL	Limit
ITL2486-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0	4.7	15

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.

LahNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
Lubi (umber	2 kmar y 515	T mary te	Cints	Result		Emm
ITL2486-02	Cadmium-200.8	Cadmium	ug/l	0.071	1.0	3.1
ITL2486-02	Chloride - 300.0	Chloride	mg/l	5.11	0.50	150
ITL2486-02	Copper-200.8	Copper	ug/l	4.16	2.00	14
ITL2486-02	Lead-200.8	Lead	ug/l	2.43	1.0	5.2
ITL2486-02	Nitrogen, NO3+NO2 -N EPA 300.0) Nitrate/Nitrite-N	mg/l	1.09	0.26	8
ITL2486-02	Sulfate-300.0	Sulfate	mg/l	7.78	0.50	300
ITL2486-02	TDS - SM2540C	Total Dissolved Solids	mg/l	62	10	950

Compliance Check

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

						Compliance
LabNumber	Analysis	Analyte	Units	Result	MRL	Limit



MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2486

Sampled: 12/26/10-12/26/11 Received: 12/27/10

DATA QUALIFIERS AND DEFINITIONS

- **a** Spiked analyte recovery is outside stated control limits.
- **B** 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 Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
 Jb The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
- 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.
- ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- **RPD** Relative Percent Difference

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Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2486

Sampled: 12/26/10-12/26/11 Received: 12/27/10

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EDD + Level 4	Water	N/A	N/A
EPA 1664A	Water	Х	Х
EPA 200.8-Diss	Water	Х	Х
EPA 200.8	Water	Х	Х
EPA 245.1-Diss	Water	Х	Х
EPA 245.1	Water	Х	Х
EPA 300.0	Water	Х	Х
Filtration	Water	N/A	N/A
SM 2540D	Water	Х	Х
SM2540C	Water	Х	
SM4500CN-E	Water	Х	Х

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

Subcontracted Laboratories

TestAmerica Irvine

<u>TestAmerica</u>

THE LEADER IN ENVIRONMENTAL TESTING

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

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec Samples: ITL2486-02

Samples: ITL2486-03

Analysis Performed: Gross Alpha Samples: ITL2486-02

Samples: ITL2486-03

Analysis Performed: Gross Beta Samples: ITL2486-02

Samples: ITL2486-03

- Analysis Performed: Level 4 Data Package Samples: ITL2486-02
- Analysis Performed: Radium, Combined Samples: ITL2486-02

Samples: ITL2486-03

Analysis Performed: Strontium 90 Samples: ITL2486-02

Samples: ITL2486-03

- Analysis Performed: Tritium Samples: ITL2486-02
- Analysis Performed: Uranium, Combined Samples: ITL2486-02

Samples: ITL2486-03

TestAmerica Irvine

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

Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2486

Sampled: 12/26/10-12/26/11 Received: 12/27/10

<u>TestAmerica</u>

THE LEADER IN ENVIRONMENTAL TESTING

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2486

Sampled: 12/26/10-12/26/11 Received: 12/27/10

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

TestAmerica Buffalo

10 Hazelwood Drive, Suite 106 - Amherst, NY 14228

Method Performed: 8651 Samples: ITL2486-02, ITL2486-03

- Method Performed: 900 Samples: ITL2486-02, ITL2486-03
- Method Performed: 901.1 Samples: ITL2486-02, ITL2486-03
- Method Performed: 903.1 Samples: ITL2486-02, ITL2486-03
- Method Performed: 904 Samples: ITL2486-02, ITL2486-03
- Method Performed: 905 Samples: ITL2486-02, ITL2486-03
- Method Performed: 906 Samples: ITL2486-02

TestAmerica West Sacramento *NELAC Cert #1119CA, Nevada Cert #CA44* 880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B Samples: ITL2486-02

TestAmerica Irvine

Test Am	erice	A Version		0 102- 6		บิ	HAI	HO 7	SUS:	зтор	Υ FC	RM		<i>i</i> 1	Ń	12	24	R	Page 1 of 2	
Client Name/Addr	ess:			Project:									ANA	LYSIS F	REQUIR	ED				
MWH-Arcadia 618 Michillinda Av Arcadia. CA 9100	/e, Suit)7	te 200		Boeing-SSFL Routine Outfi GRAB	NPDES ali 009				·····	····									Field readings: // od in and include in	
Test America Con	tot.	W vy	ileon	Stormwater at	2-5-7	M													report Temp and pH)	
	-	i faan	202			l	EM)									-			Temp "F = 78 %	
Droioot Monager:		an Kally		Dhone Numbe			H-4								_				PH= 7.6	
		vyıt Nelly		(626) 568-669			99L)				-								Time of readings =	
Sampler: P.'C.)	5	ande	3	Fax Number: (626) 568-651	5		essenD										5		08:00	
Sample Sa Description Mi	mple atrix	Container Type	* Ö	t. Sampling tt. Date/Time	Preservative	Bottle #	8 I!O										-		Comments	
Outfall 009	3	1L Amber	2	30.30°	HCI ACI	1A, 1B	×													
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Relinquished Bv	Ę	ese San	Date Date	are the Grab P	ortion of (Dutfall 009 ft	or this	storm	event.	Compo: te/Time:	site san	nples /	Turn-aroun	d time: (Ch	are to b	e addec	d to this	work o	rder.	
Purling	R			91-10/		July	K	"rel	: Z \{	1-97.	0		24 Hour:			72 Hour:	[]		10 Day:	
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CHAIN OF CUSTODY FORM

Page 2 of 2

		-	Comments										Filter w/in 24hrs of receipt at lab	Unfiltered and unpreserved	analysis	Only test if first or second rain events of the year	<		くてもの	N/1-1/12	N.N.Y		•			Normal:		(500	NPDES Level IV:
JIRED						-												-						me event.	leck)	5 Day:		eck)	on Ice:	Check) All Level IV:
ANALYSIS REQU	(pungi)	ו ניח	pa			əpi	insyJ										×						for this storm event	Outfall 009 for the sa	Turn-around time: (Ch	24 Hour:		Sample Integrity. (Ch	Intact:	35 Data Requirements: (No Level IV:
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roject:	Soeing-SSFL N Soutine Outfall SOMPOSITE →	stormwater at € Ø		hone Number	626) 568-6691	^z ax Number: (626) 568-6515	Sampling Date/Time	12-26-201	1000						-0	0105-95-51	1000							The	B. Jard	302		· [-]	Г Х	ë
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Idress:	ia Ave, S 1007	Contact		er: Bro	k Q	2	Sample Matrix	3	3	N	3	3	3	:	3	3	3									N.		$\overline{7}$	Ŋ	
Client Name/Ac	MWH-Arcad 618 Michillinda Arcadia, CA 91	Test America C		Project Manage	Q	Sampler: Ro	Sample Description	Outfall 009	Outfall 009 Dup	Outfall 009	Outfall 009	Outfall 009	Outfall 009		Outfall 009	Outfall 009	Outfall 009								Relinquished By	0 	Relinquish d B	T T		Relinquished by

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CHAIN OF CUSTODY FORM

Page 2 of 2

								Comments											Filter w/in 24hrs of receipt at lab	Unfiltered and unpreserved	analysis	Only test if first or second rain events of the year			N.T.10	A.W. N		~				10 Day:	Normal:		0 0	ーン	
REQUIRED											-																		vent.	the same event.	time: (Check)	72 Hour:	5 Day:		niy: (Crieck) On Ice:		(deed) interest
ANAI YSIS							(L')	106 J	0.0.	V100) 78	Sr-S T oir fde	Cyani Chror									×	×						utfall 009 for this storm e	of 2 for Outfall 009 for	17/10 Turn-around	C 1 24 Hour.	1 300 48 Hour.		Intact:	T (
			K- (19) (19) (19) (19) (19) (19) (19) (19)	d9 . 0.0 1.50	, u.C.	(906) (906) (906)) ,di	S :sls Gros ,, Sr-6 , Sr-6 , Sr-6 , Ura	Mets Nets Nets Nets	1 ba	28 10 10 10 10 10 10 10 10 10 10 10 10 10	227 227 221 225 225 225 225 225 225 225 225 225	TDS, TDS, Hg, T Gross Gross Gross Tritiur					×	×	,	<								mposite Samples for Ou	rk order for COC Page 1	Date/Tife: 17	h. /	XCY	Date/Time:		Date/Time:	
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Project.	- IUJeci.	Boeing-SSFL NPDE	Soutine Outfall 009		Stormwater at SW-	SVI			Phone Number:	626) 568-6691	Tax Number:	(626) 568-6515	Sampling Pres	12-26-20 H	H /000	z	z	z	Z	z	0	N 0/05-97-71	2 000							These n	DIDC -2		0.051				
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			Suite 200			: Debby Wils			nwvn Kelly	1 2420		(1)	Container Type	1L Poly	1L Poly	1L Amber	500 mL Poly	500 mL Poly	1L Poly	2.5 Gal Cube	500 mL Amber	1 Gal Poly	500 mL Poly										5		, L		
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Client Name/A	Client Name/F	MNNH_Arcar	NIVIT-MUCA 618 Michillind:	Arcadia CA 5		Test America			Project Manac		Samular.	N KK	Sample Description	Outfall 009	Outfall 009 Dup	Outfall 009	Outfall 009	Outfall 009	Outfall 009		Outfall 009	Outfall 009	Outfall 009								Relinquished By	<u>\</u>	m	Relinquish d B	X	Relinquished By	\ /

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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

February 5, 2011

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

Reference: Test America-Irvine ITL2486 Eberline Analytical Report S120366-8651 Sample Delivery Group 8651

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for two water samples received under Test America Job No. ITL2272. The sample was received on December 29, 2010.

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

Sincerely,

N. Joseph Verville ^l Client Services Manager

RM/ljb

Enclosure: Level IV CLP-like Data Package CD

Case Narrative, page 1

1.0 General Comments

Sample delivery group 8651 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 sample was 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 sample as received i.e. the sample was 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 volume.

2.0 Quality Control

For efficiency of analysis, sample ITL2486-02 was analyzed in a common prep batch with other TA samples. The QC samples from that common prep batch were assigned to SDG 8654 and are reported herein. For efficiency of analysis, sample ITL2486-02 (TRIP-BLANK) was analyzed in a common prep batch with other TA samples. The QC samples from that common prep batch were assigned to SDG 8657 and are reported herein. Quality Control Samples consisted of laboratory control samples (LCS), method blanks, duplicate analyses and matrix spike 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 2^{σ} 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%

Case Narrative, page 2

February 5, 2011

Analysis Notes

- **3.1 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 -** The Sr-90 MDA in the QC Method blank is 2.02 pCi/L, greater than the required detection limit of 2.00 pCi/L. 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** The K-40 MDA for sample ITL2489-03 (53.7 pCi/L) and the duplicate of sample ITL2489-03 (53.7 pCi/L) were greater than the required detection limit of 25 pCi/L, due to an elevated K40 background in the ROI for K40 on the detector used for analysis. The K-40 MDA for the duplicate of sample ITL2724-02 (28.0 pCi/L) and sample ITL2486-02 (TRIP-BLANK) (26.1 pCi/L) were greater than the required detection limit of 25 pCi/L. No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

Eberline Analytical Report No. S012366-8651 Test America Test America Job No. ITL2486

Case Narrative, page 3

February 5, 2011

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."

V. N. Joseph Verville

Client Services Manager

SDG	8651
Contact	N. Joseph Verville

Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>

SUMMARY DATA SECTION

TABLE OF	со	N T	EN	ΤS	
About this section	•	•	•	•	[.] 1
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Lab Control Samples	•	•	•	•	11
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Lab id	EAS
Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-TOC
Version	3.06
Report date	02/05/11

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SDG	86!	51	
Contact	N.	Joseph	Verville

REPORT GUIDE

Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>

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	<u>Ver 1.0</u>
Form	DVD-RG
Version	3.06
Report date	02/05/11

SDG 8651

SDG	8651
Contact	N. Joseph Verville

GUIDE, cont.

Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>

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.

Lab id	EAS
Protocol	<u>TA</u>
Version	<u>Ver 1.0</u>
Form	DVD-RG
Version	3.06
Report date	02/05/11

REPORT GUIDES Page 2 SUMMARY DATA SECTION Page 2

SDG 8651

SDG <u>8651</u>

Contact N. Joseph Verville

LAB SAMPLE SUMMARY

Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S012366-01	ITL2486-02	Boeing - SSFL	WATER			ITL2486	12/26/10 00:01
S012366-02	ITL2486-02 (TRIP-BLANK)	Boeing - SSFL	WATER			ITL2486	12/26/10 00:01
S012369-03	Lab Control Sample		WATER				
S012369-04	Method Blank		WATER				
S012369-05	Duplicate (S012369-01)	Boeing - SSFL	WATER				12/26/10 08:58
S101004-02	Lab Control Sample		WATER				
S101004-03	Method Blank		WATER				
S101004-04	Duplicate (S101004-01)	Boeing - SSFL	WATER				12/30/10 02:55

Lab id <u>EAS</u> Protocol <u>TA</u> Version <u>Ver 1.0</u> Form <u>DVD-LS</u> Version <u>3.06</u> Report date <u>02/05/11</u>

LAB SUMMARY Page 1 SUMMARY DATA SECTION Page 3

SDG <u>8651</u> Contact <u>N. Joseph Verville</u>

SDG 8651

QC SUMMARY

Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS S	COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
8651	ITL2486	ITL2486-02 ITL2486-02 (TRIP-BLANK)	WATER		10.0 L 10.0 L		12/29/10 12/29/10	3 3	S012366-01 S012366-02	8651-001 8651-002
8654		Method Blank Lab Control Sample Duplicate (S012369-01)	WATER WATER WATER		10.0 L		12/29/10	3	S012369-04 S012369-03 S012369-05	8654-004 8654-003 8654-005
8657		Method Blank Lab Control Sample Duplicate (S101004-01)	WATER WATER WATER		10.0 L		12/31/10	1	S101004-03 S101004-02 S101004-04	8657-003 8657-002 8657-004

Lab id	EAS
Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-QS
Version	3.06
Report date	02/05/11

QC SUMMARY Page 1 SUMMARY DATA SECTION Page 4

SDG 8651

SDG <u>8651</u>

Contact N. Joseph Verville

PREP BATCH SUMMARY

Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>

			PREPARATION ERROR		PLANCHETS ANALYZED						QUALI-
TEST	MATRIX	METHOD	BATCH	20 ¥	CLIENT	MORE	RE	BLANK	LCS	DUP/ORIG MS/ORIG	FIERS
Beta	Counting										-
AC	WATER	Radium-228 in Water	7271-037	10.4	1			1	1	1/0/1	
			7271-039	10.4	1			l	1	1/0/1	
SR	WATER	Strontium-90 in Water	7271-037	10.4	1			l	1	1/0/1	
			7271-039	10.4	1			1	1	1/0/1	
Gas P	roportiona	al Counting	,								
80A	WATER	Gross Alpha in Water	7271-037	20.6	1			1	1	1/0/1 ·	
			7271-039	20.6	1			1	1	1/0/1	
80B	WATER	Gross Beta in Water	7271-037	11.0	1			1	1	1/0/1	
			7271-039	11.0	1			1	1	1/0/1	
Gamma	Spectros	сору									
GAM	WATER	Gamma Emitters in Water	7271-037	7.0	1			l	1	1/0/1	
			7271-039	7.0	1			1	1	1/0/1	
Kinet	ic Phosph	orimetry, ug									
U_T	WATER	Uranium, Total	7271-037		1			1	1	1/0/1	
			7271-039		1			1	1	1/0/1	
Liqui	d Scintil	lation Counting									
н	WATER	Tritium in Water	7271-037	10.0	1			1	1	1/0/1	
Rador	Counting										
RA	WATER	Radium-226 in Water	7271-037	16.4	1			1	1	1/0/1	
			7271-039	16.4	l			1	1	1/0/1	

Blank, LCS, Duplicate and Spike planchets are those in the same preparation batch as some Client sample. In counts like 'a/b/c', 'a' = QC planchets, 'b' = Originals in this SDG, 'c' = Originals in other SDGs.

PREP BATCH SUMMARY
Page 1
SUMMARY DATA SECTION
Page 5

Lab id	EAS
Protocol	<u>TA</u>
Version	<u>Ver 1.0</u>
Form	DVD-PBS
Version	3.06
Report date	02/05/11

SDG 8651

SDG <u>8651</u> Contact <u>N. Joseph Verville</u>

LAB WORK SUMMARY

Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>

LAB SAMPLE	CLIENT SAMPLE ID								
COLLECTED	LOCATION	MATRIX			SUF-				
RECEIVED	CUSTODY S	SAS no	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD
5012366-01	ITL2486-02		8651-001	80A/80		01/06/11	01/07/11	BW	Gross Alpha in Water
12/26/10	Boeing - SSFL	WATER	8651-001	80B/80		01/06/11	01/07/11	BW	Gross Beta in Water
12/29/10	ITL2486 -		8651-001	AC		01/24/11	01/25/11	BW	Radium-228 in Water
,,			8651-001	GAM		01/14/11	01/17/11	MWT	Gamma Emitters in Water
			8651-001	н		01/12/11	01/18/11	BW	Tritium in Water
			8651-001	RA		01/22/11	01/24/11	BW	Radium-226 in Water
			8651-001	SR		01/13/11	01/25/11	BW	Strontium-90 in Water
			8651-001	U_T		01/20/11	01/24/11	BW	Uranium, Total
8012366-02	TTL2486-02 (TRIP-	-BLANK)	8651-002	80A/80		01/14/11	01/17/11	BW	Gross Alpha in Water
12/26/10	Boeing - SSFL	WATER	8651-002	80B/80		01/14/11	01/17/11	BW	Gross Beta in Water
12/29/10	ITL2486		8651-002	AC		01/26/11	01/31/11	BW	Radium-228 in Water
			8651-002	GAM		01/13/11	01/31/11	MWT	Gamma Emitters in Water
			8651-002	RA		01/22/11	01/28/11	BW	Radium-226 in Water
			8651-002	SR		01/24/11	01/31/11	BW	Strontium-90 in Water
			8651-002	U_T		01/20/11	01/24/11	BW	Uranium, Total
5012369-03	Lab Control Samp	le	8654-003	80A/80		01/06/11	01/07/11	BW	Gross Alpha in Water
2000000		WATER	8654-003	80B/80		01/06/11	01/07/11	BW	Gross Beta in Water
			8654-003	AC		01/24/11	01/25/11	BW	Radium-228 in Water
			8654-003	GAM		01/05/11	01/11/11	MWT	Gamma Emitters in Water
			8654-003	н		01/12/11	01/18/11	BW	Tritium in Water
			8654-003	RA		01/22/11	01/24/11	BW	Radium-226 in Water
			8654-003	SR		01/13/11	01/25/11	BW	Strontium-90 in Water
			8654-003	U_T		01/20/11	01/24/11	BW	Uranium, Total
5012369-04	Method Blank	1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 -	8654-004	80A/80		01/06/11	01/07/11	BW	Gross Alpha in Water
		WATER	8654-004	80B/80		01/06/11	01/07/11	BW	Gross Beta in Water
			8654-004	AC		01/24/11	01/25/11	BW	Radium-228 in Water
			8654-004	GAM		01/05/11	01/11/11	MWT	Gamma Emitters in Water
			8654-004	н		01/12/11	01/18/11	BW	Tritium in Water
			8654-004	RA		01/22/11	01/24/11	BW	Radium-226 in Water
			8654-004	SR		01/13/11	01/25/11	BW	Strontium-90 in Water
			8654-004	U_T		01/20/11	01/24/11	BW	Uranium, Total

Lab id <u>EAS</u> Protocol <u>TA</u> Version <u>Ver 1.0</u> Form <u>DVD-LWS</u> Version <u>3.06</u> Report date <u>02/05/11</u>

WORK SUMMARY Page 1 SUMMARY DATA SECTION Page 6

SDG 8651

SDG <u>8651</u> Contact <u>N. Joseph Verville</u>

WORK SUMMARY, cont.

Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>

LAB SAMPLE	CLIENT SAMPLE ID								
COLLECTED	LOCATION	MATRIX			SUF-				
RECEIVED	CUSTODY SAS no		PLANCHET	TEST	FIX	ANALYZED	REVIEWED	ВҮ	METHOD
S012369-05	Duplicate (S012369-01)		8654-005	80A/80		01/06/11	01/07/11	BW	Gross Alpha in Water
12/26/10	Boeing - SSFL	WATER	8654-005	80B/80		01/06/11	01/07/11	BW	Gross Beta in Water
12/29/10			8654-005	AC		01/24/11	01/25/11	BW	Radium-228 in Water
			8654-005	GAM		01/05/11	01/11/11	MWT	Gamma Emitters in Water
			8654-005	Н		01/12/11	01/18/11	BW	Tritium in Water
			8654-005	RA		01/22/11	01/24/11	BW	Radium-226 in Water
			8654-005	SR		01/13/11	01/25/11	BW	Strontium-90 in Water
			8654-005	U_T		01/20/11	01/24/11	BW	Uranium, Total
S101004-02	Lab Control Sample		8657-002	80A/80		01/11/11	01/12/11	BW	Gross Alpha in Water
		WATER	8657-002	80B/80		01/11/11	01/12/11	BW	Gross Beta in Water
			8657-002	AC		01/26/11	01/31/11	BW	Radium-228 in Water
			8657-002	GAM		01/10/11	01/31/11	MWT	Gamma Emitters in Water
			8657-002	RA		01/21/11	01/24/11	BW	Radium-226 in Water
			8657-002	SR		01/26/11	01/31/11	BW	Strontium-90 in Water
			8657-002	U_T		01/20/11	01/24/11	BW	Uranium, Total
	Method Blank		8657-003	80A/80		01/11/11	01/12/11	BW	Gross Alpha in Water
		WATER	8657-003	80B/80		01/11/11	01/12/11	BW	Gross Beta in Water
			8657-003	AC		01/26/11	01/31/11	BW	Radium-228 in Water
			8657-003	GAM		01/10/11	01/31/11	MWT	Gamma Emitters in Water
			8657-003	RA		01/21/11	01/24/11	BW	Radium-226 in Water
			8657-003	SR		01/26/11	01/31/11	BW	Strontium-90 in Water
			8657-003	U_T	÷	01/20/11	01/24/11	BW	Uranium, Total
	Duplicate (S101004-01)	*****	8657-004	80A/80		01/11/11	01/12/11	BW	Gross Alpha in Water
12/30/10	Boeing - SSFL	WATER	8657-004	80B/80		01/11/11	01/12/11	BW	Gross Beta in Water
12/31/10	-		8657-004	AC		01/26/11	01/31/11	BW	Radium-228 in Water
			8657-004	GAM		01/11/11	01/31/11	MWT	Gamma Emitters in Water
			8657-004	RA		01/21/11	01/24/11	BW	Radium-226 in Water
			8657-004	SR		01/26/11	01/31/11	BW	Strontium-90 in Water
			8657-004	U_T		01/20/11	01/24/11	BW	Uranium, Total

Lab id	EAS
Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-LWS
Version	3.06
Report date	02/05/11

WORK SUMMARY Page 2 SUMMARY DATA SECTION Page 7

SDG 8651

SDG <u>8651</u> Contact <u>N. Joseph Verville</u>

WORK SUMMARY, cont.

Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>

TEST	SAS no	COUNTS METHOD	OF TESTS REFERENCE	BY	SAMPLE TYPE CLIENT MORE	RE	BLANK	LCS	DUP SPIKE	TOTAL
80A/80		Gross Alpha in Water	900.0		2		2	2	2	8
80B/80		Gross Beta in Water	900.0		2		2	2	2	8
AC		Radium-228 in Water	904.0		2		2	2	2	8
GAM		Gamma Emitters in Water	901.1		2		2	2	2	8
н		Tritium in Water	906.0		1		1	1	1	4
RA		Radium-226 in Water	903.1		2		2	2	2	8
SR		Strontium-90 in Water	905.0		2		2	2	2	8
U_T		Uranium, Total	D5174		2		2	2	2	8
TOTALS					15		15	15	15	60

Lab id <u>EAS</u> Protocol <u>TA</u> Version <u>Ver 1.0</u> Form <u>DVD-LWS</u> Version <u>3.06</u> Report date <u>02/05/11</u>

WORK SUMMARY Page 3 SUMMARY DATA SECTION Page 8

8654-004

Method Blank

METHOD BLANK

SDG <u>8651</u>	Client	<u>Test America, Inc.</u>	
Contact <u>N. Joseph Verville</u>	Contract	ITL2486	
Lab sample id <u>S012369-04</u> Dept sample id <u>8654-004</u>	Client sample id Material/Matrix	Method Blank	WATER

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	0.205	0.31	0.492	3.00	U	80A
Gross Beta	12587472	-0.321	0.59	0.999	4.00	U	80B
Tritium	10028178	22.6	160	272	500	υ	H
Radium-226	13982633	0.034	0.34	0.640	1.00	U	RA
Radium-228	15262201	-0.118	0.17	0.473	1.00	υ	AC
Strontium-90	10098972	0.064	0.30	0.666	2.00	U	SR
Uranium, Total		0	0.007	0.017	1.00	U	U_T
Potassium-40	13966002	U		20.1	25.0	υ	GAM
Cesium-137	10045973	U		1.73	20.0	υ	GAM

QC-BLANK #76729

Lab id	EAS
Protocol	<u>TA</u>
Version	<u>Ver 1.0</u>
Form	DVD-DS
Version	3.06
Report date	02/05/11

METHOD BLANKS Page 1 SUMMARY DATA SECTION Page 9

8657-003

Method Blank

METHOD BLANK

SDG <u>8651</u>	Client	<u>Test America, Inc.</u>	
Contact <u>N. Joseph Verville</u>	Contract	ITL2486	
Lab sample id <u>S101004-03</u> Dept sample id <u>8657-003</u>	Client sample id Material/Matrix	Method Blank WATER	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	0.035	0.30	0.620	3.00	U	80A
Gross Beta	12587472	-0.211	0.63	1.11	4.00	υ	80B
Tritium	10028178	N.A.			500		н
Radium-226	13982633	0.053	0.35	0.627	1.00	υ	RA
Radium-228	15262201	-0.165	0.28	0.717	1.00	U	AC
Strontium-90	10098972	0.357	0.92	2.02	2.00	υ	SR
Uranium, Total		0	0.007	0.017	1.00	U	U_T
Potassium-40	13966002	U		22.5	25.0	υ	GAM
Cesium-137	10045973	υ		0.916	20.0	U	GAM

QC-BLANK #76735

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>02/05/11</u>

METHOD BLANKS Page 2 SUMMARY DATA SECTION Page 10

SDG 8651

8654-003

Lab Control Sample

WATER

LAB CONTROL SAMPLE

SDG <u>8651</u> Contact <u>N. Joseph Verville</u> Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>

Lab sample id <u>S012369-03</u> Dept sample id <u>8654-003</u> Client sample id <u>Lab Control Sample</u> Material/Matrix

ANALYTE	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST	ADDED pCi/L	2σ ERR pCi/L	REC %	20 LMTS (TOTAL)	PROTOCOL LIMITS
Gross Alpha	36.6	2.4	0.654	3.00.		80A	40.4	1.6	91	80-120	70-130
Gross Beta	33.6	1.6	1.58	4.00		80B	35.0	1.4	96	88-112	70-130
Tritium	2420	260	271	500		н	2550	100	95	86-114	80-120
Radium-226	58.4	1.9	0.577	1.00		RA	55.7	2.2	105	82-118	80-120
Radium-228	4.53	0.30	0.432	1.00		AC	4.62	0.18	98	87-113	60-140
Strontium-90	17.9	1.4	0.597	2.00		SR	17.5	0.70	102	86-114	80-120
Uranium, Total	59.8	7.2	0.174	1.00		U_T	62.5	2.5	96	88-112	80-120
Cobalt-60	94.8	4.6	2.23	10.0		GAM	102	4.1	93	91-109	80-120
Cesium-137	114	4.2	2.92	20.0		GAM	110	4.4	104	91-109	80-120

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QC-LCS #76728

LAB CONTROL SAMPLES Page 1 SUMMARY DATA SECTION Page 11

Lab id	EAS
Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-LCS
Version	3.06
Report date	02/05/11

SDG 8651

8657-002

Lab Control Sample

LAB CONTROL SAMPLE

SDG <u>8651</u> Contact <u>N. Joseph Verville</u> Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>

Client sample id <u>Lab Control Sample</u> Material/Matrix

WATER

Lab sample id <u>S101004-02</u> Dept sample id <u>8657-002</u>

ANALYTE	RESULT pCi/L	2 o 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	36.1	2.2	0.821	3.00		80A	40.4	1.6	89	80-120	70-130
Gross Beta	33.7	1.4	1.13	4.00		80B	35.0	1.4	96	88-112	70-130
Tritium	N.A.			500		н					80-120
Radium-226	59.0	2.5	0.639	1.00		RA	55.7	2.2	106	82-,118	80-120
Radium-228	4.07	0.98	0.438	1.00		AC	4.62	0.18	88	77-123	60-140
Strontium-90	17.8	1.9	1.12	2.00		SR	17.5	0.70	102	84-116	80-120
Uranium, Total	60.8	7.3	0.174	1.00		U_T	62.5	2.5	97	88-112	80-120
Cobalt-60	104	5.2	2.76	10.0		GAM	102	4.1	102	90-110	80-120
Cesium-137	117	4.6	3.40	20.0		GAM	110	4.4	106	91-109	80-120

QC-LCS #76734

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>02/05/11</u>

LAB CONTROL SAMPLES Page 2 SUMMARY DATA SECTION Page 12

SDG 8651

8654-005

DUPLICATE

ITL2489-03

Client Test America, Inc. SDG <u>8651</u> Contract ITL2486 Contact N. Joseph Verville ORIGINAL DUPLICATE Client sample id ITL2489-03 Lab sample id S012369-01 Lab sample id S012369-05 WATER Location/Matrix Boeing - SSFL Dept sample id <u>8654-001</u> Dept sample id 8654-005 Collected/Volume <u>12/26/10 08:58</u> 10.0 L Received <u>12/29/10</u> Chain of custody id ITL2489

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 ΤΟΤ	DER σ
Gross Alpha	1.65	0.42	0.342	3.00	J	80A	1.89	0.47	0.400	J	14	69	0.6
Gross Beta	3.05	0.59	0.819	4.00	J	80B	3.06	0.63	0.885	J	0	48	0
Tritium	44.4	160	267	500	υ	н	-40.3	150	270	U	-		0.8
Radium-226	-0.022	0.31	0.592	1.00	U	RA	0.097	0.36	0.653	υ	-		0.5
Radium-228	0.035	0.16	0.446	1.00	υ	AC	0.109	0.17	0.456	U	-		0.6
Strontium-90	-0.005	0.29	0.693	2.00	U	SR	0.222	0.33	0.684	U	-		1.0
Uranium, Total	0.164	0.023	0.017	1.00	J	U_T	0.177	0.022	0.017	J	8	28	0.8
Potassium-40	υ		53.7	25.0	υ	GAM	υ		53.7	U	-		0
Cesium-137	. υ		2.68	20.0	υ	GAM	υ		2.68	U	-		0

QC-DUP#1 76730

DUPLICATES Page 1 SUMMARY DATA SECTION Page 13 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>02/05/11</u>

SDG 8651

8657-004

ITL2724-02

DUPLICATE

SDG <u>8651</u> Contact N. Joseph Verville		Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>
DUPLICATE	ORIGINAL	
Lab sample id <u>S101004-04</u>	Lab sample id S101004-01	Client sample id <u>ITL2724-02</u>
Dept sample id <u>8657-004</u>	Dept sample id <u>8657-001</u>	Location/Matrix Boeing - SSFL WATER
	Received <u>12/31/10</u>	Collected/Volume <u>12/30/10 02:55</u> <u>10.0 L</u>
		Chain of custody id <u>ITL2724</u>

ANALYTE	DUPLICATE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST	ORIGINAL pCi/L	20 ERR (COUNT)	MDA pCi/L	QUALI- FIERS	RPD %	3σ τοτ	DER σ
Gross Alpha	0.672	0.31	0.372	3.00	J	80A	0.336	0.29	0.412	U	67	134	1.5
Gross Beta	1.60	0.58	0.884	4.00	J	80B	1.23	0.54	0.835	J	26	87	0.9
Tritium	N.A.			500		н	N.A.						
Radium-226	0.082	0.32	0.566	1.00	U	RA	0.146	0.31	0.541	U	-		0.3
Radium-228	0.063	0.29	0.734	1.00	U	AC	0.030	0.21	0.458	U	-		0.2
Strontium-90	-0.236	0.71	1.75	2.00	υ	SR	-0.099	0.80	1.94	υ	-		0.3
Uranium, Total	0.082	0.012	0.017	1.00	J	U_T	0.093	0.013	0.017	J	13	30	1.2
Potassium-40	υ		28.0	25.0	U	GAM	U		16.2	U	-		0.7
Cesium-137	υ		1.50	20.0	υ	GAM	υ		1.25	U	-		0.3

QC-DUP#1 76736

Lab id	EAS
Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-DUP
Version	3.06
Report date	02/05/11

DUPLICATES Page 2 SUMMARY DATA SECTION Page 14
SDG 8651

8651-001

DATA SHEET

ITL2486-02

SDG <u>8651</u>	Client	<u>Test America, Inc.</u>
Contact <u>N. Joseph Verville</u>	Contract	ITL2486
Lab sample id <u>S012366-01</u> Dept sample id <u>8651-001</u> Received <u>12/29/10</u> Ch	Client sample id Location/Matrix Collected/Volume main of custody id	ITL2486-02 Boeing - SSFL WATER 12/26/10 00:01 10.0 L ITL2486

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	1.19	0.37	0.380	3.00	J	80A
Gross Beta	12587472	2.66	0.60	0.864	4.00	J	80B
Tritium	10028178	82.7	170	293	500	U	Н
Radium-226	13982633	0.222	0.34	0.584	1.00	U	RA
Radium-228	15262201	0.008	0.15	0.422	1.00	U	AC
Strontium-90	10098972	0.063	0.32	0.652	2.00	U	SR
Uranium. Total		0.126	0.016	0.017	1.00	J	U_T
Potassium-40	13966002	υ		17.5	25.0	U	GAM
Cesium-137	10045973	υ		1.45	20.0	U	GAM

Lab id	EAS
Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-DS
Version	3.06
Report date	02/05/11

DATA SHEETS Page 1 SUMMARY DATA SECTION Page 15

SDG 8651

8651-002

ITL2486-02 (TRIP-BLANK)

DATA SHEET

SDG	8651	Client	<u>Test America, Inc.</u>	
Contact	N. Joseph Verville	Contract	ITL2486	
Lab sample id Dept sample id Received	<u>S012366-02</u> <u>8651-002</u> <u>12/29/10</u> Ch	Client sample id Location/Matrix Collected/Volume ain of custody id	ITL2486-02 (TRIP-BLANK) Boeing - SSFL 12/26/10 00:01 10.0 L ITL2486	WATER

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	-0.060	0.13	0.284	3.00	U	80A
Gross Beta	12587472	-0.227	0.46	0.800	4.00	U	80B
Radium-226	13982633	0.193	0.28	0.484	1.00	U	RA
Radium-228	15262201	-0.298	0.20	0.472	1.00	U	AC
Strontium-90	10098972	-0.025	0.42	0.972	2.00	U	SR
Uranium, Total		0	0.007	0.017	1.00	U	U_T
Potassium-40	13966002	υ		26.1	25.0	U	GAM
Cesium-137	10045973	U		1.31	20.0	U	GAM

EAS
<u>TA</u>
<u>Ver 1.0</u>
DVD-DS
3.06
02/05/11

DATA SHEETS Page 2 SUMMARY DATA SECTION Page 16

SDG 8651

Test <u>AC</u> Matrix <u>WATER</u> SDG <u>8651</u> Contact <u>N. Joseph Verville</u>

LAB METHOD SUMMARY RADIUM-228 IN WATER BETA COUNTING

Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>

RESULTS

LAB	RAW SUF-			Dodium	- 220
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Radium	- 220
Preparation	batch 727	1-037			
S012366-01		8651-001	ITL2486-02	υ	
S012369-03		8654-003	Lab Control Sample	ok	
S012369-04		8654-004	Method Blank	U	
S012369-05		8654-005	Duplicate (S012369-01)	-	υ
Preparation	batch 727	1-039			
S012366-02		8651-002	ITL2486-02 (TRIP-BLANK)	υ	
S101004-02		8657-002	Lab Control Sample	ok	
S101004-03		8657-003	Method Blank	U	
		8657-004	Duplicate (S101004-01)	-	υ

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT	SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation	batc	h 727	1-037	2σ prep error	10.4 % Ref	ference	Lab N	loteboo	k No. 7	7271	pg.03	7					
S012366-01			ITL248	6-02	0.422	1.80			74		150			29	01/24/11	01/24	GRB-222
S012369-03			Lab Co	ntrol Sample	0.432	1.80			74		150				01/24/11	01/24	GRB-230
S012369-04			Method	Blank	0.473	1.80			73		150				01/24/11	01/24	GRB-231
S012369-05			Duplic	ate (S012369-01)	0.446	1.80			73		150			29	01/24/11	01/24	GRB-232
Preparation	batc	h 727	1-039	2σ prep error	10.4 % Ref	Eerence	Lab 1	loteboo	k No. '	72 7 1	pg.03	9					
- S012366-02			ITL248	6-02 (TRIP-BLANK)	0.472	1.80			74		150			31	01/26/11	01/26	GRB-221
S101004-02			Lab Co	ntrol Sample	0.438	1.80			85		150				01/26/11	01/26	GRB-204
S101004-03			Method	Blank	0.717	1.80			88		150				01/26/11	01/26	GRB-229
S101004-04			Duplic	ate (S101004-01)	0.734	1.80			- 78		150			27	01/26/11	01/26	GRB-230
Nominal val	ues a	nd li	mits fr	om method	1.00	1.80			30-10	5	50			180			

METHOD SUMMARIES Page 1 SUMMARY DATA SECTION Page 17 Lab id <u>EAS</u> Protocol <u>TA</u> Version <u>Ver 1.0</u> Form <u>DVD-LMS</u> Version <u>3.06</u> Report date <u>02/05/11</u>

SDG 8651

Test	AC Matrix
SDG	8651
Contact	N. Joseph Verville

LAB METHOD SUMMARY, cont.

Client Test America, Inc. Contract ITL2486

RADIUM-228 IN WATER

BETA COUNTING

,

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 ±
FOR 8 SAMPLES	YIELD <u>77</u> ± <u>12</u>

Lab id	EAS
Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-LMS
Version	3.06
Report date	02/05/11

METHOD SUMMARIES Page 2 SUMMARY DATA SECTION Page 18

SDG 8651

Test	SR Matrix WATER
SDG	8651
Contact	<u>N. Joseph Verville</u>

LAB METHOD SUMMARY STRONTIUM-90 IN WATER BETA COUNTING

Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>

RESULTS

LAB	RAW S	SUF-				
SAMPLE ID	TEST	FIX	PLANCHET	CLIENT SAMPLE ID	Stronti	1um-90
Preparation	hatch	7271	1-037			
R012266-01	Ducon	12,3	8651-001	TTL2486-02	U	
S012369-01			8654-003	Lab Control Sample	ok	
S012369-04			8654-004	Method Blank	υ	
S012369-05			8654-005	Duplicate (S012369-01)	-	υ
Preparation	batch	7273	1-039			· · · · · · · · · · · · · · · · · · ·
- S012366-02			8651-002	ITL2486-02 (TRIP-BLANK)	U	
S101004-02			8657-002	Lab Control Sample	ok	
S101004-03			8657-003	Method Blank	υ	
S101004-04			8657-004	Duplicate (S101004-01)	-	υ
Nominal val	ues an	d lir	mits from m	ethod RDLs (pCi/L)	2.00	0

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT	SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	Å AIETD	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation	batcl	n 727	1-037	2σ prep error	10.4 % Re	eference	Lab	Noteboo	k No.	7271	pg.03	7					
S012366-01			ITL248	6-02	0.652	0.500			66		78			18	01/11/11	01/13	GRB-221
S012369-03			Lab Co	ntrol Sample	0.597	0.500			83		50				01/08/11	01/13	GRB-222
S012369-04			Method	Blank	0.666	0.500			82		50				01/08/11	01/13	GRB-201
S012369-05			Duplic	ate (S012369-01)	0.693	0.500			72		50			18	01/08/11	01/13	GRB-202
Preparation	batc	h 727	1-039	2σ prep error	10.4 % Re	eference	Lab	Noteboo	k No.	7271	pg.03	9					
S012366-02			ITL248	6-02 (TRIP-BLANK) 0.972	0.500			77		50			29	01/19/11	01/24	GRB-225
S101004-02			Lab Co	ntrol Sample	1.12	0.500			59		50				01/19/11	01/26	GRB-221
S101004-03			Method	Blank	2.02	0.500			44		50				01/19/11	01/26	GRB-230
S101004-04			Duplic	ate (S101004-01)	1.75	0.500			55		50			27	01/19/11	01/26	GRB-231
Nominal val	ues a	nd li	mits fr	om method	2.00	0.500			30-10	95	50			180			

METHOD SUMMARIES Page 3 SUMMARY DATA SECTION Page 19 Lab id <u>EAS</u> Protocol <u>TA</u> Version <u>Ver 1.0</u> Form <u>DVD-LMS</u> Version <u>3.06</u> Report date <u>02/05/11</u>

SDG 8651

Test	<u>SR</u> Matrix
SDG	8651
Contact	N. Joseph Verville

LAB METHOD SUMMARY, cont.

Client Test America, Inc. Contract ITL2486

STRONTIUM-90 IN WATER

BETA COUNTING

PROCEDURES	REFERENCE	905.0	AVERAGES ± 2 SD	MDA	1.06	±_	1.09
	DWP-380	Strontium in Drinking Water, rev 8	FOR 8 SAMPLES	YIELD .	67	± -	28

Lab id EAS Protocol <u>TA</u> Version Ver 1.0 Form DVD-LMS Version 3.06 Report date 02/05/11

METHOD SUMMARIES Page 4 SUMMARY DATA SECTION Page 20

SDG 8651

Test <u>80A</u> Matrix <u>WATER</u> SDG <u>8651</u> Contact <u>N. Joseph Verville</u>

LAB METHOD SUMMARY

GROSS ALPHA IN WATER GAS PROPORTIONAL COUNTING Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>

RESULTS

LAB SAMPLE ID	RAW SUF- TEST FIX	PLANCHET	CLIENT SAMPLE ID	Gross A	lpha
Preparation	batch 727	1-037			
S012366-01	.80	8651-001	ITL2486-02	1.19	J
S012369-03	80	8654-003	Lab Control Sample	ok	
S012369-04	80	8654-004	Method Blank	U	
S012369-05	80	8654-005	Duplicate (S012369-01)	ok	J
Preparation	batch 727	1-039			
S012366-02	80	8651-002	ITL2486-02 (TRIP-BLANK)	U	
S101004-02	80	8657-002	Lab Control Sample	ok	
S101004-03.	80	8657-003	Method Blank	υ	
S101004-04	80	8657-004	Duplicate (S101004-01)	ok	J
Nominal val	ues and li	mits from m	ethod RDLs (pCi/L)	3.00	

METHOD PERFORMANCE

LAB SAMPLE ID	r aw test	SUF- FIX	CLIENT	SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation	batcl	n 727	1-037	2ø prep error	20.6 % Re	ference	Lab 1	Noteboo	k No.	7271	pg.03	7					
S012366-01	80		ITL248	6-02	0.380	0.300			20		400			11	01/06/11	01/06	GRB-101
S012369-03	80		Lab Co:	ntrol Sample	0.654	0.250			60		400				01/06/11	01/06	GRB-107
S012369-04	80		Method	Blank	0.492	0.250			62		400				01/06/11	01/06	GRB-109
S012369-05	80		Duplic	ate (S012369-01)	0.342	0.300			31		400			11	01/06/11	01/06	GRB-111
Preparation	batc	h 727	1-039	2ø prep error	20.6 % Re	eference	Lab 1	Noteboo	k No.	7271	pg.03	9					
- 5012366-02	80		ITL248	6-02 (TRIP-BLANK)	0.284	0.300			1		400			19	01/14/11	01/14	GRB-111
S101004-02	80		Lab Co	ntrol Sample	0.821	0.250			62		400				01/11/11	01/11	GRB-214
S101004-03	80		Method	Blank	0.620	0.250			61		400				01/11/11	01/11	GRB-216
S101004-04	80		Duplic	ate (S101004-01)	0.372	0.300			20		400			12	01/11/11	01/11	GRB-105
Nominal val	ues a	nd li	mits fr	om method	3.00	0.250			0-20	00	100			180			

METHOD SUMMARIES Page 5 SUMMARY DATA SECTION Page 21



SDG 8651

Test	<u>80A</u> Matrix
SDG	8651
Contact	N. Joseph Verville

LAB METHOD SUMMARY, cont.

GROSS ALPHA IN WATER GAS PROPORTIONAL COUNTING Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>

 PROCEDURES	REFERENCE DWP-121	900.0 Gross Alpha and Gross Beta in Drinking Water,	AVERAGES ± 2 SD FOR 8 SAMPLES	MDA <u>0.496</u> ± RESIDUE <u>40</u> ±	0.373 49
		rev 10			

Lab id	EAS
Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-LMS
Version	3.06
Report date	02/05/11

METHOD SUMMARIES Page 6 SUMMARY DATA SECTION Page 22

SDG 8651

Test	80B Matrix WATER
SDG	8651
Contact	N. Joseph Verville

LAB METHOD SUMMARY

GROSS BETA IN WATER GAS PROPORTIONAL COUNTING Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>

RESULTS

TEST FIX	PLANCHET	CLIENT SAMPLE ID	annan T	
			GIOSS E	Beta
batch 7271	L-037			
80	8651-001	ITL2486-02	2.66	J
80	8654-003	Lab Control Sample	ok	
80	8654-004	Method Blank	υ	
80	8654-005	Duplicate (S012369-01)	ok	J
hatch 7271	1-039			
80	8651-002	ITL2486-02 (TRIP-BLANK)	U	
80	8657-002	Lab Control Sample	ok	
80	8657-003	Method Blank	U	
80	8657-004	Duplicate (S101004-01)	ok	J
80	8657-004	Duplicate (S101004-01)	ok	J
es and lim	nits from me	ethod RDLs (pCi/L)	4.00	
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 8651-001 0 8654-003 10 8654-004 10 8654-005 patch 7271-039 8651-002 20 8657-002 30 8657-003 30 8657-004	0 8651-001 ITL2486-02 10 8654-003 Lab Control Sample 10 8654-004 Method Blank 10 8654-005 Duplicate (S012369-01) match 7271-039 10 8651-002 ITL2486-02 (TRIP-BLANK) 10 8657-002 Lab Control Sample 10 8657-003 Method Blank 10 8657-004 Duplicate (S101004-01) 10 8657-004 Duplicate (S101004-01)	0 8651-001 ITL2486-02 2.66 0 8654-003 Lab Control Sample ok 10 8654-004 Method Blank U 10 8654-005 Duplicate (S012369-01) ok watch 7271-039 30 8651-002 ITL2486-02 (TRIP-BLANK) U 30 8657-002 Lab Control Sample ok 30 8657-003 Method Blank U 30 8657-004 Duplicate (S101004-01) ok es 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 727	1-037 2σ prep error 11	.0 % Re	ference	Lab N	otebool	k No.	7271	pg.03	7					
S012366-01	80	ITL2486-02	0.864	0.300			20		400			11	01/06/11	01/06	GRB-101
S012369-03	80	Lab Control Sample	1.58	0.250			60		400				01/06/11	01/06	GRB-107
S012369-04	80	Method Blank	0.999	0.250			62		400				01/06/11	01/06	GRB-109
S012369-05	80	Duplicate (S012369-01)	0.819	0.300			31		400			11	01/06/11	01/06	GRB-111
Preparation	batch 727	1-039 2σ prep error 11	.0% Re	ference	Lab N	otebool	k No.	7271	pg.039)					
S012366-02	80	ITL2486-02 (TRIP-BLANK)	0.800	0.300			1		400			19	01/14/11	01/14	GRB-111
S101004-02	80	Lab Control Sample	1.13	0.250			62		400				01/11/11	01/11	GRB-214
S101004-03	80	Method Blank	1.11	0.250			61		400				01/11/11	01/11	GRB-216
S101004-04	80	Duplicate (S101004-01)	0.884	0.300			20		400			12	01/11/11	01/11	GRB-105
Nominal valu	ues and li	mits from method	4.00	0.250			0-20	0	100			180			

Lab id <u>EAS</u> Protocol <u>TA</u>

Report date 02/05/11

Version Ver 1.0

Form <u>DVD-LMS</u> Version <u>3.06</u>

METHOD SUMMARIES Page 7 SUMMARY DATA SECTION Page 23

SDG 8651

Test	<u>80B</u> Matrix
SDG	8651
Contact	N. Joseph Verville

LAB METHOD SUMMARY, cont. GROSS BETA IN WATER

GAS PROPORTIONAL COUNTING

Client Test America, Inc. Contract <u>ITL2486</u>

MDA <u>1.02</u> ± <u>0.516</u>

PROCEDURES	REFERENCE	900.0	AVERAGES ± 2 SD	MDA <u>1.02</u> ± <u>0.5</u>
-	DWP-121	Gross Alpha and Gross Beta in Drinking Water,	FOR 8 SAMPLES	RESIDUE <u>40</u> ± <u>49</u>
		rev 10		

Lab id	EAS
Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-LMS
Version	3.06
Report date	02/05/11

METHOD SUMMARIES Page 8 SUMMARY DATA SECTION Page 24

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SDG 8651

Test <u>GAM</u> Matrix <u>WATER</u> SDG <u>8651</u> Contact <u>N. Joseph Verville</u>

LAB METHOD SUMMARY GAMMA EMITTERS IN WATER

Contrac

GAMMA SPECTROSCOPY

Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt-60	Cesium-	137
Breparation	hata	n 707	1-027	····,			
	Dates	1 121.	9651 001	TTT 2496-02		τī	
5012366-01			8631-001	11112480-02			
S012369-03			8654-003	Lab Control Sample	ok	ok	
S012369-04			8654-004	Method Blank		υ	
S012369-05			8654-005	Duplicate (S012369-01)		-	υ
Preparation	batcl	h 727:	1-039				
S012366-02			8651-002	ITL2486-02 (TRIP-BLANK)		υ	
S101004-02			8657-002	Lab Control Sample	ok	ok	
S101004-03			8657-003	Method Blank		U	
S101004-04			8657-004	Duplicate (S101004-01)		. –	U
Nominal val	ues a	nd li	nits from me	ethod RDLs (pCi/L)	10.0	20.0	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT	SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF	COUNT	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation	batcl	n 727	1-037	2σ prep error	7.0 %	Reference	Lab N	Notebool	k No.	7271	pg.03	7					
S012366-01			ITL248	5-02		2.00					417			19	01/05/11	01/14	MB,08,00
S012369-03			Lab Co	ntrol Sample		2.00					540				01/05/11	01/05	MB,02,00
S012369-04			Method	Blank		2.00					541				01/05/11	01/05	01,04,00
S012369-05			Duplica	ate (S012369-01)		2.00					540			10	01/05/11	01/05	MB,05,00
Preparation	batcl	n 727	1-039	2ø prep error	7.0 %	Reference	Lab 1	Notebool	k No.	7271	pg.03	9		·			
S012366-02			ITL248	5-02 (TRIP-BLANK)		2.00					712			18	01/10/11	01/13	01,02,00
S101004-02			Lab Con	ntrol Sample		2.00					946				01/10/11	01/10	MB,05,00
S101004-03			Method	Blank		2.00					924				01/10/11	01/10	MB,08,00
S101004-04			Duplica	ate (S101004-01)		2.00					596			12	01/10/11	01/11	01,02,00
Nominal val	ues ai	nd li	mits fro	om method	6.00	2.00					400			180			

Lab id	EAS
Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-LMS
Version	3.06
Report date	02/05/11

METHOD SUMMARIES Page 9 SUMMARY DATA SECTION Page 25

SDG 8651

Test	GAM Matrix
SDG	8651
Contact	N. Joseph Verville

LAB METHOD SUMMARY, cont.

GAMMA EMITTERS IN WATER GAMMA SPECTROSCOPY Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>

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

Lab id <u>EAS</u> Protocol <u>TA</u> Version <u>Ver 1.0</u> Form <u>DVD-LMS</u> Version <u>3.06</u> Report date <u>02/05/11</u>

METHOD SUMMARIES Page 10 SUMMARY DATA SECTION Page 26

SDG 8651

Test <u>U T</u> Matrix <u>WATER</u> SDG <u>8651</u> Contact <u>N. Joseph Verville</u>

LAB METHOD SUMMARY

URANIUM, TOTAL KINETIC PHOSPHORIMETRY, UG Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>

RESULTS

LAB	RAW SUF-	PLANCHET	CLIENT SAMPLE ID	Uraniu Tota	um,
Preparation	batch 727	1-037			
S012366-01		8651-001	ITL2486-02	0.126	.6 J
S012369-03		8654-003	Lab Control Sample	ok	
S012369-04		8654-004	Method Blank	υ	
S012369-05		8654-005	Duplicate (S012369-01)	ok	J
Preparation	batch 727	1-039			
S012366-02		8651-002	ITL2486-02 (TRIP-BLANK)	U	
S101004-02		8657-002	Lab Control Sample	ok	
S101004-03		8657-003	Method Blank	υ	
S101004-04		8657-004	Duplicate (S101004-01)	ok	J
Nominal val	ues and li	mits from me	thod RDLs (pCi/L)	1.00)

METHOD PERFORMANCE

LAB	RAW SUF	- 		MDA	ALIQ	PREP	DILU-	YIELD %	EFF 2	COUNT	FWHM	DRIFT	DAYS	PREPARED	ANAL-	DETECTOR
SAMPLE ID	TEST FIX	CLIENI	SAMPLE ID	pc1/	ւս	FAC	. 1101	ъ	•		AC V	ne v				
Preparation	batch 72	71-037	2σ prep	error	Reference	e Lab	Noteboo	k No.	7271	pg.03	7					
S012366-01		ITL248	36-02	0.0	17 0.0200								25	01/20/11	01/20	KPA-001
S012369-03		Lab Co	ontrol Samp	le 0.1	74 0.0200									01/20/11	01/20	KPA-001
S012369-04		Method	Blank	0.0	17 0.0200									01/20/11	01/20	KPA-001
S012369-05		Duplic	cate (S0123	59-01) 0.0	17 0.0200								25	01/20/11	01/20	KPA-001
Preparation	batch 72	271-039	2ø prep	error	Reference	e Lab	Noteboo	k No.	7271	pg.03	9					
S012366-02		ITL248	36-02 (TRIP	-BLANK) 0.0	17 0.0200								25	01/20/11	01/20	KPA-001
S101004-02		Lab Co	ontrol Samp	le 0.1	74 0.0200									01/20/11	01/20	KPA-001
S101004-03		Method	l Blank	.0.0	17 0.0200									01/20/11	01/20	KPA-001
S101004-04		Duplic	cate (S1010	0.0	17 0.0200								21	01/20/11	01/20	KPA-001
Nominal values and limits from method			1.0	0 0.0200								180				

METHOD SUMMARIES Page 11 SUMMARY DATA SECTION Page 27 Lab id EAS Protocol TA Version Ver 1.0 Form DVD-LMS Version 3.06 Report date 02/05/11

SDG 8651

Test	<u>U T</u> Matrix
SDG	8651
Contact	N. Joseph Verville

PROCEDURES REFERENCE D5174

LAB METHOD SUMMARY, cont. URANIUM, TOTAL

KINETIC PHOSPHORIMETRY, UG

Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>

AVERAGES ± 2 SD	MDA	0.056 ±	0.145
FOR 8 SAMPLES	YIELD	±	

METHOD SUMMARIES Page 12 SUMMARY DATA SECTION Page 28 Lab id <u>EAS</u> Protocol <u>TA</u> Version <u>Ver 1.0</u> Form <u>DVD-LMS</u> Version <u>3.06</u> Report date <u>02/05/11</u>

SDG 8651

Test	H Matrix WATER
SDG	8651
Contact	N. Joseph Verville

LAB METHOD SUMMARY

TRITIUM IN WATER

Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>

LIQUID SCINTILLATION COUNTING

RESULTS

LAB SAMPLE ID	RAW S TEST F	UF- IX PLANCHET	CLIENT SAMPLE ID	Tritium
Preparation	h batch	7271-037		
S012366-01		8651-001	ITL2486-02	U
S012369-03		8654-003	Lab Control Sample	ok
S012369-04		8654-004	Method Blank	U
S012369-05		8654-005	Duplicate (S012369-01)	- U
Nominal val	ues and	limits from m	ethod 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 II	0	pCi/L	, L	FAC	TION	*	*	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation	batcl	n 727:	L-037	2σ prep	error	10.0 %	Reference	Lab	Notebool	k No.	7271	pg.03'	7					
S012366-01			ITL2486	5-02		293	0.0100			100		50			17	01/12/11	01/12	LSC-004
S012369-03			Lab Cor	ntrol Samp	ple	271	0.100			10		50				01/12/11	01/12	LSC-004
S012369-04			Method	Blank		272	0.100			10		50				01/12/11	01/12	LSC-004
S012369-05			Duplica	ate (S0123	369-01)	267	0.0100			100		50			17	01/12/11	01/12	LSC-004
Nominal val	ues ai	nd lin	nits fro	om method		500	0.0100					100			180		-	

DWP-212 Tritium in Drinking Water by Distillation, rev 8 FOR 4 SAMPL	ES YIELD <u>55</u> ± <u>104</u>

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-LMS
Version	3.06
Report date	02/05/11

METHOD SUMMARIES Page 13 SUMMARY DATA SECTION Page 29

SDG 8651

Test	<u>RA</u> Matrix <u>WATER</u>
SDG	8651
Contact	N. Joseph Verville

LAB METHOD SUMMARY

RADIUM-226 IN WATER RADON COUNTING Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>

RESULTS

LAB SAMPLE ID	RAW SUF- TEST FIX	PLANCHET	CLIENT SAMPLE ID	Radium	ı-226				
Preparation	n batch 727	1-037							
S012366-01		8651-001	ITL2486-02	U					
S012369-03		8654-003	Lab Control Sample	ok					
S012369-04		8654-004	Method Blank	U					
S012369-05		8654-005	Duplicate (S012369-01)	-	υ		 		
Preparation	n batch 727	1-039							
S012366-02		8651-002	ITL2486-02 (TRIP-BLANK)	U					
S101004-02		8657-002	Lab Control Sample	ok					
S101004-03		8657-003	Method Blank	U					
S101004-04		8657-004	Duplicate (S101004-01)	-	U				
Nominal va	lues and li	mits from n	method RDLs (pCi/L)	1.00)	 	 		

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT	SAMPLE	ID		MDA pCi/L	ALI(L) PRE FA	RP AC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation	batcl	h 727	1-037	2σ p	orep erro	or 16	5.4 %	Referenc	e Lar) No	otebool	c No.	7271	pg.03	7					
- S012366-01			ITL248	6-02			0.58	4 0.10)			100		104			27	01/22/11	01/22	RN-010
S012369-03			Lab Co	ntrol S	Sample		0.57	7 0.10)			100		178				01/22/11	01/22	RN-009
S012369-04			Method	Blank			0.64	0 0.10)			100		87		,		01/22/11	01/22	RN-010
S012369-05			Duplic	ate (SO)12369-01	L)	0.59	2 0.10)			100		87			27	01/22/11	01/22	RN-012
Preparation	batc	h 727	1-039	2σ p	orep erro	or 16	5.4 %	Referenc	e Lak) No	otebool	c No.	7271	pg.03	9					
S012366-02			ITL248	6-02 (1	RIP-BLAN	NK)	0.48	4 0.10)			100		104			27	01/22/11	01/22	RN-011
S101004-02			Lab Co	ntrol S	Sample		0.63	9 0.10)			100		106		,		01/21/11	01/21	RN-011
S101004-03			Method	Blank			0.62	7 0.10)			100		106				01/21/11	01/21	RN-015
S101004-04			Duplic	ate (S1	L01004-01	1)	0.56	6 0.10)			100		106			22	01/21/11	01/21	RN-014
Nominal val	ues a	nd li	mits fr	om meth	nod		1.00	0.10)					100			180			

METHOD SUMMARIES Page 14 SUMMARY DATA SECTION Page 30

SDG 8651

Test	<u>RA</u> Matrix
SDG	8651
Contact	N. Joseph Verville

LAB METHOD SUMMARY, cont. RADIUM-226 IN WATER RADON COUNTING

Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>

PROCEDURES REFERENCE	903.1	AVERAGES ± 2 SD	MDA <u>0.589</u> ± <u>0.102</u>
DWP-881A	Ra-226 Screening in Drinking Water, rev 6	FOR 8 SAMPLES	YIELD <u>100</u> ± <u>0</u>

Lab id	EAS
Protocol	<u>TA</u>
Version	<u>Ver 1.0</u>
Form	DVD-LMS
Version	3.06
Report date	02/05/11

METHOD SUMMARIES Page 15 SUMMARY DATA SECTION Page 31

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REPORT GUIDE

Client <u>Test America, Inc.</u> Contract <u>ITL2486</u>

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.

Lab id	EAS
Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-RG
Version	3.06
Report date	02/05/11

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Contact	<u>N.</u>	Joseph	Verville

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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.

Lab id	EAS
Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-RG
Version	3.06
Report date	02/05/11

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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.

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Lab id	EAS
Protocol	<u>TA</u>
Version	<u>Ver 1.0</u>
Form	DVD-RG
Version	3.06
Report date	02/05/11
-	

SDG 8651

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Contact	<u>N.</u>	Joseph	Verville

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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.

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Lab id	EAS
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DATA SHEET

J	The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
в	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.
н	Similar to 'L' except the recovery was high.
P	The RESULT is 'preliminary'.
х	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.
Th	e 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

Lab id EAS Protocol TA Version Ver 1.0 Form DVD-RG Version 3.06 Report date 02/05/11

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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.

Lab id	EAS
Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-RG
Version	3.06
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REPORT GUIDE

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LAB CONTROL SAMPLE

Th su	e Lab Control Sample Report shows all results, recoveries and primary pporting information for one Lab Control Sample.
Th	e 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.

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Lab id	EAS
Protocol	<u>TA</u>
Version	<u>Ver 1.0</u>
Form	DVD-RG
Version	3.06
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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.

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Lab id EAS Protocol <u>TA</u> Version Ver 1.0 Form DVD-RG Version 3.06 Report date 02/05/11

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DUPLICATE

2. A	protoc	ol facto	r (typic	ally 2	2) t:	imes the	e averag	e MDA as	
a	percen	t of the	average	resu	lt.	This l:	imit app	lies	
wh	en the	results	are clo	se 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.

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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.

> Lab id <u>EAS</u> Protocol <u>TA</u> Version <u>Ver 1.0</u> Form <u>DVD-RG</u> Version <u>3.06</u> Report date <u>02/05/11</u>

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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.

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Lab id	EAS
Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-RG
Version	3.06
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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'

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Lab id	EAS
Protocol	TA
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Form	DVD-RG
Version	3.06
Report date	02/05/11

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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.
- * Prepareation 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

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Lab id EAS Protocol TA Version Ver 1.0 Form DVD-RG Version 3.06 Report date <u>02/05/11</u>

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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.

> Lab id <u>EAS</u> Protocol <u>TA</u> Version <u>Ver 1.0</u> Form <u>DVD-RG</u> Version <u>3.06</u> Report date <u>02/05/11</u>

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SDG 8651

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GUIDE, cont.

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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	<u>Ver 1.0</u>
Form	DVD-RG
Version	3.06
Report date	02/05/11

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SUBCONTRACT ORDER

TestAmerica Irvine

ITL2486

SENDING LABORATORY:RECEIVING LABORATORY:TestAmerica IrvineEberline Services17461 Derian Avenue. Suite 1002030 Wright AvenueIrvine, CA 92614Richmond, CA 94804Phone: (949) 261-1022Phone : (510) 235-2633Fax: (949) 260-3297Fax: (510) 235-0438Project Manager:Debby Wilson

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: ITL2486-02	Water	Sampled: 12/26/10 00:01		
Uranium, Combined-O	01/03/11 15:00	12/26/11 00:01		Out Eberline, Boeing permit, DO NOT FILTER!
Tritium-O	01/03/11 15:00	12/26/11 00:01		Out Eberline, Boeing permit, DO NOT FILTER!
Strontium 90-O	01/03/11 15:00	12/26/11 00:01		Out Eberline, Boeing permit, DO NOT FILTER!
Radium, Combined-O	01/03/11 15:00	12/26/11 00:01		Out Eberline Boeing permit, DO NOT FILTER!
Level 4 Data Package - Out	01/03/11 15:00	01/23/11 00:01	,	
Gross Beta-O	01/03/11 15:00	06/24/11 00:01		Out Eberline Boeing permit, DO NOT FILTER!
Gross Alpha-O	01/03/11 15:00	06/24/11 00:01		Out Eberline, Boeing permit, DO NOT FILTER!
Gamma Spec-O	01/03/11 15:00	12/26/11 00:01		Out Eberline, k-40 and cs-137 only, DO NOT FILTER!
Containers Supplied:				
2.5 gal Poly (H)	500 mL Amber	· (I)		

Released	By

SUBCONTRACT ORDER TestAmerica Irvine

ITL2486

8651

SENDING LABORATORY:	RECEIVING LABORATORY:	
TestAmerica Irvine	Eberline Services	
17461 Derian Avenue. Suite 100	2030 Wright Avenue	
Irvine, CA 92614	Richmond, CA 94804	
Phone: (949) 261-1022	Phone :(510) 235-2633	
Fax: (949) 260-3297	Fax: (510) 235-0438	
Project Manager: Debby Wilson	Project Location: California	
	Receipt Temperature:°C Ice	e: Y / N

Analysis	Units	Due	Expires	Comments
Sample ID: ITL2486-02 (Out	fall 009 (Co	mp) - Water)	Sampled: 12/26/10 (00:01
Gamma Spec-O	mg/kg	01/03/11	12/26/11 00:01	Out Eberline, k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	01/03/11	06/24/11 00:01	Out Eberline, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	01/03/11	06/24/11 00:01	Out Eberline Boeing permit, DO NOT FILTER!
Level 4 Data Package - Out	N/A	01/03/11	01/23/11 00:01	
Radium, Combined-O	pCi/L	01/03/11	12/26/11 00:01	Out Eberline Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	01/03/11	12/26/11 00:01	Out Eberline, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	01/03/11	12/26/11 00:01	Out Eberline, Boeing permit, DO NOT FILTER!
Containers Supplied:				
2.5 gal Poly (H) 5	500 mL Am	ber (I)		

leased By FEDEX

Released By

12/28/__ Date/Time 1017:00

Date/Time

Received By 28 2:00 Date/Time keleeh Page 1 of 1 Received By Date/Time

B			RICHMON	D, CA L	ABORATO	XY .	-			
) EBI	ERLIN	E.	SAMPLE						-	
	- CST- A	NEPIC	<u>А</u> с	ity /RUII	VE		State _	CA-		
Client: 10	<u>= 31 /1</u>	inhalia	10:00-0.00	IT/ 207	7.248(-24)	86,29	187.24	188	2489	
Date/Time	e received	12124110	U-UCCCC ND.	100010		aivad	Yee []	N	′ []م	
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				INSPECT	ION	Vee	c.h	Not	1 N/A [1
1. 0	Custody sea	is on shippii	ng container inti	act?	2 and	Yes		No] N/A [j
2. 0	Custody sea	is on shippi	ng container da	ted & signed	1/10	Yes		Nol	1 N/A []
3. (Custody sea	is on sampl	e containers int	act?	C Q N	Yes	[]	No [] N/A [$\sqrt{1}$
4. (Custody sea	ils on sampl	e containers da	ted & signed	1 10	We		Dry [] - <i>N</i>	VAV
′5. I	Packing mat	terial is:		8	Sample Matrix		WAT	ĒŔ	> - /	
6.	Number of s	amples in s	hipping contain	*	/Or see CoC	$\overline{\langle}$	L)			
7.	Number of c	containers p	er sample:		Ves [1]	No [
8.	Samples are	e in correct (container	•	Yes [v]	No [V	ľ.		/	
9.	Paperwork a	agrees with	samples :	ahais [] R	ad labels [] A	ppropi	ate sam	ple lat	els [/]	
10.	Samples ha	ive: Tape			Broken (Contai	ner[]	Mis	sing []	
11.	Samples an	e: in goi		eenved []	pH 2 Pre	servati	ve HA	V03		
12.	Samples ar	e: Preservi	ed foll worth			,		_	1 A.	D
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14. 15. Custa Samp	Was P.M. Inspected	I Notified of a by	ion Chamber	TRIP Yes Date: 2	$\frac{BLAJKS}{[]}$ $\frac{1}{429/10}$ No[$\frac{429/10}{2429}$ Time Customer Sample No.] D. a: Beta	kte /4:2 /Gamma cpm	20	Chamber nR/hr	
14. 15. Custr Samp A.H.	Was P.M. Inspected	μ)Ο I Nφ notified of a by sta/Gamma cpm Δ 6 c	ion Chamber	TRIP Yes Date: 2	BLAJKS] D 2: Beta	Wo+	20	Chamber nR/hr	
14. 15. Custa Samp A-UL	Was P.M. Inspected omer Br le No. Cauyte	1 No 1 No notified of a by eta/Gamma cpm 6 6 c	ion Chamber	TRIP Yes Date: 1	$\frac{BLAJKS}{[]}$ $\frac{1}{429/10}$ No[<u>Ustomer</u> Sample No.] D. : Beta	Kot I 4 : 2 /Gamma cpm	20	Chamber nR/hr	
14. 15. Custr Samp All	Was P.M. Inspected Inspeco	μ)Ο I Nφ notified of a by eta/Gamma cpm Δ 6 c	ion Chamber	TRIP Yes Date: 1 Wipe	$BLAJKS$ $[] No[$ $\frac{429/10}{29/10}$ Time Customer Sample No.] D e: Beta	Wo+	20	Chamber nR/hr	w
14. 15. Custa Samp All	Was P.M. Inspected Inspected	No I No notified of a by eta/Gamma cpm £ 6 c	ion Chamber	TRIP Yes Date: 1 Wipe	$\frac{BLAJKS}{[]}$ $\frac{1}{429/10}$ No[<u>Ustomer</u> Sample No.] D 8: Beta	Not 14:2 /Gamma cpm	20	Chamber nR/hr	w
14. 15. Custa Samp A-U d	Was P.M. Inspected omer Br auge	μ)Ο I Nφ notified of a by eta/Gamma cpm Δ 6 c	<u>chient</u> <u>co</u> any anomalies? <u>Ak</u> ion Chamber <u>mR/hr</u>	TRIP Yes Date: 1	BLANKS] D :	Not ate / ² / : ² / ₂ /Gamma cpm	20	Chamber nR/hr	w
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14. 15. Custa Samp AU	Was P.M. inspected omer Br lawy &	μο IN notified of a by eta/Gamma cpm Δ.6c	chient cor any anomalies? Ak ion Chamber mR/hr	TRIP Yes Date: <u>/</u>	BLANKS] D	Not ate /4 : d		Chamber nR/hr	
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14. 15. Custa AU AU Ion Cha Aipha M Beta/G	Was P.M. inspected omer Br august accurate accur	No. No. No. No. No. No. No. No.	ion Chamber mR/hr 100482	TRIP Yes Date: <u>4</u> Wipe	BLAJKS [] No[<u>429/10</u> Time Customer Sample No. Calibration da Calibration da Calibration da] D :	Vot ate /4 : 2 /Gamma cpm		Chamber nR/hr 20 (u	
14. 15. Custo Samp All d Ion Cha Alpha M Beta/G	Was P.M. Inspected mer Br auge amber Ser. Mater Meter Ser. N amma Meter	No	<u>co</u> iny anomalies? <u>AK</u> ion Chamber mR/hr <u>MR/hr</u>	TRIP Yes Date: 1	BLAJKS] D. Beta	2 4 J		Chamber nR/hr 2.0 (A	

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APPENDIX G

Section 33

Outfall 009 – December 29 & 30, 2010 MECX Data Validation Report THIS PAGE LEFT INTENTIONALLY BLANK



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ITL2724

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:	ITL2724
Project Manager:	B. Kelly
Matrix:	Water
QC Level:	IV
No. of Samples:	1
No. of Reanalyses/Dilutions:	0
Laboratory:	TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 009 (Comp)	ITL2724-02	G1A030431-001, S101004-01	Water	12/30/2010 2:55:00 AM	245.1, 245.1-Diss, 900, 901.1, 903.1, 904, 905, 906, 1613B, SM 2540D, D5174

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at TestAmerica-Irvine and TestAmerica-West Sacramento below the control limit; however, the samples were not noted to be frozen or damaged. The temperature upon receipt was not noted by Eberline; however, due to the nonvolatile nature of the analytes, no qualifications were required. The remaining samples were received at the laboratories within the temperature limits of $4^{\circ}C \pm 2^{\circ}C$. 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 in this SDG were delivered by courier, custody seals were not required. If necessary, the client ID was added to the sample result summary by the reviewer.

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

Data Qualifier Reference Table

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

Qualification Code Reference Table

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin Date Reviewed: January 21, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the MEC^{\times} 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.
 - o Initial Calibration: Initial calibration criteria were met. The initial calibration was acceptable with %RSDs ≤20% for the 15 native compounds (calibration by isotope dilution) and ≤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 between the EDL and the RL for several isomers and totals. Most method blank detects were reported as EMPCs; however, due to the extent of the method blank contamination, the reviewer considered it appropriate to use the EMPCs to qualify sample results. All individual isomers detected in both the method blank and site sample were qualified as nondetected, "U" at the EDL, or at the level of

contamination in the sample. The sample totals containing one or more peaks detected in the method blank were qualified as estimated, "J."

- Blank Spikes and Laboratory Control Samples: LCS recoveries were within the acceptance criteria listed in Table 6 of Method 1613.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Internal Standards Performance: The labeled standard recoveries in 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 quantitation was verified by recalculating a representative number of reportable sample results. Any individual isomers reported as EMPCs previously qualified as nondetected for method blank contamination were not further qualified 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. Total TCDD was reported below the reporting limit but was not qualified "J," by the laboratory. The result was therefore qualified as estimated, "J." Nondetects are valid to the EDL.

B. EPA METHOD 245.1—Mercury

Reviewed By: P. Meeks Date Reviewed: January 20, 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 245.1, and the National Functional Guidelines for Inorganic Data Review (7/02).

- Holding Times: The analytical holding time, 28 days for mercury, was met.
- Tuning: Not applicable to this analysis.

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- Calibration: Calibration criteria were met. Mercury initial calibration r² values were ≥0.995 and all initial and continuing calibration recoveries were within 85-115%. CRA recoveries were within the control limits of 70-130%.
- Blanks: Method blanks and CCBs had no detects.
- Interference Check Samples: Not applicable to this analysis.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratoryestablished QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy was evaluated based on LCS results.
- Serial Dilution: No serial dilution analyses were performed on the sample in this SDG.
- Internal Standards Performance: Not applicable to this 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.

C. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks Date Reviewed: February 8, 2011

The samples 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 prepared within the five-day analytical holding time for unpreserved samples.
- 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.

- Blanks: There were no analytes detected in the method blanks.
- Blank Spikes and Laboratory Control Samples: The recoveries were within laboratoryestablished control limits.
- Laboratory Duplicates: Laboratory duplicate analyses were performed on the sample in this SDG for all analytes. The 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.

A notation in the sample preparation logbook indicated that the aliquots for radium-226, radium-228, and strontium were filtered and that the filter was digested and added to the aliquot.

- 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 20, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the MEC^{\times} Data Validation Procedure for General Minerals (DVP-6, Rev. 0), Standard Method 2540D, and the National Functional Guidelines for Inorganic Data Review (7/02).

- Holding Times: The analytical holding time, seven days from collection, was met.
- Calibration: The balance logs were acceptable.
- Blanks: TSS was not detected in the method blank.
- Blank Spikes and Laboratory Control Samples: The recovery was within laboratoryestablished 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 not performed on the sample in this SDG. Method accuracy was evaluated based on LCS results.
- 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 ITL2724

Analysis Method 8657 Matrix Type: WATER Sample Name Outfall 009 (Comp) Validation Level: IV ITL2724-02 Sample Date: 12/30/2010 2:55:00 AM Lab Sample Name: Analyte CAS No Result RL MDL Result Lab Validation Validation Value Units Qualifier **Oualifier** Notes Uranium. Total 0.093 0.017 pCi/L DNQ 1 Jb J Analysis Method 900 Sample Name Outfall 009 (Comp) Matrix Type: WATER Validation Level: IV Sample Date: 12/30/2010 2:55:00 AM ITL2724-02 Lab Sample Name: Result RL Analyte CAS No MDL Result Lab Validation Validation Value Units Qualifier Qualifier Notes С Gross Alpha 12587461 0.336 3 0.412 pCi/L U UJ Gross Beta 12587472 1.23 4 0.835 pCi/L Jb J DNQ Analysis Method 901.1 Outfall 009 (Comp) Matrix Type: WATER Sample Name Validation Level: IV ITL2724-02 Sample Date: 12/30/2010 2:55:00 AM Lab Sample Name: CAS No Result RL Analyte MDL Result Lab Validation Validation Value Units Qualifier Qualifier Notes Cesium-137 10045973 ND 20 1.25 pCi/L U U Potassium-40 13966002 ND 25 16.2 pCi/L U U Analysis Method 903.1 Matrix Type: WATER Validation Level: IV Sample Name Outfall 009 (Comp) Sample Date: 12/30/2010 2:55:00 AM ITL2724-02 Lab Sample Name: CAS No Analyte Result RL MDL Result Lab Validation Validation Qualifier Value Units Notes Qualifier Radium-226 13982633 0.146 0.541 1 pCi/L U U Analysis Method 904 Matrix Type: WATER Validation Level: IV Sample Name Outfall 009 (Comp) Sample Date: 12/30/2010 2:55:00 AM Lab Sample Name: ITL2724-02 Analyte CAS No Result RL MDL Result Lab Validation Validation Value Units Qualifier Qualifier Notes Radium-228 15262201 0.03 1 0.458 pCi/L U U

Tuesday, February 08, 2011

Sample Name	Outfall 009 (0	Comp)	Matri	x Type:	WATER	V	alidation Le	vel: IV
Lab Sample Name:	ITL2724-02	Sam	ple Date:	12/30/20	10 2:55:00 Al	М		
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	-0.099	2	1.94	pCi/L	U	U	
Analysis Metho	od 906							
Sample Name	Outfall 009 (0	Comp)	Matri	x Type:	WATER	١	alidation Le	vel: IV
Lab Sample Name:	ITL2724-02	Sam	ple Date:	12/30/20	10 2:55:00 Al	М		
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	80.3	500	323	pCi/L	U	U	
Analysis Metho	od EPA	245.1						
Sample Name	Outfall 009 (0	Comp)	Matri	x Type:	Water	V	alidation Le	vel: IV
Lab Sample Name:	ITL2724-02	Sam	ple Date:	12/30/20	10 2:55:00 Al	М		
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 Metho	od EPA	245.1-L	Diss					
Sample Name	Outfall 009 (0	Comp)	Matri	x Type:	Water	V	alidation Le	vel: IV
Lab Sample Name:	ITL2724-02	Sam	ple Date:	12/30/20	10 2:55:00 A	М		
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 905

Sample Name	Outfall 009 (C	comp)	Matri	x Type: V	WATER	I I	alidation Le	vel: IV
Lab Sample Name:	ITL2724-02	Sam	ple Date:	12/30/2010	2:55:00 A	М		
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, B	U	В
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.00005	0.0000003	ug/L	J, Q, B	U	В
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.00005	0.0000004	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.00005	0.0000003	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.00005	0.0000003	ug/L		U	
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.00005	0.0000003	ug/L		U	
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.00005	0.0000002	ug/L		U	
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	0.0000003	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	0.00005	0.0000006	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.00005	0.0000003	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.00005	0.0000003	ug/L		U	
2,3,4,7,8-PeCDF	57117-31-4	ND	0.00005	0.0000003	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.00001	0.0000004	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.00001	0.0000003	ug/L		U	
OCDD	3268-87-9	ND	0.0001	0.0000018	ug/L	J, B	U	В
OCDF	39001-02-0	ND	0.0001	0.0000007	ug/L	J, B	U	В
Total HpCDD	37871-00-4	1.4e-005	0.00005	0.0000005	ug/L	J, B	J	B, DNQ
Total HpCDF	38998-75-3	3.5e-006	0.00005	0.0000003	ug/L	J, Q, B	J	B, DNQ, *III
Total HxCDD	34465-46-8	ND	0.00005	0.0000003	ug/L		U	
Total HxCDF	55684-94-1	ND	0.00005	0.0000002	ug/L		U	
Total PeCDD	36088-22-9	ND	0.00005	0.0000006	ug/L		U	
Total PeCDF	30402-15-4	ND	0.00005	0.0000003	ug/L		U	
Total TCDD	41903-57-5	7.3e-007	0.00001	0.0000004	ug/L		J	DNQ
Total TCDF	55722-27-5	ND	0.00001	0.0000003	ug/L		U	
Analysis Method	d SM 25	540D						

Analysis Method EPA-5 1613B

Sample Name	Outfall 009 (0	Comp)	Matri	х Туре:	Water	۷	Validation Level: IV		
Lab Sample Name:	ITL2724-02	Sam	ple Date:	12/30/201	10 2:55:00 A	М			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes	
Total Suspended Solids	TSS	3.0	10	1.0	mg/l	Ja	J	DNQ	

APPENDIX G

Section 34

Outfall 009 – December 29 & 30, 2010 Test America Analytical Laboratory Report THIS PAGE LEFT INTENTIONALLY BLANK

THE LEADER IN ENVIRONMENTAL TESTING

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

LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project: Routine Outfall 009 2010 Routine Outfall 009

Sampled: 12/29/10-12/30/10 Received: 12/29/10 Issued: 02/05/11 11:54

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

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain(s) of Custody, 2 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:	Il samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica ample Acceptance Policy unless otherwise noted in the report.						
PRESERVATION:	Samples requiring preservation were verified prior to sample analysis.						
QA/QC CRITERIA:	Il analyses met method criteria, except as noted in the report with data qualifiers.						
COMMENTS:	esults that fall between the MDL and RL are 'J' flagged.						
SUBCONTRACTED:	fer to the last page for specific subcontract laboratory information included in this report.						
ADDITIONAL INFORMATION:	WATER, 1613B, Dioxins/Furans with Totals Some analytes in this sample and the associated method blank have an ion abundan criteria. The analytes are considered as an "estimated maximum possible concentra the quantitation is based on the theoretical ion abundance ratio. Analytical results a flag.	ce ratio that is outside of tion" (EMPC) because tre reported with a "Q"					
LABORATORY II	O CLIENT ID	MATRIX					
ITL2724-01	Outfall 009 (Grab)	Water					
ITL2724-02	Outfall 009 (Comp)	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:

Debby Wilson

TestAmerica Irvine Debby Wilson Project Manager



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

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

Grease)

Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2724

Sampled: 12/29/10-12/30/10 Received: 12/29/10

HEXANE EXTRACTABLE MATERIAL MDL Reporting Sample Dilution Date Data Qualifiers Method Limit Analyte Batch Limit Result Factor Analyzed Analyst Sample ID: ITL2724-01 (Outfall 009 (Grab) - Water) Sampled: 12/29/10 Reporting Units: mg/l EPA 1664A 11A0167 4.9 ND 1 DA 01/04/11 Hexane Extractable Material (Oil & 1.4

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2724

Sampled: 12/29/10-12/30/10 Received: 12/29/10

METALS									
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: ITL2724-02 (Outfall 00)9 (Comp) - Water)				Sample	ed: 12/30/10	0		
Reporting Units: ug/l									
Mercury	EPA 245.1	11A0093	0.10	0.20	ND	1	DB	01/03/11	
Antimony	EPA 200.8	11A0078	0.30	2.0	1.7	1	RDC	01/03/11	Ja
Cadmium	EPA 200.8	11A0078	0.10	1.0	ND	1	RDC	01/03/11	
Copper	EPA 200.8	11A0078	0.500	2.00	3.47	1	RDC	01/03/11	
Lead	EPA 200.8	11A0078	0.20	1.0	1.5	1	RDC	01/03/11	
Thallium	EPA 200.8	11A0078	0.20	1.0	ND	1	RDC	01/03/11	

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2724

Sampled: 12/29/10-12/30/10 Received: 12/29/10

MDL Reporting Sample Dilution Date Data Analyte Method Batch Limit Result Factor Analyzed Qualifiers Limit Analyst Sample ID: ITL2724-02 (Outfall 009 (Comp) - Water) - cont. Sampled: 12/30/10 Reporting Units: ug/l 0.20 Mercury EPA 245.1-Diss 11A0094 0.10 ND 1 DB 01/03/11 EPA 200.8-Diss 11A0064 0.30 2.0 RDC 01/03/11 Antimony 1.6 1 Ja Cadmium 11A0064 0.10 ND RDC 01/03/11 EPA 200.8-Diss 1.0 1 11A0064 01/03/11 Copper EPA 200.8-Diss 0.500 2.00 3.50 1 RDC 01/03/11 Lead EPA 200.8-Diss 11A0064 0.20 1.0 0.40 1 RDC Ja Thallium EPA 200.8-Diss 11A0064 0.20 1.0 ND 1 RDC 01/03/11

DISSOLVED METALS

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2724

Sampled: 12/29/10-12/30/10 Received: 12/29/10

INORGANICS									
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: ITL2724-02 (Outfall 00	09 (Comp) - Water) - cor	ıt.			Sample	ed: 12/30/1	0		
Reporting Units: mg/l									
Chloride	EPA 300.0	10L3423	0.25	0.50	5.5	1	NN	12/30/10	
Nitrate/Nitrite-N	EPA 300.0	10L3423	0.15	0.26	0.67	1	NN	12/30/10	
Sulfate	EPA 300.0	10L3423	0.20	0.50	7.4	1	NN	12/30/10	
Total Dissolved Solids	SM2540C	11A0030	1.0	10	84	1	MC	01/03/11	
Total Suspended Solids	SM 2540D	10L3516	1.0	10	3.0	1	DC	12/30/10	Ja
Sample ID: ITL2724-02 (Outfall 00	09 (Comp) - Water)				Sample	ed: 12/30/1	0		
Reporting Units: ug/l									
Total Cyanide	SM4500CN-E	11A0118	2.2	5.0	ND	1	HH	01/03/11	

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WH-Pasadena/BoeingProject ID:8 Michillinda Avenue, Suite 200rcadia, CA 91007rcadia, CA 91007Report Number:ttention: Bronwyn KellyReport Number:		Routine Outfall 009 2010 Routine Outfall 009 ITL2724	Sampled: Received:	12/29/10-12/ 12/29/10	/30/10	
		8657 MDI Reporting Sample	Dilution		Date	Data

Analyte	Method	Batch	Limit	Limit	Result	Factor	Analyst	Analyzed	Qualifiers
Sample ID: ITL2724-02 (Outfall 009 (Comp) - Water) - cont.				Sample	d: 12/30/10			
Reporting Units: pCi/L									
Uranium, Total	8657	8657		1	0.093	1	CSS	01/20/11	Jb

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly	Project ID: Report Number:	Routine Outfall 009 2010 Routine Outfall 009 ITL2724	Sampled: Received:	12/29/10-12/ 12/29/10	/30/10	
		900 MDL Reporting	Sample Dilution		Date	Data

Analyte	Method	Batch	Limit	Limit	Result	Factor	Analyst	Analyzed	Qualifiers
Sample ID: ITL2724-02 (Outfall 009 (Cor Reporting Units: pCi/L	np) - Water) - con	ıt.			Sample	ed: 12/30/10)		
Gross Alpha	900	8657		3	0.336	1	KT	01/11/11	U
Gross Beta	900	8657		4	1.23	1	KT	01/11/11	Jb

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly	Project ID: Report Number:	Routine Outfall 009 2010 Routine Outfall 009 ITL2724	Sampled: Received:	12/29/10-12/30/10 12/29/10
		901.1		

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers	
Sample ID: ITL2724-02 (Outfall 009 (Co	mp) - Water) - con	ıt.			Sample	d: 12/30/10)			
Reporting Units: pCi/L										
Cesium-137	901.1	8657		20	ND	1	LS	01/10/11	U	
Potassium-40	901.1	8657		25	ND	1	LS	01/10/11	U	

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly	Project ID: Report Number:	Routine Outfall 009 2010 Routine Outfall 009 ITL2724	Sampled: Received:	12/29/10-12/30/10 12/29/10
		903.1		

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: ITL2724-02 (Outfall 009 (Comp) - Water) - cont.					Sample	d: 12/30/10			
Radium-226	903.1	8657		1	0.146	1	ТМ	01/21/11	U

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MWH-Pasadena/Boeing	Pre	oject ID:	Routine O	utfall 009 201	0				
618 Michillinda Avenue, Suite 200			Routine O	utfall 009			Sampled:	12/29/10-	12/30/10
Arcadia, CA 91007	Report 1	Number:	ITL2724				Received:	12/29/10	
Attention: Bronwyn Kelly									
			904						
			MDL	Reporting	Sample	Dilution		Date	Data
Analyte	Method	Batch	Limit	Limit	Result	Factor	Analyst	Analyzed	Qualifiers

2						•	•	
Sample ID: ITL2724-02 (Outfall 009 (Comp) -			Sampled: 1	12/30/10				
Reporting Units: pCi/L								
Radium-228	904	8657	1	0.03	1	ASM	01/26/11	U

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MWH-Pasadena/Boeing	Pr	oject ID:	Routine Or	utfall 009 201	0					
618 Michillinda Avenue, Suite 200			Routine Outfall 009 San				Sampled:	12/29/10-12/30/10		
Arcadia, CA 91007	Report 1	Number:	ITL2724				Received:	12/29/10		
Attention: Bronwyn Kelly										
			905							
		D (1	MDL	Reporting	Sample	Dilution		Date	Data Ouelifiers	

Analyte	wiethou	Daten	Linnt	Linnt	Kesuit	ractor	Analyst	Analyzeu	Quaimers
Sample ID: ITL2724-02 (Outfall 009 (C	omp) - Water) - co	ont.			Sampled: 12/30/10				
Reporting Units: pCi/L	Reporting Units: pCi/L								
Strontium-90	905	8657		2	-0.099	1	ASM	01/26/11	U

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MWH-Pasadena/Boeing	Pro	oject ID:	Routine Ou	utfall 009 201	0				
618 Michillinda Avenue, Suite 200		Routine Outfall 009				Sampled:	12/29/10-	12/30/10	
Arcadia, CA 91007	Report N	Jumber:	ITL2724				Received:	12/29/10	
Attention: Bronwyn Kelly									
			906						
A	M-41-1	Datah	MDL	Reporting	Sample	Dilution		Date	Data Qualifiara

Analyte	Method	Batch	Limit	Limit	Result	Factor	Analyst	Analyzed	Quaimers			
Sample ID: ITL2724-02 (Outfall 009 (Comp) - Water) - cont.						Sampled: 12/30/10						
Reporting Units: pCi/L												
Tritium	906	8657		500	80.3	1	JO	01/18/11	U			

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly 17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2724

Sampled: 12/29/10-12/30/10 Received: 12/29/10

		EP	PA-5 161	13Bx					
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: ITL2724-02 (Outfall 009 (C	omp) - Water) - cor	ıt.			Sample	d: 12/30/1	0		
Reporting Units: ug/L									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	1012285	0.0000005	3 0.00005	6.3e-006	0.96	GV	01/13/11	J, B
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	1012285	0.0000003	3 0.00005	2e-006	0.96	GV	01/13/11	J, Q, B
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	1012285	0.0000004	3 0.00005	ND	0.96	GV	01/13/11	
1,2,3,4,7,8-HxCDD	EPA-5 1613B	1012285	0.0000003	5 0.00005	ND	0.96	GV	01/13/11	
1,2,3,4,7,8-HxCDF	EPA-5 1613B	1012285	0.0000003	7 0.00005	ND	0.96	GV	01/13/11	
1,2,3,6,7,8-HxCDD	EPA-5 1613B	1012285	0.0000003	1 0.00005	ND	0.96	GV	01/13/11	
1,2,3,6,7,8-HxCDF	EPA-5 1613B	1012285	0.0000002	9 0.00005	ND	0.96	GV	01/13/11	
1,2,3,7,8,9-HxCDD	EPA-5 1613B	1012285	0.0000004	9 0.00005	ND	0.96	GV	01/13/11	
1,2,3,7,8,9-HxCDF	EPA-5 1613B	1012285	0.0000003	9 0.00005	ND	0.96	GV	01/13/11	
1,2,3,7,8-PeCDD	EPA-5 1613B	1012285	0.0000006	9 0.00005	ND	0.96	GV	01/13/11	
1,2,3,7,8-PeCDF	EPA-5 1613B	1012285	0.0000003	7 0.00005	ND	0.96	GV	01/13/11	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	1012285	0.0000003	2 0.00005	ND	0.96	GV	01/13/11	
2,3,4,7,8-PeCDF	EPA-5 1613B	1012285	0.0000003	9 0.00005	ND	0.96	GV	01/13/11	
2,3,7,8-TCDD	EPA-5 1613B	1012285	0.0000004	4 0.00001	ND	0.96	GV	01/13/11	
2,3,7,8-TCDF	EPA-5 1613B	1012285	0.0000003	2 0.00001	ND	0.96	GV	01/13/11	
OCDD	EPA-5 1613B	1012285	0.0000018	3 0.0001	0.0001	0.96	GV	01/13/11	J, B
OCDF	EPA-5 1613B	1012285	0.0000007	8 0.0001	6.5e-006	0.96	GV	01/13/11	J, B
Total HpCDD	EPA-5 1613B	1012285	0.0000005	3 0.00005	1.4e-005	0.96	GV	01/13/11	J, B
Total HpCDF	EPA-5 1613B	1012285	0.0000003	6 0.00005	3.5e-006	0.96	GV	01/13/11	J, Q, B
Total HxCDD	EPA-5 1613B	1012285	0.0000003	1 0.00005	ND	0.96	GV	01/13/11	
Total HxCDF	EPA-5 1613B	1012285	0.0000002	9 0.00005	ND	0.96	GV	01/13/11	
Total PeCDD	EPA-5 1613B	1012285	0.0000006	9 0.00005	ND	0.96	GV	01/13/11	
Total PeCDF	EPA-5 1613B	1012285	0.0000003	7 0.00005	ND	0.96	GV	01/13/11	
Total TCDD	EPA-5 1613B	1012285	0.0000004	4 0.00001	7.3e-007	0.96	GV	01/13/11	
Total TCDF	EPA-5 1613B	1012285	0.0000003	2 0.00001	ND	0.96	GV	01/13/11	
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (2)	3-140%)				90 %				
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28	8-143%)				93 %				
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26	5-138%)				91 %				
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-	141%)				74 %				
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-1	152%)				81 %				
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-	130%)				100 %				
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-1	(23%)				97 %				
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-1	147%)				84 %				
Surrogate: 13C-1,2,3,7,8-PeCDD (25-18	1%)				81 %				
Surrogate: 13C-1,2,3,7,8-PeCDF (24-18.	5%)				84 %				
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-1	136%)				86 %				
Surrogate: 13C-2,3,4,7,8-PeCDF (21-176	8%)				89 %				
Surrogate: 13C-2,3,7,8-TCDD (25-164%					80 %				
Surrogate: 13C-2,3,7,8-TCDF (24-169%))				80 %				
Surrogate: 13C-OCDD (17-157%)					87 %				
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197	¹ %)				91 %				

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2724

Sampled: 12/29/10-12/30/10 Received: 12/29/10

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SHORT HOLD TIME DETAIL REPORT

Sample ID: Outfall 009 (Comp) (ITL2724-02)	Hold Time (in days) - Water	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
EPA 300.0	2	12/30/2010 02:55	12/29/2010 16:55	12/30/2010 15:00	12/30/2010 20:10
Filtration	1	12/30/2010 02:55	12/29/2010 16:55	12/30/2010 20:31	12/30/2010 20:32

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2724

Sampled: 12/29/10-12/30/10 Received: 12/29/10

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METHOD BLANK/QC DATA

HEXANE EXTRACTABLE MATERIAL

		Reporting		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 11A0167 Extracted: 01/04/11										
Blank Analyzed: 01/04/2011 (11A0167-B	LK1)									
Hexane Extractable Material (Oil & Grease)	ND	5.0	mg/l							
LCS Analyzed: 01/04/2011 (11A0167-BS	1)									MNR1
Hexane Extractable Material (Oil & Grease)	18.8	5.0	mg/l	20.0		94	78-114			
LCS Dup Analyzed: 01/04/2011 (11A016	7-BSD1)									
Hexane Extractable Material (Oil & Grease)	19.5	5.0	mg/l	20.0		98	78-114	4	11	

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2724

Sampled: 12/29/10-12/30/10 Received: 12/29/10

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METHOD BLANK/QC DATA

METALS

		Reporting		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 11A0078 Extracted: 01/03/11										
Blank Analyzed: 01/03/2011 (11A0078-	BLK1)									
Antimony	ND	2.0	ug/l							
Cadmium	ND	1.0	ug/l							
Copper	ND	2.00	ug/l							
Lead	ND	1.0	ug/l							
Thallium	ND	1.0	ug/l							
LCS Analyzed: 01/03/2011 (11A0078-B	S1)									
Antimony	81.8	2.0	ug/l	80.0		102	85-115			
Cadmium	82.6	1.0	ug/l	80.0		103	85-115			
Copper	81.0	2.00	ug/l	80.0		101	85-115			
Lead	82.3	1.0	ug/l	80.0		103	85-115			
Thallium	82.3	1.0	ug/l	80.0		103	85-115			
Matrix Spike Analyzed: 01/03/2011 (11	A0078-MS1)				Source: I	TL2724-0	2			
Antimony	82.2	2.0	ug/l	80.0	1.69	101	70-130			
Cadmium	81.3	1.0	ug/l	80.0	ND	102	70-130			
Copper	79.8	2.00	ug/l	80.0	3.47	95	70-130			
Lead	90.9	1.0	ug/l	80.0	1.50	112	70-130			
Thallium	89.1	1.0	ug/l	80.0	ND	111	70-130			
Matrix Spike Dup Analyzed: 01/03/201	1 (11A0078-N	(ISD1)			Source: I	TL2724-0	2			
Antimony	83.3	2.0	ug/l	80.0	1.69	102	70-130	1	20	
Cadmium	80.5	1.0	ug/l	80.0	ND	101	70-130	1	20	
Copper	78.5	2.00	ug/l	80.0	3.47	94	70-130	2	20	
Lead	85.2	1.0	ug/l	80.0	1.50	105	70-130	6	20	
Thallium	84.0	1.0	ug/l	80.0	ND	105	70-130	6	20	

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METHOD BLANK/QC DATA

METALS

		Reporting		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 11A0093 Extracted: 01/03/11										
Blank Analyzed: 01/03/2011 (11A0093-BI	LK1)									
Mercury	ND	0.20	ug/l							
LCS Analyzed: 01/03/2011 (11A0093-BS1)									
Mercury	7.96	0.20	ug/l	8.00		99	85-115			
Matrix Spike Analyzed: 01/03/2011 (11A)	0093-MS1)				Source: I	TL2721-0	3			
Mercury	8.05	0.20	ug/l	8.00	ND	101	70-130			
Matrix Spike Dup Analyzed: 01/03/2011 ((11A0093-MS	SD1)			Source: I	TL2721-0	3			
Mercury	8.07	0.20	ug/l	8.00	ND	101	70-130	0.2	20	

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Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2724

Sampled: 12/29/10-12/30/10 Received: 12/29/10

METHOD BLANK/QC DATA

DISSOLVED METALS

	Reporting			Spike	Source	Source		%REC		Data
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 11A0064 Extracted: 01/03/11										
Blank Analyzed: 01/03/2011 (11A0064-	BLK1)									
Antimony	ND	2.0	ug/l							
Cadmium	ND	1.0	ug/l							
Copper	ND	2.00	ug/l							
Lead	ND	1.0	ug/l							
Thallium	ND	1.0	ug/l							
LCS Analyzed: 01/03/2011 (11A0064-B	S 1)									
Antimony	79.3	2.0	ug/l	80.0		99	85-115			
Cadmium	79.2	1.0	ug/l	80.0		99	85-115			
Copper	82.4	2.00	ug/l	80.0		103	85-115			
Lead	80.2	1.0	ug/l	80.0		100	85-115			
Thallium	81.3	1.0	ug/l	80.0		102	85-115			
Matrix Spike Analyzed: 01/03/2011 (11	A0064-MS1)				Source: I	TL2724-0	2			
Antimony	81.6	2.0	ug/l	80.0	1.58	100	70-130			
Cadmium	81.2	1.0	ug/l	80.0	ND	102	70-130			
Copper	84.8	2.00	ug/l	80.0	3.50	102	70-130			
Lead	82.3	1.0	ug/l	80.0	0.404	102	70-130			
Thallium	81.7	1.0	ug/l	80.0	ND	102	70-130			
Matrix Spike Analyzed: 01/03/2011 (11	A0064-MS2)				Source: I	TL2299-0	2			
Antimony	80.1	2.0	ug/l	80.0	ND	100	70-130			
Cadmium	81.6	1.0	ug/l	80.0	ND	102	70-130			
Copper	81.2	2.00	ug/l	80.0	1.94	99	70-130			
Lead	82.1	1.0	ug/l	80.0	0.209	102	70-130			
Thallium	82.1	1.0	ug/l	80.0	ND	103	70-130			
Matrix Spike Dup Analyzed: 01/03/201	1 (11A0064-M	ISD1)			Source: I	TL2724-0	2			
Antimony	79.3	2.0	ug/l	80.0	1.58	97	70-130	3	20	
Cadmium	77.9	1.0	ug/l	80.0	ND	97	70-130	4	20	
Copper	82.5	2.00	ug/l	80.0	3.50	99	70-130	3	20	
Lead	81.6	1.0	ug/l	80.0	0.404	102	70-130	0.8	20	
Thallium	80.8	1.0	ug/l	80.0	ND	101	70-130	1	20	

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METHOD BLANK/QC DATA

DISSOLVED METALS

		Reporting		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 11A0094 Extracted: 01/03/11										
Blank Analyzed: 01/03/2011 (11A0094-Bl	L K1)									
Mercury	ND	0.20	ug/l							
LCS Analyzed: 01/03/2011 (11A0094-BS1	l)									
Mercury	8.07	0.20	ug/l	8.00		101	85-115			
Matrix Spike Analyzed: 01/03/2011 (11A)	0094-MS1)				Source: I	TL2721-04	4			
Mercury	8.25	0.20	ug/l	8.00	ND	103	70-130			
Matrix Spike Dup Analyzed: 01/03/2011	(11A0094-M	ISD1)			Source: I	TL2721-04	4			
Mercury	8.13	0.20	ug/l	8.00	ND	102	70-130	1	20	

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METHOD BLANK/QC DATA

INORGANICS

		Reporting		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 10L3423 Extracted: 12/30/10										
Blank Analyzed: 12/30/2010 (10L3423-1	BLK1)									
Chloride	ND	0.50	mg/l							
Nitrate/Nitrite-N	ND	0.26	mg/l							
Sulfate	ND	0.50	mg/l							
LCS Analyzed: 12/30/2010 (10L3423-B	S1)									
Chloride	5.01	0.50	mg/l	5.00		100	90-110			
Sulfate	10.3	0.50	mg/l	10.0		103	90-110			
Matrix Spike Analyzed: 12/30/2010 (10)	L3423-MS1)				Source: I	TL2748-0	3			
Chloride	134	10	mg/l	50.0	96.1	76	80-120			M2
Sulfate	173	10	mg/l	100	80.9	92	80-120			
Matrix Spike Dup Analyzed: 12/30/2010	0 (10L3423-M	ISD1)			Source: I	TL2748-0	3			
Chloride	136	10	mg/l	50.0	96.1	80	80-120	2	20	
Sulfate	180	10	mg/l	100	80.9	99	80-120	4	20	
Batch: 10L3516 Extracted: 12/30/10										
Blank Analyzed: 12/30/2010 (10L3516-1	BLK1)									
Total Suspended Solids	ND	10	mg/l							
LCS Analyzed: 12/30/2010 (10L3516-B	S1)									
Total Suspended Solids	996	10	mg/l	1000		100	85-115			
Duplicate Analyzed: 12/30/2010 (10L35	16-DUP1)				Source: I	TL2841-0	1			
Total Suspended Solids	3.00	10	mg/l		3.00			0	10	Ja

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INORGANICS

		Reporting		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 11A0030 Extracted: 01/03/11										
Blank Analyzed: 01/03/2011 (11A0030-	BLK1)									
Total Dissolved Solids	ND	10	mg/l							
LCS Analyzed: 01/03/2011 (11A0030-B	S1)									
Total Dissolved Solids	986	10	mg/l	1000		99	90-110			
Duplicate Analyzed: 01/03/2011 (11A00)30-DUP1)				Source: I	TL2530-0	1			
Total Dissolved Solids	580	10	mg/l		582			0.3	10	
Batch: 11A0118 Extracted: 01/03/11										
Blank Analyzed: 01/03/2011 (11A0118-	BLK1)									
Total Cyanide	ND	5.0	ug/l							
LCS Analyzed: 01/03/2011 (11A0118-B	S1)									
Total Cyanide	192	5.0	ug/l	200		96	90-110			
Matrix Spike Analyzed: 01/03/2011 (11	A0118-MS1)				Source: I	TL2724-0	2			
Total Cyanide	163	5.0	ug/l	200	ND	81	70-115			
Matrix Spike Dup Analyzed: 01/03/201	1 (11A0118-N	MSD1)			Source: I	TL2724-0	2			
Total Cyanide	163	5.0	ug/l	200	ND	81	70-115	0.1	15	

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8657

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8657 Extracted: 01/20/11										
LCS Analyzed: 01/20/2011 (S101004-02)					Source:					
Uranium, Total	60.8	1	pCi/L	62.5		97	80-120			
Blank Analyzed: 01/20/2011 (S101004-03)				Source:					
Uranium, Total	0	1	pCi/L				-			U
Duplicate Analyzed: 01/20/2011 (S101004	1-04)				Source: I	TL2724-02	2			
Uranium, Total	0.082	1	pCi/L		0.093		-	13		Jb

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METHOD BLANK/QC DATA

			900	1						
		Reporting		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 8657 Extracted: 01/11/11										
LCS Analyzed: 01/11/2011 (S101004-02)					Source:					
Gross Alpha	36.1	3	pCi/L	40.4		89	70-130			
Gross Beta	33.7	4	pCi/L	35		96	70-130			
Blank Analyzed: 01/11/2011 (S101004-03	3)				Source:					
Gross Alpha	0.035	3	pCi/L				-			U
Gross Beta	-0.211	4	pCi/L				-			U
Duplicate Analyzed: 01/11/2011 (S10100	4-04)				Source: I	TL2724-0	2			
Gross Alpha	0.672	3	pCi/L		0.336		-	67		Jb
Gross Beta	1.6	4	pCi/L		1.23		-	26		Jb

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METHOD BLANK/QC DATA

901.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8657 Extracted: 01/10/11										
LCS Analyzed: 01/10/2011 (S101004-02)					Source:					
Cobalt-60	104	10	pCi/L	102		102	80-120			
Cesium-137	117	20	pCi/L	110		106	80-120			
Blank Analyzed: 01/10/2011 (S101004-0.	3)				Source:					
Cesium-137	ND	20	pCi/L				-			U
Potassium-40	ND	25	pCi/L				-			U
Duplicate Analyzed: 01/11/2011 (S10100	4-04)				Source: I	TL2724-0	2			
Cesium-137	ND	20	pCi/L		0		-	0		U
Potassium-40	ND	25	pCi/L		0		-	0		U

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METHOD BLANK/QC DATA

903.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8657 Extracted: 01/21/11										
LCS Analyzed: 01/21/2011 (S101004-02)					Source:					
Radium-226	59	1	pCi/L	55.7		106	80-120			
Blank Analyzed: 01/21/2011 (S101004-03	5)				Source:					
Radium-226	0.053	1	pCi/L				-			U
Duplicate Analyzed: 01/21/2011 (S10100-	4-04)				Source: I	TL2724-02	2			
Radium-226	0.082	1	pCi/L		0.146		-	0		U

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METHOD BLANK/QC DATA

			904							
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8657 Extracted: 01/26/11										
LCS Analyzed: 01/26/2011 (S101004-02)					Source:					
Radium-228	4.07	1	pCi/L	4.62		88	60-140			
Blank Analyzed: 01/26/2011 (S101004-03	3)				Source:					
Radium-228	-0.165	1	pCi/L				-			U
Duplicate Analyzed: 01/26/2011 (S10100	4-04)				Source: I	TL2724-02	2			
Radium-228	0.063	1	pCi/L		0.03		-	0		U



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METHOD BLANK/QC DATA

			905							
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8657 Extracted: 01/19/11										
LCS Analyzed: 01/26/2011 (S101004-02)					Source:					
Strontium-90	17.8	2	pCi/L	17.5		102	80-120			
Blank Analyzed: 01/26/2011 (S101004-03	3)				Source:					
Strontium-90	0.357	2	pCi/L				-			U
Duplicate Analyzed: 01/26/2011 (S10100	4-04)				Source: I	TL2724-0	2			
Strontium-90	-0.236	2	pCi/L		-0.099		-	0		U



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METHOD BLANK/QC DATA

			906							
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8657 Extracted: 01/18/11										
LCS Analyzed: 01/18/2011 (S101004-02)					Source:					
Tritium	2470	500	pCi/L	2540		97	80-120			
Blank Analyzed: 01/18/2011 (S101004-03	5)				Source:					
Tritium	84.6	500	pCi/L				-			U
Duplicate Analyzed: 01/18/2011 (S101004	4-04)				Source: I	ГL2724-02	2			
Tritium	-26.6	500	pCi/L		80.3		-	0		U



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Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2724

Sampled: 12/29/10-12/30/10 Received: 12/29/10

METHOD BLANK/QC DATA

EPA-5 1613Bx

		Reporting		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 1012285 Extracted: 01/12/11	-									
Blank Analyzed: 01/13/2011 (G1A12	0000285B)				Source:					
1,2,3,4,6,7,8-HpCDD	8.4e-007	0.00005	ug/L				-			J, Q
1,2,3,4,6,7,8-HpCDF	9.6e-007	0.00005	ug/L				-			J, Q
1,2,3,4,7,8,9-HpCDF	ND	0.00005	ug/L				-			
1,2,3,4,7,8-HxCDD	ND	0.00005	ug/L				-			
1,2,3,4,7,8-HxCDF	ND	0.00005	ug/L				-			
1,2,3,6,7,8-HxCDD	ND	0.00005	ug/L				-			
1,2,3,6,7,8-HxCDF	ND	0.00005	ug/L				-			
1,2,3,7,8,9-HxCDD	ND	0.00005	ug/L				-			
1,2,3,7,8,9-HxCDF	ND	0.00005	ug/L				-			
1,2,3,7,8-PeCDD	ND	0.00005	ug/L				-			
1,2,3,7,8-PeCDF	ND	0.00005	ug/L				-			
2,3,4,6,7,8-HxCDF	ND	0.00005	ug/L				-			
2,3,4,7,8-PeCDF	ND	0.00005	ug/L				-			
2,3,7,8-TCDD	ND	0.00001	ug/L				-			
2,3,7,8-TCDF	ND	0.00001	ug/L				-			
OCDD	4.6e-006	0.0001	ug/L				-			J, Q
OCDF	1e-006	0.0001	ug/L				-			J, Q
Total HpCDD	1.9e-006	0.00005	ug/L				-			J, Q
Total HpCDF	9.6e-007	0.00005	ug/L				-			J, Q
Total HxCDD	ND	0.00005	ug/L				-			
Total HxCDF	ND	0.00005	ug/L				-			
Total PeCDD	ND	0.00005	ug/L				-			
Total PeCDF	ND	0.00005	ug/L				-			
Total TCDD	ND	0.00001	ug/L				-			
Total TCDF	ND	0.00001	ug/L				-			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.0018		ug/L	0.002		89	23-140			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0019		ug/L	0.002		94	28-143			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.0019		ug/L	0.002		95	26-138			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.0015		ug/L	0.002		73	32-141			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.0016		ug/L	0.002		82	26-152			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.0021		ug/L	0.002		104	28-130			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.0017		ug/L	0.002		88	26-123			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.0016		ug/L	0.002		82	29-147			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.0016		ug/L	0.002		82	25-181			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.0016		ug/L	0.002		78	24-185			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.0017		ug/L	0.002		87	28-136			

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METHOD BLANK/QC DATA

EPA-5 1613Bx

		Reporting		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 1012285 Extracted: 01/12/11										
Blank Analyzed: 01/13/2011 (G1A120	0000285B)				Source:					
Surrogate: 13C-2,3,4,7,8-PeCDF	0.0017		ug/L	0.002		84	21-178			
Surrogate: 13C-2,3,7,8-TCDD	0.0014		ug/L	0.002		71	25-164			
Surrogate: 13C-2,3,7,8-TCDF	0.0013		ug/L	0.002		68	24-169			
Surrogate: 13C-OCDD	0.0038		ug/L	0.004		95	17-157			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.00073		ug/L	0.0008		92	35-197			
LCS Analyzed: 01/14/2011 (G1A1200)00285C)				Source:					
1,2,3,4,6,7,8-HpCDD	0.00111	0.00005	ug/L	0.001		111	70-140			В
1,2,3,4,6,7,8-HpCDF	0.00106	0.00005	ug/L	0.001		106	82-122			В
1,2,3,4,7,8,9-HpCDF	0.00102	0.00005	ug/L	0.001		102	78-138			
1,2,3,4,7,8-HxCDD	0.00111	0.00005	ug/L	0.001		111	70-164			
1,2,3,4,7,8-HxCDF	0.001	0.00005	ug/L	0.001		100	72-134			
1,2,3,6,7,8-HxCDD	0.00112	0.00005	ug/L	0.001		112	76-134			
1,2,3,6,7,8-HxCDF	0.00109	0.00005	ug/L	0.001		109	84-130			
1,2,3,7,8,9-HxCDD	0.00118	0.00005	ug/L	0.001		118	64-162			
1,2,3,7,8,9-HxCDF	0.00105	0.00005	ug/L	0.001		105	78-130			
1,2,3,7,8-PeCDD	0.00111	0.00005	ug/L	0.001		111	70-142			
1,2,3,7,8-PeCDF	0.00107	0.00005	ug/L	0.001		107	80-134			
2,3,4,6,7,8-HxCDF	0.000997	0.00005	ug/L	0.001		100	70-156			
2,3,4,7,8-PeCDF	0.00106	0.00005	ug/L	0.001		106	68-160			
2,3,7,8-TCDD	0.000216	0.00001	ug/L	0.0002		108	67-158			
2,3,7,8-TCDF	0.000206	0.00001	ug/L	0.0002		103	75-158			
OCDD	0.00196	0.0001	ug/L	0.002		98	78-144			В
OCDF	0.00223	0.0001	ug/L	0.002		111	63-170			В
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.00157		ug/L	0.002		79	26-166			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0018		ug/L	0.002		90	21-158			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.00188		ug/L	0.002		94	20-186			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.00133		ug/L	0.002		66	21-193			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00162		ug/L	0.002		81	19-202			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00176		ug/L	0.002		88	25-163			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.00168		ug/L	0.002		84	21-159			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.00168		ug/L	0.002		84	17-205			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00143		ug/L	0.002		72	21-227			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00161		ug/L	0.002		81	21-192			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.00176		ug/L	0.002		88	22-176			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00167		ug/L	0.002		83	13-328			

TestAmerica Irvine



MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 009 2010

Sampled: 12/29/10-12/30/10 Received: 12/29/10

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

Report Number: ITL2724

METHOD BLANK/QC DATA

EPA-5 1613Bx

		Reporting		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 1012285 Extracted: 01/12/1	<u>1</u>									
LCS Analyzed: 01/14/2011 (G1A12	0000285C)				Source:					
Surrogate: 13C-2,3,7,8-TCDD	0.00135		ug/L	0.002		68	20-175			
Surrogate: 13C-2,3,7,8-TCDF	0.00145		ug/L	0.002		73	22-152			
Surrogate: 13C-OCDD	0.00276		ug/L	0.004		69	13-199			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.000714		ug/L	0.0008		89	31-191			



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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2724

Sampled: 12/29/10-12/30/10 Received: 12/29/10

Compliance Check

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

						Compliance
LabNumber	Analysis	Analyte	Units	Result	MRL	Limit
ITL2724-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0	4.9	15

Compliance Check

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

						Compliance
LabNumber	Analysis	Analyte	Units	Result	MRL	Limit
ITL2724-02	Cadmium-200.8	Cadmium	ug/l	0.041	1.0	3.1
ITL2724-02	Chloride - 300.0	Chloride	mg/l	5.48	0.50	150
ITL2724-02	Copper-200.8	Copper	ug/l	3.47	2.00	14
ITL2724-02	Lead-200.8	Lead	ug/l	1.50	1.0	5.2
ITL2724-02	Nitrogen, NO3+NO2 -N EPA 300.	0 Nitrate/Nitrite-N	mg/l	0.67	0.26	8
ITL2724-02	Sulfate-300.0	Sulfate	mg/l	7.39	0.50	300
ITL2724-02	TDS - SM2540C	Total Dissolved Solids	mg/l	84	10	950



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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2724

Sampled: 12/29/10-12/30/10 Received: 12/29/10

DATA QUALIFIERS AND DEFINITIONS

- **B** 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 Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- 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.
- ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- **RPD** Relative Percent Difference



MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly 17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2724

Sampled: 12/29/10-12/30/10 Received: 12/29/10

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EDD + Level 4	Water	N/A	N/A
EPA 1664A	Water	Х	Х
EPA 200.8-Diss	Water	Х	Х
EPA 200.8	Water	Х	Х
EPA 245.1-Diss	Water	Х	Х
EPA 245.1	Water	Х	Х
EPA 300.0	Water	Х	Х
Filtration	Water	N/A	N/A
SM 2540D	Water	Х	Х
SM2540C	Water	Х	
SM4500CN-E	Water	Х	Х

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

Subcontracted Laboratories

TestAmerica Irvine

<u>TestAmerica</u>

THE LEADER IN ENVIRONMENTAL TESTING

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2724

Sampled: 12/29/10-12/30/10 Received: 12/29/10

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

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec Samples: ITL2724-02

- Analysis Performed: Gross Alpha Samples: ITL2724-02
- Analysis Performed: Gross Beta Samples: ITL2724-02
- Analysis Performed: Level 4 Data Package Samples: ITL2724-02
- Analysis Performed: Radium, Combined Samples: ITL2724-02
- Analysis Performed: Strontium 90 Samples: ITL2724-02
- Analysis Performed: Tritium Samples: ITL2724-02
- Analysis Performed: Uranium, Combined Samples: ITL2724-02

TestAmerica Irvine

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THE LEADER IN ENVIRONMENTAL TESTING

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly Project ID: Routine Outfall 009 2010 Routine Outfall 009 Report Number: ITL2724

Sampled: 12/29/10-12/30/10 Received: 12/29/10

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

TestAmerica Buffalo

10 Hazelwood Drive, Suite 106 - Amherst, NY 14228

Method Performed: 8657 Samples: ITL2724-02

Method Performed: 900 Samples: ITL2724-02

- Method Performed: 901.1 Samples: ITL2724-02
- Method Performed: 903.1 Samples: ITL2724-02
- Method Performed: 904 Samples: ITL2724-02
- Method Performed: 905 Samples: ITL2724-02
- Method Performed: 906 Samples: ITL2724-02

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

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B Samples: ITL2724-02

TestAmerica Irvine

7-19-20/6 Test America Version 6/20/00

CHAIN OF CUSTODY FORM

Test A	meric	7• A Version 6/2	•19- 0/22	20/6		Ci	HAI	N O	F C	USI	ΓΟΓ)Y F(ORN	Λ				IT	7	Page 1 of ,2 \ 2724
Client Name/, MWH-Arca 618 Michillind Arcadia, CA Test America	Address: dia la Ave, S 91007 Contact:	uite 200 : Debby Wi	lson	Project: Boeing-SSFL Routine Outfa GRAB Stormwater at	NPDES all 009 8 W-15 6 S -/ 3		EM)								NALYSIS F	REQUIR	ED			Field readings: (Log in and include in report Temp and pH) Temp °F = 47°
Project Mana Sampler: R :	ger: Bro c K 3A	nwyn Kelly		Phone Numbe (626) 568-669 Fax Number: (626) 568-651	er: 11		Grease (1664-H												-	pH = 7. 7 Time of readings = 08:2 5
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	0il &													Comments
Outfall 009	w	1L Amber	2	12-29-2014	нсі	1A, 1B	x													
				9 a.																
				•									_							
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	łT	nese Samp	les a	re the Grab Po	ortion of O	utfall 009 fo	or this	storn	n ever	nt. Co	ompo	site sa	nples	will fo	ollow and	are to	be adde	ed to thi	s work o	order.
Relinquished By	1		Date/		. 30/8	Received By	A	Λι		7 ^{Date}	12-	29-10)_	24 Hou	in:	lieun)	72 Hour:			10 Day:
1 million 15	m					MW	$\langle \rangle$	////	"//	/	13	:45		48 Hou	ur:		5 Day:	×		Normal:
Relinquisted By	61	uh	Date/	Time: 2-24-10 Time:	16:55	Received By	Ba	-t ul	(Date	/Time:) 0 [4	6:55	Sample	e Integrity: (Ch	eck)	On Ice:	×		
		Y												Data R	Requirements: ((Check)				~
														No Lev	vel IV:		All Level IV	/:	-	NPDES Level IV:

29Moy 2.9



CHAIN OF CUSTODY FORM

Client Name/A	ddrees.			Project:										Δ		SIS REOU	IRED			
MWH-Arcad	lia			Boeing-SSFL N	IPDES								ì	т				Т	T	 · · · · · · · · · · · · · · · · · · ·
618 Michillinda Arcadia, CA 9	Ave, S 1007 Contact:	uite 200 Debby Wil	son	Routine Outfa COMPOSITE Stormwater at -	1009 LOU SW-18- USIZ		, Cđ, Cu, Pb,				d, Cu, Pb,	eta(900.0), 105.0), Total 0 or 903.1) & n (908.0), K-								
restranched	Somaol.						Metals: Sb	Jeners)	N,		tals: Sb, C	, Gross Be), Sr-90 (9 226 (903.0)), Uraniun or 901.1)								Comments
Project Manag	er: Bro	nwyn Kelly		Phone Number			e P	5uo	10 ² -		Me	0.0) 06.0 04.0								
0	. ~	-	^	(626) 568-6691			erat	allo	3+V		ved	(90) (90) (90) (90) (90)	1]		
Sampler: Ki'	こたい	ANBUR	y	Fax Number:			8 8	pu	ž	Ś	los	37 228 H-3	Å.							
-				(626) 568-6515	;		a –	0	0 ⁴ ,	1s	ă_	s Al bine S-1-S	- <u>9</u> -	lide						
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Hg, J	TCD	CL' 8	TDS	Total Hg, T	Gros Gros Com 40, 0		Cyar						
Outfall 009	w	1L Poly	1	12-30-2010	HNO ₃	2A	X													
Outfall 009 Dup	W	1L Poly	1	02:55	HNO ₃	2B	х													
Outfall 009	W	1L Amber	• 2		None	3A, 3B		x												
Outfall 009	W	500 mL Poly	2		None	4A, 4B			х											
Outfall 009	W	500 mL Poly	1		None	5				x										
Outfall 009	w	1L Poly	1		None	6					х									Filter w/in 24hrs of receipt at lab
Outfall 000	N/	2.5 Gal Cube	1	12.30.2010	None	7A						×								 Unfiltered and unpreserved
Outrail 009	vv	500 mL Amber	V 1	02:55	None	7B						Â	Π							analysis
Outfall 009		T Gal Poly			None															 Only test if first or second rain
0		E00 mt Date		12-30-2010	NaOH				╂───					+ v						 events of the year
Outian 009		500 HIL POly	•	03:55		5							-	+^-						 (9).0
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					COC	Page 2	of/2 lis	t the	Comp	osite	Samp	les for Outfall	009	for thi	s stor	m event.				
Delinguished Du			Data/T	The	se must be	e added t	f/the s	aprie v	work		for C	DC Page 1 of 2	for	Outfal	1 009 1	or the sar	ne eve	ent.		
Reinquished By	A.		Date/11	1 - JC	-2010	Received	"n H	n				12-30-10	/		24 Hour		,	72 Hour:		10 Day:
Kit	15-	h		-		M	WU/	V	M	//	,	13:50	ン		48 Hour	·		5 Day: 🖊	ĸ	Normal:
Relinquished By			Date	me: 17.31	- [6	Received E	_{3y}		- H	Da	ite/Time	;	-		1					
Mar	bt/	ЛЛЛЛО	//	/ 'ia	5	ľ			V						Sample	Integrity: (Cheo On	ck) ilce:	\checkmark		
Relinguished By	-U	//***/		me:	12	Received F	3v			Da	ite/Time	:			1	•		-		
τ,,	-	U	1												Data Re	quirements: (C	heck)			
															No Leve	el IV:		All Level IV:		

30/103 1.1



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

February 2, 2011

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

Reference: Test America-Irvine ITL2724 Eberline Analytical Report S101004-8657 Sample Delivery Group 8657

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for one water sample received under Test America Job No. ITL2724. The sample was received on December 31, 2010.

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

Sincerely,

ull

N. Joseph Verville Client Services Manager

NJV/ljb

Enclosure: Level IV CLP-like Data Package CD

Case Narrative, page 1

1.0 General Comments

Sample delivery group 8657 consists of the analytical results and supporting documentation for one water sample. Sample ID's and reference dates/times are given in the Sample Summary section of the Summary Data report. The sample was 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 sample as received i.e. the sample was 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 volume.

2.0 Quality Control

Quality Control Samples consisted of laboratory control samples (LCS), method blanks, duplicate analyses and matrix spike 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%

Case Narrative, page 2

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 -** The Sr-90 MDA in the QC Method Blank (2.02 pCi/L) was greater than the required detection limit of 2.00 pCi/L. No other 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** The K-40 MDA for the duplicate of sample ITL2724-02 (28.0 pCi/L) was greater than the required detection limit of 25 pCi/L. No other 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."

n-Quilh

N. Joseph Verville Client Services Manager

2/2/11

SDG	86!	57	
Contact	Ν.	Joseph	<u>Verville</u>

Client	<u>Test America, Inc.</u>	
Contract	<u>ITL2724</u>	

SUMMARY DATA SECTION

TABLE OF	со	N T	EN	ΤS	
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Work Summary	•	•	•	•	6
Method Blanks	•	•	•	•	8
Lab Control Samples	•		•	•	9
Duplicates	•	•	•	•	10
Data Sheets	•	•	•	•	11
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Report Guides	•	•	•	•	20
End of Section		•	•	•	34

B

Prepared by

Reviewed by

mille

EAS
TA
<u>Ver 1.0</u>
DVD-TOC
3.06
02/01/11

SDG 8657

SDG	8657
Contact	N. Joseph Verville

REPORT GUIDE

Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

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	<u>TA</u>
Version	<u>Ver 1.0</u>
Form	DVD-RG
Version	3.06
Report date	02/01/11
_	

SDG 8657

SDG	86	57	
Contact	<u>N.</u>	Joseph	Verville

GUIDE, cont.

Client <u>Test America, Inc.</u>) Contract <u>ITL2724</u>

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.

Lab id	EAS
Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-RG
Version	3.06
Report date	02/01/11

REPORT GUIDES Page 2 SUMMARY DATA SECTION Page 2

SDG 8657

SDG <u>8657</u>

Contact N. Joseph Verville

LAB SAMPLE SUMMARY

Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S101004-01	ITL2724-02	Boeing - SSFL	WATER	÷		ITL2724	12/30/10 02:55
\$101004-02	Lab Control Sample		WATER				
S101004-03	Method Blank		WATER				
S101004-04	Duplicate (S101004-01)	Boeing - SSFL	WATER				12/30/10 02:55

Lab id	EAS
Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-LS
Version	3.06
Report date	02/01/11

LAB SUMMARY Page 1 SUMMARY DATA SECTION Page 3

SDG <u>8657</u> Contact <u>N. Joseph Verville</u>

SDG 8657

QC SUMMARY

Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	¥ MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS S RECEIVED	INCE	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
8657	ITL2724	ITL2724-02	WATER		10.0 L	~~~~	12/31/10	1	S101004-01	8657-001
		Method Blank	WATER						S101004-03	8657-003
		Duplicate (S101004-01)	WATER		10.0 L		12/31/10	1	S101004-04	8657-004

Lab id <u>EAS</u> Protocol <u>TA</u> Version <u>Ver 1.0</u> Form <u>DVD-QS</u> Version <u>3.06</u> Report date <u>02/01/11</u>

QC SUMMARY Page 1 SUMMARY DATA SECTION Page 4

SDG 8657

SDG <u>8657</u>

Contact N. Joseph Verville

PREP BATCH SUMMARY

Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

		PREPARATION ERROR PLANCHETS ANALYZED		ED	QUALI-						
TEST	MATRIX	METHOD	BATCH	2σ ¥	CLIENT	MORE	RE	BLANK	LCS	DUP/ORIG MS/ORIG	FIERS
Beta	Counting										
AC	WATER	Radium-228 in Water	7271-039	10.4	1			1	1	1/1	
SR	WATER	Strontium-90 in Water	7271-039	10.4	1			. 1	1	1/1	
Gas P	roportiona	1 Counting									
80A	WATER	Gross Alpha in Water	7271-039	20.6	1			. 1	1	1/1	
80B	WATER	Gross Beta in Water	7271-039	11.0	1			1	1	1/1	
Gamma	Spectrosc	юру									
GAM	WATER	Gamma Emitters in Water	7271-039	7.0	1			1	1	1/1	
Kinet	ic Phospho	primetry, ug									
U_T	WATER	Uranium, Total	7271-039		1			1	1	1/1	
Liqui	d Scintill	ation Counting									
н	WATER	Tritium in Water	7271-039	10.0	1			1	1	1/1	
Radon	Counting										
RA	WATER	Radium-226 in Water	7271-039	16.4	1			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	<u>TA</u>
Version	<u>Ver 1.0</u>
Form	DVD-PBS
Version	3.06
Report date	02/01/11

PREP BATCH SUMMARY Page 1 SUMMARY DATA SECTION Page 5

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SDG 8657

SDG <u>8657</u> Contact N. Joseph Verville

LAB SAMPLE

CLIENT SAMPLE ID

LAB WORK SUMMARY

Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

COLLECTED	LOCATION	MATRIX			SUF-				
RECEIVED	CUSTODY SAS no		PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD
S101004-01	ITL2724-02		8657-001	80A/80		01/11/11	01/12/11	BW	Gross Alpha in Water
12/30/10	Boeing - SSFL	WATER	8657-001	80B/80		01/11/11	01/12/11	BW	Gross Beta in Water
12/31/10	ITL2724		8657-001	AC		01/26/11	01/31/11	BW	Radium-228 in Water
			8657-001	GAM		01/10/11	01/31/11	MWT	Gamma Emitters in Water
			8657-001	н		01/18/11	01/24/11	BW	Tritium in Water
			8657-001	RA		01/21/11	01/24/11	BW	Radium-226 in Water
			8657-001	SR		01/26/11	01/31/11	BW	Strontium-90 in Water
			8657-001	U_T		01/20/11	01/24/11	BW	Uranium, Total
S101004-02	Lab Control Sample		8657-002	08\A08		01/11/11	01/12/11	BW	Gross Alpha in Water
		WATER	8657-002	80B/80		01/11/11	01/12/11	BW	Gross Beta in Water
			8657-002	AC		01/26/11	01/31/11	BW	Radium-228 in Water
			8657-002	GAM		01/10/11	01/31/11	MWT	Gamma Emitters in Water
			8657-002	H		01/18/11	01/24/11	BW	Tritium in Water
			8657-002	RA		01/21/11	01/24/11	BW	Radium-226 in Water
			8657-002	SR		01/26/11	01/31/11	BW	Strontium-90 in Water
			8657-002	U_T		01/20/11	01/24/11	BW	Uranium, Total
S1 01004-03	Method Blank		8657-003	80A/80		01/11/11	01/12/11	BW	Gross Alpha in Water
		WATER	8657-003	80B/80		01/11/11	01/12/11	BW	Gross Beta in Water
			8657-003	AC		01/26/11	01/31/11	BW	Radium-228 in Water
			8657-003	GAM		01/10/11	01/31/11	MWT	Gamma Emitters in Water
			8657-003	н		01/18/11	01/24/11	BW	Tritium in Water
			8657-003	RA		01/21/11	01/24/11	BW	Radium-226 in Water
			8657-003	SR		01/26/11	01/31/11	BW	Strontium-90 in Water
			8657-003	U_T		01/20/11	01/24/11	BW	Uranium, Total
S101004-04	Duplicate (S101004-01)		8657-004	80A/80		01/11/11	01/12/11	BW	Gross Alpha in Water
12/30/10	Boeing - SSFL	WATER	8657-004	80B/80		01/11/11	01/12/11	BW	Gross Beta in Water
12/31/10			8657-004	AC		01/26/11	01/31/11	BW	Radium-228 in Water
			8657-004	GAM		01/11/11	01/31/11	MWT	Gamma Emitters in Water
			8657-004	Н		01/18/11	01/24/11	BW	Tritium in Water
			8657-004	RA		01/21/11	01/24/11	BW	Radium-226 in Water
			8657-004	SR		01/26/11	01/31/11	BW	Strontium-90 in Water
			8657-004	U_T		01/20/11	01/24/11	BW	Uranium, Total

Lab id	EAS
Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-LWS
Version	3.06
Report date	02/01/11

WORK SUMMARY Page 1 SUMMARY DATA SECTION Page 6

SDG 8657

SDG <u>8657</u> Contact <u>N. Joseph Verville</u>

WORK SUMMARY, cont.

Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

TEST	SAS no	COUNTS METHOD	OF TESTS REFERENCE	BY	SAMPLE TYPE CLIENT MORE	RE	BLANK	LCS	DUP SPIKE	TOTAL
80A/80		Gross Alpha in Water	900.0		1		1	l	1	4
80B/80		Gross Beta in Water	900.0		1		1	1	1	4
AC		Radium-228 in Water	904.0		1		1	1	1	4
GAM		Gamma Emitters in Water	901.1		1		1	1	1	4
н		Tritium in Water	906.0		1		1	1	1	4
RA		Radium-226 in Water	903.1		1		1	1	l	4
SR		Strontium-90 in Water	905.0		1		1	1	1	4
U_T		Uranium, Total	D5174		1		1	1	1	4
TOTALS					. 8		8	8	8	32

1

Lab id EAS Protocol TA Version Ver 1.0 Form DVD-LWS Version 3.06 Report date 02/01/11

WORK SUMMARY Page 2 SUMMARY DATA SECTION Page 7

SDG 8657

METHOD BLANK

8657-003

Method Blank

SDG <u>8657</u>	Client	<u>Test America, Inc.</u>	-
Contact <u>N. Joseph Vervill</u>	e Contract	ITL2724	-
Lab sample id <u>S101004-03</u> Dept sample id <u>8657-003</u>	Client sample id Material/Matrix	Method Blank	WATER

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	0.035	0.30	0.620	3.00	U	80A
Gross Beta	12587472	-0.211	0.63	1.11	4.00	U	80B
Tritium	10028178	84.6	190	319	500	U	H
Radium-226	13982633	0.053	0.35	0.627	1.00	U	RA
Radium-228	15262201	-0.165	0.28	0.717	1.00	U	AC
Strontium-90	10098972	0.357	0.92	2.02	2.00	U	SR
Uranium. Total		0	0.007	0.017	1.00	U	U_T
Potassium-40	13966002	U		22.5	25.0	U	GAM
Cesium-137	10045973	Ū	•	0.916	20.0	U	GAM

QC-BLANK #76735

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>02/01/11</u>

METHOD BLANKS Page 1 SUMMARY DATA SECTION Page 8

SDG 8657

8657-002

Lab Control Sample

LAB CONTROL SAMPLE

SDG <u>8657</u> Contact <u>N. Joseph Verville</u> Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

Lab sample id <u>S101004-02</u> Dept sample id <u>8657-002</u> Client sample id Lab Control Sample Material/Matrix

WATER

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	36.1	2.2	0.821	3.00		A08	40.4	1.6	89	80-120	70-130
Gross Beta	33.7	1.4	1.13	4.00		80B	35.0	1.4	96	88-112	70-130
Tritium	2470	300	327	500		н	2540	100	97	84-116	80-120
Radium-226	59.0	2.5	0.639	1.00		RA	55.7	2.2	106	82-118	80-120
Radium-228	4.07	0.98	0.438	1.00		AC	4.62	0.18	88	77-123	60-140
Strontium-90	17.8	1.9	1.12	2.00		SR	17.5	0.70	102	84-116	80-120
Uranium, Total	60.8	7.3	0.174	1.00		U_T	62.5	2.5	97	88-112	80-120
Cobalt-60	104	5.2	2.76	10.0		GAM	102	4.1	102	90-110	80-120
Cesium-137	117	4.6	3.40	20.0		GAM	110	4.4	106	91-109	80-120

QC-LCS #76734

Lab id EAS Protocol TA Version Ver 1.0 Form DVD-LCS Version 3.06 Report date 02/01/11

LAB CONTROL SAMPLES Page 1 SUMMARY DATA SECTION Page 9

SDG 8657

8657-004

DUPLICATE

ITL2724-02

	·	<u></u>								
SDG	8657						Client	<u>Test America, Ir</u>	nc.	
Contact	N. Joseph Verville						Contract	ITL2724		
	DUPLICATE				ORIGINAL					
Lab sample id	<u>S101004-04</u>	Lab	sample	id	<u>S101004-01</u>	Client	sample id	<u>ITL2724-02</u>		
Dept sample id	8657-004	Dept	sample	id	8657-001	Locat	ion/Matrix	Boeing - SSFL		WATER
			Receiv	red	12/31/10	Collec	ted/Volume	12/30/10 02:55	10.0 L	
						Chain of	custody id	<u>ITL2724</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 o
Gross Alpha	0.672	0.31	0.372	3.00	J	80A	0.336	0.29	0.412	υ	67	134	1.5
Gross Beta	1.60	0.58	0.884	4.00	J	80B	1.23	0.54	0.835	J	26	87	0.9
Tritium	-26.6	180	321	500	U	н	80.3	190	323	U	-		0.8
Radium-226	0.082	0.32	0.566	1.00	U	RA	0.146	0.31	0.541	U	-		0.3
Radium-228	0.063	0.29	0.734	1.00	U	AC	0.030	0.21	0.458	υ	-		0.2
Strontium-90	-0.236	0.71	1.75	2.00	υ	SR	-0.099	0.80	1.94	U	-		0.3
Uranium, Total	0.082	0.012	0.017	1.00	J	U_T	0.093	0.013	0.017	J	13	30	1.2
Potassium-40	U		28.0	25.0	U	GAM	υ		16.2	U	-		0.7
Cesium-137	U		1.50	20.0	υ	GAM	υ		1.25	U	-		0.3

QC-DUP#1 76736

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>02/01/11</u>

DUPLICATES Page 1 SUMMARY DATA SECTION Page 10

SDG 8657

8657-001

DATA SHEET

ITL2724-02

SDG <u>8657</u>	Client	<u>Test America, Inc.</u>	·
Contact <u>N. Joseph Verville</u>	Contract	ITL2724	
Lab sample id <u>S101004-01</u>	Client sample id	ITL2724-02	WATER
Dept sample id <u>8657-001</u>	Location/Matrix	Boeing - SSFL	
Received <u>12/31/10</u>	Collected/Volume	12/30/10 02:55 10.0 L	
Ch	ain of custody id	ITL2724	

ANALYTE CAS NO RESULT pCi/L 2σ ERR (COUNT) MDA pCi/L RDL pCi/L QUALI- FIERS TES Gross Alpha 12587461 0.336 0.29 0.412 3.00 U 802 Gross Beta 12587472 1.23 0.54 0.835 4.00 J 807 Tritium 10028178 80.3 190 323 500 U H Radium-226 13982633 0.146 0.31 0.541 1.00 U RA								
Gross Alpha125874610.3360.290.4123.00U807Gross Beta125874721.230.540.8354.00J801Tritium1002817880.3190323500UHRadium-226139826330.1460.310.5411.00URA	ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Beta125874721.230.540.8354.00J801Tritium1002817880.3190323500UHRadium-226139826330.1460.310.5411.00URA	Gross Alpha	12587461	0.336	0.29	0.412	3.00	U	80A
Tritium 10028178 80.3 190 323 500 U H Radium-226 13982633 0.146 0.31 0.541 1.00 U RA	Gross Beta	12587472	1.23	0.54	0.835	4.00	J	80B
Radium-226 13982633 0.146 0.31 0.541 1.00 U RA 0.020 0.21 0.458 1.00 U RA	Tritium	10028178	80.3	190	323	500	υ	H
	Radium-226	13982633	0.146	0.31	0.541	1.00	υ	RA
Radium - 228 15262201 0.030 0.21 0.458 1.00 0 Me	Radium-228	15262201	0.030	0.21	0.458	1.00	U	AC
Strontium-90 10098972 -0.099 0.80 1.94 2.00 U SR	Strontium-90	10098972	-0.099	0.80	1.94	2.00	U	SR
Uranium, Total 0.093 0.013 0.017 1.00 J U_	Uranium, Total		0.093	0.013	0.017	1.00	J	U_T
Potassium-40 13966002 U 16.2 25.0 U GAI	Potassium-40	13966002	U		16.2	25.0	U	GAM
Cesium-137 10045973 U 1.25 20.0 U GAI	Cesium-137	10045973	υ		1.25	20.0	U	GAM

EAS
<u>TA</u>
<u>Ver 1.0</u>
DVD-DS
3!06
02/01/11

DATA SHEETS Page 1 SUMMARY DATA SECTION Page 11

SDG 8657

Test	AC Matrix WATER
SDG	8657
Contact	N. Joseph Verville

LAB METHOD SUMMARY

RADIUM-228 IN WATER BETA COUNTING Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

RESULTS

LAB SAMPLE ID	RAW SU TEST FI	X PLANCHET	CLIENT SAMPLE ID	Radium-228	
Preparation	n batch 7	271-039			
S101004-01		8657-001	ITL2724-02	U	
S101004-02		8657-002	Lab Control Sample	ok	
S101004-03		8657-003	Method Blank	υ	
S101004-04		8657-004	Duplicate (S101004-01)	- U	
Nominal val	lues and	limits from	nethod RDLs (pCi/L)	1.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation	batcl	h 727	$1-039$ 2σ prep error	10.4 % Re	ference	Lab	Notebool	k No. 7	7271	pg.039	Ð					
\$101004-01			TTL2724-02	0.458	1.80			75		150			27	01/26/11	01/26	GRB-203
S101004-02			Lab Control Sample	0.438	1.80			85		150				01/26/11	01/26	GRB-204
S101004-03			Method Blank	0.717	1.80			88		150				01/26/11	01/26	GRB-229
S101004-03			Duplicate (S101004-01)	0.734	1.80			78		150			27	01/26/11	01/26	GRB-230
Nominal val	ues a	nd li	mits from method	1.00	1.80			30-10	5	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 _	0.587	±	0.321
FOR 4 SAMPLES	YIELD _	82	±	

Lab id	EAS
Protocol	<u>TA</u>
Version	Ver 1.0
Form	DVD-LMS
Version	3.06
Report date	02/01/11

METHOD SUMMARIES Page 1 SUMMARY DATA SECTION Page 12
SDG 8657

Test	SRMatrix WATER
SDG	8657
Contact	N. Joseph Verville

LAB METHOD SUMMARY

STRONTIUM-90 IN WATER BETA COUNTING Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

RESULTS

SAMPLE ID	RAW TEST	SUF-	PLANCHET	CLIENT SAMPLE ID	Stronti	um-90			
Preparation	batch	n 727	1-039				,		
S101004-01			8657-001	ITL2724-02	υ	*			
S101004-02			8657-002	Lab Control Sample	ok				
S101004-03			8657-003	Method Blank	υ				
S101004-04			8657-004	Duplicate (S101004-01)	-	υ			
Nominal val	ues a	nd li	mits from m	nethod RDLs (pCi/L)	2.00)		 	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT	SAMPLE ID		MDA pCi/I	ALIQ L L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation	batc	h 727	1-039	2ø prep	error	10.4 %	Reference	Lab	Noteboo	k No.	7271	pg.039	•					
- S101004-01			ITL272	4-02		1.94	4 0.500			44		50			27	01/19/11	01/26	GRB-228
S101004-02			Lab Co	ntrol Sampl	e	1.12	2 0.500			59		50				01/19/11	01/26	GRB-221
S101004-03			Method	Blank		2.02	20.500			44		50				01/19/11	01/26	GRB-230
S101004-04			Duplic	ate (S1010(04-01)	1.7	5 0.500			55		50			27	01/19/11	01/26	GRB-231
Nominal val	ues a	nd li	mits fr	om method		2.0	0 0.500			30-10	5	50			180			

PROCEDURES REFERENCE 905.0	AVERAGES ± 2 SD	MDA <u>1.71</u> ± <u>0.815</u>
DWP-380 Strontium in Drinking Water, rev 8	FOR 4 SAMPLES	YIELD <u>50</u> ± <u>15</u>

Lab id	EAS			
Protocol	<u>TA</u>			
Version	<u>Ver 1.0</u>			
Form	DVD-LMS			
Version	3.06			
Report date	02/01/11			

METHOD SUMMARIES Page 2 SUMMARY DATA SECTION Page 13

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SDG 8657

Test	80A Matrix WATER
SDG	8657
Contact	N. Joseph Verville

LAB METHOD SUMMARY

GROSS ALPHA IN WATER GAS PROPORTIONAL COUNTING Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

RESULTS

LAB SAMPLE ID	RAW SUF TEST FIX	- PLANCHET	CLIENT SAMPLE ID	Gross Alpha
Preparation	batch 72	271-039		
S101004-01	80	8657-001	ITL2724-02	σ
S101004-02	80	8657-002	Lab Control Sample	ok
S101004-03	80	8657-003	Method Blank	σ
S101004-04	80	8657-004	Duplicate (S101004-01)	ok J
Nominal val	ues and 1	imits from m	ethod RDLs (pCi/L)	3.00

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation	batcl	h 727	1-039 2ø prep error	20.6 % Re	eference	Lab N	loteboo	k No.	7271	pg.039	9					
s101004-01	80		ITL2724-02	0.412	0.300			20	•	400			12	01/11/11	01/11	GRB-112
S101004-02	80		Lab Control Sample	0.821	0.250			62		400				01/11/11	01/11	GRB-214
S101004-03	80		Method Blank	0.620	0.250			61		400				01/11/11	01/11	GRB-216
S101004-04	80		Duplicate (S101004-01)	0.372	0.300			20		400			12	01/11/11	01/11	GRB-105
Nominal val	ues a	nd li	mits from method	3.00	0.250			0-20	0	100			180			

 PROCEDURES	REFERENCE DWP-121	900.0 Gross Alpha and Gross Beta in Drinking Water,	AVERAGES ± 2 SD FOR 4 SAMPLES	MDA <u>0.556</u> ± <u>0.415</u> RESIDUE <u>41</u> ± <u>48</u>
		rev 10	-	* · ·

Lab id	EAS		
Protocol	<u>TA</u>		
Version	<u>Ver 1.0</u>		
Form	DVD-LMS		
Version	3.06		
Report date	02/01/11		

METHOD SUMMARIES Page 3 SUMMARY DATA SECTION Page 14

SDG 8657

Test	80B Matrix WATER
SDG	8657
Contact	<u>N. Joseph Verville</u>

LAB METHOD SUMMARY

GROSS BETA IN WATER GAS PROPORTIONAL COUNTING

Client Test America, Inc. Contract ITL2724

RESULTS

LAB SAMPLE ID	RAW SUF- TEST FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta	
Preparation	batch 727	1-039			
S101004-01	80	8657-001	ITL2724-02	1.23 J	
S101004-02	80	8657-002	Lab Control Sample	ok	
S101004-03	80	8657-003	Method Blank	υ	
S101004-04	80	8657-004	Duplicate (S101004-01)	ok J	
Nominal val	ues and li	mits from m	ethod RDLs (pCi/L)	4.00	

METHOD PERFORMANCE

LAB SAMPLE ID	raw Test	SUF- FIX	CLIENT SAMPLE	ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	RESID) EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation	batch	n 727	1-039 20 [.] pr	rep error	11.0 % R	eference	Lab	Noteboo	k No.	7271	pg.039)					
S101004-01	80		ITL2724-02		0.835	0.300			20		400			12	01/11/11	01/11	GRB-112
S101004-02	80		Lab Control Sa	ample	1.13	0.250			62		400				01/11/11	01/11	GRB-214
S101004-03	80		Method Blank	-	1.11	0.250			61		400				01/11/11	01/11	GRB-216
S101004-04	80		Duplicate (S10	01004-01)	0.884	0.300			20		400			12	01/11/11	01/11	GRB-105
Nominal val	ues a	nd li	mits from metho	bd	4.00	0.250			0-20	00	100			180			

PROCEDURES	REFERENCE DWP-121	900.0 Gross Alpha and Gross Beta in Drinking Water,	AVERAGES ± 2 SD FOR 4 SAMPLES	MDA <u>0.990</u> ± <u>0.30</u> RESIDUE <u>41</u> ± <u>48</u>	<u>14</u>
		rev 10			

Lab id	EAS
Protocol	<u>TA</u>
Version	<u>Ver 1.0</u>
Form	DVD-LMS
Version	3.06
Report date	02/01/11

METHOD SUMMARIES Page 4 SUMMARY DATA SECTION Page 15

SDG 8657

Test GAM Matrix WATER SDG <u>8657</u> Contact <u>N. Joseph Verville</u>

LAB METHOD SUMMARY

Client Test America, Inc. Contract ITL2724

GAMMA EMITTERS IN WATER

GAMMA SPECTROSCOPY

RESULTS

LAB SAMPLE ID	RAW S TEST F	UF- IX P	LANCHET	CLIENT SAMPLE ID	Cobalt-60	Cesium-	-137
Preparation	h batch	7271-	-039				
s101004-01		8	3657-001	ITL2724-02		U	
S101004-02		8	3657-002	Lab Control Sample	ok	ok	
S101004-03		8	3657-003	Method Blank		υ	
S101004-04		8	3657-004	Duplicate (S101004-01)		-	υ
Nominal va	lues and	1 limi	its from m	nethod RDLs (pCi/L)	10.0	20.0	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT	SAMPLE ID	м рС	DA AL i/L L	IQ	PREP FAC	DILU- TION	YIELD %	EFF	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation	1 batc	h 727	1-039	2ø prep err	or 7.0 %	Refere	nce	Lab 1	Notebool	k No.	7271	pg.03	9					
s101004-01			ITL272	4-02		2.	00					946			11	01/10/11	01/10	01,04,00
S101004-02			Lab Co	ntrol Sample		2.	00					946				01/10/11	01/10	MB,05,00
S101004-03			Method	Blank		2.	00					924				01/10/11	01/10	MB,08,00
s101004-04			Duplic	ate (S101004-0)1)	2.	00					596			12	01/10/11	01/11	01,02,00
Nominal va	lues a	nd li	mits fr	om method	6	.00 2.	00			-		400			180			

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

EAS
<u>TA</u>
<u>Ver 1.0</u>
DVD-LMS
3.06
02/01/11

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SDG 8657

Test <u>U T</u> Matrix <u>WATER</u> SDG <u>8657</u> Contact <u>N. Joseph Verville</u>

LAB METHOD SUMMARY

URANIUM, TOTAL KINETIC PHOSPHORIMETRY, UG Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Uranium, Total	
Preparation	n batc	h 727:	1-039			
			8657-001	ITL2724-02	0.093 J	
S101004-02			8657-002	Lab Control Sample	ok	
S101004-03			8657-003	Method Blank	U	
S101004-04			8657-004	Duplicate (S101004-01)	ok J	
Nominal va	lues a	nd li	mits from m	ethod RDLs (pCi/L)	1.00	

METHOD PERFORMANCE

LAB SAMPLE ID	raw Test	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation	batcl	n 727	1-039 2ø prep error	Ref	erence	Lab N	oteboo	k No.	7271	pg.03	9					
S101004-01			ITL2724-02	0.017 0	0.0200								21	01/20/11	01/20	KPA-001
S101004-02			Lab Control Sample	0.174 0	0.0200									01/20/11	01/20	KPA-001
S101004-03			Method Blank	0.017 0	0.0200									01/20/11	01/20	KPA-001
S101004-04			Duplicate (S101004-01)	0.017 0	0.0200								21	01/20/11	01/20	KPA-001
Nominal val	ues a	nd li	mits from method	1.00 0	0.0200								180			

PROCEDURES REFERENCE D5174

AVERAGES ± 2 SD	MDA _	0.056	±	0.157
FOR 4 SAMPLES	YIELD -		±	

	the second se
Lab id	EAS
Protocol	<u>TA</u>
Version	<u>Ver 1.0</u>
Form	DVD-LMS
Version	3.06
Report date	02/01/11

METHOD SUMMARIES Page 6 SUMMARY DATA SECTION Page 17

SDG 8657

Test	H Matrix WATER
SDG	8657
Contact	N. Joseph Verville

LAB METHOD SUMMARY

TRITIUM IN WATER LIQUID SCINTILLATION COUNTING Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Trit	ritium
Preparation	ı batcl	n 727	1-039			
S101004-01			8657-001	ITL2724-02	U	U
S101004-02			8657-002	Lab Control Sample	ok	ĸ
S101004-03			8657-003	Method Blank	U	U
S101004-04			8657-004	Duplicate (S101004-01)	-	- U
Nominal va	lues a	nd li	mits from n	nethod RDLs (pCi/L)	500)

METHOD PERFORMANCE

LAB SAMPLE ID	RAW SUF	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation	batch 72	71-039 2σ prep error	10.0 %	Reference	Lab I	Noteboo	k No.	7271	pg.039	•					
S101004-01		ITL2724-02	323	0.0100			100		50			19	01/18/11	01/18	LSC-006
S101004-02		Lab Control Sample	327	0.100			10		50				01/18/11	01/18	LSC-006
S101004-03		Method Blank	319	0.100			10		50				01/18/11	01/18	LSC-006
S101004-04		Duplicate (S101004-01)	321	0.0100			100		50			19	01/18/11	01/18	LSC-006
Nominal val	ues and 1	limits from method	500	0.0100					100			180			

PROCEDURES REFERENCE 906.0 DWP-212 Tritiv

Tritium in Drinking Water by Distillation, rev 8

 AVERAGES ± 2 SD
 MDA 322 ± 6.83

 FOR 4 SAMPLES
 YIELD 55 ± 104

Lab id	EAS
Protocol	<u>TA</u>
Version	<u>Ver 1.0</u>
Form	DVD-LMS
Version	3.06
Report date	02/01/11

METHOD SUMMARIES Page 7 SUMMARY DATA SECTION Page 18

SDG 8657

Test	RAMatrix WATER
SDG	8657
Contact	N. Joseph Verville

LAB METHOD SUMMARY

RADIUM-226 IN WATER RADON COUNTING Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

RESULTS

LAB SAMPLE ID	RAW SUF TEST FIX	PLANCHET	CLIENT SAMPLE ID	Radium-226
Preparation	batch 72	71-039		
S101004-01		8657-001	ITL2724-02	υ
S101004-02		8657-002	Lab Control Sample	ok
S101004-03		8657-003	Method Blank	υ
S101004-04		8657-004	Duplicate (S101004-01)	- U
Nominal val	lues and 1	imits from m	ethod RDLs (pCi/L)	1.00

METHOD PERFORMANCE

LAB SAMPLE II	RA) D TE	W ST	SUF- FIX	CLIENT	SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparati	ion ba	tch	727	1-039	2σ prep error	16.4 % F	eference	Lab	Noteboo	k No.	7271	pg.039	•					
- S101004-0	01			ITL272	4-02	0.541	0.100			100		106			22	01/21/11	01/21	RN-012
S101004-0	02			Lab Co	ntrol Sample	0.639	0.100			100		106				01/21/11	01/21	RN-011
S101004-0	03			Method	Blank	0.627	0.100			100		106				01/21/11	01/21	RN-015
S101004-0	04			Duplic	ate (S101004-01)	0.566	5 0.100			100		106			22	01/21/11	01/21	RN-014
Nominal	values	an	nd li	mits fr	om method	1.00	0.100					100			180			

PRO	CEDURES	REFERENCE	903.1	AVERAGES ± 2 SD	MDA 0.593 ± 0.095
		DWP-881A	Ra-226 Screening in Drinking Water, rev 6	FOR 4 SAMPLES	YIELD <u>100</u> ± <u>0</u>

Lab id	EAS
Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-LMS
Version	3.06
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SDG 8657

SDG <u>8657</u> Contact <u>N. Joseph Verville</u>

REPORT GUIDE

Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

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.

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Protocol	TA
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Report date	02/01/11

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SDG	86	57	
Contact	<u>N.</u>	Joseph	Verville

REPORT GUIDE

Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

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.

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Protocol	TA
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Report date	<u>02/01/11</u>

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SDG <u>8657</u> Contact <u>N. Joseph Verville</u>

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Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

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.

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Lab id EAS Protocol TA Version Ver 1.0 Form DVD-RG Version 3.06 Report date <u>02/01/11</u>

SDG 8657

SDG	865	57	
Contact	<u>N.</u>	Joseph	Verville

REPORT GUIDE

Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

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.

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<u>Ver 1.0</u>
DVD-RG
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Contact	Ν.	Joseph	Verville

GUIDE, cont.

Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

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

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SDG 8657

SDG <u>8657</u> Contact <u>N. Joseph Verville</u>

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Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

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.

Lab id <u>EAS</u> Protocol <u>TA</u> Version <u>Ver 1.0</u> Form <u>DVD-RG</u> Version <u>3.06</u> Report date <u>02/01/11</u>

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SDG 8657

SDG <u>8657</u> Contact <u>N. Joseph Verville</u>

REPORT GUIDE

Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

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.

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Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-RG
Version	3.06
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SDG 8657

SDG <u>8657</u> Contact <u>N. Joseph Verville</u>

REPORT GUIDE

Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

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.

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SDG 8657

SDG <u>8657</u> Contact <u>N. Joseph Verville</u>

GUIDE, cont.

Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

DUPLICATE

- 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.

Lab id	EAS
Protocol	<u>TA</u>
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Form	DVD-RG
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-	

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SDG 8657

SDG <u>8657</u> Contact <u>N. Joseph Verville</u>

REPORT GUIDE

Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

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.

> Lab id <u>EAS</u> Protocol <u>TA</u> Version <u>Ver 1.0</u> Form <u>DVD-RG</u> Version <u>3.06</u> Report date <u>02/01/11</u>

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Contact	N. Joseph Verville

GUIDE, cont.

Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

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.

Lab id <u>EAS</u> Protocol <u>TA</u> Version <u>Ver 1.0</u> Form <u>DVD-RG</u> Version <u>3.06</u> Report date <u>02/01/11</u>

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SDG	8657	
Contact	N. Joseph	Verville

REPORT GUIDE

Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

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 31

5 0.448 - W. S. Manakara	
Lab id	EAS
Protocol	<u>TA</u>
Version	<u>Ver 1.0</u>
Form	DVD-RG
Version	3.06
Report date	02/01/11
-	

SDG 8657

SDG <u>8657</u> Contact <u>N. Joseph Verville</u>

GUIDE, cont.

Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

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.
- * Prepareation 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

Lab id <u>EAS</u> Protocol <u>TA</u> Version <u>Ver 1.0</u> Form <u>DVD-RG</u> Version <u>3.06</u> Report date <u>02/01/11</u>

REPORT GUIDES Page 13 SUMMARY DATA SECTION Page 32

SDG 8657

SDG	865	57	
Contact	<u>N.</u>	Joseph	Verville

GUIDE, cont.

Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

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.

> Lab id <u>EAS</u> Protocol <u>TA</u> Version <u>Ver 1.0</u> Form <u>DVD-RG</u> Version <u>3.06</u> Report date <u>02/01/11</u>

REPORT GUIDES Page 14 SUMMARY DATA SECTION Page 33

SDG <u>8657</u> Contact <u>N. Joseph Verville</u> GUIDE, cont.

Client <u>Test America, Inc.</u> Contract <u>ITL2724</u>

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	<u>TA</u>
Version	<u>Ver 1.0</u>
Form	DVD-RG
Version	3.06
Report date	02/01/11

REPORT GUIDES Page 15 SUMMARY DATA SECTION Page 34

SUBCONTRACT ORDER

TestAmerica Irvine

ITL2724

SENDING LABORATORY:RECEIVING LABORATORY:TestAmerica IrvineEberline Services17461 Derian Avenue. Suite 1002030 Wright AvenueIrvine, CA 92614Richmond, CA 94804Phone: (949) 261-1022Phone: :(510) 235-2633Fax: (949) 260-3297Fax: :(510) 235-0438Project Manager:Debby Wilson

Analysis	Due	Expires	Laboratory ID	Comments	
Sample ID: ITL2724-02	Water	Sampled: 12/30/10 02:55		correct	collection Date
Uranium, Combined-O	01/04/11 15:00	12/30/11 02:55		Out Eberline, Boein	g permit, DO NOT FILTER!
Tritium-O	01/04/11 15:00	12/30/11 02:55		Out Eberline, Boein	g permit, DO NOT FILTER!
Strontium 90-O	01/04/11 15:00	12/30/11 02:55		Out Eberline, Boein	g permit, DO NOT FILTER!
Radium, Combined-O	01/04/11 15:00	12/30/11 02:55		Out Eberline Boein	g permit, DO NOT FILTER!
Level 4 Data Package - Out	01/04/11 15:00	01/27/11 02:55			
Gross Beta-O	01/04/11 15:00	06/28/11 02:55		Out Eberline Boein	g permit, DO NOT FILTER!
Gross Alpha-O	01/04/11 15:00	06/28/11 02:55		Out Eberline, Boeir	ng permit, DO NOT FILTER!
Gamma Spec-O	01/04/11 15:00	12/30/11 02:55		Out Eberline, k-40 ; FILTER!	and cs-137 only, DO NOT
Containers Supplied:					
2.5 gal Poly (H)	500 mL Amber	(I)			

Released By	Date	Received By	Date
Released By	Date	Received By	Date

8657

DEC. 30. 2010 7:35PM

TESTAMERICA

NO. 028 P. 1

SUBCONTRACT ORDER **TestAmerica** Irvine

ITL2724

8657

See Hacked connected collection Dard ~ RECEIVING LABORATORY: SENDING LABORATORY: **Eberline Services** TestAmerica Irvine 2030 Wright Avenue 17461 Derian Avenue. Suite 100 Richmond, CA 94804 Irvine, CA 92614 Phone :(510) 235-2633 Phone: (949) 261-1022 Fax: (510) 235-0438 Fax: (949) 260-3297 Project Location: California Project Manager: Debby Wilson Y / N °Ċ Ice: Receipt Temperature:

Analysis	Units	Due	Expires	Comments
Sample ID: ITL2724-02 (Out	falì 009 (Cor	np) - Water)	Sampled: 12/29/10 00	0:00
Gamma Spec-O	mg/kg	01/04/11	12/29/11 00:00	Out Eberline, k-40 and cs-137 only, DO
Gross Alpha-O	pCi/L	01/04/11	06/27/11 00:00	Out Eberline, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	01/04/11	06/27/11 00:00	Out Eberline Boeing permit, DO NOT FILTER!
Level 4 Data Packade - Ou	t N/A	01/04/11	01/26/11 00:00	
Radium, Combined-O	pCi/L	01/04/11	12/29/11 00:00	Out Eberline Boeing permit, DO NOT
Strontium 90-0	pCi/L	01/04/11	12/29/11 00:00	Out Eberline, Boeing permit, DO NOT FILTER!
Tritium-O	pÇi/L	01/04/11	12/29/11 00:00	Out Eberline, Boeing permit, DO NOT
Uranium, Combined-O	pCi/L	01/04/11	12/29/11 00:00	Out Eberline, Boeing permit, DO NOT FILTER!
Containers Supplied: 2.5 gal Poly (H)	500 mL Am	ber (I)		

2130/10 Released By

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Date/Time 12/3/10

Date/Time

Date/Time Received By KELENGON 31/10/0 121 ίX Eplecie Page 1 of 1 Date/Time Received By

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APPENDIX G

Section 35

Outfall 011 – December 22 & 23, 2010 MECX Data Validation Report THIS PAGE LEFT INTENTIONALLY BLANK



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ITL2272

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:	ITL2272
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 011 (Grab)	ITL2272-01	N/A	Water	12/22/2010 10:45:00 AM	120.1
Outfall 011 (Composite)	ITL2272-03	G0L290493-001, S012364-01	Water	12/23/2010 10:54:00 AM	1613B, 900, 901.1, 903.1, 904, 905, 906, 245.1, 245.1-Diss, 200.7, 200.7-Diss, SM 2540D, 200.8, 200.8-Diss, 180.1, D5174

II. Sample Management

No anomalies were observed regarding sample management. The temperature upon receipt was not noted by Eberline; however, due to the nonvolatile nature of the analytes, no qualifications were required. The remaining samples in this SDG were received at the laboratories within the temperature limits of $4^{\circ}C \pm 2^{\circ}C$. 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 in this SDG were delivered by courier, custody seals were not required.

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

Data Qualifier Reference Table

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

Qualification Code Reference Table

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin Date Reviewed: January 19, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the MEC^{\times} 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.
 - o Initial Calibration: Initial calibration criteria were met. The initial calibration was acceptable with %RSDs ≤20% for the 15 native compounds (calibration by isotope dilution) and ≤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 between the EDL and the RL for several isomers and totals. Most method blank detects were reported as EMPCs; however, due to the extent of the method blank contamination, the reviewer considered it appropriate to use the EMPCs to qualify sample results. All individual isomers detected in both the method blank and site sample were qualified as nondetected, "U" at the EDL, or at the level of

contamination in the sample. The sample totals containing one or more peaks detected in the method blank were qualified as estimated, "J."

- Blank Spikes and Laboratory Control Samples: OCDD and 1,2,3,4,6,7,8-HpCDF were recovered above the control limits in the LCS; however, neither isomer was reportable in the associated sample. The remaining LCS recoveries were within the acceptance criteria listed in Table 6 of Method 1613.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Internal Standards Performance: The labeled standard recoveries in 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 quantitation was verified by recalculating a representative number of reportable sample results. Any individual isomers reported as EMPCs previously qualified as nondetected for method blank contamination were not further qualified as EMPCs. Any totals including EMPC peaks were qualified as estimated, "J." 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, 200.8, and 245.1—Metals and Mercury

Reviewed By: P. Meeks Date Reviewed: January 17, 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 Methods 200.7, 200.8, 245.1, and the National Functional Guidelines for Inorganic Data Review (7/02).

• Holding Times: Analytical holding times, six months for ICP and ICP-MS metals and 28 days for mercury, were met.

- Tuning: The mass calibration and resolution checks criteria were met. All tuning solution %RSDs were ≤5%, and all masses of interest were calibrated to ≤ 0.1 amu and ≤0.9 amu at 10% peak height.
- Calibration: Calibration criteria were met. The reviewer was not able to exactly reproduce the total mercury initial calibration curve; however the difference was less than 5% and was considered acceptable. Mercury initial calibration r² values were ≥0.995 and all initial and continuing calibration recoveries were within 90-110% for the ICP and ICP-MS metals and 85-115% for mercury. CRDL/CRI recoveries were within the control limits of 70-130%.
- Blanks: Manganese was detected in a bracketing CCB at 0.85 μg/L; therefore dissolved manganese in the sample was qualified as nondetected, "U," at the level of contamination. Method blanks and CCBs had no other detects.
- Interference Check Samples: Recoveries were within the method- (6010B) or laboratory-(6020) established control limits. There were no target compounds present in the ICSA solution at concentrations indicative of matrix interference.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratoryestablished 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 the sample in this SDG for the 200.7 dissolved analytes. Recoveries and RPDs were within laboratoryestablished QC limits.
- Serial Dilution: No serial dilution analyses were performed on the sample in this SDG.
- Internal Standards Performance: All sample internal standard intensities were within 30-120% of the internal standard intensities measured in the initial calibration. All CCV and CCB internal standard intensities were within 80-120% of the internal standard intensities measured in the initial calibration.

Lead was not bracketed by an internal standard of higher mass; therefore, total and dissolved lead detected in the sample were qualified as estimated, "J."

 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.

C. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks Date Reviewed: February 8, 2011

The samples 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 prepared within the five-day analytical holding time for unpreserved samples.
- Calibration: The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability.

The gross alpha detector efficiency was less than 20%; therefore, gross alpha detected in the sample was qualified as estimated, "J." The remaining detector efficiencies were greater than 20%.

The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. 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.

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

- Laboratory Duplicates: There were no laboratory duplicate analyses were performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed for the sample in this SDG. Method accuracy was evaluated based on the LCS results.
- Sample Result Verification: An EPA Level IV review was performed for the sample in this data package. The sample results and MDAs reported on the sample result form were verified against the raw data and no calculation or transcription errors were noted. 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.
- A notation in the sample preparation logbook indicated that the aliquots for radium-226, radium-228, and strontium were filtered and that the filter was digested and added to the aliquot.
- 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 17, 2011

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X* Data Validation Procedure for General Minerals (DVP-6, Rev. 0), EPA Methods 120.1, 180.1, and Standard Method 2540D, and the National Functional Guidelines for Inorganic Data Review (7/02).

- Holding Times: Analytical holding times, 48 hours from collection for turbidity, seven days from collection for TSS, and 28 days for conductivity, were met.
- Calibration: Calibration criteria were met. The initial calibration r² values were ≥0.995 and all initial and continuing calibration recoveries were within 90-110%. The balance logs were acceptable.

- Blanks: Method blanks and CCBs had no detects.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratoryestablished QC limits.
- Laboratory Duplicates: A laboratory duplicate analyses was performed on the sample in this SDG for turbidity. The RPD was within the laboratory-established control limit.
- 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.
- 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.

Turbidity was analyzed at a 5× dilution in order to report the analyte within the linear range of the calibration.

- 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 ITL2272

Analysis Method 8649 Sample Name Outfall 011 (Composite) Matrix Type: WATER Validation Level: IV Sample Date: 12/23/2010 10:54:00 AM Lab Sample Name: ITL2272-03 Analyte CAS No Result RL MDL Result Lab Validation Validation Value Units Qualifier **Oualifier** Notes Uranium. Total 0.477 0.017 pCi/L DNQ 1 Jb J Analysis Method 900 Sample Name Outfall 011 (Composite) Matrix Type: WATER Validation Level: IV Sample Date: 12/23/2010 10:54:00 AM ITL2272-03 Lab Sample Name: Result RL Analyte CAS No MDL Result Lab Validation Validation Value Units **Oualifier** Qualifier Notes Gross Alpha 12587461 5.1 3 0.467 pCi/L T С Gross Beta 12587472 5.75 4 0.926 pCi/L Analysis Method 901.1 Matrix Type: WATER Sample Name Outfall 011 (Composite) Validation Level: IV ITL2272-03 Sample Date: 12/23/2010 10:54:00 AM Lab Sample Name: CAS No Result RL Analyte MDL Result Lab Validation Validation Value Units Qualifier Qualifier Notes Cesium-137 10045973 ND 20 1.28 pCi/L U U Potassium-40 13966002 ND 25 16.2 pCi/L U U Analysis Method 903.1 Matrix Type: WATER Validation Level: IV Sample Name Outfall 011 (Composite) Sample Date: 12/23/2010 10:54:00 AM ITL2272-03 Lab Sample Name: CAS No Analyte Result RL MDL Result Lab Validation Validation Qualifier Value Units Qualifier Notes Radium-226 13982633 0.888 1 0.679 pCi/L Jb DNQ J Analysis Method 904 Matrix Type: WATER Validation Level: IV Sample Name Outfall 011 (Composite) Sample Date: 12/23/2010 10:54:00 AM Lab Sample Name: ITL2272-03 Analyte CAS No Result RL MDL Result Lab Validation Validation Value Units Qualifier Qualifier Notes Radium-228 15262201 0.262 1 0.556 pCi/L U U

Tuesday, February 08, 2011

Sample Name	Outfall 011 (Composite	e) Matri	x Type:	WATER	V	alidation Le	vel: IV
Lab Sample Name:	ITL2272-03	Sam	ple Date:	12/23/20	10 10:54:00 A	AM		
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	-0.041	2	0.78	pCi/L	U	U	
Analysis Method	d 906							
Sample Name	Outfall 011 (Composite	e) Matri	x Type:	WATER	V	alidation Le	vel: IV
Lab Sample Name:	ITL2272-03	Sam	ple Date:	12/23/20	10 10:54:00 A	AM		
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	49.5	500	271	pCi/L	U	U	
Analysis Method	d EPA	120.1						
Sample Name	Outfall 011 (0	Grab)	Matri	x Type:	Water	V	alidation Le	vel: IV
Lab Sample Name:	ITL2272-01	Sam	ple Date:	12/22/20	10 10:45:00 A	AM		
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Specific Conductance	NA	120	1.0	1.0	umhos/c			
Analysis Method	d EPA	180.1						
Sample Name	Outfall 011 (Composite	e) Matri	x Type:	Water	V	alidation Le	vel: IV
Lab Sample Name:	ITL2272-03	Sam	ple Date:	12/23/20	10 10:54:00 A	AM		
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Furbidity	Turb	190	5.0	0.20	NTU			
Analysis Method	d EPA	200.7						
Sample Name	Outfall 011 (Composite	e) Matri	x Type:	Water	V	alidation Le	vel: IV
Lab Sample Name:	ITL2272-03	Sam	ple Date:	12/23/20	10 10:54:00 A	AM		
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Iron	7439-89-6	6.4	0.040	0.015	mg/l			
Zinc	7440-66-6	28.3	20.0	6.00	ug/l			

Analysis Method 905

Sample Name	Outfall 011 (C	Composite) Matri	х Туре:	Water	V	alidation Le	vel: IV
Lab Sample Name:	ITL2272-03	Sam	ple Date:	12/23/201	0 10:54:00 /	АМ		
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Iron	7439-89-6	0.37	0.040	0.015	mg/l			
Zinc	7440-66-6	ND	20.0	6.00	ug/l		U	
Analysis Metho	od EPA 2	200.8						
Sample Name	Outfall 011 (C	Composite) Matri	x Type:	Water	V	alidation Le	vel: IV
Lab Sample Name:	ITL2272-03	Sam	ple Date:	12/23/201	0 10:54:00 /	АМ		
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cadmium	7440-43-9	0.16	1.0	0.10	ug/l	Ja	1	DNQ
Copper	7440-50-8	6.29	2.00	0.500	ug/l			
Lead	7439-92-1	4.6	1.0	0.20	ug/l		J	*III
	7420.06.5	62	1.0	0.70	ug/l			
Manganese	/439-96-5	02			-			
Manganese Selenium	7439-96-5	ND	2.0	0.50	ug/l		U	
Manganese Selenium Analysis Metho	7782-49-2 od EPA 2	ND 200.8-L	2.0 Diss	0.50	ug/l		U	
Manganese Selenium Analysis Metho Sample Name	7782-49-2 od EPA 2 Outfall 011 (C	ND 200.8-L	2.0 Diss) Matri	0.50 x Type:	ug/l Water	N	U /alidation Le	vel: IV
Manganese Selenium Analysis Metho Sample Name Lab Sample Name:	7439-96-5 7782-49-2 Od EPA 2 Outfall 011 (C ITL2272-03	ND 200.8-L Composite Sam	2.0 Diss) Matri ple Date:	0.50 x Type: 12/23/201	ug/l Water 0 10:54:00 /	N AM	U 7alidation Le	vel: ^{IV}
Manganese Selenium Analysis Metho Sample Name Lab Sample Name: Analyte	7782-49-2 20 EPA 2 Outfall 011 (C ITL2272-03 CAS No	ND 200.8-L Composite Sam Result Value	2.0 Diss) Matri ple Date: RL	0.50 x Type: 12/23/201 MDL	ug/l Water 0 10:54:00 / Result Units	AM Lab Qualifier	U Validation Le Validation Qualifier	vel: ^{IV} Validation Notes
Manganese Selenium Analysis Metho Sample Name Lab Sample Name: Analyte	7439-96-5 7782-49-2 od EPA 2 Outfall 011 (C ITL2272-03 CAS No 7440-43-9	ND 200.8-L Composite Sam Result Value ND	2.0 Diss) Matri ple Date: RL	0.50 x Type: 12/23/201 MDL 0.10	ug/l Water 0 10:54:00 / Result Units ug/l	AM Lab Qualifier	U Validation Le Validation Qualifier U	vel: ^{IV} Validation Notes
Manganese Selenium Analysis Metho Sample Name Lab Sample Name: Analyte Cadmium Copper	7439-96-5 7782-49-2 Od EPA 2 Outfall 011 (C ITL2272-03 CAS No 7440-43-9 7440-50-8	ND 200.8-L Composite Sam Result Value ND 2.2	2.0 <i>Diss</i>) Matri ple Date: RL 1.0 2.0	0.50 x Type: 12/23/201 MDL 0.10 0.50	ug/l Water 0 10:54:00 / Result Units ug/l ug/l	AM Lab Qualifier	U Validation Le Validation Qualifier U	vel: ^{IV} Validation Notes
Manganese Selenium Analysis Metho Sample Name Lab Sample Name: Analyte Cadmium Copper Lead	7439-96-5 7782-49-2 od EPA 2 Outfall 011 (C ITL2272-03 CAS No 7440-43-9 7440-50-8 7439-92-1	ND 200.8-L Composite Sam Result Value ND 2.2 0.20	2.0 Diss) Matri ple Date: RL 1.0 2.0 1.0	0.50 x Type: 12/23/201 MDL 0.10 0.50 0.20	ug/l Water 0 10:54:00 / Result Units ug/l ug/l ug/l	AM Lab Qualifier Ja	U Validation Le Validation Qualifier U	vel: ^{IV} Validation Notes DNQ, *III
Manganese Selenium Analysis Metho Sample Name Lab Sample Name: Analyte Cadmium Copper Lead Manganese	7439-96-5 7782-49-2 od EPA 2 Outfall 011 (C ITL2272-03 CAS No 7440-43-9 7440-50-8 7439-92-1 7439-96-5	ND 200.8-L Composite Sam Result Value ND 2.2 0.20 ND	2.0 Diss) Matri ple Date: RL 1.0 2.0 1.0 1.0	0.50 x Type: 12/23/201 MDL 0.10 0.50 0.20 2.7	ug/l Water 0 10:54:00 / Result Units ug/l ug/l ug/l ug/l	AM Lab Qualifier Ja	U Validation Le Validation Qualifier U J U	vel: IV Validation Notes DNQ, *III B
Manganese Selenium Analysis Metho Sample Name Lab Sample Name: Analyte Cadmium Copper Lead Manganese Selenium	7439-96-5 7782-49-2 Od EPA 2 Outfall 011 (C ITL2272-03 CAS No 7440-43-9 7440-50-8 7439-92-1 7439-96-5 7782-49-2	ND 200.8-L Composite Sam Result Value ND 2.2 0.20 ND ND	2.0 Diss) Matri ple Date: RL 1.0 2.0 1.0 1.0 2.0	0.50 x Type: 12/23/201 MDL 0.10 0.50 0.20 2.7 0.50	ug/l Water 0 10:54:00 / Result Units ug/l ug/l ug/l ug/l ug/l	AM Lab Qualifier Ja	U Validation Le Validation Qualifier U J U U	vel: ^{IV} Validation Notes DNQ, *III B
Manganese Selenium Analysis Metho Sample Name Lab Sample Name: Analyte Cadmium Copper Lead Manganese Selenium Analysis Metho	7439-96-5 7782-49-2 Od EPA Outfall 011 (0 ITL2272-03 CAS No 7440-43-9 7440-50-8 7439-92-1 7439-96-5 7782-49-2 Od EPA	ND 200.8-L Composite Sam Result Value ND 2.2 0.20 ND 2.2 0.20 ND 245.1	2.0 Diss) Matri ple Date: RL 1.0 2.0 1.0 1.0 2.0	0.50 x Type: 12/23/201 MDL 0.10 0.50 0.20 2.7 0.50	ug/l Water 0 10:54:00 / Result Units ug/l ug/l ug/l ug/l ug/l	AM Lab Qualifier Ja	U Validation Le Validation Qualifier U J U U U	vel: ^{IV} Validation Notes DNQ, *III B
Manganese Selenium Analysis Metho Sample Name Lab Sample Name: Analyte Cadmium Copper Lead Manganese Selenium Analysis Metho Sample Name	7439-96-5 7782-49-2 Od EPA Outfall 011 (0 ITL2272-03 CAS No 7440-43-9 7440-43-9 7440-50-8 7439-96-5 7782-49-2 Od EPA Outfall 011 (0 Outfall 011 (0	ND 200.8-L Composite Sam Result Value ND 2.2 0.20 ND 2.2 0.20 ND 245.1 Composite	2.0 2.0 Diss) Matri ple Date: RL 1.0 2.0 1.0 2.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	0.50 x Type: 12/23/201 MDL 0.10 0.50 0.20 2.7 0.50 x Type:	ug/l Water 0 10:54:00 / Result Units ug/l ug/l ug/l ug/l ug/l ug/l	AM Lab Qualifier Ja	U Validation Le Validation Qualifier U J U U	vel: IV Validation Notes DNQ, *III B vel: IV
Manganese Selenium Analysis Metho Sample Name Lab Sample Name: Analyte Cadmium Copper Lead Manganese Selenium Analysis Metho Sample Name Lab Sample Name Lab Sample Name:	7439-96-5 7782-49-2 Od EPA 2 Outfall 011 (C ITL2272-03 CAS No 7440-43-9 7440-50-8 7439-96-5 7782-49-2 Od EPA 2 Outfall 011 (C ITL2272-03	ND 200.8-L Composite Sam Result Value ND 2.2 0.20 ND 2.2 0.20 ND 2.45.1 Composite Sam	2.0 Diss) Matri ple Date: RL 1.0 2.0 1.0 1.0 2.0) Matri ple Date:	0.50 x Type: 12/23/201 MDL 0.10 0.50 0.20 2.7 0.50 x Type: 12/23/201	ug/l Water 0 10:54:00 4 Result Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l 0 10:54:00 4	AM Lab Qualifier Ja	U Validation Le Validation Qualifier U J U U V alidation Le	vel: IV Validation Notes DNQ, *III B vel: IV
Manganese Selenium Analysis Metho Sample Name Lab Sample Name: Analyte Cadmium Copper Lead Manganese Selenium Analysis Metho Sample Name Lab Sample Name Lab Sample Name: Analyte	7439-96-5 7782-49-2 Od EPA 2 Outfall 011 (0 ITL2272-03 CAS No 7440-43-9 7440-50-8 7439-92-1 7439-96-5 7782-49-2 Od EPA 2 Outfall 011 (0 ITL2272-03 CAS No	ND 200.8-L Composite Sam Result Value ND 2.2 0.20 ND 2.2 0.20 ND 245.1 Composite Sam Result Value	2.0 Diss) Matri ple Date: RL 1.0 2.0 1.0 1.0 2.0) Matri ple Date: RL	0.50 x Type: 12/23/201 MDL 0.10 0.50 0.20 2.7 0.50 x Type: 12/23/201 MDL MDL	ug/l Water 0 10:54:00 4 Result Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l 0 10:54:00 4 Result Units	AM Lab Qualifier Ja Ja	U Validation Le Validation Qualifier U J U U Validation Le Validation	vel: IV Validation Notes DNQ, *III B vel: IV Validation Notes

Analysis Method EPA 200.7-Diss

Sample Name	Outfall 011 (C	omposite) Matri	x Type: V	Water	۷	alidation Le	vel: IV	
Lab Sample Name:	ITL2272-03 Sample Date			12/23/2010	0 10:54:00 /	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 Metho	od EPA-5	16131	8						
Sample Name	Outfall 011 (Composite) Matrix Type: WATER					Validation Level: IV			
Lab Sample Name:	ITL2272-03	Sam	ple Date:	12/23/2010	0 10:54:00 4	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	0.0000057	ug/L	J, B	U	В	
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.00005	0.0000043	ug/L	J, Q, B	U	В	
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.00005	0.0000059	ug/L		U		
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.00005	0.0000066	ug/L		U		
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.00005	0.0000059	ug/L		U		
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.00005	0.0000054	ug/L		U		
,2,3,6,7,8-HxCDF	57117-44-9	ND	0.00005	0.0000058	ug/L		U		
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.00005	0.0000056	ug/L		U		
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.00005	0.0000065	ug/L		U		
1,2,3,7,8-PeCDD	40321-76-4	ND	0.00005	0.000011	ug/L		U		
1,2,3,7,8-PeCDF	57117-41-6	ND	0.00005	0.0000058	ug/L		U		
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.00005	0.0000054	ug/L		U		
2,3,4,7,8-PeCDF	57117-31-4	ND	0.00005	0.0000071	ug/L		U		
2,3,7,8-TCDD	1746-01-6	ND	0.00001	0.000003	ug/L		U		
2,3,7,8-TCDF	51207-31-9	ND	0.00001	0.0000021	ug/L		U		
OCDD	3268-87-9	ND	0.0001	0.00056	ug/L	В	U	В	
OCDF	39001-02-0	ND	0.0001	0.000012	ug/L	J, Q, B	U	В	
Fotal HpCDD	37871-00-4	9.2e-005	0.00005	0.0000057	ug/L	J, B	1	B, DNQ	
Fotal HpCDF	38998-75-3	3.3e-005	0.00005	0.000005	ug/L	J, Q, B	1	B, DNQ, *II	
Fotal HxCDD	34465-46-8	ND	0.00005	0.0000054	ug/L		U		
Total HxCDF	55684-94-1	ND	0.00005	0.0000054	ug/L		U		
Total PeCDD	36088-22-9	ND	0.00005	0.000011	ug/L		U		
Total PeCDF	30402-15-4	ND	0.00005	0.0000058	ug/L		U		
Total TCDD	41903-57-5	ND	0.00001	0.000003	ug/L		U		
Total TCDF	55722-27-5	ND	0.00001	0.0000021	ug/L		U		

Analysis Method EPA 245.1-Diss

Sample Name	Outfall 011 (Outfall 011 (Composite) Matrix Type: Water					Validation Level: IV		
Lab Sample Name:	ITL2272-03	Sam	ple Date:	12/23/201	0 10:54:00	АМ			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes	
Total Suspended Solids	TSS	50	10	1.0	mg/l				

Analysis Methoa S	M 2340D