APPENDIX G

Section 18

Outfall 019 – May 2 & 3, 2012 Test America Analytical Laboratory Report



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817 Tel: (949)261-1022

TestAmerica Job ID: 440-10462-1

Client Project/Site: Monthly Outfall 019

For:

MWH Americas Inc 618 Michillinda Avenue, Suite 200 Arcadia, California 91007

Attn: Bronwyn Kelly



Authorized for release by: 6/3/2012 3:51:42 PM

Debby Wilson Project Manager I debby.wilson@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Visit us at: www.testamericainc.com 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.

abby Wilson

Debby Wilson Project Manager I 6/3/2012 3:51:43 PM

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Sample Summary

Client: MWH Americas Inc Project/Site: Monthly Outfall 019 TestAmerica Job ID: 440-10462-1

_ab Sample ID	Client Sample ID	Matrix	Collected	Received
140-10462-1	Outfall 019 Grab	Water	05/02/12 09:40	05/02/12 18:30
140-10462-2	Trip Blank	Water	05/02/12 09:40	05/02/12 18:30
140-10651-1	Outfall 019 Composite	Water	05/03/12 09:30	05/03/12 18:15
140-10651-2	Trip Blank	Water	05/04/12 14:35	05/03/12 18:15

Job ID: 440-10462-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative 440-10462-1

Comments

No additional comments.

Receipt

The samples were received on 5/2/2012 6:30 PM and 5/3/2012 6:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.5° C and 4.4° C.

GC/MS VOA

No analytical or quality issues were noted.

GC/MS Semi VOA

Method(s) 625: Insufficient sample volume was available to perform batch matrix spike/matrix spike duplicate (MS/MSD) associated with batch 24637. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

Method(s) 625: Surrogate recovery for the following sample(s) was outside control limits: Outfall 019 Composite (440-10651-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No other analytical or quality issues were noted.

HPLC

Method(s) 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for chloride and sulfate in batch 23485 were outside control limits due to matrix effects. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for nitrate and nitrite in batch 23484 were outside control limits due to matrix effects. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

GC Semi VOA

No analytical or quality issues were noted.

Metals

Method(s) 245.1: The continuing calibration verification (CCV) for mercury associated with batch 440-24653 recovered above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No other analytical or quality issues were noted.

General Chemistry

Method(s) 1664A: Insufficient sample volume was available to perform batch matrix spike/matrix spike duplicate (MS/MSD) associated with batch 25058. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

No other analytical or quality issues were noted.

Subcontract non-Sister

No analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

TestAmerica Job ID: 440-10462-1

Client Sample ID: Outfall 019 Grab

Date Collected: 05/02/12 09:40 Date Received: 05/02/12 18:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.30	ug/L			05/10/12 01:33	1
1,1,2-Trichloroethane	ND		0.50	0.30	ug/L			05/10/12 01:33	1
1,1-Dichloroethane	ND		0.50	0.40	ug/L			05/10/12 01:33	1
Trichlorotrifluoroethane(F-113)	ND		5.0	0.50	ug/L			05/10/12 01:33	1
1,1-Dichloroethene	ND		0.50	0.42	ug/L			05/10/12 01:33	1
1,2-Dichloroethane	ND		0.50	0.28	ug/L			05/10/12 01:33	1
Benzene	ND		0.50	0.28	ug/L			05/10/12 01:33	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			05/10/12 01:33	1
Chloroform	ND		0.50	0.33	ug/L			05/10/12 01:33	1
Ethylbenzene	ND		0.50	0.25	ug/L			05/10/12 01:33	1
Tetrachloroethene	ND		0.50	0.32	ug/L			05/10/12 01:33	1
Toluene	ND		0.50	0.36	ug/L			05/10/12 01:33	1
Trichlorofluoromethane	ND		0.50	0.34	ug/L			05/10/12 01:33	1
Vinyl chloride	ND		0.50	0.40	ug/L			05/10/12 01:33	1
Trichloroethene	ND		0.50	0.26	ug/L			05/10/12 01:33	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			05/10/12 01:33	1
Xylenes, Total	ND		1.5	0.90	ug/L			05/10/12 01:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		80 - 120					05/10/12 01:33	1
Dibromofluoromethane (Surr)	94		80 - 120					05/10/12 01:33	1
Toluene-d8 (Surr)	97		80 - 120					05/10/12 01:33	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		4.7	1.3	mg/L		05/10/12 08:01	05/10/12 08:39	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Settleable Solids	ND		0.10	0.10	mL/L/Hr			05/03/12 10:26	1

Client Sample ID: Trip Blank Date Collected: 05/02/12 09:40

Date Received: 05/02/12 18:30

Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND	0.50	0.30	ug/L			05/10/12 02:01	1
1,1,2-Trichloroethane	ND	0.50	0.30	ug/L			05/10/12 02:01	1
1,1-Dichloroethane	ND	0.50	0.40	ug/L			05/10/12 02:01	1
Trichlorotrifluoroethane(F-113)	ND	5.0	0.50	ug/L			05/10/12 02:01	1
1,1-Dichloroethene	ND	0.50	0.42	ug/L			05/10/12 02:01	1
1,2-Dichloroethane	ND	0.50	0.28	ug/L			05/10/12 02:01	1
Benzene	ND	0.50	0.28	ug/L			05/10/12 02:01	1
Carbon tetrachloride	ND	0.50	0.28	ug/L			05/10/12 02:01	1
Chloroform	ND	0.50	0.33	ug/L			05/10/12 02:01	1
Ethylbenzene	ND	0.50	0.25	ug/L			05/10/12 02:01	1
Tetrachloroethene	ND	0.50	0.32	ug/L			05/10/12 02:01	1
Toluene	ND	0.50	0.36	ug/L			05/10/12 02:01	1
Trichlorofluoromethane	ND	0.50	0.34	ug/L			05/10/12 02:01	1
Vinyl chloride	ND	0.50	0.40	ug/L			05/10/12 02:01	1
Trichloroethene	ND	0.50	0.26	ug/L			05/10/12 02:01	1
cis-1,2-Dichloroethene	ND	0.50	0.32	ug/L			05/10/12 02:01	1

TestAmerica Job ID: 440-10462-1

Lab Sample ID: 440-10462-1

Matrix: Water

Lab Sample ID: 440-10462-2

Matrix: Water

Client Sample ID: Trip Blank Date Collected: 05/02/12 09:40

Date Received: 05/02/12 18:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		1.5	0.90	ug/L			05/10/12 02:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		80 - 120			-		05/10/12 02:01	1
Dibromofluoromethane (Surr)	97		80 - 120					05/10/12 02:01	1
Toluene-d8 (Surr)	97		80 - 120					05/10/12 02:01	1

Client Sample ID: Outfall 019 Composite Date Collected: 05/03/12 09:30 Date Received: 05/03/12 18:15

Method: 625 - Semivolatile O	rganic Compound	s (GC/MS)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		5.69	0.0948	ug/L		05/08/12 18:54	05/11/12 05:09	1
Bis(2-ethylhexyl) phthalate	ND		4.74	1.61	ug/L		05/08/12 18:54	05/11/12 05:09	1
N-Nitrosodimethylamine	ND		4.74	0.0948	ug/L		05/08/12 18:54	05/11/12 05:09	1
Pentachlorophenol	ND		4.74	0.379	ug/L		05/08/12 18:54	05/11/12 05:09	1
2,4-Dinitrotoluene	ND		4.74	0.190	ug/L		05/08/12 18:54	05/11/12 05:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
246 Tribromonhonol	111		40 120				05/09/12 19.51	05/11/12 05:00	1

Terphenyl-d14	130 AY	50 - 125	05/08/12 18:54 05/11/12 05:09 1
Phenol-d6	91	35 - 120	05/08/12 18:54 05/11/12 05:09 1
Nitrobenzene-d5	91	45 - 120	05/08/12 18:54 05/11/12 05:09 1
2-Fluorophenol	78	30 - 120	05/08/12 18:54 05/11/12 05:09 1
2-Fluorobiphenyl	99	50 - 120	05/08/12 18:54 05/11/12 05:09 1
2,4,6-Tribromophenol	114	40 - 120	05/08/12 18:54 05/11/12 05:09 1

Method: 608 Pesticides - Organochlorine Pesticides Low level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0047	0.0024	ug/L		05/10/12 11:25	05/10/12 22:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	78		35 - 115				05/10/12 11:25	05/10/12 22:40	1
DCB Decachlorobiphenyl (Surr)	80		45 _ 120				05/10/12 11:25	05/10/12 22:40	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24		5.0	4.0	mg/L			05/04/12 05:09	10
Nitrate as N	0.17		0.11	0.080	mg/L			05/04/12 04:55	1
Nitrate Nitrite as N	ND		0.26	0.19	mg/L			05/04/12 04:55	1
Sulfate	180		5.0	4.0	mg/L			05/04/12 05:09	10
Nitrite as N	ND		0.15	0.11	mg/L			05/04/12 04:55	1

Method: 314.0 - Perchlorate (IC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	0.96	J,DX	4.0	0.95	ug/L			05/08/12 13:47	1

Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B)

Analyte	Result	Qualifier	ML	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000094	0.0000045	ug/L		05/18/12 16:00	05/24/12 03:01	1
Total TCDD	ND		0.0000094	0.0000045	ug/L		05/18/12 16:00	05/24/12 03:01	1
1,2,3,7,8-PeCDD	ND		0.000047	0.0000022	ug/L		05/18/12 16:00	05/24/12 03:01	1

TestAmerica Job ID: 440-10462-1

Lab Sample ID: 440-10462-2

Lab Sample ID: 440-10651-1

Matrix: Water

Matrix: Water

Client Sample ID: Outfall 019 Composite Date Collected: 05/03/12 09:30 Date Received: 05/03/12 18:15

Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B) (Continued)

Analyte	Result	Qualifier	ML		Unit	D	Prepared	Analyzed	Dil Fac
Total PeCDD	ND		0.000047	0.0000022	ug/L		05/18/12 16:00	05/24/12 03:01	1
1,2,3,4,7,8-HxCDD	ND		0.000047	0.0000021	ug/L		05/18/12 16:00	05/24/12 03:01	1
1,2,3,6,7,8-HxCDD	ND		0.000047	0.0000022	ug/L		05/18/12 16:00	05/24/12 03:01	1
1,2,3,7,8,9-HxCDD	ND		0.000047	0.0000020	ug/L		05/18/12 16:00	05/24/12 03:01	1
Total HxCDD	ND		0.000047	0.0000021	ug/L		05/18/12 16:00	05/24/12 03:01	1
1,2,3,4,6,7,8-HpCDD	ND		0.000047	0.0000026	ug/L		05/18/12 16:00	05/24/12 03:01	1
Total HpCDD	ND		0.000047	0.0000026	ug/L		05/18/12 16:00	05/24/12 03:01	1
OCDD	0.000061	ВJ	0.000094	0.0000040	ug/L		05/18/12 16:00	05/24/12 03:01	1
2,3,7,8-TCDF	ND		0.0000094	0.0000031	ug/L		05/18/12 16:00	05/24/12 03:01	1
Total TCDF	ND		0.0000094	0.0000031	ug/L		05/18/12 16:00	05/24/12 03:01	1
1,2,3,7,8-PeCDF	ND		0.000047	0.0000018	ug/L		05/18/12 16:00	05/24/12 03:01	1
2,3,4,7,8-PeCDF	ND		0.000047	0.0000017	-		05/18/12 16:00	05/24/12 03:01	1
Total PeCDF	ND		0.000047	0.0000017			05/18/12 16:00	05/24/12 03:01	1
1,2,3,4,7,8-HxCDF	ND		0.000047	0.0000013			05/18/12 16:00	05/24/12 03:01	1
1,2,3,6,7,8-HxCDF	ND		0.000047	0.0000013			05/18/12 16:00	05/24/12 03:01	1
2,3,4,6,7,8-HxCDF	ND		0.000047	0.0000013			05/18/12 16:00	05/24/12 03:01	· · · · · · · 1
1,2,3,7,8,9-HxCDF	ND		0.000047	0.0000019	-		05/18/12 16:00	05/24/12 03:01	1
Total HxCDF	ND		0.000047	0.0000014	°		05/18/12 16:00	05/24/12 03:01	1
1,2,3,4,6,7,8-HpCDF	ND		0.000047	0.0000019			05/18/12 16:00	05/24/12 03:01	· · · · · · · 1
1,2,3,4,7,8,9-HpCDF	ND		0.000047	0.0000030	ug/L		05/18/12 16:00	05/24/12 03:01	1
Total HpCDF	ND		0.000047	0.0000023	ug/L		05/18/12 16:00	05/24/12 03:01	1
OCDF	ND			0.0000023					· · · · · · · · 1
OCDF	ND		0.000094	0.0000032	ug/L		05/18/12 16:00	05/24/12 03:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	96		35 _ 197				05/18/12 16:00	05/24/12 03:01	1
Internal Standard	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	80		25 - 164				05/18/12 16:00	05/24/12 03:01	1
13C-1,2,3,7,8-PeCDD	88		25 - 181				05/18/12 16:00	05/24/12 03:01	1
13C-1,2,3,4,7,8-HxCDD	92		32 _ 141				05/18/12 16:00	05/24/12 03:01	1
13C-1,2,3,6,7,8-HxCDD	77		28 - 130				05/18/12 16:00	05/24/12 03:01	1
13C-1,2,3,4,6,7,8-HpCDD	75		23 - 140				05/18/12 16:00	05/24/12 03:01	1
13C-OCDD	63		17 _ 157				05/18/12 16:00	05/24/12 03:01	1
13C-2,3,7,8-TCDF	72		24 - 169				05/18/12 16:00	05/24/12 03:01	
13C-1,2,3,7,8-PeCDF	83		24 - 185				05/18/12 16:00	05/24/12 03:01	1
13C-2,3,4,7,8-PeCDF	80		21 - 178				05/18/12 16:00	05/24/12 03:01	1
13C-1,2,3,4,7,8-HxCDF	84		26 - 152				05/18/12 16:00	05/24/12 03:01	
13C-1,2,3,6,7,8-HxCDF	73		26 - 123				05/18/12 16:00	05/24/12 03:01	1
13C-2,3,4,6,7,8-HxCDF	80		28 - 126				05/18/12 16:00	05/24/12 03:01	1
13C-1,2,3,7,8,9-HxCDF	69		29 - 147				05/18/12 16:00	05/24/12 03:01	'1
13C-1,2,3,4,6,7,8-HpCDF	72		28 - 143				05/18/12 16:00	05/24/12 03:01	1
13C-1,2,3,4,7,8,9-HpCDF	66		26 - 138				05/18/12 16:00	05/24/12 03:01	1
	00		20 - 130				00/10/12 10:00	50/2 7 /12 05.01	,
- Method: 200.7 Rev 4.4 - Meta	ls (ICP) - Total Red	coverable							
Method: 200.7 Rev 4.4 - Meta Analyte		Qualifier	RL		Unit ug/L	D	Prepared	Analyzed	Dil Fac

Method: 200.7 Rev 4.4 - Metals (IC	P) - Dissolved						
Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Zinc	ND	20	6.0 ug/L		05/11/12 10:58	05/11/12 20:05	1

Lab Sample ID: 440-10651-1 Matrix: Water

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Date Collected: 05/03/12 09:30

Method: Analyte Strontium-90

Client Sample ID: Outfall 019 Composite

TestAmerica Job ID: 440-10462-1

Lab Sample ID: 440-10651-1

Matrix: Water

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Method: 200.8 - Metals (ICP/MS) - T	otal Recove	rable							
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Cadmium	ND		1.0	0.10	ug/L		05/09/12 15:40	05/16/12 01:16	
Copper	1.1	J,DX	2.0	0.50	ug/L		05/09/12 15:40	05/16/12 01:16	
Lead	ND		1.0	0.20	ug/L		05/09/12 15:40	05/16/12 01:16	
Selenium	ND		2.0	0.50	ug/L		05/09/12 15:40	05/16/12 01:16	
Method: 200.8 - Metals (ICP/MS) - E									
Analyte		Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fa
Cadmium	ND		1.0	0.10	ug/L		05/11/12 11:02	05/15/12 10:49	
Copper	0.60	J,DX	2.0		ug/L		05/11/12 11:02	05/15/12 10:49	
Lead	ND		1.0		ug/L		05/11/12 11:02	05/15/12 10:49	
Selenium	1.1	J,DX MB	2.0	0.50	ug/L		05/11/12 11:02	05/15/12 10:49	
Method: 245.1 - Mercury (CVAA)		0.115	-			_	- ·		
Analyte		Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fa
Mercury	ND		0.20	0.10	ug/L		05/04/12 13:48	05/08/12 17:09	
Method: 245.1 - Mercury (CVAA) - I Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzod	Dil Fa
-	ND							Analyzed	
Mercury	ND		0.20	0.10	ug/L		05/14/12 17:07	05/14/12 20:00	
General Chemistry Analyte	Popult	Qualifier	RL	МП	Unit	D	Prepared	Analyzed	Dil Fa
-			0.10	0.040				05/04/12 11:14	
Turbidity	0.22		10					05/08/12 09:09	
Total Dissolved Solids	540				mg/L				
Total Suspended Solids	ND		10		mg/L		05/45/40 40 00	05/04/12 22:01	
Cyanide, Total	ND		5.0		ug/L		05/15/12 10:28	05/15/12 13:56	
Ammonia (as N)	ND		0.400	0.157	-		05/09/12 20:53	05/09/12 21:00	
Total Organic Carbon	3.3		1.0		mg/L			05/04/12 05:33	
Methylene Blue Active Substances	ND		0.10	0.050	-			05/04/12 17:19	
Biochemical Oxygen Demand	ND		2.0	0.50	mg/L			05/04/12 10:58	
Method: Gamma Spec K-40 CS-137						_	. .		
Analyte		Qualifier		MDL		D	Prepared	Analyzed	Dil Fa
Cesium-137	-0.662		20		pCi/L		05/08/12 00:00	05/10/12 00:00	
Potassium-40	9.67	U	25		pCi/L		05/08/12 00:00	05/10/12 00:00	
Method: Gross Alpha and Beta - G			ы	MDI	11		Duonousd	Analyzad	
Analyte	0.13	Qualifier	RL 3	WIDL	Unit	D	Prepared 05/11/12 00:00	Analyzed	Dil Fa
Gross Alpha					pCi/L			05/14/12 16:25	
Gross Beta	2.15	J	4		pCi/L		05/11/12 00:00	05/14/12 16:25	
Method: Radium 226 - General Sub Analyte		ethod Qualifier	PI	мы	Unit	D	Prepared	Analyzed	Dil Fa
Radium-226	-0.032		RL						
1\auiuii1-220	-0.032	0	I		pCi/L		05/23/12 00:00	05/23/12 13:39	
Method: Radium 228 - RAD-226-22 Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Radium-228	0.026		1		pCi/L		05/14/12 00:00	05/14/12 12:59	
			I		POIL		00/14/12 00.00	00/14/12 12.09	
Method: Strontium 90 - General Su Analyte		lethod Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
									u

1

05/09/12 10:54

05/09/12 00:00

2

pCi/L

0.018 U

Client Sample Results

TestAmerica Job ID: 440-10462-1

Client Sample ID: Outfall 019 Co Date Collected: 05/03/12 09:30 Date Received: 05/03/12 18:15	omposite						Lab Sam	ple ID: 440-1 Matrix	0651-1 k: Wate
_ Method: Tritium - General Sub Contr	act Metho	4							
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Tritium	-104	U	500		pCi/L		05/09/12 00:00	05/09/12 19:29	
- Method: Uranium, Combined - Gener	al Sub Co	ntract Method							
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Uranium, Total	0.018	J	1		pCi/L		05/14/12 00:00	05/14/12 03:32	
Client Sample ID: Trip Blank							Lab Sam	ple ID: 440-1	0651-2
Date Collected: 05/04/12 14:35 Date Received: 05/03/12 18:15									k: Wate
- Method: Gamma Spec K-40 CS-137 -	General S	ub Contract N	lethod						
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Cesium-137	-0.305		20		pCi/L		05/08/12 00:00	05/14/12 00:00	
Potassium-40	4.95		25		pCi/L		05/08/12 00:00	05/14/12 00:00	
Method: Gross Alpha and Beta - Gro	ss Alpha/E	Beta							
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Gross Alpha	-0.072	U	3		pCi/L		05/11/12 00:00	05/14/12 07:38	
Gross Beta	-0.302	U	4		pCi/L		05/11/12 00:00	05/14/12 07:38	
- Method: Radium 226 - General Sub C	Contract M	ethod							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Radium-226	0.195	U	1		pCi/L		05/23/12 00:00	05/23/12 13:39	
 Method: Radium 228 - RAD-226-228 (combined								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Radium-228	-0.071	U	1		pCi/L		05/14/12 00:00	05/14/12 12:59	
Method: Strontium 90 - General Sub									
Analyte		Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fa
Strontium-90	0.027	U	2		pCi/L	_	05/09/12 00:00	05/09/12 10:54	
Method: Uranium, Combined - Gener	al Sub Co	ntract Method							
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Uranium, Total	0	U	1		pCi/L		05/14/12 00:00	05/14/12 10:53	

Date Collected: 05/02/12 09:40

Total/NA

Client Sample ID: Outfall 019 Grab

Lab Sample ID: 440-10462-1 Matrix: Water

TAL IRV

Matrix: Water

Lab Sample ID: 440-10651-1

Date Received: 05/02/12 18:30 Batch Dilution Batch Prepared Batch Prep Type Method Factor Number or Analyzed Туре Run Analyst Lab Total/NA Analysis 624 24948 05/10/12 01:33 RM TAL IRV 1 Total/NA 23516 05/03/12 10:26 RR TAL IRV Analysis SM 2540F 1 Total/NA Prep 25044 05/10/12 08:01 DA TAL IRV 1664A Total/NA 25058 05/10/12 08:39 TAL IRV Analysis 1664A 1 DA **Client Sample ID: Trip Blank** Lab Sample ID: 440-10462-2 Date Collected: 05/02/12 09:40 Matrix: Water Date Received: 05/02/12 18:30 Dilution Batch Batch Batch Prepared Prep Type Туре Method Run Factor Number or Analyzed Analyst Lab

1

24948

05/10/12 02:01

RM

Client Sample ID: Outfall 019 Composite Date Collected: 05/03/12 09:30 Date Received: 05/03/12 18:15

Analysis

624

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	625			24637	05/08/12 18:54	DM	TAL IRV
Total/NA	Analysis	625		1	25208	05/11/12 05:09	AI	TAL IRV
Total/NA	Prep	608			25133	05/10/12 11:25	AB	TAL IRV
Total/NA	Analysis	608 Pesticides		1	25282	05/10/12 22:40	CN	TAL IRV
Total/NA	Analysis	300.0		1	23484	05/04/12 04:55	NN	TAL IRV
Total/NA	Analysis	300.0		10	23485	05/04/12 05:09	NN	TAL IRV
Total/NA	Analysis	314.0		1	24398	05/08/12 13:47	MN	TAL IRV
Total	Prep	1613			2139121_P	05/18/12 16:00		TAL KNX
Total	Analysis	1613B		1	2139121	05/24/12 03:01	PMP	TAL KNX
Total/NA	Prep	245.1			23864	05/04/12 13:48	SN	TAL IRV
Total/NA	Analysis	245.1		1	24653	05/08/12 17:09	DB	TAL IRV
Total Recoverable	Prep	200.2			24891	05/09/12 15:35	SC	TAL IRV
Total Recoverable	Analysis	200.7 Rev 4.4		1	25413	05/10/12 21:42	DP	TAL IRV
Dissolved	Prep	200.2			25427	05/11/12 10:58	EN	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4		1	25682	05/11/12 20:05	ТК	TAL IRV
Dissolved	Prep	245.1			25976	05/14/12 17:07	DB	TAL IRV
Dissolved	Analysis	245.1		1	26024	05/14/12 20:00	DB	TAL IRV
Dissolved	Prep	200.2			25428	05/11/12 11:02	EN	TAL IRV
Dissolved	Analysis	200.8		1	26175	05/15/12 10:49	NH	TAL IRV
Total Recoverable	Prep	200.2			24893	05/09/12 15:40	SC	TAL IRV
Total Recoverable	Analysis	200.8		1	26440	05/16/12 01:16	RC	TAL IRV
Total/NA	Analysis	SM 5310B		1	23741	05/04/12 05:33	FZ	TAL IRV
Total/NA	Analysis	SM5210B		1	23766	05/04/12 10:58	QPD	TAL IRV
Total/NA	Analysis	180.1		1	23831	05/04/12 11:14	RR	TAL IRV
Total/NA	Analysis	SM 5540C		1	23935	05/04/12 17:19	NEA	TAL IRV
Total/NA	Analysis	SM 2540D		1	23971	05/04/12 22:01	DK	TAL IRV

TestAmerica Irvine 6/3/2012

Client Sample ID: Outfall 019 Composite

Date Collected: 05/03/12 09:30 Date Received: 05/03/12 18:15

	Batch	Batch		Dilution	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	24460	05/08/12 09:09	XL	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			24965	05/09/12 20:53	RW	TAL IRV
Total/NA	Analysis	SM 4500 NH3 C		1	24999	05/09/12 21:00	RW	TAL IRV
Total/NA	Prep	Distill/CN			26161	05/15/12 10:28	PQI	TAL IRV
Total/NA	Analysis	SM 4500 CN E		1	26221	05/15/12 13:56	PQI	TAL IRV
Total/NA	Prep	General Prep		1	8614_P	05/08/12 00:00		Eber-Rich
Total/NA	Analysis	Gamma Spec K-40 CS-137		1	8614	05/10/12 00:00	LS	Eber-Rich
Total/NA	Prep	General Prep		1	8614_P	05/11/12 00:00		Eber-Rich
Total/NA	Analysis	Gross Alpha and Beta		1	8614	05/14/12 16:25	DVP	Eber-Rich
Total/NA	Prep	General Prep		1	8614_P	05/23/12 00:00		Eber-Rich
Total/NA	Analysis	Radium 226		1	8614	05/23/12 13:39	TM	Eber-Rich
Total/NA	Prep	General Prep		1	8614_P	05/14/12 00:00		Eber-Rich
Total/NA	Analysis	Radium 228		1	8614	05/14/12 12:59	ASM	Eber-Rich
Total/NA	Prep	General Prep		1	8614_P	05/09/12 00:00		Eber-Rich
Total/NA	Analysis	Strontium 90		1	8614	05/09/12 10:54	SK	Eber-Rich
Total/NA	Analysis	Tritium		1	8614	05/09/12 19:29	WL	Eber-Rich
Total/NA	Analysis	Uranium, Combined		1	8614	05/14/12 03:32	LS	Eber-Rich

Client Sample ID: Trip Blank Date Collected: 05/04/12 14:35 Date Received: 05/03/12 18:15

Lab Sample ID: 440-10651-2

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	General Prep		1	8614_P	05/08/12 00:00		Eber-Rich
Total/NA	Analysis	Gamma Spec K-40 CS-137		1	8614	05/14/12 00:00	LS	Eber-Rich
Total/NA	Prep	General Prep		1	8614_P	05/11/12 00:00		Eber-Rich
Total/NA	Analysis	Gross Alpha and Beta		1	8614	05/14/12 07:38	DVP	Eber-Rich
Total/NA	Prep	General Prep		1	8614_P	05/23/12 00:00		Eber-Rich
Total/NA	Analysis	Radium 226		1	8614	05/23/12 13:39	ТМ	Eber-Rich
Total/NA	Prep	General Prep		1	8614_P	05/14/12 00:00		Eber-Rich
Total/NA	Analysis	Radium 228		1	8614	05/14/12 12:59	ASM	Eber-Rich
Total/NA	Prep	General Prep		1	8614_P	05/09/12 00:00		Eber-Rich
Total/NA	Analysis	Strontium 90		1	8614	05/09/12 10:54	SK	Eber-Rich
Total/NA	Analysis	Uranium, Combined		1	8614	05/14/12 10:53	LS	Eber-Rick

Laboratory References:

Eber-Rich = Eberline - Richmond, 2030 Wright Avenue, Richmond, CA 94804

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

TestAmerica Job ID: 440-10462-1

Lab Sample ID: 440-10651-1 Matrix: Water

Method: 624 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-24948/4

Matrix	vvater	
Analys	is Batcl	h: 24948

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.30	ug/L			05/09/12 20:48	1
1,1,2-Trichloroethane	ND		0.50	0.30	ug/L			05/09/12 20:48	1
1,1-Dichloroethane	ND		0.50	0.40	ug/L			05/09/12 20:48	1
Trichlorotrifluoroethane(F-113)	ND		5.0	0.50	ug/L			05/09/12 20:48	1
1,1-Dichloroethene	ND		0.50	0.42	ug/L			05/09/12 20:48	1
1,2-Dichloroethane	ND		0.50	0.28	ug/L			05/09/12 20:48	1
Benzene	ND		0.50	0.28	ug/L			05/09/12 20:48	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			05/09/12 20:48	1
Chloroform	ND		0.50	0.33	ug/L			05/09/12 20:48	1
Ethylbenzene	ND		0.50	0.25	ug/L			05/09/12 20:48	1
Tetrachloroethene	ND		0.50	0.32	ug/L			05/09/12 20:48	1
Toluene	ND		0.50	0.36	ug/L			05/09/12 20:48	1
Trichlorofluoromethane	ND		0.50	0.34	ug/L			05/09/12 20:48	1
Vinyl chloride	ND		0.50	0.40	ug/L			05/09/12 20:48	1
Trichloroethene	ND		0.50	0.26	ug/L			05/09/12 20:48	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			05/09/12 20:48	1
Xylenes, Total	ND		1.5	0.90	ug/L			05/09/12 20:48	1

	MB	МВ					
Surrogate	%Recovery	Qualifier	Limits	Prepa	red	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		80 - 120		05	/09/12 20:48	1
Dibromofluoromethane (Surr)	86		80 - 120		05	/09/12 20:48	1
Toluene-d8 (Surr)	96		80 - 120		05	/09/12 20:48	1

Lab Sample ID: LCS 440-24948/5 Matrix: Water

Analysis Batch: 24948

Client Sample ID: Lab Control Sample Prep Type: Total/NA

	Spike	LCS	LCS			%Rec.
Analyte	Added	Result	Qualifier U	nit D	%Rec	Limits
1,1,1-Trichloroethane	25.0	22.4	u	g/L	90	65 - 135
1,1,2-Trichloroethane	25.0	22.7	uç	g/L	91	70 - 125
1,1-Dichloroethane	25.0	23.5	uç	g/L	94	70 - 125
1,1-Dichloroethene	25.0	24.2	uç	g/L	97	70 ₋ 125
1,2-Dichloroethane	25.0	23.0	uç	g/L	92	60 - 140
Benzene	25.0	23.5	uç	g/L	94	70 - 120
Carbon tetrachloride	25.0	24.8	uç	g/L	99	65 - 140
Chloroform	25.0	21.9	uç	g/L	88	70 - 130
Ethylbenzene	25.0	25.7	uç	g/L	103	75 - 125
Tetrachloroethene	25.0	26.2	uç	g/L	105	70 - 125
Toluene	25.0	24.8	ug	g/L	99	70 - 120
Trichlorofluoromethane	25.0	25.9	ug	g/L	103	65 - 145
Vinyl chloride	25.0	23.7	uç	g/L	95	55 - 135
Trichloroethene	25.0	25.2	ug	g/L	101	70 - 125
cis-1,2-Dichloroethene	25.0	24.5	ug	g/L	98	70 - 125
m,p-Xylene	50.0	53.4	uç	g/L	107	75 - 125
o-Xylene	25.0	26.3	uç	g/L	105	75 - 125
Xylenes, Total	75.0	79.7	uç	g/L	106	70 - 125
LCS LCS						

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		80 - 120

Client Sample ID: Method Blank

Prep Type: Total/NA

Lab Sample ID: LCS 440-24948/5

Matrix: Water

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Client Sample ID: Lab Control Sample Prep Type: Total/NA

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analysis Batch: 24948			
	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
Dibromofluoromethane (Surr)	87		80 - 120
Toluene-d8 (Surr)	96		80 - 120

Method: 624 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-10920-F-1 MS Matrix: Water

Analysis Batch: 24948

, s	Sample S	Sample Spik	e MS	MS				%Rec.
Analyte	Result C	Qualifier Adde	d Result	Qualifier	Unit	D	%Rec	Limits
1,1,1-Trichloroethane	ND	25.	0 22.0		ug/L		88	65 - 140
1,1,2-Trichloroethane	ND	25.	0 23.2		ug/L		93	65 - 130
1,1-Dichloroethane	ND	25.	0 23.7		ug/L		95	65 - 130
1,1-Dichloroethene	ND	25.	0 22.8		ug/L		91	60 - 130
1,2-Dichloroethane	ND	25.	0 23.6		ug/L		94	60 - 140
Benzene	ND	25.	0 23.2		ug/L		93	65 - 125
Carbon tetrachloride	ND	25.	0 23.1		ug/L		92	65 - 140
Chloroform	ND	25.	0 22.8		ug/L		91	65 - 135
Ethylbenzene	ND	25.	0 24.1		ug/L		96	65 - 130
Tetrachloroethene	ND	25.	0 23.7		ug/L		95	65 - 130
Toluene	ND	25.	0 24.6		ug/L		98	70 - 125
Trichlorofluoromethane	ND	25.	0 24.1		ug/L		96	60 - 145
Vinyl chloride	ND	25.	0 24.0		ug/L		96	45 ₋ 140
Trichloroethene	ND	25.	0 24.0		ug/L		96	65 - 125
cis-1,2-Dichloroethene	ND	25.	0 25.4		ug/L		101	65 - 130
m,p-Xylene	ND	50.	0 50.5		ug/L		101	65 - 130
o-Xylene	ND	25.	0 25.4		ug/L		102	65 - 125
Xylenes, Total	ND	75.	0 75.9		ug/L		101	60 - 130
	MS N	NS						

	110		
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		80 - 120
Dibromofluoromethane (Surr)	93		80 - 120
Toluene-d8 (Surr)	99		80 - 120

Lab Sample ID: 440-10920-F-1 MSD Matrix: Water Analysis Batch: 24948

Analysis Daton. 24040											
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,1,1-Trichloroethane	ND		25.0	21.7		ug/L		87	65 _ 140	2	20
1,1,2-Trichloroethane	ND		25.0	23.1		ug/L		92	65 _ 130	1	25
1,1-Dichloroethane	ND		25.0	23.5		ug/L		94	65 - 130	1	20
1,1-Dichloroethene	ND		25.0	22.7		ug/L		91	60 - 130	0	20
1,2-Dichloroethane	ND		25.0	23.7		ug/L		95	60 - 140	0	20
Benzene	ND		25.0	22.7		ug/L		91	65 - 125	2	20
Carbon tetrachloride	ND		25.0	22.6		ug/L		90	65 _ 140	2	25
Chloroform	ND		25.0	22.5		ug/L		90	65 - 135	1	20
Ethylbenzene	ND		25.0	23.9		ug/L		95	65 _ 130	1	20
Tetrachloroethene	ND		25.0	23.7		ug/L		95	65 - 130	0	20
Toluene	ND		25.0	23.8		ug/L		95	70 - 125	3	20
Trichlorofluoromethane	ND		25.0	23.7		ug/L		95	60 - 145	1	25

TestAmerica Irvine 6/3/2012

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

5

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Method: 624 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-10920-F-1 MSD

Matrix: Water

Client Sample ID: Matrix Spike Duplicate Prep Type: Total/NA

Analysis Batch: 24948

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Vinyl chloride	ND		25.0	23.3		ug/L		93	45 _ 140	3	30
Trichloroethene	ND		25.0	23.4		ug/L		94	65 _ 125	2	20
cis-1,2-Dichloroethene	ND		25.0	25.2		ug/L		101	65 _ 130	1	20
m,p-Xylene	ND		50.0	49.7		ug/L		99	65 - 130	2	25
o-Xylene	ND		25.0	24.9		ug/L		100	65 _ 125	2	20
Xylenes, Total	ND		75.0	74.6		ug/L		99	60 - 130	2	20
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	98		80 - 120								
Dibromofluoromethane (Surr)	94		80 - 120								
Toluene-d8 (Surr)	97		80 - 120								

Method: 625 - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-24637/1-A Matrix: Water Analysis Batch: 25208

	МВ	МВ						-	
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		6.00	0.100	ug/L		05/08/12 18:54	05/10/12 17:10	1
Bis(2-ethylhexyl) phthalate	ND		5.00	1.70	ug/L		05/08/12 18:54	05/10/12 17:10	1
N-Nitrosodimethylamine	ND		5.00	0.100	ug/L		05/08/12 18:54	05/10/12 17:10	1
Pentachlorophenol	ND		5.00	0.400	ug/L		05/08/12 18:54	05/10/12 17:10	1
2,4-Dinitrotoluene	ND		5.00	0.200	ug/L		05/08/12 18:54	05/10/12 17:10	1

	MB	МВ				
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	103		40 - 120	05/08/12 18:54	05/10/12 17:10	1
2-Fluorobiphenyl	94		50 _ 120	05/08/12 18:54	05/10/12 17:10	1
2-Fluorophenol	77		30 - 120	05/08/12 18:54	05/10/12 17:10	1
Nitrobenzene-d5	92		45 - 120	05/08/12 18:54	05/10/12 17:10	1
Phenol-d6	86		35 - 120	05/08/12 18:54	05/10/12 17:10	1
Terphenyl-d14	97		50 - 125	05/08/12 18:54	05/10/12 17:10	1

Lab Sample ID: LCS 440-24637/2-A Matrix: Water

Analysis Batch: 25208

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
2,4,6-Trichlorophenol	10.0	9.913		ug/L		99	55 - 120	
Bis(2-ethylhexyl) phthalate	10.0	11.57		ug/L		116	65 - 130	
N-Nitrosodimethylamine	10.0	8.416		ug/L		84	45 - 120	
Pentachlorophenol	10.0	9.149		ug/L		91	24 ₋ 121	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
2,4,6-Tribromophenol	99		40 - 120
2-Fluorobiphenyl	96		50 - 120
2-Fluorophenol	75		30 - 120
Nitrobenzene-d5	90		45 - 120

Client Sample ID: Lab Control Sample

Prep Batch: 24637

Prep Type: Total/NA

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 24637

Terphenyl-d14

Lab Sample ID: LCS 440-24637/2-A

Client Sample ID: Lab Control Sample

1 2 3 4 5 6 7 8 9 10 11 12

Lab Gample ID. 200 440-240							onem	Jampie		5111101 0	ampie
Matrix: Water									Prep T	ype: To	tal/NA
Analysis Batch: 25208									Prep	Batch:	24637
	LCS	LCS									
Surrogate	%Recovery		Limits								
Phenol-d6			35 - 120								
Terphenyl-d14	103		50 - 125								
Lab Sample ID: LCSD 440-2	4637/3-A					Cli	ent San	nple ID:	Lab Contro	ol Sampl	e Dup
Matrix: Water									Prep T	ype: Tot	tal/NA
Analysis Batch: 25208									Prep	Batch:	24637
			Spike	LCSD	LCSD				%Rec.		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
2,4,6-Trichlorophenol			10.0	9.607		ug/L		96	55 _ 120	3	30
Bis(2-ethylhexyl) phthalate			10.0	10.63		ug/L		106	65 _ 130	8	20
N-Nitrosodimethylamine			10.0	8.416		ug/L		84	45 _ 120	0	20
Pentachlorophenol			10.0	8.899		ug/L		89	24 _ 121	3	25
	LCSD	LCSD									
Surrogate	%Recovery	Qualifier	Limits								
2,4,6-Tribromophenol	94		40 - 120								
2-Fluorobiphenyl	96		50 _ 120								
2-Fluorophenol	69		30 - 120								
Nitrobenzene-d5	92		45 _ 120								
Phenol-d6	79		35 - 120								

50 - 125

Method: 608 Pesticides - Organochlorine Pesticides Low level

98

Method: 625 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-25133/1-4	4										Client Sa	mple ID: Metho	od Blank
Matrix: Water												Prep Type:	Fotal/NA
Analysis Batch: 25282												Prep Batc	h: 25133
		MB	МВ										
Analyte	Res	sult	Qualifier	RL		MDL	Unit		D	P	repared	Analyzed	Dil Fac
alpha-BHC		ND		0.0050	0.	0025	ug/L			05/1	0/12 11:25	05/10/12 21:03	1
	L.	мв	МВ										
Surrogate	%Recov	ery	Qualifier	Limits						P	repared	Analyzed	Dil Fac
Tetrachloro-m-xylene		82		35 - 115						05/1	0/12 11:25	05/10/12 21:03	1
DCB Decachlorobiphenyl (Surr)		82		45 - 120						05/1	0/12 11:25	05/10/12 21:03	1
_ Lab Sample ID: LCS 440-25133/2-	.Δ								6	lient	Sample	D: Lab Control	Sample
Matrix: Water												Prep Type:	
Analysis Batch: 25282												Prep Batc	
-				Spike	LCS	LCS						%Rec.	
Analyte				Added	Result	Qual	lifier	Unit		D	%Rec	Limits	
alpha-BHC				0.500	0.482			ug/L			96	45 - 115	
•													
	LCS I	LCS											
Surrogate	LCS I %Recovery 0		fier	Limits									
Surrogate Tetrachloro-m-xylene			fier	Limits 35 - 115									

Method: 300.0 - Anions, Ion Chromatography

ND

ND

Nitrate Nitrite as N

Nitrite as N

13

Method: 608 Pesticides - Organochlorine Pesticides Low level (Continued)

Lab Sample ID: 440-11160-A	-2-A MS							Client	Sample ID: Matrix Spike
Matrix: Water									Prep Type: Total/NA
Analysis Batch: 25282									Prep Batch: 25133
-	Sample	Sample	Spike	MS	MS				%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
alpha-BHC	ND		0.500	0.477		ug/L		95	40 - 120
	MS	MS							
Surrogate	%Recovery	Qualifier	Limits						
Tetrachloro-m-xylene	71		35 - 115						
DCB Decachlorobiphenyl (Surr)	85		45 - 120						

Lab Sample ID: 440-11160-A-	2-B MSD					C	Client Sa	ample IC	: Matrix Sp	oike Dup	licate
Matrix: Water									Prep T	ype: Tot	al/NA
Analysis Batch: 25282									Prep	Batch: 2	25133
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
alpha-BHC	ND		0.500	0.454		ug/L		91	40 - 120	5	30
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
Tetrachloro-m-xylene	67		35 - 115								
DCB Decachlorobiphenyl (Surr)	83		45 _ 120								

Lab Sample ID: MB 440-23484/2 Matrix: Water Analysis Batch: 23484												Client S	ample ID: Metho Prep Type: 1	
· · · · · · , · · · · · · · · · · · · · · · · · · ·		мв	МВ											
Analyte	Re	esult	Qualifier		RL		MDL	Unit		D	Р	repared	Analyzed	Dil Fac
Nitrate as N		ND			0.11	(0.080	mg/L					05/03/12 09:52	1
Nitrate Nitrite as N		ND			0.26		0.19	mg/L					05/03/12 09:52	1
Nitrite as N		ND			0.15		0.11	mg/L					05/03/12 09:52	1
 Lab Sample ID: LCS 440-23484/3										Clie	ent	Sample	ID: Lab Control	Sample
Matrix: Water													Prep Type: T	otal/NA
Analysis Batch: 23484														
				Spike		LCS	LCS						%Rec.	
Analyte				Added		Result	Qua	lifier	Unit		D	%Rec	Limits	
Nitrate as N				1.13		1.07			mg/L			95	90 - 110	
Nitrate Nitrite as N				2.65		2.57			mg/L			97	90 - 110	
Nitrite as N				1.52		1.50			mg/L			99	90 - 110	
- Lab Sample ID: 440-10585-J-14 MS												Client	Sample ID: Matr	ix Spike
Matrix: Water													Prep Type: 1	otal/NA
Analysis Batch: 23484														
-	Sample	Sam	ole	Spike		MS	MS						%Rec.	
Analyte	Result	Qual	ifier	Added		Result	Qua	lifier	Unit		D	%Rec	Limits	
Nitrate as N	8.0			11.3		17.9			mg/L			88	80 - 120	

26.5

15.2

mg/L

mg/L

137

121

80 - 120

80 - 120

36.4 AY

18.5 AY

Spike

Added

11.3

26.5

15.2

MSD MSD

16.8 AY

35.0 LM

18.2

Result Qualifier

MDL Unit

0.40 mg/L

0.40 mg/L

Matrix: Water

Analyte

Nitrate as N

Nitrite as N

Analyte

Chloride

Sulfate

Nitrate Nitrite as N

Matrix: Water

Matrix: Water

Analysis Batch: 23485

Analysis Batch: 23484

Lab Sample ID: 440-10585-J-14 MSD

Lab Sample ID: MB 440-23485/2

Lab Sample ID: LCS 440-23485/3

Method: 300.0 - Anions, Ion Chromatography (Continued)

Sample Sample

8.0

ND

ND

Result Qualifier

MB MB Result Qualifier

ND

ND

Prep Type: Total/NA

RPD

6

4

2

Prep Type: Total/NA

Client Sample ID: Matrix Spike Duplicate

%Rec.

Limits

80 - 120

80 - 120

80 - 120

Client Sample ID: Method Blank

Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Type: Total/NA

D

D

Unit

mg/L

mg/L

mg/L

%Rec

78

132

119

RPD

Limit

20

20

20

Prepared	Analyzed	Dil Fac
	05/03/12 09:52	1
	05/03/12 09:52	1

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Analysis Batch: 23485								
	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	5.00	4.69		mg/L		94	90 - 110	
Sulfate	10.0	9.51		mg/L		95	90 - 110	

RL

0.50

0.50

Lab Sample ID: 440-10585-J-14 MS

Matrix: Water Analysis Batch: 23485

Analysis Datch. 20400											
	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Chloride	20	J,DX	50.0	62.9	AY	mg/L		126	80 - 120	 	
Sulfate	100		100	187		mg/L		85	80 - 120		

Lab Sample ID: 440-10585-J-14 MSD
Matrix: Water

Analysis Batch: 23485											
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	20	J,DX	50.0	61.9	LM	mg/L		124	80 - 120	2	20
Sulfate	100		100	181	AY	mg/L		79	80 - 120	3	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-24398/5 Matrix: Water Analysis Batch: 24398									(Client S	ample ID: Metho Prep Type: 1	
	MB	MB										
Analyte	Result	Qualifier	RL		MDL	Unit		D	Pre	epared	Analyzed	Dil Fac
Perchlorate	ND		4.0		0.95	ug/L					05/08/12 07:51	1
Lab Sample ID: LCS 440-24398/4								Clie	ent	Sample	ID: Lab Control	Sample
Matrix: Water											Prep Type: 1	otal/NA
Analysis Batch: 24398												
		Spike	•	LCS	LCS						%Rec.	
Analyte		Added		Result	Qual	ifier	Unit		D	%Rec	Limits	
Perchlorate		25.0		26.1			ug/L			105	85 - 115	

TestAmerica Irvine 6/3/2012

Total PeCDF

1,2,3,4,7,8-HxCDF

1,2,3,6,7,8-HxCDF

2,3,4,6,7,8-HxCDF

1,2,3,7,8,9-HxCDF

1,2,3,4,6,7,8-HpCDF

1,2,3,4,7,8,9-HpCDF

37CI4-2,3,7,8-TCDD

Total HxCDF

Total HpCDF

Surrogate

OCDF

5 6

7 8

Lab Sample ID: MRL 440-24398/2 I	MRL							С	lient	Sample	ID: Lab Co		
Matrix: Water											Prep T	уре: То	tal/NA
Analysis Batch: 24398													
			Spike		MRL						%Rec.		
Analyte			Added	Result	Quali	ifier	Unit		_ D	%Rec	Limits		
Perchlorate			4.00	4.16			ug/L			104			
Lab Sample ID: 440-10390-A-1 MS										Client	Sample ID	: Matrix	Spik
Matrix: Water											Prep T	ype: To	tal/N/
Analysis Batch: 24398													
	Sample	Sample	Spike	MS	MS						%Rec.		
Analyte	Result	Qualifier	Added	Result	Quali	ifier	Unit		D	%Rec	Limits		
Perchlorate	7.7		25.0	32.3			ug/L			98	80 - 120		
Lab Sample ID: 440-10390-A-1 MS	D							Clie	nt Sa	mple ID	: Matrix Sp	oike Dup	olicat
Matrix: Water										- i - i - i - i - i - i - i - i - i - i	Prep T	ype: To	tal/N/
Analysis Batch: 24398													
-	Sample	Sample	Spike	MSD	MSD						%Rec.		RP
Analyte	Result	Qualifier	Added	Result	Quali	ifier	Unit		D	%Rec	Limits	RPD	Lim
			25.0	32.8	-		ug/L			100	80 - 120	2	2
Perchlorate lethod: 1613B - Dioxins/Fura Lab Sample ID: H2E180000121B	7.7 I ns, HR(GC/HRMS (32.0								Vethod	
lethod: 1613B - Dioxins/Fura Lab Sample ID: H2E180000121B Matrix: Water		GC/HRMS (ample ID: I	p Type	Blan : Tota
lethod: 1613B - Dioxins/Fura Lab Sample ID: H2E180000121B		GC/HRMS (mb mb									ample ID:	p Type	Blanl : Tota
lethod: 1613B - Dioxins/Fura Lab Sample ID: H2E180000121B Matrix: Water Analysis Batch: 2139121	ins, HR(EDL	Unit		D		Client S	ample ID: Pre Prep Bato	p Type h: 2139	Blani : Tota
lethod: 1613B - Dioxins/Fura Lab Sample ID: H2E180000121B Matrix: Water Analysis Batch: 2139121 Analyte	ins, HR(МВ МВ	1613B)			Unit ug/L		D	Pi		ample ID: I	ep Type h: 2139 ed	Blan : Tota 121_I
lethod: 1613B - Dioxins/Fura Lab Sample ID: H2E180000121B Matrix: Water Analysis Batch: 2139121 Analyte 2,3,7,8-TCDD	ins, HR(MB MB esult Qualifier	1613B) 		8.1			<u>D</u>	P i 05/1	Client Sa	ample ID: Pre Prep Batc Analyz	ep Type h: 2139 ed	Blan : Tota 121_I Dil Fa
lethod: 1613B - Dioxins/Fura Lab Sample ID: H2E180000121B Matrix: Water Analysis Batch: 2139121 Analyte 2,3,7,8-TCDD Total TCDD	ins, HR(MB MB esult Qualifier	1613B) ML 		8.1 8.1	ug/L		D	Pi 05/13 05/13	Client Sa repared 8/12 16:00	ample ID: Prep Bato 	ed 01:00 ptype: h: 2139 ed 01:00	Blan : Tota 121_I Dil Fa
lethod: 1613B - Dioxins/Fura Lab Sample ID: H2E180000121B Matrix: Water Analysis Batch: 2139121 Analyte 2,3,7,8-TCDD Total TCDD 1,2,3,7,8-PeCDD	ins, HR(MB MB esult Qualifier ND ND	1613B) 		8.1 8.1 4.3	ug/L ug/L ug/L		D	Pr 05/13 05/13 05/13	Client S repared 8/12 16:00 8/12 16:00	ample ID: Prep Bato 	ed 01:00 01:00 01:00	Blan : Tota 121_I Dil Fa
lethod: 1613B - Dioxins/Fura Lab Sample ID: H2E180000121B Matrix: Water Analysis Batch: 2139121 Analyte 2,3,7,8-TCDD Total TCDD 1,2,3,7,8-PeCDD Total PeCDD	ins, HR(MB MB esult Qualifier ND ND ND	1613B) 		8.1 8.1 4.3 4.3	ug/L ug/L ug/L ug/L		D	Pr 05/13 05/13 05/13	Client Sa repared 8/12 16:00 8/12 16:00 8/12 16:00	ample ID: Prep Bato 05/24/12 05/24/12 05/24/12	ed 01:00 01:00 01:00 01:00	Blan : Tota 121_I Dil Fa
lethod: 1613B - Dioxins/Fura Lab Sample ID: H2E180000121B Matrix: Water Analysis Batch: 2139121 Analyte 2,3,7,8-TCDD Total TCDD 1,2,3,7,8-PeCDD Total PeCDD 1,2,3,4,7,8-HxCDD	ins, HR(MB MB esult Qualifier ND ND ND ND	1613В) 		8.1 8.1 4.3 4.3 4.5	ug/L ug/L ug/L ug/L ug/L		D	Pr 05/12 05/12 05/12 05/12	Client S repared 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00	ample ID: Prep Batc 05/24/12 05/24/12 05/24/12 05/24/12	ed 01:00 01:00 01:00 01:00 01:00 01:00 01:00	Blan : Tota 121_I Dil Fa
lethod: 1613B - Dioxins/Fura Lab Sample ID: H2E180000121B Matrix: Water Analysis Batch: 2139121 2,3,7,8-TCDD Total TCDD 1,2,3,7,8-PeCDD Total PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD	ins, HR(MB MB esult Qualifier ND ND ND ND ND	1613B) 		8.1 8.1 4.3 4.3 4.5 4.6	ug/L ug/L ug/L ug/L ug/L ug/L		D	Pi 05/12 05/12 05/12 05/12 05/12	Client S repared 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00	ample ID: Prep Batc 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12	ed 01:00 01:00 01:00 01:00 01:00 01:00 01:00 01:00	Blan : Tota 121_I Dil Fa
lethod: 1613B - Dioxins/Fura Lab Sample ID: H2E180000121B Matrix: Water Analysis Batch: 2139121 Analyte 2,3,7,8-TCDD Total TCDD 1,2,3,7,8-PeCDD Total PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD	ins, HR(MB MB esult Qualifier ND ND ND ND ND ND ND	1613B) 		8.1 8.1 4.3 4.3 4.5 4.6 4.3	ug/L ug/L ug/L ug/L ug/L ug/L ug/L		_ <u>D</u>	P1 05/13 05/13 05/13 05/13 05/13 05/13	Client S repared 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00	ample ID: Prep Batc 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12	ed b1:00 b1:00 b1:00 b1:00 b1:00 b1:00 b1:00 b1:00 b1:00 b1:00	Blan : Tota 121_I Dil Fa
lethod: 1613B - Dioxins/Fura Lab Sample ID: H2E180000121B Matrix: Water Analysis Batch: 2139121 Analyte 2,3,7,8-TCDD Total TCDD 1,2,3,7,8-PeCDD Total PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD Total HxCDD	ins, HR(MB MB esult Qualifier ND ND ND ND ND ND ND ND ND	1613В) 		8.1 8.1 4.3 4.5 4.6 4.3 4.5	ug/L ug/L ug/L ug/L ug/L ug/L ug/L		<u>D</u>	Pr 05/12 05/12 05/12 05/12 05/12 05/12 05/12	Client S repared 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00	ample ID: Prep Bato 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12	ed b1:00	Blan : Tota 121_1 Dil Fa
Iethod: 1613B - Dioxins/Fura Lab Sample ID: H2E180000121B Matrix: Water Analysis Batch: 2139121 Analyte 2,3,7,8-TCDD Total TCDD 1,2,3,7,8-PeCDD Total PeCDD 1,2,3,7,8-HxCDD 1,2,3,7,8-HxCDD 1,2,3,7,8-HxCDD 1,2,3,7,8-HxCDD 1,2,3,7,8-HxCDD 1,2,3,7,8-HxCDD 1,2,3,4,6,7,8-HxCDD 1,2,3,4,6,7,8-HxCDD	ins, HR(MB MB esult Qualifier ND ND ND ND ND ND ND ND ND ND ND	1613B) 		8.1 8.1 4.3 4.5 4.6 4.3 4.5 5.5	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L		D	Pr 05/11 05/11 05/11 05/11 05/11 05/11 05/11	Client S repared 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00	ample ID: Prep Bato 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12	ed b: 2139 ed 01:00 01:00 01:00 01:00 01:00 01:00 01:00 01:00 01:00 01:00	Blan : Tota 121_1 Dil Fa
Iethod: 1613B - Dioxins/Fura Lab Sample ID: H2E180000121B Matrix: Water Analysis Batch: 2139121 Analyte 2,3,7,8-TCDD Total TCDD 1,2,3,7,8-PeCDD Total PeCDD 1,2,3,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,7,8,9-HxCDD Total HxCDD 1,2,3,4,6,7,8-HpCDD Total HpCDD	Ins, HR(MB MB esult Qualifier ND ND ND ND ND ND ND ND ND ND ND ND ND	1613B) ML 0.000010 0.000050 0.000050 0.000050 0.000050 0.000050 0.000050 0.000050 0.000050 0.000050 0.000050		8.1 8.1 4.3 4.5 4.6 4.3 4.5 5.5 5.5	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L		D	Pr 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13	Client S repared 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00	ample ID: Prep Bato 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12	ed b: 2139 ed 01:00 01:00 01:00 01:00 01:00 01:00 01:00 01:00 01:00 01:00 01:00 01:00 01:00 01:00	Blan : Tota 121_1 Dil Fa
Iethod: 1613B - Dioxins/Fura Lab Sample ID: H2E180000121B Matrix: Water Analysis Batch: 2139121 Analyte 2,3,7,8-TCDD Total TCDD 1,2,3,7,8-PeCDD Total PeCDD 1,2,3,7,8-HxCDD 1,2,3,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,7,8,9-HxCDD Total HxCDD 1,2,3,4,6,7,8-HpCDD Total HpCDD OCDD	Ins, HR(MB MB esult Qualifier ND ND ND ND ND ND ND ND ND ND ND ND ND	1613B) ML 0.000010 0.000050 0.00000000		8.1 8.1 4.3 4.5 4.6 4.3 4.5 5.5 5.5 8.5	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L		D	Pr 05/11 05/11 05/11 05/11 05/11 05/11 05/11 05/11 05/11	Client S repared 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00	ample ID: Prep Bato 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12	ed b1:00	Blan : Tota 121_I Dil Fa
Iethod: 1613B - Dioxins/Fura Lab Sample ID: H2E180000121B Matrix: Water Analysis Batch: 2139121 Analyte 2,3,7,8-TCDD Total TCDD 1,2,3,7,8-PeCDD Total PeCDD 1,2,3,7,8-HxCDD 1,2,3,7,8,9-HxCDD Total HxCDD 1,2,3,7,8,9-HxCDD Total HxCDD 1,2,3,4,6,7,8-HpCDD Total HpCDD OCDD 2,3,7,8-TCDF	Ins, HR(MB MB esult Qualifier ND ND ND ND ND ND ND ND ND ND ND ND ND	1613B) ML 0.000010 0.000050 0.00000000		8.1 8.1 4.3 4.5 4.6 4.3 4.5 5.5 5.5 8.5 5.5	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L		D	Pr 05/11 05/11 05/11 05/11 05/11 05/11 05/11 05/11 05/11	Client S repared 8/12 16:00 8/12 16:00	ample ID: Prep Batc 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12	ed b: 2139 ed 01:00 01:00 01:00 01:00 01:00 01:00 01:00 01:00 01:00 01:00 01:00 01:00 01:00 01:00	Blan : Tota 121_I Dil Fa
lethod: 1613B - Dioxins/Fura Lab Sample ID: H2E180000121B Matrix: Water	Ins, HR(MB MB esult Qualifier ND ND ND ND ND ND ND ND ND ND ND ND ND	1613B) ML 0.000010 0.000050 0.00000000		8.1 8.1 4.3 4.5 4.6 4.3 4.5 5.5 5.5 5.5 5.5	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L		D	Pr 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13 05/13	Client S repared 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00 8/12 16:00	ample ID: Prep Bato 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12 05/24/12	ed b: 2139 ed 01:00	Blan : Tota 121_1 Dil Fa

05/24/12 01:00

05/24/12 01:00

05/24/12 01:00

05/24/12 01:00

05/24/12 01:00

05/24/12 01:00

05/24/12 01:00

05/24/12 01:00

05/24/12 01:00

05/24/12 01:00

Analyzed

05/24/12 01:00

1

1

1

1

1

1

1

1

1

1

1

Dil Fac

0.000050

0.000050

0.000050

0.000050

0.000050

0.000050

0.000050

0.000050

0.000050

0.00010

Limits

35 - 197

3.2 ug/L

2.9 ug/L

2.9 ug/L

3.1 ug/L

4.1 ug/L

3.2 ug/L

4.2 ug/L

6.5 ug/L

5.1 ug/L

7.7 ug/L

05/18/12 16:00

05/18/12 16:00

05/18/12 16:00

05/18/12 16:00

05/18/12 16:00

05/18/12 16:00

05/18/12 16:00

05/18/12 16:00

05/18/12 16:00

05/18/12 16:00

Prepared

05/18/12 16:00

ND

88

%Recovery

MB MB

Qualifier

Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B) (Continued)

Client Sample ID: Method Blank Prep Type: Total Prep Batch: 2139121_P

Client Sample ID: Lab Control Sample

Prep Type: Total

Lab Sample ID: H2E180000121B Matrix: Water

Analysis Batch: 2139121

	MB	МВ				
Internal Standard	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	78		25 - 164	05/18/12 16:00	05/24/12 01:00	1
13C-1,2,3,7,8-PeCDD	86		25 _ 181	05/18/12 16:00	05/24/12 01:00	1
13C-1,2,3,4,7,8-HxCDD	96		32 _ 141	05/18/12 16:00	05/24/12 01:00	1
13C-1,2,3,6,7,8-HxCDD	82		28 _ 130	05/18/12 16:00	05/24/12 01:00	1
13C-1,2,3,4,6,7,8-HpCDD	78		23 - 140	05/18/12 16:00	05/24/12 01:00	1
13C-OCDD	66		17 _ 157	05/18/12 16:00	05/24/12 01:00	1
13C-2,3,7,8-TCDF	71		24 - 169	05/18/12 16:00	05/24/12 01:00	1
13C-1,2,3,7,8-PeCDF	81		24 - 185	05/18/12 16:00	05/24/12 01:00	1
13C-2,3,4,7,8-PeCDF	74		21 - 178	05/18/12 16:00	05/24/12 01:00	1
13C-1,2,3,4,7,8-HxCDF	88		26 - 152	05/18/12 16:00	05/24/12 01:00	1
13C-1,2,3,6,7,8-HxCDF	79		26 - 123	05/18/12 16:00	05/24/12 01:00	1
13C-2,3,4,6,7,8-HxCDF	84		28 - 136	05/18/12 16:00	05/24/12 01:00	1
13C-1,2,3,7,8,9-HxCDF	79		29 _ 147	05/18/12 16:00	05/24/12 01:00	1
13C-1,2,3,4,6,7,8-HpCDF	75		28 - 143	05/18/12 16:00	05/24/12 01:00	1
13C-1,2,3,4,7,8,9-HpCDF	69		26 - 138	05/18/12 16:00	05/24/12 01:00	1

Lab Sample ID: H2E180000121C

Matrix: Water Analysis Batch: 2139121

Analysis Batch: 2139121	Spike	105	LCS				Prep Batch: 2139121_P %Rec.
Analyte	Added		Qualifier	Unit	D	%Rec	Limits
2,3,7,8-TCDD	0.000200	0.000218		ug/L		109	67 - 158
1,2,3,7,8-PeCDD	0.00100	0.00106		ug/L		106	70 - 142
1,2,3,4,7,8-HxCDD	0.00100	0.00101		ug/L		101	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000973		ug/L		97	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.00108		ug/L		108	64 - 162
1,2,3,4,6,7,8-HpCDD	0.00100	0.000998		ug/L		100	70 - 140
OCDD	0.00200	0.00202	В	ug/L		101	78 - 144
2,3,7,8-TCDF	0.000200	0.000193		ug/L		96	75 ₋ 158
1,2,3,7,8-PeCDF	0.00100	0.000990		ug/L		99	80 ₋ 134
2,3,4,7,8-PeCDF	0.00100	0.00102		ug/L		102	68 - 160
1,2,3,4,7,8-HxCDF	0.00100	0.00104		ug/L		104	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.00104		ug/L		104	84 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.00102		ug/L		102	70 ₋ 156
1,2,3,7,8,9-HxCDF	0.00100	0.00105		ug/L		105	78 ₋ 130
1,2,3,4,6,7,8-HpCDF	0.00100	0.00105		ug/L		105	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.00103		ug/L		103	78 - 138
OCDF	0.00200	0.00181		ug/L		90	63 - 170

Surrogate	%Recovery	Qualifier	Limits
37Cl4-2,3,7,8-TCDD	100		31 _ 191
	LCS	LCS	
Internal Standard	%Recovery	Qualifier	Limits
13C-2,3,7,8-TCDD	83		20 _ 175
13C-1,2,3,7,8-PeCDD	96		21 - 227
13C-1,2,3,4,7,8-HxCDD	86		21 - 193
13C-1,2,3,6,7,8-HxCDD	69		25 - 163
13C-1,2,3,4,6,7,8-HpCDD	82		26 - 166

LCS LCS

TestAmerica Irvine 6/3/2012

Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B) (Continued)

Lab Sample ID: H2E180000 Matrix: Water	0121C			Client Sample ID: Lab Control Sample Prep Type: Total
Analysis Batch: 2139121				Prep Batch: 2139121_P
	LCS	LCS		
Internal Standard	%Recovery	Qualifier	Limits	
13C-OCDD	80		13 - 199	
13C-2,3,7,8-TCDF	82		22 - 152	
13C-1,2,3,7,8-PeCDF	95		21 - 192	
13C-2,3,4,7,8-PeCDF	90		13 - 328	
13C-1,2,3,4,7,8-HxCDF	77		19 - 202	
13C-1,2,3,6,7,8-HxCDF	66		21 - 159	
13C-2,3,4,6,7,8-HxCDF	81		22 - 176	
13C-1,2,3,7,8,9-HxCDF	81		17 _ 205	
13C-1,2,3,4,6,7,8-HpCDF	69		21 - 158	
13C-1,2,3,4,7,8,9-HpCDF	78		20 - 186	

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-24891/1-A												ample ID: I		
Matrix: Water											Prep 1	ype: Tota		
Analysis Batch: 25413												Prep	Batch	: 24891
		MB MB												
Analyte	R	esult Qualifier		RL			Unit		_ <u>D</u>		repared	Analyz		Dil Fac
Zinc		ND		20		6.0	ug/L			05/0	9/12 15:35	05/10/12 2	21:13	
- Lab Sample ID: LCS 440-24891/2-A									С	lient	Sample	ID: Lab Co	ontrol S	Sample
Matrix: Water											Prep T	ype: Tota	Recov	, verable
Analysis Batch: 25413												Prep	Batch	: 24891
			Spike		LCS	LCS						%Rec.		
Analyte			Added		Result	Qua	lifier	Unit		D	%Rec	Limits		
Zinc			500		512			ug/L			102	85 - 115		
- Lab Sample ID: 440-10582-E-1-C M	S										Client	Sample ID:	Matrix	c Spike
Matrix: Water												ype: Total		
Analysis Batch: 25413													Batch	
-	Sample	Sample	Spike		MS	MS						%Rec.		
Analyte	Result	Qualifier	Added		Result	Qua	lifier	Unit		D	%Rec	Limits		
Zinc	64		500		582			ug/L			103	70 - 130		
- Lab Sample ID: 440-10582-E-1-D M	SD								Clie	nt Sa	ample ID:	Matrix Sp	ike Du	plicate
Matrix: Water											Prep T	ype: Tota	Recov	verable
Analysis Batch: 25413												Prep	Batch	: 2489 ′
	Sample	Sample	Spike		MSD	MSD)					%Rec.		RPD
Analyte	Result	Qualifier	Added		Result	Qua	lifier	Unit		D	%Rec	Limits	RPD	Limi
Zinc	64		500		584			ug/L			104	70 - 130	0	20
Lab Sample ID: MB 440-24119/1-B											Client Sa	ample ID: I	Method	l Blank
Matrix: Water												Prep Ty	pe: Dis	solved
Analysis Batch: 25682												Prep	Batch	2542
		MB MB												
Analyte	R	esult Qualifier		RL		MDL	Unit		D	Р	repared	Analyz	ed	Dil Fac
Zinc		ND		20		6.0	ug/L			05/1	1/12 10:58	05/11/12	19:47	

Lead

Selenium

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-24119/	2-B						Client	Sample	ID: Lab Co	ontrol Sa	ample
Matrix: Water									Prep Ty	pe: Diss	olved
Analysis Batch: 25682									Prep	Batch:	25427
			Spike	LCS	LCS				%Rec.		
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits		
Zinc			500	523		ug/L		105	85 - 115		
Lab Sample ID: 440-10605-K-1-	CMS							Client	Sample ID	: Matrix	Spike
Matrix: Water									Prep Ty	pe: Diss	olved
Analysis Batch: 25682									Prep	Batch:	2542
-	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Zinc	ND		500	497		ug/L		99	70 - 130		
Lab Sample ID: 440-10605-K-1-I	D MSD						Client Sa	ample ID): Matrix Sp	oike Dup	olicate
Matrix: Water									Prep Ty	pe: Diss	olve
Analysis Batch: 25682									Prep	Batch:	2542
-	Sample	Sample	Spike	MSD	MSD				%Rec.		RPI
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limi
Zinc	ND		500	478		ug/L		96	70 - 130	4	20
Athad: 200 9 Matala (ICP											
lethod: 200.8 - Metals (ICP	/11/13)										

Lab Sample ID: MB 440-24893	Lab Sample ID: MB 440-24893/1-A								d Blank
Matrix: Water							Prep Ty	ype: Total Reco	verable
Analysis Batch: 26457								Prep Batch	n: 24893
	MB N	ЛB							
Analyte	Result Q	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.10	ug/L		05/09/12 15:37	05/15/12 19:37	1
Copper	ND		2.0	0.50	ug/L		05/09/12 15:37	05/15/12 19:37	1
Lead	ND		1.0	0.20	ug/L		05/09/12 15:37	05/15/12 19:37	1
Selenium	ND		2.0	0.50	ug/L		05/09/12 15:37	05/15/12 19:37	1

Lab Sample ID: LCS 440-24893/2-A Matrix: Water Analysis Batch: 26457					Client		Type: Tota	ontrol Sample Il Recoverable 9 Batch: 24893
	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Cadmium	80.0	81.4		ug/L		102	85 - 115	
Copper	80.0	82.5		ug/L		103	85 - 115	
Lead	80.0	83.0		ug/L		104	85 - 115	
Selenium	80.0	79.9		ug/L		100	85 - 115	

Lab Sample ID: 440-11004-I-1-0 Matrix: Water Analysis Batch: 26440	CMS					
	Sample	Sample	Spike	MS	MS	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit
Cadmium	ND		80.0	82.1		ug/L
Copper	8.4		80.0	89.9		ug/L

1.2 J,DX

160

Client Sample ID: Matrix Spike

Prep Type: Total Recoverable Prep Batch: 24893

%Rec.

Limits

70 - 130

70 - 130

70 - 130

70 - 130

%Rec

103

102

98

102

D

ug/L

ug/L

80.0

80.0

79.8

242

Г

Selenium

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 440-11004-I-1-D MS	SD						Client		: Matrix Sp		
Matrix: Water								Prep	Type: Total		
Analysis Batch: 26440	. .	•	•							Batch:	
		Sample	Spike	MSD				- «-	%Rec.		RPD
Analyte		Qualifier	Added		t Qualifier	Unit		D %Rec	Limits	RPD	Limi
Cadmium	ND		80.0	80.2		ug/L		100	70 ₋ 130	2	20
Copper	8.4		80.0	90.4		ug/L		102	70 ₋ 130	1	20
Lead		J,DX	80.0	75.4		ug/L		93	70 - 130	6	20
Selenium	160		80.0	247		ug/L		108	70 - 130	2	20
Lab Sample ID: MB 440-24119/1-C								Client S	ample ID: N	lethod	Blanl
Matrix: Water									Prep Typ	e: Dise	solve
Analysis Batch: 26175									Prep	Batch:	2542
		MB MB									
Analyte	R	esult Qualifier		RL	MDL Unit		D	Prepared	Analyze	∌d	Dil Fa
Cadmium		ND	-	1.0	0.10 ug/L		(05/11/12 11:02	2 05/15/12 1	0:43	
Copper		ND		2.0	0.50 ug/L		(05/11/12 11:02	2 05/15/12 1	0:43	
Lead		ND		1.0	0.20 ug/L		(05/11/12 11:02	2 05/15/12 1	0:43	
Selenium	(0.678 J,DX		2.0	0.50 ug/L		(05/11/12 11:02	2 05/15/12 1	0:43	
Lab Sample ID: LCS 440-24119/2-0	•						Cli	ont Sample	ID: Lab Co	ntrol S	ampl
Matrix: Water							•	one oumpre	Prep Typ		
Analysis Batch: 26175										Batch:	
Analysis Datch. 20175			Spike	LCS	LCS				%Rec.	Daten.	2042
Analyte			Added		Qualifier	Unit		D %Rec	Limits		
Cadmium			80.0	83.6		ug/L			85 - 115		
Copper			80.0	85.1		ug/L		106	85 - 115		
Lead			80.0	86.0		ug/L		107	85 - 115		
Selenium			80.0	83.3		ug/L		104	85 - 115		
			00.0	00.0	·	ug/L		101	001110		
Lab Sample ID: 440-10651-1 MS							Clien	t Sample II	D: Outfall 01		
Matrix: Water									Prep Typ		
Analysis Batch: 26175										Batch:	2542
		Sample	Spike	MS	5 MS				%Rec.		
Analyte		Qualifier	Added		Qualifier	Unit		D %Rec	Limits		
Cadmium	ND		80.0	80.9		ug/L		101	70 - 130		
Copper	0.60	J,DX	80.0	78.4		ug/L		97	70 - 130		
Lead	ND		80.0	93.8	}	ug/L		117	70 - 130		
Selenium	1.1	J,DX MB	80.0	81.2	2	ug/L		100	70 - 130		
Lab Sample ID: 440-10651-1 MSD							Clien	t Sample II): Outfall 01	9 Com	posit
Matrix: Water									Prep Typ		
Analysis Batch: 26175										Batch:	
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPI
Analyte		Qualifier	Added		t Qualifier	Unit		D %Rec	Limits	RPD	Limi
Cadmium	ND	·	80.0	81.9		ug/L		102	70 - 130	1	2
Copper	0.60	J,DX	80.0	78.8		ug/L		98	70 - 130	0	20
Lead	ND	- ,—	80.0	80.5		ug/L		101	70 - 130	15	20
			00.0			~9'L					

3

104

70 - 130

20

80.0

84.0

ug/L

1.1 J,DX MB

RL

0.20

Spike

Added

Spike

Added

8.00

MDL Unit

0.10 ug/L

LCS LCS

MS MS

Result Qualifier

8.41

Result Qualifier

D

Unit

ug/L

Unit

Prepared

05/04/12 13:48

%Rec

105

D

D

MB MB Result Qualifier

ND

Sample Sample Result Qualifier

Matrix: Water

Matrix: Water

Matrix: Water

Analyte

Mercury

Analyte

Mercury

Analyte

Analysis Batch: 24653

Analysis Batch: 24653

Analysis Batch: 24653

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-23864/1-A

Lab Sample ID: LCS 440-23864/2-A

Lab Sample ID: 440-10194-A-1-B MS

05/08/12 16:36

%Rec.

Limits

85 - 115

Client Sample ID: Method Blank Prep Type: Total/NA Prep Batch: 23864 Dil Fac Analyzed

1 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA Prep Batch: 23864

Client	Sample ID	: Matrix Spike								
Prep Type: Total/NA										
	Prep	Batch: 23864								
	%Rec.									
%Rec	Limits									
102	70 - 130									

Mercury	ND		8.00	8.17		ug/L		102	70 - 130		
Lab Sample ID: 440-10194-A-1	-C MSD						Client S	ample IC): Matrix Sp	oike Dup	licate
Matrix: Water									Prep T	ype: To	tal/NA
Analysis Batch: 24653									Prep	Batch:	23864
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	ND		8.00	8.13		ug/L		102	70 - 130	1	20

Lab Sample ID: LCS 440-25976/2-B Matrix: Water					Client	Sample	e ID: Lab Con Prep Typ	ntrol Sample pe: Total/NA
Analysis Batch: 26024							Prep B	Batch: 25976
	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Mercury	8.00	8.39		ug/L		105	85 - 115	

Lab Sample ID: MB 440-24119/1-E Matrix: Water Analysis Batch: 26024					Client Sa	mple ID: Metho Prep Type: Di Prep Batch	ssolved		
	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		05/14/12 17:07	05/14/12 19:55	1

Lab Sample ID: 440-10651-1 M Matrix: Water Analysis Batch: 26024	S						Client S	ample II	Prep Ty)19 Composite /pe: Dissolved o Batch: 25976
	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Mercury	ND		8.00	8.13		ug/L		102	70 - 130	

Lab Sample ID: 440-10651-1 MS Matrix: Water	D						Client S	ample IC): Outfall (Prep Ty)19 Com /pe: Diss	
Analysis Batch: 26024									Prep	Batch:	25976
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	ND		8.00	7.77		ug/L		97	70 - 130	5	20

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 440-25044/1-A											Client Sa	ample ID: Me	hod	Blank
Matrix: Water												Prep Type	: To	tal/NA
Analysis Batch: 25058												Prep Ba	tch:	25044
	MB	MB												
Analyte	Result	Qualifier		RL		MDL	Unit		D	Pr	repared	Analyzed		Dil Fa
НЕМ	ND			5.0		1.4	mg/L			05/10	0/12 08:01	05/10/12 08:3	9	
Lab Sample ID: LCS 440-25044/2-A									CI	lient	Sample	ID: Lab Cont	rol Sa	ampl
Matrix: Water												Prep Type	: To	tal/N/
Analysis Batch: 25058												Prep Ba		
-			Spike		LCS	LCS						%Rec.		
Analyte			Added		Result	Qual	lifier	Unit		D	%Rec	Limits		
НЕМ			20.0		20.5			mg/L			103	78 - 114		
Lab Sample ID: LCSD 440-25044/3-A								CI	lient	Sam	ple ID: L	ab Control S	ampl	e Duj
Matrix: Water												Prep Type	: To	tal/NA
Analysis Batch: 25058												Prep Ba	tch:	25044
			Spike		LCSD	LCS	D					%Rec.		RPI
Analyte			Added		Result	Qual	lifier	Unit		D	%Rec	Limits	RPD	Limi
HEM			20.0		20.9			mg/L			105	78 - 114	2	1

Lab Sample ID: MB 440-23831/6 Matrix: Water Analysis Batch: 23831										Client	Sample ID: Metho Prep Type: T	
Analysis Batch. 20001	МВ	мв										
Analyte	Result	Qualifier		RL		MDL	Unit		D	Prepared	Analyzed	Dil Fac
Turbidity	ND			0.10	(0.040	NTU				05/04/12 11:14	1
Lab Sample ID: MRL 440-23831/3 MRL									Clier	nt Sampl	e ID: Lab Control :	Sample
Matrix: Water											Prep Type: T	
Analysis Batch: 23831												
-			Spike		MRL	MRL					%Rec.	
Analyte			Added		Result	Qual	ifier	Unit	D	%Rec	Limits	
Turbidity			0.100		0.120	J,DX		NTU		120		
Lab Sample ID: 440-10651-1 DU Matrix: Water									Client	Sample I	D: Outfall 019 Con Prep Type: T	
Analysis Batch: 23831												
	nple San	nple			DU	DU						RPD
Analyte Re	sult Qua	lifier			Result	Qual	ifier	Unit	D		RPD	Limit
Turbidity	0.22				0.200			NTU			10	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-24460/1 Matrix: Water Analysis Batch: 24460						Client S	ample ID: Metho Prep Type: 1		
	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	10	mg/L			05/08/12 09:09	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 440-24460/2							Clier	nt Sample	D: Lab Cont	trol S	ample
Matrix: Water									Prep Typ	e: To	tal/N/
Analysis Batch: 24460											
			Spike	LCS	LCS				%Rec.		
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits		
Total Dissolved Solids			1000	980		mg/L		98	90 - 110		
Lab Sample ID: 440-10918-C-1 DU								Clie	ent Sample ID	: Dup	olicat
Matrix: Water									Prep Typ	e: To	tal/N/
Analysis Batch: 24460											
	Sample	Sample		DU	DU						RP
Analyte	Result	Qualifier		Result	Qualifier	Unit	D			RPD	Lim
Total Dissolved Solids	1700			1660		mg/L				2	1
Lab Sample ID: MB 440-23971/1								Client S	Sample ID: Me		Blan
Matrix: Water									Prep Typ	e: To	tal/N
									Prep Typ	e: To	tal/N/
Analysis Batch: 23971	в	MB MB		Ы	MDI Unit		P	Properted		e: To	
Analysis Batch: 23971 Analyte	R	esult Qualifier		RL	MDL Unit		_ <u>D</u>	Prepared	Analyzed		Dil Fa
Analysis Batch: 23971	R			RL 10	MDL Unit		<u>D</u>	Prepared			Dil Fa
Analysis Batch: 23971 Analyte Total Suspended Solids	R	esult Qualifier							Analyzed	01	Dil Fa
Analysis Batch: 23971 Analyte Total Suspended Solids Lab Sample ID: LCS 440-23971/2	R	esult Qualifier							Analyzed	01	Dil Fa
Analysis Batch: 23971 Analyte Total Suspended Solids Lab Sample ID: LCS 440-23971/2 Matrix: Water	R	esult Qualifier							Analyzed 05/04/12 22:0 D: Lab Cont	01	Dil Fa
Analysis Batch: 23971 Analyte Total Suspended Solids Lab Sample ID: LCS 440-23971/2 Matrix: Water	R	esult Qualifier		10					Analyzed 05/04/12 22:0 D: Lab Cont	01	Dil Fa
Analysis Batch: 23971 Analyte Total Suspended Solids Lab Sample ID: LCS 440-23971/2 Matrix: Water	R	esult Qualifier	Spike Added	10 LCS	10 mg/L	Unit		nt Sample	Analyzed 05/04/12 22: Di Lab Cont Prep Typ	01	Dil Fa
Analysis Batch: 23971 Analyte Total Suspended Solids Lab Sample ID: LCS 440-23971/2 Matrix: Water Analysis Batch: 23971	R	esult Qualifier	-	10 LCS	10 mg/L	Unit mg/L	Clier	nt Sample	Analyzed 05/04/12 22:0 P ID: Lab Cont Prep Typ %Rec.	01	Dil Fa
Analysis Batch: 23971 Analyte Total Suspended Solids Lab Sample ID: LCS 440-23971/2 Matrix: Water Analysis Batch: 23971 Analyte Total Suspended Solids	R	esult Qualifier	Added	10 LCS Result	10 mg/L		Clier	%Rec 100	Analyzed 05/04/12 22:0 e ID: Lab Cont Prep Typ %Rec. Limits	on trol Sa e: Tot	Dil Fa ampl tal/N/
Analysis Batch: 23971 Analyte Total Suspended Solids Lab Sample ID: LCS 440-23971/2 Matrix: Water Analysis Batch: 23971 Analyte Total Suspended Solids Lab Sample ID: 440-10466-A-1 DU	R	esult Qualifier	Added	10 LCS Result	10 mg/L		Clier	%Rec 100	Analyzed 05/04/12 22:0 e ID: Lab Cont Prep Typ %Rec. Limits 85 - 115	01 trol Sa e: Tot	Dil Fa ampl tal/N
Analysis Batch: 23971 Analyte Total Suspended Solids Lab Sample ID: LCS 440-23971/2 Matrix: Water Analysis Batch: 23971 Analyte Total Suspended Solids Lab Sample ID: 440-10466-A-1 DU Matrix: Water	R	esult Qualifier	Added	10 LCS Result	10 mg/L		Clier	%Rec 100	Analyzed 05/04/12 22:0 D: Lab Conf Prep Typ %Rec. Limits 85 - 115 ent Sample ID	01 trol Sa e: Tot	Dil Fa ampli tal/N/
Analysis Batch: 23971 Analyte Total Suspended Solids Lab Sample ID: LCS 440-23971/2 Matrix: Water Analysis Batch: 23971 Analyte Total Suspended Solids Lab Sample ID: 440-10466-A-1 DU Matrix: Water		esult Qualifier	Added	10 LCS Result 1000	10 mg/L		Clier	%Rec 100	Analyzed 05/04/12 22:0 D: Lab Conf Prep Typ %Rec. Limits 85 - 115 ent Sample ID	01 trol Sa e: Tot	Dil Fa ampl tal/N/
Analysis Batch: 23971 Analyte Total Suspended Solids Lab Sample ID: LCS 440-23971/2 Matrix: Water Analysis Batch: 23971 Analyte	Sample	esult Qualifier	Added	10 LCS Result 1000 DU	10 mg/L LCS Qualifier		Clier	%Rec 100	Analyzed 05/04/12 22:0 D: Lab Conf Prep Typ %Rec. Limits 85 - 115 ent Sample ID	01 trol Sa e: Tot	Dil Fa ample tal/N/

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 440-26161/1-A Matrix: Water Analysis Batch: 26221	МВ	МВ									Client Sa	mple ID: Metho Prep Type: Prep Bato	Total/NA
Analyte	Result	Qualifier		RL		MDL	Unit		D	Pr	repared	Analyzed	Dil Fac
Cyanide, Total	ND			5.0		3.0	ug/L			05/15	5/12 10:28	05/15/12 13:55	1
Lab Sample ID: LCS 440-26161/2-A									CI	ient	Sample	D: Lab Contro	Sample
Matrix: Water												Prep Type:	Total/NA
Analysis Batch: 26221												Prep Batc	h: 26161
			Spike		LCS	LCS						%Rec.	
Analyte			Added		Result	Qualif	fier	Unit		D	%Rec	Limits	
Cyanide, Total			100		92.8			ug/L			93	90 - 110	

Method: SM 4500 CN E - Cyanide, Total (Low Level) (Continued)

Lab Sample ID: 510-78572-A	-2-E MS							Client	Sample ID	: Matrix	Spike
Matrix: Water									Prep T	ype: Tot	al/NA
Analysis Batch: 26221									Prep	Batch:	26161
-	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
								400	70 445		
Lab Sample ID: 510-78572-A	18 - 2-F MSD		100	121		ug/L	lient Sa	103 ample ID	70 - 115): Matrix Sp Prep T		
Lab Sample ID: 510-78572-A Matrix: Water			100	121		C C	lient Sa): Matrix Sp Prep T	ype: Tot	al/NA
Cyanide, Total Lab Sample ID: 510-78572-A Matrix: Water Analysis Batch: 26221		Sample	100 Spike	121 MSD	MSD	C C	lient Sa): Matrix Sp Prep T		al/NA 26161
Matrix: Water	-2-F MSD Sample	Sample Qualifier		MSD	MSD Qualifier	C C	lient Sa		9: Matrix Sp Prep T Prep	ype: Tot	al/NA

ethoa: Sivi 4500 NH3 C Ammonia IVI

- Lab Sample ID: MB 440-24965/1-/	Δ										Client Sa	mple ID: Me	thod	Blank
Matrix: Water												Prep Typ		
Analysis Batch: 24999												Prep B		
		MB MB												
Analyte	R	esult Qualifier		RL		MDL	Unit		D	Р	repared	Analyzed		Dil Fac
Ammonia (as N)		ND		0.400	0).157	mg/L			05/0	9/12 20:53	05/09/12 21:	00	1
- Lab Sample ID: LCS 440-24965/2	-A								C	lient	Sample	ID: Lab Cont	trol S	ample
Matrix: Water												Prep Typ	e: To	tal/NA
Analysis Batch: 24999												Prep B	atch:	24965
-			Spike		LCS	LCS						%Rec.		
Analyte			Added		Result	Qual	ifier	Unit		D	%Rec	Limits		
Ammonia (as N)			10.0		10.08			mg/L		_	101	85 - 115		
Lah Sampla ID: 440 40440 D 4 P	MC										Client	Comple ID: N	lotrix	Cnika
Lab Sample ID: 440-10410-D-1-B Matrix: Water	IVI S										Client	Sample ID: N		
												Prep Typ Prep Ba		
Analysis Batch: 24999	Sample	Sample	Spike		MS	MS						%Rec.	atch.	24900
Analyte		Qualifier	Added		Result		ifier	Unit		D	%Rec	Limits		
Ammonia (as N)	ND		10.0		9.520			mg/L		_	95	70 - 120		
Lab Sample ID: 440-10410-F-1-B	MSD								Clier	nt Sa	ample ID:	Matrix Spik	e Dur	olicate
Matrix: Water												Prep Typ	-	
Analysis Batch: 24999												Prep B		
	Sample	Sample	Spike		MSD	MSD						%Rec.		RPD
Analyte	Result	Qualifier	Added		Result	Qual	ifier	Unit		D	%Rec	Limits	RPD	Limit
Ammonia (as N)	ND		10.0		9.240			mg/L		—	92	70 - 120	3	15

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 440-23741/5 Matrix: Water Analysis Batch: 23741				Client Sa	ample ID: Metho Prep Type: 1				
-	МВ	МВ							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.75	mg/L			05/04/12 04:31	1

Method: SM 5310B - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: LCS 440-2374	1/6						Client	Sample	ID: Lab C	ontrol S	ample
Matrix: Water									Prep T	'ype: To	tal/NA
Analysis Batch: 23741											
			Spike	LCS	LCS				%Rec.		
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits		
Total Organic Carbon			10.0	9.70		mg/L		97	90 - 110		
	MS							Client	Sample ID	: Matrix	Spike
Matrix: Water									Prep T	ype: To	tal/NA
Analysis Batch: 23741											
	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Total Organic Carbon	7.1		5.00	11.5		mg/L		89	80 - 120		
 Lab Sample ID: 440-10564-A-1	MSD					с	lient Sa	ample IC): Matrix S	pike Du	plicate
Matrix: Water									Prep T	ype: To	tal/NA
Analysis Batch: 23741											
-	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Total Organic Carbon	7.1		5.00	11.5		mg/L		88	80 - 120	0	20

Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 440-23935/3 Matrix: Water											Client S	ample ID:		
												Frep	ype: To	lai/NA
Analysis Batch: 23935		МВ МВ												
A	-						11		_	-		A		D!!
Analyte	R	esult Qualifier		RL		MDL				P	repared	Analy:		Dil Fac
Methylene Blue Active Substances		ND		0.10	C	0.050	mg/L					05/04/12	17:18	1
Lab Sample ID: LCS 440-23935/4									Clie	ent	Sample	ID: Lab C	ontrol S	ample
Matrix: Water													ype: To	
Analysis Batch: 23935													,,	
			Spike		LCS	LCS						%Rec.		
Analyte			Added	R	esult	Quali	fier	Unit		D	%Rec	Limits		
Methylene Blue Active			0.250	(0.256			mg/L		_	102	90 - 110		
Substances														
- Lab Sample ID: 440-10651-1 MS									Client	t Sa	ample IC	D: Outfall 0	19 Com	posite
Matrix: Water											- i - i	Prep 1	ype: To	tal/NA
Analysis Batch: 23935														
-	Sample	Sample	Spike		MS	MS						%Rec.		
Analyte	Result	Qualifier	Added	R	esult	Quali	fier	Unit		D	%Rec	Limits		
Methylene Blue Active	ND		0.250	(0.264			mg/L		_	106	50 - 125		
Substances														
Lab Sample ID: 440-10651-1 MSD									Clien	t Sa	ample II	D: Outfall 0	19 Com	posite
Matrix: Water												Prep 1	ype: To	tal/NA
Analysis Batch: 23935														
	Sample	Sample	Spike		MSD	MSD						%Rec.		RPD
Analyte	Result	Qualifier	Added	R	esult	Quali	fier	Unit		D	%Rec	Limits	RPD	Limit
										_				
Methylene Blue Active	ND		0.250	(0.251			mg/L			100	50 ₋ 125	5	20

Matrix: Water

Matrix: Water

Analyte

Analysis Batch: 23766

Biochemical Oxygen Demand

Lab Sample ID: LCS 440-23766/4

Method: SM5210B - BOD, 5 Day

Lab Sample ID: USB 440-23766/1 USB

TestAmerica Job ID: 440-10462-1

Client Sample ID: Method Blank

Analyzed

Prep Type: Total/NA

Dil Fac

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Analysis Batch: 23766							
	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Biochemical Oxygen Demand	199	196		mg/L		98	85 - 115
Lab Sample ID: LCSD 440-23766/5 Matrix: Water				Clie	nt Sam	iple ID: I	Lab Control Sample Dup Prep Type: Total/NA

RL

2.0

MDL Unit

0.50 mg/L

D

Prepared

USB USB Result Qualifier

ND

Analysis Batch: 23766									
	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Biochemical Oxygen Demand	199	200		mg/L		101	85 _ 115	2	20

Method: Gross Alpha and Beta - Gross Alpha/Beta

Lab Sample ID: S205027-04							Client Sa	mple ID: Metho	d Blank
Matrix: WATER								Prep Type: T	Total/NA
Analysis Batch: 8614								Prep Batch:	8614_P
	Blank	Blank							
Analyte F	lesult	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Strontium-90	0.058	U	2		pCi/L		05/09/12 00:00	05/09/12 10:54	1
Lab Sample ID: S205027-04							Client Sa	mple ID: Metho	d Blank
Matrix: WATER								Prep Type: 1	Total/NA
Analysis Batch: 8614								Prep Batch:	8614_P
	Blank	Blank							
Analyte F	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tritium	-38.7	U	500		pCi/L		05/09/12 00:00	05/09/12 19:29	1
Lab Sample ID: S205027-04							Client Sa	mple ID: Metho	d Blank
Matrix: WATER								Prep Type: 1	
Analysis Batch: 8614								Prep Batch:	
-	Blank	Blank							
Analyte F	lesult	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cesium-137 -	0.067	U	20		pCi/L		05/08/12 00:00	05/10/12 00:00	1
Potassium-40	-16	U	25		pCi/L		05/08/12 00:00	05/10/12 00:00	1
Lab Sample ID: S205027-04							Client Sa	mple ID: Metho	d Blank
Matrix: WATER								Prep Type: 1	
Analysis Batch: 8614								Prep Batch:	
-	Blank	Blank						Trop Daton.	
		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

Method: Gross Alpha and Beta - Gross Alpha/Beta (Continued)

 Lab Sample ID: S205027-04 Matrix: WATER											Client Sa	ample ID: Metho Prep Type: ⁻	
Analysis Batch: 8614												Prep Batch	
-	Blank	Blank											
Analyte	Result	Qualifier		RL		MDL	Unit		D	Р	repared	Analyzed	Dil Fac
Radium-228	0.091	U		1			pCi/L			05/1	4/12 00:00	05/14/12 12:59	1
											Client Sa	ample ID: Metho	od Blank
Matrix: WATER												Prep Type:	Total/NA
Analysis Batch: 8614												Prep Batch	: 8614_P
	Blank	Blank											
Analyte	Result	Qualifier		RL		MDL	Unit		D	Р	repared	Analyzed	Dil Fac
Gross Alpha	-0.097	U		3			pCi/L			05/1	1/12 00:00	05/14/12 16:25	1
Gross Beta	-0.41	U		4			pCi/L			05/1	1/12 00:00	05/14/12 16:25	1
Lab Sample ID: S205027-04											Client Sa	ample ID: Metho	od Blank
Matrix: WATER												Prep Type:	Total/NA
Analysis Batch: 8614												Prep Batch	: 8614_P
	Blank	Blank											
Analyte	Result	Qualifier		RL		MDL	Unit		D	P	repared	Analyzed	Dil Fac
Radium-226	-0.078	U		1			pCi/L			05/2	3/12 00:00	05/23/12 13:39	1
Lab Sample ID: S205027-03									С	lient	Sample	ID: Lab Control	Sample
Matrix: WATER												Prep Type:	Total/NA
Analysis Batch: 8614												Prep Batch	: 8614_P
			Spike		LCS	LCS						%Rec.	
Analyte			Added		Result	Qua	lifier	Unit		D	%Rec	Limits	
Strontium-90			9.34		8.36			pCi/L			90	80 - 120	
Lab Sample ID: S205027-03									С	lient	Sample	ID: Lab Control	Sample
Matrix: WATER												Prep Type:	Total/NA
Analysis Batch: 8614												Prep Batch	: 8614_P
			Spike		LCS	LCS						%Rec.	
Analyte			Added		Result	Qua	lifier	Unit		D	%Rec	Limits	
Tritium			2210		2060			pCi/L		_	93	80 - 120	
 Lab Sample ID: S205027-03									С	lient	Sample	ID: Lab Control	Sample
Matrix: WATER												Prep Type:	Total/NA
Analysis Batch: 8614												Prep Batch	: 8614_P
			Spike		LCS	LCS						%Rec.	
Analyte			Added		Result	Qua	lifier	Unit		D	%Rec	Limits	
Cesium-137			122		117			pCi/L		_	96	80 - 120	
Cobalt-60			108		91.8			pCi/L			85	80 - 120	
 Lab Sample ID: S205027-03									С	lient	Sample	ID: Lab Control	Sample
Matrix: WATER												Prep Type:	Total/NA
Analysis Batch: 8614			Or the		1.00	LCS						Prep Batch	: 8614_P
Analyte			Spike Added		Result			Unit		D	%Rec	%Rec. Limits	
Gross Alpha			33.7		38.1			pCi/L			113	70 - 130	
Gross Beta			28.3		28.3			pCi/L			100	70 - 130	
			20.0		20.0			POWE			100	100	

Method: Gross Alpha and Beta - Gross Alpha/Beta (Continued)

Lab Sample ID: S205027-03							Client	Sample	ID: Lab Co	ontrol S	ample
Matrix: WATER									Prep T	ype: To	tal/NA
Analysis Batch: 8614									Prep E	Batch: 8	614_P
			Spike	LCS	LCS				%Rec.		
Analyte			Added		Qualifier	Unit	D	%Rec	Limits		
Uranium, Total			62	62.2		pCi/L		100	80 - 120		
Lab Sample ID: S205027-03							Client	Sample	ID: Lab Co	ontrol S	ample
Matrix: WATER									Prep T	ype: To	tal/NA
Analysis Batch: 8614									Prep E	Batch: 8	614_F
			Spike	LCS	LCS				%Rec.		
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits		
Radium-228			5.27	4.74		pCi/L		90	60 - 140		
_ab Sample ID: S205027-03							Client	Sample	D: Lab Co	ontrol S	ample
Matrix: WATER									Prep T	ype: To	tal/NA
Analysis Batch: 8614									Prep E	Batch: 8	614_P
			Spike	LCS	LCS				%Rec.		
Analyte			Added		Qualifier	Unit	D	%Rec	Limits		
Radium-226			55.7	54.1		pCi/L		97	80 - 120		
_ab Sample ID: S205027-05					c	lient Sa	mple ID	: OUTFA	ALL 019 (44	10-1065 [,]	1-1 DU
Matrix: WATER									Prep T	ype: To	tal/NA
Analysis Batch: 8614									Prep E	Batch: 8	614_F
	Sample	Sample		Duplicate	Duplicate						RPD
nalyte		Qualifier			Qualifier	Unit	D			RPD	Limi
Strontium-90	0.018	U		0.183	U	pCi/L				0	
_ab Sample ID: S205027-05					c	lient Sa	mple ID	: OUTFA	ALL 019 (44	40-1065 [,]	1-1 DU
Matrix: WATER										ype: To	
Analysis Batch: 8614										Batch: 8	
	Sample	Sample		Duplicate	Duplicate						RPD
Analyte	Result	Qualifier		Result	Qualifier	Unit	D			RPD	Limi
ritium	-104	U		-5.37	U	pCi/L				0	
ab Sample ID: S205027-05						Want Oa					
					(illent Sai	mple ID	: OUTFA	LL 019 (44	10-1065 [,]	1-1 DU
-					C	lient Sai	mple ID	: OUTFA	44 ALL 019 Prep T		
Atrix: WATER					C	lient Sal	mple ID	: OUTFA	Prep T	ype: To	tal/NA
Matrix: WATER	Sample	Sample		Duplicate	Duplicate	lient Sai	mple ID	: OUTF#	Prep T		tal/NA
Matrix: WATER Analysis Batch: 8614	-	Sample Qualifier		-		Unit	mple ID D	: OUTF#	Prep T	ype: To	tal/NA 614_P RPD
Matrix: WATER Analysis Batch: 8614 Analyte	-	Qualifier		-	Duplicate Qualifier			: OUTF#	Prep T	ype: To Batch: 8	tal/NA 614_P
Matrix: WATER Analysis Batch: 8614 Inalyte Sesium-137	Result	Qualifier U		Result	Duplicate Qualifier U	Unit		: OUTF4	Prep T	ype: To Batch: 8 RPD	tal/NA 614_P RPD
Matrix: WATER Analysis Batch: 8614 Analyte Cesium-137 Potassium-40	Result -0.662	Qualifier U		Result -0.746	Duplicate Qualifier U U	Unit pCi/L pCi/L	<u>D</u>		Prep T Prep E	Sype: To Batch: 8 RPD 0 0	tal/NA 614_P RPD Limit
Matrix: WATER Analysis Batch: 8614 Analyte Desium-137 Potassium-40 Lab Sample ID: S205027-05	Result -0.662	Qualifier U		Result -0.746	Duplicate Qualifier U U	Unit pCi/L pCi/L	<u>D</u>		Prep T Prep E	Tope: To Batch: 8 0 0 0 0 40-1065' 1000000000000000000000000000000000000	tal/NA 614_P RPD Limit
Matrix: WATER Analysis Batch: 8614 Cesium-137 Potassium-40 Lab Sample ID: S205027-05 Matrix: WATER	Result -0.662	Qualifier U		Result -0.746	Duplicate Qualifier U U	Unit pCi/L pCi/L	<u>D</u>		Prep T Prep E ALL 019 (44 Prep T	To Batch: 8 0 0 0	tal/NA 614_P RPD Limit
Matrix: WATER Analysis Batch: 8614 Cesium-137 Potassium-40 Lab Sample ID: S205027-05 Matrix: WATER	Result -0.662 9.67	Qualifier U		Result -0.746 -8.12	Duplicate Qualifier U U	Unit pCi/L pCi/L	<u>D</u>		Prep T Prep E ALL 019 (44 Prep T	Tope: To Batch: 8 0 0 0 0 40-1065' 1000000000000000000000000000000000000	tal/NA 614_P RPD Limit
Matrix: WATER Analysis Batch: 8614 Cesium-137 Potassium-40 Lab Sample ID: S205027-05 Matrix: WATER Analysis Batch: 8614	Result -0.662 9.67 Sample	Qualifier U U		Result -0.746 -8.12 Duplicate	Duplicate Qualifier U U	Unit pCi/L pCi/L	<u>D</u>		Prep T Prep E ALL 019 (44 Prep T	To Batch: 8 0 0 0	tal/NA 614_P RPD Limit 1-1 DU tal/NA 614_P
Matrix: WATER Analysis Batch: 8614 Sesium-137 Sotassium-40 Sab Sample ID: S205027-05 Matrix: WATER Analysis Batch: 8614 Smalyte	Result -0.662 9.67 Sample	Qualifier U U Sample Qualifier		Result -0.746 -8.12 Duplicate	Duplicate Qualifier U U Duplicate Qualifier	Unit pCi/L pCi/L client Sau	D		Prep T Prep E ALL 019 (44 Prep T	ype: To Batch: 8 <u>RPD</u> 0 0 40-1065 ype: To Batch: 8	tal/NA 614_P RPD Limit 1-1 DU tal/NA 614_P RPD
Matrix: WATER Analysis Batch: 8614 Desium-137 Potassium-40 Lab Sample ID: S205027-05 Matrix: WATER Analysis Batch: 8614 Malyte Jranium, Total	Result -0.662 9.67 Sample Result	Qualifier U U Sample Qualifier		Result -0.746 -8.12 Duplicate Result	Duplicate Qualifier U U Duplicate Qualifier J	Unit pCi/L pCi/L Client Sau Unit pCi/L	D	: OUTF#	Prep T Prep E ALL 019 (44 Prep T Prep E	Tope: To Batch: 8 RPD 0 0 0 R0-10657 0 Satch: 8 MO-10657 25	tal/NA 614_P RPD Limit
Matrix: WATER Analysis Batch: 8614 Cesium-137 Potassium-40 Lab Sample ID: S205027-05 Matrix: WATER Analysis Batch: 8614 Uranium, Total Lab Sample ID: S205027-05	Result -0.662 9.67 Sample Result	Qualifier U U Sample Qualifier		Result -0.746 -8.12 Duplicate Result	Duplicate Qualifier U U Duplicate Qualifier J	Unit pCi/L pCi/L Client Sau Unit pCi/L	D	: OUTF#	Prep T Prep E ALL 019 (44 Prep T Prep E	Ype: To Batch: 8 RPD 0 0 40-1065' Ype: To Batch: 8 RPD 25 40-1065'	tal/NA 614_P RPD Limit 1-1 DU tal/NA 614_P RPD Limit
Matrix: WATER Analysis Batch: 8614 Cesium-137 Potassium-40 Lab Sample ID: S205027-05 Matrix: WATER Analysis Batch: 8614 Analyte Jranium, Total Lab Sample ID: S205027-05 Matrix: WATER	Result -0.662 9.67 Sample Result	Qualifier U U Sample Qualifier		Result -0.746 -8.12 Duplicate Result	Duplicate Qualifier U U Duplicate Qualifier J	Unit pCi/L pCi/L Client Sau Unit pCi/L	D	: OUTF#	Prep T Prep E ALL 019 (44 Prep T Prep E ALL 019 (44 Prep T	Ype: To Batch: 8 RPD 0 0 40-1065' Ype: To Batch: 8 RPD 25 40-1065' Ype: To 25 40-1065' Ype: To	tal/NA 614_P RPD Limit 1-1 DU tal/NA 614_P RPD Limit
Matrix: WATER Analysis Batch: 8614 Cesium-137 Potassium-40 Lab Sample ID: S205027-05 Matrix: WATER Analysis Batch: 8614 Analyte Jranium, Total Lab Sample ID: S205027-05 Matrix: WATER	Result -0.662 9.67 Sample Result 0.018	Qualifier U U Sample Qualifier		Result -0.746 -8.12 Duplicate Result 0.014	Duplicate Qualifier U U Duplicate Qualifier J	Unit pCi/L pCi/L Client Sau Unit pCi/L	D	: OUTF#	Prep T Prep E ALL 019 (44 Prep T Prep E ALL 019 (44 Prep T	Ype: To Batch: 8 RPD 0 0 40-1065' Ype: To Batch: 8 RPD 25 40-1065'	tal/NA 614_P RPD Limit 1-1 DU tal/NA 614_P RPD Limit
Matrix: WATER Analysis Batch: 8614 Cesium-137 Potassium-40 Lab Sample ID: S205027-05 Matrix: WATER Analysis Batch: 8614 Uranium, Total Lab Sample ID: S205027-05 Matrix: WATER Analysis Batch: 8614 Analyte	Result -0.662 9.67 Sample Result 0.018 Sample	Qualifier U U Sample Qualifier J		Result -0.746 -8.12 Duplicate Result 0.014 Duplicate	Duplicate Qualifier U U Duplicate Qualifier J	Unit pCi/L pCi/L Client Sau Unit pCi/L	D	: OUTF#	Prep T Prep E ALL 019 (44 Prep T Prep E ALL 019 (44 Prep T	Ype: To Batch: 8 RPD 0 0 40-1065' Ype: To Batch: 8 RPD 25 40-1065' Ype: To 25 40-1065' Ype: To	tal/NA 614_P RPD Limit 614_P RPD Limit 1-1 DU tal/NA 614_P

Method: Gross Alpha and Beta - Gross Alpha/Beta (Continued)

Lab Sample ID: S205027-05 Matrix: WATER					Client San	nple ID: OU	FALL 019 (440-10651 Prep Type: To	tal/NA
Analysis Batch: 8614	Sample	Sample	Duplicate	Duplicate			Prep Batch: 8	614_P RPD
Analyte	•	Qualifier	•	Qualifier	Unit	D	RPD	Limit
Gross Alpha	0.13	<u> </u>	0.551	U	pCi/L		0	
Gross Beta	2.15	J	2.03	J	pCi/L		6	
Lab Sample ID: S205027-05					Client San	nple ID: OU	FALL 019 (440-1065 1	-1 DU
Matrix: WATER							Prep Type: To	tal/NA
Analysis Batch: 8614							Prep Batch: 8	614_P
	Sample	Sample	Duplicate	Duplicate				RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RPD	Limit
Radium-226	-0.032	U	-0.272	U	pCi/L		0	

GC/MS VOA

Analysis Batch: 24948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-10462-1	Outfall 019 Grab	Total/NA	Water	624	
440-10462-2	Trip Blank	Total/NA	Water	624	
440-10920-F-1 MS	Matrix Spike	Total/NA	Water	624	
440-10920-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	624	
LCS 440-24948/5	Lab Control Sample	Total/NA	Water	624	
MB 440-24948/4	Method Blank	Total/NA	Water	624	

GC/MS Semi VOA

Prep Batch: 24637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-10651-1	Outfall 019 Composite	Total/NA	Water	625	
LCS 440-24637/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 440-24637/3-A	Lab Control Sample Dup	Total/NA	Water	625	
MB 440-24637/1-A	Method Blank	Total/NA	Water	625	

Analysis Batch: 25208

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
440-10651-1	Outfall 019 Composite	Total/NA	Water	625	24637
LCS 440-24637/2-A	Lab Control Sample	Total/NA	Water	625	24637
LCSD 440-24637/3-A	Lab Control Sample Dup	Total/NA	Water	625	24637
MB 440-24637/1-A	Method Blank	Total/NA	Water	625	24637

GC Semi VOA

Prep Batch: 25133

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-10651-1	Outfall 019 Composite	Total/NA	Water	608	
440-11160-A-2-A MS	Matrix Spike	Total/NA	Water	608	
440-11160-A-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	608	
LCS 440-25133/2-A	Lab Control Sample	Total/NA	Water	608	
MB 440-25133/1-A	Method Blank	Total/NA	Water	608	

Analysis Batch: 25282

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-10651-1	Outfall 019 Composite	Total/NA	Water	608 Pesticides	25133
440-11160-A-2-A MS	Matrix Spike	Total/NA	Water	608 Pesticides	25133
440-11160-A-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	608 Pesticides	25133
LCS 440-25133/2-A	Lab Control Sample	Total/NA	Water	608 Pesticides	25133
MB 440-25133/1-A	Method Blank	Total/NA	Water	608 Pesticides	25133

HPLC/IC

Analysis Batch: 23484

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
440-10585-J-14 MS	Matrix Spike	Total/NA	Water	300.0	
440-10585-J-14 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
440-10651-1	Outfall 019 Composite	Total/NA	Water	300.0	
LCS 440-23484/3	Lab Control Sample	Total/NA	Water	300.0	
MB 440-23484/2	Method Blank	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis B

Analysis Batch: 23485					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-10585-J-14 MS	Matrix Spike	Total/NA	Water	300.0	
440-10585-J-14 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
440-10651-1	Outfall 019 Composite	Total/NA	Water	300.0	
LCS 440-23485/3	Lab Control Sample	Total/NA	Water	300.0	
MB 440-23485/2	Method Blank	Total/NA	Water	300.0	
Analysis Batch: 24398	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-10390-A-1 MS	Matrix Spike	Total/NA	Water	314.0	
440-10390-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	
440-10651-1	Outfall 019 Composite	Total/NA	Water	314.0	
LCS 440-24398/4	Lab Control Sample	Total/NA	Water	314.0	
MB 440-24398/5	Method Blank	Total/NA	Water	314.0	
MRL 440-24398/2 MRL	Lab Control Sample	Total/NA	Water	314.0	

Specialty Organics

Analysis Batch: 2139121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-10651-1	Outfall 019 Composite	Total	Water	1613B	
H2E180000121B	Method Blank	Total	Water	1613B	
H2E180000121C	Lab Control Sample	Total	Water	1613B	
Prep Batch: 2139121_I					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-10651-1	Outfall 019 Composite	Total	Water	1613	
H2E180000121B	Method Blank	Total	Water	1613	

Total

Water

1613

200.2

Metals

Prep Batch: 23864

H2E180000121C

Lab Control Sample

Outfall 019 Composite

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-10194-A-1-B MS	Matrix Spike	Total/NA	Water	245.1	
440-10194-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	
440-10651-1	Outfall 019 Composite	Total/NA	Water	245.1	
LCS 440-23864/2-A	Lab Control Sample	Total/NA	Water	245.1	
MB 440-23864/1-A	Method Blank	Total/NA	Water	245.1	

Analysis Batch: 24653

440-10651-1

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
440-10194-A-1-B MS	Matrix Spike	Total/NA	Water	245.1	23864
440-10194-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	23864
440-10651-1	Outfall 019 Composite	Total/NA	Water	245.1	23864
LCS 440-23864/2-A	Lab Control Sample	Total/NA	Water	245.1	23864
MB 440-23864/1-A	Method Blank	Total/NA	Water	245.1	23864
Prep Batch: 24891					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-10582-E-1-C MS	Matrix Spike	Total Recoverable	Water	200.2	
440-10582-E-1-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	

Total Recoverable

Water

Prep Type

Prep Type

Prep Type

Total Recoverable

Total Recoverable

Total Recoverable

Total Recoverable

Total Recoverable

Total Recoverable

Total Recoverable

Total Recoverable

Total Recoverable

Total Recoverable

Total Recoverable

Total Recoverable

Matrix

Water

Water

Matrix

Water

Water

Water

Water

Water

Prep Batch: 24891 (Continued)

Client Sample ID

Client Sample ID

Matrix Spike

Method Blank

Client Sample ID

Matrix Spike Duplicate

Outfall 019 Composite

Lab Control Sample

Matrix Spike

Method Blank

Outfall 019 Composite

Matrix Spike Duplicate

Lab Control Sample

Method Blank

Lab Control Sample

Metals (Continued)

Lab Sample ID

LCS 440-24891/2-A

MB 440-24891/1-A

Prep Batch: 24893 Lab Sample ID

440-11004-I-1-C MS

LCS 440-24893/2-A

MB 440-24893/1-A

Lab Sample ID

440-10651-1

440-10582-E-1-C MS

440-10582-E-1-D MSD

440-11004-I-1-D MSD

Analysis Batch: 25413

440-10651-1

Method

200.2

200.2

Method

200.2

200.2

200.2

200.2

200.2

Prep Batch

Prep Batch

8

Matrix	Method	Prep Batch	
Water	200.7 Rev 4.4	24891	11
Water	200.7 Rev 4.4	24891	
Water	200.7 Rev 4.4	24891	12
Water	200.7 Rev 4.4	24891	
Water	200.7 Rev 4.4	24891	13

Prep Batch: 25427

LCS 440-24891/2-A

MB 440-24891/1-A

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
440-10605-K-1-C MS	Matrix Spike	Dissolved	Water	200.2	
440-10605-K-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	
440-10651-1	Outfall 019 Composite	Dissolved	Water	200.2	
LCS 440-24119/2-B	Lab Control Sample	Dissolved	Water	200.2	
MB 440-24119/1-B	Method Blank	Dissolved	Water	200.2	

Prep Batch: 25428

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
440-10651-1	Outfall 019 Composite	Dissolved	Water	200.2	
440-10651-1 MS	Outfall 019 Composite	Dissolved	Water	200.2	
440-10651-1 MSD	Outfall 019 Composite	Dissolved	Water	200.2	
LCS 440-24119/2-C	Lab Control Sample	Dissolved	Water	200.2	
MB 440-24119/1-C	Method Blank	Dissolved	Water	200.2	

Analysis Batch: 25682

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
440-10605-K-1-C MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	25427
440-10605-K-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	25427
440-10651-1	Outfall 019 Composite	Dissolved	Water	200.7 Rev 4.4	25427
LCS 440-24119/2-B	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	25427
MB 440-24119/1-B	Method Blank	Dissolved	Water	200.7 Rev 4.4	25427

Prep Batch: 25976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-10651-1	Outfall 019 Composite	Dissolved	Water	245.1	
440-10651-1 MS	Outfall 019 Composite	Dissolved	Water	245.1	
440-10651-1 MSD	Outfall 019 Composite	Dissolved	Water	245.1	
LCS 440-25976/2-B	Lab Control Sample	Total/NA	Water	245.1	
MB 440-24119/1-E	Method Blank	Dissolved	Water	245.1	

Prep Type

Dissolved

Dissolved

Dissolved

Total/NA

Dissolved

Prep Type

Dissolved

Dissolved

Dissolved

Dissolved

Dissolved

Prep Type

Total Recoverable

Total Recoverable

Total Recoverable

Matrix

Water

Water

Water

Water

Water

Matrix

Water

Water

Water

Water

Water

Matrix

Water

Water

Water

Client Sample ID

Outfall 019 Composite

Outfall 019 Composite

Outfall 019 Composite

Lab Control Sample

Method Blank

Client Sample ID

Outfall 019 Composite

Outfall 019 Composite

Outfall 019 Composite

Lab Control Sample

Method Blank

Client Sample ID

Matrix Spike

Outfall 019 Composite

Matrix Spike Duplicate

Lab Control Sample

Metals (Continued) Analysis Batch: 26024

Lab Sample ID

440-10651-1 MS

440-10651-1 MSD

LCS 440-25976/2-B

MB 440-24119/1-E

Lab Sample ID

440-10651-1 MS

440-10651-1 MSD

LCS 440-24119/2-C

MB 440-24119/1-C

Lab Sample ID

440-11004-I-1-C MS

440-11004-I-1-D MSD

440-10651-1

Analysis Batch: 26440

440-10651-1

Analysis Batch: 26175

440-10651-1

Method

245.1

245.1

245.1

245.1

245.1

Method

200.8

200.8

200.8

200.8

200.8

Method

200.8

200.8

200.8

Prep Batch

25976

25976

25976

25976

25976

25428 25428

25428

25428

25428

24893

24893

24893

Prep Batch

Prep Batch

12 13

Analy	vsis	Batch:	26457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-24893/2-A	Lab Control Sample	Total Recoverable	Water	200.8	24893
MB 440-24893/1-A	Method Blank	Total Recoverable	Water	200.8	24893

General Chemistry

Analysis Batch: 23516

MRL 440-23831/3 MRL

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-10462-1	Outfall 019 Grab	Total/NA	Water	SM 2540F	
nalysis Batch: 23741					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-10564-A-1 MS	Matrix Spike	Total/NA	Water	SM 5310B	
440-10564-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	
440-10651-1	Outfall 019 Composite	Total/NA	Water	SM 5310B	
LCS 440-23741/6	Lab Control Sample	Total/NA	Water	SM 5310B	
MB 440-23741/5	Method Blank	Total/NA	Water	SM 5310B	
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batcl
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-10651-1	Outfall 019 Composite	Total/NA	Water	SM5210B	
LCS 440-23766/4	Lab Control Sample	Total/NA	Water	SM5210B	
LCSD 440-23766/5	Lab Control Sample Dup	Total/NA	Water	SM5210B	
USB 440-23766/1 USB	Method Blank	Total/NA	Water	SM5210B	
Analysis Batch: 23831					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-10651-1	Outfall 019 Composite	Total/NA	Water	180.1	
440-10651-1 DU	Outfall 019 Composite	Total/NA	Water	180.1	
MB 440-23831/6	Method Blank	Total/NA	Water	180.1	

TestAmerica Irvine 6/3/2012

Total/NA

Water

180.1

General Chemistry (Continued)

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TestAmerica	loh	ın	440-10462-1	
restAmenta	300	ID.	440-10402-1	

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batcl
440-10651-1	Outfall 019 Composite	Total/NA	Water	SM 5540C	
440-10651-1 MS	Outfall 019 Composite	Total/NA	Water	SM 5540C	
440-10651-1 MSD	Outfall 019 Composite	Total/NA	Water	SM 5540C	
LCS 440-23935/4	Lab Control Sample	Total/NA	Water	SM 5540C	
MB 440-23935/3	Method Blank	Total/NA	Water	SM 5540C	
nalysis Batch: 23971					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batcl
440-10466-A-1 DU	Duplicate	Total/NA	Water	SM 2540D	
440-10651-1	Outfall 019 Composite	Total/NA	Water	SM 2540D	
_CS 440-23971/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 440-23971/1	Method Blank	Total/NA	Water	SM 2540D	
nalysis Batch: 24460	1				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batcl
440-10651-1	Outfall 019 Composite	Total/NA	Water	SM 2540C	
440-10918-C-1 DU	Duplicate	Total/NA	Water	SM 2540C	
LCS 440-24460/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 440-24460/1	Method Blank	Total/NA	Water	SM 2540C	
rep Batch: 24965					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batcl
440-10410-D-1-B MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 B	
440-10410-F-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 B	
40-10651-1	Outfall 019 Composite	Total/NA	Water	SM 4500 NH3 B	
LCS 440-24965/2-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 B	
MB 440-24965/1-A	Method Blank	Total/NA	Water	SM 4500 NH3 B	
nalysis Batch: 24999					
_ab Sample ID	Client Sample ID	Prep Type	Matrix	Method	•
Lab Sample ID		Total/NA	Matrix Water	Method SM 4500 NH3 C	2496
-ab Sample ID 140-10410-D-1-B MS	Client Sample ID				2496
L ab Sample ID 440-10410-D-1-B MS 440-10410-F-1-B MSD	Client Sample ID Matrix Spike	Total/NA	Water	SM 4500 NH3 C	2496 2496 2496
Lab Sample ID 440-10410-D-1-B MS 440-10410-F-1-B MSD 440-10651-1	Client Sample ID Matrix Spike Matrix Spike Duplicate	Total/NA Total/NA	Water Water	SM 4500 NH3 C SM 4500 NH3 C	2496 2496 2496
Lab Sample ID 140-10410-D-1-B MS 140-10410-F-1-B MSD 140-10651-1 LCS 440-24965/2-A	Client Sample ID Matrix Spike Matrix Spike Duplicate Outfall 019 Composite	Total/NA Total/NA Total/NA	Water Water Water	SM 4500 NH3 C SM 4500 NH3 C SM 4500 NH3 C	2496 2496 2496 2496
Lab Sample ID 440-10410-D-1-B MS 440-10410-F-1-B MSD 440-10651-1 LCS 440-24965/2-A MB 440-24965/1-A	Client Sample ID Matrix Spike Matrix Spike Duplicate Outfall 019 Composite Lab Control Sample	Total/NA Total/NA Total/NA Total/NA	Water Water Water Water	SM 4500 NH3 C SM 4500 NH3 C SM 4500 NH3 C SM 4500 NH3 C	2496 2496 2496 2496
nalysis Batch: 24999 Lab Sample ID 440-10410-D-1-B MS 440-10410-F-1-B MSD 440-10651-1 LCS 440-24965/2-A MB 440-24965/1-A rep Batch: 25044 Lab Sample ID	Client Sample ID Matrix Spike Matrix Spike Duplicate Outfall 019 Composite Lab Control Sample Method Blank Client Sample ID	Total/NA Total/NA Total/NA Total/NA Total/NA Prep Type	Water Water Water Water Water Matrix	SM 4500 NH3 C SM 4500 NH3 C	Prep Batcl 2496 2496 2496 2496 2496 2496
Lab Sample ID 440-10410-D-1-B MS 440-10410-F-1-B MSD 440-10651-1 LCS 440-24965/2-A MB 440-24965/1-A rep Batch: 25044 Lab Sample ID	Client Sample ID Matrix Spike Matrix Spike Duplicate Outfall 019 Composite Lab Control Sample Method Blank	Total/NA Total/NA Total/NA Total/NA Total/NA	Water Water Water Water Water	SM 4500 NH3 C SM 4500 NH3 C SM 4500 NH3 C SM 4500 NH3 C SM 4500 NH3 C	2496 2496 2496 2496 2496
Lab Sample ID 440-10410-D-1-B MS 440-10410-F-1-B MSD 440-10651-1 LCS 440-24965/2-A MB 440-24965/1-A rep Batch: 25044	Client Sample ID Matrix Spike Matrix Spike Duplicate Outfall 019 Composite Lab Control Sample Method Blank Client Sample ID	Total/NA Total/NA Total/NA Total/NA Total/NA Prep Type	Water Water Water Water Water Matrix	SM 4500 NH3 C SM 4500 NH3 C	2496 2496 2496 2496 2496

Analysis Batch: 25058

Method Blank

MB 440-25044/1-A

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-10462-1	Outfall 019 Grab	Total/NA	Water	1664A	25044
LCS 440-25044/2-A	Lab Control Sample	Total/NA	Water	1664A	25044
LCSD 440-25044/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	25044
MB 440-25044/1-A	Method Blank	Total/NA	Water	1664A	25044

Total/NA

Water

6/3/2012

1664A

General Chemistry (Continued)

Prep Batch: 26161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-10651-1	Outfall 019 Composite	Total/NA	Water	Distill/CN	
510-78572-A-2-E MS	Matrix Spike	Total/NA	Water	Distill/CN	
510-78572-A-2-F MSD	Matrix Spike Duplicate	Total/NA	Water	Distill/CN	
_CS 440-26161/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
VIB 440-26161/1-A	Method Blank	Total/NA	Water	Distill/CN	
_ab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
•	Client Sample ID Outfall 019 Composite	Prep Type Total/NA	Matrix Water	Method SM 4500 CN E	Prep Batch 26161
440-10651-1					-
440-10651-1 510-78572-A-2-E MS	Outfall 019 Composite	Total/NA	Water	SM 4500 CN E	26161
Lab Sample ID 440-10651-1 510-78572-A-2-E MS 510-78572-A-2-F MSD LCS 440-26161/2-A	Outfall 019 Composite Matrix Spike	Total/NA Total/NA	Water Water	SM 4500 CN E SM 4500 CN E	26161 26161

Subcontract

Analysis Batch: 8614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-10651-1	Outfall 019 Composite	Total/NA	Water	Gamma Spec	8614_P
				K-40 CS-137	00 <i>4</i> 4 5
440-10651-1	Outfall 019 Composite	Total/NA	Water	Gross Alpha	8614_P
440-10651-1	Outfall 019 Composite	Total/NA	Water	and Beta Radium 226	8614 P
440-10651-1	Outfall 019 Composite	Total/NA	Water	Radium 228	8614 P
440-10651-1	Outfall 019 Composite	Total/NA	Water	Strontium 90	8614 P
440-10651-1	Outfall 019 Composite	Total/NA	Water	Tritium	_ 8614_P
440-10651-1	Outfall 019 Composite	Total/NA	Water	Uranium,	
				Combined	
140-10651-2	Trip Blank	Total/NA	Water	Gamma Spec	8614_P
				K-40 CS-137	
440-10651-2	Trip Blank	Total/NA	Water	Gross Alpha	8614_P
				and Beta	
440-10651-2	Trip Blank	Total/NA	Water	Radium 226	8614_P
440-10651-2	Trip Blank	Total/NA	Water	Radium 228	8614_P
440-10651-2	Trip Blank	Total/NA	Water	Strontium 90	8614_P
440-10651-2	Trip Blank	Total/NA	Water	Uranium,	8614_P
				Combined	
S205027-03	Lab Control Sample	Total/NA	WATER	Gross Alpha	8614_P
				and Beta	
S205027-04	Method Blank	Total/NA	WATER	Gross Alpha	8614_P
				and Beta	
S205027-05	OUTFALL 019 (440-10651-1 DU	Total/NA	WATER	Gross Alpha	8614_P
				and Beta	

Prep Batch: 8614_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-10651-1	Outfall 019 Composite	Total/NA	Water	General Prep	
440-10651-2	Trip Blank	Total/NA	Water	General Prep	
S205027-03	Lab Control Sample	Total/NA	WATER	General Prep	
S205027-04	Method Blank	Total/NA	WATER	General Prep	
S205027-05	OUTFALL 019 (440-10651-1 DU	Total/NA	WATER	General Prep	

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Qualifiers

GC	MS	Semi	VOA

Qualifier	Qualifier Description
AY	Matrix Interference suspected
HPLC/IC	
Qualifier	Qualifier Description
AY	Matrix Interference suspected
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
DIOXIN	
Qualifier	Qualifier Description
В	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.
Metals	
Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
General Ch	emistry
Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Subcontract

	Subcontract	
C	Qualifier	Qualifier Description
ī	J	The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit.
	I	The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
 	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: MWH Americas Inc Project/Site: Monthly Outfall 019

aboratory	Authority	Program	EPA Region	Certification ID
FestAmerica Irvine	Arizona	State Program	9	AZ0671
FestAmerica Irvine	California	LA Cty Sanitation Districts	9	10256
FestAmerica Irvine	California	NELAC	9	1108CA
FestAmerica Irvine	California	State Program	9	2706
FestAmerica Irvine	Guam	State Program	9	Cert. No. 12.002r
estAmerica Irvine	Hawaii	State Program	9	N/A
TestAmerica Irvine	Nevada	State Program	9	CA015312007A
estAmerica Irvine	New Mexico	State Program	6	N/A
estAmerica Irvine	Northern Mariana Islands	State Program	9	MP0002
estAmerica Irvine	Oregon	NELAC	10	4005
estAmerica Irvine	USDA	Federal		P330-09-00080
estAmerica Knoxville	Arkansas DEQ	State Program	6	88-0688
estAmerica Knoxville	California	State Program	9	2423
estAmerica Knoxville	Colorado	State Program	8	N/A
estAmerica Knoxville	Connecticut	State Program	1	PH-0223
estAmerica Knoxville	Florida	NELAC	4	E87177
estAmerica Knoxville	Georgia	State Program	4	906
estAmerica Knoxville	Hawaii	State Program	9	N/A
estAmerica Knoxville	Indiana	State Program	5	C-TN-02
estAmerica Knoxville	Iowa	State Program	7	375
estAmerica Knoxville	Kansas	NELAC	7	E-10349
estAmerica Knoxville	Kentucky	State Program	4	90101
estAmerica Knoxville	L-A-B	DoD ELAP		L2311
estAmerica Knoxville	Louisiana	NELAC	6	83979
estAmerica Knoxville	Louisiana	NELAC	6	LA110001
estAmerica Knoxville	Maryland	State Program	3	277
estAmerica Knoxville	Michigan	State Program	5	9933
estAmerica Knoxville	Nevada	State Program	9	TN00009
estAmerica Knoxville	New Jersey	NELAC	2	TN001
estAmerica Knoxville	New York	NELAC	2	10781
estAmerica Knoxville	North Carolina DENR	State Program	4	64
estAmerica Knoxville	North Carolina DHHS	State Program	4	21705
estAmerica Knoxville	Ohio VAP	State Program	5	CL0059
estAmerica Knoxville	Oklahoma	State Program	6	9415
estAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
estAmerica Knoxville	South Carolina	State Program	4	84001
estAmerica Knoxville	Tennessee	State Program	4	2014
estAmerica Knoxville	Texas	NELAC	6	T104704380-TX
estAmerica Knoxville	USDA	Federal		P330-11-00035
estAmerica Knoxville	Utah	NELAC	8	QUAN3
estAmerica Knoxville	Virginia	NELAC	3	165
estAmerica Knoxville	Virginia	State Program	3	165
estAmerica Knoxville	Washington	State Program	10	C593
estAmerica Knoxville	West Virginia	State Program	3	9955C
estAmerica Knoxville	West Virginia DEP	State Program	3	345
estAmerica Knoxville	Wisconsin	State Program	5	998044300

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.



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

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May 30, 2012

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

Reference: Test America-Irvine 44002624 Eberline Analytical Report S205027-8614 Sample Delivery Group 8614

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for two water samples received under Test America Project No. 44002624. The samples were received on May 5, 2012.

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

Sincerely,

llg

Joseph Verville Client Services Manager

NJV/mw

Enclosure: Level IV CLP-like Data Package CD

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Eberline Analytical	l est America
Report No. S205027-8614	Test America Project No. 44002624

1.0 General Comments

Case Narrative, page 1

Sample delivery group 8614 consists of the analytical results and supporting documentation for two water samples. Sample ID's and reference dates/times are given in the Sample Summary section of the Summary Data report. The samples were received as stated on the chain-of-custody document. Any discrepancies are noted on the Eberline Analytical Sample Receipt Checklist. No holding times were exceeded.

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

2.0 Quality Control

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

3.0 Method Errors

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

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

Case Narrative	, page	2
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May 30, 2012

4.0 Analysis Notes

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

5.0 Case Narrative Certification Statement

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

with

Joseph Verville Client Services Manager

5/30/12

Date

SUMMARY DA	TA	SE	СТ	ΙO	N
TABLE OF	C O	NT	FN	TT Q	
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Prepared by

End of Section

Reviewed by

Lab id	EAS
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Version	3.06
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SDG 8614

SDG <u>8614</u> Contact <u>Joseph Verville</u>

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REPORT GUIDE

Client <u>Test America, Inc.</u> Contract <u>44002624</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	05/29/12

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SDG 8614

GUIDE,

SDG <u>8614</u> Contact <u>Joseph Verville</u> Client <u>Test America, Inc.</u> Contract <u>44002624</u>

ABOUT THE DATA SUMMARY SECTION

cont.

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
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REPORT GUIDES Page 2 SUMMARY DATA SECTION Page 2

SDG 8614

SDG <u>8614</u> Contact <u>Joseph Verville</u>

LAB SAMPLE SUMMARY

Client <u>Test America, Inc.</u> Contract <u>44002624</u>

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S205027-01	OUTFALL 019 (440-10651-1	Boeing-SSFL	WATER			440-5154.1	05/03/12 09:30
S205027-02	TRIP-BLANK (440-10651-2)	Boeing-SSFL	WATER			440-5154.1	05/04/12 14:35
S205027-03	Lab Control Sample		WATER				
S205027-04	Method Blank		WATER				
S205027-05	Duplicate (S205027-01)	Boeing-SSFL	WATER				05/03/12 09:30

LAB SUMMARY

Page 1 SUMMARY DATA SECTION

Page 3

				SDG 861		RLINI	E ANZ	ALYT:	CA	L		
	<u>8614</u> Joseph Vervill	<u>le</u>	QC		MARY					ent <u>Test Amer</u> act <u>44002624</u>	ica, Inc	
QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID		MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT		SINCI	e lab L Sample ID	DEPARTMENT SAMPLE ID	
8614	440-5154.1	OUTFALL 019 (440-10651-1 TRIP-BLANK (440-10651-2)		WATER WATER		10.0 L 10.0 L		05/05/: 05/05/:		S205027-01 S205027-02	8614-001 8614-002	
		Method Blank Lab Control Sample Duplicate (S205027-01)		WATER WATER WATER		10.0 L		05/05/:	.2 2	S205027-04 S205027-03 S205027-05	8614-004 8614-003 8614-005	

Lab id EAS Protocol TA Version Ver 1.0 Form <u>DVD-QS</u> Version <u>3.06</u> Report date <u>05/29/12</u>

QC SUMMARY Page 1 SUMMARY DATA SECTION Page 4

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SDG <u>8614</u> Contact <u>Joseph Verville</u>

PREP BATCH SUMMARY

Client <u>Test America, Inc.</u> Contract <u>44002624</u>

			PREPARATIO	N ERROR			- PLA	NCHETS A	ANALYZ	ED	QUALI-
TEST	MATRIX	METHOD	BATCH	2 5 %	CLIENT	MORE	RE	BLANK	LCS	DUP/ORIG MS/ORIG	FIERS
Beta	Counting										
AC	WATER	Radium-228 in Water	7271-148	10.4	2			1	1	1/1	
SR	WATER	Strontium-90 in Water	7271-148	10.4	2			1	1	1/1	
Gas I	Proportiona	al Counting									
80A	WATER	Gross Alpha in Water	7271-148	20.6	2			1	1	1/1	
80B	WATER	Gross Beta in Water	7271-148	11.0	2			l	1	1/1	
Gamma	a Spectros	сору									
GAM	WATER	Gamma Emitters in Water	7271-148	7.0	2			1	1	1/1	
Kine	tic Phosphe	orimetry									
т_υ	WATER	Uranium, Total	7271-148		2			1	1	1/1	
Liqu	id Scintil	lation Counting									
Н	WATER	Tritium in Water	7271-148	10.0	1			l	1	1/1	
Rado	n Counting										
RA	WATER	Radium-226 in Water	7271-148	16.4	2			1	1	1/1	

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

PREP BATCH SUMMARY
Page 1
SUMMARY DATA SECTION
Page 5

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-PBS
Version	3.06
Report date	05/29/12

SDG 8614

SDG <u>8614</u> Contact <u>Joseph Verville</u>

CLIENT SAMPLE ID

LAB SAMPLE

LAB WORK SUMMARY

Client <u>Test America, Inc.</u> Contract <u>44002624</u>

COLLECTED RECEIVED	LOCATION CUSTODY SAS no	MATRIX	PLANCHET	TEST	SUF~ FIX		REVIEWED	ВҮ	METHOD
S205027-01	OUTFALL 019 (440-10651-1		8614-001	80A/80		05/14/12	05/15/12	BW	Gross Alpha in Water
05/03/12	Boeing-SSFL	WATER	8614-001	80B/80		05/14/12	05/15/12	BW	Gross Beta in Water
05/05/12	440-5154.1		8614-001	AC		05/14/12	05/15/12	BW	Radium-228 in Water
			8614-001	GAM		05/10/12	05/15/12	MWT	Gamma Emitters in Water
			8614-001	Н		05/09/12	05/15/12	BW	Tritium in Water
			8614-001	RA		05/23/12	05/24/12	BW	Radium-226 in Water
			8614-001	SR		05/09/12	05/15/12	BW	Strontium-90 in Water
			8614-001	U_T		05/14/12	05/14/12	CSS	Uranium, Total
S205027-02	TRIP-BLANK (440-10651-2)		8614-002	80A/80		05/14/12	05/15/12	BW	Gross Alpha in Water
05/04/12	Boeing-SSFL	WATER	8614-002	80B/80		05/14/12	05/15/12	BW	Gross Beta in Water
05/05/12	440-5154.1		8614-002	AC		05/14/12	05/15/12	BW	Radium-228 in Water
			8614-002	GAM		05/14/12	05/15/12	MWT	Gamma Emitters in Water
			8614-002	RA		05/23/12	05/24/12	BW	Radium-226 in Water
			8614-002	SR		05/09/12	05/15/12	BW	Strontium-90 in Water
			8614-002	T_U		05/14/12	05/14/12	CSS	Uranium, Total
S205027-03	Lab Control Sample		8614-003	80A/80		05/14/12	05/15/12	BW	Gross Alpha in Water
		WATER	8614-003	80B/80		05/14/12	05/15/12	BW	Gross Beta in Water
			8614-003	AC		05/14/12	05/15/12	BW	Radium-228 in Water
			8614-003	GAM		05/10/12	05/15/12	MWT	Gamma Emitters in Water
			8614-003	н		05/09/12	05/15/12	BW	Tritium in Water
			8614-003	RA		05/23/12	05/24/12	BW	Radium-226 in Water
			8614-003	SR		05/09/12	05/15/12	BW	Strontium-90 in Water
			8614-003	U_T		05/14/12	05/14/12	CSS	Uranium, Total
S205027-04	Method Blank		8614-004	80A/80		05/14/12	05/15/12	BW	Gross Alpha in Water
		WATER	8614-004	80B/80		05/14/12	05/15/12	BW	Gross Beta in Water
			8614-004	AC		05/14/12	05/15/12	BW	Radium-228 in Water
			8614-004	GAM		05/10/12	05/15/12	MWT	Gamma Emitters in Water
			8614-004	н		05/09/12	05/15/12	BW	Tritium in Water
			8614-004	RA		05/23/12	05/24/12	ВW	Radium-226 in Water
			8614-004	SR		05/09/12	05/15/12	BW	Strontium-90 in Water
			8614-004	ū_ī		05/14/12	05/14/12	CSS	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>05/29/12</u>

6/3/2012

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SDG 8614

SDG <u>8614</u> Contact <u>Joseph Verville</u>

WORK SUMMARY, cont.

Client <u>Test America, Inc.</u> Contract <u>44002624</u>

LAB SAMPLE	CLIENT SAMPLE I	D								
COLLECTED	LOCATION		MATRIX			SUF -				
RECEIVED	CUSTODY	SAS no		PLANCHET	TEST	FIX	ANALYZED	REVIEWED	ВҮ	METHOD
S205027-05	Duplicate (S205	027-01)		8614-005	80A/80		05/14/12	05/15/12	BW	Gross Alpha in Water
05/03/12	Boeing-SSFL		WATER	8614-005	80B/80		05/14/12	05/15/12	BW	Gross Beta in Water
05/05/12				8614-005	AC		05/14/12	05/15/12	BW	Radium-228 in Water
				8614-005	GAM		05/11/12	05/15/12	MWT	Gamma Emitters in Water
				8614-005	н		05/09/12	05/15/12	BW	Tritium in Water
				8614-005	RA		05/23/12	05/24/12	BW	Radium-226 in Water
				8614-005	SR		05/09/12	05/15/12	BW	Strontium-90 in Water
				8614-005	บ_า		05/14/12	05/14/12	CSS	Uranium, Total

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

WORK SUMMARY
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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>05/29/12</u>

SDG 8614

8614-004

METHOD BLANK

Method Blank

 SDG
 8614
 Client
 Test America, Inc.

 Contact
 Joseph Verville
 Contract
 44002624

 Lab sample id
 S205027-04
 Client sample id
 Method Blank

 Dept sample id
 8614-004
 Material/Matrix
 WATER

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	-0.097	0.25	0.522	3.00	υ	80A
Gross Beta	12587472	-0.410	0.58	0.987	4.00	U	80B
Tritium	10028178	-38.7	100	179	500	U	H
Radium-226	13982633	-0.078	0.31	0.586	1.00	υ	RA
Radium-228	15262201	0.091	0.18	0.419	1.00	U	AC
Strontium-90	10098972	-0.058	0.16	0.402	2.00	υ	SR
Uranium, Total		0	0.003	0.007	1.00	U	U_T
Potassium-40	13966002	-16.0	18	34.2	25.0	υ	GAM
Cesium-137	10045973	-0.0 6 7	0.92	1.72	20.0	υ	GAM

QC-BLANK #81733

Lab id	EAS			
Protocol	TA			
Version	<u>Ver 1.0</u>			
Form	DVD-DS			
Version	3.06			
Report date	05/29/12			

METHOD BLANKS Page 1 SUMMARY DATA SECTION Page 8

Lab Control Sample

EBERLINE ANALYTICAL

SDG 8614

8614-003

LAB CONTROL SAMPLE

SDG 8614

Contact Joseph Verville

Client <u>Test America, Inc.</u> Contract <u>44002624</u>

Lab sample id <u>\$205027-03</u> Dept sample id <u>8614-003</u> Client sample id <u>Lab Control Sample</u>
Material/Matrix <u>WATER</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 Ş	2σ LMTS (TOTAL)	PROTOCOL LIMITS
Gross Alpha	38.1	2.0	0.524	3.00		80A	33.7	1.3	113	76-124	70-130
Gross Beta	28.3	1.2	0.807	4.00		80B	28.3	1.1	100	88-112	70-130
Tritium	2060	160	179	500		н	2210	88	93	88-112	80-120
Radium-226	54.1	2.3	0.714	1.00		RA	55. 7	2.2	97	83-117	80-120
Radium-228	4.74	0.26	0.342	1.00		AC	5.27	0,21	90	89-111	60-140
Strontium-90	8.36	0.58	0.317	2.00		SR	9.34	0.37	90	88-112	80-120
Uranium, Total	62.2	7.3	0.069	1.00		U_T	62.0	2.5	100	88-112	80-120
Cobalt-60	91.8	13	3.25	10.0		GAM	108	4.3	85	86-114	80-120
Cesium-137	117	4.6	4.05	20.0		GAM	122	4.9	96	91-109	80-120

QC-LCS #81732

LAB	CON	FROL	5	AMPLES
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Lab id EAS Protocol TA Version Ver 1.0 Form DVD-LCS Version 3.06 Report date 05/29/12

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SDG 8614

8614-005

OUTFALL 019 (440-10651-1

DUPL	ICATE
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SDG <u>8614</u> Contact <u>Joseph Verville</u> DUPLICATE

Lab sample id <u>S205027-05</u> Dept sample id <u>8614-005</u> ORIGINAL

Lab sample id <u>S205027-01</u> Dept sample id <u>8614-001</u> Received <u>05/05/12</u> Client sample id <u>OUTFALL 019 (440-10651-1</u> Location/Matrix <u>Boeing-SSFL</u> <u>WATER</u> Collected/Volume <u>05/03/12 09:30 10.0 L</u> Chain of custody id <u>440-5154.1</u>

Contract <u>44002624</u>

Client Test America, Inc.

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 TOT	DER σ
Gross Alpha	0.551	0,65	1.22	3.00	U	808	0.130	0.68	1.24	U	-		0.9
Gross Beta	2.03	0.82	1.25	4.00	J	80B	2.15	0.94	1.45	J	6	93	0.2
Tritium	-5.37	110	182	500	U	н	-104	100	179	U	-		1.3
Radium-226	-0.272	0.35	0.696	1.00	υ	RA	-0.032	0,33	0.622	U	-		1.0
Radium-228	-0.002	0.16	0.392	1.00	U	AC	0.026	0.14	0.374	υ	-		0.3
Strontium-90	0.183	0.41	0.851	2.00	U	SR .	0.018	0.41	0.957	U	-		0.6
Uranium, Total	0.014	0.004	0.007	1.00	J	U_T	0.018	0.004	0.007	J	25	53	1,4
Potassium-40	-8.12	19	33.0	25.0	υ	GAM	9.67	14	23.4	U	-		1.5
Cesium-137	-0.746	1.5	1.62	20.0	U	GAM	-0.662	1.2	1.85	U	-		0.1

QC-DUP#1 81734

DUPLICATES Page 1 SUMMARY DATA SECTION Page 10 Lab id <u>EAS</u> Protocol <u>TA</u> Version <u>Ver 1.0</u> Form <u>DVD-DUP</u> Version <u>3.06</u> Report date <u>05/29/12</u>

6/3/2012

SDG 8614

8614-001

OUTFALL 019 (440-10651-1

DATA SHEET

	8614 Joseph Vervil	Client <u>Test America, Inc.</u> le Contract <u>44002624</u>	
Lab sample id Dept sample id Received		Client sample id <u>OUTFALL 019 (440-10651-1</u> Location/Matrix <u>Boeing-SSFL W.</u> Collected/Volume <u>05/03/12 09:30 10.0 L</u> Chain of custody id <u>440-5154.1</u>	ATER

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI~ FIERS	TEST
Gross Alpha	12587461	0.130	0.68	1.24	3.00	U	80A
Gross Beta	12587472	2.15	0.94	1.45	4.00	J	80B
Tritium	10028178	-104	100	179	500	U	н
Radium-226	13982633	-0.032	0.33	0.622	1.00	U	RA
Radium-228	15262201	0.026	0.14	0.374	1.00	U	AC
Strontium-90	10098972	0.018	0.41	0.957	2.00	U	SR
Uranium, Total		0.018	0.004	0.007	1.00	J	U_T
Potassium-40	13966002	9.67	14	23.4	25.0	U	GAM
Cesium-137	10045973	-0.662	1.2	1.85	20.0	U	GAM

Lab id	EAS
Protocol	ТА
Version	<u>Ver 1.0</u>
Form	DVD-DS
Version	3.06
Report date	05/29/12

DATA SHEETS Page 1 SUMMARY DATA SECTION Page 11

SDG 8614

8614-002

TRIP-BLANK (440-10651-2)

DATA SHEET

	8614 Joseph Verville		<u>Test America, Inc.</u> 44002624	
Lab sample id Dept sample id Received	8614-002 05/05/12	Location/Matrix	05/04/12 14:35 10.0 L	WATER

ANALYTE	CAS NO	RESULT pCi/L	2 o ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	-0.072	0.13	0.294	3.00	U	80A
Gross Beta	12587472	-0.302	0.56	0.940	4.00	U	80B
Radium-226	13982633	0.195	0.31	0.534	1.00	U	RA
Radium-228	15262201	-0.071	0.11	0.319	1.00	U	AC
Strontium-90	10098972	0.027	0.42	0.983	2.00	U	SR
Uranium, Total		0	0.003	0.007	1.00	Ū	U_T
Potassium-40	13966002	4.95	12	21.6	25.0	U	GAM
Cesium-137	10045973	-0.305	1.0	1.66	20.0	U	GAM

Lab id	EAS
Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-DS
Version	3.06
Report date	05/29/12

DATA SHEETS Page 2 SUMMARY DATA SECTION Page 12

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Test	AC Matrix WATER		
SDG	8614	LAB	ΜE
Contact	Joseph Verville		RAD
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SDG 8614

Client <u>Test America, Inc.</u> Contract <u>44002624</u>

LAB METHOD SUMMARY RADIUM-228 IN WATER BETA COUNTING

RESULTS

LAB	RAW SUF-			
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Radium-228
Preparation	batch 727	1-148		
s205027-01		8614-001	OUTFALL 019 (440-10651-1	Ū
S205027-02		8614-002	TRIP-BLANK (440-10651-2)	ΰ
S205027-03		8614-003	Lab Control Sample	ok
S205027-04		8614-004	Method Blank	υ
S205027-05		8614-005	Duplicate (S205027-01)	- U

METHOD PERFORMANCE

LAB	RAW SUF-		MDA	ALIQ	PREP	DILU-	YIELD	\mathbf{EFF}	COUNT	FWHM	DRIFT	DAYS		ANAL-	
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	96	¥	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
													<u></u>		
Preparation	n batch 727	1-148 2σ prep error 10	.4 % Re	ference	Lab N	loteboo	k No. '	7271	pg.012	2					
S205027-01		OUTFALL 019 (440-10651-1	0.374	1.80			77		150			11	05/14/12	05/14	GRB-201
S205027-02		TRIP-BLANK (440-10651-2)	0.319	1.80			76		150			10	05/14/12	05/14	GRB-202
S205027-03		Lab Control Sample	0.342	1.80			75		150				05/14/12	05/14	GRB-204
S205027-04		Method Blank	0.419	1.80			77		150				05/14/12	05/14	GRB-206
S205027-05		Duplicate (S205027-01)	0.392	1.80			77		150			11	05/14/12	05/14	GRB-207
Nominal val	lues and 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	0.369	±	0.079
FOR 5 SAMPLES	YIELD	76	±	2

Lab id	EAS
Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-LMS
Version	3.06
Report date	05/29/12

METHOD SUMMARIES Page 1 SUMMARY DATA SECTION Page 13

SDG 8614

Test <u>SR</u> Matrix <u>WATER</u> SDG <u>8614</u> Contact <u>Joseph Verville</u>

LAB METHOD SUMMARY STRONTIOM-90 IN WATER BETA COUNTING

Client <u>Test America, Inc.</u> Contract <u>44002624</u>

RESULTS

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LAB	RAW SUF-		CLIENT SAMPLE ID	Strontium	- 90
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Strontiu	90
Preparation	batch 727	1-148			
S205027-01		8614-001	OUTFALL 019 (440-10651-1	U	
S205027-02		8614-002	TRIP-BLANK (440-10651-2)	υ	
S205027-03		8614-003	Lab Control Sample	ok	
S205027-04		8614-004	Method Blank	U	
S205027-05		8614-005	Duplicate (S205027-01)	-	υ

METHOD PERFORMANCE

LAB	RAW SUF-		MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS		ANAL-	
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	г	FAC	TION	alo	₽¦o	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation	batch 727	1-148 20 prep error 10).4 % Re	ference	Lab N	loteboo	ĸ No.	7271	pg.012	:					
S205027-01		OUTFALL 019 (440-10651-1	0.957	0.500			83		50			6	05/09/12	05/09	GRB-221
S205027-02		TRIP-BLANK (440-10651-2)	0.983	0.500			78		50			5	05/09/12	05/09	GRB-222
S205027-03		Lab Control Sample	0.317	1.00			83		80				05/09/12	05/09	GRB-207
S205027-04		Method Blank	0.402	1.00			81		50				05/09/12	05/09	GRB-223
S205027-05		Duplicate (\$205027-01)	0.851	0.500			83		50			6	05/09/12	05/09	GRB-224
Nominal val	ues and li	mits from method	2.00	1.00			30-10	5	50			180			

PROCEDURES REFERENCE	905.0	AVERAGES ± 2 SD	MDA 0.702 ± 0.636
CP-380	Strontium in Water Samples, rev 5	FOR 5 SAMPLES	YIELD <u>82</u> ± <u>4</u>

METHOD SUMMARIES
Page 2
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Page 14

EAS
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<u>Ver 1.0</u>
DVD-LMS
3.06
05/29/12

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SDG 8614

Test <u>80A</u> Matrix <u>WATER</u> SDG <u>8614</u> Contact <u>Joseph Verville</u>

LAB METHOD SUMMARY GROSS ALPHA IN WATER GAS PROPORTIONAL COUNTING Client <u>Test America, Inc.</u> Contract <u>44002624</u>

RESULTS

LAB	RAW SUF-			
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha
Preparation	batch 727	1-148		
S205027-01		8614-001	OUTFALL 019 (440-10651-1	U
S205027-02	80	8614-002	TRIP-BLANK (440-10651-2)	υ
S205027-03	80	8614-003	Lab Control Sample	ok
S205027-04	80	8614-004	Method Blank	U
S205027-05	80	8614-005	Duplicate (S205027-01)	- U

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	г	FAC	TION	ng	olo	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation	batch 727	1-148 25 prep error 20	.6 % Re	ference	Lab N	loteboo	k No. '	7271	pg.012	2					
S205027-01	80	OUTFALL 019 (440-10651-1	1.24	0.200			106		400			11	05/11/12	05/14	GRB-101
S205027-02	80	TRIP-BLANK (440-10651-2)	0,294	0.300			1		400			10	05/11/12	05/14	GRB-103
S205027-03	80	Lab Control Sample	0.524	0.300			61		400				05/11/12	05/14	GRB-104
S205027-04	80	Method Blank	0.522	0.300			60		400				05/11/12	05/14	GRB-103
\$205027-05	80	Duplicate (S205027-01)	1.22	0.200			106		400			11	05/11/12	05/14	GRB-104
Nominal val	ues and li	mits from method	3.00	0.300			0-25	0	100			180			

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

AVERAGES ± 2 SD	MDA	0.760	±	0.878	1
FOR 5 SAMPLES	RESIDUE	67	±	87	

Lab id	EAS
Protocol	AT
Version	<u>Ver 1.0</u>
Form	DVD-LMS
Version	3.06
Report date	05/29/12

METHOD SUMMARIES Page 3 SUMMARY DATA SECTION Page 15

SDG 8614

Test <u>80B</u> Matrix <u>WATER</u> SDG <u>8614</u> Contact <u>Joseph Verville</u>

LAB METHOD SUMMARY GROSS BETA IN WATER GAS PROPORTIONAL COUNTING

Client <u>Test America, Inc.</u> Contract <u>44002624</u>

RESULTS

RAW SUF-

LAB

SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta
Preparation	batch 727	1-148		
S205027-01	80	8614-001	OUTFALL 019 (440-10651-1	2.15 J
S205027-02	80	8614-002	TRIP-BLANK (440-10651-2)	U
S205027-03	80	8614-003	Lab Control Sample	ok
S205027-04	80	8614-004	Method Blank	υ
S205027-05	80	8614-005	Duplicate (S205027-01)	ok J

METHOD PERFORMANCE

LAB	RAW SUF-		MDA.	ALIQ	PREP		RESID							ANAL-	
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	Ŀ	FAC	TION	mg	ala Ala	m1n	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation	batch 727	1-148 2σ prep error 11	.0 % Re	ference	Lab N	ioteboo	k No. '	7271	pg.012	2					
S205027-01	80	OUTFALL 019 (440-10651-1	1.45	0.200			106		400			11	05/11/12	05/14	GRB-101
S205027-02	80	TRIP-BLANK (440-10651-2)	0.940	0.300			1		400			10	05/11/12	05/14	GRB-103
S205027-03	80	Lab Control Sample	0.807	0.300			61		400				05/11/12	05/14	GRB-104
\$205027-04	80	Method Blank	0.987	0.300			60		400				05/11/12	05/14	GRB-103
S205027-05	80	Duplicate (S205027-01)	1.25	0.200			106		400			11	05/11/12	05/14	GRB-104
Nominal val	ues and li	mits from method	4.00	0.300			0-250)	100			180			

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

AVERAGES ± 2 SD	MDA	1.09	±	0.518
FOR 5 SAMPLES	RESIDUE	67	±	87

Lab id	ENC
Protocol	
Version	
Form	DVD-LMS
Version	3.06
Report date	05/29/12

METHOD SUMMARIES Fage 4 SUMMARY DATA SECTION Fage 16

SDG 8614

Test <u>GAM</u> Matrix <u>WATER</u> SDG <u>8614</u> Contact <u>Joseph Verville</u>

LAB METHOD SUMMARY GAMMA EMITTERS IN WATER GAMMA SPECTROSCOPY Client <u>Test America, Inc.</u> Contract <u>44002624</u>

RESULTS

LAB RAW SUF-SAMPLE ID TEST FIX PLANCHET CLIENT SAMPLE ID Cobalt-60 Cesium-137 Preparation batch 7271-148 8614-001 OUTFALL 019 (440-10651-1 U S205027-01 S205027-02 8614-002 TRIP-BLANK (440-10651-2) Ŭ 8614-003 Lab Control Sample S205027-03 ok ok S205027-04 8614-004 Method Blank U S205027-05 8614-005 Duplicate (S205027-01) U -Nominal values and limits from method RDLs (pCi/L) 10.0 20.0

METHOD PERFORMANCE

LAB	RAW SUF-		MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS		ANAL-	
SAMPLE ID	TEST FIX CL	JIENT SAMPLE ID	pCi/L	г	FAC	TION	Ŷ	alo	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation	1 batch 7271-1	$2\sigma \text{ prep error 7.}$	0 % R(eference	Lab N	lotebool	NO.	7271	pg.012	2					
S205027-01	OC	TFALL 019 (440-10651-1		2.00					400			7	05/08/12	05/10	MB,G8,0
S205027-02	TR	RIP-BLANK (440-10651-2)		2.00					400			10	05/08/12	05/14	MB,G8,0
S205027-03	La	ab Control Sample		2.00					400				05/08/12	05/10	MB,G3,0
\$205027-04	Me	ethod Blank		2.00					400				05/08/12	05/10	MB,G4,0
S205027-05	Du	plicate (S205027-01)		2.00					400			8	05/08/12	05/11	MB,G2,0
Nominal val	ues and limit	s from method	6.00	2.00					400			180			

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

METHOD SUMMARIES Page 5 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>05/29/12</u>

·		SDG B614
Test	<u>UT</u> Matrix <u>WATER</u>	
SDG	8614	LAB METHOD SUMMARY
ntact	Joseph Verville	URANIUM, TOTAL

Client Test America, Inc. Contract <u>44002624</u>

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RESULTS

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LAB	RAW SUF-		Uranium,
SAMPLE ID	TEST FIX PLANCHET	CLIENT SAMPLE ID	Total
Preparation	1 batch 7271-148		
S205027-01	8614-001	OUTFALL 019 (440-10651-1	0.018 J
S205027-02	B614-002	TRIP-BLANK (440-10651-2)	υ
S205027-03	8614-003	Lab Control Sample	ok
\$205027-04	8614-004	Method Blank	σ
S205027-05	8614-005	Duplicate (S205027-01)	ok J
Nominal val	ues and limits from	method RDLs (pCi/L)	1.00

METHOD PERFORMANCE

LAB	RAW SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS		ANAL-	
SAMPLE ID	TEST FIX CLIENT SAMPLE ID	pCi/L	ь	FAC	TION	ola	ale .	min	keV	ке∀	HELD	PREPARED	YZED	DETECTOR
									·					
Preparation	h batch 7271-148 2σ prep error	Ref	ference	Lab N	lotebool	k No. '	7271	pg.01:	2					
S205027-01	OUTFALL 019 (440-10651-1	0.007 (0.0200								11	05/14/12	05/14	KPA-001
\$205027-02	TRIP-BLANK (440-10651-2)	0.007 (0.0200								10	05/14/12	05/14	KPA-001
S205027-03	Lab Control Sample	0.069 (0.0200									05/14/12	05/14	KPA-001
S205027-04	Method Blank	0.007 (0.0200									05/14/12	05/14	KPA-001
S205027-05	Duplicate (S205027-01)	0.007 (0.0200								11	05/14/12	05/34	KPA-001
Nominal val	lues and limits from method	1.00 (0.0200								180			

AVERAGES ± 2 SD FOR 5 SAMPLES	MDA. YTELD	0.019	± +	0.055
			÷	

Lab id	EAS
Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-LMS
Version	3.06
Report date	05/29/12

METHOD SUMMARIES Page 6 SUMMARY DATA SECTION Page 18

Test <u>H</u> Matrix <u>WATER</u> SDG <u>8614</u>	EBERLINE ANALYTICAL SDG 8614 LAB METHOD SUMMARY	Client <u>Test America, Inc.</u> Contract <u>44002624</u>
Contact <u>Joseph Verville</u>	TRITIUM IN WATER LIQUID SCINTILLATION COUNTING	L

RESUI

LAB

SAMPLE ID TEST	FIX PLANCHET	CLIENT SAMPLE ID	Trit	ium
Preparation batch	7271-148			
\$20502 7- 01	861.4-001	OUTFALL 019 (440-10651-1	ΰ	
5205027-03	8614-003	Lab Control Sample	∖k	
S205027-04	8614-004	Method Blank	U	
\$205027-05	8614-005	Duplicate (S205027-01)	-	U

METHOD PERFORMANCE

RAW SUF-

LAB SAMPLE ID	RAW S	SUF- FIX CLIE	NT SA	MPLE ID	MDA pCi/I	ALIQ L	PREP FAC		YIELD %	EFF %	COUNT min	FWHM keV	 	PREPARED	ANAL- YZED	DETECTOR
Preparation	batch	7271-148		20 prep error	10.0 %	Reference	Lab 1	Noteboo	k No.	7271	pg.012	2				
S205027-01		OUTF	ALL O	19 (440-10651-	1 179	0.0100			100		150		6	05/09/12	05/09	LSC-006
S205027-03		Lab	Contr	ol Sample	179	0.100			10		150			05/09/12	05/09	LSC-006
S205027-04		Meth	od Bl	ank	179	0.100			10		150			05/09/12	0 5/09	LSC-006
S205027-05		Dupl	icate	(\$205027-01)	182	0.0100			100		150		6	05/09/12	05/09	LSC-006
Nominal valu	ues and	d limits	from	method	500	0,0100					100		180			

PRO	CEDURES	REFERENCE	906.0	AVERAGES <u>+</u> 2 SD	MDA <u>180 ± 3.00</u>
		DWP-212	Tritium in Drinking Water by Distillation, rev 8	FOR 4 SAMPLES	YIELD <u>55</u> ± 104

Lab id	EAS
Protocol	<u>TA</u>
Version	<u>Ver 1.0</u>
Form	DVD-LMS
Version	3.06
Report date	05/29/12

METHOD SUMMARIES Page 7 SUMMARY DATA SECTION Page 19

SDG 8614

Test <u>RA</u> Matrix <u>WATER</u> SDG <u>8614</u> Contact <u>Joseph Verville</u>

LAB METHOD SUMMARY RADIUM-226 IN WATER RADON COUNTING Client <u>Test America, Inc.</u> Contract <u>44002624</u>

RESULTS

RAW SUF-

LAB

Preparation batch	h 7271-148		
S205027-01	8614-001	OUTFALL 019 (440-10651-1	υ
\$205027-02	8614-002	TRIP-BLANK (440-10651-2)	Ü
S205027-03	8614-003	Lab Control Sample	ok
S205027-04	8614-004	Method Blank	U
S205027-05	8614-005	Duplicate (S205027-01)	- U

METHOD PERFORMANCE

LAB	RAW SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS		ANAL-	
SAMPLE ID	TEST FIX CLIENT SAMPLE ID	pCi/L	L	FAC	TION	alo	ola	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
		· · · ·												
Preparation	a batch 7271-148 2σ prep error 16	.4 % Re	ference	Lab N	loteboo	k No. '	7271	pg.012	2					
S205027-01	OUTFALL 019 (440-10651-1	0.622	0.100			100		121			20	05/23/12	05/23	RN-010
S205027-02	TRIP-BLANK (440-10651-2)	0.534	0.100			100		121			19	05/23/12	05/23	RN-012
S205027-03	Lab Control Sample	0.714	0.100			100		121				05/23/12	05/23	RN-009
S205027-04	Method Blank	0,586	0.100			100		121				05/23/12	05/23	RN-015
S205027-05	Duplicate (S205027-01)	0.696	0.100			100		121			20	05/23/12	05/23	RN-016
Nominal val	ues and limits from method	1.00	0.100					100			180			

PROCEDURES REFERE	NCE 903.1	AVERAGES ± 2 S	D MDA <u>0.630</u> ± <u>0.150</u>
DWP-88	1A Ra-226 Screening in Drinking Water, rev	6 FOR 5 SAMPLES	YIELD <u>100 ± 0</u>

6/3/2012

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SDG 8614

SDG <u>8614</u> Contact <u>Joseph Verville</u> REPORT GUIDE

Client <u>Test America, Inc.</u> Contract <u>44002624</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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PREPARATION BATCH SUMMARY

one	Preparation Batch Summary Report shows all preparation batches in Sample Delivery Group (SDG) with information necessary to check the pleteness 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.

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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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		DATA S	SHEET	
	The Data Sheet Report			
	information for one cl corresponds to both th	-		-
	The following notes ap	ply to this repo	prt:	
	* TEST is a code for			
	the TEST is empty, analyzed for.	no data is avai:	able; the analy.	rte was not
	-			
	* The LAB SAMPLE ID a Summary Data Sectio			
	Method Summary Repo		-	
	this work.			
	The Method Summary	-		-
	data, such as yield procedures used in		Sample ID and a	list of
	-			
	 * ERRORs can be label preparation (non-co 		-	
		-		
	square root of sum COUNT. The prepara	-		-

* 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:

was reported at another time.

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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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.
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.
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

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	DATA SHEET	
may not be a good e activity.	estimate of the 'real' minimu	um detectable
 A negative RESULT i of its 2 sigma cour 	s underlined if it is less t ting ERROR.	han the negative
* 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.		

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LAB CONTROL SAMPLE

	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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DUPLICATE

suj	pporting information for one Duplicate and associated Original sample.
Th	e 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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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.

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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:
 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.

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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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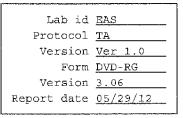
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METHOD SUMMARY

met	asured using one method. The other has performance data for the thod. There is one report for each TEST, as used on the Data Sheet port.
The	e 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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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

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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.

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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.

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6/	Page: Page 1 of 1			2.com	ericain	testam	lson@	E-Mail: debby.wilson@testamericainc.com			Phone:			Client Contact: Shipping/Receiving
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Custody Seals Intact: Custody Seal No.: Δ Yes Δ No	Relinquished by:	Relinquished by Bandy	Empty Kit Relinquished by:	Deliverable Requested: I, II, III, IV, Other (specify)	Unconfirmed	Possible Hazard Identification							Trip Blank (440-10651-2)		Sample Identification - Client ID (Lab ID)	Site: Boeing SSFL	Project Name: Monthly Outfall 019 Composite	Email:	Phone:	State, Zlp: CA, 94804	City: Richmond	Address: 2030 Wright Avenue,	Company: Eberline Services		Client Information (Sub Contract Lab)	Irvine, CA 92614-5817 Phon∞ (949) (C1-1022 Fax (949) 260-3297	
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Form SCP-02, 07-30-07

"over 55 years of quality nuclear services"

Test America version 7/19/2010

CHAIN OF CUSTODY FORM

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ANALYSIS REQUIRED	Field readings: (Log in and include in report Temp and pH)	$\operatorname{Temp} \operatorname{eF} = S 7 \operatorname{C}$ $\operatorname{pH} = 7.2$ $\operatorname{DO} = 2.2 \operatorname{MS} K$			Comments			x							Composite samples will follow and are to be added to this work order.	1 1 1	222282 Sample Integrity: (Check)	Date Requirements: (Check) No Level IV:Ail Level IV: NPDES Level IV: Y
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Test America version 7/19/2010

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Page 3 of 3

	Comments			Filter w/in 24hrs of receipt at lab		Unlittered and unpreserved	analysis	Only test on 1st and 2nd	rain events of the year						a	X	,	ei Iv: X
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riojeci.	Boeing-SSFL NPDES Monthly Outfall 019 COMPOSITE ビデイン こ	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515	Sampling Date/Time	5-3-201	À	5-3-2017	09:50			5-3-20				COC Pac	These mus		- 18:32	Шe:
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Login Sample Receipt Checklist

Client: MWH Americas Inc

Login Number: 10462 List Number: 1

Creator: Robb, Kathleen

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Job Number: 440-10462-1

List Source: TestAmerica Irvine

Login Sample Receipt Checklist

Client: MWH Americas Inc

Login Number: 10651 List Number: 1

Creator: Perez, Angel

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Job Number: 440-10462-1

List Source: TestAmerica Irvine

APPENDIX G

Section 19

Outfall 019 – June 7, 2012 MECX Data Validation Report



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-13854-1

Prepared by

MEC^X, LP 12269 East Vassar Drive Aurora, CO 80014

I. INTRODUCTION

Task Order Title: Contract Task Order:	Boeing SSFL NPDES 1261.100D.00
Sample Delivery Group:	440-13854-1
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 019	440-14006-1	G2F090420-001, S206035-01	Water	6/7/2012 10:15:00 AM	1613B, 180.1, 200.7 tot/diss, 245.1 tot/diss, 314.0, 900, 901.1, 903.1, 904, 905, 906, ASTM D-5174

II. Sample Management

No anomalies were observed regarding sample management. A portion of the samples were received at TestAmerica-Irvine nominally above the control limit, at 6.8°C ; however, as the samples had insufficient time to cool, no qualifications were required. The remaining samples were received at TestAmerica-Irvine and all samples shipped to TestAmerica-West Sacramento were received within the control limits of 4°C±2°C. The temperature upon receipt was not noted by Eberline; however, due to the nonvolatile nature of the analytes, no qualifications were required. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the samples were present on the coolers upon arrival at TestAmerica-West Sacramento and Eberline. 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.
М	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: July 17, 2012

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

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.
- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.
 - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was analyzed prior to the initial calibration sequence and at the beginning of each analytical sequence. The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%.
 - Mass Spectrometer Performance: The mass spectrometer performance was acceptable with the static resolving power greater than 10,000. The case narrative for this SDG noted that due to a computer error, an end static mass resolution check was not generated within the 12-hour window. As the sample was analyzed following an acceptable resolution check, and the resolution check analyzed following discovery of the computer error was acceptable, the sample data was not considered to be adversely impacted, and no qualifications were assigned.
- 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 reported below the estimated detection limit (EDL) for total TCDF and 1,2,3,4,7,8,9-HpCDF, and detects reported at or above the EDL for OCDD, 1,2,3,4,7,8-HxCDF, 1,2,3,6,7,8-HxCDF, 2,3,4,6,7,8-HxCDF, total HxCDF, 1,2,3,4,7,8,9-HpCDF, and total HpCDF. Several of the method blank results were reported as EMPCs; however, the reviewer deemed it appropriate to evaluate all method blank results for the purpose of qualifying sample results. The result for 1,2,3,4,7,8-HxCDF was qualified as nondetected "U," at the level of contamination. Remaining method blank contaminants were not detected in the associated sample. Total HpCDF was assigned a laboratory qualifier of "B;" however, as the peak comprising the sample total was not the same single peak comprising the method blank total, the sample result was not qualified.
- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria listed in Table 6 of Method 1613.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: This SDG had no identified field duplicate samples.
- Internal Standards Performance: The labeled internal standard recoveries for the sample were within the acceptance criteria listed in Table 7 of Method 1613 for all internal standards.
- Compound Identification: Compound identification was verified. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613.
- Compound Quantification and Reported Detection Limits: Compound quantitation was verified by recalculating any reportable sample concentrations. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J." Any detects reported between the 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.

The reported EMPC result for 1,2,3,4,7,8-HxCDF previously qualified as nondetected for method blank contamination was not further qualified as an EMPC. The result for 1,2,3,4,6,7,8-HpCDF reported as an EMPC was qualified as an estimated nondetect, "UJ," as was total HpCDF, at the level of the EMPC. Total HxCDF containing an isomer reported as an EMPC was qualified as estimated, "J."

B. EPA METHODS 200.7 and 245.1—Metals and Mercury

Reviewed By: P. Meeks Date Reviewed: July 20, 2012

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the MEC^{X} Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Methods 200.7, 245.1, and the National Functional Guidelines for Inorganic Data Review (7/02).

- Holding Times: Analytical holding times, six months for ICP metals and 28 days for mercury, were met.
- Calibration: Calibration criteria were met. Mercury initial calibration r² values were ≥0.995 and all initial and continuing calibration recoveries were within 90-110% for the ICP metals and 85-115% for mercury. CRDL/CRI recoveries were within the control limits of 70-130%.
- Blanks: Method blanks and CCBs had no detects.
- Interference Check Samples: Recoveries were within 80-120%. Zinc was not detected in the ICSA solution.
- Blank Spikes and Laboratory Control Samples: Recoveries were within methodestablished QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: MSD/MSD analyses were performed on total zinc and dissolved mercury. Recoveries and RPDs were within method-established QC limits.
- Serial Dilution: No serial dilution analyses were performed.
- 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. EPA METHOD 314.0—Perchlorate

Reviewed By: P. Meeks Date Reviewed: July 20, 2012

The sample listed in Table 1 for this analysis were validated based on the guidelines outlined in the MEC^{\times} Data Validation Procedure for Metals (DVP-20, Rev. 0), EPA Method 314.0, and the National Functional Guidelines for Inorganic Data Review (10/04).

- Holding Times: The analytical holding time, 28 days, was met.
- Calibration: Calibration criteria were met. The initial calibration r² value was ≥0.995 and all initial and continuing calibration recoveries affecting sample results were within 90-110%. The IPC recovery was within the method-established control limits of 80-120% and the ICCS recovery was within method-established control limits of 75-125%.
- Blanks: The method blank and CCBs had no detects.
- Blank Spikes and Laboratory Control Samples: Recoveries were within the methodestablished QC limits of 85-115%.
- 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. 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 reporting limit.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

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

VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks Date Reviewed: July 20, 2012

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. All remaining aliquots were preserved within the five-day holding time.
- Calibration: The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability.

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

- Blanks: There were no analytes detected in the method blanks or the KPA CCBs.
- Blank Spikes and Laboratory Control Samples: The recoveries were within laboratoryestablished control limits.
- Laboratory Duplicates: Laboratory duplicate analyses were performed on the sample in this SDG for all analytes. All results 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 by the laboratory to pCi/L using the conversion factor of 0.67 for naturally occurring uranium.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.

D. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks Date Reviewed: July 20, 2012

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 Method 180.1, and the National Functional Guidelines for Inorganic Data Review (7/02).

- Holding Times: The analytical holding time, 48 hours for turbidity, was met.
- Calibration: The ICVs and CCVs were recovered within 90-110%.
- Blanks: The turbidity method blank and CCBs had no detects.
- Blank Spikes and Laboratory Control Samples: The recovery was within laboratoryestablished QC limits.
- Laboratory Duplicates: No laboratory duplicate analysis was performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: Not applicable to this analysis.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples.

Following are findings associated with field QC samples:

- Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
- Field Duplicates: There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms 440-13854-1

Analysis Method 1613B

Sample Name	Outfall 019		Matri	x Type: \	Water	V	alidation Le	vel: IV
Lab Sample Name:	440-14006-1	Sam	ple Date:	6/7/2012 1	0:15:00 AN	I		
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	0.000050	0.0000067	ug/L		U	
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.000050	0.0000014	ug/L	JQ	UJ	*Ш
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.000050	0.0000023	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.000050	0.0000050	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.000050	0.0000006	ug/L	JQB	U	В
,2,3,6,7,8-HxCDD	57653-85-7	ND	0.000050	0.0000046	ug/L		U	
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.000050	0.0000005	ug/L		U	
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.000050	0.0000042	ug/L		U	
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.000050	0.0000008	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	0.000050	0.0000039	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.000050	0.0000020	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.000050	0.0000005	ug/L		U	
2,3,4,7,8-PeCDF	57117-31-4	ND	0.000050	0.0000024	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.000010	0.0000029	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.000010	0.0000017	ug/L		U	
OCDD	3268-87-9	ND	0.00010	0.0000079	ug/L		U	
OCDF	39001-02-0	ND	0.00010	0.0000047	ug/L		U	
Fotal HpCDD	37871-00-4	ND	0.000050	0.0000067	ug/L		U	
Fotal HpCDF	38998-75-3	ND	0.000050	0.0000018	ug/L	JQB	UJ	*III
Fotal HxCDD	34465-46-8	ND	0.000050	0.0000041	ug/L		U	
Fotal HxCDF	55684-94-1	0.000002	0.000050	0.0000006	ug/L	JQB	J	DNQ, *III
Fotal PeCDD	36088-22-9	ND	0.000050	0.0000039	ug/L		U	
Total PeCDF	30402-15-4	ND	0.000050	0.0000020	ug/L		U	
Total TCDD	41903-57-5	ND	0.000010	0.0000029	ug/L		U	
Fotal TCDF	55722-27-5	ND	0.000010	0.0000017	ug/L		U	
Analysis Method	l 180.1							
Sample Name	Outfall 019		Matri	x Type: V	Water	V	alidation Le	vel: IV
Lab Sample Name:	440-14006-1	Sam	ple Date:	6/7/2012 1	0:15:00 AM	I		
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Oualifier	Validation Qualifier	

Sample Name	Outfall 019		Matri	x Type:	Water	Ţ	alidation Le	vel: IV
Lab Sample Name:	440-14006-1	Sam	ple Date:	6/7/2012	10:15:00 AM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Zinc	7440-66-6	ND	20	6.0	ug/L		U	
Zinc, Dissolved	7440-66-6	ND	20	6.0	ug/L		U	
Analysis Metho	od 245.1							
Sample Name	Outfall 019		Matri	x Type:	Water	۲	Validation Le	vel: IV
Lab Sample Name:	440-14006-1	Sam	ple Date:	6/7/2012	10:15:00 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	
Mercury, Dissolved	7439-97-6	ND	0.20	0.10	ug/L		U	
Analysis Metho	od 314.0							
Sample Name	Outfall 019		Matri	x Type:	Water	V	Validation Le	vel: IV
Lab Sample Name:	440-14006-1	Sam	ple Date:	6/7/2012	10:15:00 AM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Perchlorate	14797-73-0	ND	4.0	0.95	ug/L	IB	U	
Analysis Metho	od Gamn	na Spec	c K-4 0	CS-13	7			
Sample Name	Outfall 019		Matri	x Type:	Water	V	Validation Le	vel: IV
Lab Sample Name:	440-14006-1	Sam	ple Date:	6/7/2012	10:15:00 AM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	-0.669	20	2.66	pCi/L	U	U	
Potassium-40	13966002	-7.29	25	24	pCi/L	U	U	
Analysis Metho	od Gross	Alpha	and Be	eta				
Sample Name	Outfall 019		Matri	x Type:	Water	V	alidation Le	vel: IV
Lab Sample Name:	440-14006-1	Sam	ple Date:	6/7/2012	10:15:00 AM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
		value				•	x	
Gross Alpha	12587461	-0.149	3	1.44	pCi/L	U	UJ	C

Analysis Method 200.7 Rev 4.4

Analysis Meine	να Λααιι	<i>im 220</i>						
Sample Name	Outfall 019	Matrix Type: Water				Validation Level: IV		
Lab Sample Name:	440-14006-1	Sample Date:		6/7/2012 10:15:00 AM				
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	0.566	1	0.544	pCi/L	J	J	DNQ
Analysis Metho	od Radii	ım 228						
Sample Name	Outfall 019	Matrix Type:		Water	Validation Level: IV			
Lab Sample Name:	440-14006-1	Sam	ple Date:	6/7/2012	10:15:00 AM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	0.136	1	0.434	pCi/L	U	U	
Analysis Metho	od Stron	tium 90)					
Sample Name	Outfall 019	Matrix Type: Water			Validation Level: IV			
Lab Sample Name:	440-14006-1	Sample Date: 6/7/2012 10:15:00 AM						
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	0.025	2	0.726	pCi/L	U	U	
Analysis Metho	od Tritiu	m						
Sample Name	Outfall 019	Matrix Type: Water			Validation Level: IV			
Lab Sample Name:	440-14006-1	Sample Date: 6/7/2012 10:15:00 AM						
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	-4.64	500	146	pCi/L	U	U	
Analysis Metho	od Uran	ium, Co	ombine	d				
Sample Name	Outfall 019	Matrix Type: Water			Validation Level: IV			
Lab Sample Name:	440-14006-1	Sam	ple Date:	6/7/2012	10:15:00 AM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
						•	C	

Analysis Method Radium 226

APPENDIX G

Section 20

Outfall 019 – June 6 & 7, 2012 Test America Analytical Laboratory Report



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817 Tel: (949)261-1022

TestAmerica Job ID: 440-13854-1 Client Project/Site: Monthly Outfall 019 GRAB

For:

MWH Americas Inc 618 Michillinda Avenue, Suite 200 Arcadia, California 91007

Attn: Bronwyn Kelly



Authorized for release by: 7/13/2012 6:27:04 PM

Debby Wilson Project Manager I debby.wilson@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

LINKS Review your project results through TOTOLACCESS Have a Question? Have a Question? Ask The Expert

Visit us at: www.testamericainc.com 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.

ebby Wilson

Debby Wilson Project Manager I 7/13/2012 6:27:04 PM

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Sample Summary

Client: MWH Americas Inc Project/Site: Monthly Outfall 019 GRAB TestAmerica Job ID: 440-13854-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-13854-1	Outfall 019	Water	06/06/12 10:30	06/06/12 17:15
440-13854-2	Trip Blanks	Water	06/06/12 10:30	06/06/12 17:15
440-14006-1	Outfall 019	Water	06/07/12 10:15	06/07/12 17:40
440-14006-2	Trip Blank	Water	06/08/12 13:00	06/07/12 17:40

Job ID: 440-13854-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative 440-13854-1

Comments

No additional comments.

Receipt

The samples were received on 6/6/2012 5:15 PM and 6/7/2012 5:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 5.6° C and 6.8° C.

GC/MS VOA

No analytical or quality issues were noted.

GC/MS Semi VOA

Method(s) 625: Insufficient sample volume was available to perform batch matrix spike/matrix spike duplicate (MS/MSD) associated with batch 32450. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

Method(s) 625: The laboratory control sample (LCS) and / or the laboratory control sample duplicate (LCSD) for batch 32450 exceeded control limits for the following analytes: Bis(2-ethylhexyl) phthalate, 2,4-Dinitrotoluene. Samples are past hold time. Results indicated a low bias for failing analytes.

No other analytical or quality issues were noted.

IC

Method(s) 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for sulfate in batch 31287 were outside control limits due to matrix effects. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) 314.0, 314.0 LL: The continuing calibration verification (CCV) for perchlorate associated with batch 31949 recovered above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No other analytical or quality issues were noted.

GC Semi VOA

No analytical or quality issues were noted.

Metals

Method(s) 200.8: Insufficient sample volume was available to perform batch matrix spike/matrix spike duplicate (MS/MSD) associated with batch 440-32455. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

No other analytical or quality issues were noted.

General Chemistry

No analytical or quality issues were noted.

WATER, 1613B, Dioxins/Furans with Totals

Sample: 1

Some analytes in this sample and the associated method blank (MB) 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.

Some analytes in this sample and MB are reported at a concentration below the estimated detection limit (EDL). The data is reported as a positive detection because the peaks elute at the correct retention time for both characteristic ions and have a signal to noise ratio greater than the method required 2.5:1.

Job ID: 440-13854-1 (Continued)

Laboratory: TestAmerica Irvine (Continued)

Organic Prep

No analytical or quality issues were noted.

Method: 624 - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall 019

Date Collected: 06/06/12 10:30 Date Received: 06/06/12 17:15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.30	ug/L			06/16/12 00:58	1
1,1,2-Trichloroethane	ND		0.50	0.30	ug/L			06/16/12 00:58	1
1,1-Dichloroethane	ND		0.50	0.40	ug/L			06/16/12 00:58	1
Trichlorotrifluoroethane(F-113)	ND		5.0	0.50	ug/L			06/16/12 00:58	1
1,1-Dichloroethene	ND		0.50	0.42	ug/L			06/16/12 00:58	1
1,2-Dichloroethane	ND		0.50	0.28	ug/L			06/16/12 00:58	1
Benzene	ND		0.50	0.28	ug/L			06/16/12 00:58	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			06/16/12 00:58	1
Chloroform	ND		0.50	0.33	ug/L			06/16/12 00:58	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/16/12 00:58	1
Tetrachloroethene	ND		0.50	0.32	ug/L			06/16/12 00:58	1
Toluene	ND		0.50	0.36	ug/L			06/16/12 00:58	1
Trichlorofluoromethane	ND		0.50	0.34	ug/L			06/16/12 00:58	1
Vinyl chloride	ND		0.50	0.40	ug/L			06/16/12 00:58	1
Trichloroethene	ND		0.50	0.26	ug/L			06/16/12 00:58	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			06/16/12 00:58	1
Xylenes, Total	ND		1.5	0.90	ug/L			06/16/12 00:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		80 - 120					06/16/12 00:58	1
Dibromofluoromethane (Surr)	104		80 - 120					06/16/12 00:58	1
Toluene-d8 (Surr)	105		80 - 120					06/16/12 00:58	1
– General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		4.8	1.3	mg/L		06/15/12 11:39	06/15/12 12:55	1
Analyte		Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Settleable Solids	ND		0.10	0.10	mL/L/Hr			06/07/12 12:52	1

Client Sample ID: Trip Blanks Date Collected: 06/06/12 10:30

Date Received: 06/06/12 17:15

Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND	0.50	0.30	ug/L			06/16/12 01:27	1
1,1,2-Trichloroethane	ND	0.50	0.30	ug/L			06/16/12 01:27	1
1,1-Dichloroethane	ND	0.50	0.40	ug/L			06/16/12 01:27	1
Trichlorotrifluoroethane(F-113)	ND	5.0	0.50	ug/L			06/16/12 01:27	1
1,1-Dichloroethene	ND	0.50	0.42	ug/L			06/16/12 01:27	1
1,2-Dichloroethane	ND	0.50	0.28	ug/L			06/16/12 01:27	1
Benzene	ND	0.50	0.28	ug/L			06/16/12 01:27	1
Carbon tetrachloride	ND	0.50	0.28	ug/L			06/16/12 01:27	1
Chloroform	ND	0.50	0.33	ug/L			06/16/12 01:27	1
Ethylbenzene	ND	0.50	0.25	ug/L			06/16/12 01:27	1
Tetrachloroethene	ND	0.50	0.32	ug/L			06/16/12 01:27	1
Toluene	ND	0.50	0.36	ug/L			06/16/12 01:27	1
Trichlorofluoromethane	ND	0.50	0.34	ug/L			06/16/12 01:27	1
Vinyl chloride	ND	0.50	0.40	ug/L			06/16/12 01:27	1
Trichloroethene	ND	0.50	0.26	ug/L			06/16/12 01:27	1
cis-1,2-Dichloroethene	ND	0.50	0.32	ug/L			06/16/12 01:27	1

Matrix: Water

TestAmerica Job ID: 440-13854-1

Lab Sample ID: 440-13854-1

Matrix: Water

2 3 4 5 6 7 8

Client Sample ID: Trip Blanks Date Collected: 06/06/12 10:30

Date Received: 06/06/12 17:15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		1.5	0.90	ug/L			06/16/12 01:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			80 - 120			-		06/16/12 01:27	1
Dibromofluoromethane (Surr)	102		80 - 120					06/16/12 01:27	1
Toluene-d8 (Surr)	104		80 - 120					06/16/12 01:27	1

Client Sample ID: Outfall 019

Date Collected: 06/07/12 10:15

Date Received: 06/07/12 17:40

Method: 625 - Semivolatile O	rganic Compound	s (GC/MS)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		5.66	0.0943	ug/L		06/12/12 19:32	06/15/12 04:56	1
Bis(2-ethylhexyl) phthalate	ND	LR	4.72	1.60	ug/L		06/12/12 19:32	06/15/12 04:56	1
N-Nitrosodimethylamine	ND		4.72	0.0943	ug/L		06/12/12 19:32	06/15/12 04:56	1
Pentachlorophenol	ND		4.72	0.377	ug/L		06/12/12 19:32	06/15/12 04:56	1
2,4-Dinitrotoluene	ND	LR	4.72	0.189	ug/L		06/12/12 19:32	06/15/12 04:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	91		40 - 120				06/12/12 19:32	06/15/12 04:56	1

2, ,, cc pcc	•		00.12.12.0002	00,10,120,100	•
2-Fluorobiphenyl	69	50 - 120	06/12/12 19:32	06/15/12 04:56	1
2-Fluorophenol	67	30 - 120	06/12/12 19:32	06/15/12 04:56	1
Nitrobenzene-d5	75	45 - 120	06/12/12 19:32	06/15/12 04:56	1
Phenol-d6	73	35 - 120	06/12/12 19:32	06/15/12 04:56	1
Terphenyl-d14	61	50 - 125	06/12/12 19:32	06/15/12 04:56	1

Method: 608 Pesticides - Organochlorine Pesticides Low level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0048	0.0024	ug/L		06/10/12 11:56	06/11/12 16:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Surrogate Tetrachloro-m-xylene	%Recovery 	Qualifier	Limits 35 - 115				Prepared 06/10/12 11:56	Analyzed 06/11/12 16:47	Dil Fac

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	46		25	20	mg/L			06/08/12 00:57	50
Nitrate as N	ND		0.11	0.080	mg/L			06/08/12 00:43	1
Nitrate Nitrite as N	ND		0.26	0.11	mg/L			06/08/12 00:43	1
Sulfate	180		25	20	mg/L			06/08/12 00:57	50
Nitrite as N	ND		0.15	0.11	mg/L			06/08/12 00:43	1

Method: 314.0 - Perchlorate (IC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND	IB	4.0	0.95	ug/L			06/11/12 18:01	1

Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B)

Analyte	Result	Qualifier	ML	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000029	ug/L		06/13/12 09:00	06/16/12 16:00	0.96
Total TCDD	ND		0.000010	0.0000029	ug/L		06/13/12 09:00	06/16/12 16:00	0.96
1,2,3,7,8-PeCDD	ND		0.000050	0.000039	ug/L		06/13/12 09:00	06/16/12 16:00	0.96

Matrix: Water

Matrix: Water

Lab Sample ID: 440-13854-2

Lab Sample ID: 440-14006-1

Client Sample ID: Outfall 019 Date Collected: 06/07/12 10:15 Date Received: 06/07/12 17:40

Zinc

TestAmerica Job ID: 440-13854-1

Lab Sample ID: 440-14006-1 Matrix: Water

Water

5

Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B) (Continued)

Analyte		Qualifier	ML		Unit	D	Prepared	Analyzed	Dil Fac
Total PeCDD	ND		0.000050	0.0000039	ug/L		06/13/12 09:00	06/16/12 16:00	0.96
1,2,3,4,7,8-HxCDD	ND		0.000050	0.0000050	ug/L		06/13/12 09:00	06/16/12 16:00	0.96
1,2,3,6,7,8-HxCDD	ND		0.000050	0.0000046	ug/L		06/13/12 09:00	06/16/12 16:00	0.96
1,2,3,7,8,9-HxCDD	ND		0.000050	0.0000042	ug/L		06/13/12 09:00	06/16/12 16:00	0.96
Total HxCDD	ND		0.000050	0.0000041	ug/L		06/13/12 09:00	06/16/12 16:00	0.96
1,2,3,4,6,7,8-HpCDD	ND		0.000050	0.0000067	ug/L		06/13/12 09:00	06/16/12 16:00	0.96
Total HpCDD	ND		0.000050	0.0000067	ug/L		06/13/12 09:00	06/16/12 16:00	0.96
OCDD	ND		0.00010	0.0000079	ug/L		06/13/12 09:00	06/16/12 16:00	0.96
2,3,7,8-TCDF	ND		0.000010	0.0000017	ug/L		06/13/12 09:00	06/16/12 16:00	0.96
Total TCDF	ND		0.000010	0.0000017	ug/L		06/13/12 09:00	06/16/12 16:00	0.96
1,2,3,7,8-PeCDF	ND		0.000050	0.0000020	ug/L		06/13/12 09:00	06/16/12 16:00	0.96
2,3,4,7,8-PeCDF	ND		0.000050	0.0000024	ug/L		06/13/12 09:00	06/16/12 16:00	0.96
Total PeCDF	ND		0.000050	0.0000020	ug/L		06/13/12 09:00	06/16/12 16:00	0.96
1,2,3,4,7,8-HxCDF	0.0000020	JQB	0.000050	0.00000065	ug/L		06/13/12 09:00	06/16/12 16:00	0.96
1,2,3,6,7,8-HxCDF	ND		0.000050	0.00000058	ug/L		06/13/12 09:00	06/16/12 16:00	0.96
2,3,4,6,7,8-HxCDF	ND		0.000050	0.00000059	•		06/13/12 09:00	06/16/12 16:00	0.96
1,2,3,7,8,9-HxCDF	ND		0.000050	0.00000083			06/13/12 09:00	06/16/12 16:00	0.96
Total HxCDF	0.0000028	JQB	0.000050	0.00000065	•		06/13/12 09:00	06/16/12 16:00	0.96
1,2,3,4,6,7,8-HpCDF	0.0000017		0.000050	0.0000014			06/13/12 09:00	06/16/12 16:00	0.96
1,2,3,4,7,8,9-HpCDF	ND		0.000050	0.0000023			06/13/12 09:00	06/16/12 16:00	0.96
Total HpCDF	0.0000017	JOB	0.000050	0.0000018	ug/L		06/13/12 09:00	06/16/12 16:00	0.96
OCDF	ND		0.00010	0.0000047			06/13/12 09:00	06/16/12 16:00	0.96
002.			0.00010	0.0000011	~9· =		00,10,12,00,00	00,10,12,10,00	0.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	101		35 _ 197				06/13/12 09:00	06/16/12 16:00	0.96
Internal Standard	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	49		25 - 164				06/13/12 09:00	06/16/12 16:00	0.96
13C-1,2,3,7,8-PeCDD	47		25 - 181				06/13/12 09:00	06/16/12 16:00	0.96
13C-1,2,3,4,7,8-HxCDD	44		32 - 141				06/13/12 09:00	06/16/12 16:00	0.96
13C-1,2,3,6,7,8-HxCDD	54		28 - 130				06/13/12 09:00	06/16/12 16:00	0.96
13C-1,2,3,4,6,7,8-HpCDD	64		23 - 140				06/13/12 09:00	06/16/12 16:00	0.96
13C-OCDD	58		17 _ 157				06/13/12 09:00	06/16/12 16:00	0.96
13C-2,3,7,8-TCDF	48		24 - 169				06/13/12 09:00	06/16/12 16:00	0.96
13C-1,2,3,7,8-PeCDF	49		24 - 185				06/13/12 09:00	06/16/12 16:00	0.96
13C-2,3,4,7,8-PeCDF	49		21 - 178				06/13/12 09:00	06/16/12 16:00	0.96
13C-1,2,3,6,7,8-HxCDF	53		26 - 123				06/13/12 09:00	06/16/12 16:00	0.96
13C-2,3,4,6,7,8-HxCDF	54		28 - 136				06/13/12 09:00	06/16/12 16:00	0.96
13C-1,2,3,7,8,9-HxCDF	55		29 - 147				06/13/12 09:00	06/16/12 16:00	0.96
13C-1,2,3,4,6,7,8-HpCDF	60		28 - 143				06/13/12 09:00	06/16/12 16:00	0.96
13C-1,2,3,4,7,8,9-HpCDF	62		26 - 138				06/13/12 09:00	06/16/12 16:00	0.96
13C-1,2,3,4,7,8-HxCDF	49		26 - 152				06/13/12 09:00	06/16/12 16:00	0.96
	10								0.00
Method: 200.7 Rev 4.4 - Meta					Unit	-	Dropered	Analyzed	
Analyte		Qualifier	RL 20		Unit	D	Prepared	Analyzed	Dil Fac
Zinc	ND		20	6.0	ug/L		06/13/12 11:33	06/15/12 20:42	1
- Method: 200.7 Rev 4.4 - Meta	ls (ICP) - Dissolve	d							
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

1

06/15/12 13:50

20

6.0 ug/L

06/12/12 20:39

ND

Client Sample Results

Client: MWH Americas Inc Project/Site: Monthly Outfall 019 GRAB

TestAmerica Job ID: 440-13854-1

Client Sample ID: Outfall 019 Date Collected: 06/07/12 10:15

Lab Sample ID: 440-14006-1 Matrix: Water

	Total Recove	rable							
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Cadmium	ND		1.0	0.10	ug/L		06/14/12 16:48	06/19/12 21:05	
Copper	0.66	J,DX	2.0	0.50	ug/L		06/14/12 16:48	06/18/12 13:06	
Lead	ND		1.0	0.20	ug/L		06/14/12 16:48	06/19/12 21:05	
Selenium	ND		2.0	0.50	ug/L		06/14/12 16:48	06/19/12 21:05	
Method: 200.8 - Metals (ICP/MS) -						_			
Analyte		Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0		ug/L		06/12/12 20:46	06/14/12 06:36	
Copper	ND		2.0		ug/L		06/12/12 20:46	06/14/12 06:36	
Lead	ND		1.0		ug/L		06/12/12 20:46	06/14/12 06:36	
Selenium	0.60	J,DX	2.0	0.50	ug/L		06/12/12 20:46	06/14/12 06:36	
Method: 245.1 - Mercury (CVAA)	Pocult	Qualifier	DI	МП	Unit	D	Propared	Analyzod	Dil Fac
Analyte	ND		RL 0.20		ug/L		Prepared 06/11/12 11:05	Analyzed	
Mercury	ND		0.20	0.10	uy/L		00/11/12 11:05	00/11/12 10:38	
Method: 245.1 - Mercury (CVAA) - Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Mercury	ND		0.20		ug/L	_	06/11/12 11:05	06/11/12 15:41	
-	ND		0.20	0.10	ug/L		00/11/12 11:00	00/11/12 10.41	
General Chemistry									
Analyte		Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fa
Turbidity	0.080	J,DX	0.10	0.040				06/08/12 11:03	
Total Dissolved Solids	530		10		mg/L			06/08/12 05:20	
Total Suspended Solids	ND		10		mg/L			06/08/12 19:24	
Cyanide, Total	ND		5.0	3.0	ug/L		06/12/12 09:08	06/12/12 09:48	-
Ammonia (as N)	0.280	J,DX	0.400	0.157	mg/L		06/13/12 18:20	06/13/12 20:00	
Total Organic Carbon	ND		1.0	0.75	mg/L			06/11/12 09:24	
Methylene Blue Active Substances	ND		0.10	0.050	mg/L			06/08/12 20:41	
Biochemical Oxygen Demand	ND		2.0	0.50	mg/L			06/08/12 10:00	
Method: Gamma Spec K-40 CS-13						_	_ .		
	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Analyte					0.1				
Cesium-137	-0.669		20		pCi/L		06/14/12 00:00	06/14/12 00:00	
	-0.669 -7.29		20 25		pCi/L pCi/L		06/14/12 00:00 06/14/12 00:00	06/14/12 00:00	
Cesium-137	-7.29	U			pCi/L		06/14/12 00:00		
Cesium-137 Potassium-40 Method: Gross Alpha and Beta - (Analyte	-7.29 Gross Alpha/E Result	U Seta Qualifier	25 RL			D			
Cesium-137 Potassium-40 Method: Gross Alpha and Beta - C	-7.29 Gross Alpha/B	U Seta Qualifier	25		pCi/L	D	06/14/12 00:00	06/14/12 00:00	Dil Fac
Cesium-137 Potassium-40 Method: Gross Alpha and Beta - (Analyte	-7.29 Gross Alpha/E Result	U Seta Qualifier U	25 RL		pCi/L Unit	D	06/14/12 00:00 Prepared	06/14/12 00:00	Dil Fac
Cesium-137 Potassium-40 Method: Gross Alpha and Beta - (Analyte Gross Alpha Gross Beta Method: Radium 226 - General Su	-7.29 Gross Alpha/E Result -0.149 1.54 Ib Contract Ma	U eeta Qualifier U U ethod	25 <u>RL</u> 3 4	MDL	pCi/L pCi/L pCi/L pCi/L		06/14/12 00:00 Prepared 06/18/12 00:00 06/18/12 00:00	06/14/12 00:00 Analyzed 06/19/12 08:43 06/19/12 08:43	Dil Fac
Cesium-137 Potassium-40 Method: Gross Alpha and Beta - C Analyte Gross Alpha Gross Beta Method: Radium 226 - General Su Analyte	-7.29 Gross Alpha/E Result -0.149 1.54 Ib Contract Ma Result	U Qualifier U U ethod Qualifier	25 RL 3 4 RL	MDL	pCi/L Unit pCi/L pCi/L Unit	D	06/14/12 00:00 Prepared 06/18/12 00:00 06/18/12 00:00 Prepared	06/14/12 00:00 Analyzed 06/19/12 08:43 06/19/12 08:43 Analyzed	Dil Fac
Cesium-137 Potassium-40 Method: Gross Alpha and Beta - (Analyte Gross Alpha Gross Beta Method: Radium 226 - General Su	-7.29 Gross Alpha/E Result -0.149 1.54 Ib Contract Ma	U Qualifier U U ethod Qualifier	25 <u>RL</u> 3 4	MDL	pCi/L pCi/L pCi/L pCi/L		06/14/12 00:00 Prepared 06/18/12 00:00 06/18/12 00:00	06/14/12 00:00 Analyzed 06/19/12 08:43 06/19/12 08:43	Dil Fac
Cesium-137 Potassium-40 Method: Gross Alpha and Beta - C Analyte Gross Alpha Gross Beta Method: Radium 226 - General Su Analyte Radium-226 Method: Radium 228 - RAD-226-2	-7.29 Gross Alpha/E Result -0.149 1.54 tb Contract Ma Result 0.566 28 combined	U eta Qualifier U U ethod Qualifier J	25 RL 3 4 RL 1	MDL	pCi/L pCi/L pCi/L pCi/L Unit pCi/L	D	06/14/12 00:00 Prepared 06/18/12 00:00 06/18/12 00:00 Prepared 06/26/12 00:00	06/14/12 00:00 Analyzed 06/19/12 08:43 06/19/12 08:43 Analyzed 06/26/12 13:09	Dil Fac
Cesium-137 Potassium-40 Method: Gross Alpha and Beta - C Analyte Gross Alpha Gross Beta Method: Radium 226 - General Su Analyte Radium-226 Method: Radium 228 - RAD-226-2 Analyte	-7.29 Gross Alpha/E Result -0.149 1.54 tb Contract Ma Result 0.566 28 combined Result	U Qualifier U U ethod J Qualifier	25 RL 3 4 RL 1 RL	MDL	pCi/L pCi/L pCi/L pCi/L Unit Unit		06/14/12 00:00 Prepared 06/18/12 00:00 06/18/12 00:00 Prepared 06/26/12 00:00 Prepared	06/14/12 00:00 Analyzed 06/19/12 08:43 06/19/12 08:43 Analyzed 06/26/12 13:09 Analyzed	Dil Fac
Cesium-137 Potassium-40 Method: Gross Alpha and Beta - C Analyte Gross Alpha Gross Beta Method: Radium 226 - General Su Analyte Radium-226 Method: Radium 228 - RAD-226-2	-7.29 Gross Alpha/E Result -0.149 1.54 tb Contract Ma Result 0.566 28 combined	U Qualifier U U ethod J Qualifier	25 RL 3 4 RL 1	MDL	pCi/L pCi/L pCi/L pCi/L Unit pCi/L	D	06/14/12 00:00 Prepared 06/18/12 00:00 06/18/12 00:00 Prepared 06/26/12 00:00	06/14/12 00:00 Analyzed 06/19/12 08:43 06/19/12 08:43 Analyzed 06/26/12 13:09	Dil Fac
Cesium-137 Potassium-40 Method: Gross Alpha and Beta - C Analyte Gross Alpha Gross Beta Method: Radium 226 - General Su Analyte Radium-226 Method: Radium 228 - RAD-226-2 Analyte	-7.29 Gross Alpha/E Result -0.149 1.54 b Contract Ma Result 0.566 28 combined Result 0.136 ub Contract Ma	U eeta Qualifier U ethod Qualifier J Qualifier U U	25 RL 3 4 RL 1 RL	MDL MDL	pCi/L pCi/L pCi/L pCi/L Unit Unit	D	06/14/12 00:00 Prepared 06/18/12 00:00 06/18/12 00:00 Prepared 06/26/12 00:00 Prepared	06/14/12 00:00 Analyzed 06/19/12 08:43 06/19/12 08:43 Analyzed 06/26/12 13:09 Analyzed	Dil Fac

Client Sample Results

Client: MWH Americas Inc Project/Site: Monthly Outfall 019 GRAB

TestAmerica Job ID: 440-13854-1

Client Sample ID: Outfall 019 Date Collected: 06/07/12 10:15 Date Received: 06/07/12 17:40							Lab Sam	ple ID: 440-1 Matrix	4006-1 k: Water
_ Method: Tritium - General Sub Cont						_			
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tritium –	-4.64	U	500		pCi/L		06/25/12 00:00	06/28/12 07:26	1
- Method: Uranium, Combined - Gene	rel Sub Co	ntraat Mathad							
Analyte		Qualifier	RL	мы	Unit	D	Prepared	Analyzed	Dil Fac
Uranium. Total	0.036		1		pCi/L		06/26/12 00:00	06/26/12 00:00	1
_	0.000	°			p0 L		00.20.12 00.00	00,20,1200.00	
Client Sample ID: Trip Blank							Lab Sam	ple ID: 440-1	4006-2
Date Collected: 06/08/12 13:00								•	k: Water
Date Received: 06/07/12 17:40								ind in	. mate
-									
Method: Gamma Spec K-40 CS-137	- General S	ub Contract N	lethod						
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cesium-137	-1.54	U	20		pCi/L		06/14/12 00:00	06/14/12 00:00	
Potassium-40	-5.98	U	25		pCi/L		06/14/12 00:00	06/14/12 00:00	1
Ξ									
Method: Gross Alpha and Beta - Gro						_			
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.024		3		pCi/L		06/18/12 00:00	06/19/12 08:43	
Gross Beta	-0.348	U	4		pCi/L		06/18/12 00:00	06/19/12 08:43	-
- Method: Radium 226 - General Sub	Contract M	athod							
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-226	0.453		1		pCi/L		06/26/12 00:00	06/26/12 13:09	
-	0.100	0			p0#2		00,20,12 00.00	00,20,12 10.00	
Method: Radium 228 - RAD-226-228	combined								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-228	-0.081	U –	1		pCi/L		06/25/12 00:00	06/25/12 15:29	1
-									
 Method: Strontium 90 - General Sub	Contract	lethod							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	
		Qualifier	RL2	MDL	Unit pCi/L	D	Prepared 06/25/12 00:00	Analyzed 06/25/12 09:24	
Analyte Strontium-90	Result 0.099	Qualifier		MDL		D			Dil Fac
Analyte	Result 0.099 eral Sub Co	Qualifier				<u>D</u>			

Client Samp									Lab Samp		40-13854-1 Natrix: Water
ate Received	: 06/06/12 17:	15									
	Batch	Batch		Dil	Initial	Fin	al	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amo	unt	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	10 mL	10	mL	33234	06/16/12 00:58	YK	TAL IRV
Total/NA	Analysis	SM 2540F		1	1000 mL	1000	mL	31382	06/07/12 12:52	RR	TAL IRV
Total/NA	Prep	1664A			1050 mL	1000	mL	33063	06/15/12 11:39	DA	TAL IRV
Total/NA	Analysis	1664A		1				33087	06/15/12 12:55	DA	TAL IRV

Client Sample ID: Trip Blanks Date Collected: 06/06/12 10:30 Date Received: 06/06/12 17:15

	Batab	Datab		D 11	1	Circal	Detals	Duran and		
	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	624	_	1	10 mL	10 mL	33234	06/16/12 01:27	YK	TAL IRV

Client Sample ID: Outfall 019 Date Collected: 06/07/12 10:15 Date Received: 06/07/12 17:40

-	Batch	Batch		Dil	Init	ial	Fin	al	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amo	unt	Amo	unt	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	625			1060	mL	2	mL	32450	06/12/12 19:32	DM	TAL IRV
Total/NA	Analysis	625		1					32992	06/15/12 04:56	AI	TAL IRV
Total/NA	Prep	608			1050	mL	2	mL	31914	06/10/12 11:56	AB	TAL IRV
Total/NA	Analysis	608 Pesticides		1					32000	06/11/12 16:47	DD	TAL IRV
Total/NA	Analysis	300.0		1	1	mL	1.0	mL	31286	06/08/12 00:43	NN	TAL IRV
Total/NA	Analysis	300.0		50	1	mL	1.0	mL	31287	06/08/12 00:57	NN	TAL IRV
Total/NA	Analysis	314.0		1	5	mL	1.0	mL	31949	06/11/12 18:01	MN	TAL IRV
Total	Prep	3542			1037.11	mL	20	uL	2165070_P	06/13/12 09:00	TL	TAL WSC
Total	Analysis	1613B		0.96					2165070	06/16/12 16:00	SO	TAL WSC
Dissolved	Prep	245.1			20	mL	20	mL	31758	06/11/12 11:05	SN	TAL IRV
Dissolved	Analysis	245.1		1					32155	06/11/12 15:41	DB	TAL IRV
Total/NA	Prep	245.1			20	mL	20	mL	31759	06/11/12 11:05	SN	TAL IRV
Total/NA	Analysis	245.1		1					32155	06/11/12 16:38	DB	TAL IRV
Dissolved	Prep	200.2			50	mL	50	mL	32455	06/12/12 20:46	SC	TAL IRV
Dissolved	Analysis	200.8		1					32803	06/14/12 06:36	NH	TAL IRV
Dissolved	Prep	200.2			50	mL	50	mL	32454	06/12/12 20:39	SC	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4		1					33248	06/15/12 13:50	VS	TAL IRV
Total Recoverable	Prep	200.2			50	mL	50	mL	32585	06/13/12 11:33	SC	TAL IRV
Total Recoverable	Analysis	200.7 Rev 4.4		1					33338	06/15/12 20:42	NH	TAL IRV
Total Recoverable	Prep	200.2			50	mL	50	mL	32948	06/14/12 16:48	SC	TAL IRV
Total Recoverable	Analysis	200.8		1					33620	06/18/12 13:06	RC	TAL IRV
Total Recoverable	Analysis	200.8		1					34122	06/19/12 21:05	NH	TAL IRV
Total/NA	Analysis	SM 2540C		1	100	mL	100	mL	31545	06/08/12 05:20	XL	TAL IRV
Total/NA	Analysis	180.1		1					31655	06/08/12 11:03	RR	TAL IRV
Total/NA	Analysis	SM5210B		1					31687	06/08/12 10:00	QPD	TAL IRV
Total/NA	Analysis	SM 2540D		1	100	mL	100	mL	31765	06/08/12 19:24	СН	TAL IRV

Lab Sample ID: 440-14006-1 Matrix: Water

Lab Sample ID: 440-13854-2

Matrix: Water

Client Sample ID: Outfall 019

Date Collected: 06/07/12 10:15 Date Received: 06/07/12 17:40

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	31783	06/08/12 20:41	NEA	TAL IRV
Total/NA	Analysis	SM 5310B		1	10 mL	10 mL	32047	06/11/12 09:24		TAL IRV
Total/NA	Prep	Distill/CN			50 mL	50 mL	32250	06/12/12 09:08	YH	TAL IRV
Total/NA	Analysis	SM 4500 CN E		1			32263	06/12/12 09:48	YH	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	32708	06/13/12 18:20	PQI	TAL IRV
Total/NA	Analysis	SM 4500 NH3 C		1			32726	06/13/12 20:00	PQI	TAL IRV
Total/NA	Analysis	Gamma Spec K-40 CS-137		1			8617	06/14/12 00:00		Eber-Rich
Total/NA	Prep	General Prep		1			8617_P	06/14/12 00:00		Eber-Rich
Total/NA	Prep	General Prep		1			8617_P	06/18/12 00:00		Eber-Rich
Total/NA	Analysis	Gross Alpha and Beta		1			8617	06/19/12 08:43		Eber-Rich
Total/NA	Prep	General Prep		1			8617_P	06/26/12 00:00		Eber-Rich
Total/NA	Analysis	Radium 226		1			8617	06/26/12 13:09		Eber-Rich
Total/NA	Prep	General Prep		1			8617_P	06/25/12 00:00		Eber-Rich
Total/NA	Analysis	Radium 228		1			8617	06/25/12 15:29		Eber-Rich
Total/NA	Analysis	Strontium 90		1			8617	06/25/12 09:24		Eber-Rich
Total/NA	Analysis	Tritium		1			8617	06/28/12 07:26		Eber-Rich
Total/NA	Analysis	Uranium, Combined		1			8617	06/26/12 00:00		Eber-Rich

Client Sample ID: Trip Blank Date Collected: 06/08/12 13:00

Date Received: 06/07/12 17:40

Lab Sample ID: 440-14006-2 Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	Gamma Spec K-40 CS-137		1			8617	06/14/12 00:00		Eber-Rich
Total/NA	Prep	General Prep		1			8617_P	06/14/12 00:00		Eber-Rich
Total/NA	Prep	General Prep		1			8617_P	06/18/12 00:00		Eber-Rich
Total/NA	Analysis	Gross Alpha and Beta		1			8617	06/19/12 08:43		Eber-Rich
Total/NA	Prep	General Prep		1			8617_P	06/26/12 00:00		Eber-Rich
Total/NA	Analysis	Radium 226		1			8617	06/26/12 13:09		Eber-Rich
Total/NA	Prep	General Prep		1			8617_P	06/25/12 00:00		Eber-Rich
Total/NA	Analysis	Radium 228		1			8617	06/25/12 15:29		Eber-Rich
Total/NA	Analysis	Strontium 90		1			8617	06/25/12 09:24		Eber-Rich
Total/NA	Analysis	Uranium, Combined		1			8617	06/26/12 00:00		Eber-Rich

Laboratory References:

Eber-Rich = Eberline - Richmond, 2030 Wright Avenue, Richmond, CA 94804

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL WSC = TestAmerica West Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Client Sample ID: Method Blank

Prep Type: Total/NA

5 6 7 8 9 10 11

Method: 624 - Volatile Organic Compounds	s (GC/MS)
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Lab Sample ID:	MB 440-33234/4
Metrix: Meter	

Matrix: water	
Analysis Batch:	33234

	MB	МВ							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.30	ug/L			06/15/12 21:13	1
1,1,2-Trichloroethane	ND		0.50	0.30	ug/L			06/15/12 21:13	1
1,1-Dichloroethane	ND		0.50	0.40	ug/L			06/15/12 21:13	1
Trichlorotrifluoroethane(F-113)	ND		5.0	0.50	ug/L			06/15/12 21:13	1
1,1-Dichloroethene	ND		0.50	0.42	ug/L			06/15/12 21:13	1
1,2-Dichloroethane	ND		0.50	0.28	ug/L			06/15/12 21:13	1
Benzene	ND		0.50	0.28	ug/L			06/15/12 21:13	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			06/15/12 21:13	1
Chloroform	ND		0.50	0.33	ug/L			06/15/12 21:13	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/15/12 21:13	1
Tetrachloroethene	ND		0.50	0.32	ug/L			06/15/12 21:13	1
Toluene	ND		0.50	0.36	ug/L			06/15/12 21:13	1
Trichlorofluoromethane	ND		0.50	0.34	ug/L			06/15/12 21:13	1
Vinyl chloride	ND		0.50	0.40	ug/L			06/15/12 21:13	1
Trichloroethene	ND		0.50	0.26	ug/L			06/15/12 21:13	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			06/15/12 21:13	1
Xylenes, Total	ND		1.5	0.90	ug/L			06/15/12 21:13	1

	МВ	МВ					
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		80 - 120	-		06/15/12 21:13	1
Dibromofluoromethane (Surr)	101		80 - 120			06/15/12 21:13	1
Toluene-d8 (Surr)	104		80 - 120			06/15/12 21:13	1

Lab Sample ID: LCS 440-33234/5 Matrix: Water Analysis Batch: 33234

Client Sample ID: Lab Control Sample Prep Type: Total/NA

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
1,1,1-Trichloroethane	25.0	26.6		ug/L		106	65 - 135	
1,1,2-Trichloroethane	25.0	24.9		ug/L		100	70 _ 125	
1,1-Dichloroethane	25.0	26.0		ug/L		104	70 - 125	
1,1-Dichloroethene	25.0	25.7		ug/L		103	70 _ 125	
1,2-Dichloroethane	25.0	27.1		ug/L		109	60 _ 140	
Benzene	25.0	23.9		ug/L		96	70 - 120	
Carbon tetrachloride	25.0	27.3		ug/L		109	65 _ 140	
Chloroform	25.0	27.0		ug/L		108	70 _ 130	
Ethylbenzene	25.0	26.0		ug/L		104	75 - 125	
Tetrachloroethene	25.0	26.7		ug/L		107	70 _ 125	
Toluene	25.0	25.4		ug/L		102	70 - 120	
Trichlorofluoromethane	25.0	27.5		ug/L		110	65 _ 145	
Vinyl chloride	25.0	24.1		ug/L		96	55 _ 135	
Trichloroethene	25.0	28.0		ug/L		112	70 _ 125	
cis-1,2-Dichloroethene	25.0	27.6		ug/L		110	70 _ 125	
m,p-Xylene	50.0	56.0		ug/L		112	75 - 125	
o-Xylene	25.0	28.8		ug/L		115	75 _ 125	
Xylenes, Total	75.0	84.8		ug/L		113	70 - 125	
	2							

	LCS	LCS		
Surrogate	%Recovery	Qualifier	Limits	
4-Bromofluorobenzene (Surr)	106		80 - 120	

Lab Sample ID: LCS 440-33234/5

Method: 624 - Volatile Organic Compounds (GC/MS) (Continued)

LCS LCS

%Recovery Qualifier

103

103

Limits

80 - 120

80 - 120

1 2 3 4 5 6 7 8 9

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Client Sample ID: Matrix Spike Prep Type: Total/NA

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

-Lab Sample ID: 440-13774-D-1 MS

Analysis Batch: 33234

Dibromofluoromethane (Surr)

Matrix: Water Analysis Batch: 33234

Matrix: Water

Toluene-d8 (Surr)

Surrogate

Analysis Batch. 55254	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
1,1,1-Trichloroethane	ND		25.0	26.6		ug/L		106	65 - 140	
1,1,2-Trichloroethane	ND		25.0	25.6		ug/L		103	65 _ 130	
1,1-Dichloroethane	ND		25.0	26.6		ug/L		106	65 _ 130	
1,1-Dichloroethene	ND		25.0	26.8		ug/L		107	60 _ 130	
1,2-Dichloroethane	ND		25.0	27.5		ug/L		110	60 - 140	
Benzene	ND		25.0	24.4		ug/L		97	65 _ 125	
Carbon tetrachloride	ND		25.0	27.3		ug/L		109	65 - 140	
Chloroform	72		25.0	98.2		ug/L		106	65 - 135	
Ethylbenzene	ND		25.0	25.8		ug/L		103	65 - 130	
Tetrachloroethene	ND		25.0	26.2		ug/L		105	65 - 130	
Toluene	ND		25.0	26.0		ug/L		104	70 - 125	
Trichlorofluoromethane	ND		25.0	28.1		ug/L		112	60 - 145	
Vinyl chloride	ND		25.0	24.0		ug/L		96	45 ₋ 140	
Trichloroethene	ND		25.0	28.2		ug/L		113	65 _ 125	
cis-1,2-Dichloroethene	ND		25.0	28.1		ug/L		112	65 - 130	
m,p-Xylene	ND		50.0	55.3		ug/L		111	65 ₋ 130	
o-Xylene	ND		25.0	28.9		ug/L		116	65 - 125	
Xylenes, Total	ND		75.0	84.2		ug/L		112	60 - 130	
	MS	MS								

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		80 - 120
Dibromofluoromethane (Surr)	101		80 - 120
Toluene-d8 (Surr)	102		80 - 120

Lab Sample ID: 440-13774-D-1 MSD Matrix: Water Analysis Batch: 33234

Analysis Baton Solo4											
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,1,1-Trichloroethane	ND		25.0	26.4		ug/L		105	65 _ 140	1	20
1,1,2-Trichloroethane	ND		25.0	26.5		ug/L		106	65 _ 130	3	25
1,1-Dichloroethane	ND		25.0	25.7		ug/L		103	65 - 130	3	20
1,1-Dichloroethene	ND		25.0	26.2		ug/L		105	60 - 130	2	20
1,2-Dichloroethane	ND		25.0	27.4		ug/L		110	60 - 140	0	20
Benzene	ND		25.0	24.5		ug/L		98	65 - 125	0	20
Carbon tetrachloride	ND		25.0	27.8		ug/L		111	65 - 140	2	25
Chloroform	72		25.0	93.1		ug/L		85	65 - 135	5	20
Ethylbenzene	ND		25.0	26.7		ug/L		107	65 _ 130	3	20
Tetrachloroethene	ND		25.0	27.0		ug/L		108	65 - 130	3	20
Toluene	ND		25.0	26.4		ug/L		105	70 - 125	2	20
Trichlorofluoromethane	ND		25.0	27.9		ug/L		111	60 _ 145	1	25

Spike

Added

25.0

25.0

25.0

50.0

25.0

75.0

Limits

80 - 120

80 - 120

80 - 120

MSD MSD

24.3

28.9

28.0

56.4

29 5

85.9

Result Qualifier

Unit

ug/L

ug/L

ug/L

ug/L

ug/L

ug/L

Lab Sample ID: 440-13774-D-1 MSD

Matrix: Water

Analyte

Vinyl chloride

m,p-Xylene

Xylenes, Total

o-Xylene

Surrogate

Toluene-d8 (Surr)

Trichloroethene

cis-1,2-Dichloroethene

4-Bromofluorobenzene (Surr)

Dibromofluoromethane (Surr)

Analysis Batch: 33234

Prep Type: Total/NA

RPD

1

2

0

2

2

Client Sample ID: Matrix Spike Duplicate

%Rec.

Limits

45 - 140

65 - 125

65 - 130

65 - 130

65 - 125

60 - 130

%Rec

97

115

112

113

118

115

D

2 3 4 5 6 7 8

2 20

RPD

Limit

30

20

20

25

20

Method: 625 - Semivolatile Organic Compounds (GC/MS)

Method: 624 - Volatile Organic Compounds (GC/MS) (Continued)

Sample Sample

Qualifier

Result

ND

ND

ND

ND

ND

ND

105

100

103

%Recovery

MSD MSD

Qualifier

Lab Sample ID: MB 440-32450/1-A **Client Sample ID: Method Blank** Matrix: Water Prep Type: Total/NA Analysis Batch: 32992 Prep Batch: 32450 MB MB Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac 2,4,6-Trichlorophenol ND 6.00 0.100 ug/L 06/12/12 19:32 06/15/12 03:08 1 Bis(2-ethylhexyl) phthalate ND 5.00 ug/L 06/12/12 19:32 06/15/12 03:08 1.70 1 N-Nitrosodimethylamine ND 5.00 0.100 ug/L 06/12/12 19:32 06/15/12 03:08 1 Pentachlorophenol ND 5.00 06/12/12 19:32 0.400 ug/L 06/15/12 03:08 1 2,4-Dinitrotoluene ND 5.00 0.200 ug/L 06/12/12 19:32 06/15/12 03:08 1 MB MB Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 40 - 120 06/12/12 19:32 06/15/12 03:08 2,4,6-Tribromophenol 82 1 1

2-Fluorobiphenyl	75	50 - 120	06/12/12 19:32	06/15/12 03:08
2-Fluorophenol	77	30 - 120	06/12/12 19:32	06/15/12 03:08
Nitrobenzene-d5	80	45 - 120	06/12/12 19:32	06/15/12 03:08
Phenol-d6	79	35 - 120	06/12/12 19:32	06/15/12 03:08
Terphenyl-d14	72	50 - 125	06/12/12 19:32	06/15/12 03:08

Lab Sample ID: LCS 440-32450/2-A Matrix: Water

Analysis Batch: 32992

	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
2,4,6-Trichlorophenol	10.0	6.307		ug/L		63	55 - 120
Bis(2-ethylhexyl) phthalate	10.0	6.206	LR	ug/L		62	65 ₋ 130
N-Nitrosodimethylamine	10.0	6.189		ug/L		62	45 _ 120
Pentachlorophenol	10.0	7.158		ug/L		72	24 - 121

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
2,4,6-Tribromophenol	66		40 - 120
2-Fluorobiphenyl	69		50 - 120
2-Fluorophenol	62		30 - 120
Nitrobenzene-d5	71		45 - 120

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Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 32450

1 1 1

TestAmerica Irvine 7/13/2012 Lab Sample ID: LCS 440-32450/2-A

Terphenyl-d14

Client Sample ID: Lab Control Sample

1 2 3 4 5 6 7 8 9

Matrix: Water Prep Type: Total/NA Prep Batch: 32450 Analysis Batch: 32992 LCS LCS Surrogate %Recovery Qualifier Limits Phenol-d6 66 35 - 120 Terphenyl-d14 67 50 - 125 Lab Sample ID: LCSD 440-32450/3-A Client Sample ID: Lab Control Sample Dup Matrix: Water Prep Type: Total/NA Analysis Batch: 32992 Prep Batch: 32450 LCSD LCSD Spike %Rec. RPD Added Result Qualifier Limits RPD Limit Analyte Unit D %Rec 10.0 7.406 74 55 - 120 30 2,4,6-Trichlorophenol ug/L 16 Bis(2-ethylhexyl) phthalate 10.0 7.229 ug/L 72 65 - 130 15 20 N-Nitrosodimethylamine 10.0 72 7.178 ug/L 45 - 120 15 20 Pentachlorophenol 10.0 7.988 ug/L 80 24 - 121 11 25 LCSD LCSD %Recovery Qualifier Limits Surrogate 2,4,6-Tribromophenol 75 40 - 120 2-Fluorobiphenyl 77 50 - 120 2-Fluorophenol 72 30 - 120 79 Nitrobenzene-d5 45 - 120 Phenol-d6 79 35 - 120

50 - 125

Method: 608 Pesticides - Organochlorine Pesticides Low level

76

Method: 625 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-31914/1-4	λ									Client Sa	mple ID: Metho	d Blank
Matrix: Water											Prep Type:	Total/NA
Analysis Batch: 32000											Prep Batc	h: 31914
	ME	B MB										
Analyte	Resul	t Qualifier	RL	I	MDL I	Unit		D	P	repared	Analyzed	Dil Fac
alpha-BHC	NE)	0.0050	0.0	025	ug/L			06/1	0/12 11:56	06/11/12 13:58	1
	ME	B MB										
Surrogate	%Recovery	/ Qualifier	Limits						P	repared	Analyzed	Dil Fac
Tetrachloro-m-xylene	87	7	35 - 115						06/1	0/12 11:56	06/11/12 13:58	1
DCB Decachlorobiphenyl (Surr)	92	2	45 - 120						06/1	0/12 11:56	06/11/12 13:58	1
- Lab Sample ID: LCS 440-31914/2-	A							С	lient	Sample	D: Lab Control	Sample
Matrix: Water											Prep Type:	
Analysis Batch: 32000											Prep Batc	
			Spike	LCS	LCS						%Rec.	
Analyte			Added	Result	Qualif	ier	Unit		D	%Rec	Limits	
alpha-BHC			0.500	0.455			ug/L			91	45 - 115	
	LCS LC	s										
Surrogate	%Recovery Qu	alifier	Limits									
Tetrachloro-m-xylene	79		35 - 115									

Method: 608 Pesticides - Organochlorine Pesticides Low level (Continued)

Lab Sample ID: 440-13922-A	-1-A MS							Client	Sample ID: Matrix Spike
Matrix: Water									Prep Type: Total/NA
Analysis Batch: 32000									Prep Batch: 31914
-	Sample	Sample	Spike	MS	MS				%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
alpha-BHC	ND		0.500	0.364		ug/L		73	40 - 120
	MS	MS							
Surrogate	%Recovery	Qualifier	Limits						
Tetrachloro-m-xylene	61		35 - 115						
DCB Decachlorobiphenyl (Surr)	80		45 - 120						

Lab Sample ID: 440-13922-A-1	I-B MSD					C	Client Sa	ample IC): Matrix Sp	oike Dup	olicate
Matrix: Water									Prep T	ype: Tot	tal/NA
Analysis Batch: 32000									Prep	Batch:	31914
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
alpha-BHC	ND		0.500	0.398		ug/L		80	40 - 120	9	30
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
Tetrachloro-m-xylene	63		35 - 115								
DCB Decachlorobiphenyl (Surr)	82		45 - 120								

Lab Sample ID: MB 440-31286/2 Matrix: Water Analysis Batch: 31286								Client S	ample ID: Metho Prep Type: T	
· · · · · · · · · · · · · · · · · · ·	MB	МВ								
Analyte	Result	Qualifier		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0	.11	0.080	mg/L			06/07/12 09:16	1
Nitrate Nitrite as N	ND		0	.26	0.11	mg/L			06/07/12 09:16	1
Nitrite as N	ND		0	.15	0.11	mg/L			06/07/12 09:16	1
Lab Sample ID: LCS 440-31286/3 Matrix: Water							CI	ient Sample	ID: Lab Control Prep Type: T	
Analysis Batch: 31286			Snike						%Rec	

	Spike	LCS	LCS			%Rec.		
Analyte	Added	Result	Qualifier U	Init D	%Rec	Limits		
Nitrate as N	 1.13	1.13	m	ng/L	100	90 - 110	 	
Nitrate Nitrite as N	2.65	2.64	m	ng/L	100	90 - 110		
Nitrite as N	1.52	1.51	m	ng/L	99	90 - 110		

Lab Sample ID: 440-13943-A-2 MS

Method: 300.0 - Anions, Ion Chromatography

Matrix: Water Analysis Batch: 31286

Analysis Daton. 51200									
	Sample	Sample	Spike	MS	MS				%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Nitrate as N	1.2		1.13	2.12		mg/L		84	80 - 120
Nitrate Nitrite as N	1.2		2.65	3.75		mg/L		96	80 - 120
Nitrite as N	ND		1.52	1.63		mg/L		107	80 - 120

Client Sample ID: Matrix Spike Prep Type: Total/NA

Spike

Added

1.13

2.65

MSD MSD

2.25

3.93

Result Qualifier

Unit

mg/L

mg/L

Lab Sample ID: 440-13943-A-2 MSD

Matrix: Water

Analyte

Nitrate as N

Nitrate Nitrite as N

Analysis Batch: 31286

Method: 300.0 - Anions, Ion Chromatography (Continued)

Sample Sample

1.2

1.2

ND

Result Qualifier

Prep Type: Total/NA

RPD

6

5

Client Sample ID: Matrix Spike Duplicate

%Rec.

Limits

80 - 120

80 - 120

%Rec

95

103

95

80 - 120

D

7

RPD

Limit

20

20

	1.2			2.00		0.00			ing/L			100	00 - 120	0	20
Nitrite as N	ND			1.52		1.68			mg/L			111	80 - 120	3	20
_ Lab Sample ID: MB 440-31287/2												Client S	ample ID:	Method	Blank
Matrix: Water														Type: To	
Analysis Batch: 31287															
-		MB	МВ												
Analyte	R	esult	Qualifier		RL		MDL	Unit		D	P	repared	Analyz	ed	Dil Fac
Chloride		ND			0.50		0.40	mg/L					06/07/12	09:16	1
Sulfate		ND			0.50		0.40	mg/L					06/07/12	09:16	1
- Lab Sample ID: LCS 440-31287/3										CI	ient	Sample	ID: Lab Co	ontrol S	ample
Matrix: Water														Type: To	
Analysis Batch: 31287															
-				Spike		LCS	LCS						%Rec.		
Analyte				Added		Result	Qual	lifier	Unit		D	%Rec	Limits		
Chloride				5.00		4.80			mg/L		_	96	90 _ 110		
Sulfate				10.0		9.77			mg/L			98	90 - 110		
Lab Sample ID: 440-13943-A-2 MS												Client	Sample ID	: Matrix	Spike
Matrix: Water													Prep 1	Type: To	tal/NA
Analysis Batch: 31287															
	Sample	Sam	ple	Spike		MS	MS						%Rec.		
Analyte	Result	Qual	ifier	Added		Result	Qual	lifier	Unit		D	%Rec	Limits		
Chloride	8.5			5.00		12.9			mg/L		_	89	80 - 120		
Sulfate	ND			10.0		9.50			mg/L			95	80 - 120		
- Lab Sample ID: 440-13943-A-2 MSI	C									Clien	nt Sa	mple ID	: Matrix S	oike Dur	olicate
Matrix: Water														Type: To	
Analysis Batch: 31287															
-	Sample	Sam	ple	Spike		MSD	MSD)					%Rec.		RPD
Analyte	Result	Qual	ifier	Added		Result	Qual	lifier	Unit		D	%Rec	Limits	RPD	Limit
Chloride	8.5			5.00		13.0	-		mg/L		_	90	80 - 120	0	20

Method: 314.0 - Perchlorate (IC)

Sulfate

Lab Sample ID: MB 440-31949/5 Matrix: Water Analysis Batch: 31949									Cl	ient S	ample ID: Metho Prep Type: 1	
	MB	МВ										
Analyte	Result	Qualifier	RL		MDL	Unit		D	Prep	ared	Analyzed	Dil Fac
Perchlorate	ND		4.0		0.95	ug/L					06/11/12 06:57	1
 Lab Sample ID: LCS 440-31949/4								Clie	nt Sa	ample	ID: Lab Control	Sample
Matrix: Water											Prep Type: 1	Total/NA
Analysis Batch: 31949												
		Spik	e	LCS	LCS						%Rec.	
Analyte		Adde	d	Result	Qual	lifier	Unit	I	D %	Rec	Limits	
Perchlorate		25.	<u> </u>	24.5			ug/L			98	85 - 115	

10.0

9.46

mg/L

0

20

Total HxCDD

Total HpCDD

2,3,7,8-TCDF

1,2,3,7,8-PeCDF

2,3,4,7,8-PeCDF

1,2,3,4,7,8-HxCDF

1,2,3,6,7,8-HxCDF

2,3,4,6,7,8-HxCDF

1,2,3,7,8,9-HxCDF

1,2,3,4,6,7,8-HpCDF

1,2,3,4,7,8,9-HpCDF

37CI4-2, 3, 7, 8-TCDD

Total HxCDF

Total HpCDF

Surrogate

OCDF

Total PeCDF

Total TCDF

OCDD

1,2,3,4,6,7,8-HpCDD

5

7

Lab Sample ID: MRL 440-31949/2 I									Ŭ	nent	Cample	ID: Lab Cont		
Matrix: Water												Ргер Тур	e: 10	
Analysis Batch: 31949				Spike	MDI	MRL						%Rec.		
Analyte				Added	Result		ifior	Unit		D	%Rec	Limits		
Perchlorate				4.00		J,DX		ug/L						
Ferchiorate				4.00	5.04	J,DA		ug/L			70			
Lab Sample ID: 440-13823-F-1 MS											Client	Sample ID: M	latrix	Spik
Matrix: Water												Prep Typ		
Analysis Batch: 31949														
	Sample	Samp	le	Spike	MS	MS						%Rec.		
Analyte	Result	Qualif	ier	Added	Result	Qual	ifier	Unit		D	%Rec	Limits		
Perchlorate	2.5	J,DX		25.0	29.8			ug/L		·	109	80 - 120		
Lab Sample ID: 440-13823-F-1 MS	D								Clie	nt Sa	mple ID	: Matrix Spike	e Dup	olicat
Matrix: Water												Prep Typ	e: To	tal/N
Analysis Batch: 31949														
	Sample	Samp	le	Spike	MSD	MSD						%Rec.		RP
	Result		ier	Added	Result	Qual	ifier	Unit		D	%Rec	Limits	RPD	Lim
		Qualif J,DX	fier	Added	29.3	Qual	itier	Unit ug/L		D	%Rec	80 - 120	RPD 2	
Perchlorate ethod: 1613B - Dioxins/Fura Lab Sample ID: G2F130000070B Matrix: Water	2.5	J,DX		25.0		Qual	Ifier				107	ample ID: Me Prep	2 thod Type	Blan : Tota
Perchlorate lethod: 1613B - Dioxins/Fura Lab Sample ID: G2F130000070B Matrix: Water	2.5	J,DX	IRMS (1	25.0		Qual	Itier				107	80 - 120 ample ID: Me	2 thod Type	: Tota
Perchlorate ethod: 1613B - Dioxins/Fura Lab Sample ID: G2F130000070B Matrix: Water Analysis Batch: 2165070	2.5	J,DX GC/H	IRMS (1	25.0		EDL			D		107	ample ID: Me Prep	2 thod Type	Blan : Tota
Perchlorate ethod: 1613B - Dioxins/Fura Lab Sample ID: G2F130000070B Matrix: Water Analysis Batch: 2165070	2.5	J,DX GC/H	IRMS (1	25.0		EDL				Pi	Client S	80 - 120 ample ID: Me Prep Prep Batch: Analyzed	2 thod Type 2165	Blan : Tot: 070_
ethod: 1613B - Dioxins/Fura Lab Sample ID: G2F130000070B Matrix: Water Analysis Batch: 2165070 Analyte 2,3,7,8-TCDD	2.5	J,DX GC/H MB	IRMS (1	25.0	29.3	EDL 0047	Unit ug/L			Pr 06/13	Client S	80 - 120 ample ID: Me Prep Batch: Analyzed 06/15/12 23: ²	2 thod Type 2165	Blar : Tot 070_
ethod: 1613B - Dioxins/Fura Lab Sample ID: G2F130000070B Matrix: Water Analysis Batch: 2165070 Analyte 1;3,7,8-TCDD Total TCDD	2.5	MB I esult ND	IRMS (1	25.0 1613B) 	29.3	EDL 0047 0047	Unit ug/L ug/L		D		107 Client Sa repared 3/12 09:00	80 - 120 ample ID: Me Prep Batch: Analyzed 06/15/12 23: ²	2 thod Type 2165	Blar : Tot 070_
ethod: 1613B - Dioxins/Fura ab Sample ID: G2F130000070B Matrix: Water Analysis Batch: 2165070 Analyte 2,3,7,8-TCDD Total TCDD ,2,3,7,8-PeCDD	2.5	J,DX GC/H MB I esult ND	IRMS (1	25.0 I613B) ML 0.000010 0.000010	29.3	EDL 0047 0047 0069	Unit ug/L ug/L ug/L		_ <u>D</u>	Pr 06/13 06/13	107 Client S repared 3/12 09:00 3/12 09:00	80 - 120 ample ID: Me Prep Prep Batch: 	2 thod Type 2165	Blar : Tot 070_
Perchlorate ethod: 1613B - Dioxins/Fura Lab Sample ID: G2F130000070B Matrix: Water Analysis Batch: 2165070 Analyte 2,3,7,8-TCDD Total TCDD I,2,3,7,8-PeCDD Total PeCDD	2.5	J,DX GC/H esuit ND ND	IRMS (1	25.0 I613B) ML 0.000010 0.000050	29.3 0.000 0.000 0.000	EDL 0047 0047 0069 0069	Unit ug/L ug/L ug/L			Pi 06/13 06/13 06/13	107 Client S repared 3/12 09:00 3/12 09:00 3/12 09:00	80 - 120 ample ID: Me Prep Batch: <u>Analyzed</u> 06/15/12 23: 06/15/12 23: 06/15/12 23:	2 thod Type 2165 17 17 17	Blar : Tot 070_
Analyte Perchlorate Perchlorate Perchlorate Perchlorate Lab Sample ID: G2F130000070B Matrix: Water Analysis Batch: 2165070 Analyte 2,3,7,8-TCDD Total TCDD 1,2,3,7,8-PeCDD Total PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,6,7,8-HxCDD	2.5	MB I esult ND ND ND	IRMS (1	25.0 I613B) ML 0.000010 0.000050 0.000050	29.3 0.000 0.000 0.000 0.000	EDL 0047 0047 0069 0069 0069	Unit ug/L ug/L ug/L		- D	Pr 06/1: 06/1: 06/1: 06/1:	107 Client S 7repared 3/12 09:00 3/12 09:00 3/12 09:00 3/12 09:00	80 - 120 ample ID: Me Prep Batch: 06/15/12 23: 06/15/12 23: 06/15/12 23: 06/15/12 23:	2 thod Type 2165 17 17 17 17	Blar : Tot 070_

0.000050

0.000050

0.000050

0.00010

0.000010

0.000010

0.000050

0.000050

0.000050

0.000050

0.000050

0.000050

0.000050

0.000050

0.000050

0.000050

0.000050

0.00010

Limits

35 _ 197

0.0000065 ug/L

0.0000091 ug/L

0.0000091 ug/L

0.0000039 ug/L

0.0000021 ug/L

0.0000019 ug/L

0.0000019 ug/L

0.0000027 ug/L

0.0000021 ug/L

0.0000086 ug/L

0.0000060 ug/L

0.0000045 ug/L

0.0000083 ug/L

ug/L

ug/L

ug/L

ug/L

ug/L

0.0000094

0.0000039

0.000038

0.0000043

0.0000038

06/13/12 09:00

06/13/12 09:00

06/13/12 09:00

06/13/12 09:00

06/13/12 09:00

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Prepared

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06/15/12 23:17

Analyzed

06/15/12 23:17

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

Dil Fac

ND

ND

ND

0.000012 JQ

ND

ND

ND

ND

0.0000042 JQ

0.0000019 JQ

ND

0.000012 JQ

ND

ND

99

MB MB

JQ

Qualifier

0.0000048 JQ

0.0000048

%Recovery

0.0000032 J

J

0.0000020

TestAmerica Irvine 7/13/2012

Client Sample ID: Lab Control Sample

Prep Type: Total

Client Sample ID: Method Blank Prep Type: Total Prep Batch: 2165070_P

Lab Sample ID: G2F130000070B

Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B) (Continued)

Matrix: Water Analysis Batch: 2165070

	MB	МВ				
Internal Standard	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	44		25 - 164	06/13/12 09:00	06/15/12 23:17	1
13C-1,2,3,7,8-PeCDD	47		25 - 181	06/13/12 09:00	06/15/12 23:17	1
13C-1,2,3,4,7,8-HxCDD	44		32 - 141	06/13/12 09:00	06/15/12 23:17	1
13C-1,2,3,6,7,8-HxCDD	50		28 - 130	06/13/12 09:00	06/15/12 23:17	1
13C-1,2,3,4,6,7,8-HpCDD	55		23 - 140	06/13/12 09:00	06/15/12 23:17	1
13C-OCDD	52		17 _ 157	06/13/12 09:00	06/15/12 23:17	1
13C-2,3,7,8-TCDF	44		24 - 169	06/13/12 09:00	06/15/12 23:17	1
13C-1,2,3,7,8-PeCDF	45		24 - 185	06/13/12 09:00	06/15/12 23:17	1
13C-2,3,4,7,8-PeCDF	44		21_178	06/13/12 09:00	06/15/12 23:17	1
13C-1,2,3,6,7,8-HxCDF	50		26 - 123	06/13/12 09:00	06/15/12 23:17	1
13C-2,3,4,6,7,8-HxCDF	50		28 - 136	06/13/12 09:00	06/15/12 23:17	1
13C-1,2,3,7,8,9-HxCDF	53		29 - 147	06/13/12 09:00	06/15/12 23:17	1
13C-1,2,3,4,6,7,8-HpCDF	53		28 - 143	06/13/12 09:00	06/15/12 23:17	1
13C-1,2,3,4,7,8,9-HpCDF	52		26 - 138	06/13/12 09:00	06/15/12 23:17	1
13C-1,2,3,4,7,8-HxCDF	44		26 - 152	06/13/12 09:00	06/15/12 23:17	1

Lab Sample ID: G2F130000070C

Matrix: Water

Analysis Batch: 2165070	Spike	LCS	LCS				Prep Batch: 2165070_P %Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
2,3,7,8-TCDD	0.000200	0.000222		ug/L		111	67 - 158
1,2,3,7,8-PeCDD	0.00100	0.00116		ug/L		116	70 - 142
1,2,3,4,7,8-HxCDD	0.00100	0.00122		ug/L		122	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.00114		ug/L		114	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.00124		ug/L		124	64 - 162
1,2,3,4,6,7,8-HpCDD	0.00100	0.00108		ug/L		108	70 - 140
OCDD	0.00200	0.00235	В	ug/L		117	78 - 144
2,3,7,8-TCDF	0.000200	0.000247		ug/L		124	75 - 158
1,2,3,7,8-PeCDF	0.00100	0.00110		ug/L		110	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.00115		ug/L		115	68 - 160
1,2,3,4,7,8-HxCDF	0.00100	0.00116	В	ug/L		116	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.00116	В	ug/L		116	84 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.00110	В	ug/L		110	70 _ 156
1,2,3,7,8,9-HxCDF	0.00100	0.00115		ug/L		115	78 - 130
1,2,3,4,6,7,8-HpCDF	0.00100	0.00111		ug/L		111	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.00112	В	ug/L		112	78 - 138
OCDF	0.00200	0.00228		ug/L		114	63 - 170

	200	200	
Surrogate	%Recovery	Qualifier	Limits
37Cl4-2,3,7,8-TCDD	96		31 _ 191
	LCS	LCS	
Internal Standard	%Recovery	Qualifier	Limits
13C-2,3,7,8-TCDD	40		20 - 175
13C-1,2,3,7,8-PeCDD	42		21 - 227
13C-1,2,3,4,7,8-HxCDD	39		21 _ 193
13C-1,2,3,6,7,8-HxCDD	48		25 - 163
13C-1,2,3,4,6,7,8-HpCDD	51		26 - 166

LCS LCS

Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B) (Continued)

Lab Sample ID: G2F130000 Matrix: Water	0070C			Client Sample ID: Lab Control Sample Prep Type: Tota
Analysis Batch: 2165070				Prep Batch: 2165070_F
	LCS	LCS		
Internal Standard	%Recovery	Qualifier	Limits	
13C-OCDD	47		13 - 199	
13C-2,3,7,8-TCDF	38		22 - 152	
13C-1,2,3,7,8-PeCDF	40		21 - 192	
13C-2,3,4,7,8-PeCDF	41		13 - 328	
13C-1,2,3,6,7,8-HxCDF	45		21 _ 159	
13C-2,3,4,6,7,8-HxCDF	46		22 - 176	
13C-1,2,3,7,8,9-HxCDF	47		17 - 205	
13C-1,2,3,4,6,7,8-HpCDF	49		21 - 158	
13C-1,2,3,4,7,8,9-HpCDF	50		20 - 186	
13C-1,2,3,4,7,8-HxCDF	42		19 - 202	

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-32585/1-A												ample ID: N		
Matrix: Water											Prep 1	Type: Total		
Analysis Batch: 33338												Prep	Batch	: 32585
		MB MB												
Analyte	R	esult Qualifier		RL			Unit				repared	Analyze		Dil Fac
Zinc		ND		20		6.0	ug/L			06/1	3/12 11:33	06/15/12 2	20:02	1
- Lab Sample ID: LCS 440-32585/2-A									С	lient	Sample	ID: Lab Co	ontrol S	Sample
Matrix: Water											Prep 1	Type: Total	Recov	verable
Analysis Batch: 33338												Prep	Batch	: 32585
			Spike		LCS	LCS						%Rec.		
Analyte			Added		Result	Qua	lifier	Unit		D	%Rec	Limits		
Zinc			500		500			ug/L			100	85 - 115		
Lab Sample ID: 440-14006-1 MS											Clien	t Sample II	D: Out	fall 019
Matrix: Water											Prep 1	Type: Total	Recov	verable
Analysis Batch: 33338												Prep	Batch	: 32585
	Sample	Sample	Spike		MS	MS						%Rec.		
Analyte	Result	Qualifier	Added		Result	Qua	lifier	Unit		D	%Rec	Limits		
Zinc	ND		500		540			ug/L			108	70 - 130		
Lab Sample ID: 440-14006-1 MSD											Clien	t Sample II	D: Out	fall 019
Matrix: Water											Prep 1	Type: Total	Recov	verable
Analysis Batch: 33338												Prep	Batch	: 32585
	Sample	Sample	Spike		MSD	MSD)					%Rec.		RPD
Analyte	Result	Qualifier	Added		Result	Qua	lifier	Unit		D	%Rec	Limits	RPD	Limit
Zinc	ND		500		524			ug/L			105	70 - 130	3	20
Lab Sample ID: MB 440-31679/1-D											Client Sa	ample ID: I	Nethoo	l Blank
Matrix: Water												Prep Ty		
Analysis Batch: 33248												Prep	Batch	: 32454
		MB MB												
Analyte	R	esult Qualifier		RL		MDL	Unit		D	Р	repared	Analyze	ed	Dil Fac
Zinc		ND		20		6.0	ug/L			06/1	2/12 20:39	06/15/12 1	13:07	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-31	679/2-D						Client	t Sample	ID: Lab Co	ontrol Sa	ample
Matrix: Water									Prep Ty	pe: Diss	olvec
Analysis Batch: 33248									Prep	Batch:	32454
-			Spike	LCS	LCS				%Rec.		
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits		
Zinc			500	474		ug/L		95	85 - 115		
Lab Sample ID: 440-14010-A	A-1-E MS							Client	Sample ID:	Matrix	Spike
Matrix: Water									Prep Ty	pe: Diss	olvec
Analysis Batch: 33248									Prep	Batch:	32454
-	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Zinc	ND		500	470		ug/L		94	70 - 130		
Lab Sample ID: 440-14010-A	A-1-F MSD						Client S	ample IC): Matrix Sp	ike Dup	olicate
Matrix: Water									Prep Ty	pe: Diss	olved
Analysis Batch: 33248									Prep	Batch:	32454
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limi
Zinc	ND		500	471		ug/L		94	70 - 130	0	20
Analyte Zinc		Qualifier			Qualifier		<u>D</u>				_

Lab Sample ID: MB 440-32948/1-A Matrix: Water Analysis Batch: 33620											ample ID: Meth Type: Total Rec Prep Batc	overable
M												
	Qualifier		RL		MDL					repared	Analyzed	Dil Fac
Copper NI)		2.0		0.50	ug/L			06/1	4/12 16:48	06/18/12 12:56	1
Lab Sample ID: MB 440-32948/1-A										Client S	ample ID: Meth	od Blank
Matrix: Water										Prep [•]	Type: Total Rec	overable
Analysis Batch: 34122											Prep Bato	h: 32948
M	MB											
Analyte Resul	Qualifier		RL		MDL	Unit		D	Р	repared	Analyzed	Dil Fac
Cadmium NI)		1.0		0.10	ug/L			06/1	4/12 16:48	06/19/12 20:59	1
Lead NI)		1.0		0.20	ug/L			06/1	4/12 16:48	06/19/12 20:59	1
Selenium NI)		2.0		0.50	ug/L			06/1	4/12 16:48	06/19/12 20:59	1
Lab Sample ID: LCS 440-32948/2-A								С	lient	Sample	ID: Lab Contro	I Sample
Matrix: Water										Prep '	Type: Total Rec	overable
Analysis Batch: 33620											Prep Bato	h: 32948
		Spike		LCS	LCS						%Rec.	
Analyte		Added		Result	Qual	lifier	Unit		D	%Rec	Limits	
Copper		80.0		78.7			ug/L			98	85 - 115	
Lab Sample ID: LCS 440-32948/2-A								С	lient	Sample	ID: Lab Contro	l Sample
Matrix: Water											Type: Total Rec	
Analysis Batch: 34122											Prep Bato	
····· ·		Spike		LCS	LCS						%Rec.	
Analyte		Added		Result	Qual	lifier	Unit		D	%Rec	Limits	
Cadmium		80.0		78.8			ug/L			99	85 - 115	
Lead		80.0		81.9			ug/L			102	85 - 115	
Selenium		80.0		82.7			ug/L			103	85 - 115	

Lab Sample ID: 440-14006-1 MS

Lab Sample ID: 440-14006-1 MS

Lab Sample ID: 440-14006-1 MSD

Matrix: Water

Matrix: Water

Analyte

Copper

Analyte

Lead

Cadmium

Selenium

Selenium

Matrix: Water

Analysis Batch: 33620

Analysis Batch: 34122

Method: 200.8 - Metals (ICP/MS) (Continued)

Sample Sample

Result Qualifier

0.66 J,DX

Sample Sample

ND

ND

ND

Result Qualifier

Spike

Added

80.0

Spike

Added

80.0

80.0

80.0

Client Sample ID: Outfall 019

Prep Type: Total Recoverable

Client Sample ID: Outfall 019

Prep Type: Total Recoverable

%Rec.

Limits

70 - 130

%Rec.

Limits

70 - 130

%Rec

%Rec

95

89

D

D

Prep Batch: 32948

Prep Batch: 32948

7

Prep Type: Total Recoverable										
Client Sample ID: Outfall 019										
101	70 - 130									
98	70 - 130									

Client Sample ID: Outfall 019
Prep Type: Total Recoverable
Pron Batch: 32049

Analysis Batch: 33620									Pre	Batch:	32948
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Copper	0.66	J,DX	80.0	72.5		ug/L		90	70 - 130	1	20

MS MS

MS MS

75.9

78.4

80.6

Result Qualifier

71.5

Result Qualifier

Unit

ug/L

Unit

ug/L

ug/L

ug/L

Lab Sample ID: 440-14006-1 MSI Matrix: Water Analysis Batch: 34122	D								nt Sample I Type: Tota Prep		erable
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Cadmium	ND		80.0	76.6		ug/L		96	70 - 130	1	20
Lead	ND		80.0	79.7		ug/L		100	70 - 130	2	20
Selenium	ND		80.0	81.8		ug/L		102	70 - 130	1	20

Lab Sample ID: MB 440-31679/1-E Matrix: Water Analysis Batch: 32803	МВ	МВ					Client Sa	mple ID: Metho Prep Type: Di Prep Batch	solved
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.10	ug/L		06/12/12 20:46	06/14/12 06:28	1
Copper	ND		2.0	0.50	ug/L		06/12/12 20:46	06/14/12 06:28	1
Lead	ND		1.0	0.20	ug/L		06/12/12 20:46	06/14/12 06:28	1

2.0

0.50 ug/L

Lab Sample ID: LCS 440-31679/2-E		
Matrix: Water		
Analysis Batch: 32803		
	Spike	LCS
Analyte	Added	Resul
Cadmium	80.0	79.4

ND

Client Sam	ple ID: La	b Control	Sample

06/14/12 06:28

06/12/12 20:46

Matrix: Water Analysis Batch: 32803							Prep Type: Dissolved Prep Batch: 32455
	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Cadmium	80.0	79.4		ug/L		99	85 - 115
Copper	80.0	78.8		ug/L		99	85 - 115
Lead	80.0	76.6		ug/L		96	85 - 115
Selenium	80.0	81.6		ug/L		102	85 ₋ 115

1 2 3 3 Iank 4 I/NA 5 I Fac 6 1 6 nple 7 I/NA 8 9 10 pike 10 I/NA 11 1759 12 13 13

Method: 245.1 - Mercury (CVAA)

												011-01-01		1. All 1. All 1.	Distants
Lab Sample ID: MB 440-31759	/1 -A											Client Sa	ample ID: N		
Matrix: Water													Prep Ty		
Analysis Batch: 32155		мв	мв										Prep	Batch:	31759
Analista	D.				RL		MDL	11		_		un mana d	Analyz		
Analyte Mercury	KI	ND	Qualifier		0.20			ug/L				repared 1/12 11:05	Analyze		Dil Fac
		ND			0.20		0.10	ug/L			00/1	1/12 11.05	00/11/12 1	0.00	I
Lab Sample ID: LCS 440-31759	9/2-A									C	lient	Sample	ID: Lab Co	ntrol S	ample
Matrix: Water												- C.	Prep Ty		
Analysis Batch: 32155															31759
				Spike		LCS	LCS						%Rec.		
Analyte				Added		Result	Qual	ifier	Unit		D	%Rec	Limits		
Mercury				8.00		7.98			ug/L		_	100	85 - 115		
												<u>.</u>			
Lab Sample ID: 440-13987-C-1	-B MS											Client	Sample ID:		
Matrix: Water													Prep Ty		
Analysis Batch: 32155	0	•		0										Batch:	31759
• • •	Sample			Spike			MS				_		%Rec.		
Analyte	Result	Qua	ifier	Added		Result	Qual	ifier	Unit		D	%Rec	Limits		
Mercury	ND			8.00		7.94			ug/L			99	70 - 130		
Lab Sample ID: 440-13987-C-1	-C MSD									Clier	nt Sa	ample ID:	Matrix Sp	ike Du	olicate
Matrix: Water													Prep Ty		
Analysis Batch: 32155															31759
Analysis Baton. 62100	Sample	Sam	ple	Spike		MSD	MSD						%Rec.	Batom.	RPD
Analyte	Result			Added		Result	Qual	ifier	Unit		D	%Rec	Limits	RPD	Limit
Mercury	ND			8.00		8.07			ug/L		_	101	70 - 130	2	20
Lab Sample ID: MB 440-31679	/1-B											Client Sa	ample ID: N	lethod	Blank
Matrix: Water													Prep Typ	be: Dis	solved
Analysis Batch: 32155													Prep	Batch:	31758
		MB	MB												
Analyte	R		Qualifier		RL		MDL	Unit		D		repared	Analyze		Dil Fac
Mercury		ND			0.20		0.10	ug/L			06/1	1/12 11:05	06/11/12 1	5:36	1
Lab Sample ID: LCS 440-3167	9/2_B														
Matrix: Water										С	lient	Sample	ID: Lah Co	ntrol S	ample
										C	lient	Sample	ID: Lab Co Prep Tyr		
										C	lient	Sample	Prep Typ	oe: Dis	solved
Analysis Batch: 32155				Spike		LCS	LCS			C	lient	Sample	Prep Typ Prep	oe: Dis	
Analysis Batch: 32155				Spike Added		LCS		ifier	Unit	C		-	Prep Typ Prep %Rec.	oe: Dis	solved
				Spike Added 8.00		LCS Result 7.85		ifier	Unit ug/L	С.	D	Sample	Prep Typ Prep %Rec. Limits	oe: Dis	solved
Analysis Batch: 32155 Analyte				Added		Result		ifier	Unit ug/L	с 		%Rec	Prep Typ Prep %Rec.	oe: Dis	solved
Analysis Batch: 32155 Analyte	 IS			Added		Result		ifier		с 		%Rec	Prep Typ Prep %Rec. Limits	be: Dis Batch:	solved 31758
Analysis Batch: 32155 Analyte Mercury	 IS			Added		Result		ifier		с 		%Rec	Prep Typ Prep %Rec. Limits 85 - 115	be: Dis Batch: 	solved 31758 all 019
Analysis Batch: 32155 Analyte Mercury Lab Sample ID: 440-14006-1 M	 IS			Added		Result		ifier		с 		%Rec	Prep Typ Prep %Rec. Limits 85 - 115 t Sample II Prep Typ	De: Dis Batch: D: Outf De: Dis	solved 31758 all 019
Analysis Batch: 32155 Analyte Mercury Lab Sample ID: 440-14006-1 M Matrix: Water	IS Sample	Sam		Added		Result 7.85		ifier		с 		%Rec	Prep Typ Prep %Rec. Limits 85 - 115 t Sample II Prep Typ	De: Dis Batch: D: Outf De: Dis	all 019
Analysis Batch: 32155 Analyte Mercury Lab Sample ID: 440-14006-1 M Matrix: Water			-	Added 8.00		Result 7.85	Qual			с 		%Rec	Prep Typ Prep %Rec. Limits 85 - 115 t Sample II Prep Typ Prep	De: Dis Batch: D: Outf De: Dis	all 019
Analysis Batch: 32155 Analyte Mercury Lab Sample ID: 440-14006-1 M Matrix: Water Analysis Batch: 32155	Sample		-	Added 8.00 Spike		Result 7.85 MS	Qual		ug/L	с 	D	%Rec 98 Client	Prep Typ Prep %Rec. Limits 85 - 115 t Sample II Prep Typ Prep %Rec.	De: Dis Batch: D: Outf De: Dis	all 019
Analysis Batch: 32155 Analyte Mercury Lab Sample ID: 440-14006-1 M Matrix: Water Analysis Batch: 32155 Analyte Mercury	Sample Result ND		-	Added 8.00 Spike Added		Result 7.85 MS Result	Qual		ug/L Unit	C	D	%Rec 98 Clien %Rec 98	Prep Typ Prep %Rec. Limits 85 - 115 t Sample II Prep Typ Prep %Rec. Limits 70 - 130	be: Dis Batch: D: Outf be: Dis Batch:	solved 31758 all 019 solved 31758
Analysis Batch: 32155 Analyte Mercury Lab Sample ID: 440-14006-1 M Matrix: Water Analysis Batch: 32155 Analyte Mercury Lab Sample ID: 440-14006-1 M	Sample Result ND		-	Added 8.00 Spike Added		Result 7.85 MS Result	Qual		ug/L Unit	C	D	%Rec 98 Clien %Rec 98	Prep Typ Prep %Rec. Limits 85 - 115 t Sample II Prep Typ Prep %Rec. Limits 70 - 130 t Sample II	De: Dis Batch: D: Outf De: Dis Batch: D: Outf	solved 31758 all 019 solved 31758 all 019
Analysis Batch: 32155 Analyte Mercury Lab Sample ID: 440-14006-1 M Matrix: Water Analysis Batch: 32155 Analyte Mercury Lab Sample ID: 440-14006-1 M Matrix: Water	Sample Result ND		-	Added 8.00 Spike Added		Result 7.85 MS Result	Qual		ug/L Unit	C	D	%Rec 98 Clien %Rec 98	Prep Typ Prep %Rec. Limits 85 - 115 t Sample III Prep Typ %Rec. Limits 70 - 130 t Sample III Prep Typ	De: Dis Batch: D: Outf De: Dis Batch: D: Outf De: Dis	solved 31758 all 019 solved 31758 all 019 solved
Analysis Batch: 32155 Analyte Mercury Lab Sample ID: 440-14006-1 M Matrix: Water Analysis Batch: 32155 Analyte Mercury Lab Sample ID: 440-14006-1 M	Sample Result ND	Qual	lifier	Added 8.00 Spike Added 8.00		Result 7.85 MS Result 7.81	Qual MS Qual		ug/L Unit	C	D	%Rec 98 Clien %Rec 98	Prep Typ Prep %Rec. Limits 85 - 115 t Sample III Prep Typ %Rec. Limits 70 - 130 t Sample III Prep Typ Prep	De: Dis Batch: D: Outf De: Dis Batch: D: Outf De: Dis	solved 31758 all 019 solved 31758 all 019 solved 31758
Analysis Batch: 32155 Analyte Mercury Lab Sample ID: 440-14006-1 M Matrix: Water Analysis Batch: 32155 Analyte Mercury Lab Sample ID: 440-14006-1 M Matrix: Water	Sample Result ND	Qual	lifier	Added 8.00 Spike Added		Result 7.85 MS Result 7.81	Qual MS Qual	ifier	ug/L Unit	C	D	%Rec 98 Clien %Rec 98	Prep Typ Prep %Rec. Limits 85 - 115 t Sample III Prep Typ %Rec. Limits 70 - 130 t Sample III Prep Typ	De: Dis Batch: D: Outf De: Dis Batch: D: Outf De: Dis	solved 31758 all 019 solved 31758 all 019 solved

RL

5.0

Spike

Added

20.0

MB MB Result Qualifier

ND

Lab Sample ID: MB 440-33063/1-A

Lab Sample ID: LCS 440-33063/2-A

Lab Sample ID: LCSD 440-33063/3-A

Matrix: Water

Matrix: Water

Matrix: Water

Analyte

Analyte

Analyte HEM

HEM

HEM

Analysis Batch: 33087

Analysis Batch: 33087

Analysis Batch: 33087

Method: 1664A - HEM and SGT-HEM

Client Sample ID: Method Blank

Analyzed

06/15/12 08:55

Client Sample ID: Lab Control Sample

Prep Type: Total/NA Prep Batch: 33063

Prep Type: Total/NA

1 2 3 4 5 6 7 8 9

Dil Fac

1

		Pre	p Batch: 33063
		%Rec.	
D	%Rec	Limits	
	89	78 - 114	
Sam	ple ID: I	Prep	ol Sample Dup Type: Total/NA

						Prep	33063		
Spike	LCSD	LCSD				%Rec.		RPD	
Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
 20.0	17.7		mg/L		89	78 _ 114	1	11	
					Client	Sample ID	Motrix	Spiles	

MDL Unit

1.4 mg/L

LCS LCS

17.8

Result Qualifier

D

Unit

mg/L

Client

Prepared

06/15/12 08:31

Lab Sample ID: 440-14090-A-1	-A MS							Client	Sample ID	: Matrix Spike
Matrix: Water									Prep 1	Type: Total/NA
Analysis Batch: 33087									Prep	Batch: 33063
	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
HEM	ND		19.4	18.5		mg/L		95	78 - 114	

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 440-31655/6 Matrix: Water										Client	Sample ID: Metho Prep Type: 1	
Analysis Batch: 31655												
	M	в мв										
Analyte	Resu	t Qualifier		RL		MDL	Unit		D	Prepared	Analyzed	Dil Fa
Turbidity	N			0.10	(0.040	NTU				06/08/12 11:03	1
- Lab Sample ID: MRL 440-31655/3 MR	L								Clier	nt Samp	le ID: Lab Control	Sample
Matrix: Water											Prep Type: 1	Fotal/NA
Analysis Batch: 31655												
			Spike		MRL	MRL					%Rec.	
Analyte			Added		Result	Qual	ifier	Unit	D	%Rec	Limits	
Turbidity			0.100		0.100	J,DX		NTU		100		
Lab Sample ID: 440-13943-A-4 DU										C	ient Sample ID: D	uplicate
Matrix: Water											Prep Type: 1	Total/NA
Analysis Batch: 31655												
s	ample Sa	mple			DU	DU						RPD
Analyte	Result Qu	alifier			Result	Qual	ifier	Unit	D		RPD	D Limit
Turbidity	ND				ND			NTU			NO	2 20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-31545/1 Matrix: Water											C	Client S	Sample ID: Meth Prep Type:		
Analysis Batch: 31545															
		MB	МВ												
Analyte	R	esult	Qualifier		RL		MDL	Unit		D	Pre	epared	Analyzed		Dil Fac
Total Dissolved Solids		ND			10		10	mg/L					06/08/12 05:20		1
Lab Sample ID: LCS 440-31545/2										Clie	nt s	Sample	ID: Lab Contro	ol Sa	ample
Matrix: Water													Prep Type:	Tot	al/NA
Analysis Batch: 31545															
				Spike		LCS	LCS						%Rec.		
Analyte				Added		Result	Qual	ifier	Unit	[D	%Rec	Limits		
Total Dissolved Solids				1000		976			mg/L			98	90 - 110		
Lab Sample ID: 440-13981-E-1 DU												Cli	ent Sample ID: I	Dup	licate
Matrix: Water													Prep Type:	Tot	al/NA
Analysis Batch: 31545															
-	Sample	Sam	ple			DU	DU								RPD
Analyte	Result	Qual	ifier			Result	Qual	ifier	Unit	[C		RF	PD	Limit
Total Dissolved Solids	2400					2390			mg/L					2	10

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-31765/1 Matrix: Water											0	Client S	ample ID: Methore Prep Type:		
Analysis Batch: 31765															
		MB	MB												
Analyte	R	esult	Qualifier		RL		MDL	Unit		D	Pre	epared	Analyzed	I	Dil Fac
Total Suspended Solids		ND			10		10	mg/L					06/08/12 19:24		1
Lab Sample ID: LCS 440-31765/2										Clie	nt	Sample	ID: Lab Contro	l Sa	ample
Matrix: Water													Prep Type:	Tot	al/NA
Analysis Batch: 31765															
				Spike		LCS	LCS						%Rec.		
Analyte				Added		Result	Qual	ifier	Unit	[D	%Rec	Limits		
Total Suspended Solids				1000		986			mg/L			99	85 - 115		
Lab Sample ID: 440-14000-A-2 DU												Clie	ent Sample ID: D)up	licate
Matrix: Water													Prep Type:	Tot	al/NA
Analysis Batch: 31765															
-	Sample	Samp	le			DU	DU								RPD
Analyte	Result	Qualit	fier			Result	Qual	ifier	Unit	[D		RP	D	Limit
Total Suspended Solids	310					297			mg/L					4	10

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 440-32250/1-A Matrix: Water Analysis Batch: 32263							Client Sa	mple ID: Metho Prep Type: ⁻ Prep Bato	Total/NA
	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	3.0	ug/L		06/12/12 09:08	06/12/12 09:47	1

Method: SM 4500 CN E - Cyanide, Total (Low Level) (Continued)

Lab Sample ID: LCS 440-322 Matrix: Water	250/2-A						Client	t Sample	D: Lab C	ontrol S Type: To	
Analysis Batch: 32263			Spike	1.09	LCS				%Rec.	Batch:	32230
Analista			Added		Qualifier	Unit	D	%Rec	Limits		
Analyte					Quaimer		U				
Cyanide, Total			100	97.3		ug/L		97	90 - 110		
 Lab Sample ID: 440-14055-A	-3-A MS							Client	Sample ID	: Matrix	Spike
Matrix: Water									Prep ⁻	Гуре: То	tal/NA
Analysis Batch: 32263									Prep	Batch:	32250
	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Cyanide, Total	ND		100	98.5		ug/L		99	70 - 115		
 Lab Sample ID: 440-14055-A	-3-B MSD						Client S	ample IC	D: Matrix S	pike Du	olicate
Matrix: Water										Гуре: То	
Analysis Batch: 32263									Prep	Batch:	32250
-	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Cyanide, Total	ND		100	104		ug/L		104	70 - 115	6	15

Method: SM 4500 NH3 C - Ammonia

Lab Sample ID: MB 440-32708/ Matrix: Water	/1-A										Client Sa	ample ID: Metho Prep Type:	
Analysis Batch: 32726												Prep Batc	
		MB MB											
Analyte	Re	esult Qualifier		RL		MDL	Unit		D	Ρ	repared	Analyzed	Dil Fac
Ammonia (as N)		ND		0.400	(0.157	mg/L			06/1	3/12 18:20	06/13/12 20:00	1
- Lab Sample ID: LCS 440-32708	3/ 2-A								CI	ient	Sample	ID: Lab Control	Sample
Matrix: Water												Prep Type:	
Analysis Batch: 32726												Prep Batc	
-			Spike		LCS	LCS						%Rec.	
Analyte			Added		Result	Qual	lifier	Unit		D	%Rec	Limits	
Ammonia (as N)			10.0		9.240			mg/L		_	92	85 - 115	
- Lab Sample ID: 440-13817-E-1	-A MS										Client S	Sample ID: Mati	ix Spike
Matrix: Water												Prep Type:	Total/NA
Analysis Batch: 32726												Prep Batc	h: 32708
-	Sample	Sample	Spike		MS	MS						%Rec.	
Analyte	Result	Qualifier	Added		Result	Qual	lifier	Unit		D	%Rec	Limits	
Ammonia (as N)	0.280	J,DX	10.0		10.08			mg/L			98	70 - 120	
Lab Sample ID: 440-13817-E-1	-B MSD								Clien	nt Sa	ample ID:	: Matrix Spike D	uplicate
Matrix: Water												Prep Type:	-

Analysis Batch: 32726								Pre	p Batch:	32708
	Sample	Sample	Spike	MSD	MSD			%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	%Rec	Limits	RPD	Limit
Ammonia (as N)	0.280	J,DX	10.0	9.520		mg/L	 92	70 - 120	6	15

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 440-32047/7 Matrix: Water Analysis Batch: 32047								Client S	Sample ID: M Prep Ty		
		MB MB									
Analyte	R	esult Qualifier		RL	MDL Un	it	D F	Prepared	Analyze	d	Dil Fac
Total Organic Carbon		ND		1.0	0.75 mg	ı/L			06/11/12 0	8:14	1
Lab Sample ID: LCS 440-32047/6							Clien	t Sample	e ID: Lab Co	ntrol S	ample
Matrix: Water									Prep Ty	pe: To	tal/NA
Analysis Batch: 32047										-	
			Spike	LC	S LCS				%Rec.		
Analyte			Added	Resu	lt Qualifier	r Unit	D	%Rec	Limits		
Total Organic Carbon			10.0	10.	1	mg/L		101	90 - 110		
Lab Sample ID: 440-14031-A-1 MS								Client	Sample ID:	Matrix	Spike
Matrix: Water									· Prep Ty		
Analysis Batch: 32047										·	
	Sample	Sample	Spike	м	S MS				%Rec.		
Analyte	Result	Qualifier	Added	Resu	lt Qualifier	r Unit	D	%Rec	Limits		
Total Organic Carbon	7.1		5.00	12.	1	mg/L		100	80 - 120		
Lab Sample ID: 440-14031-A-1 MSE)						Client S	ample II	D: Matrix Spi	ike Duj	olicate
Matrix: Water									· Prep Ty		
Analysis Batch: 32047											
-	Sample	Sample	Spike	MS	D MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Resu	lt Qualifier	r Unit	D	%Rec	Limits	RPD	Limit
Total Organic Carbon	7.1		5.00	12	2	mg/L		101	80 - 120	0	20

Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 440-31783/3												Client S	ample ID: Metho	od Blank
Matrix: Water													Prep Type:	Total/NA
Analysis Batch: 31783														
		MB	МВ											
Analyte	R	esult	Qualifier		RL		MDL	Unit		D	Pi	repared	Analyzed	Dil Fac
Methylene Blue Active Substances		ND			0.10	(0.050	mg/L					06/08/12 20:40	
Lab Sample ID: LCS 440-31783/4										Cli	ent	Sample	ID: Lab Control	Sample
Matrix: Water													Prep Type:	Total/NA
Analysis Batch: 31783														
-				Spike		LCS	LCS						%Rec.	
Analyte				Added		Result	Qual	lifier	Unit		D	%Rec	Limits	
Methylene Blue Active				0.250		0.257			mg/L			103	90 - 110	
Substances														
Lab Sample ID: 440-14006-1 MS												Clier	nt Sample ID: Ou	itfall 019
Matrix: Water													Prep Type:	Total/NA
Analysis Batch: 31783														
	Sample	Samp	le	Spike		MS	MS						%Rec.	
Analyte	Result	Qualit	fier	Added		Result	Qual	lifier	Unit		D	%Rec	Limits	
Methylene Blue Active	ND			0.250		0.231			mg/L			92	50 - 125	
Substances														

Lab Sample ID: 440-14006-1 MSD

Matrix: Water

Method: SM 5540C - Methylene Blue Active Substances (MBAS) (Continued)

2 3 4 5 6 7 8 9

Client Sample ID: Outfall 019 Prep Type: Total/NA

Analysis Batch: 31783											
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Methylene Blue Active	ND		0.250	0.234		mg/L		94	50 _ 125	1	20
Substances											

Method: SM5210B - BOD, 5 Day

Lab Sample ID: USB 440-31687/1 USB Matrix: Water											Client S	Sample ID: N Prep Ty		
Analysis Batch: 31687														
	USB	USB												
Analyte	Result	Qualifier		RL		MDL	Unit		D	Pi	repared	Analyze	d	Dil Fac
Biochemical Oxygen Demand	ND			2.0		0.50	mg/L					06/08/12 1	0:00	1
 Lab Sample ID: LCS 440-31687/4									Cli	ent	Sample	ID: Lab Co	ntrol S	ample
Matrix: Water												Prep Ty	pe: To	tal/NA
Analysis Batch: 31687													· .	
			Spike		LCS	LCS						%Rec.		
Analyte			Added		Result	Qua	ifier	Unit		D	%Rec	Limits		
Biochemical Oxygen Demand			199		199			mg/L			100	85 - 115		
Lab Sample ID: LCSD 440-31687/5								С	lient S	am	ple ID:	Lab Control	Samp	le Dup
Matrix: Water												Prep Ty	pe: To	tal/NA
Analysis Batch: 31687													·	
-			Spike		LCSD	LCS	D					%Rec.		RPD
Analyte			Added		Result	Qua	ifier	Unit		D	%Rec	Limits	RPD	Limit
Biochemical Oxygen Demand			199		211			mg/L		_	106	85 - 115	6	20

Method: Gross Alpha and Beta - Gross Alpha/Beta

Lab Sample ID: S206035-04							Client Sa	mple ID: Metho	d Blank
Matrix: WATER								Prep Type: T	otal/NA
Analysis Batch: 8617								Prep Batch:	8617_P
	Blank	Blank							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cesium-137	-2.3	U	20		pCi/L		06/14/12 00:00	06/14/12 00:00	1
Potassium-40	-14.5	U	25		pCi/L		06/14/12 00:00	06/14/12 00:00	1
Lab Sample ID: S206035-04							Client Sa	mple ID: Metho	d Blank
Matrix: WATER								Prep Type: 1	otal/NA
Analysis Batch: 8617								Prep Batch:	8617_P
-	Blank	Blank							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gross Alpha	0.035	<u> </u>	3		pCi/L		06/18/12 00:00	06/19/12 15:59	1
Gross Beta	0.009	U	4		pCi/L		06/18/12 00:00	06/19/12 15:59	1
Lab Sample ID: S206035-04							Client Sa	mple ID: Metho	d Blank
Matrix: WATER								Prep Type: 1	otal/NA
Analysis Batch: 8617								Prep Batch:	8617 P
-	Blank	Blank							_
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Strontium-90	0.042	<u> </u>	2		pCi/L		06/25/12 00:00	06/25/12 09:24	1

Method: Gross Alpha and Beta - Gross Alpha/Beta (Continued)

Lab Sample ID: S206035-04											Client Sa	ample ID: Meth	
Matrix: WATER												Prep Type:	
Analysis Batch: 8617	Blank	Blank										Prep Batch	1: 8617_P
Analyta		Qualifier		ы		MDI	Unit		•	Б	repored	Analyzad	Dil Fac
Analyte Radium-228	-0.025			RL 1			pCi/L		D		repared 5/12 00:00	Analyzed	- <u>Dii Fac</u> 1
Radium-228	-0.025	U		ľ			pCI/L			06/2	5/12 00:00	06/25/12 15:29	1
											Client Sa	ample ID: Meth	od Blank
Matrix: WATER												Prep Type:	Total/NA
Analysis Batch: 8617												Prep Batch	n: 8617_P
-	Blank	Blank										-	
Analyte	Result	Qualifier		RL		MDL	Unit		D	Р	repared	Analyzed	Dil Fac
Uranium, Total	0	U		1			pCi/L			06/2	6/12 00:00	06/26/12 00:00	1
_ Lab Sample ID: S206035-04											Client Sa	ample ID: Meth	od Blank
Matrix: WATER												Prep Type:	
Analysis Batch: 8617												Prep Batch	
Analysis Datch. 0017	Blank	Blank										Thep Dater	
Analyte		Qualifier		RL		MDL	Unit		D	Р	repared	Analyzed	Dil Fac
Radium-226	0.064			1			pCi/L				6/12 00:00	06/26/12 13:09	1
_													
Lab Sample ID: S206035-04											Client Sa	ample ID: Meth	
Matrix: WATER												Prep Type:	
Analysis Batch: 8617												Prep Batch	n: 8617_P
		Blank							_	_			
Analyte		Qualifier		RL		MDL	Unit				repared	Analyzed	Dil Fac
Tritium	-23.1	U		500			pCi/L			06/2	5/12 00:00	06/28/12 07:26	1
 Lab Sample ID: S206035-03									С	lient	Sample	ID: Lab Contro	ol Sample
Matrix: WATER												Prep Type:	
Analysis Batch: 8617												Prep Batch	
· · · · · · · · · · · · · · · · · · ·			Spike		LCS	LCS						%Rec.	
Analyte			Added		Result	Qua	lifier	Unit		D	%Rec	Limits	
Cesium-137			146		140			pCi/L			96	80 - 120	
Cobalt-60			127		112			pCi/L			88	80 - 120	
_ Lab Sample ID: S206035-03									C	lient	Sample	ID: Lab Contro	ol Sample
Matrix: WATER									Ŭ	lioni	oumpio	Prep Type:	
Analysis Batch: 8617												Prep Batch	
Analysis Baten. oo n			Spike		LCS	LCS						%Rec.	
Analyte			Added		Result			Unit		D	%Rec	Limits	
Gross Alpha			37		42.5			pCi/L			115	70 - 130	
Gross Beta			34		32.5			pCi/L			96	70 _ 130	
									C	liont	Sample	ID: Lab Contro	
- Lah Sample ID: S206035-03									<u> </u>	nent	Jampie	E. Las contro	n Janipie
– Lab Sample ID: S206035-03 Matrix: WATER											-	Pren Type:	
Matrix: WATER											-	Prep Type: Prep Batch	Total/NA
-			Spike		LCS	LCS					-	Prep Batch	Total/NA
Matrix: WATER			Spike Added		LCS Result	LCS Qual		Unit		D	%Rec		Total/NA

Method: Gross Alpha and Beta - Gross Alpha/Beta (Continued)

Lab Sample ID: S206035-03							Client	Sample	ID: Lab Co		
Matrix: WATER									Prep T	ype: To	tal/N/
Analysis Batch: 8617									Prep E	Batch: 8	617_
			Spike	LCS	LCS				%Rec.		
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits		
Radium-228			5.19	5.07		pCi/L		98	60 - 140		
Lab Sample ID: S206035-03							Client	Sample	D: Lab Co	ontrol S	ampl
Matrix: WATER									Prep T	ype: To	tal/N
Analysis Batch: 8617									Prep E	Batch: 8	617_
			Spike	LCS	LCS				%Rec.		
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits		
Uranium, Total			62.5	61.1		pCi/L		98	80 - 120		
Lab Sample ID: S206035-03							Client	Sample	D: Lab Co	ontrol S	amp
Matrix: WATER									Prep T	ype: To	tal/N
Analysis Batch: 8617									Prep E	Batch: 8	617_
			Spike	LCS	LCS				%Rec.		
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits		
Radium-226			55.7	56.5		pCi/L		101	80 - 120		
Lab Sample ID: S206035-03							Client	Sample	D: Lab Co	ontrol S	amp
Matrix: WATER									Prep T	ype: To	tal/N
Analysis Batch: 8617										Batch: 8	
-			Spike	LCS	LCS				%Rec.		
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits		
Tritium			2190	2170		pCi/L		99	80 - 120		
Lab Sample ID: S206035-05						Client Sa	mnle ID	: OUTF/	ALL 019 (44	IO-14006	.1 D
Matrix: WATER										ype: To	
									Prep T	ype: To Batch: 8	tal/N
	Sample	Sample		Duplicate	Duplicate				Prep T		tal/N 617_
Analysis Batch: 8617		Sample Qualifier		-		Unit	D		Prep T		tal/N 617_ RF
Analysis Batch: 8617 Analyte		Qualifier		-	Duplicate Qualifier		-		Prep T	Batch: 8	tal/N 617_ RP
Analysis Batch: 8617 Analyte Cesium-137	Result	Qualifier		Result	Duplicate Qualifier U	Unit	-		Prep T	Batch: 8	tal/N 617_ RP
Analysis Batch: 8617 Analyte Cesium-137 Potassium-40	Result -0.669	Qualifier		Result -1.49	Duplicate Qualifier U U	Unit pCi/L pCi/L	<u> </u>		Prep T	RPD 0	tal/N 617_ RF Lin
Analysis Batch: 8617 Analyte Cesium-137 Potassium-40 Lab Sample ID: S206035-05	Result -0.669	Qualifier		Result -1.49	Duplicate Qualifier U U	Unit pCi/L pCi/L	<u> </u>		Prep T Prep E ALL 019 (44 Prep T	RPD 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	tal/N 617_ RF Lin 6-1 D tal/N
Analysis Batch: 8617 Analyte Cesium-137 Potassium-40 Lab Sample ID: S206035-05 Matrix: WATER	Result -0.669 -7.29	Qualifier U U		Result -1.49 -5.22	Duplicate Qualifier U U	Unit pCi/L pCi/L	<u> </u>		Prep T Prep E ALL 019 (44 Prep T	RPD 0 0 0 0	tal/N 617_ RP Lim 617_ 617_
Analysis Batch: 8617 Analyte Cesium-137 Potassium-40 Lab Sample ID: S206035-05 Matrix: WATER	Result -0.669 -7.29 Sample	Qualifier U U Sample		Result -1.49 -5.22 Duplicate	Duplicate Qualifier U U	Unit pCi/L pCi/L	<u> </u>		Prep T Prep E ALL 019 (44 Prep T	Batch: 8 RPD 0 0 0 0 0 0 0 0 0 0 0 0 0	tal/N, 617_ RP Lim 6-1 D tal/N, 617_
Analysis Batch: 8617 Analyte Cesium-137 Potassium-40 Lab Sample ID: S206035-05 Matrix: WATER Analysis Batch: 8617 Analyte	Result -0.669 -7.29 Sample Result	Qualifier U U Sample Qualifier		Result -1.49 -5.22 Duplicate Result	Duplicate Qualifier U U Duplicate Qualifier	Unit pCi/L pCi/L Client Sar	<u> </u>		Prep T Prep E ALL 019 (44 Prep T	RPD 0	tal/N, 617_ RP Lim 5-1 D tal/N, 617_ RP
Analysis Batch: 8617 Analyte Cesium-137 Potassium-40 Lab Sample ID: S206035-05 Matrix: WATER Analysis Batch: 8617 Analyte	Result -0.669 -7.29 Sample	Qualifier U U Sample Qualifier		Result -1.49 -5.22 Duplicate	Duplicate Qualifier U U Duplicate Qualifier	Unit pCi/L pCi/L Client Sar	Dmple ID		Prep T Prep E ALL 019 (44 Prep T	Batch: 8 RPD 0 0 0 0 0 0 0 0 0 0 0 0 0	tal/N 617_ RP Lim 5-1 D tal/N 617_ RP
Analysis Batch: 8617 Analyte Cesium-137 Potassium-40 Lab Sample ID: S206035-05 Matrix: WATER Analysis Batch: 8617 Analyte Gross Alpha	Result -0.669 -7.29 Sample Result	Qualifier U U Sample Qualifier U		Result -1.49 -5.22 Duplicate Result	Duplicate Qualifier U U Duplicate Qualifier U	Unit pCi/L pCi/L Client Sar	Dmple ID		Prep T Prep E ALL 019 (44 Prep T	RPD 0	tal/N 617_ RP Lim 5-1 D tal/N 617_ RP
Analysis Batch: 8617 Analyte Cesium-137 Potassium-40 Lab Sample ID: S206035-05 Matrix: WATER Analysis Batch: 8617 Analyte Gross Alpha Gross Beta	Result -0.669 -7.29 Sample Result -0.149	Qualifier U U Sample Qualifier U		Result -1.49 -5.22 Duplicate Result 0.248	Duplicate Qualifier U U U Duplicate Qualifier U J	Unit pCi/L pCi/L Client Sau Unit pCi/L pCi/L	D mple ID D		Prep T Prep E ALL 019 (44 Prep T	RPD 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 3atch: 8 8 0 29	tal/N 617_ RP Lin 5-1 D tal/N 617_ RP Lin
Analysis Batch: 8617 Analyte Cesium-137 Potassium-40 Lab Sample ID: S206035-05 Matrix: WATER Analysis Batch: 8617 Analyte Gross Alpha Gross Beta Lab Sample ID: S206035-05	Result -0.669 -7.29 Sample Result -0.149	Qualifier U U Sample Qualifier U		Result -1.49 -5.22 Duplicate Result 0.248	Duplicate Qualifier U U U Duplicate Qualifier U J	Unit pCi/L pCi/L Client Sau Unit pCi/L pCi/L	D mple ID D		Prep T Prep E ALL 019 (44 Prep T Prep E	RPD 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 3atch: 8 8 0 29	tal/N. 617_ RP Lim 5-1 D tal/N. 617_ RP Lim
Analysis Batch: 8617 Analyte Cesium-137 Potassium-40 Lab Sample ID: S206035-05 Matrix: WATER Analysis Batch: 8617 Analyte Gross Alpha Gross Beta Lab Sample ID: S206035-05 Matrix: WATER	Result -0.669 -7.29 Sample Result -0.149	Qualifier U U Sample Qualifier U		Result -1.49 -5.22 Duplicate Result 0.248	Duplicate Qualifier U U U Duplicate Qualifier U J	Unit pCi/L pCi/L Client Sau Unit pCi/L pCi/L	D mple ID D		Prep T Prep E ALL 019 (44 Prep T Prep E ALL 019 (44 Prep T	RPD 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 3atch: 8 8 0 29 0 -14006	tal/N. 617_ RP Lim 5-1 D tal/N. 617_ RP Lim 5-1 D tal/N.
Potassium-40 Lab Sample ID: S206035-05 Matrix: WATER Analysis Batch: 8617 Analyte Gross Alpha Gross Beta	Result -0.669 -7.29 Sample Result -0.149 1.54 Sample	Qualifier U U Sample Qualifier U U Sample		Result -1.49 -5.22 Duplicate Result 0.248 2.07 Duplicate	Duplicate Qualifier U U Duplicate Qualifier U J	Unit pCi/L pCi/L Client Sau Unit pCi/L pCi/L	D mple ID D		Prep T Prep E ALL 019 (44 Prep T Prep E ALL 019 (44 Prep T	RPD 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 29 0 14006 0 29 0 14006 0 29	tal/N/ 617_I RPI Lim 617_I Lim 617_I Lim 617_I 617_I
Analysis Batch: 8617 Analyte Cesium-137 Potassium-40 Lab Sample ID: S206035-05 Matrix: WATER Analysis Batch: 8617 Analyte Gross Alpha Gross Beta Lab Sample ID: S206035-05 Matrix: WATER	Result -0.669 -7.29 Sample Result -0.149 1.54 Sample	Qualifier U U Sample Qualifier U U Sample Qualifier		Result -1.49 -5.22 Duplicate Result 0.248 2.07 Duplicate	Duplicate Qualifier U U Duplicate Qualifier U J Duplicate Qualifier	Unit pCi/L pCi/L Client Sau Unit pCi/L pCi/L	D mple ID D		Prep T Prep E ALL 019 (44 Prep T Prep E ALL 019 (44 Prep T	RPD 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 29 0 14006 0 29 0 14006 0 29	tal/N/ 617_I RPI Lim 617_I Lim 617_I RPI Lim

Method: Gross Alpha and Beta - Gross Alpha/Beta (Continued)

Lab Sample ID: S206035-05					Client Sar	nple ID: OU1	FALL 019 (440-14006-	1 DU
Matrix: WATER						· · · ·	Prep Type: Tota	I/NA
Analysis Batch: 8617							Prep Batch: 86	17_P
	Sample	Sample	Duplicate	Duplicate				RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RPD	Limit
Radium-228	0.136	<u> </u>	0.075	U	pCi/L		0	
Lab Sample ID: S206035-05					Client Sar	nple ID: OU1	FALL 019 (440-14006-	
Matrix: WATER							Prep Type: Tota	
Analysis Batch: 8617							Prep Batch: 86	_
	-	Sample		Duplicate				RPD
Analyte	Result	Qualifier		Qualifier	Unit	<u>D</u>	RPD	Limit
Uranium, Total	0.036	J	0.03	J	pCi/L		18	
Γ								
Lab Sample ID: S206035-05					Client Sar	nple ID: OUT	FALL 019 (440-14006-	
Matrix: WATER							Prep Type: Tota	
Analysis Batch: 8617							Prep Batch: 86	
	-	Sample		Duplicate				RPD
Analyte		Qualifier		Qualifier	Unit	D	RPD	Limit
Radium-226	0.566							
	0.500	J	0.439	U	pCi/L		25	
	0.000	J	0.439		i -			
Lab Sample ID: S206035-05	0.000	J	0.439		i -	nple ID: OU1	FALL 019 (440-14006-	
Matrix: WATER	0.000	J	0.439		i -	nple ID: OU1	FALL 019 (440-14006- Prep Type: Tota	I/NA
				(i -	nple ID: OU1	FALL 019 (440-14006-	I/NA 17_P
Matrix: WATER Analysis Batch: 8617	Sample	Sample	Duplicate	Duplicate	Client Sar	nple ID: OU1	IFALL 019 (440-14006- Prep Type: Tota Prep Batch: 86′	I/NA 17_P RPD
Matrix: WATER	Sample	Sample Qualifier	Duplicate	Duplicate Qualifier	i -	nple ID: OU1	FALL 019 (440-14006- Prep Type: Tota	I/NA 17_P

GC/MS VOA

Analysis Batch: 33234

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-13774-D-1 MS	Matrix Spike	Total/NA	Water	624	
440-13774-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	624	
440-13854-1	Outfall 019	Total/NA	Water	624	
440-13854-2	Trip Blanks	Total/NA	Water	624	
LCS 440-33234/5	Lab Control Sample	Total/NA	Water	624	
MB 440-33234/4	Method Blank	Total/NA	Water	624	

GC/MS Semi VOA

Prep Batch: 32450

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
440-14006-1	Outfall 019	Total/NA	Water	625	
LCS 440-32450/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 440-32450/3-A	Lab Control Sample Dup	Total/NA	Water	625	
MB 440-32450/1-A	Method Blank	Total/NA	Water	625	

Analysis Batch: 32992

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
440-14006-1	Outfall 019	Total/NA	Water	625	32450
LCS 440-32450/2-A	Lab Control Sample	Total/NA	Water	625	32450
LCSD 440-32450/3-A	Lab Control Sample Dup	Total/NA	Water	625	32450
MB 440-32450/1-A	Method Blank	Total/NA	Water	625	32450

GC Semi VOA

Prep Batch: 31914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-13922-A-1-A MS	Matrix Spike	Total/NA	Water	608	
440-13922-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	608	
440-14006-1	Outfall 019	Total/NA	Water	608	
LCS 440-31914/2-A	Lab Control Sample	Total/NA	Water	608	
MB 440-31914/1-A	Method Blank	Total/NA	Water	608	

Analysis Batch: 32000

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
440-13922-A-1-A MS	Matrix Spike	Total/NA	Water	608 Pesticides	31914
440-13922-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	608 Pesticides	31914
440-14006-1	Outfall 019	Total/NA	Water	608 Pesticides	31914
LCS 440-31914/2-A	Lab Control Sample	Total/NA	Water	608 Pesticides	31914
MB 440-31914/1-A	Method Blank	Total/NA	Water	608 Pesticides	31914

HPLC/IC

Analysis Batch: 31286

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
440-13943-A-2 MS	Matrix Spike	Total/NA	Water	300.0	
440-13943-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
440-14006-1	Outfall 019	Total/NA	Water	300.0	
LCS 440-31286/3	Lab Control Sample	Total/NA	Water	300.0	
MB 440-31286/2	Method Blank	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 31287

ab Sample ID.	Client Sample ID	Prep Type	Matrix	Method	Prep Batc
40-13943-A-2 MS	Matrix Spike	Total/NA	Water	300.0	
40-13943-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
40-14006-1	Outfall 019	Total/NA	Water	300.0	
CS 440-31287/3	Lab Control Sample	Total/NA	Water	300.0	
MB 440-31287/2	Method Blank	Total/NA	Water	300.0	
nalysis Batch: 31949					
_ab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batc
440-13823-F-1 MS	Matrix Spike	Total/NA	Water	314.0	
440-13823-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	
440-14006-1	Outfall 019	Total/NA	Water	314.0	
_CS 440-31949/4	Lab Control Sample	Total/NA	Water	314.0	
MB 440-31949/5	Method Blank	Total/NA	Water	314.0	
MRL 440-31949/2 MRL	Lab Control Sample	Total/NA	Water	314.0	

Analysis Batch: 2165070

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
440-14006-1	Outfall 019	Total	Water	1613B	
G2F130000070B	Method Blank	Total	Water	1613B	
G2F130000070C	Lab Control Sample	Total	Water	1613B	
Prep Batch: 2165070_P					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-14006-1	Outfall 019	Total	Water	3542	
G2F130000070B	Method Blank	Total	Water	3542	
G2F130000070C	Lab Control Sample	Total	Water	3542	

Metals

Prep Batch: 31758

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
440-14006-1	Outfall 019	Dissolved	Water	245.1	
440-14006-1 MS	Outfall 019	Dissolved	Water	245.1	
440-14006-1 MSD	Outfall 019	Dissolved	Water	245.1	
LCS 440-31679/2-B	Lab Control Sample	Dissolved	Water	245.1	
MB 440-31679/1-B	Method Blank	Dissolved	Water	245.1	
Prep Batch: 31759					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-13987-C-1-B MS	Matrix Spike	Total/NA	Water	245.1	
440-13987-C-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

	•			
440-13987-C-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1
440-14006-1	Outfall 019	Total/NA	Water	245.1
LCS 440-31759/2-A	Lab Control Sample	Total/NA	Water	245.1
MB 440-31759/1-A	Method Blank	Total/NA	Water	245.1

Analysis Batch: 32155

Lab Sample ID	Client Sample ID	Prep Туре	Matrix	Method F	Prep Batch
440-13987-C-1-B MS	Matrix Spike	Total/NA	Water	245.1	31759
440-13987-C-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	31759
440-14006-1	Outfall 019	Dissolved	Water	245.1	31758

Metals (Continued)

LCS 440-31679/2-D

Lab Control Sample

Analysis Batch: 32155 (Continued)

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
440-14006-1	Outfall 019	Total/NA	Water	245.1	3175
440-14006-1 MS	Outfall 019	Dissolved	Water	245.1	3175
440-14006-1 MSD	Outfall 019	Dissolved	Water	245.1	3175
LCS 440-31679/2-B	Lab Control Sample	Dissolved	Water	245.1	3175
LCS 440-31759/2-A	Lab Control Sample	Total/NA	Water	245.1	3175
MB 440-31679/1-B	Method Blank	Dissolved	Water	245.1	3175
MB 440-31759/1-A	Method Blank	Total/NA	Water	245.1	3175
rep Batch: 32454					
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batc
440-14006-1	Outfall 019	Dissolved	Water	200.2	
440-14010-A-1-E MS	Matrix Spike	Dissolved	Water	200.2	
440-14010-A-1-F MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	
LCS 440-31679/2-D	Lab Control Sample	Dissolved	Water	200.2	
MB 440-31679/1-D	Method Blank	Dissolved	Water	200.2	
rep Batch: 32455					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batc
440-14006-1	Outfall 019	Dissolved	Water	200.2	
LCS 440-31679/2-E	Lab Control Sample	Dissolved	Water	200.2	
LCSD 440-31679/11-B	Lab Control Sample Dup	Dissolved	Water	200.2	
MB 440-31679/1-E	Method Blank	Dissolved	Water	200.2	
rep Batch: 32585					
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batc
440-14006-1	Outfall 019	Total Recoverable	Water	200.2	
440-14006-1 MS	Outfall 019	Total Recoverable	Water	200.2	
440-14006-1 MSD	Outfall 019	Total Recoverable	Water	200.2	
LCS 440-32585/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
MB 440-32585/1-A	Method Blank	Total Recoverable	Water	200.2	
nalysis Batch: 32803					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batc
440-14006-1	Outfall 019	Dissolved	Water	200.8	3245
LCS 440-31679/2-E	Lab Control Sample	Dissolved	Water	200.8	3245
LCSD 440-31679/11-B	Lab Control Sample Dup	Dissolved	Water	200.8	3245
MB 440-31679/1-E	Method Blank	Dissolved	Water	200.8	3245
rep Batch: 32948					
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batc
440-14006-1	Outfall 019	Total Recoverable	Water	200.2	
440-14006-1 MS	Outfall 019	Total Recoverable	Water	200.2	
440-14006-1 MSD	Outfall 019	Total Recoverable	Water	200.2	
LCS 440-32948/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
MB 440-32948/1-A	Method Blank	Total Recoverable	Water	200.2	
nalysis Batch: 33248					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batc
440-14006-1	Outfall 019	Dissolved	Water	200.7 Rev 4.4	3245
440-14010-A-1-E MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	3245
440-14010-A-1-F MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	3245
LCC 440 21670/2 D	Lab Control Comple			200 7 Day 4.4	2045

32454

200.7 Rev 4.4

Dissolved

Water

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Metals (Continued)

USB 440-31687/1 USB

Method Blank

	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batc
MB 440-31679/1-D	Method Blank	Dissolved	Water	200.7 Rev 4.4	3245
nalysis Batch: 3333	В				
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batc
440-14006-1	Outfall 019	Total Recoverable	Water	200.7 Rev 4.4	3258
440-14006-1 MS	Outfall 019	Total Recoverable	Water	200.7 Rev 4.4	3258
440-14006-1 MSD	Outfall 019	Total Recoverable	Water	200.7 Rev 4.4	3258
LCS 440-32585/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	3258
MB 440-32585/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	3258
nalysis Batch: 3362	D				
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Bato
440-14006-1	Outfall 019	Total Recoverable	Water	200.8	3294
440-14006-1 MS	Outfall 019	Total Recoverable	Water	200.8	3294
440-14006-1 MSD	Outfall 019	Total Recoverable	Water	200.8	3294
LCS 440-32948/2-A	Lab Control Sample	Total Recoverable	Water	200.8	3294
MB 440-32948/1-A	Method Blank	Total Recoverable	Water	200.8	3294
nalysis Batch: 3412	2				
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Bate
440-14006-1	Outfall 019	Total Recoverable	Water	200.8	3294
440-14006-1 MS	Outfall 019	Total Recoverable	Water	200.8	3294
440-14006-1 MSD	Outfall 019	Total Recoverable	Water	200.8	3294
LCS 440-32948/2-A	Lab Control Sample	Total Recoverable	Water	200.8	3294
MB 440-32948/1-A	Method Blank	Total Recoverable	Water	200.8	3294
nalysis Batch: 3138	2				
	2 Client Sample ID	Ргер Туре	Matrix	Method	Prep Bate
Lab Sample ID		Prep Type Total/NA	Matrix Water	Method SM 2540F	Prep Bato
Lab Sample ID 440-13854-1	Client Sample ID Outfall 019				Prep Bate
Lab Sample ID 440-13854-1 nalysis Batch: 3154	Client Sample ID Outfall 019				
Lab Sample ID 440-13854-1 nalysis Batch: 3154 Lab Sample ID	Client Sample ID Outfall 019	Total/NA	Water	SM 2540F	
Lab Sample ID 440-13854-1 nalysis Batch: 31544 Lab Sample ID 440-13981-E-1 DU	Client Sample ID Outfall 019 Client Sample ID Client Sample ID	Total/NA Prep Type Total/NA Total/NA	Water Matrix	SM 2540F Method SM 2540C SM 2540C	
Lab Sample ID 440-13854-1 nalysis Batch: 3154 Lab Sample ID 440-13981-E-1 DU 440-14006-1	Client Sample ID Outfall 019 Client Sample ID Duplicate	Total/NA Prep Type Total/NA	Water Matrix Water	SM 2540F Method SM 2540C	
Lab Sample ID 440-13854-1 nalysis Batch: 31544 Lab Sample ID 440-13981-E-1 DU 440-14006-1 LCS 440-31545/2	Client Sample ID Outfall 019 5 Client Sample ID Duplicate Outfall 019	Total/NA Prep Type Total/NA Total/NA	Water Matrix Water Water	SM 2540F Method SM 2540C SM 2540C	
Lab Sample ID 440-13854-1 nalysis Batch: 31544 Lab Sample ID 440-13981-E-1 DU 440-14006-1 LCS 440-31545/2 MB 440-31545/1	Client Sample ID Outfall 019 5 Client Sample ID Duplicate Outfall 019 Lab Control Sample Method Blank	Total/NA Prep Type Total/NA Total/NA Total/NA Total/NA	Water Matrix Water Water Water	SM 2540F Method SM 2540C SM 2540C SM 2540C SM 2540C	
Lab Sample ID 440-13854-1 nalysis Batch: 31544 Lab Sample ID 440-13981-E-1 DU 440-14006-1 LCS 440-31545/2 MB 440-31545/1 nalysis Batch: 3165 Lab Sample ID	Client Sample ID Outfall 019 Client Sample ID Duplicate Outfall 019 Lab Control Sample Method Blank Client Sample ID	Total/NA Prep Type Total/NA Total/NA Total/NA Total/NA Total/NA Prep Type	Water Matrix Water Water Water Water Matrix	SM 2540F Method SM 2540C	Prep Bate
Lab Sample ID 440-13854-1 nalysis Batch: 31544 Lab Sample ID 440-13981-E-1 DU 440-14006-1 LCS 440-31545/2 MB 440-31545/1 nalysis Batch: 31654 Lab Sample ID 440-13943-A-4 DU	Client Sample ID Outfall 019 5 Client Sample ID Duplicate Outfall 019 Lab Control Sample Method Blank 5 Client Sample ID Duplicate	Total/NA Prep Type Total/NA	Water Matrix Water Water Water Water	SM 2540F Method SM 2540C	Prep Bato
Lab Sample ID 440-13854-1 nalysis Batch: 31544 Lab Sample ID 440-13981-E-1 DU 440-14006-1 LCS 440-31545/2 MB 440-31545/1 nalysis Batch: 31654 Lab Sample ID 440-13943-A-4 DU 440-14006-1	Client Sample ID Outfall 019 5 Client Sample ID Duplicate Outfall 019 Lab Control Sample Method Blank 5 Client Sample ID Duplicate Outfall 019	Total/NA Prep Type Total/NA	Water Matrix Water Water Water Water Matrix	SM 2540F Method SM 2540C	Prep Bato
Lab Sample ID 440-13854-1 nalysis Batch: 31544 Lab Sample ID 440-13981-E-1 DU 440-14006-1 LCS 440-31545/2 MB 440-31545/1 nalysis Batch: 31654 Lab Sample ID 440-13943-A-4 DU 440-14006-1	Client Sample ID Outfall 019 5 Client Sample ID Duplicate Outfall 019 Lab Control Sample Method Blank 5 Client Sample ID Duplicate	Total/NA Prep Type Total/NA	Water Matrix Water Water Water Water Matrix Water	SM 2540F Method SM 2540C	Prep Bato
Lab Sample ID 440-13854-1 analysis Batch: 31544 Lab Sample ID 440-13981-E-1 DU 440-13981-E-1 DU 440-13981-E-1 DU 440-13545/2 MB 440-31545/2 MB 440-31545/1 Lab Sample ID 440-13943-A-4 DU 440-14006-1 MB 440-31655/6	Client Sample ID Outfall 019 5 Client Sample ID Duplicate Outfall 019 Lab Control Sample Method Blank 5 Client Sample ID Duplicate Outfall 019	Total/NA Prep Type Total/NA	Water Matrix Water Water Water Water Matrix Water Water	SM 2540F Method SM 2540C	Prep Bato
Lab Sample ID 440-13854-1 nalysis Batch: 31544 Lab Sample ID 440-13981-E-1 DU 440-14006-1 LCS 440-31545/2 MB 440-31545/1 nalysis Batch: 31655 Lab Sample ID 440-13943-A-4 DU 440-13943-A-4 DU 440-13055/6 MRL 440-31655/3 MRL	Client Sample ID Outfall 019 Client Sample ID Duplicate Outfall 019 Lab Control Sample Method Blank Client Sample ID Duplicate Outfall 019 Method Blank Lab Control Sample	Total/NA Prep Type Total/NA Total/NA Total/NA Total/NA Prep Type Total/NA Total/NA Total/NA	Water Matrix Water Water Water Water Matrix Water	SM 2540F Method SM 2540C SM 2540C SM 2540C SM 2540C SM 2540C Method 180.1 180.1 180.1	Prep Bato
Lab Sample ID 440-13854-1 nalysis Batch: 31544 Lab Sample ID 440-13981-E-1 DU 440-13981-E-1 DU 440-13981-E-1 DU 440-13981-E-1 DU 440-13981-E-1 DU 440-131545/2 MB 440-31545/1 nalysis Batch: 31654 MRL 440-31655/6 MRL 440-31655/3 MRL nalysis Batch: 3168	Client Sample ID Outfall 019 Client Sample ID Duplicate Outfall 019 Lab Control Sample Method Blank Client Sample ID Duplicate Outfall 019 Method Blank Lab Control Sample	Total/NA Prep Type Total/NA Prep Type Prep Type	Water Matrix Water Water Water Water Matrix Water	SM 2540F Method SM 2540C SM 2540C SM 2540C SM 2540C SM 2540C Method 180.1 180.1 180.1	Prep Bato
Lab Sample ID 440-13854-1 malysis Batch: 31544 Lab Sample ID 440-13981-E-1 DU 440-13981-E-1 DU 440-13981-E-1 DU 440-13981-E-1 DU 440-13981-E-1 DU 440-31545/2 MB 440-31545/1 malysis Batch: 31654 MRL 440-31655/6 MRL 440-31655/6 MRL 440-31655/3 MRL malysis Batch: 3168 Lab Sample ID	Client Sample ID Outfall 019 5 Client Sample ID Duplicate Outfall 019 Lab Control Sample Method Blank 5 Client Sample ID Duplicate Outfall 019 Method Blank Lab Control Sample	Total/NA Prep Type Total/NA	Water Matrix Water Water Water Water Matrix Water	SM 2540F Method SM 2540C SM 2540C	Prep Bato
	Client Sample ID Outfall 019 Client Sample ID Duplicate Outfall 019 Lab Control Sample Method Blank Client Sample ID Duplicate Outfall 019 Method Blank Lab Control Sample Client Sample ID	Total/NA Prep Type Total/NA Prep Type Prep Type	Water Matrix Water Water	SM 2540F Method SM 2540C SM 2540C SM 2540C SM 2540C SM 2540C SM 2540C Method 180.1 180.1 180.1 180.1 Method	Prep Bato

SM5210B

Total/NA

Water

General Chemistry (Continued)

Analysis Batch: 31765					
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
440-14000-A-2 DU	Duplicate	Total/NA	Water	SM 2540D	
440-14006-1	Outfall 019	Total/NA	Water	SM 2540D	
LCS 440-31765/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 440-31765/1	Method Blank	Total/NA	Water	SM 2540D	
Analysis Batch: 31783					
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
440-14006-1	Outfall 019	Total/NA	Water	SM 5540C	
440-14006-1 MS	Outfall 019	Total/NA	Water	SM 5540C	
440-14006-1 MSD	Outfall 019	Total/NA	Water	SM 5540C	
LCS 440-31783/4	Lab Control Sample	Total/NA	Water	SM 5540C	
MB 440-31783/3	Method Blank	Total/NA	Water	SM 5540C	
Analysis Batch: 32047					
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
440-14006-1	Outfall 019	Total/NA	Water	SM 5310B	
440-14031-A-1 MS	Matrix Spike	Total/NA	Water	SM 5310B	
440-14031-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	
LCS 440-32047/6	Lab Control Sample	Total/NA	Water	SM 5310B	
MB 440-32047/7	Method Blank	Total/NA	Water	SM 5310B	
- Prep Batch: 32250					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-14006-1	Outfall 019	Total/NA	Water	Distill/CN	
440-14055-A-3-A MS	Matrix Spike	Total/NA	Water	Distill/CN	
440-14055-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	Distill/CN	
LCS 440-32250/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
MB 440-32250/1-A	Method Blank	Total/NA	Water	Distill/CN	
Analysis Batch: 32263					
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
440-14006-1	Outfall 019	Total/NA	Water	SM 4500 CN E	32250
440-14055-A-3-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	32250
440-14055-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	32250
LCS 440-32250/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	32250
MB 440-32250/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	32250
Prep Batch: 32708					
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
440-13817-E-1-A MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 B	
440-13817-E-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 B	
440-14006-1	Outfall 019	Total/NA	Water	SM 4500 NH3 B	
LCS 440-32708/2-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 B	
MB 440-32708/1-A	Method Blank	Total/NA	Water	SM 4500 NH3 B	
Analysis Batch: 32726					
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
440-13817-E-1-A MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 C	32708
440-13817-E-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 C	32708
440-14006-1	Outfall 019	Total/NA	Water	SM 4500 NH3 C	32708
LCS 440-32708/2-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 C	32708
MB 440-32708/1-A	Method Blank	Total/NA	Water	SM 4500 NH3 C	32708

QC Association Summary

General Chemistry (Continued)

Prep Batch: 33063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-13854-1	Outfall 019	Total/NA	Water	1664A	
440-14090-A-1-A MS	Matrix Spike	Total/NA	Water	1664A	
LCS 440-33063/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 440-33063/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	
MB 440-33063/1-A	Method Blank	Total/NA	Water	1664A	
nalysis Batch: 33087					
	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
Lab Sample ID		Prep Type Total/NA	Matrix Water	<u>Method</u> 1664A	
nalysis Batch: 33087 Lab Sample ID 440-13854-1 440-14090-A-1-A MS	Client Sample ID				Prep Batch 33063 33063
Lab Sample ID 140-13854-1 140-14090-A-1-A MS	Client Sample ID Outfall 019	Total/NA	Water	1664A	33063
Lab Sample ID 440-13854-1	Client Sample ID Outfall 019 Matrix Spike	Total/NA Total/NA	Water Water	1664A 1664A	33063

QC Association Summary

Subcontract

Analysis Batch: 8617

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-14006-1	Outfall 019	Total/NA	Water	Gamma Spec	8617_P
				K-40 CS-137	
440-14006-1	Outfall 019	Total/NA	Water	Gross Alpha	8617_P
				and Beta	
440-14006-1	Outfall 019	Total/NA	Water	Radium 226	8617_P
440-14006-1	Outfall 019	Total/NA	Water	Radium 228	8617_P
440-14006-1	Outfall 019	Total/NA	Water	Strontium 90	8617_P
440-14006-1	Outfall 019	Total/NA	Water	Tritium	8617_P
440-14006-1	Outfall 019	Total/NA	Water	Uranium,	8617_P
				Combined	
440-14006-2	Trip Blank	Total/NA	Water	Gamma Spec	8617_P
				K-40 CS-137	
440-14006-2	Trip Blank	Total/NA	Water	Gross Alpha	8617_P
				and Beta	
440-14006-2	Trip Blank	Total/NA	Water	Radium 226	8617_P
440-14006-2	Trip Blank	Total/NA	Water	Radium 228	8617_P
440-14006-2	Trip Blank	Total/NA	Water	Strontium 90	8617_P
440-14006-2	Trip Blank	Total/NA	Water	Uranium,	8617_P
				Combined	
S206035-03	Lab Control Sample	Total/NA	WATER	Gross Alpha	8617_P
				and Beta	
S206035-04	Method Blank	Total/NA	WATER	Gross Alpha	8617_P
				and Beta	
S206035-05	OUTFALL 019 (440-14006-1 DU	Total/NA	WATER	Gross Alpha	8617_P
_				and Beta	

Prep Batch: 8617_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-14006-1	Outfall 019	Total/NA	Water	General Prep	
440-14006-2	Trip Blank	Total/NA	Water	General Prep	
S206035-03	Lab Control Sample	Total/NA	WATER	General Prep	
S206035-04	Method Blank	Total/NA	WATER	General Prep	
S206035-05	OUTFALL 019 (440-14006-1 DU	Total/NA	WATER	General Prep	

TestAmerica Job ID: 440-13854-1

Qualifiers

GC/MS Semi VOA

GC/MS Sem		
Qualifier	Qualifier Description	
LR	LCS/LCSD recovery below method control limits	
HPLC/IC		
Qualifier	Qualifier Description	
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL	
IB	CCV recovery above limit; analyte not detected	
DIOXIN		
Qualifier	Qualifier Description	
J	Estimated result. Result is less than the reporting limit.	
Q	Estimated maximum possible concentration (EMPC).	
В	Method blank contamination. The associated method blank contains the target analyte at a reportable level.	
Metals		
Qualifier	Qualifier Description	
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL	
General Ch	emistry	
Qualifier	Qualifier Description	
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL	1
Subcontrac	xt	
Qualifier	Qualifier Description	

Qualifier Qualifier Description U The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit. J The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: MWH Americas Inc Project/Site: Monthly Outfall 019 GRAB

aboratory	Authority	Program	EPA Region	Certification ID
estAmerica Irvine	Arizona	State Program	9	AZ0671
estAmerica Irvine	California	LA Cty Sanitation Districts	9	10256
estAmerica Irvine	California	NELAC	9	1108CA
estAmerica Irvine	California	State Program	9	2706
estAmerica Irvine	Guam	State Program	9	Cert. No. 12.002r
estAmerica Irvine	Hawaii	State Program	9	N/A
estAmerica Irvine	Nevada	State Program	9	CA015312007A
FestAmerica Irvine	New Mexico	State Program	6	N/A
estAmerica Irvine	Northern Mariana Islands	State Program	9	MP0002
TestAmerica Irvine	Oregon	NELAC	10	4005
estAmerica Irvine	USDA	Federal		P330-09-00080
estAmerica West Sacramento	A2LA	DoD ELAP		2928-01
FestAmerica West Sacramento	Alaska (UST)	State Program	10	UST-055
FestAmerica West Sacramento	Arizona	State Program	9	AZ0708
FestAmerica West Sacramento	Arkansas DEQ	State Program	6	88-0691
estAmerica West Sacramento	California	NELAC	9	1119CA
FestAmerica West Sacramento	Colorado	State Program	8	N/A
estAmerica West Sacramento	Connecticut	State Program	1	PH-0691
estAmerica West Sacramento	Florida	NELAC	4	E87570
estAmerica West Sacramento	Georgia	State Program	4	960
estAmerica West Sacramento	Guam	State Program	9	N/A
estAmerica West Sacramento	Hawaii	State Program	9	N/A
estAmerica West Sacramento	Illinois	NELAC	5	200060
estAmerica West Sacramento	Kansas	NELAC	7	E-10375
estAmerica West Sacramento	Louisiana	NELAC	6	30612
estAmerica West Sacramento	Michigan	State Program	5	9947
TestAmerica West Sacramento	Nevada	State Program	9	CA44
estAmerica West Sacramento	New Jersey	NELAC	2	CA005
estAmerica West Sacramento	New Mexico	State Program	6	N/A
FestAmerica West Sacramento	New York	NELAC	2	11666
FestAmerica West Sacramento	Northern Mariana Islands	State Program	9	MP0007
estAmerica West Sacramento	Oregon	NELAC	10	CA200005
FestAmerica West Sacramento	Pennsylvania	NELAC	3	68-01272
estAmerica West Sacramento	South Carolina	State Program	4	87014
estAmerica West Sacramento	Texas	NELAC	6	T104704399-08-TX
estAmerica West Sacramento	US Fish & Wildlife	Federal		LE148388-0
estAmerica West Sacramento	USDA	Federal		P330-11-00436
estAmerica West Sacramento	Utah	NELAC	8	QUAN1
estAmerica West Sacramento	Virginia	State Program	3	178
estAmerica West Sacramento	Washington	State Program	10	C581
estAmerica West Sacramento	West Virginia	State Program	3	9930C
FestAmerica West Sacramento	West Virginia DEP	State Program	3	334
estAmerica West Sacramento	Wisconsin	State Program	5	998204680
estAmerica West Sacramento	Wyoming	State Program	8	8TMS-Q

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.



EBERLINE ANALYTICAL CORPORATION 2030 Wright Avenue Richmond, California 54804-3849 Phone (510) 235-2633 Fax (510) 235-0438 Toll Free (800) 841-5487 www.eberlineservices.com

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> > 11 12

July 10, 2012

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

Reference: Test America-Irvine 44002624 Eberline Analytical Report S206053-8617 Sample Delivery Group 8617

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for two water samples received under Test America Project No. 44002624. The samples were received on June 11, 2012.

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

Sincerely,

ull

Joseph Verville Client Services Manager

NJV/

Enclosure: Level IV CLP-like Data Package CD

Eberline Ar	nalytical
Report No.	S206035-8617

Test America Test America Project No. 44002624

2012

Case Narrative, page 1	July 10,

1.0 General Comments

Sample delivery group 8617 consists of the analytical results and supporting documentation for two water samples. Sample ID's and reference dates/times are given in the Sample Summary section of the Summary Data report. The samples were received as stated on the chain-of-custody document. Any discrepancies are noted on the Eberline Analytical Sample Receipt Checklist. No holding times were exceeded.

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

2.0 Quality Control

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

3.0 Method Errors

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

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

Eberline Analytical Report No. S206035-8617

Test America Test America Project No. 44002624

	Case Narrative,	page 2	
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July 10, 2012

4.0 **Analysis Notes**

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

Case Narrative Certification Statement 5.0

"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."

:Ul

Joseph Verville Client Services Manager

7/10/12-Date

SUMMARY DA	τ υ λ	C 1		л т о	N
SUMMARI DA	IA	2.	е с .	LTO	IN
TABLE OF	CO	N T	E N	T S	
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Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-TOC
Version	3.06
Report date	07/06/12

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REPORT

SDG 8617

SDG <u>8617</u> Contact Joseph Verville GUIDE Contract <u>44002624</u>

Client Test America, Inc.

ABOUT тне 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

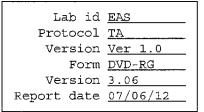
The Method Blank Reports, one for each Method Blank relevant to the SDG, show all results and primary supporting information for the blanks.

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



EBERLINE A	ANALYTICAL
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SDG 8617

GUIDE,

SDG <u>8617</u> Contact <u>Joseph Verville</u> Client <u>Test America, Inc.</u> Contract <u>44002624</u>

ABOUT THE DATA SUMMARY SECTION

cont.

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.

EAS
TA
<u>Ver 1.0</u>
DVD-RG
3.06
07/06/12

REPORT GUIDES Page 2 SUMMARY DATA SECTION Page 2

7/13/2012

LOCATION

SDG 8617

SDG <u>8617</u> Contact Joseph Verville

SAMPLE ID CLIENT SAMPLE ID

S206035-03 Lab Control Sample S206035-04 Method Blank

S206035-01 OUTFALL 019 (440-14006-1 SSFL

S206035-02 TRIP-BLANK (440-14006-2) SSFL

S206035-05 Duplicate (S206035-01) SSFL

LAB

LAB SAMPLE SUMMARY

MATRIX LEVEL

WATER

WATER WATER

WATER

WATER

Client Test America, Inc. Contract <u>44002624</u>

	L		4
			5
SAS NO	CHAIN OF CUSTODY	COLLECTED	6
	440-14006-1	06/07/12 10:15	7
	440-14006-1	06/08/12 13:00	8
		06/07/12 10:15	9
			10
			11

Lab id <u>EAS</u> Protocol TA Version Ver 1.0 Form <u>DVD-LS</u> Version 3.06 Report date 07/06/12

LAB SUMMARY Page 1 SUMMARY DATA SECTION Page 3

7/13/2012

	8617 Joseph Vervill	<u>e</u>	QC	SDG 86: SUMI		RLINI	E ANZ		Clie	nt <u>Test Amer</u> ct <u>44002624</u>	ica, Inc	
QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID		MATRIX	* MOIST	SAMPLE AMOUNT	BASIS		SINCE	LAB SAMPLE ID	DEPARTMENT SAMPLE ID	4
8617	440-14006-1	OUTFALL 019 (440-14006⇒1 TRIP-BLANK (440-14006-2)		WATER WATER		10.0 L 10.0 L		06/09/1 06/09/1		S206035-01 S206035-02	8617-001 8617-002	7
		Method Blank Lab Control Sample Duplicate (S206035-01)		WATER WATER WATER		10.0 L		06/09/1	_2 2	S206035-04 S206035-03 S206035-05	8617-004 8617-003 8617-005	8

	1
Lab id	EAS
Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-QS
Version	3.06
Report date	07/06/12

QC SUMMARY Page 1 SUMMARY DATA SECTION Page 4 11 12 13

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EBERLINE ANALYTICAL

SDG 8617

SDG <u>8617</u> Contact <u>Joseph Verville</u>

PREP BATCH SUMMARY

Client <u>Test America, Inc.</u> Contract <u>44002624</u>

			PREPARATION	N ERROR			- PLA	NCHETS A	ANALYZ	ED	QUALI-
TEST	MATRIX	METHOD	BATCH	2σ %	CLIENT	MORE	RE	BLANK	LCS	DUP/ORIG MS/ORIG	FIERS
Beta	Counting		ч.								
AC	WATER	Radium-228 in Water	7271-156	10.4	2			1	1	1/1	
SR	WATER	Strontium-90 in Water	7271-156	10.4	2			1	1	1/1	
Gas I	Proportion	al Counting									
80A	WATER	Gross Alpha in Water	7271-156	20.6	2			1	1	1/1	
80B	WATER	Gross Beta in Water	7271-156	11.0	2			1	1	1/1	
Gamma	a Spectros	сору									
GAM	WATER	Gamma Emitters in Water	7271-156	7.0	2			1	l	1/1	
Kine	tic Phosph	orimetry									
U_T	WATER	Uranium, Total	7271-156		2			l	1	1/1	
Liqu	id Scintil	lation Counting									
H	WATER	Tritium in Water	7271-156	10.0	1			1	1	1/1	
Rado	n Counting										
RA	WATER	Radium-226 in Water	7271-156	16.4	2			1	1	1/1	

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

PREP	BATCH	SUMMARY
	Page	1
SUMMAI	RY DAT	A SECTION
	Page	5

Lab id <u>EAS</u> Protocol <u>TA</u> Version <u>Ver 1.0</u> Form <u>DVD-PBS</u> Version <u>3.06</u> Report date <u>07/06/12</u> arm wante de term

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11 12

EBERLINE ANALYTICAL SDG 8617

SDG <u>8617</u> Contact <u>Joseph Verville</u>

CLIENT SAMPLE ID

LAB SAMPLE

LAB WORK SUMMARY

Client <u>Test America, Inc.</u> Contract <u>44002624</u>

COLLECTED RECEIVED	LOCATION CUSTODY SAS no	MAIRIX	PLANCHET	TEST	SUF- FIX	ANALYZED	REVIEWED	ВҮ	METHOD
S206035-01	OUTFALL 019 (440-14006-	-1	8617-001	80A/80		06/19/12	06/20/12	BW	Gross Alpha in Water
06/07/12	SSFL	WATER	8617-001	80B/80		06/19/12	06/20/12	BW	Gross Beta in Water
06/09/12	440-14006-1		8617-001	AC		06/25/12	06/26/12	BW	Radium-228 in Water
			8617-001	GAM		06/14/12	06/19/12	MWT	Gamma Emitters in Water
			8617-001	Н		06/2B/12	07/03/12	BW	Tritium in Water
			8617-001	RA		06/26/12	07/02/12	BW	Radium-226 in Water
			8617-001	SR		06/25/12	06/27/12	BW	Strontium-90 in Water
			8617-001	υ_Τ		06/26/12	06/26/12	TSC	Uranium, Total
\$206035-02	TRIP-BLANK (440-14006-2	2)	8617-002	B0A/80		06/19/12	06/20/12	BW	Gross Alpha in Water
06/08/12	SSFL	WATER	8617-002	80B/80		06/19/12	06/20/12	BW	Gross Beta in Water
06/09/12	440-14006-1		8617-002	AC		06/25/12	06/26/12	₿₩	Radium-228 in Water
			B617-002	GAM		06/14/12	06/19/12	MWT	Gamma Emitters in Water
			8617-002	RA		06/26/12	07/02/12	BW	Radium-226 in Water
			8617-002	SR		06/25/12	06/27/12	BW	Strontium-90 in Water
			8617-002	U_T		06/26/12	06/26/12	TSC	Uranium, Total
S206035-03	Lab Control Sample		8617-003	80A/80		06/19/12	06/20/12	BW	Gross Alpha in Water
		WATER	8617-003	80B/80		06/19/12	06/20/12	BW	Gross Beta in Water
			8617-003	AC		06/25/12	06/26/12	BW	Radium-228 in Water
	·		8617-003	GAM		06/14/12	06/19/12	MWT	Gamma Emitters in Water
			8617-003	н		06/28/12	07/03/12	BW	Tritium in Water
			8617-003	RA		06/26/12	07/02/12	BW	Radium-226 in Water
			8617-003	SR		06/25/12	06/27/12	BW	Strontium-90 in Water
			8617-003	U_T		06/26/12	06/26/12	TSC	Uranium, Total
S206035-04	Method Blank		8617-004	80A/80		06/19/12	06/20/12	BW	Gross Alpha in Water
		WATER	8617-004	80B/80		06/19/12	06/20/12	BW	Gross Beta in Water
			8617-004	AC		06/25/12	06/26/12	BW	Radium-228 in Water
			8617-004	GAM		06/14/12	06/19/12	MWT	Gamma Emitters in Water
			8617-004	Н		06/28/12	07/03/12	BW	Tritium in Water
			8617-004	RA		06/26/12	07/02/12	BW	Radium-226 in Water
			8617-004	SR				BW	Strontium-90 in Water
			8617-004	U_T			06/26/12	TSC	Uranium, Total
				_					

Lab id	EAS
Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-LWS
Version	3.06
Report date	07/06/12

WORK SUMMARY Page 1 SUMMARY DATA SECTION Page 6

SDG 8617

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CLIENT SAMPLE ID

MATRIX

PLANCHET

SAS no

LAB SAMPLE

COLLECTED LOCATION

RECEIVED CUSTODY

WORK SUMMARY, cont.

TEST

Client <u>Test America, Inc.</u> Contract <u>44002624</u>

METHOD

06/07/12 SSFL WATER 8617-005 80B/80 06/19/12 06/20/12 BW Gross Beta i 06/09/12 8617-005 AC 06/25/12 06/26/12 BW Radium-228 i 8617-005 GAM 06/15/12 06/19/12 MWT Gamma Emitter 8617-005 H 06/28/12 07/03/12 BW Tritium in W 8617-005 RA 06/26/12 07/02/12 BW Radium-226 i	
8617-005 GAM 06/15/12 06/19/12 MWT Gamma Emitte 8617-005 H 06/28/12 07/03/12 BW Tritium in W	
8617-005 H 06/28/12 07/03/12 BW Tritium in W	n Water
	rs in Wate
8617-005 RA 06/26/12 07/02/12 BW Radium-226 i	later
	n Water
8617-005 SR 06/25/12 06/27/12 BW Strontium-90) in Water
8617-005 U_T 06/26/12 06/26/12 TSC Uranium, Tot	al

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

WORK SUMMARY
Page 2
SUMMARY DATA SECTION
Page 7

8617-004

METHOD BLANK

Method Blank

	8617 Joseph Verville	Client Contract	<u>Test America, 44002624</u>	Inc.	
Lab sample id Dept sample id		Client samp le id Material/Matrix			WATER

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL PCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	0.035	0.25	0.455	3.00	U	80A
Gross Beta	12587472	0.009	0.69	1.13	4,00	U	80B
Tritium	10028178	-23.1	85	146	500	U	H
Radium-226	13982633	0.064	0.32	0.592	1.00	U	RA
Radium-228	15262201	-0.025	0.18	0.463	1.00	U	AC
Strontium-90	10098972	0.042	0.27	0.579	2.00	U	SR
Uranium, Total		0	0.007	0.016	1.00	U	UΤ
Potassium-40	13966002	-14.5	19	34.4	25.0	U	GAM
Cesium-137	10045973	-2.30	2.6	4.61	20.0	U	GAM

QC-BLANK #81951

METHOD BLANKS Page 1 SUMMARY DATA SECTION Page 8 Lab id <u>BAS</u> Protocol <u>TA</u> Version <u>Ver 1.0</u> Form <u>DVD-DS</u> Version <u>3.06</u> Report date <u>07/06/12</u>

SDG 8617

8617-003

LAB CONTROL SAMPLE

Lab Control Sample

SDG <u>8617</u> Contact <u>Joseph Verville</u> Client <u>Test America, Inc.</u> Contract <u>44002624</u>

Lab sample id <u>\$206035-03</u> Dept sample id <u>8617-003</u> Client sample id <u>Lab Control Sample</u> Material/Matrix <u>WATER</u>

ANALYTE	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST	ADDED pCi/L	2σ ERR pCi/L	REC %	2σ LMTS (TOTAL)	PROTOCOI LIMITS
Gross Alpha	42.5	2.2	0.584	3.00		80A	37.0	1.5	115	75-125	70-130
Gross Beta	32.5	1.3	0.889	4.00		80B	34.0	1.4	96	88-112	70-130
Tritium	2170	140	146	500		н	2190	88	99	88-112	80-120
Radium-226	56.5	2.5	0.777	1.00		RA	55.7	2.2	101	82-118	80-120
Radium-228	5.07	0.31	0.426	1.00		AC	5,19	0.21	98	88-112	60-140
Strontium-90	16.0	1.0	0.460	2.00		SR	16.9	0.68	95	88-112	80-120
Uranium, Total	61.1	7.3	0.161	1.00		Ŭ_Т	62.5	2.5	98	88-112	80-120
Cobalt-60	112	13	2.97	10.0		GAM	127	5.1	88	87-113	80-120
Cesium-137	140	5.0	4.39	20.0		GAM	146	5.8	96	91-109	80-120

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QC-LCS #81950

LAB CONTROL SAMPLES Page 1 SUMMARY DATA SECTION Page 9

SDG 8617

8617-005

DUPLICATE

OUTFALL 019 (440-14006-1

SDG <u>8617</u> Contact <u>Joseph Verville</u> DUPLICATE Lab sample id <u>S206035-05</u>

Dept sample id <u>8617-005</u>

			ORIGINAL
Lab	sample	iđ	<u>5206035-01</u>
Dept	sample	id	8617-001
	Receiv	ved	06/09/12

Contract <u>44002624</u>

Client Test America, Inc.

ANALYTE	DUPLICATE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST	ORIGINAL pCi/L	2σ ERR (COUNT)	MDA pCi/L	QUALI- FIERS	RPD %	3σ TOT	DER σ
Gross Alpha	0.248	0.87	1.48	3.00	U	80A	-0.149	0.73	1.44	U	-		0,7
Gross Beta	2.07	1.1	1.75	4.00	J	80B	1.54	1.2	1,87	ΰ	29	137	0.6
Tritium	-10.8	86	146	500	U	н	-4.64	86	146	U	-		0.1
Radium-226	0.439	0.41	0.649	1,00	υ	RA	0.566	0.37	0.544	J	25	169	0.4
Radium-228	0.075	0.27	0.530	1.00	U	AC	0.136	0.17	0.434	U	-		0.4
Strontium-90	-0.011	0.27	0.592	2.00	U	SR	0.025	0.36	0,726	υ	-		0.2
Uranium, Total	0.030	0.008	0.016	1.00	J	υ_т	0.036	0.008	0.016	J	18	52	1.1
Potassium-40	-5.22	18	32.3	25.0	U	GAM	-7.29	13	24.0	υ	-		0.2
Cesium-137	-1.49	1.7	3.03	20.0	U	GAM	-0.669	1.5	2.66	U	-		0.7

QC-DUP#1 81952

DUPLICATES Page 1 SUMMARY DATA SECTION Page 10

7/13/2012

SDG 8617

8617-001

OUTFALL 019 (440-14006-1

DATA SHEET

	8617 Joseph Verville		<u>Test America, Inc.</u> 44002624	
Lab sample id Dept sample id Received		Location/Matrix	<u>06/07/12 10:15 10.0 L</u>	WATER

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	-0.149	0.73	1.44	3.00	υ	80A
Gross Beta	12587472	1.54	1.2	1.87	4.00	U	80B
Tritium	10028178	-4.64	86	146	500	U	н
Radium-226	13982633	0.566	0.37	0.544	1.00	J	RA
Radium-228	15262201	0.136	0.17	0.434	1.00	U	AC
Strontium-90	10098972	0.025	0.36	0.726	2.00	U	SR
Uranium, Total		0.036	0.008	0.016	1.00	J	υт
Potassium-40	13966002	-7.29	13	24.0	25.0	U	GAM
Cesium-137	10045973	-0.669	1.5	2.66	20.0	U	GAM

Lab id <u>EAS</u> Protocol <u>TA</u> Version <u>Ver 1.0</u> Form <u>DVD-DS</u> Version <u>3.06</u> Report date <u>07/06/12</u>

DATA SHEETS Page 1 SUMMARY DATA SECTION Page 11

SDG 8617

8617-002

TRIP-BLANK (440-14006-2)

DATA SHEET

	8617 Joseph Verville		<u>Test America, Inc.</u> <u>44002624</u>	
Lab sample id Dept sample id Received	8617-002 06/09/12	Location/Matrix	06/08/12 13:00 10.0 L	WATER

ANALYTE	YTE CAS NO		2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	-0.024	0.14	0.320	3.00	U	80A
Gross Beta	12587472	-0.348	0.44	0.760	4.00	U	80B
Radium-226	13982633	0.453	0.44	0.704	1.00	U	RA
Radium-228	15262201	-0.081	0.22	0.421	1.00	U	AC
Strontium-90	10098972	0.099	0.41	0.803	2.00	U	SR
Uranium, Total		0	0.007	0.016	1.00	U	υт
Potassium-40	13966002	-5.98	12	22.0	25.0	U	GAM
Cesium-137	10045973	-1.54	1.7	3.08	20.0	U	GAM

DATA SHEETS Page 2 SUMMARY DATA SECTION Page 12 Lab id <u>EAS</u> Protocol <u>TA</u> Version <u>Ver 1.0</u> Form <u>DVD-DS</u> Version <u>3.06</u> Report date <u>07/06/12</u>

	EBERLINE ANALYTICAL SDG 8617	
Test <u>AC</u> Matrix <u>WATER</u>		Client Test America,
SDG 8617	LAB METHOD SUMMARY	Contract <u>44002624</u>
Contact Joseph Verville	RADIUM-228 IN WATER	· · · · · · · · · · · · · · · · · · ·
	BETA COUNTING	

RESULTS

RAW SUF-LAB CLIENT SAMPLE ID Radium-228 SAMPLE ID TEST FIX PLANCHET Preparation batch 7271-156 S206035-01 8617-001 OUTFALL 019 (440-14006-1 υ 8617-002 TRIP-BLANK (440-14006-2) U S206035-02 S206035-03 8617-003 Lab Control Sample ok Method Blank U S206035-04 8617-004 8617-005 Duplicate (S206035-01) -U S206035-05 1.00 Nominal values and limits from method RDLs (pCi/L)

METHOD PERFORMANCE

LAB	RAW SUF-		MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS		ANAL-	
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	г	FAC	TION	ą	양	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation	hatah 707	1-156 2 <i>0</i> prep error 1(1 1 2 Do	ference	Lah N	Intehool	k No. "	1271	ng 156						
*	Datum 727		0,434	1.80		000000	82		150			19	06/25/12	06/25	GRB-221
S206035-01		OUTFALL 019 (440-14006-1													
S206035-02		TRIP-BLANK (440-14006-2)	0.421	1.80			81		150			17	06/25/12	06/25	GRB-222
S206035-03		Lab Control Sample	0.426	1.80			81		150				06/25/12	06/25	GRB-223
S206035-04		Method Blank	0.463	1.80			80		150				06/25/12	06/25	GRB-224
S206035-05		Duplicate (S206035-01)	0.530	1.80			80		150			18	06/25/12	06/25	GRB-229
		mits from method	1.00	1.80			30-10		50			180			
Nominal val	ues and in	anits from method	1.00	1.00			30-10:	5	50			100			

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

	AVERAGES \pm 2 SD	MDA	0.455	±.	0.090	
	FOR 5 SAMPLES	YIELD	81 :	±	2	
- i						

METHOD SUMMARIES

Page 1

		EBERLINE ANALYTICAL
		SDG 8617
	Test <u>SR</u> Matrix <u>WATER</u>	
	SDG <u>8617</u>	LAB METHOD SUMMARY
÷	Contact Joseph Verville	STRONTIUM-90 IN WATER
		BETA COUNTING

Client <u>Test America, Inc.</u> Contract <u>44002624</u>

RESULTS

RAW SUF-

LAB

Preparation batch	7271-156		
S206035-01	8617-001	OUTFALL 019 (440-14006-1	υ
S206035-02	8617-002	TRIP-BLANK (440-14006-2)	U
S206035-03	8617-003	Lab Control Sample	ok
S206035-04	8617-004	Method Blank	U
S206035-05	8617-005	Duplicate (\$206035-01)	- U

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METHOD PERFORMANCE

LAB	RAW SUF-		MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS		ANAL-	
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	\mathbf{L}	FAC	TION	ato	4/0	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation	batch 727	1-156 2σ prep error 10).4 % Re	ference	Lab N	lotebool	k No. 1	7271	pg.156	5					
S206035-01		OUTFALL 019 (440-14006-1	0.726	0.500			90		100			18	06/25/12	06/25	GRB-203
S206035-02		TRIP-BLANK (440-14006-2)	0.803	0.500			83		100			17	06/25/12	06/25	GRB-204
S206035-03		Lab Control Sample	0.460	0.500			85		86				06/25/12	06/25	GRB-229
S206035-04		Method Blank	0.579	0.500			86		7 6				06/25/12	06/25	GRB-222
S206035-05		Duplicate (\$206035-01)	0.592	0.500			86		76			18	06/25/12	06/25	GRB-223
Nominal val	ues and li	mits from method	2.00	0.500			30-10	5	50			180			

	PROCEDURES	REFERENCE	905.0	AVERAGES ± 2 SD	MDA	<u>0.632</u> ± <u>0.2</u>	68
		CP-380	Strontium in Water Samples, rev 5	FOR 5 SAMPLES	YIELD	<u>86 ± 5</u>	-
1							

METHOD SUMMARIES
Page 2
SUMMARY DATA SECTION
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7/13/2012

	EBERLINE ANALYTICAL
	SDG 8617
Test <u>80A</u> Matrix <u>WATER</u>	

Client <u>Test America, Inc.</u> Contract <u>44002624</u>

SDG <u>8617</u> Contact Joseph Verville

LAB METHOD SUMMARY GROSS ALPHA IN WATER GAS PROPORTIONAL COUNTING

RESULTS

SAMPLE ID TEST FIX PLANCHET CLIENT SAMPLE ID Gross Alpha Preparation batch 7271-156 S206035-01 80 8617-001 OUTFALL 019 (440-14006-1) U S206035-02 80 8617-002 TRIP-BLANK (440-14006-2) U S206035-03 80 8617-003 Lab Control Sample ok S206035-04 80 8617-004 Method Blank U S206035-05 80 8617-005 Duplicate (S206035-01) - U	RAW SUF-					
S206035-01 80 8617-001 OUTFALL 019 (440-14006-1) U S206035-02 80 8617-002 TRIP-BLANK (440-14006-2) U S206035-03 80 8617-003 Lab Control Sample ok S206035-04 80 8617-004 Method Blank U	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha	1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 -	
S206035-02 80 8617-002 TRIP-BLANK (440-14006-2) U S206035-03 80 8617-003 Lab Control Sample ok S206035-04 80 8617-004 Method Blank U	batch 727	1-156				
S206035-03 80 8617-003 Lab Control Sample ok S206035-04 80 8617-004 Method Blank U	80	8617-001	OUTFALL 019 (440-14006-1	υ		
S206035-04 80 8617-004 Method Blank U	80	8617-002	TRIP-BLANK (440-14006-2)	υ		
	80	8617-003	Lab Control Sample	ok		
S206035-05 80 8617-005 Duplicate (S206035-01) - U	80	8617-004	Method Blank	U		
	80	8617-005	Duplicate (\$206035-01)	- U		
	ues and li	mits from m	ethod RDLs (pCi/L)	3.00		
		TEST FIX batch 727 80 80 80 80 80 80	TEST FIX PLANCHET batch 7271-156 80 8617-001 80 8617-003 80 8617-004 80 8617-005	TEST FIX PLANCHET CLIENT SAMPLE ID batch 7271-156 0 8617-001 OUTFALL 019 (440-14006-1 80 8617-002 TRIP-BLANK (440-14006-2) 80 80 8617-003 Lab Control Sample 80 8617-004 Method Blank 80 8617-005 Duplicate (S206035-01)	TEST FIX PLANCHET CLIENT SAMPLE ID Gross Alpha batch 7271-156 80 8617-001 OUTFALL 019 (440-14006-1 U 80 8617-002 TRIP-BLANK (440-14006-2) U 80 8617-003 Lab Control Sample ok 80 8617-004 Method Blank U 80 8617-005 Duplicate (S206035-01) - U	TEST FIX PLANCHET CLIENT SAMPLE ID Gross Alpha batch 7271-156 80 8617-001 OUTFALL 019 (440-14006-1 U 80 8617-002 TRIP-BLANK (440-14006-2) U 80 8617-003 Lab Control Sample ok 80 8617-004 Method Blank U 80 8617-005 Duplicate (\$206035-01) - U

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	г	FAC	TION	mg	봥	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation	batch 727	1-156 2ø prep error 20	.6 % Re	ference	Lab N	loteboo	k Nio.	7271	pg.150	5					
S206035-01	80	OUTFALL 019 (440-14006-1	1.44	0.150			84		400			12	06/18/12	06/19	GRB-101
S206035-02	80	TRIP-BLANK (440-14006-2)	0.320	0.300			0		400			11	06/18/12	06/19	GRB-104
S206035-03	80	Lab Control Sample	0.584	0.300			53		400				06/18/12	06/19	GRB-105
S206035-04	80	Method Blank	0.455	0.300			54		400				06/18/12	06/19	GRB-107
S206035-05	80	Duplicate (S206035-01)	1.48	0.150			85		400			12	06/18/12	06/19	GRB-112
Nominal val	ues and li	mits from method	3.00	0.300			0-25	0	100			180			

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

AVERAGES ± 2	SD	MDA	0.856	±	1.12
FOR 5 SAMPLE	S	RESIDUE	55	±	<u> 69 </u>

Labid	EAS						
Protocol	TA						
Version	Ver 1.0						
Form	DVD-LMS						
Version	3.06						
Report date	07/06/12						

METHOD SUMMARIES Page 3 SUMMARY DATA SECTION Page 15

	1
EBERLINE ANALYTICAL SDG 8617	2
	<u>est America, Inc.</u> 3
Contact Joseph Verville GROSS BETA IN WATER GAS PROPORTIONAL COUNTING	4
	5
RESULTS LAB RAW SUF-	
SAMPLE ID TEST FIX PLANCHET CLIENT SAMPLE ID Gross Beta	

206035-01	80	8617-001	OUTFALL 019 (440-14006-1	U	
S206035-02	80	8617-002	TRIP-BLANK (440-14006-2)	Ŭ	
S206035-03	80	8617-003	Lab Control Sample	ok	
S206035-04	80	8617-004	Method Blank	σ	
S206035-05	80	8617-005	Duplicate (S206035-01)	ok	J

METHOD PERFORMANCE

;

LAB SAMPLE ID	RAW SUF- TEST FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC		RESID mg	EFF ¥				PREPARED	ANAL- YZED	DETECTOR
Preparation	batch 727	1-156 2σ prep error 11	0 % Re	ference	Lah N	Intehno	k No '	7271	ng 156					
S206035-01		OUTFALL 019 (440-14006-1	1.87				84		400		12	06/18/12	06/19	GRB-101
S206035-02	80	TRIP-BLANK (440-14006-2)	0.760	0.300			0		400		11	06/18/12	06/19	GRB-104
S206035-03	80	Lab Control Sample	0.889	0.300			53		400			06/18/12	06/19	GRB-105
S206035-04	80	Method Blank	1.13	0.300			54		400			06/18/12	06/19	GRB-107
S206035-05	80	Duplicate (S206035-01)	1.75	0.150			85		400		12	06/18/12	06/19	GRB-112
Nominal val	ues and li	mits from method	4.00	0.300			0-250)	100		180			

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

AVERAGES ± 2 SD	MDA	1.28	±	1.01
FOR 5 SAMPLES	RESIDUE	55	±	69

METHOD SUMMARIES Page 4 SUMMARY DATA SECTION Page 16

7/13/2012

SDG 8617

Test <u>GAM</u> Matrix <u>WATER</u> SDG <u>8617</u> Contact <u>Joseph Verville</u>

LAB METHOD SUMMARY GAMMA EMITTERS IN WATER GAMMA SPECTROSCOPY Client <u>Test America, Inc.</u> Contract <u>44002624</u>

RESULTS

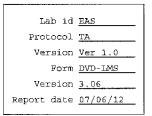
	AW SUF- SST FIX PLANCHET	CLIENT SAMPLE ID	Cobalt-60	Cesium-13	37
Preparation ba	ntch 7271-156				
S206035-01	8617-001	OUTFALL 019 (440-14006-1		Ū	
\$206035-02	8617-002	TRIP-BLANK (440-14006-2)		υ	
S206035-03	8617-003	Lab Control Sample	ok	ok	
S206035-04	8617-004	Method Blank		U	
S206035-05	8617-005	Duplicate (S206035-01)		- T	U

METHOD PERFORMANCE

LAB SAMPLE ID	RAW SUF-	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %		FWHM keV	 	FREPARED	ANAL- YZED	DETECTOR
			r / -	_							 		·····	
Preparation	batch 7271	1-156 2σ prep	error 7.0 % R	eference	Lab 1	Notebool	c No.	7271	pg.150	5				
S206035-01		OUTFALL 019 (440-	-14006-1	2.00					400		7	06/14/12	06/14	MB,G6,0
S206035-02		TRIP-BLANK (440-3	14006-2)	2.00					400		6	06/14/12	06/14	MB,G8,0
S206035-03		Lab Control Samp	le	2.00					400			06/14/12	06/14	MB,G3,0
S206035-04		Method Blank		2.00					400			06/14/12	06/14	MB,G2,0
S206035-05		Duplicate (S2060)	35-01)	2.00					400		8	06/14/12	06/15	MB,G2,0
Nominal valu	ues and lir	nits from method	6.00	2.00					400		 180			

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

METHOD SUMMARIES										
Page 5										
SUMMARY DATA SECTION										
Page 17										



EBERLINE ANALYTICAL

SDG 8617

Test <u>U T</u> Matrix <u>WATER</u> SDG <u>8617</u> Contact <u>Joseph Verville</u>

LAB METHOD SUMMARY URANIUM, TOTAL KINETIC PHOSPHORIMETRY

Client <u>Test America, Inc.</u> Contract <u>44002624</u>

RESULTS

LAB	RAW SUF-		Uranium,	
SAMPLE ID	TEST FIX PLANCHET	CLIENT SAMPLE ID	Total	
Preparation	batch 7271-156	· · · · · · · · · · · · · · · · · · ·		-
S206035-01	8617-001	OUTFALL 019 (440-14006-1	0.036 J	
S206035-02	8617-002	TRIP-BLANK (440-14006-2)	ΰ	- 1
S206035-03	861 7- 003	Lab Control Sample	ok	
\$206035-04	8617-004	Method Blank	σ	
S206035-05	8617-005	Duplicate (S206035-01)	ok J	
				 —
Nominal val	ues and limits from m	ethod RDLs (pCi/L)	1.00	

METHOD PERFORMANCE

LAB	RAW SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS		ANAL-	
SAMPLE ID	TEST FIX CLIENT SAMPLE ID	pCi/L	L	FAC	TION	ŝ	olo	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
			-											
Preparation	batch 7271-156 2ø prep error	Re	ference	Lab N	lotebool	K NO.	7271	pg.156)					
S206035-01	OUTFALL 019 (440-14006-1	0.016	0.0200								19	06/26/12	06/26	KPA-001
S206035-02	TRIP-BLANK (440-14006-2)	0.016	0.0200								18	06/26/12	06/26	KPA-001
S206035-03	Lab Control Sample	0.161	0.0200									06/26/12	06/26	KPA-001
S206035-04	Method Blank	0.016	0.0200									06/26/12	06/26	KPA-001
S206035-05	Duplicate (\$206035-01)	0.016	0.0200								19	06/26/12	06/26	KPA-001.
<u></u>														
Nominal val	ues and limits from method	1.00	0.0200								180			

PROCEDURES	REFERENCE	D51 7 4

AVERAGES ± 2 SD	MDA <u>0.045</u> ± <u>0.130</u>
FOR 5 SAMPLES	YIELD ±

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-LMS
Version	3.06
Report date	07/06/12

METHOD SUMMARIES Page 6 SUMMARY DATA SECTION Page 18

SDG 8617

Test <u>H</u> Matrix <u>WATER</u> SDG <u>8617</u> Contact <u>Joseph Verville</u>

LAB METHOD SUMMARY TRITIUM IN WATER LIQUID SCINTILLATION COUNTING Client <u>Test America, Inc.</u> Contract <u>44002624</u>

RESULTS

LAB SAMPLE ID	RAW SUF- TEST FIX	PLANCHET	CLIENT SAMPLE ID	Trit	ium		1005
Preparation	batch 727	1-156					
S206035-01		8617-001	OUTFALL 019 (440-14006-1	U			
S206035-03		8617-003	Lab Control Sample	ok			
S206035-04		8617-004	Method Blank	υ			
\$206035-05		8617-005	Duplicate (S206035-01)	-	υ		

METHOD PERFORMANCE

LAB SAMPLE ID	RAW SUF TEST FIX		IPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min		 	PREPARED	ANAL- YZED	DETECTOR
Preparation	batch 72	71-156 2	σ prep error :	10.0 %	Reference	Lab N	Noteboo	k No.	7271	pg.15€	5				
S206035-01		OUTFALL 01	9 (440-14006-1	1 146	0.0100			100		150		21	06/25/12	06/28	LSC-007
S206035-03		Lab Contro	l Sample	146	0.100			10		150			06/25/12	06/28	LSC-007
S206035-04		Method Bla	nk	146	0.100			10		150			06/25/12	06/28	LSC-007
S206035-05		Duplicate	(S206035-01)	146	0.0100			100		150		21	06/25/12	06/28	LSC-007
Nominal val	ues and l	imits from m	nethod	500	0.0100					100		180			

PROCEDURES	REFERENCE DWP-212	906.0 Tritium in Drinking Water by Distillation, rev 8	AVERAGES \pm 2 SD FOR 4 SAMPLES	MDA <u>146 ± 0</u> YIELD <u>55 ± 104</u>
i	,			· · · · · · · · · · · · · · · · · · ·

Lab id	EAS
Protocol	TA
Version	<u>Ver 1.0</u>
Form	DVD-LMS
Version	3.06
Report date	07/06/12
Version Form Version	Ver 1.0 DVD-LMS 3.06

METHOD SUMMARIES Page 7 SUMMARY DATA SECTION Page 19

SDG 8617

Test <u>RA</u> Matrix <u>WATER</u> SDG <u>8617</u> Contact <u>Joseph Verville</u>

RAW SUF-

LAB METHOD SUMMARY RADIUM-226 IN WATER RADON COUNTING

Client <u>Test America, Inc.</u> Contract <u>44002624</u>

RESULTS

LAB

CLIENT SAMPLE ID Radium-226 SAMPLE ID TEST FIX PLANCHET Preparation batch 7271-156 0.566 J 8617-001 OUTFALL 019 (440-14006-1 S206035-01 S206035-02 8617-002 TRIP-BLANK (440-14006-2) υ 8617-003 Lab Control Sample ok \$206035-03 **S2**06035-04 8617-004 Method Blank U 8617-005 Duplicate (S206035~01) ok U S206035-05 Nominal values and limits from method RDLs (pCi/L) 1.00

METHOD PERFORMANCE

RAW SUF-		MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS		ANAL-	
TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION		010	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
batch 7271	-156 2σ prep error 16	.4 % Re	ference	Lab N	lotebool	k No. '	7271	pg.156						
	OUTFALL 019 (440-14006-1	0.544	0.100			100		90			19	06/26/12	06/26	RN-012
	TRIP-BLANK (440-14006-2)	0.704	0.100			100		90			1.8	06/26/12	06/26	RN-013
	Lab Control Sample	0.777	0.100			100		90				06/26/12	06/26	RN-009
	Method Blank	0.592	0.100			100		90				06/26/12	06/26	RN-010
	Duplicate (S206035-01)	0.649	0.100			100		90			19	06/26/12	06/26	RN-011
es and lim	its from method	1.00	0.100					50			180			
T b	TEST FIX	TEST FIX CLIENT SAMPLE ID	TEST FIX CLIENT SAMPLE ID pCi/L patch 7271-156 2σ prep error 16.4 % Re 0UTFALL 019 (440-14006-1 0.544 TRIP-BLANK (440-14006-2) 0.704 Lab Control Sample 0.777 Method Blank 0.592 Duplicate (S206035-01) 0.649	TEST FIX CLIENT SAMPLE ID pCi/L L patch 7271-156 2σ prep error 16.4 % Reference OUTFALL 019 (440-14006-1 0.544 0.100 TRIP-BLANK (440-14006-2) 0.704 0.100 Lab Control Sample 0.777 0.100 Method Blank 0.592 0.100 Duplicate (\$206035-01) 0.649 0.100	TEST FIX CLIENT SAMPLE ID pCi/L L FAC patch 7271-156 2σ prep error 16.4 % Reference Lab N OUTFALL 019 (440-14006-1 0.544 0.100 TRIP-BLANK (440-14006-2) 0.704 0.100 Lab Control Sample 0.777 0.100 Method Blank 0.592 0.100 Duplicate (\$206035-01) 0.649 0.100	TEST FIX CLIENT SAMPLE ID pCi/L L FAC TION patch 7271-156 2σ prep error 16.4 % Reference Lab Notebool OUTFALL 019 (440-14006-1 0.544 0.100 TRIP-BLANK (440-14006-2) 0.704 0.100 Lab Control Sample 0.777 0.100 Method Blank 0.592 0.100 Duplicate (\$206035-01) 0.649 0.100	TEST FIX CLIENT SAMPLE ID pCi/L L FAC TION % Datch 7271-156 2σ prep error 16.4 % Reference Lab Notebook No. 00 OUTFALL 019 (440-14006-1 0.544 0.100 100 TRIP-BLANK (440-14006-2) 0.704 0.100 100 Lab Control Sample 0.777 0.100 100 Method Blank 0.592 0.100 100 Duplicate (S206035-01) 0.649 0.100 100	TEST FIX CLIENT SAMPLE ID pCi/L L FAC TION % watch 7271-156 2σ prep error 16.4 % Reference Lab Notebook No. 7271 OUTFALL 019 (440-14006-1 0.544 0.100 100 TRIP-BLANK (440-14006-2) 0.704 0.100 100 Lab Control Sample 0.777 0.100 100 Method Blank 0.592 0.100 100 Duplicate (S206035-01) 0.649 0.100 100	TEST FIX CLIENT SAMPLE ID pCi/L L FAC TION % min patch 7271-156 2σ prep error 16.4 % Reference Lab Notebook No. 7271 pg.156 OUTFALL 019 (440-14006-1 0.544 0.100 100 90 TRIP-BLANK (440-14006-2) 0.704 0.100 100 90 Lab Control Sample 0.777 0.100 100 90 Method Blank 0.592 0.100 100 90 Duplicate (S206035-01) 0.649 0.100 100 90	TEST FIX CLIENT SAMPLE ID pCi/L L FAC TION % min keV patch 7271-156 2σ prep error 16.4 % Reference Lab Notebook No. 7271 pg.156 OUTFALL 019 (440-14006-1 0.544 0.100 100 90 TRIP-BLANK (440-14006-2) 0.704 0.100 100 90 Lab Control Sample 0.777 0.100 100 90 Method Blank 0.592 0.100 100 90 Duplicate (S206035-01) 0.649 0.100 100 90	TEST FIX CLIENT SAMPLE ID pCi/L L FAC TION % % min keV KeV Patch 7271-156 2σ prep error 16.4 % Reference Lab Notebook No. 7271 pg.156 OUTFALL 019 (440-14006-1 0.544 0.100 100 90 TRIP-BLANK (440-14006-2) 0.704 0.100 100 90 Lab Control Sample 0.777 0.100 100 90 Method Blank 0.592 0.100 100 90 Duplicate (S206035-01) 0.649 0.100 100 90	TEST FIX CLIENT SAMPLE ID pCi/L L FAC TION % % min keV HELD patch 7271-156 2σ prep error 16.4 % Reference Lab Notebook No. 7271 pg.156 000 90 19 OUTFALL 019 (440-14006-1 0.544 0.100 100 90 19 TRIP-BLANK (440-14006-2) 0.704 0.100 100 90 18 Lab Control Sample 0.777 0.100 100 90 18 Method Blank 0.592 0.100 100 90 19 Duplicate (S206035-01) 0.649 0.100 100 90 19	TEST FIX CLIENT SAMPLE ID pCi/L L FAC TION % min keV KeV HELD PREPARED patch 7271-156 2σ prep error 16.4 % Reference Lab Notebook No. 7271 pg.156 OUTFALL 019 (440-14006-1 0.544 0.100 100 90 19 06/26/12 TRIP-BLANK (440-14006-2) 0.704 0.100 100 90 18 06/26/12 Lab Control Sample 0.777 0.100 100 90 06/26/12 Method Blank 0.592 0.100 100 90 19 06/26/12 Duplicate (S206035-01) 0.649 0.100 100 90 19 06/26/12	Test Fix CLIENT SAMPLE ID pCi/L L FAC TION % % min keV HELD PREPARED YZED watch 7271-156 2σ prep error 16.4 % Reference Lab Notebook No. 7271 pg.156 OUTFALL 019 (440-14006-1 0.544 0.100 100 90 19 06/26/12 06/26 TRIP-BLANK (440-14006-2) 0.704 0.100 100 90 18 06/26/12 06/26 Lab Control Sample 0.777 0.100 100 90 06/26/12 06/26 Method Blank 0.592 0.100 100 90 19 06/26/12 06/26 Duplicate (S206035-01) 0.649 0.100 100 90 19 06/26/12 06/26

	PROCEDURES	REFERENCE	903.1	AVERAGES ± 2 SD	MDA	0.653 ±	0.183
		DWP-881A	Ra-226 Screening in Drinking Water, rev 6	FOR 5 SAMPLES	YIELD	<u>100</u> ±	<u> </u>
L				· · · · · · · · · · · · · · · · · · ·			

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-LMS
Version	3.06
Report date	07/06/12

METHOD SUMMARIES Page 8 SUMMARY DATA SECTION Page 20

SDG 8617 Client Test America, Inc DG 8617 Client <u>Test America, Inc</u> Ct Joseph Verville REPORT GUIDE
 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	07/06/12

7/13/2012

)G <u>86</u> :t <u>Jo</u>	17 seph Verville	SDG 8617 REPORT GUII	DE	Client <u>Test America, Inc</u> Contract <u>44002624</u>
	PREPAI	RATION BATCH	зимм	ARY
on		Summary Report shows al roup (SDG) with informat istency of the SDG.		
Th	e following notes ag	oply to this report:		
*	The preparation bat Method Summary Repo	tches are shown in the storts are printed.	ame order	as the
*	Only analyses of pl	lanchets relevant to the	SDG are	included.
*		atch should have at leas alidate client sample re		hod Blank
*	and H that occur or	wn are all qualifiers ot n any analysis in the pr ort has these qualifiers	eparation	batch. The
	These qualifiers s	hould be reviewed as fol	lows:	
		een manually entered or r rrors are possible.	modified.	
	P One or more rest ready for final	ults are 'preliminary'. reporting.	The data	is not
	planchet import	or more results for one ed at one time. The res as on the raw data shee	sults in D	
	Other lab defined o	qualífiers may occur. I	In general	, these

Lab id	EAS
Protocol	<u>TA</u>
Version	<u>Ver 1.0</u>
Form	DVD-RG
Version	3.06
Report date	07/06/12

REPORT GUIDES Page 2 SUMMARY DATA SECTION Page 22

	8617 Joseph Verville	REPORT	GUIDE	Client <u>Test America, Inc.</u> Contract <u>44002624</u>
		WORK SU	MMARY	
6	The Work Summary Rep relevant analyses in often useful as supp	one Sample Delive	ry Group (SDO	
	The following notes	apply to this repo	rt:	
	are on the Data S used in the summa	r the method used s and related info heet Report. In s ry data section is ta. In this case,	rmation for e pecial cases, not the same	each analyte , a test code e as in
	The suffix indica	's code to disting s, reanalyses) of tes which result i dentifies the firs	a fraction o: s being repo	f the sample. rted. An empty
	supporting data f each TEST has met), TEST and SUFFIX for a result. The hod performance da suffix and proced	Method Summa: ta, such as	ry Report for yield, for each
	* PLANCHET is an al test. It, combin link to raw data.	ed with the TEST a		
	-	mly analyses that The Lab Control Spike and Method	Sample, Meth	od Blank,
	as rapid turn arc	Analytical Service at reflects special bund. Counts of te s likely to affect	processing sts done are	for samples, such

REPORT GUIDES Page 3 SUMMARY DATA SECTION Page 23 Protocol <u>TA</u> Version <u>Ver 1.0</u>

Version <u>3.06</u> Report date <u>07/06/12</u>

Form <u>DVD-RG</u>

8617 Joseph Verville	SDG 8617 REPORT GUID	Client <u>Test America, Inc</u> Contract <u>44002624</u>
	DATA SHEET	
information for one	rt shows all results and pri client sample or Method Bla the CLP Inorganics and Orga	nk. This report
The following notes	apply to this report:	
	or the method used to measur 7, no data is available; the	-
Summary Data Sect	D and TEST uniquely identify tion of a Data Package. The eports further identify raw	e Work Summary and
	ry Report for each TEST has eld, for each Lab Sample ID in the method.	_
preparation (non- square root of su COUNT. The prepa	beled TOTAL or COUNT. TOTAL -counting method) error has um of squares, to the countr aration errors, which may va on the Method Summary Repor	been added, as ing error denoted by ary by preparation
	'N.R.' (Not Reported). This coses not to report it now, another time.	
Applicable). The in the same prepa likely to occur w	Method Blank, a RESULT can is means there is no reporte aration batch as the Blank's when the Method Blank is ass lected work for a few sample	ed client sample work s result. This is sociated with
The following quali	fiers are defined by the DVI	D system:
	ss than the MDA (Minimum Det ank, the ERROR is used as th	

REPORT GUIDES Page 4 SUMMARY DATA SECTION Page 24

ij.

3DG <u>8617</u> act <u>Jose</u>	ph Verville		38617 , cont.	Client <u>Test Am</u> Contract <u>4400262</u>	
		DATA	SHEET		
	The RESULT is les NO U qualifier is		(Required Dete	ection Limit) and	
ž	a U flag and, aft	er correcting for	or possibly di	l a result without fferent aliquots, DA for this sample.	
ŝ		nown on this repo ted values while	ort, B flags a U's are assig	are assigned based pned based on the	
I	For each sample m preparation batch documents this ar	1 are compared.	The Method Su		
	Some Lab Control recovery. The la	-	_		
н	Similar to 'L' ex	cept the recove	ry was high.		
P	The RESULT is 'p	celiminary'.			
	Some data necessary to compute the RESULT, ERROR or MDA was manually entered or modified.				
	There were two or reported result r			-	
	Other qualifiers SDG narrative.	are lab defined	. Definition:	s should be in the	
The	following values	s are underlined	to indicate p	possible problems:	
*]	An MDA is underl:	ined if it is bi	gger than its	RDL.	
	An ERROR is unde: bigger than both	rlined if the 1.	645 sigma cour	nting error is	

REPORT GUIDES Page 5 SUMMARY DATA SECTION Page 25

SDG <u>8617</u> ntact <u>Joseph Verville</u>	GUIDE, cont	Client <u>Test America, Inc.</u> . Contract <u>44002624</u>
	DATA SHEET	
may not be a activity.	good estimate of the 'real' mi	nimum detectable
_	ESULT is underlined if it is le ma counting ERROR.	ss than the negative
greater than	ng a Method Blank, a RESULT is tits MDA. If the MDA is blank, d in the comparison.	

REPORT GUIDES Page 6 SUMMARY DATA SECTION Page 26

ЕВЕ	RL	ΙN	Ε	ΑN	Α	L	Y	т	Ι	С	А	L
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SDG 8617

REPORT GUIDÉ

SDG <u>8617</u> Contact <u>Joseph Verville</u> Client <u>Test America, Inc.</u> Contract <u>44002624</u>

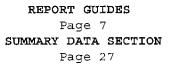
5

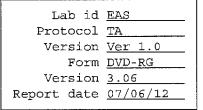
8 9 10

11 12 13

LAB CONTROL SAMPLE

	e Lab Control Sample Report shows all results, recoveries and primary porting 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.





8617 Joseph Verville			Client <u>Test America, Inc.</u> Contract <u>44002624</u>
	DUPLICA	ТЕ	
	t shows all results, d ion for one Duplicate		and primary ated Original sample.
The following notes	apply to this report:	:	
usage. This app	nmon with the Data She lies both to the Dupli the Data Sheet Report	icate and C	Driginal sample
	has data for a TEST a inal, the Original's B		
	e Percent Difference) f the RESULTs divided		
If both RESULTs a '-' is printed	are less than their MI	DAs, no RPI) is computed and
—	if the lab did work fo e, the MDA from the sa lt in the RPD.		
squares, of the result as a perc rather than the	ted limit is the sum, errors of the results ent, hence the relative error of the relative troduced by rounding t	divided by ve error of difference	y the average f the difference e. The errors
	labeled TOT, it inclu If labeled CNT, it do	_	reparation error
This value repor	ted for this limit is	at most 99	99.
* The second limit	for the RPD is the la	arger of:	
1. A fixed perce	ntage specified in th	e protocol	

REPORT GUIDES Page 8 SUMMARY DATA SECTION Page 28 Protocol <u>TA</u> Version <u>Ver 1.0</u>

Version 3.06

Report date <u>07/06/12</u>

Form <u>DVD-RG</u>

SDG <u>86</u> act <u>Jc</u>	SDG 8617 <u>17</u> <u>seph Verville</u> GUIDE, cont. Contract <u>44002624</u>
	DUPLICATE
	2. A protocol factor (typically 2) times the average MDA as a percent of the average result. This limit applies when the results are close to the MDAs.
*	The RPD is underlined if it is greater than either limit.
*	If specified by the lab, the second limit column is replaced by the Difference Error Ratio (DER), which is the absolute value of the difference of the results divided by the quadratic sum of
	their one sigma errors, the same errors as used in the first limit.
	Except for differences due to rounding, the DER is the same as the RPD divided by the first RPD limit with the limit scaled to 1 sigma.

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Lab id	EAS
Protocol	
Version	Ver 1.0
Form	DVD-RG
Version	3.06
Report date	07/06/12

SDG <u>8617</u> act <u>Joseph Verville</u>	SDG REPORT		Client <u>Test America, Inc</u> Contract <u>44002624</u>
	ΜΑΤΓΙΧ	SPIKE	
—	e Report shows all res mation for one Matrix		
The following no	otes apply to this rep	ort:	
usage. This	a common with the Data applies both to the S to the Data Sheet Rep	piked and Orig	ginal sample
-	has data for a TEST a Driginal, the Original		
	DED is the lab's value are sample with its ERR		
	underlined if its rat bool specified limits.		responding RDL is
	/) is the Spike RESULT DDED expressed as a pe		iginal RESULT
* The first, co	omputed limits for the	recovery ref	lect:
	s of the two RESULTs, I by rounding them pri		
	nits are labeled (TOTA on error in the result ot.		
2. The error	of ADDED.		
	cified, per analyte bi the computed limits.	as. The bias	changes the
* The second 1: for the recov	imits are protocol def	ined upper an	d lower QC limits

REPORT GUIDES Page 10 SUMMARY DATA SECTION Page 30

SDG <u>8617</u> act <u>Joseph Verville</u>	GUIDE, cont.	Client <u>Test America, Inc.</u> Contract <u>44002624</u>
	MATRIX SPIKE	2
		· · · ·
	left blank if the Original F d factor (typically 4) times	
way of accounting	for that when the spike is original sample, the recove	small compared to
	nderlined (out of spec) if i	
of these ranges.	nacrimea (out of ppee) if i	
· · · · · · · · · · · · · · · · · · ·		

EAS
ТА
Ver 1.0
DVD-RG
3.06
07/06/12

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SDG 8617

SDG <u>8617</u> Contact <u>Joseph Verville</u>

REPORT GUIDE

Client <u>Test America, Inc.</u> Contract <u>44002624</u>

> 11 12 13

METHOD SUMMARY

mea met	e Method Summary Report has two tables. One shows up to five results asured using one method. The other has performance data for the thod. There is one report for each TEST, as used on the Data Sheet port.
The	e following notes apply to this report:
*	Each table is subdivided into sections, one for each preparation batch. A preparation batch is a group of aliquots prepared at roughly the same time in one work area of the lab using the same method.
	There should be Lab Control Sample and Method Blank results in each preparation batch since this close correspondence makes the QC meaningful. Depending on lab policy, Duplicates need not occur in each batch since they QC sample dependencies such as matrix effects.
*	The RAW TEST column shows the test code used in the raw data to identify a particular analysis if it is different than the test code in the header of the report. This occurs in special cases due to method specific details about how the lab labels work.
	The Lab Sample or Planchet ID combined with the (Raw) Test Code and Suffix uniquely identify the raw data for each analysis.
*	If a result is less than both its MDA and RDL, it is replaced by just 'U' on this report. If it is greater than or equal to the RDL but less than the MDA, the result is shown with a 'U' flag.
	The J and X flags are as on the data sheet.
*	Non-U results for Method Blanks are underlined to indicate possible contamination of other samples in the preparation batch. The Method Blank Report has supporting data.
*	Lab Control Sample and Matrix Spike results are shown as: ok, No data, LOW or HIGH, with the last two underlined. 'No data' means no amount ADDED was specified. 'LOW' and 'HIGH'

REPORT GUIDES Page 12 SUMMARY DATA SECTION Page 32

Lab id	EAS
Protocol	<u>TA</u>
Version	<u>Ver 1.0</u>
Form	DVD-RG
Version	3.06
Report date	07/06/12

Е	в	Е	R	\mathbf{L}	Ι	Ν	Ε	Α	N	Α	\mathbf{L}	Y	т	Ι	С	Α	\mathbf{L}	
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SDG 8617

GUIDE, cont.

SDG <u>8617</u> Contact <u>Joseph Verville</u> Client <u>Test America, Inc.</u> Contract <u>44002624</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>07/06/12</u>

REPORT GUIDES Page 13 SUMMARY DATA SECTION Page 33

8617 Joseph Verville	SDG 8617 GUIDE, cont	Client <u>Test America, Inc.</u> Contract <u>44002624</u>
	METHOD SUMMA	ч R Y
specified for the	method.	
	NHM; Full Width at Half Ma nethod specified limit.	ax) are underlined if
greater than the r	underlined if their absol method specified limit. T rcent moistures are.	
 Days Held are under specified in the p 	erlined if greater than th protocol.	ne holding time
-	e underlined if before the or, if a limit is specifie	-
computed for pairs of	tios as percentages and en f results. A ratio column st result column and the t	
	mputed for Lab Control Sam lts since their matrices a samples'.	-
only counting errors ratio involving diffe		-
difference from the p	ned (out of spec) if the a nominal value is greater t is specified, this test is	chan its error estimate.
sum of other Alpha of results in the DVD da sum are weighted by a	ross Beta results, there m r Beta emitters. This sum atabase, whether reported a particles/decay value sp e. Results less than thei	or not. Results in the pecified by the lab for

REPORT GUIDES Page 14 SUMMARY DATA SECTION Page 34

EBERLINE ANALYTICAL	Е	в	Е	R	ь	Ι	Ν	Ε	Α	Ν	Α	L	Y	т	Ι	С	Α	ь
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SDG 8617

SDG <u>8617</u> Contact <u>Joseph Verville</u>

GUIDE, cont. Co

Client <u>Test America, Inc.</u> Contract <u>44002624</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	TA
Version	<u>Ver 1.0</u>
Form	DVD-RG
Version	3.06
Report date	07/06/12

REPORT GUIDES Page 15 SUMMARY DATA SECTION Page 35

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TactAmarica		COC No:	Page:	Page 1 of 1	Job #. 440-14006-1	Preservation Code	A - HCL B - NaOH	tale oid	E - NaHSO4 Q - Na2SO3	or oic Acid	l - Ice J - Di Water v - Entro		Durer:	Special Instructions/Note:									Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)			Сотралу	12-17:00	1/2 CEBELL	Company		2 3 4 5 6 7
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I	52.06-2	Carrier Tracking No(s)			sted													 	 			 	ssed if sam	ents:	Method of Shinment				ă	ks:	9
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TestAmerica Irvine	17461 Derian Ave Suite 100 Irvine, CA 92614-5817		ormation (Sub Contract Lab)		Company: Eboointo Servicos		0 Wright Avenue,	Lity Richmond	State, Zp: С о даяли		Emait	Project Name: Monthly Outfall 019 COMPOSITE			Cample Identification - Client IJ (Lab IU)	Outfall 019 (440-14006-1)	Trip Blank (440-14006-2)						Possible Hazard Identification	Unconfirmed Doubtorneted: [-10-11] N/ Other (snerify)	Jerrerabie Requested. 1, 11, 11, 14, Outer (specify)	nquished by:	Barl			Custody Seals Intact: Custody Seal No.:	

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	Custody	seals on ship	ping container d	lated & signe	d?	Yes [1/]	No[] N/A	[]
	Custody	seals on sam	ple containers ir	ntact?			No[] N/A	
	Custody	seals on sam	ple containers d	lated & signe	ed?		No[] N/A	* -
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	Number	of samples in	shipping contai	ner:	∠ Sample Mat	rix <u>UA</u>	ICE	
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		ork agrees with			Yes [/
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З.	Decoriby	e any anomalie						
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				· <u></u>		· · · ·		
	Was P.I	A, notified of a	any anomalies?	Yes	5[] No[) Date		
4.	Was P.I		any anomalies?	Yes Date: (s[] No[9/11/12 Tim] Date e:		
4. 5. Cus	Was P.I Inspecte	A. notified of a ad byA Beta/Gamma	any anomalies? K	Date: (<u>6/11/12</u> Tim Customer	e: <u>/// : 2.5</u> Beta/Gamma	lon Chamber mR/hr	wipe
4. 5. Cus	Was P.I Inspecte	A, notified of a d by Beta/Gamma cpm	any anomalies? K	Yes Date: (Wipe	9/11/12 Tim	e: <u>10:25</u>	1	wipe
4. 5. Cus	Was P.I Inspecte	A. notified of a ed by Beta/Gamma cpm	any anomalies? K	Date: (<u>6/11/12</u> Tim Customer	e: <u>/// : 2.5</u> Beta/Gamma	1	wipe
4. 5. Cus	Was P.I Inspecte	A, notified of a d by Beta/Gamma cpm	any anomalies? K	Date: (<u>6/11/12</u> Tim Customer	e: <u>/// : 2.5</u> Beta/Gamma	1	wipe
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4. 5. Cus	Was P.I Inspecte	A, notified of a d by Beta/Gamma cpm	any anomalies? K	Date: (<u>6/11/12</u> Tim Customer	e: <u>/b : 25</u> Beta/Gamma	1	wipe
4. 5. Cus	Was P.I Inspecte	A, notified of a d by Beta/Gamma cpm	any anomalies? K	Date: (<u>6/11/12</u> Tim Customer	e: <u>/b : 25</u> Beta/Gamma	1	wipe
4. 5. Cus	Was P.I Inspecte	A, notified of a d by Beta/Gamma cpm	any anomalies? K	Date: (<u>6/11/12</u> Tim Customer	e: <u>/b : 25</u> Beta/Gamma	1	wipe
4. 5. Cus	Was P.I Inspecte	A, notified of a d by Beta/Gamma cpm	any anomalies? K	Date: (<u>6/11/12</u> Tim Customer	e: <u>/b : 25</u> Beta/Gamma	1	wipe
4. 5. Cus	Was P.I Inspecte	A, notified of a d by Beta/Gamma cpm	any anomalies? K	Date: (<u>6/11/12</u> Tim Customer	e: <u>/b : 25</u> Beta/Gamma	1	wipe
4. 5. Cus	Was P.I Inspecte	A, notified of a d by Beta/Gamma cpm	any anomalies? K	Date: (<u>6/11/12</u> Tim Customer	e: <u>/b : 25</u> Beta/Gamma	1	wipe
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4. 5. Cus	Was P.I Inspecte	A, notified of a d by Beta/Gamma cpm	any anomalies? K	Date: (<u>911/17</u> Tim Customer Sample No.	e: <u>/b : 25</u> Beta/Gamma cpm	mR/hr	
4. 5. Sam	Was P.I Inspects tomer ple No. Jaugu	A. notified of a	any anomalies? K	Date: (<u>911/17</u> Tim Customer Sample No.	e: <u>/b : 25</u> Beta/Gamma cpm	1	
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Test America Version 7/19/2010

CHAIN OF CUSTODY FORM

પ્પિડિન્ પ્રિસ્ડ પ્ Page 1 of 3

	Field readings: (Log in and include in report Terms and pH)	Temp "F= 64 0		Time of readings = (o:30	Comments											this work order.	ey: K		NPDES Lavei IV: 🖌
ANALYSIS REQUIRED																Composite samples will follow and are to be added to this work order.	Tum-around time: (Check) 24 Hour: 72 Hour, 10 Day: 48 Hour: 5 Day: Normal:	Sample Integrity: (Check) Intact: On Ice:	Data Requirements: (Check) No Level IV:All Lavel IV: NPD
		(M		r) ອຂສອາຂົ bilo2 ອide			x	×										L Date/Time:	प्रवर्शनान्त.
			- 100	(624)	VOCs	1A, 1B, 1C, X 1D, 1E X	2A, 2B	m	4A, 4B, 4C X							These Samples are the Grab Portion of Outfall 019 for this storm event	Matter A	Received By	received by
	NPDES all 019		i.	5 1	Preservative	HCI	ĤĊI	None	P							Dutfall (20		•-
Project:	Boeing-SSFL NPDES Monthly Outfall 019 GRAB		Phone Number	(626) 568-6691 Fax Number: (626) 568-6515	Sampling Date/Time	10:30		•	6-6-2012							 ne Grab Porti	Date/Time: 6-6-12	17:52 17:52	:aL
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Client Name/Address:	MWH-Arcadia 618 Michiliinda Ave, Suite 200 Arcadia, CA 91007	Test America Contact: Debby Wilson	Project Manager: Bronwyn Kelly	Sampler: Rick Baring 6 M	Sample Description	Outfall 019	Outfall 019	Outfall 019	Trip Blanks	-							Relinquished By	Relinquished By	Kelinguished by

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CHAIN OF CUSTODY FORM

	Comments		-								-	- - -							Ø.
													-				10 Day: X		NPDES Level IV: X
ANALYSIS REQUIRED															 Page 3/of 3 are the composite samples for Outfall 019 for this storm event.	order for COC Page 1 of 3 for Outfall 019 for the same event.	: (Check) 72 Hour: 5 Day:	(Check) On Ice:	its. (Check) All Lavel IV:
ANALYSIS	DMA, PCP (SVOCs 625)	r BHC (608) TCP, 2,4 Dinitr exyl)phthalate, N	2'4'9	 									×	×	19 for this	all 019 for	Turn-around time: (Check) 24 Hour. 72 Ho 48 Hour. 5 Day	Sample Integrity; (Check) Intact: On Ic	Data Requirements: (Check) No Level IV: All Leve
		(S.035) N-sino	mmA									×			itfall 0	Outfe	<u>+ ∽ </u> +	0 F	
		SST ,SDT ,Yjit	Turbid								×				for Ou	f 3 for	22		20
		e-N, Nitrite-N	otertiN							×					 ples	ge 1 o	14.		
	 4, Perchlorate 	0 ⁴ ' NO ³ +NO ⁵ -I	CI.' 2						×						 e san	C Pai		pate/Time:	Line (
	·····	(SA8M) strats)						×							nposit	for CC	ale of the object	Date	Date
		(20 degrees C				×	×								 le con	inger 1	M	Y	
	letals: Cu, Pb, Hg, Cd,	Recoverable M (and all conge	Z 'ƏS	×	×	^									of 3 are th	ame work a	HA)	
	0		Bottle #	5A	ξB	6A, 6B	7	8A, 8B	9A, 9B	10	11A, 11B	12	13A, 13B	14A, 14B	ind Page 3	079		Received By	Received By
	ирдея 11 019 <i>С.Н.Т. Г.</i> (Preservative	HNO ₃	HNO ₃	Nane	None	None	None	None	None	H₂SO₄	None	Nané	COC Page 2 of 3 and I	ъ	215	04:41	
Project:	Boeing-SSFL NPDES Monthly Outfall 019 COMPOSITE ア・ルビ い Er &HT FO	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515	Sampling Date/Time	6-7-2412 10:15			Ningdom 4m	Surene av	Southern States	Stevenson, conserved	-	6	\mathbf{A}	6-7-2-12	COC Pa		0	ے ب	
<u>a</u> .			# of Cont.	v	-	~	~	2	5	-	5	1	2	2	 -		Date/Time:	Date/Time:	Date/Time.
	te 200 Debby Wils	vyn Kelly 3 N AC N	Container Type	1L Poly	1L Poly	1L Amber	1L Poly	500 mL Poly	500 mL Poly	500 mL Poly	500 mL Poly	500 mL Poly	1L Amber	1L Amber			∩ ¥	e o V	
Idress:	a Ave, Sui 1007 :ontact:	F: Brow $k \partial f$	Sample Matrix	3	×	8	3	M	M	s N	×	A N	×	3			Ser's	1 duy	
Client Name/Address:	MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson	Project Manager. Bronwyn Kelly Sampler: $Rick ~ BAAACA$	Sample	Outfall 019	Outfall 019 Dup	Outfall 019	Outfali 019	Outfall 019	Outfall 019	Outfall 019	Outfall 019	Outfall 019	Outfall 019	Outfall 019			Relinquished By	Relinguished By	Relinduished By

7/13/2012

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1 12 13

Test America version 7/19/2010

CHAIN OF CUSTODY FORM

Page 3 of 3

	Comments	. <u></u>		Filter w/in 24hrs of receipt at lab		Unfiltered and unpreserved	analysis	Only test on 1st and 2nd				-				~	6.0	ellv: X
ANALYSIS REQUIRED														storm event.	he same event.	Turn-around time: (Check) 24 Hour:72 Hour:10 Day: 🖌 48 Hour:5 Day:Normai:	tegrity: (Check)	Data Requirements: (Check) No Level IV: _ All Level IV: NPDES Level IV:
ANALYSIS		qe	insy0							:				Page/3 of 3 are the composite samples for Outfall 019 for this storm event.	o the same work order for COC Page 1 of 3 for Outfall 019 for the same event.	7.12	<i>\$</i>	al 11/2011
			n onil Ə	••••••						,	 		 	 samples fo	Page 1 of			
	Gross Beta(900.0), , Sr-90 (905.0), Total یک6 (903.0 or 903.1) & , Uranium (908.0), K- r 901.1)	(0.808) (6-Н) п 2 тијъвЯ beniu	nuitinT dmoO uibsЯ			×								 e composite s	Inder for COC	Huld Date/Time:	Date/Time	
	ц 	Organic Carbo	nZ Total (×									 3 are th	work o	C)		$\left \bigvee_{\gamma} \right $
	als: Cu, Pb, Hg, Cd, Se,	SteM bevlossiO	Т	15 X	16	17A	В	48	19					age/3 of	he/same	JAR (Received By	Raceived By
	Ŷ		ive Bottle #				17B								ded to t	Reco	Recei	Recei
	NPDES all 019 Dewly	اتر م	Preservative	None	нсі	None	None	None	HORN					 COC Page 2 of 3 and	st be ad		de	
Project:	Boeing-SSFL NPDES Monthly Outfall 019 COMPOSITE Tr ハビ WEIGNTEA	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515	Sampling Date/Time	5-7-2012 10:15	4	11722.9	61.01		2102 2 3	10.15				COC Pe	These I	6- 7 11	me: 1-10	me:
	lson	~	# of Cont.	-	+	-	-	+	-							Date/Time:	Date/Time:	Date/Time:
	iuite 200 : Debby Wi	inwyn Kelly 19 X AGN	Container Type	1L Poly	250 mL Glass	2.5 Gal Cube	500 mL. Amber	1 Oal Oube	500 mL Poly								0 6.	
ddress:	lia a Ave, S 1007 Contact	er: Brc	Sample Matríx	M	Ν	~		M	M	:						r) stur	
Client Name/Address:	MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson	Project Manager: Bronwyn Kelly Sampler: んくん & A が A が A	Sample Description	Outfall 019	Outfall 019	Outfall 019		Outfall 019	Outfall 019							Relinquished By	Relinduithed By	Relinquished By

4 7 5

12

13

Login Sample Receipt Checklist

Client: MWH Americas Inc

Login Number: 13854

List Number: 1 Creator: Perez, Angel

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Job Number: 440-13854-1

List Source: TestAmerica Irvine

Login Sample Receipt Checklist

Client: MWH Americas Inc

Login Number: 14006

List Number: 1 Creator: Perez, Angel

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

13

APPENDIX G

Section 21

Arroyo Simi-Frontier Park – April 2, 2012 MECX Data Validation Report



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-7197-1

Prepared by

MEC^X, LP 12269 East Vassar Drive Aurora, CO 80014

I. INTRODUCTION

Task Order Title: Contract Task Order:	Boeing SSFL NPDES 1261.100D.00
Sample Delivery Group:	440-7197-1
Project Manager:	B. Kelly
Matrix:	Water
QC Level:	IV
No. of Samples:	1
No. of Reanalyses/Dilutions:	0
Laboratory:	TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Arroyo Simi- FP	440-7197-1	N/A	Water	4/2/2012 12:40:00 PM	SM 9221E, SM 9221F

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of $4^{\circ}C \pm 2^{\circ}C$. 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. Custody seals were intact. 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.
Ι	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
А	Not applicable.	ICP Serial Dilution %D were not within control limits.
Μ	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
Т	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
\$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.
		- / -F F

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. VARIOUS EPA METHODS—e. Coli and Fecal Coliform

Reviewed By: P. Meeks Date Reviewed: April 17, 2012

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the MEC^{X} Data Validation Procedure for General Minerals (DVP-6, Rev. 0), Standard Method SM 9221E and SM 9221F, and the National Functional Guidelines for Inorganic Data Review (7/02).

- Holding Times: The analytical holding time is listed as immediate. As the sample was prepared within six hours, no qualifications were required.
- Calibration: The control results were acceptable.
- Blanks: Not applicable to this method.
- Blank Spikes and Laboratory Control Samples: Not applicable to this method.
- Laboratory Duplicates: No laboratory duplicate analysis was performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: Not applicable to this method.
- 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 440-7197-1

Analysis Metho	od SM 92	221E						
Sample Name	Arroyo Simi-	FP	Matri	ix Type:	Water	V	Validation Le	vel: IV
Lab Sample Name:	440-7197-1	Sam	ple Date:	4/2/2012	12:40:00 PM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Coliform, Fecal	STL00002	500			MPN/10			
Analysis Metho	od SM 92	221F						
Sample Name	Arroyo Simi-	FP	Matri	ix Type:	Water	V	Validation Le	vel: IV
Lab Sample Name:	440-7197-1	Sam	ple Date:	4/2/2012	12:40:00 PM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Escherichia coli	68586-22	500	2.0	2.0	MPN/10			

APPENDIX G

Section 22

Arroyo Simi-Frontier Park – April 2, 2012 Test America Analytical Laboratory Report



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817 Tel: (949)261-1022

TestAmerica Job ID: 440-7197-1 Client Project/Site: Boeing SSFL outfalls

For:

MWH Americas Inc 618 Michillinda Avenue, Suite 200 Arcadia, California 91007

Attn: Bronwyn Kelly



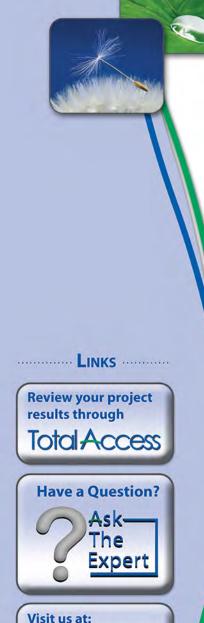
Authorized for release by: 4/16/2012 3:08:12 PM

Debby Wilson Project Manager I debby.wilson@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



www.testamericainc.com

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.

ebby Wilson

Debby Wilson Project Manager I 4/16/2012 3:08:12 PM

Table of Contents

Cover Page	1
Table of Contents	3
Sample Summary	4
Client Sample Results	5
Chronicle	6
QC Association	7
Definitions	8
Certification Summary	9
Subcontract Data	10
Chain of Custody	11
Receipt Checklists	12

Sample Summary

Matrix

Water

Client: MWH Americas Inc Project/Site: Boeing SSFL outfalls

Client Sample ID

Arroyo Simi-FP

Lab Sample ID

440-7197-1

Received

04/02/12 16:10

Collected

04/02/12 12:40

3
5
8
9

Date Collected: 04/02/12 12:40

Client Sample ID: Arroyo Simi-FP

Lab Sample ID: 440-7197-1 Matrix: Water

Method: SM 9221E - Colifo	rms, Fecal (Multiple-	Tube Fermer	ntation)						
Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fa
Coliform, Fecal	500				MPN/100mL			04/02/12 17:17	
Mothod: SM 9221E - E Coli	(Multiple-Tube Ferm	entation; EC	-MUG)						
Wethou. SW 52211 - L.CON	(
Analyte	· ·	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fa

Lab Sample ID: 440-7197-1

Matrix: Water

Client Sample ID: Arroyo Simi-FP

Date Collected: 04/02/12 12:40 Date Received: 04/02/12 16:10

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 9221E		1	100 mL	100 mL	17475		AK	TAL IRV
							(Start)	04/02/12 17:17		
							(End)	04/05/12 15:15		
Total/NA	Analysis	SM 9221F		1	100 mL	100 mL	17476		AK	TAL IRV
							(Start)	04/02/12 17:17		
							(End)	04/05/12 15:15		

Laboratory References:

EMSL = EMSL Analytical, Inc., 200 Rt 130 North, Cinnaminson, NJ 08077

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Biology

Analysis Batch: 17475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batc
440-7197-1	Arroyo Simi-FP	Total/NA	Water	SM 9221E	
-					
_					
- Analysis Batch: 174 - I ab Sample ID		Pren Tyne	Matrix	Method	Pren Bat
- Analysis Batch: 174 - Lab Sample ID	76 Client Sample ID	Ргер Туре	Matrix	Method	Prep Bat

Client: MWH Americas Inc Project/Site: Boeing SSFL outfalls

Glossary

Client: MWH A		
Project/Site: B	oeing SSFL outfalls	
Glossary		3
Abbreviation	These commonly used abbreviations may or may not be present in this report.	
₿ Ø	Listed under the "D" column to designate that the result is reported on a dry weight basis	
%R	Percent Recovery	5
CNF	Contains no Free Liquid	5
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample	
EDL	Estimated Detection Limit	
EPA	United States Environmental Protection Agency	- 7
MDL	Method Detection Limit	
ML	Minimum Level (Dioxin)	
ND	Not detected at the reporting limit (or MDL or EDL if shown)	ŏ
PQL	Practical Quantitation Limit	
QC	Quality Control	9
RL	Reporting Limit	
RPD	Relative Percent Difference, a measure of the relative difference between two points	
TEF	Toxicity Equivalent Factor (Dioxin)	
TEQ	Toxicity Equivalent Quotient (Dioxin)	

Certification Summary

Client: MWH Americas Inc Project/Site: Boeing SSFL outfalls

TestAmerica Job ID: 440-7197-1

5
8
9

aboratory	Authority	Program	EPA Region	Certification ID
estAmerica Irvine	Arizona	State Program	9	AZ0671
estAmerica Irvine	California	LA Cty Sanitation Districts	9	10256
estAmerica Irvine	California	NELAC	9	1108CA
estAmerica Irvine	California	State Program	9	2706
estAmerica Irvine	Guam	State Program	9	Cert. No. 12.002r
estAmerica Irvine	Hawaii	State Program	9	N/A
estAmerica Irvine	Nevada	State Program	9	CA015312007A
estAmerica Irvine	New Mexico	State Program	6	N/A
estAmerica Irvine	Northern Mariana Islands	State Program	9	MP0002
estAmerica Irvine	Oregon	NELAC	10	4005
estAmerica Irvine	USDA	Federal		P330-09-00080

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

EMSL Analytical, Inc.

Attn.

200 Route 130 North, Cinnaminson, NJ 08077 Phone/Fax: (800) 220-3675/ 786-0262 http://www.emsl.com E-mail: MicrobiologyLab@emsl.com

17461 Derian Avenue Suite 100

Client: TestAmerica Irvine

Irvine, CA 92614

Project: Boeing SSFL Outfalls-44002624



EMSL	9
EM.	4
	5
EMSL Order ID: 371205181	
Date Received: 4/4/2012	6
Date Analyzed: 4/6/2012	
Date Reported: 4/6/2012	7
Date Amended:	8
	•
eroides	9
evision No. 3, 04/18/2011)	
int Amount CEs /100 mL	10

Lab Sample Number	Client Sample ID	Location	Amount Received	Amount Sampled	CEs /100 mL
5181-1	440-7197-1	Arroyo Simi-FP	Water 250 ml	Water 250 ml	None Detected

Real-Time PCR Analysis for Human Bacteroides (Based on a published method SAM: 348 - 357, 2010), EMSL Test Code: M199, Revision No. 3, 04/18/2011)

EMSL maintains liability limited to cost of analysis. Interpretation of the data contained in this report is the responsibility of the client. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. The above test report relates only to the items tested. EMSL bears no responsibility for sample collection activities or analytical method limitations.

Note: The PCR primer is HF183 and the qPCR probe and primer was evaluated in 2010 by EPA scientists. The real-time PCR based on HF183 detects human specific total bacteroides predominantly with minor cross-detections on chicken and dog fecal materials. CEs: Cell Equivalents, measured by PCR using genomic DNA standards.

USEPA License No: 0240-02

Quar L:

Quanyi "Charlie" Li, Ph.D. Director, PCR and DNA Analysis Lab

Page 1 of 1

Client Name/Address:	SS:			Project:									ANAL	ANALYSIS REQUIRED	EQUI	RED			
MVVH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007	s, Suite	, 200		Boeing-SSFL NPDES Arroyo Simi - Frontier Park	NPDES Frontier Park	~												<u></u>	Field readings: (Log in and include in
Test America Contact: Debby Wilson	act: D€	sliW Vdd:	ю											· ·					report Temp and pH)
						-	(122		uemu									Te Te	Temp °F =
Project Manager: Bronwyn Kelly	Bronw	rn Kelly		Phone Number:	 		(SWS	(1	H ,29li									<u>م</u>	# Hd
Sampler: Rick Right RG A	BA.	N AG H		(ozo) 200-0091 Fax Number: (626) 568-6515	- 10		coliform	SSEMS)	sboinetsE									<u>}</u>	Time of readings =
Sample Sample Description Matrix		Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Fecal	E. coli	I-T2M										Comments
Arroyo Simi-FP W		125 mL Poly	<u>,</u>	135-C-4	Na2S203	-	×												
Arroyo Simi-FP W		125 mL Paly	-		Na2S203	2		×	$\left \right $							-			
Arroyo Simi-FP W		125 mL Poly	-	2102-2-4	None	e			×							_			Deliver to lab ASAP
							_												
														-					
																			2
					-														
				-															
Relinquished By			Date/Time:	me: 4-2-2012		Received By		.		Date	Date/Time: 12		Tum-arou 24 Hour	Tum-around time: (Check) 24 Hour	(Check)	70 Horie			1000
l'and	×	ŧ		13:30		N att		UU,		-M	: 20		48 Hour:			5 Day:			Normal:
Relinquighed By	(m)			Date/Time: 4-2-12 16:10		Refeived ByC	12	L'ÉC		Date/Tir	17. me: 11	$\left \begin{array}{c} \mathcal{L} \\ \mathcal{L} \\$	Sample In Intact	Sample Integrity: (Check) Intact	theck)	On Ice:	Y		ۍ. م°
	2	L	Date/ I IIIIe	Ð		Kecelved by				Date/ I ime:	Je:		ata Requ	Data Requirements: (Check)	(Check)				۰. م
												2	No Louis I NA			All Lovel NP	1 1.1	NDL	

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10

Login Sample Receipt Checklist

Client: MWH Americas Inc

Login Number: 7197 List Number: 1

Creator: Robb, Kathleen

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Job Number: 440-7197-1

List Source: TestAmerica Irvine

APPENDIX G

Section 23

Arroyo Simi-Frontier Park – April 6, 2012 MECX Data Validation Report



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-7737-1

Prepared by

MEC^X, LP 12269 East Vassar Drive Aurora, CO 80014

I. INTRODUCTION

Task Order Title: Contract Task Order:	Boeing SSFL NPDES 1261.100D.00
Sample Delivery Group:	440-7737-1
Project Manager:	B. Kelly
Matrix:	Water
QC Level:	IV
No. of Samples:	1
No. of Reanalyses/Dilutions:	0
Laboratory:	TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Arroyo Simi- FP	440-7737-1	N/A	Water	4/6/2012 11:40:00 AM	SM 9221F, SM 9221E

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of $4^{\circ}C \pm 2^{\circ}C$. 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 were couriered to the laboratory, 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.
Ι	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
А	Not applicable.	ICP Serial Dilution %D were not within control limits.
Μ	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
Т	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
\$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. VARIOUS EPA METHODS— e. Coli and Fecal Coliform

Reviewed By: P. Meeks Date Reviewed: May 14, 2012

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 SM 9221E and SM 9221F, and the National Functional Guidelines for Inorganic Data Review (7/02).

- Holding Times: The analytical holding time is listed as immediate. As the sample was prepared within six hours, no qualifications were required.
- Calibration: The control results were acceptable.
- Blanks: Not applicable to this method.
- Blank Spikes and Laboratory Control Samples: Not applicable to this method.
- Laboratory Duplicates: No laboratory duplicate analysis was performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: Not applicable to this method.
- 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 440-7737-1

Analysis Metho	od SM 92	221E						
Sample Name	Arroyo Simi-	FP	Matri	ix Type:	Water	V	Validation Le	evel: IV
Lab Sample Name:	440-7737-1	Sam	ple Date:	4/6/2012	11:40:00 AM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Coliform, Fecal	STL00002	250			MPN/10			
Analysis Metho	od SM 92	221F						
Sample Name	Arroyo Simi-	FP	Matri	ix Type:	Water	V	Validation Le	evel: IV
Lab Sample Name:	440-7737-1	Sam	ple Date:	4/6/2012	11:40:00 AM			
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Escherichia coli	68586-22	250	2.0	2.0	MPN/10			

APPENDIX G

Section 24

Arroyo Simi-Frontier Park – April 6, 2012 Test America Analytical Laboratory Report



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817 Tel: (949)261-1022

TestAmerica Job ID: 440-7737-1 Client Project/Site: Boeing SSFL outfalls

For:

MWH Americas Inc 618 Michillinda Avenue, Suite 200 Arcadia, California 91007

Attn: Bronwyn Kelly



Authorized for release by: 4/13/2012 5:02:20 PM

Debby Wilson Project Manager I debby.wilson@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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.

ebby Wilson

Debby Wilson Project Manager I 4/13/2012 5:02:20 PM

Table of Contents

Cover Page	1
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Sample Summary	4
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QC Association	7
Definitions	8
Certification Summary	9
Subcontract Data	10
Chain of Custody	11
Receipt Checklists	12

Sample Summary

1	
_	3
_	
	5
	8
	9

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-7737-1	Arroyo Simi-FP	Water	04/06/12 11:40	04/06/12 14:50

Client Sample ID: Arroyo Simi-FP Lab Sample ID: 440-7737-1 Date Collected: 04/06/12 11:40 Matrix: Water Date Received: 04/06/12 14:50 Method: SM 9221E - Coliforms, Fecal (Multiple-Tube Fermentation) Dil Fac Analyte Result Qualifier NONE NONE Unit Analyzed D Prepared Coliform, Fecal 250 MPN/100mL 04/06/12 15:54 1 Method: SM 9221F - E.Coli (Multiple-Tube Fermentation; EC-MUG) Analyte Result Qualifier RL RL Unit Prepared Dil Fac D Analyzed 250 2.0 2.0 MPN/100mL Escherichia coli 04/06/12 15:54 1

Lab Sample ID: 440-7737-1

Matrix: Water

Client Sample ID: Arroyo Simi-FP

Date Collected: 04/06/12 11:40

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 9221E		1	100 mL	100 mL	18297		AK	TAL IRV
							(Start)	04/06/12 15:54		
							(End)	04/09/12 12:35		
Total/NA	Analysis	SM 9221F		1	100 mL	100 mL	18298		AK	TAL IRV
							(Start)	04/06/12 15:54		
							(End)	04/09/12 12:35		

Laboratory References:

EMSL = EMSL Analytical, Inc., 200 Rt 130 North, Cinnaminson, NJ 08077

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Biology

Analysis Batch: 18297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7737-1	Arroyo Simi-FP	Total/NA	Water	SM 9221E	
nalysis Batch: 182	298				
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
440-7737-1	Arroyo Simi-FP	Total/NA	Water	SM 9221F	

Definitions/Glossary

Client: MWH Americas Inc Project/Site: Boeing SSFL outfalls

Glossary

Client: MWH A		1
Project/Site: B	oeing SSFL outfalls	
Glossary		3
Abbreviation	These commonly used abbreviations may or may not be present in this report.	
 	Listed under the "D" column to designate that the result is reported on a dry weight basis	-
%R	Percent Recovery	5
CNF	Contains no Free Liquid	
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample	
EDL	Estimated Detection Limit	
EPA	United States Environmental Protection Agency	-
MDL	Method Detection Limit	
ML	Minimum Level (Dioxin)	
ND	Not detected at the reporting limit (or MDL or EDL if shown)	ð
PQL	Practical Quantitation Limit	
QC	Quality Control	9
RL	Reporting Limit	
RPD	Relative Percent Difference, a measure of the relative difference between two points	
TEF	Toxicity Equivalent Factor (Dioxin)	
TEQ	Toxicity Equivalent Quotient (Dioxin)	

Certification Summary

Program

NELAC

State Program

NELAC

Federal

Accreditation may not be offered or required for all methods and analytes reported in this package . Please contact your project manager for the laboratory's

LA Cty Sanitation Districts

Client: MWH Americas Inc Project/Site: Boeing SSFL outfalls

current list of certified methods and analytes.

Authority

California

California

California

Guam

Hawaii

Nevada

Oregon

USDA

New Mexico

Northern Mariana Islands

Arizona

Laboratory

TestAmerica Irvine

TestAmerica Irvine

TestAmerica Irvine

TestAmerica Irvine

TestAmerica Irvine

TestAmerica Irvine TestAmerica Irvine

TestAmerica Irvine

TestAmerica Irvine

TestAmerica Irvine

TestAmerica Irvine

TestAmerica Job ID: 440-7737-1

Certification ID

Cert. No. 12.002r

CA015312007A

P330-09-00080

AZ0671

10256

2706

N/A

N/A

4005

MP0002

1108CA

EPA Region

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TestAmerica Irvine 4/13/2012

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EMSL Analytical, Inc.

200 Route 130 North, Cinnaminson, NJ 08077 Phone/Fax: (800) 220-3675/ 786-0262 <u>http://www.emsl.com</u> E-mail: <u>MicrobiologyLab@emsl.com</u>



Client: TestAmerica Irvine	EMSL Order ID: 371205533
17461 Derian Avenue Suite 100	Date Received: 4/10/2012
Irvine , CA 92614	Date Analyzed: 4/11/2012
Attn.	Date Reported: 4/13/2012
Project: 44002624/Boeing SSFL Outfalls	Date Amended:

Real-Time PCR Analysis for Human Bacteroides

(Based on a published method SAM: 348 - 357, 2010), EMSL Test Code: M199, Revision No. 3, 04/18/2011)

Lab Sample Number	Client Sample ID	Location	Amount Received	Amount Sampled	CEs /100 mL
5533-1	Arroyo Simi-FP (440-7737-1)		Water 250 ml	Water 250 ml	None Detected

EMSL maintains liability limited to cost of analysis. Interpretation of the data contained in this report is the responsibility of the client. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. The above test report relates only to the items tested. EMSL bears no responsibility for sample collection activities or analytical method limitations.

Note: The PCR primer is HF183 and the qPCR probe and primer was evaluated in 2010 by EPA scientists. The real-time PCR based on HF183 detects human specific total bacteroides predominantly with minor cross-detections on chicken and dog fecal materials. CEs: Cell Equivalents, measured by PCR using genomic DNA standards.

USEPA License No: 0240-02

Quar L:

Quanyi "Charlie" Li, Ph.D. Director, PCR and DNA Analysis Lab

Page 1 of 1

lest America version 3/18/2011	ersion 3/18/2011									-	, - 			
Client Name/Address:	SS:	Project:		¶					ANA	ANALYSIS REQUIRED	EQUIRE	Q		
MVH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007	∍, Suite 200 7	Boeing-SSFL NPDES Arroyo Simi - Frontier Park	VPDES rontier Park	I					····				Fiel (Lo	Field readings: (Log in and include in
Test America Con	Test America Contact: Debby Wilson					U8							Ter	report temp and pri) Temp °F ≃
inag	Bronwyn Kelly E <i>BANHG 1</i> 9	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515			l colitorn (SM9221)	li (SM9221) Bateriodales, Hum.					······································	<u></u>	H = H	pH = Time of readings =
Sample Sample Description Matrix	trix Type container # of		Preservative	Bottle #										Comments
Arroyo Simi-FP W	V 125 mL Poly 1	2	Na2S2O3	1	×									
Arroyo Simi-FP W	V 125 mL Poly 1	fing .	Na2S203	2		×								
Arroyo Simi-FP W	V 125 mL Poly 1	4-6-	None	e		×								Deliver to lab ASAP
					+									
					+									
											_			
										_				
Relinquished By	Date	Date/Time: <u> </u>	X	Received By	÷	19100	Date/Ti	MTime:	Turn-arou	Turn-around time: (Check) 24 Hour:		72 Hour.	10 Day:	iak:
Relinquished By	Date	Date/Time:	~	Received B			bate/Time:	Date/Time:	_	48 Hour: 5 Day: Sample Integrity. (Check)	Check)		Normali	·
U VONU Relinquished By		Date/Time:		Received By	Ŷ		Date/Time:	e:		Intaot. Data Requirements: (Check)	r: (Check)		×	2
									Mollower 197	11.6		All Level IV	UAN	NPDES Level IV: X

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Login Sample Receipt Checklist

Client: MWH Americas Inc

Login Number: 7737 List Number: 1

Creator: Avila, Stephanie

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

List Source: TestAmerica Irvine

APPENDIX G

Section 25

Arroyo Simi-Frontier Park – April 11, 2012 MECX Data Validation Report



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-8284-1

Prepared by

MEC^X, LP 12269 East Vassar Drive Aurora, CO 80014

I. INTRODUCTION

Task Order Title: Contract Task Order:	Boeing SSFL NPDES 1261.100D.00
Sample Delivery Group:	440-8284-1
Project Manager:	B. Kelly
Matrix:	Water
QC Level:	IV
No. of Samples:	1
No. of Reanalyses/Dilutions:	0
Laboratory:	TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Arroyo Simi-FP	440-8284-1	N/A	Water	4/11/2012 12:15:00 PM	SM 2340B, 200.7

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of $4^{\circ}C \pm 2^{\circ}C$. 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 were couriered to the laboratory, 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.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
н	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
С	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
В	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
Е	Not applicable.	Duplicates showed poor agreement.
Ι	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
А	Not applicable.	ICP Serial Dilution %D were not within control limits.
М	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 200.7—Metals and Hardness

Reviewed By: P. Meeks Date Reviewed: May 14, 2012

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *MEC^X* Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Methods 200.7 and SM2340B, and the National Functional Guidelines for Inorganic Data Review (7/02).

- Holding Times: The analytical holding times, six months for ICP metals, was met.
- Calibration: Calibration criteria were met. All initial and continuing calibration recoveries were within 90-110%. CRI recoveries were within the control limits of 70-130%.
- Blanks: Method blanks and CCBs had no applicable detects.
- Interference Check Samples: Recoveries were within 80-120%.
- 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.
- Sample Result Verification: The hardness calculation was 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 440-8284-1

Sample Name	Arroyo Simi-	FP	Matr	ix Type:	Water	V	alidation Le	vel: IV
Lab Sample Name:	440-8284-1	Sam	ple Date:	4/11/201	2 12:15:00 PM	М		
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Calcium	7440-70-2	55	0.10	0.050	mg/L	MB		
Magnesium	7439-95-4	16	0.020	0.012	mg/L			
Analysis Metho	od SM 2.	340B						
Sample Name	Arroyo Simi-	FP	Matri	ix Type:	Water	V	alidation Le	vel: IV
Lab Sample Name:	440-8284-1	Sam	ple Date:	4/11/201	2 12:15:00 PM	М		
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Oualifier	Validation Oualifier	Validation Notes
		, and			0 0.0	C	Zuunner	110000

APPENDIX G

Section 26

Arroyo Simi-Frontier Park – April 11, 2012 Test America Analytical Laboratory Report



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine 17461 Derian Ave Suite 100 Irvine, CA 92614-5817 Tel: (949)261-1022

TestAmerica Job ID: 440-8284-1

Client Project/Site: Boeing SSFL NPDES Revision: 1

For:

MWH Americas Inc 618 Michillinda Avenue, Suite 200 Arcadia, California 91007

Attn: Bronwyn Kelly

Authorized for release by: 5/1/2012 11:00:20 AM

Debby Wilson Project Manager I debby.wilson@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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.

ebby Wilson

Debby Wilson Project Manager I 5/1/2012 11:00:20 AM

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Case Narrative	5
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Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-8284-1	Arroyo Simi-FP	Water	04/11/12 12:15	04/11/12 18:30

Job ID: 440-8284-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative 440-8284-1

Comments

Revised report to remove Calcium and Magnesium results. Results are for hardness calculation only.

Receipt

The sample was received on 4/11/2012 6:30 PM; the sample arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 3.50 C.

GC/MS Semi VOA

Method(s) 525.2: Internal standard responses were outside of acceptance limits for the following sample(s): Arroyo Simi-FP (440-8284-1). The sample(s) shows evidence of matrix interference.

Method(s) 525.2: Surrogate recovery for the following sample(s) was outside the upper control limit: Arroyo Simi-FP (440-8284-1). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

No other analytical or quality issues were noted.

GC Semi VOA

Method(s) 608: The continuing calibration verification (CCV) for 1260 associated with batch 20064 recovered above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 608: Insufficient sample volume was available to perform batch matrix spike/matrix spike duplicate (MS/MSD) associated with batch 19875. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

Method(s) 608: Insufficient sample volume was available to perform batch matrix spike/matrix spike duplicate (MS/MSD) associated with batch 19875. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

No other analytical or quality issues were noted.

Metals

No analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

RL

MDL Unit

D

Prepared

Date Collected: 04/11/12 12:15

Date Received: 04/11/12 18:30

Analyte

Hardness, as CaCO3

Client Sample ID: Arroyo Simi-FP

Method: 525.2 - Semivolatile Organic Compounds (GC/MS)

Result Qualifier

200

Lab Sample ID: 440-8284-1

Analyzed

Matrix: Water

Dil Fac

5

Chlorpyrifos	ND		1.0	0.080	ug/L		04/12/12 14:31	04/19/12 15:54	1
Diazinon	ND		0.25	0.040	•		04/12/12 14:31	04/19/12 15:54	1
					0				
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,3-Dimethyl-2-nitrobenzene	112		70 - 130				04/12/12 14:31	04/19/12 15:54	1
Perylene-d12	79		70 - 130				04/12/12 14:31	04/19/12 15:54	;
Triphenylphosphate	327	AY	70 - 130				04/12/12 14:31	04/19/12 15:54	-
Method: 608 PCB LL - Polychi	lorinated Bipheny	ls (PCBs) L	ow level						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.48	0.24	ug/L		04/15/12 14:34	04/16/12 23:10	1
Aroclor 1221	ND		0.48	0.24	ug/L		04/15/12 14:34	04/16/12 23:10	
Aroclor 1232	ND		0.48	0.24	ug/L		04/15/12 14:34	04/16/12 23:10	
Aroclor 1242	ND		0.48	0.24	ug/L		04/15/12 14:34	04/16/12 23:10	
Aroclor 1248	ND		0.48	0.24	ug/L		04/15/12 14:34	04/16/12 23:10	
Aroclor 1254	ND		0.48	0.24	ug/L		04/15/12 14:34	04/16/12 23:10	
Aroclor 1260	ND		0.48	0.24	ug/L		04/15/12 14:34	04/16/12 23:10	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
	%Recovery 85	Qualifier	Limits 45 - 120				Prepared 04/15/12 14:34	Analyzed 04/16/12 23:10	
DCB Decachlorobiphenyl (Surr)	85		45 - 120				<u> </u>		Dil Fa
DCB Decachlorobiphenyl (Surr) Method: 608 Pesticides - Orga	anochlorine Pesti		45 - 120	MDL	Unit	D	<u> </u>		
DCB Decachlorobiphenyl (Surr) Method: 608 Pesticides - Orga Analyte	anochlorine Pesti	cides Low	45 - 120			D	04/15/12 14:34	04/16/12 23:10	
DCB Decachlorobiphenyl (Surr) Method: 608 Pesticides - Orga Analyte Chlordane (technical)	anochlorine Pesti Result	cides Low	45 - 120		ug/L	D	04/15/12 14:34 Prepared	04/16/12 23:10 Analyzed	Dil Fa
DCB Decachlorobiphenyl (Surr) Method: 608 Pesticides - Orga Analyte Chlordane (technical) Dieldrin	anochlorine Pesti Result	cides Low	45 - 120 level <u>RL</u> 0.095	0.0076	ug/L	D	04/15/12 14:34 Prepared 04/15/12 14:34	04/16/12 23:10 Analyzed 04/16/12 14:26	Dil Fa
DCB Decachlorobiphenyl (Surr) Method: 608 Pesticides - Orga Analyte Chlordane (technical) Dieldrin Toxaphene	anochlorine Pesti Result ND ND	cides Low	45 - 120 level <u>RL</u> 0.095 0.0048	0.0076	ug/L ug/L ug/L	D	04/15/12 14:34 Prepared 04/15/12 14:34 04/15/12 14:34	04/16/12 23:10 Analyzed 04/16/12 14:26 04/16/12 14:26	Dil Fa
DCB Decachlorobiphenyl (Surr) Method: 608 Pesticides - Orga Analyte Chlordane (technical) Dieldrin Toxaphene 4,4'-DDD	anochlorine Pestie Result ND ND ND	cides Low	45 - 120 level 0.095 0.0048 0.48	0.0076 0.0019 0.24	ug/L ug/L ug/L ug/L	<u>D</u>	04/15/12 14:34 Prepared 04/15/12 14:34 04/15/12 14:34 04/15/12 14:34	O4/16/12 23:10 Analyzed 04/16/12 14:26 04/16/12 14:26 04/16/12 14:26	Dil Fa
DCB Decachlorobiphenyl (Surr) Method: 608 Pesticides - Orga Analyte Chlordane (technical) Dieldrin Toxaphene 4,4'-DDD 4,4'-DDE	anochlorine Pesti Result ND ND ND ND	cides Low	45 - 120 level RL 0.095 0.0048 0.48 0.0048	0.0076 0.0019 0.24 0.0038	ug/L ug/L ug/L ug/L ug/L	D	O4/15/12 14:34 Prepared 04/15/12 14:34 04/15/12 14:34 04/15/12 14:34 04/15/12 14:34 04/15/12 14:34	O4/16/12 23:10 Analyzed 04/16/12 14:26 04/16/12 14:26 04/16/12 14:26 04/16/12 14:26 04/16/12 14:26	Dil Fa
Surrogate DCB Decachlorobiphenyl (Surr) Method: 608 Pesticides - Orga Analyte Chlordane (technical) Dieldrin Toxaphene 4,4'-DDD 4,4'-DDE 4,4'-DDT Surrogate	anochlorine Pesti Result ND ND ND ND ND	Cides Low Qualifier	45 - 120 evel RL 0.095 0.0048 0.48 0.0048 0.0048	0.0076 0.0019 0.24 0.0038 0.0029	ug/L ug/L ug/L ug/L ug/L	<u>D</u>	O4/15/12 14:34 Prepared 04/15/12 14:34 04/15/12 14:34 04/15/12 14:34 04/15/12 14:34 04/15/12 14:34 04/15/12 14:34 04/15/12 14:34 04/15/12 14:34	O4/16/12 23:10 Analyzed 04/16/12 14:26 04/16/12 14:26 04/16/12 14:26 04/16/12 14:26 04/16/12 14:26 04/16/12 14:26 04/16/12 14:26	Dil Fa

0.33

0.17 mg/L

04/18/12 13:18

1

Client Sample ID: Arroyo Simi-FP Date Collected: 04/11/12 12:15 Date Received: 04/11/12 18:30

Lab Sample ID: 440-8284-1

Matrix: Water

5 6 7

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	525.2			1000 mL	1 mL	19632	04/12/12 14:31	JM	TAL IRV
Total/NA	Analysis	525.2		1			20682	04/19/12 15:54	JM	TAL IRV
Total/NA	Prep	608			1050 mL	2 mL	19875	04/15/12 14:34	AB	TAL IRV
Total/NA	Analysis	608 Pesticides		1			19946	04/16/12 14:26	DD	TAL IRV
Total/NA	Analysis	608 PCB LL		1			20064	04/16/12 23:10	CN	TAL IRV
Total/NA	Analysis	SM 2340B		1			20492	04/18/12 13:18	FR	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

2 3 4 5 6 7 8 9 10 11 12

Method: 525.2 - Semivolatile Organic Compounds (GC/MS)

Matrix: Water											Prep T	ype: To	tal/N/
Analysis Batch: 20682												Batch:	
	MB	MB											
Analyte	Result	Qualifier	RL		MDL	Unit		D	Pr	epared	Analyz	ed	Dil Fa
Chlorpyrifos	ND		1.0	(0.080	ug/L			04/12	2/12 14:31	04/19/12	14:04	
Diazinon	ND	1	0.25	(0.040	ug/L			04/12	2/12 14:31	04/19/12	14:04	
	MB												
Surrogate	%Recovery		Limits					_		repared	Analyz		Dil Fa
1,3-Dimethyl-2-nitrobenzene	102		70 - 130						04/12	2/12 14:31	04/19/12	14:04	
Perylene-d12	96		70 - 130						04/1	2/12 14:31	04/19/12	14:04	
Triphenylphosphate	112	•	70 - 130						04/1	2/12 14:31	04/19/12	14:04	
Lab Sample ID: LCS 440-19	632/2-A							Cli	ient	Sample	ID: Lab Co	ontrol S	ampl
Matrix: Water											Prep T	ype: To	tal/N
Analysis Batch: 20682											Prep	Batch:	1963
			Spike	LCS	LCS						%Rec.		
Analyte			Added	Result	Qua	lifier	Unit		D	%Rec	Limits		
Chlorpyrifos			5.00	5.62			ug/L			112	70 - 130		
Diazinon			5.00	5.01			ug/L			100	70 - 130		
	LCS LCS												
Surrogate	%Recovery Qua	alifier	Limits										
1,3-Dimethyl-2-nitrobenzene	107		70 - 130										
Perylene-d12	98		70 - 130										
Triphenylphosphate	116		70 - 130										
Lab Sample ID: LCSD 440-1	9632/3-A						CI	ient S	Sam	ple ID: L	ab Contro		
Matrix: Water											Prep T	ype: To	tal/N/
Analysis Batch: 20682												Batch:	
			Spike	LCSD	LCS	D					%Rec.		RP
Analyte			Added	Result	Qua	lifier	Unit		D .	%Rec	Limits	RPD	Lim
Chlorpyrifos			5.00	5.77			ug/L			115	70 - 130	3	3
Diazinon			5.00	5.07			ug/L			101	70 - 130	1	3
	LCSD LCS												
Surrogate	%Recovery Qua	alifier	Limits										
1,3-Dimethyl-2-nitrobenzene	108	_	70 - 130										
Perylene-d12	99		70 - 130										
Triphenylphosphate	122		70 - 130										

Method: 608 PCB LL - Polychlorinated Biphenyls (PCBs) Low level

Lab Sample ID: MB 440-19875/1 Matrix: Water Analysis Batch: 20064	I-A MB	мв					Client Sa	mple ID: Metho Prep Type: T Prep Batch	otal/NA
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.50	0.25	ug/L		04/15/12 14:34	04/16/12 21:52	1
Aroclor 1221	ND		0.50	0.25	ug/L		04/15/12 14:34	04/16/12 21:52	1
Aroclor 1232	ND		0.50	0.25	ug/L		04/15/12 14:34	04/16/12 21:52	1
Aroclor 1242	ND		0.50	0.25	ug/L		04/15/12 14:34	04/16/12 21:52	1
Aroclor 1248	ND		0.50	0.25	ug/L		04/15/12 14:34	04/16/12 21:52	1
Aroclor 1254	ND		0.50	0.25	ug/L		04/15/12 14:34	04/16/12 21:52	1
Aroclor 1260	ND		0.50	0.25	ug/L		04/15/12 14:34	04/16/12 21:52	1

Project/Site: Boeing SSFL NPDES

Dieldrin

4,4'-DDD

Method: 608 PCB LL - Polychlorinated Biphenyls (PCBs) Low level (Continued)

Lab Sample ID: MB 440-19875 Matrix: Water	5/1- A							Client Sa	ample ID: Met Prep Type	: Tot	al/NA
Analysis Batch: 20064									Prep Ba	tch:	19875
	N	IB MB									
Surrogate	%Recove	ry Qualifier	Limits				P	repared	Analyzed		Dil Fac
DCB Decachlorobiphenyl (Surr)		48	45 - 120				04/1	5/12 14:34	04/16/12 21:5	2	1
Lab Sample ID: LCS 440-1987	'5/4-A						Client	Sample	ID: Lab Contr	ol Sa	ample
Matrix: Water									Prep Type	: Tot	al/NA
Analysis Batch: 20064									Prep Ba	tch:	19875
-			Spike	LCS	LCS				%Rec.		
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits		
Aroclor 1016			4.00	3.75		ug/L		94	50 - 115		
Aroclor 1260			4.00	3.70		ug/L		93	60 - 120		
	LCS L	cs									
Surrogate	%Recovery Q	ualifier	Limits								
DCB Decachlorobiphenyl (Surr)	94		45 - 120								
- Lab Sample ID: LCSD 440-198	375/5-A					Cli	ient Sam	ple ID: L	ab Control Sa	mple	e Dup
Matrix: Water								· · · ·	Prep Type	: Tot	al/NA
Analysis Batch: 20064									Prep Ba	tch:	19875
			Spike	LCSD	LCSD				%Rec.		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits F	RPD	Limit
Aroclor 1016			4.00	3.25		ug/L		81	50 - 115	14	30
Aroclor 1260			4.00	3.60		ug/L		90	60 - 120	3	25
	LCSD L	CSD									
Surrogate	%Recovery Q	ualifier	Limits								
DCB Decachlorobiphenyl (Surr)	94		45 - 120								

Method: 608 Pesticides - Organochlorine Pesticides Low level

Lab Sample ID: MB 440-19875/1-A								С	lient Sa	mple ID: Metho	d Blank
Matrix: Water										Prep Type: 1	Total/NA
Analysis Batch: 19946										Prep Batcl	h: 19875
	MB	MB									
Analyte	Result	Qualifier	RL	MD	L Unit		D	Pre	pared	Analyzed	Dil Fa
Chlordane (technical)	ND		0.10	0.008	0 ug/L			04/15/	12 14:34	04/16/12 12:21	-
Dieldrin	ND		0.0050	0.002	0 ug/L			04/15/	12 14:34	04/16/12 12:21	1
Toxaphene	ND		0.50	0.2	5 ug/L			04/15/ ⁻	12 14:34	04/16/12 12:21	1
4,4'-DDD	ND		0.0050	0.004	0 ug/L			04/15/	12 14:34	04/16/12 12:21	1
4,4'-DDE	ND		0.0050	0.003	0 ug/L			04/15/ ⁻	12 14:34	04/16/12 12:21	1
4,4'-DDT	ND		0.010	0.004	0 ug/L			04/15/	12 14:34	04/16/12 12:21	1
	МВ	МВ									
Surrogate	%Recovery	Qualifier	Limits					Pre	pared	Analyzed	Dil Fac
Tetrachloro-m-xylene	82		35 _ 115					04/15/	12 14:34	04/16/12 12:21	1
Lab Sample ID: LCS 440-19875/2-A							с	lient S	ample	ID: Lab Control	Sample
Matrix: Water										Prep Type: 1	rotal/NA
Analysis Batch: 19946										Prep Batcl	
-			Spike	LCS LC	S					«Rec.	
Analyte			Added	Result Qu	alifier	Unit		D	%Rec	Limits	

99

108

55 - 115

55 - 120

0.497

0.538

ug/L

ug/L

0.500

0.500

Method: 608 Pesticides - Organochlorine Pesticides Low level (Continued)

Lab Sample ID: LCS 440-19	875/2-A						Client	Sample	D: Lab C	ontrol S	ample
Matrix: Water										ype: To	
Analysis Batch: 19946										Batch:	
			Spike	LCS	LCS				%Rec.		
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits		
4,4'-DDE			0.500	0.508		ug/L		102	50 - 120		
4,4'-DDT			0.500	0.549		ug/L		110	55 _ 120		
	LCS	LCS									
Surrogate	%Recovery	Qualifier	Limits								
Tetrachloro-m-xylene	80		35 - 115								
Matrix: Water Analysis Batch: 19946			Spike		LCSD					ype: To Batch:	
Analyte			Added		Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Dieldrin			0.500	0.470		ug/L		94	55 _ 115	5.63	30
4,4'-DDD			0.500	0.508		ug/L		102	55 - 120	5.62	30
4,4'-DDE			0.500	0.481		ug/L		96	50 ₋ 120	5.46	30
4,4'-DDT			0.500	0.520		ug/L		104	55 - 120	5.28	30
	LCSD	LCSD									
Surrogate	%Recovery	Qualifier	Limits								
Tetrachloro-m-xylene	76		35 - 115								

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Matrix

Water

Water

Water

Water

Matrix

Water

Water

Water

Water

Client Sample ID

Lab Control Sample

Lab Control Sample Dup

Arroyo Simi-FP

Method Blank

Client Sample ID

Lab Control Sample

Lab Control Sample Dup

Arroyo Simi-FP

Method Blank

GC/MS Semi VOA

Prep Batch: 19632

LCS 440-19632/2-A

MB 440-19632/1-A

Lab Sample ID

LCS 440-19632/2-A

MB 440-19632/1-A

LCSD 440-19632/3-A

440-8284-1

LCSD 440-19632/3-A

Analysis Batch: 20682

Lab Sample ID

440-8284-1

Method

525.2

525.2

525.2

525.2

Method

525.2

525.2

525.2

525.2

Prep Batch

Prep Batch

19632

19632

19632

19632

9 1(

GC Semi VOA

Prep Batch: 19875

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8284-1	Arroyo Simi-FP	Total/NA	Water	608	
LCS 440-19875/2-A	Lab Control Sample	Total/NA	Water	608	
LCS 440-19875/4-A	Lab Control Sample	Total/NA	Water	608	
LCSD 440-19875/3-A	Lab Control Sample Dup	Total/NA	Water	608	
LCSD 440-19875/5-A	Lab Control Sample Dup	Total/NA	Water	608	
MB 440-19875/1-A	Method Blank	Total/NA	Water	608	

Analysis Batch: 19946

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
440-8284-1	Arroyo Simi-FP	Total/NA	Water	608 Pesticides	19875
LCS 440-19875/2-A	Lab Control Sample	Total/NA	Water	608 Pesticides	19875
LCSD 440-19875/3-A	Lab Control Sample Dup	Total/NA	Water	608 Pesticides	19875
MB 440-19875/1-A	Method Blank	Total/NA	Water	608 Pesticides	19875

Analysis Batch: 20064

L	ab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
4	40-8284-1	Arroyo Simi-FP	Total/NA	Water	608 PCB LL	19875
L	CS 440-19875/4-A	Lab Control Sample	Total/NA	Water	608 PCB LL	19875
L	CSD 440-19875/5-A	Lab Control Sample Dup	Total/NA	Water	608 PCB LL	19875
N	/IB 440-19875/1-A	Method Blank	Total/NA	Water	608 PCB LL	19875

Metals

Analysis Batch: 20492

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8284-1	Arroyo Simi-FP	Total/NA	Water	SM 2340B	

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
AY	Matrix Interference suspected

Glossary

Quanner		
AY	Matrix Interference suspected	5
Glossary		
Abbreviation	These commonly used abbreviations may or may not be present in this report.	
¢	Listed under the "D" column to designate that the result is reported on a dry weight basis	
%R	Percent Recovery	
CNF	Contains no Free Liquid	8
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample	
EDL	Estimated Detection Limit	9
EPA	United States Environmental Protection Agency	
MDL	Method Detection Limit	
ML	Minimum Level (Dioxin)	
ND	Not detected at the reporting limit (or MDL or EDL if shown)	
PQL	Practical Quantitation Limit	
QC	Quality Control	
RL	Reporting Limit	
RPD	Relative Percent Difference, a measure of the relative difference between two points	
TEF	Toxicity Equivalent Factor (Dioxin)	
TEQ	Toxicity Equivalent Quotient (Dioxin)	

Certification Summary

Client: MWH Americas Inc Project/Site: Boeing SSFL NPDES

TestAmerica Job ID: 440-8284-1

5
6
8
9
10
11

aboratory	Authority	Program	EPA Region	Certification ID
estAmerica Irvine	Arizona	State Program	9	AZ0671
estAmerica Irvine	California	LA Cty Sanitation Districts	9	10256
estAmerica Irvine	California	NELAC	9	1108CA
estAmerica Irvine	California	State Program	9	2706
estAmerica Irvine	Guam	State Program	9	Cert. No. 12.002r
estAmerica Irvine	Hawaii	State Program	9	N/A
estAmerica Irvine	Nevada	State Program	9	CA015312007A
estAmerica Irvine	New Mexico	State Program	6	N/A
estAmerica Irvine	Northern Mariana Islands	State Program	9	MP0002
estAmerica Irvine	Oregon	NELAC	10	4005
estAmerica Irvine	USDA	Federal		P330-09-00080

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

÷	Page 1 of 1	KED	Field readings:	Temp = So C	pH = 7.6	Water Velocity 🥣 🗸	(FUsecond) = $/ - / & O$	Time of readings = 1235	Comments			Extract within 36-Hours of sampling						Turn around Time: (check) 24 Hours 5 Days		72 Hours Normal X	Sample Integrity (check)	Data Requirements: (check) No Level IV All Level IV +	INPUES LEVEL IV
440-828	CUSTODY FORM	ANALYSIS REQUIRED			4'⊅ 'ui	nbləi ,(808	608) rifos, D ene ((€, 4,4	sbyo orda orby	лохі УЧО УЧО		×	×	×			· ·		DateTime: 4/11/17	Date/Time:	2aul 4/1/12 18:30	Date/Time.		
			Frontier		03	CaC	SE SS	ane	Bottle # Hard	۲ ×	2A, 2B	3A, 3B	4A, 4B					 Received By	Received By	3	Received By		
. 1	CHAIN OF		L NPUES royo Simi-l		_	ber: 691	r. 515		Preservative	HNO ₃	None	HCI	None					×10 C. M	2	120			
		Project:	Boeing-SSFL NPDES Quarterly Arroyo Simi-Frontier	Park		Phone Number: (626) 568-6691	Fax Number: (626) 568-6515		Sampling Date/Time	-11-2017	0. sourcessore	- CA	4120-11-4					Date/Time:	Date/Time: //		Date/Time:		
	7/19/201		200		/ilson	Kelly	4		# of Cont.	-	2	2	2)			
	3 Version	ess:	MWH-Arcadia 618 Michillinda Avenue, Suite 200		Test America Contact: Debby Wilson	Bronwyn	Sampler: Rick BALDEN		Container Type	1L Poly	1L Amber	1L Amber	1L Amber					 13.					
	meric	me/Addr	rcadia inda Avel	A 91007	ca Contac	anager:	やら		Sample Matrix	M	M	×	3		 			d By	<u>کھر</u>		d By		
	Test America Version 7/19/2010	Client Name/Address:	MVVH-Arcadia 618 Michillinda Ave	Arcadia, C	Test Ameri	Project M	Sampler:		Sample Description	Arroyo Simi-FP	Arroyo Simi-FP	Arroyo Simi-FP	Arroyo Simi-FP					Relinquished By	Relinquished		Relinquished By		

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5/1/2012

Login Sample Receipt Checklist

Client: MWH Americas Inc

Login Number: 8284 List Number: 1

Creator: Kim, Will

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	Rick Banaga
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Job Number: 440-8284-1

List Source: TestAmerica Irvine