APPENDIX G

Section 14

Outfall 018 – April 12 & 13, 2012

Test America Analytical Laboratory Report

TestAmerica

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: 440-8616-1
Client Project/Site: Routine Outfall 018 Composite

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

Attn: Bronwyn Kelly

Debby Wilson

Authorized for release by:
5/20/2012 4:10:36 PM

Debby Wilson
Project Manager I
debby.wilson@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.

Debby Wilson
Project Manager I
5/20/2012 4:10:36 PM

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Sample Summary

Client: MWH Americas Inc
Project/Site: Routine Outfall 018 Composite

TestAmerica Job ID: 440-8616-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-8616-1	Outfall 018 Composite	Water	04/13/12 12:18	04/13/12 19:00
440-8623-1	Outfall 018 Grab	Water	04/13/12 12:45	04/13/12 19:00
440-8623-2	Trip Blanks	Water	04/13/12 12:45	04/13/12 19:00

Job ID: 440-8616-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-8616-1

Comments
No additional comments.

Receipt
The samples were received on 4/13/2012 7:00 PM; the samples arrived in good conditions, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.4 C and 3.5 C.

GC/MS VOA
Method(s) 624, 8260B: The continuing calibration verification (CCV) for Acetone associated with batch 20367 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. (CCVIS 440-20367/2)

Method(s) 624, 8260B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for batch 20367 exceeded control limits for the following analytes: Acetone. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported. (LCS 440-20367/6)

No other 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 20598. 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 laboratory control sample duplicate (LCSD) for batch 20598 exceeded control limits for the following analytes: 2-nitroaniline and 4-nitrophenol. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 625: The laboratory control sample (LCS) and / or the laboratory control sample duplicate (LCSD) for batch 20598 exceeded control limits for the following analytes: benzidine. Per the EPA method, benzidine is known to be subject to oxidative losses during solvent concentration.

Method(s) 625: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 20598 exceeded control limits for the following analytes: n-nitrosodimethylamine.

Method(s) 625: Surrogate recovery for the following sample(s) was outside the upper control limit: (MB 440-20598/1-A). 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.

HPLC
No analytical or quality issues were noted.

GC Semi VOA
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
Manganese was not analyzed per client request.

No analytical or quality issues were noted.

Job ID: 440-8616-1 (Continued)

Laboratory: TestAmerica Irvine (Continued)

General Chemistry

Method(s) 1664A: Insufficient sample volume was available to perform batch matrix spike/matrix spike duplicate (MS/MSD) associated with batch 21846. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

No other analytical or quality issues were noted.

WATER, 1613B, Dioxins/Furans with Totals

Sample: 1

Some analytes in this sample and the associated method blank have an ion abundance ratio that is outside of criteria. The analytes are considered as an "estimated maximum possible concentration" (EMPC) because the quantitation is based on the theoretical ion abundance ratio. Analytical results are reported with a "Q" flag.

This sample was analyzed for confirmation of 2,3,7,8-TCDF on the DB225 column (5D2). The continuing calibration verification (CCV) ST0424B from 5D2 analyzed on April 24, 2012 at 23:19 is out of control for the Cleanup Recovery Standard (CRS) 37Cl-2,3,7,8-TCDD with a high bias. All samples meet control limits for the CRS in both the DB225 confirmation analysis and the initial DB5 analysis. The CRS is in control in the CCV from the initial DB5 analysis. The CRS is not used in the calculation of 2,3,7,8-TCDF. The high bias of the CRS in the confirmation run is isolated to that compound only. The CRS is not reported from this run. For these reasons there is no impact on the data.

Organic Prep

No analytical or quality issues were noted.

Client: MWH Americas Inc
Project/Site: Routine Outfall 018 Composite

TestAmerica Job ID: 440-8616-1

Client Sample ID: Outfall 018 Composite
Date Collected: 04/13/12 12:18
Date Received: 04/13/12 19:00

Lab Sample ID: 440-8616-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		5.66	0.0943	ug/L		04/18/12 18:02	04/22/12 21:16	1
Bis(2-ethylhexyl) phthalate	ND		4.72	1.60	ug/L		04/18/12 18:02	04/22/12 21:16	1
N-Nitrosodimethylamine	ND	BA	4.72	0.0943	ug/L		04/18/12 18:02	04/22/12 21:16	1
Pentachlorophenol	ND		4.72	0.377	ug/L		04/18/12 18:02	04/22/12 21:16	1
2,4-Dinitrotoluene	ND		4.72	0.189	ug/L		04/18/12 18:02	04/22/12 21:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*98*		*40 - 120*	*04/18/12 18:02*	*04/22/12 21:16*	*1*
2-Fluorobiphenyl	*84*		*50 - 120*	*04/18/12 18:02*	*04/22/12 21:16*	*1*
2-Fluorophenol	*68*		*30 - 120*	*04/18/12 18:02*	*04/22/12 21:16*	*1*
Nitrobenzene-d5	*89*		*45 - 120*	*04/18/12 18:02*	*04/22/12 21:16*	*1*
Phenol-d6	*79*		*35 - 120*	*04/18/12 18:02*	*04/22/12 21:16*	*1*
Terphenyl-d14	*105*		*50 - 125*	*04/18/12 18:02*	*04/22/12 21:16*	*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		04/15/12 14:34	04/16/12 16:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*61*		*35 - 115*	*04/15/12 14:34*	*04/16/12 16:03*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**29**		5.0	4.0	mg/L			04/14/12 00:45	10
Nitrate as N	**0.080**	**J,DX**	0.11	0.080	mg/L			04/14/12 00:28	1
Nitrate Nitrite as N	ND		0.26	0.19	mg/L			04/14/12 00:28	1
Sulfate	**180**		5.0	4.0	mg/L			04/14/12 15:19	10
Nitrite as N	ND		0.15	0.11	mg/L			04/14/12 00:28	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			04/25/12 10:33	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		0.0000096	0.00000046	ug/L		04/23/12 09:00	04/24/12 21:32	0.96
Total TCDD	**0.0000017**	**J Q B**	0.0000096	0.000000060	ug/L		04/23/12 09:00	04/24/12 21:32	0.96
1,2,3,7,8-PeCDD	**0.0000022**	**J Q**	0.000048	0.00000010	ug/L		04/23/12 09:00	04/24/12 21:32	0.96
Total PeCDD	**0.0000022**	**J Q**	0.000048	0.00000010	ug/L		04/23/12 09:00	04/24/12 21:32	0.96
1,2,3,4,7,8-HxCDD	**0.0000035**	**J Q B**	0.000048	0.000000040	ug/L		04/23/12 09:00	04/24/12 21:32	0.96
1,2,3,6,7,8-HxCDD	**0.0000025**	**J Q B**	0.000048	0.000000040	ug/L		04/23/12 09:00	04/24/12 21:32	0.96
1,2,3,7,8,9-HxCDD	**0.0000034**	**J B**	0.000048	0.000000030	ug/L		04/23/12 09:00	04/24/12 21:32	0.96
Total HxCDD	**0.0000094**	**J Q B**	0.000048	0.000000030	ug/L		04/23/12 09:00	04/24/12 21:32	0.96
1,2,3,4,6,7,8-HpCDD	**0.0000056**	**J Q B**	0.000048	0.000000020	ug/L		04/23/12 09:00	04/24/12 21:32	0.96
Total HpCDD	**0.0000089**	**J Q B**	0.000048	0.000000020	ug/L		04/23/12 09:00	04/24/12 21:32	0.96
OCDD	**0.000024**	**J B**	0.000096	0.000000040	ug/L		04/23/12 09:00	04/24/12 21:32	0.96
2,3,7,8-TCDF	**0.0000017**	**J**	0.0000096	0.00000032	ug/L		04/23/12 09:00	04/24/12 21:32	0.96
2,3,7,8-TCDF	ND		0.0000096	0.0000019	ug/L		04/23/12 09:00	04/25/12 04:16	0.96
Total TCDF	**0.0000017**	**J**	0.0000096	0.00000032	ug/L		04/23/12 09:00	04/24/12 21:32	0.96
1,2,3,7,8-PeCDF	**0.0000062**	**J B**	0.000048	0.00000039	ug/L		04/23/12 09:00	04/24/12 21:32	0.96
2,3,4,7,8-PeCDF	**0.0000029**	**J Q B**	0.000048	0.00000041	ug/L		04/23/12 09:00	04/24/12 21:32	0.96
Total PeCDF	**0.0000091**	**J Q B**	0.000048	0.00000040	ug/L		04/23/12 09:00	04/24/12 21:32	0.96

Client Sample ID: Outfall 018 Composite
Date Collected: 04/13/12 12:18
Date Received: 04/13/12 19:00

Lab Sample ID: 440-8616-1
Matrix: Water

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

Analyte	Result	Qualifier	ML	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,7,8-HxCDF	0.0000082	J B	0.000048	0.000000040	ug/L		04/23/12 09:00	04/24/12 21:32	0.96
1,2,3,6,7,8-HxCDF	0.0000041	J B	0.000048	0.000000040	ug/L		04/23/12 09:00	04/24/12 21:32	0.96
2,3,4,6,7,8-HxCDF	0.0000034	J Q B	0.000048	0.000000040	ug/L		04/23/12 09:00	04/24/12 21:32	0.96
1,2,3,7,8,9-HxCDF	0.0000045	J Q B	0.000048	0.000000040	ug/L		04/23/12 09:00	04/24/12 21:32	0.96
Total HxCDF	0.000025	J Q B	0.000048	0.000000040	ug/L		04/23/12 09:00	04/24/12 21:32	0.96
1,2,3,4,6,7,8-HpCDF	0.0000062	J Q B	0.000048	0.000000020	ug/L		04/23/12 09:00	04/24/12 21:32	0.96
1,2,3,4,7,8,9-HpCDF	0.0000057	J Q B	0.000048	0.000000030	ug/L		04/23/12 09:00	04/24/12 21:32	0.96
Total HpCDF	0.000015	J Q B	0.000048	0.000000020	ug/L		04/23/12 09:00	04/24/12 21:32	0.96
OCDF	0.0000087	J B	0.000096	0.00000015	ug/L		04/23/12 09:00	04/24/12 21:32	0.96

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*83*		*35 - 197*	*04/23/12 09:00*	*04/24/12 21:32*	*0.96*
37Cl4-2,3,7,8-TCDD	*114*		*35 - 197*	*04/23/12 09:00*	*04/25/12 04:16*	*0.96*

Internal Standard	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*52*		*25 - 164*	*04/23/12 09:00*	*04/24/12 21:32*	*0.96*
13C-1,2,3,7,8-PeCDD	*55*		*25 - 181*	*04/23/12 09:00*	*04/24/12 21:32*	*0.96*
13C-1,2,3,4,7,8-HxCDD	*54*		*32 - 141*	*04/23/12 09:00*	*04/24/12 21:32*	*0.96*
13C-1,2,3,6,7,8-HxCDD	*59*		*28 - 130*	*04/23/12 09:00*	*04/24/12 21:32*	*0.96*
13C-1,2,3,4,6,7,8-HpCDD	*75*		*23 - 140*	*04/23/12 09:00*	*04/24/12 21:32*	*0.96*
13C-OCDD	*57*		*17 - 157*	*04/23/12 09:00*	*04/24/12 21:32*	*0.96*
13C-2,3,7,8-TCDF	*44*		*24 - 169*	*04/23/12 09:00*	*04/24/12 21:32*	*0.96*
13C-2,3,7,8-TCDF	*68*		*24 - 169*	*04/23/12 09:00*	*04/25/12 04:16*	*0.96*
13C-1,2,3,7,8-PeCDF	*43*		*24 - 185*	*04/23/12 09:00*	*04/24/12 21:32*	*0.96*
13C-2,3,4,7,8-PeCDF	*46*		*21 - 178*	*04/23/12 09:00*	*04/24/12 21:32*	*0.96*
13C-1,2,3,6,7,8-HxCDF	*57*		*26 - 123*	*04/23/12 09:00*	*04/24/12 21:32*	*0.96*
13C-2,3,4,6,7,8-HxCDF	*49*		*28 - 136*	*04/23/12 09:00*	*04/24/12 21:32*	*0.96*
13C-1,2,3,7,8,9-HxCDF	*53*		*29 - 147*	*04/23/12 09:00*	*04/24/12 21:32*	*0.96*
13C-1,2,3,4,6,7,8-HpCDF	*55*		*28 - 143*	*04/23/12 09:00*	*04/24/12 21:32*	*0.96*
13C-1,2,3,4,7,8,9-HpCDF	*62*		*26 - 138*	*04/23/12 09:00*	*04/24/12 21:32*	*0.96*
13C-1,2,3,4,7,8-HxCDF	*49*		*26 - 152*	*04/23/12 09:00*	*04/24/12 21:32*	*0.96*

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.040	0.015	mg/L		04/23/12 08:06	04/24/12 14:22	1
Zinc	ND		20	6.0	ug/L		04/23/12 08:06	04/24/12 14:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.040	0.015	mg/L		04/23/12 10:11	04/24/12 12:57	1
Zinc	ND		20	6.0	ug/L		04/23/12 10:11	04/24/12 12:57	1

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.10	ug/L		04/23/12 17:06	04/28/12 19:16	1
Copper	ND		2.0	0.50	ug/L		04/23/12 17:06	04/28/12 19:16	1
Lead	ND		1.0	0.20	ug/L		04/23/12 17:06	04/28/12 19:16	1
Selenium	ND		2.0	0.50	ug/L		04/23/12 17:06	04/28/12 19:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.10	ug/L		04/23/12 10:08	05/01/12 22:55	1

Client: MWH Americas Inc
Project/Site: Routine Outfall 018 Composite

TestAmerica Job ID: 440-8616-1

Client Sample ID: Outfall 018 Composite
Date Collected: 04/13/12 12:18
Date Received: 04/13/12 19:00

Lab Sample ID: 440-8616-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	**0.55**	**J,DX**	2.0	0.50	ug/L		04/23/12 10:08	05/01/12 22:55	1
Lead	ND		1.0	0.20	ug/L		04/23/12 10:08	05/01/12 22:55	1
Selenium	ND		2.0	0.50	ug/L		04/23/12 10:08	05/01/12 22:55	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		04/16/12 15:03	04/17/12 12:47	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		04/17/12 08:33	04/18/12 13:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	**0.27**		0.10	0.040	NTU			04/14/12 12:18	1
Total Dissolved Solids	**400**		10	10	mg/L			04/16/12 10:21	1
Total Suspended Solids	ND		10	10	mg/L			04/19/12 23:17	1
Cyanide, Total	ND		5.0	3.0	ug/L		04/26/12 18:24	04/26/12 21:25	1
Ammonia (as N)	**0.280**	**J,DX**	0.400	0.157	mg/L		04/25/12 20:35	04/25/12 22:00	1
Methylene Blue Active Substances	ND		0.10	0.050	mg/L			04/13/12 22:48	1
Biochemical Oxygen Demand	**1.1**	**J,DX**	2.0	0.50	mg/L			04/14/12 10:27	1

Method: Gamma Spec K-40 CS-137 - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cesium-137	-2.11	U	20		pCi/L		04/25/12 00:00	04/25/12 00:00	1
Potassium-40	19	U	25		pCi/L		04/25/12 00:00	04/25/12 00:00	1

Method: Gross Alpha and Beta - Gross Alpha/Beta

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.184	U	3		pCi/L		04/26/12 00:00	04/26/12 16:42	1
Gross Beta	3.3	J	4		pCi/L		04/26/12 00:00	04/26/12 16:42	1

Method: Radium 228 - RAD-226-228 combined

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-226	0.141	U	1		pCi/L		05/04/12 00:00	05/04/12 15:06	1
Radium-228	0.034	U	1		pCi/L		05/04/12 00:00	05/04/12 15:06	1

Method: Strontium 90 - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Strontium-90	0.061	U	2		pCi/L		04/26/12 00:00	04/26/12 12:35	1

Method: Tritium - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tritium	32.2	U	500		pCi/L		04/19/12 00:00	04/19/12 20:21	1

Method: Uranium, Combined - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium, Total	0.022	J	1		pCi/L		04/27/12 00:00	04/27/12 09:38	1

Client: MWH Americas Inc
Project/Site: Routine Outfall 018 Composite

TestAmerica Job ID: 440-8616-1

Client Sample ID: Outfall 018 Grab
Date Collected: 04/13/12 12:45
Date Received: 04/13/12 19:00

Lab Sample ID: 440-8623-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.30	ug/L			04/18/12 01:06	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.30	ug/L			04/18/12 01:06	1
1,1,2-Trichloroethane	ND		0.50	0.30	ug/L			04/18/12 01:06	1
1,1-Dichloroethane	ND		0.50	0.40	ug/L			04/18/12 01:06	1
1,1-Dichloroethene	ND		0.50	0.42	ug/L			04/18/12 01:06	1
1,2-Dichlorobenzene	ND		0.50	0.32	ug/L			04/18/12 01:06	1
1,2-Dichloroethane	ND		0.50	0.28	ug/L			04/18/12 01:06	1
1,2-Dichloropropane	ND		0.50	0.35	ug/L			04/18/12 01:06	1
1,3-Dichlorobenzene	ND		0.50	0.35	ug/L			04/18/12 01:06	1
1,2,3-Trichloropropane	ND		0.50	0.40	ug/L			04/18/12 01:06	1
1,4-Dichlorobenzene	ND		0.50	0.37	ug/L			04/18/12 01:06	1
Benzene	ND		0.50	0.28	ug/L			04/18/12 01:06	1
Bromoform	ND		0.50	0.40	ug/L			04/18/12 01:06	1
Bromomethane	ND		0.50	0.42	ug/L			04/18/12 01:06	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			04/18/12 01:06	1
Chlorobenzene	ND		0.50	0.36	ug/L			04/18/12 01:06	1
Dibromochloromethane	ND		0.50	0.40	ug/L			04/18/12 01:06	1
Chloroethane	ND		0.50	0.40	ug/L			04/18/12 01:06	1
Chloroform	ND		0.50	0.33	ug/L			04/18/12 01:06	1
Chloromethane	ND		0.50	0.40	ug/L			04/18/12 01:06	1
cis-1,3-Dichloropropene	ND		0.50	0.22	ug/L			04/18/12 01:06	1
Bromodichloromethane	ND		0.50	0.30	ug/L			04/18/12 01:06	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/18/12 01:06	1
Methylene Chloride	**0.97**	**J,DX**	1.0	0.95	ug/L			04/18/12 01:06	1
Tetrachloroethene	ND		0.50	0.32	ug/L			04/18/12 01:06	1
Toluene	ND		0.50	0.36	ug/L			04/18/12 01:06	1
trans-1,2-Dichloroethene	ND		0.50	0.30	ug/L			04/18/12 01:06	1
tert-Butanol	ND		10	6.5	ug/L			04/18/12 01:06	1
trans-1,3-Dichloropropene	ND		0.50	0.32	ug/L			04/18/12 01:06	1
Trichlorofluoromethane	ND		0.50	0.34	ug/L			04/18/12 01:06	1
Vinyl chloride	ND		0.50	0.40	ug/L			04/18/12 01:06	1
Trichloroethene	ND		0.50	0.26	ug/L			04/18/12 01:06	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/18/12 01:06	1
1,2-Dibromoethane (EDB)	ND		0.50	0.40	ug/L			04/18/12 01:06	1
Diisopropyl ether	ND		0.50	0.25	ug/L			04/18/12 01:06	1
Methyl tert-butyl ether	ND		0.50	0.32	ug/L			04/18/12 01:06	1
Naphthalene	ND		0.50	0.41	ug/L			04/18/12 01:06	1
Tert-amyl methyl ether	ND		0.50	0.33	ug/L			04/18/12 01:06	1
Ethyl tert-butyl ether	ND		0.50	0.28	ug/L			04/18/12 01:06	1
Xylenes, Total	ND		1.0	0.90	ug/L			04/18/12 01:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*		*04/18/12 01:06*	*1*
Dibromofluoromethane (Surr)	*108*		*80 - 120*		*04/18/12 01:06*	*1*
Toluene-d8 (Surr)	*105*		*80 - 120*		*04/18/12 01:06*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		4.7	1.3	mg/L		04/25/12 06:36	04/25/12 11:28	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	**680**		1.0	1.0	umhos/cm			04/16/12 10:13	1

Client: MWH Americas Inc
Project/Site: Routine Outfall 018 Composite

TestAmerica Job ID: 440-8616-1

Client Sample ID: Outfall 018 Grab

Lab Sample ID: 440-8623-1

Date Collected: 04/13/12 12:45

Matrix: Water

Date Received: 04/13/12 19:00

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Settleable Solids	ND		0.10	0.10	mL/L/Hr			04/14/12 11:53	1

Client Sample ID: Trip Blanks

Lab Sample ID: 440-8623-2

Date Collected: 04/13/12 12:45

Matrix: Water

Date Received: 04/13/12 19:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.30	ug/L			04/17/12 04:46	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.30	ug/L			04/17/12 04:46	1
1,1,2-Trichloroethane	ND		0.50	0.30	ug/L			04/17/12 04:46	1
1,1-Dichloroethane	ND		0.50	0.40	ug/L			04/17/12 04:46	1
1,1-Dichloroethene	ND		0.50	0.42	ug/L			04/17/12 04:46	1
1,2-Dichlorobenzene	ND		0.50	0.32	ug/L			04/17/12 04:46	1
1,2-Dichloroethane	ND		0.50	0.28	ug/L			04/17/12 04:46	1
1,2-Dichloropropane	ND		0.50	0.35	ug/L			04/17/12 04:46	1
1,3-Dichlorobenzene	ND		0.50	0.35	ug/L			04/17/12 04:46	1
1,2,3-Trichloropropane	ND		0.50	0.40	ug/L			04/17/12 04:46	1
1,4-Dichlorobenzene	ND		0.50	0.37	ug/L			04/17/12 04:46	1
Benzene	ND		0.50	0.28	ug/L			04/17/12 04:46	1
Bromoform	ND		0.50	0.40	ug/L			04/17/12 04:46	1
Bromomethane	ND		0.50	0.42	ug/L			04/17/12 04:46	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			04/17/12 04:46	1
Chlorobenzene	ND		0.50	0.36	ug/L			04/17/12 04:46	1
Dibromochloromethane	ND		0.50	0.40	ug/L			04/17/12 04:46	1
Chloroethane	ND		0.50	0.40	ug/L			04/17/12 04:46	1
Chloroform	ND		0.50	0.33	ug/L			04/17/12 04:46	1
Chloromethane	ND		0.50	0.40	ug/L			04/17/12 04:46	1
cis-1,3-Dichloropropene	ND		0.50	0.22	ug/L			04/17/12 04:46	1
Bromodichloromethane	ND		0.50	0.30	ug/L			04/17/12 04:46	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/17/12 04:46	1
Methylene Chloride	ND		1.0	0.95	ug/L			04/17/12 04:46	1
Tetrachloroethene	ND		0.50	0.32	ug/L			04/17/12 04:46	1
Toluene	ND		0.50	0.36	ug/L			04/17/12 04:46	1
trans-1,2-Dichloroethene	ND		0.50	0.30	ug/L			04/17/12 04:46	1
tert-Butanol	ND		10	6.5	ug/L			04/17/12 04:46	1
trans-1,3-Dichloropropene	ND		0.50	0.32	ug/L			04/17/12 04:46	1
Trichlorofluoromethane	ND		0.50	0.34	ug/L			04/17/12 04:46	1
Vinyl chloride	ND		0.50	0.40	ug/L			04/17/12 04:46	1
Trichloroethene	ND		0.50	0.26	ug/L			04/17/12 04:46	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/17/12 04:46	1
1,2-Dibromoethane (EDB)	ND		0.50	0.40	ug/L			04/17/12 04:46	1
Diisopropyl ether	ND		0.50	0.25	ug/L			04/17/12 04:46	1
Methyl tert-butyl ether	ND		0.50	0.32	ug/L			04/17/12 04:46	1
Naphthalene	ND		0.50	0.41	ug/L			04/17/12 04:46	1
Tert-amyl methyl ether	ND		0.50	0.33	ug/L			04/17/12 04:46	1
Ethyl tert-butyl ether	ND		0.50	0.28	ug/L			04/17/12 04:46	1
Xylenes, Total	ND		1.0	0.90	ug/L			04/17/12 04:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*04/17/12 04:46*	*1*

Client: MWH Americas Inc
Project/Site: Routine Outfall 018 Composite

TestAmerica Job ID: 440-8616-1

Client Sample ID: Trip Blanks
Date Collected: 04/13/12 12:45
Date Received: 04/13/12 19:00

Lab Sample ID: 440-8623-2
Matrix: Water

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	96		80 - 120		04/17/12 04:46	1
Toluene-d8 (Surr)	102		80 - 120		04/17/12 04:46	1

Client: MWH Americas Inc
Project/Site: Routine Outfall 018 Composite

TestAmerica Job ID: 440-8616-1

Client Sample ID: Outfall 018 Composite
Date Collected: 04/13/12 12:18
Date Received: 04/13/12 19:00

Lab Sample ID: 440-8616-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			1060 mL	2 mL	20598	04/18/12 18:02	DM	TAL IRV
Total/NA	Analysis	625		1			21217	04/22/12 21:16	AI	TAL IRV
Total/NA	Prep	608			1060 mL	2 mL	19875	04/15/12 14:34	AB	TAL IRV
Total/NA	Analysis	608 Pesticides		1			19946	04/16/12 16:03	DD	TAL IRV
Total/NA	Analysis	300.0		1	1 mL	1.0 mL	19534	04/14/12 00:28	NN	TAL IRV
Total/NA	Analysis	300.0		10	1 mL	1.0 mL	19535	04/14/12 00:45	NN	TAL IRV
Total/NA	Analysis	300.0		10	1 mL	1.0 mL	19785	04/14/12 15:19	KS	TAL IRV
Total/NA	Analysis	314.0		1	5 mL	1.0 mL	21754	04/25/12 10:33	MN	TAL IRV
Total	Prep	3542			I038.82 mL	20 uL	2114077_P	04/23/12 09:00	TL	TAL WSC
Total	Analysis	1613B		0.96			2114077	04/24/12 21:32	LLH	TAL WSC
Total	Analysis	1613B		0.96			2114077	04/25/12 04:16	LLH	TAL WSC
Total/NA	Prep	245.1			20 mL	20 mL	20031	04/16/12 15:03	SN	TAL IRV
Total/NA	Analysis	245.1		1			20257	04/17/12 12:47	MP	TAL IRV
Dissolved	Prep	245.1			20 mL	20 mL	20049	04/17/12 08:33	SN	TAL IRV
Dissolved	Analysis	245.1		1			20502	04/18/12 13:11	MP	TAL IRV
Dissolved	Prep	200.2			50 mL	50 mL	21302	04/23/12 10:11	EN	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4		1			21614	04/24/12 12:57	VS	TAL IRV
Total Recoverable	Prep	200.2			50 mL	50 mL	21269	04/23/12 08:06	EN	TAL IRV
Total Recoverable	Analysis	200.7 Rev 4.4		1			21678	04/24/12 14:22	DP	TAL IRV
Total Recoverable	Prep	200.2			50 mL	50 mL	21402	04/23/12 17:06	SC	TAL IRV
Total Recoverable	Analysis	200.8		1			22628	04/28/12 19:16	RC	TAL IRV
Dissolved	Prep	200.2			50 mL	50 mL	21301	04/23/12 10:08	EN	TAL IRV
Dissolved	Analysis	200.8		1			23203	05/01/12 22:55	RC	TAL IRV
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	19748	04/13/12 22:48	NEA	TAL IRV
Total/NA	Analysis	SM5210B		1			19790	04/14/12 10:27	RS	TAL IRV
Total/NA	Analysis	180.1		1			19801	04/14/12 12:18	EC	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	19957	04/16/12 10:21	XL	TAL IRV
Total/NA	Analysis	SM 2540D		1	100 mL	100 mL	20891	04/19/12 23:17	DK	TAL IRV
Total/NA	Prep	Distill/CN			50 mL	50 mL	22248	04/26/12 18:24	PQI	TAL IRV
Total/NA	Analysis	SM 4500 CN E		1			22273	04/26/12 21:25	PQI	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	22283	04/25/12 20:35	PQI	TAL IRV
Total/NA	Analysis	SM 4500 NH3 C		1			22286	04/25/12 22:00	PQI	TAL IRV
Total/NA	Analysis	Gamma Spec K-40 CS-137		1			8609	04/25/12 00:00	LS	Eber-Rich
Total/NA	Prep	General Prep		1			8609_P	04/25/12 00:00		Eber-Rich
Total/NA	Prep	General Prep		1			8609_P	04/26/12 00:00		Eber-Rich
Total/NA	Analysis	Gross Alpha and Beta		1			8609	04/26/12 16:42	DVP	Eber-Rich
Total/NA	Prep	General Prep		1			8609_P	04/30/12 00:00		Eber-Rich
Total/NA	Prep	General Prep		1			8609_P	05/04/12 00:00		Eber-Rich
Total/NA	Analysis	Radium 228		1			8609	05/04/12 15:06	TM	Eber-Rich
Total/NA	Analysis	Strontium 90		1			8609	04/26/12 12:35	TSC	Eber-Rich
Total/NA	Prep	General Prep		1			8609_P	04/19/12 00:00		Eber-Rich
Total/NA	Analysis	Tritium		1			8609	04/19/12 20:21	WL	Eber-Rich

Lab Chronicle

Client: MWH Americas Inc
Project/Site: Routine Outfall 018 Composite

TestAmerica Job ID: 440-8616-1

Client Sample ID: Outfall 018 Composite

Lab Sample ID: 440-8616-1

Date Collected: 04/13/12 12:18
Matrix: Water
Date Received: 04/13/12 19:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	General Prep		1			8609_P	04/27/12 00:00		Eber-Rich
Total/NA	Analysis	Uranium, Combined		1			8609	04/27/12 09:38	LS	Eber-Rich

Client Sample ID: Outfall 018 Grab

Lab Sample ID: 440-8623-1

Date Collected: 04/13/12 12:45
Matrix: Water
Date Received: 04/13/12 19:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	10 mL	10 mL	20297	04/18/12 01:06	YK	TAL IRV
Total/NA	Analysis	SM 2540F		1	1000 mL	1000 mL	19792	04/14/12 11:53	EC	TAL IRV
Total/NA	Analysis	120.1		1			19954	04/16/12 10:13	XL	TAL IRV
Total/NA	Prep	1664A			1055 mL	1000 mL	21756	04/25/12 06:36	DA	TAL IRV
Total/NA	Analysis	1664A		1			21846	04/25/12 11:28	DA	TAL IRV

Client Sample ID: Trip Blanks

Lab Sample ID: 440-8623-2

Date Collected: 04/13/12 12:45
Matrix: Water
Date Received: 04/13/12 19:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	10 mL	10 mL	20084	04/17/12 04:46	YK	TAL IRV

Laboratory References:

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

SC0127 = Aquatic Testing Laboratories, 4350 Transport #107, Ventura, CA 93003

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

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

Lab Sample ID: MB 440-20084/4
Matrix: Water
Analysis Batch: 20084

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.30	ug/L			04/16/12 21:06	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.30	ug/L			04/16/12 21:06	1
1,1,2-Trichloroethane	ND		0.50	0.30	ug/L			04/16/12 21:06	1
1,1-Dichloroethane	ND		0.50	0.40	ug/L			04/16/12 21:06	1
1,1-Dichloroethene	ND		0.50	0.42	ug/L			04/16/12 21:06	1
1,2-Dichlorobenzene	ND		0.50	0.32	ug/L			04/16/12 21:06	1
1,2-Dichloroethane	ND		0.50	0.28	ug/L			04/16/12 21:06	1
1,2-Dichloropropane	ND		0.50	0.35	ug/L			04/16/12 21:06	1
1,3-Dichlorobenzene	ND		0.50	0.35	ug/L			04/16/12 21:06	1
1,2,3-Trichloropropane	ND		0.50	0.40	ug/L			04/16/12 21:06	1
1,4-Dichlorobenzene	ND		0.50	0.37	ug/L			04/16/12 21:06	1
Benzene	ND		0.50	0.28	ug/L			04/16/12 21:06	1
Bromoform	ND		0.50	0.40	ug/L			04/16/12 21:06	1
Bromomethane	ND		0.50	0.42	ug/L			04/16/12 21:06	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			04/16/12 21:06	1
Chlorobenzene	ND		0.50	0.36	ug/L			04/16/12 21:06	1
Dibromochloromethane	ND		0.50	0.40	ug/L			04/16/12 21:06	1
Chloroethane	ND		0.50	0.40	ug/L			04/16/12 21:06	1
Chloroform	ND		0.50	0.33	ug/L			04/16/12 21:06	1
Chloromethane	ND		0.50	0.40	ug/L			04/16/12 21:06	1
cis-1,3-Dichloropropene	ND		0.50	0.22	ug/L			04/16/12 21:06	1
Bromodichloromethane	ND		0.50	0.30	ug/L			04/16/12 21:06	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/16/12 21:06	1
Methylene Chloride	ND		1.0	0.95	ug/L			04/16/12 21:06	1
Tetrachloroethene	ND		0.50	0.32	ug/L			04/16/12 21:06	1
Toluene	ND		0.50	0.36	ug/L			04/16/12 21:06	1
trans-1,2-Dichloroethene	ND		0.50	0.30	ug/L			04/16/12 21:06	1
tert-Butanol	ND		10	6.5	ug/L			04/16/12 21:06	1
trans-1,3-Dichloropropene	ND		0.50	0.32	ug/L			04/16/12 21:06	1
Trichlorofluoromethane	ND		0.50	0.34	ug/L			04/16/12 21:06	1
Vinyl chloride	ND		0.50	0.40	ug/L			04/16/12 21:06	1
Trichloroethene	ND		0.50	0.26	ug/L			04/16/12 21:06	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/16/12 21:06	1
1,2-Dibromoethane (EDB)	ND		0.50	0.40	ug/L			04/16/12 21:06	1
Diisopropyl ether	ND		0.50	0.25	ug/L			04/16/12 21:06	1
Methyl tert-butyl ether	ND		0.50	0.32	ug/L			04/16/12 21:06	1
Naphthalene	ND		0.50	0.41	ug/L			04/16/12 21:06	1
Tert-amyl methyl ether	ND		0.50	0.33	ug/L			04/16/12 21:06	1
Ethyl tert-butyl ether	ND		0.50	0.28	ug/L			04/16/12 21:06	1
Xylenes, Total	ND		1.0	0.90	ug/L			04/16/12 21:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*04/16/12 21:06*	*1*
Dibromofluoromethane (Surr)	*90*		*80 - 120*		*04/16/12 21:06*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*04/16/12 21:06*	*1*

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

Lab Sample ID: LCS 440-20084/5
Matrix: Water
Analysis Batch: 20084

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	24.8		ug/L		99	65 - 135
1,1,2,2-Tetrachloroethane	25.0	27.7		ug/L		111	55 - 130
1,1,2-Trichloroethane	25.0	24.6		ug/L		98	70 - 125
1,1-Dichloroethane	25.0	24.2		ug/L		97	70 - 125
1,1-Dichloroethene	25.0	23.8		ug/L		95	70 - 125
1,2-Dichlorobenzene	25.0	27.0		ug/L		108	75 - 120
1,2-Dichloroethane	25.0	25.5		ug/L		102	60 - 140
1,2-Dichloropropane	25.0	25.0		ug/L		100	70 - 125
1,3-Dichlorobenzene	25.0	27.3		ug/L		109	75 - 120
1,2,3-Trichloropropane	25.0	25.5		ug/L		102	60 - 130
1,4-Dichlorobenzene	25.0	25.6		ug/L		102	75 - 120
Benzene	25.0	22.9		ug/L		92	70 - 120
Bromoform	25.0	20.3		ug/L		81	55 - 130
Bromomethane	25.0	29.0		ug/L		116	65 - 140
Carbon tetrachloride	25.0	27.8		ug/L		111	65 - 140
Chlorobenzene	25.0	22.3		ug/L		89	75 - 120
Dibromochloromethane	25.0	26.9		ug/L		108	70 - 140
Chloroethane	25.0	24.2		ug/L		97	60 - 140
Chloroform	25.0	23.8		ug/L		95	70 - 130
Chloromethane	25.0	28.2		ug/L		113	50 - 140
cis-1,3-Dichloropropene	25.0	24.3		ug/L		97	75 - 125
Bromodichloromethane	25.0	25.6		ug/L		102	70 - 135
Ethylbenzene	25.0	21.1		ug/L		84	75 - 125
Methylene Chloride	25.0	21.5		ug/L		86	55 - 130
Tetrachloroethene	25.0	25.0		ug/L		100	70 - 125
Toluene	25.0	22.3		ug/L		89	70 - 120
trans-1,2-Dichloroethene	25.0	25.4		ug/L		102	70 - 125
tert-Butanol	125	131		ug/L		105	70 - 135
trans-1,3-Dichloropropene	25.0	25.7		ug/L		103	70 - 125
Trichlorofluoromethane	25.0	25.8		ug/L		103	65 - 145
Vinyl chloride	25.0	27.8		ug/L		111	55 - 135
Trichloroethene	25.0	27.1		ug/L		108	70 - 125
cis-1,2-Dichloroethene	25.0	25.8		ug/L		103	70 - 125
1,2-Dibromoethane (EDB)	25.0	24.9		ug/L		100	75 - 125
Diisopropyl ether	25.0	24.6		ug/L		98	60 - 135
Methyl tert-butyl ether	25.0	22.7		ug/L		91	60 - 135
Naphthalene	25.0	27.1		ug/L		108	55 - 135
Tert-amyl methyl ether	25.0	21.8		ug/L		87	60 - 135
Ethyl tert-butyl ether	25.0	22.2		ug/L		89	65 - 135
Xylenes, Total	75.0	66.8		ug/L		89	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
Toluene-d8 (Surr)	*102*		*80 - 120*

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

Lab Sample ID: 440-8626-A-3 MS
Matrix: Water
Analysis Batch: 20084

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND		25.0	26.1		ug/L		104	65 - 140
1,1,2,2-Tetrachloroethane	ND		25.0	28.6		ug/L		114	55 - 135
1,1,2-Trichloroethane	ND		25.0	26.5		ug/L		106	65 - 130
1,1-Dichloroethane	ND		25.0	25.3		ug/L		101	65 - 130
1,1-Dichloroethene	16		25.0	41.5		ug/L		104	60 - 130
1,2-Dichlorobenzene	ND		25.0	27.8		ug/L		111	75 - 125
1,2-Dichloroethane	0.61		25.0	28.9		ug/L		113	60 - 140
1,2-Dichloropropane	ND		25.0	27.1		ug/L		108	65 - 130
1,3-Dichlorobenzene	ND		25.0	27.6		ug/L		110	75 - 125
1,2,3-Trichloropropane	ND		25.0	25.9		ug/L		104	55 - 135
1,4-Dichlorobenzene	ND		25.0	26.7		ug/L		107	75 - 125
Benzene	ND		25.0	24.3		ug/L		97	65 - 125
Bromoform	ND		25.0	20.5		ug/L		82	55 - 135
Bromomethane	ND		25.0	30.0		ug/L		120	55 - 145
Carbon tetrachloride	0.30	J,DX	25.0	30.3		ug/L		120	65 - 140
Chlorobenzene	ND		25.0	23.2		ug/L		93	75 - 125
Dibromochloromethane	ND		25.0	27.7		ug/L		111	65 - 140
Chloroethane	ND		25.0	24.7		ug/L		99	55 - 140
Chloroform	0.99		25.0	26.2		ug/L		101	65 - 135
Chloromethane	ND		25.0	27.9		ug/L		112	45 - 145
cis-1,3-Dichloropropene	ND		25.0	25.5		ug/L		102	70 - 130
Bromodichloromethane	ND		25.0	27.4		ug/L		110	70 - 135
Ethylbenzene	ND		25.0	21.1		ug/L		84	65 - 130
Methylene Chloride	ND		25.0	22.7		ug/L		91	50 - 135
Tetrachloroethene	0.33	J,DX	25.0	27.0		ug/L		107	65 - 130
Toluene	ND		25.0	23.7		ug/L		95	70 - 125
trans-1,2-Dichloroethene	ND		25.0	25.9		ug/L		104	65 - 130
tert-Butanol	ND		125	143		ug/L		114	65 - 140
trans-1,3-Dichloropropene	ND		25.0	27.7		ug/L		111	65 - 135
Trichlorofluoromethane	ND		25.0	27.1		ug/L		108	60 - 145
Vinyl chloride	ND		25.0	28.0		ug/L		112	45 - 140
Trichloroethene	29		25.0	56.2		ug/L		111	65 - 125
cis-1,2-Dichloroethene	ND		25.0	26.5		ug/L		106	65 - 130
1,2-Dibromoethane (EDB)	ND		25.0	26.5		ug/L		106	70 - 130
Diisopropyl ether	ND		25.0	25.6		ug/L		102	60 - 140
Methyl tert-butyl ether	ND		25.0	24.0		ug/L		96	55 - 145
Naphthalene	ND		25.0	27.5		ug/L		110	50 - 140
Tert-amyl methyl ether	ND		25.0	22.0		ug/L		88	60 - 140
Ethyl tert-butyl ether	ND		25.0	23.7		ug/L		95	60 - 135
Xylenes, Total	ND		75.0	67.9		ug/L		91	60 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
Toluene-d8 (Surr)	*105*		*80 - 120*

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

Lab Sample ID: 440-8626-A-3 MSD
Matrix: Water
Analysis Batch: 20084

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		25.0	24.9		ug/L		100	65 - 140	4.71	20
1,1,2,2-Tetrachloroethane	ND		25.0	28.3		ug/L		113	55 - 135	1.05	30
1,1,2-Trichloroethane	ND		25.0	24.0		ug/L		96	65 - 130	9.90	25
1,1-Dichloroethane	ND		25.0	24.8		ug/L		99	65 - 130	2.00	20
1,1-Dichloroethene	16		25.0	39.5		ug/L		96	60 - 130	4.94	20
1,2-Dichlorobenzene	ND		25.0	27.1		ug/L		108	75 - 125	2.55	20
1,2-Dichloroethane	0.61		25.0	26.7		ug/L		104	60 - 140	7.91	20
1,2-Dichloropropane	ND		25.0	25.1		ug/L		100	65 - 130	7.66	20
1,3-Dichlorobenzene	ND		25.0	27.1		ug/L		108	75 - 125	1.83	20
1,2,3-Trichloropropane	ND		25.0	25.7		ug/L		103	55 - 135	1.00	30
1,4-Dichlorobenzene	ND		25.0	25.7		ug/L		103	75 - 125	3.82	20
Benzene	ND		25.0	22.8		ug/L		91	65 - 125	6.37	20
Bromoform	ND		25.0	21.6		ug/L		86	55 - 135	5.23	25
Bromomethane	ND		25.0	28.2		ug/L		113	55 - 145	6.19	25
Carbon tetrachloride	0.30	J,DX	25.0	28.2		ug/L		112	65 - 140	7.18	25
Chlorobenzene	ND		25.0	23.7		ug/L		95	75 - 125	2.13	20
Dibromochloromethane	ND		25.0	28.3		ug/L		113	65 - 140	2.14	25
Chloroethane	ND		25.0	23.4		ug/L		94	55 - 140	5.41	25
Chloroform	0.99		25.0	24.4		ug/L		94	65 - 135	7.11	20
Chloromethane	ND		25.0	26.8		ug/L		107	45 - 145	4.02	25
cis-1,3-Dichloropropene	ND		25.0	24.3		ug/L		97	70 - 130	4.82	20
Bromodichloromethane	ND		25.0	25.9		ug/L		104	70 - 135	5.63	20
Ethylbenzene	ND		25.0	21.8		ug/L		87	65 - 130	3.26	20
Methylene Chloride	ND		25.0	21.5		ug/L		86	50 - 135	5.43	20
Tetrachloroethene	0.33	J,DX	25.0	27.5		ug/L		109	65 - 130	1.83	20
Toluene	ND		25.0	22.0		ug/L		88	70 - 125	7.44	20
trans-1,2-Dichloroethene	ND		25.0	24.4		ug/L		98	65 - 130	5.96	20
tert-Butanol	ND		125	137		ug/L		110	65 - 140	4.36	25
trans-1,3-Dichloropropene	ND		25.0	25.4		ug/L		102	65 - 135	8.66	25
Trichlorofluoromethane	ND		25.0	25.4		ug/L		102	60 - 145	6.48	25
Vinyl chloride	ND		25.0	27.0		ug/L		108	45 - 140	3.64	30
Trichloroethene	29		25.0	53.3		ug/L		99	65 - 125	5.30	20
cis-1,2-Dichloroethene	ND		25.0	25.6		ug/L		102	65 - 130	3.45	20
1,2-Dibromoethane (EDB)	ND		25.0	26.4		ug/L		106	70 - 130	0.000	25
Diisopropyl ether	ND		25.0	24.3		ug/L		97	60 - 140	5.21	25
Methyl tert-butyl ether	ND		25.0	23.1		ug/L		92	55 - 145	3.82	25
Naphthalene	ND		25.0	25.4		ug/L		102	50 - 140	7.94	30
Tert-amyl methyl ether	ND		25.0	21.7		ug/L		87	60 - 140	1.37	30
Ethyl tert-butyl ether	ND		25.0	22.3		ug/L		89	60 - 135	6.09	25
Xylenes, Total	ND		75.0	69.3		ug/L		92	60 - 130	2.04	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
Toluene-d8 (Surr)	*103*		*80 - 120*

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

Lab Sample ID: MB 440-20297/4
Matrix: Water
Analysis Batch: 20297

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.30	ug/L			04/17/12 18:28	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.30	ug/L			04/17/12 18:28	1
1,1,2-Trichloroethane	ND		0.50	0.30	ug/L			04/17/12 18:28	1
1,1-Dichloroethane	ND		0.50	0.40	ug/L			04/17/12 18:28	1
1,1-Dichloroethene	ND		0.50	0.42	ug/L			04/17/12 18:28	1
1,2-Dichlorobenzene	ND		0.50	0.32	ug/L			04/17/12 18:28	1
1,2-Dichloroethane	ND		0.50	0.28	ug/L			04/17/12 18:28	1
1,2-Dichloropropane	ND		0.50	0.35	ug/L			04/17/12 18:28	1
1,3-Dichlorobenzene	ND		0.50	0.35	ug/L			04/17/12 18:28	1
1,2,3-Trichloropropane	ND		0.50	0.40	ug/L			04/17/12 18:28	1
1,4-Dichlorobenzene	ND		0.50	0.37	ug/L			04/17/12 18:28	1
Benzene	ND		0.50	0.28	ug/L			04/17/12 18:28	1
Bromoform	ND		0.50	0.40	ug/L			04/17/12 18:28	1
Bromomethane	ND		0.50	0.42	ug/L			04/17/12 18:28	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			04/17/12 18:28	1
Chlorobenzene	ND		0.50	0.36	ug/L			04/17/12 18:28	1
Dibromochloromethane	ND		0.50	0.40	ug/L			04/17/12 18:28	1
Chloroethane	ND		0.50	0.40	ug/L			04/17/12 18:28	1
Chloroform	ND		0.50	0.33	ug/L			04/17/12 18:28	1
Chloromethane	ND		0.50	0.40	ug/L			04/17/12 18:28	1
cis-1,3-Dichloropropene	ND		0.50	0.22	ug/L			04/17/12 18:28	1
Bromodichloromethane	ND		0.50	0.30	ug/L			04/17/12 18:28	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/17/12 18:28	1
Methylene Chloride	ND		1.0	0.95	ug/L			04/17/12 18:28	1
Tetrachloroethene	ND		0.50	0.32	ug/L			04/17/12 18:28	1
Toluene	ND		0.50	0.36	ug/L			04/17/12 18:28	1
trans-1,2-Dichloroethene	ND		0.50	0.30	ug/L			04/17/12 18:28	1
tert-Butanol	ND		10	6.5	ug/L			04/17/12 18:28	1
trans-1,3-Dichloropropene	ND		0.50	0.32	ug/L			04/17/12 18:28	1
Trichlorofluoromethane	ND		0.50	0.34	ug/L			04/17/12 18:28	1
Vinyl chloride	ND		0.50	0.40	ug/L			04/17/12 18:28	1
Trichloroethene	ND		0.50	0.26	ug/L			04/17/12 18:28	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/17/12 18:28	1
1,2-Dibromoethane (EDB)	ND		0.50	0.40	ug/L			04/17/12 18:28	1
Diisopropyl ether	ND		0.50	0.25	ug/L			04/17/12 18:28	1
Methyl tert-butyl ether	ND		0.50	0.32	ug/L			04/17/12 18:28	1
Naphthalene	ND		0.50	0.41	ug/L			04/17/12 18:28	1
Tert-amyl methyl ether	ND		0.50	0.33	ug/L			04/17/12 18:28	1
Ethyl tert-butyl ether	ND		0.50	0.28	ug/L			04/17/12 18:28	1
Xylenes, Total	ND		1.0	0.90	ug/L			04/17/12 18:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*80 - 120*		*04/17/12 18:28*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*04/17/12 18:28*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*04/17/12 18:28*	*1*

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

Lab Sample ID: LCS 440-20297/5
Matrix: Water
Analysis Batch: 20297

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	26.7		ug/L		107	65 - 135
1,1,2,2-Tetrachloroethane	25.0	26.5		ug/L		106	55 - 130
1,1,2-Trichloroethane	25.0	24.4		ug/L		98	70 - 125
1,1-Dichloroethane	25.0	26.3		ug/L		105	70 - 125
1,1-Dichloroethene	25.0	24.1		ug/L		96	70 - 125
1,2-Dichlorobenzene	25.0	26.2		ug/L		105	75 - 120
1,2-Dichloroethane	25.0	28.3		ug/L		113	60 - 140
1,2-Dichloropropane	25.0	25.0		ug/L		100	70 - 125
1,3-Dichlorobenzene	25.0	27.9		ug/L		112	75 - 120
1,2,3-Trichloropropane	25.0	25.5		ug/L		102	60 - 130
1,4-Dichlorobenzene	25.0	26.5		ug/L		106	75 - 120
Benzene	25.0	23.7		ug/L		95	70 - 120
Bromoform	25.0	19.7		ug/L		79	55 - 130
Bromomethane	25.0	26.6		ug/L		106	65 - 140
Carbon tetrachloride	25.0	24.8		ug/L		99	65 - 140
Chlorobenzene	25.0	27.4		ug/L		110	75 - 120
Dibromochloromethane	25.0	26.0		ug/L		104	70 - 140
Chloroethane	25.0	23.3		ug/L		93	60 - 140
Chloroform	25.0	27.2		ug/L		109	70 - 130
Chloromethane	25.0	24.8		ug/L		99	50 - 140
cis-1,3-Dichloropropene	25.0	25.5		ug/L		102	75 - 125
Bromodichloromethane	25.0	27.2		ug/L		109	70 - 135
Ethylbenzene	25.0	26.7		ug/L		107	75 - 125
Methylene Chloride	25.0	24.4		ug/L		98	55 - 130
Tetrachloroethene	25.0	26.3		ug/L		105	70 - 125
Toluene	25.0	25.6		ug/L		102	70 - 120
trans-1,2-Dichloroethene	25.0	24.8		ug/L		99	70 - 125
tert-Butanol	125	140		ug/L		112	70 - 135
trans-1,3-Dichloropropene	25.0	26.8		ug/L		107	70 - 125
Trichlorofluoromethane	25.0	31.3		ug/L		125	65 - 145
Vinyl chloride	25.0	25.1		ug/L		100	55 - 135
Trichloroethene	25.0	26.8		ug/L		107	70 - 125
cis-1,2-Dichloroethene	25.0	25.6		ug/L		102	70 - 125
1,2-Dibromoethane (EDB)	25.0	26.2		ug/L		105	75 - 125
Diisopropyl ether	25.0	24.0		ug/L		96	60 - 135
Methyl tert-butyl ether	25.0	24.9		ug/L		100	60 - 135
Naphthalene	25.0	19.8		ug/L		79	55 - 135
Tert-amyl methyl ether	25.0	25.2		ug/L		101	60 - 135
Ethyl tert-butyl ether	25.0	24.6		ug/L		98	65 - 135
Xylenes, Total	75.0	80.7		ug/L		108	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*80 - 120*
Dibromofluoromethane (Surr)	*105*		*80 - 120*
Toluene-d8 (Surr)	*104*		*80 - 120*

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

Lab Sample ID: 440-8650-A-3 MS
Matrix: Water
Analysis Batch: 20297

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND		25.0	25.6		ug/L		102	65 - 140
1,1,2,2-Tetrachloroethane	ND		25.0	25.3		ug/L		101	55 - 135
1,1,2-Trichloroethane	ND		25.0	23.7		ug/L		95	65 - 130
1,1-Dichloroethane	ND		25.0	25.0		ug/L		100	65 - 130
1,1-Dichloroethene	ND		25.0	22.7		ug/L		91	60 - 130
1,2-Dichlorobenzene	ND		25.0	25.4		ug/L		102	75 - 125
1,2-Dichloroethane	ND		25.0	27.5		ug/L		110	60 - 140
1,2-Dichloropropane	ND		25.0	24.1		ug/L		96	65 - 130
1,3-Dichlorobenzene	ND		25.0	26.3		ug/L		105	75 - 125
1,2,3-Trichloropropane	ND		25.0	25.0		ug/L		100	55 - 135
1,4-Dichlorobenzene	ND		25.0	25.3		ug/L		101	75 - 125
Benzene	ND		25.0	22.9		ug/L		92	65 - 125
Bromoform	ND		25.0	19.8		ug/L		79	55 - 135
Bromomethane	ND		25.0	25.2		ug/L		101	55 - 145
Carbon tetrachloride	ND		25.0	23.7		ug/L		95	65 - 140
Chlorobenzene	ND		25.0	26.6		ug/L		106	75 - 125
Dibromochloromethane	ND		25.0	26.3		ug/L		105	65 - 140
Chloroethane	ND		25.0	22.2		ug/L		89	55 - 140
Chloroform	ND		25.0	26.6		ug/L		106	65 - 135
Chloromethane	ND		25.0	23.3		ug/L		93	45 - 145
cis-1,3-Dichloropropene	ND		25.0	24.9		ug/L		100	70 - 130
Bromodichloromethane	ND		25.0	27.9		ug/L		112	70 - 135
Ethylbenzene	ND		25.0	25.6		ug/L		102	65 - 130
Methylene Chloride	1.9		25.0	25.2		ug/L		93	50 - 135
Tetrachloroethene	7.8		25.0	33.3		ug/L		102	65 - 130
Toluene	ND		25.0	24.3		ug/L		97	70 - 125
trans-1,2-Dichloroethene	ND		25.0	23.7		ug/L		95	65 - 130
tert-Butanol	ND		125	135		ug/L		108	65 - 140
trans-1,3-Dichloropropene	ND		25.0	26.3		ug/L		105	65 - 135
Trichlorofluoromethane	ND		25.0	30.6		ug/L		122	60 - 145
Vinyl chloride	ND		25.0	23.2		ug/L		93	45 - 140
Trichloroethene	84		25.0	106		ug/L		88	65 - 125
cis-1,2-Dichloroethene	ND		25.0	25.1		ug/L		100	65 - 130
1,2-Dibromoethane (EDB)	ND		25.0	26.7		ug/L		107	70 - 130
Diisopropyl ether	ND		25.0	23.5		ug/L		94	60 - 140
Methyl tert-butyl ether	ND		25.0	24.7		ug/L		99	55 - 145
Naphthalene	ND		25.0	19.1		ug/L		76	50 - 140
Tert-amyl methyl ether	ND		25.0	24.8		ug/L		99	60 - 140
Ethyl tert-butyl ether	ND		25.0	24.4		ug/L		98	60 - 135
Xylenes, Total	ND		75.0	78.2		ug/L		104	60 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*114*		*80 - 120*
Dibromofluoromethane (Surr)	*105*		*80 - 120*
Toluene-d8 (Surr)	*106*		*80 - 120*

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

Lab Sample ID: 440-8650-A-3 MSD
Matrix: Water
Analysis Batch: 20297

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		25.0	25.4		ug/L		102	65 - 140	1.00	20
1,1,2,2-Tetrachloroethane	ND		25.0	25.0		ug/L		100	55 - 135	1.19	30
1,1,2-Trichloroethane	ND		25.0	23.3		ug/L		93	65 - 130	1.70	25
1,1-Dichloroethane	ND		25.0	24.8		ug/L		99	65 - 130	1.00	20
1,1-Dichloroethene	ND		25.0	23.1		ug/L		92	60 - 130	1.75	20
1,2-Dichlorobenzene	ND		25.0	25.1		ug/L		100	75 - 125	1.19	20
1,2-Dichloroethane	ND		25.0	27.1		ug/L		108	60 - 140	1.47	20
1,2-Dichloropropane	ND		25.0	23.2		ug/L		93	65 - 130	3.81	20
1,3-Dichlorobenzene	ND		25.0	26.5		ug/L		106	75 - 125	1.00	20
1,2,3-Trichloropropane	ND		25.0	24.8		ug/L		99	55 - 135	1.00	30
1,4-Dichlorobenzene	ND		25.0	25.1		ug/L		100	75 - 125	1.00	20
Benzene	ND		25.0	22.5		ug/L		90	65 - 125	1.76	20
Bromoform	ND		25.0	19.5		ug/L		78	55 - 135	1.53	25
Bromomethane	ND		25.0	25.0		ug/L		100	55 - 145	1.00	25
Carbon tetrachloride	ND		25.0	24.0		ug/L		96	65 - 140	1.26	25
Chlorobenzene	ND		25.0	25.6		ug/L		102	75 - 125	3.83	20
Dibromochloromethane	ND		25.0	25.7		ug/L		103	65 - 140	2.31	25
Chloroethane	ND		25.0	22.9		ug/L		92	55 - 140	3.10	25
Chloroform	ND		25.0	26.0		ug/L		104	65 - 135	2.28	20
Chloromethane	ND		25.0	23.5		ug/L		94	45 - 145	1.00	25
cis-1,3-Dichloropropene	ND		25.0	24.6		ug/L		98	70 - 130	1.21	20
Bromodichloromethane	ND		25.0	26.6		ug/L		106	70 - 135	4.77	20
Ethylbenzene	ND		25.0	25.1		ug/L		100	65 - 130	1.97	20
Methylene Chloride	1.9		25.0	24.7		ug/L		91	50 - 135	2.00	20
Tetrachloroethene	7.8		25.0	32.4		ug/L		99	65 - 130	2.74	20
Toluene	ND		25.0	24.4		ug/L		98	70 - 125	0.000	20
trans-1,2-Dichloroethene	ND		25.0	23.6		ug/L		94	65 - 130	0.000	20
tert-Butanol	ND		125	133		ug/L		107	65 - 140	1.56	25
trans-1,3-Dichloropropene	ND		25.0	25.5		ug/L		102	65 - 135	3.09	25
Trichlorofluoromethane	ND		25.0	29.5		ug/L		118	60 - 145	3.66	25
Vinyl chloride	ND		25.0	23.3		ug/L		93	45 - 140	0.000	30
Trichloroethene	84		25.0	102		ug/L		72	65 - 125	3.66	20
cis-1,2-Dichloroethene	ND		25.0	24.6		ug/L		98	65 - 130	2.01	20
1,2-Dibromoethane (EDB)	ND		25.0	25.6		ug/L		102	70 - 130	4.21	25
Diisopropyl ether	ND		25.0	23.2		ug/L		93	60 - 140	1.28	25
Methyl tert-butyl ether	ND		25.0	24.2		ug/L		97	55 - 145	2.04	25
Naphthalene	ND		25.0	19.2		ug/L		77	50 - 140	1.00	30
Tert-amyl methyl ether	ND		25.0	24.7		ug/L		99	60 - 140	0.000	30
Ethyl tert-butyl ether	ND		25.0	23.6		ug/L		94	60 - 135	3.33	25
Xylenes, Total	ND		75.0	75.7		ug/L		101	60 - 130	3.25	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*
Toluene-d8 (Surr)	*104*		*80 - 120*

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

Lab Sample ID: MB 440-20598/1-A
Matrix: Water
Analysis Batch: 21217

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20598

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		6.00	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
Bis(2-ethylhexyl) phthalate	ND		5.00	1.70	ug/L		04/18/12 18:02	04/22/12 15:46	1
N-Nitrosodimethylamine	ND		5.00	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
Pentachlorophenol	ND		5.00	0.400	ug/L		04/18/12 18:02	04/22/12 15:46	1
2,4-Dinitrotoluene	ND		5.00	0.200	ug/L		04/18/12 18:02	04/22/12 15:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*127*	*AY*	*40 - 120*	*04/18/12 18:02*	*04/22/12 15:46*	*1*
2-Fluorobiphenyl	*117*		*50 - 120*	*04/18/12 18:02*	*04/22/12 15:46*	*1*
2-Fluorophenol	*88*		*30 - 120*	*04/18/12 18:02*	*04/22/12 15:46*	*1*
Nitrobenzene-d5	*107*		*45 - 120*	*04/18/12 18:02*	*04/22/12 15:46*	*1*
Phenol-d6	*96*		*35 - 120*	*04/18/12 18:02*	*04/22/12 15:46*	*1*
Terphenyl-d14	*114*		*50 - 125*	*04/18/12 18:02*	*04/22/12 15:46*	*1*

Lab Sample ID: LCS 440-20598/2-A
Matrix: Water
Analysis Batch: 21217

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20598

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,6-Trichlorophenol	10.0	9.980		ug/L		100	55 - 120
Bis(2-ethylhexyl) phthalate	10.0	11.60		ug/L		116	65 - 130
N-Nitrosodimethylamine	10.0	7.360		ug/L		74	45 - 120
Pentachlorophenol	10.0	8.920		ug/L		89	24 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*104*		*40 - 120*
2-Fluorobiphenyl	*100*		*50 - 120*
2-Fluorophenol	*74*		*30 - 120*
Nitrobenzene-d5	*103*		*45 - 120*
Phenol-d6	*84*		*35 - 120*
Terphenyl-d14	*108*		*50 - 125*

Lab Sample ID: LCSD 440-20598/3-A
Matrix: Water
Analysis Batch: 21217

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20598

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4,6-Trichlorophenol	10.0	10.54		ug/L		105	55 - 120	5	30
Bis(2-ethylhexyl) phthalate	10.0	11.38		ug/L		114	65 - 130	2	20
N-Nitrosodimethylamine	10.0	10.18	BA	ug/L		102	45 - 120	32	20
Pentachlorophenol	10.0	8.280		ug/L		83	24 - 121	7	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol	*104*		*40 - 120*
2-Fluorobiphenyl	*108*		*50 - 120*
2-Fluorophenol	*84*		*30 - 120*
Nitrobenzene-d5	*110*		*45 - 120*
Phenol-d6	*98*		*35 - 120*

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

Lab Sample ID: LCSD 440-20598/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 21217 — **Prep Batch: 20598**

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	111		50 - 125

Method: 608 Pesticides - Organochlorine Pesticides Low level

Lab Sample ID: MB 440-19875/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19946 — **Prep Batch: 19875**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0050	0.0025	ug/L		04/15/12 14:34	04/16/12 12:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	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 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19946 — **Prep Batch: 19875**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
alpha-BHC			0.500	0.489		ug/L		98	45 - 115		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	80		35 - 115

Lab Sample ID: LCSD 440-19875/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19946 — **Prep Batch: 19875**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
alpha-BHC			0.500	0.460		ug/L		92	45 - 115	6.11	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Tetrachloro-m-xylene	76		35 - 115

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-19534/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19534

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.11	0.080	mg/L			04/13/12 10:41	1
Nitrate Nitrite as N	ND		0.26	0.19	mg/L			04/13/12 10:41	1
Nitrite as N	ND		0.15	0.11	mg/L			04/13/12 10:41	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 440-19534/3
Matrix: Water
Analysis Batch: 19534

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	1.13	1.09		mg/L		97	90 - 110
Nitrate Nitrite as N	2.65	2.61		mg/L		98	90 - 110
Nitrite as N	1.52	1.52		mg/L		100	90 - 110

Lab Sample ID: 440-8571-N-1 MS
Matrix: Water
Analysis Batch: 19534

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	30		11.3	41.2		mg/L		99	80 - 120
Nitrate Nitrite as N	30		26.5	57.8		mg/L		105	80 - 120
Nitrite as N	ND		15.2	16.6		mg/L		109	80 - 120

Lab Sample ID: 440-8571-N-1 MSD
Matrix: Water
Analysis Batch: 19534

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	30		11.3	41.8		mg/L		104	80 - 120	1	20
Nitrate Nitrite as N	30		26.5	58.3		mg/L		107	80 - 120	1	20
Nitrite as N	ND		15.2	16.5		mg/L		108	80 - 120	0	20

Lab Sample ID: MB 440-19535/2
Matrix: Water
Analysis Batch: 19535

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.40	mg/L			04/13/12 10:41	1
Sulfate	ND		0.50	0.40	mg/L			04/13/12 10:41	1

Lab Sample ID: LCS 440-19535/3
Matrix: Water
Analysis Batch: 19535

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.76		mg/L		95	90 - 110
Sulfate	10.0	9.46		mg/L		95	90 - 110

Lab Sample ID: 440-8571-N-1 MS
Matrix: Water
Analysis Batch: 19535

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	170		50.0	214		mg/L		88	80 - 120
Sulfate	110		100	197		mg/L		86	80 - 120

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 440-8571-N-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19535

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	170		50.0	218		mg/L		96	80 - 120	2	20
Sulfate	110		100	199		mg/L		89	80 - 120	1	20

Lab Sample ID: MB 440-19785/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19785

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.40	mg/L			04/14/12 10:38	1
Sulfate	ND		0.50	0.40	mg/L			04/14/12 10:38	1

Lab Sample ID: LCS 440-19785/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19785

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.68		mg/L		94	90 - 110
Sulfate	10.0	9.37		mg/L		94	90 - 110

Lab Sample ID: 440-8670-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19785

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	0.93		5.00	5.48		mg/L		91	80 - 120
Sulfate	1.4		10.0	10.7		mg/L		93	80 - 120

Lab Sample ID: 440-8670-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19785

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	0.93		5.00	5.46		mg/L		90	80 - 120	0	20
Sulfate	1.4		10.0	10.8		mg/L		94	80 - 120	1	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-21754/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 21754

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			04/25/12 08:33	1

Lab Sample ID: LCS 440-21754/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 21754

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	21.3		ug/L		85	85 - 115

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: MRL 440-21754/3 MRL
Matrix: Water
Analysis Batch: 21754

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			4.00	3.75	J,DX	ug/L		94			

Lab Sample ID: 440-8994-N-5 MS
Matrix: Water
Analysis Batch: 21754

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate	ND		25.0	21.4		ug/L		86	80 - 120		

Lab Sample ID: 440-8994-N-5 MSD
Matrix: Water
Analysis Batch: 21754

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	ND		25.0	22.1		ug/L		88	80 - 120	3	20

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

Lab Sample ID: G2D230000077B
Matrix: Water
Analysis Batch: 2114077

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 2114077_P

Analyte	MB Result	MB Qualifier	ML	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000093	ug/L		04/23/12 09:00	04/24/12 16:35	1
Total TCDD	0.0000038	J Q	0.000010	0.00000041	ug/L		04/23/12 09:00	04/24/12 16:35	1
1,2,3,7,8-PeCDD	ND		0.000050	0.0000014	ug/L		04/23/12 09:00	04/24/12 16:35	1
Total PeCDD	ND		0.000050	0.0000014	ug/L		04/23/12 09:00	04/24/12 16:35	1
1,2,3,4,7,8-HxCDD	0.0000011	J Q	0.000050	0.00000013	ug/L		04/23/12 09:00	04/24/12 16:35	1
1,2,3,6,7,8-HxCDD	0.0000017	J	0.000050	0.00000013	ug/L		04/23/12 09:00	04/24/12 16:35	1
1,2,3,7,8,9-HxCDD	0.0000024	J	0.000050	0.00000011	ug/L		04/23/12 09:00	04/24/12 16:35	1
Total HxCDD	0.0000053	J Q	0.000050	0.00000012	ug/L		04/23/12 09:00	04/24/12 16:35	1
1,2,3,4,6,7,8-HpCDD	0.0000037	J	0.000050	0.00000057	ug/L		04/23/12 09:00	04/24/12 16:35	1
Total HpCDD	0.0000064	J	0.000050	0.00000057	ug/L		04/23/12 09:00	04/24/12 16:35	1
OCDD	0.000016	J	0.00010	0.000000040	ug/L		04/23/12 09:00	04/24/12 16:35	1
2,3,7,8-TCDF	ND		0.000010	0.00000088	ug/L		04/23/12 09:00	04/24/12 16:35	1
Total TCDF	ND		0.000010	0.00000088	ug/L		04/23/12 09:00	04/24/12 16:35	1
1,2,3,7,8-PeCDF	0.0000031	J Q	0.000050	0.00000049	ug/L		04/23/12 09:00	04/24/12 16:35	1
2,3,4,7,8-PeCDF	0.0000019	J Q	0.000050	0.00000048	ug/L		04/23/12 09:00	04/24/12 16:35	1
Total PeCDF	0.0000050	J Q	0.000050	0.00000048	ug/L		04/23/12 09:00	04/24/12 16:35	1
1,2,3,4,7,8-HxCDF	0.0000037	J Q	0.000050	0.000000030	ug/L		04/23/12 09:00	04/24/12 16:35	1
1,2,3,6,7,8-HxCDF	0.0000020	J	0.000050	0.000000030	ug/L		04/23/12 09:00	04/24/12 16:35	1
2,3,4,6,7,8-HxCDF	0.0000020	J	0.000050	0.000000030	ug/L		04/23/12 09:00	04/24/12 16:35	1
1,2,3,7,8,9-HxCDF	0.0000016	J Q	0.000050	0.000000030	ug/L		04/23/12 09:00	04/24/12 16:35	1
Total HxCDF	0.000011	J Q	0.000050	0.000000030	ug/L		04/23/12 09:00	04/24/12 16:35	1
1,2,3,4,6,7,8-HpCDF	0.0000035	J	0.000050	0.00000016	ug/L		04/23/12 09:00	04/24/12 16:35	1
1,2,3,4,7,8,9-HpCDF	0.0000041	J	0.000050	0.00000018	ug/L		04/23/12 09:00	04/24/12 16:35	1
Total HpCDF	0.0000094	J	0.000050	0.00000017	ug/L		04/23/12 09:00	04/24/12 16:35	1
OCDF	0.0000070	J	0.00010	0.00000031	ug/L		04/23/12 09:00	04/24/12 16:35	1

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

Lab Sample ID: G2D230000077B
Matrix: Water
Analysis Batch: 2114077

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 2114077_P

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	86		35 - 197	04/23/12 09:00	04/24/12 16:35	1

Internal Standard	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	41		25 - 164	04/23/12 09:00	04/24/12 16:35	1
13C-1,2,3,7,8-PeCDD	50		25 - 181	04/23/12 09:00	04/24/12 16:35	1
13C-1,2,3,4,7,8-HxCDD	54		32 - 141	04/23/12 09:00	04/24/12 16:35	1
13C-1,2,3,6,7,8-HxCDD	53		28 - 130	04/23/12 09:00	04/24/12 16:35	1
13C-1,2,3,4,6,7,8-HpCDD	72		23 - 140	04/23/12 09:00	04/24/12 16:35	1
13C-OCDD	56		17 - 157	04/23/12 09:00	04/24/12 16:35	1
13C-2,3,7,8-TCDF	34		24 - 169	04/23/12 09:00	04/24/12 16:35	1
13C-1,2,3,7,8-PeCDF	39		24 - 185	04/23/12 09:00	04/24/12 16:35	1
13C-2,3,4,7,8-PeCDF	43		21 - 178	04/23/12 09:00	04/24/12 16:35	1
13C-1,2,3,6,7,8-HxCDF	50		26 - 123	04/23/12 09:00	04/24/12 16:35	1
13C-2,3,4,6,7,8-HxCDF	47		28 - 136	04/23/12 09:00	04/24/12 16:35	1
13C-1,2,3,7,8,9-HxCDF	50		29 - 147	04/23/12 09:00	04/24/12 16:35	1
13C-1,2,3,4,6,7,8-HpCDF	52		28 - 143	04/23/12 09:00	04/24/12 16:35	1
13C-1,2,3,4,7,8,9-HpCDF	58		26 - 138	04/23/12 09:00	04/24/12 16:35	1
13C-1,2,3,4,7,8-HxCDF	47		26 - 152	04/23/12 09:00	04/24/12 16:35	1

Lab Sample ID: G2D230000077C
Matrix: Water
Analysis Batch: 2114077

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 2114077_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDD			0.000200	0.000181		ug/L		91	67 - 158		
1,2,3,7,8-PeCDD			0.00100	0.000877		ug/L		88	70 - 142		
1,2,3,4,7,8-HxCDD			0.00100	0.000920	B	ug/L		92	70 - 164		
1,2,3,6,7,8-HxCDD			0.00100	0.000904	B	ug/L		90	76 - 134		
1,2,3,7,8,9-HxCDD			0.00100	0.000924	B	ug/L		92	64 - 162		
1,2,3,4,6,7,8-HpCDD			0.00100	0.000954	B	ug/L		95	70 - 140		
OCDD			0.00200	0.00188	B	ug/L		94	78 - 144		
2,3,7,8-TCDF			0.000200	0.000194		ug/L		97	75 - 158		
1,2,3,7,8-PeCDF			0.00100	0.000945	B	ug/L		94	80 - 134		
2,3,4,7,8-PeCDF			0.00100	0.000869	B	ug/L		87	68 - 160		
1,2,3,4,7,8-HxCDF			0.00100	0.000957	B	ug/L		96	72 - 134		
1,2,3,6,7,8-HxCDF			0.00100	0.000963	B	ug/L		96	84 - 130		
2,3,4,6,7,8-HxCDF			0.00100	0.000955	B	ug/L		95	70 - 156		
1,2,3,7,8,9-HxCDF			0.00100	0.00101	B	ug/L		101	78 - 130		
1,2,3,4,6,7,8-HpCDF			0.00100	0.000948	B	ug/L		95	82 - 122		
1,2,3,4,7,8,9-HpCDF			0.00100	0.000904	B	ug/L		90	78 - 138		
OCDF			0.00200	0.00173	B	ug/L		87	63 - 170		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	85		31 - 191

Internal Standard	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	41		20 - 175
13C-1,2,3,7,8-PeCDD	48		21 - 227

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

Lab Sample ID: G2D230000077C
Matrix: Water
Analysis Batch: 2114077

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 2114077_P

Internal Standard	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,4,7,8-HxCDD	51		21 - 193
13C-1,2,3,6,7,8-HxCDD	50		25 - 163
13C-1,2,3,4,6,7,8-HpCDD	71		26 - 166
13C-OCDD	58		13 - 199
13C-2,3,7,8-TCDF	34		22 - 152
13C-1,2,3,7,8-PeCDF	36		21 - 192
13C-2,3,4,7,8-PeCDF	40		13 - 328
13C-1,2,3,6,7,8-HxCDF	48		21 - 159
13C-2,3,4,6,7,8-HxCDF	44		22 - 176
13C-1,2,3,7,8,9-HxCDF	48		17 - 205
13C-1,2,3,4,6,7,8-HpCDF	52		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	58		20 - 186
13C-1,2,3,4,7,8-HxCDF	43		19 - 202

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-21269/1-A
Matrix: Water
Analysis Batch: 21678

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 21269

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.040	0.015	mg/L		04/23/12 08:06	04/24/12 14:17	1
Zinc	ND		20	6.0	ug/L		04/23/12 08:06	04/24/12 14:17	1

Lab Sample ID: LCS 440-21269/2-A
Matrix: Water
Analysis Batch: 21678

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 21269

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Iron			0.500	0.490		mg/L		98	85 - 115		
Zinc			500	489		ug/L		98	85 - 115		

Lab Sample ID: 440-8616-1 MS
Matrix: Water
Analysis Batch: 21678

Client Sample ID: Outfall 018 Composite
Prep Type: Total Recoverable
Prep Batch: 21269

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	ND		0.500	0.498		mg/L		100	70 - 130
Zinc	ND		500	510		ug/L		102	70 - 130

Lab Sample ID: 440-8616-1 MSD
Matrix: Water
Analysis Batch: 21678

Client Sample ID: Outfall 018 Composite
Prep Type: Total Recoverable
Prep Batch: 21269

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	ND		0.500	0.508		mg/L		102	70 - 130	2	20
Zinc	ND		500	522		ug/L		104	70 - 130	2	20

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

Lab Sample ID: MB 440-21302/1-A
Matrix: Water
Analysis Batch: 21614

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 21302

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.040	0.015	mg/L		04/23/12 10:11	04/24/12 11:42	1
Zinc	ND		20	6.0	ug/L		04/23/12 10:11	04/24/12 11:42	1

Lab Sample ID: LCS 440-21302/2-A
Matrix: Water
Analysis Batch: 21614

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 21302

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.500	0.506		mg/L		101	85 - 115
Zinc	500	502		ug/L		100	85 - 115

Lab Sample ID: 440-8609-F-12-F MS
Matrix: Water
Analysis Batch: 21614

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 21302

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.13		0.500	0.613		mg/L		97	70 - 130
Zinc	ND		500	495		ug/L		99	70 - 130

Lab Sample ID: 440-8609-F-12-G MSD
Matrix: Water
Analysis Batch: 21614

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 21302

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	0.13		0.500	0.632		mg/L		101	70 - 130	3	20
Zinc	ND		500	499		ug/L		100	70 - 130	1	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-21402/1-A
Matrix: Water
Analysis Batch: 22628

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 21402

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.10	ug/L		04/23/12 17:06	04/28/12 18:39	1
Copper	ND		2.0	0.50	ug/L		04/23/12 17:06	04/28/12 18:39	1
Lead	ND		1.0	0.20	ug/L		04/23/12 17:06	04/28/12 18:39	1
Selenium	ND		2.0	0.50	ug/L		04/23/12 17:06	04/28/12 18:39	1

Lab Sample ID: LCS 440-21402/2-A
Matrix: Water
Analysis Batch: 22628

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 21402

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	79.1		ug/L		99	85 - 115
Copper	80.0	76.4		ug/L		96	85 - 115
Lead	80.0	79.2		ug/L		99	85 - 115
Selenium	80.0	86.4		ug/L		108	85 - 115

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

Lab Sample ID: 440-8779-K-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 22628 — **Prep Batch: 21402**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	82.4		ug/L		103	70 - 130
Copper	1.6	J,DX	80.0	74.7		ug/L		91	70 - 130
Lead	ND		80.0	81.3		ug/L		102	70 - 130
Selenium	1.0	J,DX	80.0	86.8		ug/L		107	70 - 130

Lab Sample ID: 440-8779-K-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 22628 — **Prep Batch: 21402**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	80.2		ug/L		100	70 - 130	3	20
Copper	1.6	J,DX	80.0	73.3		ug/L		90	70 - 130	2	20
Lead	ND		80.0	81.7		ug/L		102	70 - 130	1	20
Selenium	1.0	J,DX	80.0	85.1		ug/L		105	70 - 130	2	20

Lab Sample ID: MB 440-20065/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 23203 — **Prep Batch: 21301**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.10	ug/L		04/23/12 10:08	05/01/12 22:05	1
Copper	ND		2.0	0.50	ug/L		04/23/12 10:08	05/01/12 22:05	1
Lead	ND		1.0	0.20	ug/L		04/23/12 10:08	05/01/12 22:05	1
Selenium	ND		2.0	0.50	ug/L		04/23/12 10:08	05/01/12 22:05	1

Lab Sample ID: LCS 440-20065/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 23203 — **Prep Batch: 21301**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	84.5		ug/L		106	85 - 115
Copper	80.0	82.7		ug/L		103	85 - 115
Lead	80.0	75.8		ug/L		95	85 - 115
Selenium	80.0	77.3		ug/L		97	85 - 115

Lab Sample ID: 440-8609-F-11-E MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 23203 — **Prep Batch: 21301**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	85.8		ug/L		107	70 - 130
Copper	2.9		80.0	82.3		ug/L		99	70 - 130
Lead	ND		80.0	76.3		ug/L		95	70 - 130
Selenium	ND		80.0	77.3		ug/L		97	70 - 130

Lab Sample ID: 440-8609-F-11-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 23203 — **Prep Batch: 21301**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	85.1		ug/L		106	70 - 130	1	20

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

Lab Sample ID: 440-8609-F-11-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 23203 — **Prep Batch: 21301**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Copper	2.9		80.0	82.2		ug/L		99	70 - 130	0	20
Lead	ND		80.0	76.2		ug/L		95	70 - 130	0	20
Selenium	ND		80.0	76.7		ug/L		96	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-20031/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 20257 — **Prep Batch: 20031**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		04/16/12 15:03	04/17/12 12:34	1

Lab Sample ID: LCS 440-20031/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 20257 — **Prep Batch: 20031**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	8.00	8.15		ug/L		102	85 - 115

Lab Sample ID: 440-8609-G-14-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 20257 — **Prep Batch: 20031**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		8.00	7.88		ug/L		98	70 - 130

Lab Sample ID: 440-8609-G-14-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 20257 — **Prep Batch: 20031**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		8.00	8.03		ug/L		100	70 - 130	1.86	20

Lab Sample ID: MB 440-19679/1-C — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 20502 — **Prep Batch: 20049**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		04/16/12 15:30	04/18/12 12:13	1

Lab Sample ID: LCS 440-19679/2-C — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 20502 — **Prep Batch: 20049**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	8.00	8.17		ug/L		102	85 - 115

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 440-8443-G-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 20502 — **Prep Batch: 20049**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		8.00	8.10		ug/L		101	70 - 130

Lab Sample ID: 440-8443-G-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 20502 — **Prep Batch: 20049**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		8.00	8.18		ug/L		102	70 - 130	1.00	20

Method: 120.1 - Conductivity, Specific Conductance

Lab Sample ID: MB 440-19954/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19954

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			04/16/12 10:13	1

Lab Sample ID: LCS 440-19954/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19954

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	501	548		umhos/cm		109	90 - 110

Lab Sample ID: 440-8522-A-2 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19954

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	750		755		umhos/cm		0.7	5

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 440-21756/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 21846 — **Prep Batch: 21756**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		5.0	1.4	mg/L		04/25/12 06:36	04/25/12 11:29	1

Lab Sample ID: LCS 440-21756/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 21846 — **Prep Batch: 21756**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	20.0	19.0		mg/L		95	78 - 114

Method: 1664A - HEM and SGT-HEM (Continued)

Lab Sample ID: LCSD 440-21756/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 21846 — **Prep Batch: 21756**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM			20.0	18.6		mg/L		93	78 - 114	2	11

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 440-19801/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19801

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	ND		0.10	0.040	NTU			04/14/12 12:18	1

Lab Sample ID: MRL 440-19801/4 MRL — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19801

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Turbidity			1.00	1.04		NTU		104			

Lab Sample ID: 440-8616-1 DU — **Client Sample ID: Outfall 018 Composite**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19801

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Turbidity	0.27			0.300		NTU				11	20

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

Lab Sample ID: MB 440-19957/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19957

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	10	mg/L			04/16/12 10:21	1

Lab Sample ID: LCS 440-19957/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19957

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	934		mg/L		93	90 - 110		

Lab Sample ID: 440-8418-B-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19957

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	2600			2710		mg/L				3.00	10

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

Lab Sample ID: MB 440-20891/1
Matrix: Water
Analysis Batch: 20891

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		10	10	mg/L			04/19/12 23:17	1

Lab Sample ID: LCS 440-20891/2
Matrix: Water
Analysis Batch: 20891

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	1000	1000		mg/L		100	85 - 115

Lab Sample ID: 440-8689-H-1 DU
Matrix: Water
Analysis Batch: 20891

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	63		64.0		mg/L		2.00	10

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

Lab Sample ID: MB 440-22248/1-A
Matrix: Water
Analysis Batch: 22273

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 22248

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	3.0	ug/L		04/26/12 18:24	04/26/12 21:25	1

Lab Sample ID: LCS 440-22248/2-A
Matrix: Water
Analysis Batch: 22273

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 22248

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	100	110		ug/L		110	90 - 110

Lab Sample ID: 440-9403-A-1-A MS
Matrix: Water
Analysis Batch: 22273

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 22248

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	ND		100	104		ug/L		104	70 - 115

Lab Sample ID: 440-9403-A-1-C MSD
Matrix: Water
Analysis Batch: 22273

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 22248

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		100	108		ug/L		108	70 - 115	4	15

Method: SM 4500 NH3 C - Ammonia

Lab Sample ID: MB 440-22283/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 22286 — **Prep Batch: 22283**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.400	0.157	mg/L		04/25/12 20:35	04/25/12 22:00	1

Lab Sample ID: LCS 440-22283/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 22286 — **Prep Batch: 22283**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	10.0	9.520		mg/L		95	85 - 115

Lab Sample ID: 440-8616-1 MS — **Client Sample ID: Outfall 018 Composite**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 22286 — **Prep Batch: 22283**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.280	J,DX	10.0	9.800		mg/L		95	70 - 120

Lab Sample ID: 440-8616-1 MSD — **Client Sample ID: Outfall 018 Composite**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 22286 — **Prep Batch: 22283**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.280	J,DX	10.0	9.800		mg/L		95	70 - 120	0	15

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

Lab Sample ID: MB 440-19718/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19718

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Blue Active Substances	ND		0.10	0.050	mg/L			04/13/12 18:44	1

Lab Sample ID: LCS 440-19718/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19718

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Blue Active Substances	0.250	0.252		mg/L		101	90 - 110

Lab Sample ID: 440-8447-S-2 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19718

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Blue Active Substances	ND		0.250	0.241		mg/L		97	50 - 125

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

Lab Sample ID: 440-8447-S-2 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19718

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methylene Blue Active Substances	ND		0.250	0.238		mg/L		95	50 - 125	1.47	20

Method: SM5210B - BOD, 5 Day

Lab Sample ID: USB 440-19790/1 USB — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19790

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	0.50	mg/L			04/14/12 10:27	1

Lab Sample ID: LCS 440-19790/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19790

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Biochemical Oxygen Demand	199	197		mg/L		99	85 - 115

Lab Sample ID: LCSD 440-19790/5 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19790

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Biochemical Oxygen Demand	199	198		mg/L		99	85 - 115	0	20

Method: Gross Alpha and Beta - Gross Alpha/Beta

Lab Sample ID: S204070-04 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8609 — **Prep Batch: 8609_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tritium	60	U	500		pCi/L		04/19/12 00:00	04/19/12 20:21	1

Lab Sample ID: S204070-04 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8609 — **Prep Batch: 8609_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Strontium-90	0.067	U	2		pCi/L		04/26/12 00:00	04/26/12 12:35	1

Lab Sample ID: S204070-04 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8609 — **Prep Batch: 8609_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cesium-137	-0.94	U	20		pCi/L		04/26/12 00:00	04/27/12 00:00	1
Potassium-40	1.73	U	25		pCi/L		04/26/12 00:00	04/27/12 00:00	1

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

Lab Sample ID: S204070-04 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8609 — **Prep Batch: 8609_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium, Total	0	U	1		pCi/L		04/27/12 00:00	04/27/12 09:20	1

Lab Sample ID: S204070-04 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8609 — **Prep Batch: 8609_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.192	U	3		pCi/L		04/26/12 00:00	04/30/12 08:23	1
Gross Beta	0.051	U	4		pCi/L		04/26/12 00:00	04/30/12 08:23	1

Lab Sample ID: S204070-04 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8609 — **Prep Batch: 8609_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-228	-0.122	U	1		pCi/L		04/30/12 00:00	04/30/12 14:11	1

Lab Sample ID: S204070-04 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8609 — **Prep Batch: 8609_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-226	0.182	U	1		pCi/L		05/04/12 00:00	05/04/12 13:45	1

Lab Sample ID: S204070-03 — **Client Sample ID: Lab Control Sample**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8609 — **Prep Batch: 8609_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tritium	2440	2380		pCi/L		98	80 - 120

Lab Sample ID: S204070-03 — **Client Sample ID: Lab Control Sample**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8609 — **Prep Batch: 8609_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cesium-137	147	149		pCi/L		101	80 - 120
Cobalt-60	130	126		pCi/L		97	80 - 120

Lab Sample ID: S204070-03 — **Client Sample ID: Lab Control Sample**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8609 — **Prep Batch: 8609_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Strontium-90	9.34	7.84		pCi/L		84	80 - 120

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

Lab Sample ID: S204070-03
Matrix: WATER
Analysis Batch: 8609

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8609_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Uranium, Total	56.5	64.2		pCi/L		114	80 - 120

Lab Sample ID: S204070-03
Matrix: WATER
Analysis Batch: 8609

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8609_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Radium-228	4.41	4.73		pCi/L		107	60 - 140

Lab Sample ID: S204070-03
Matrix: WATER
Analysis Batch: 8609

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8609_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gross Alpha	37	40.4		pCi/L		109	70 - 130
Gross Beta	34	32.6		pCi/L		96	70 - 130

Lab Sample ID: S204070-03
Matrix: WATER
Analysis Batch: 8609

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8609_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Radium-226	50.1	48.5		pCi/L		97	80 - 120

Lab Sample ID: S204070-05
Matrix: WATER
Analysis Batch: 8609

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 8609_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Tritium	19.4		18.5	U	pCi/L		0	

Lab Sample ID: S204070-05
Matrix: WATER
Analysis Batch: 8609

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 8609_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Strontium-90	-0.131		0.038	U	pCi/L		0	

Lab Sample ID: S204070-05
Matrix: WATER
Analysis Batch: 8609

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 8609_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Cesium-137	0.152		-0.761	U	pCi/L		0	
Potassium-40	-4.54		3.82	U	pCi/L		0	

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

Lab Sample ID: S204070-05 — **Client Sample ID: Duplicate**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8609 — **Prep Batch: 8609_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Uranium, Total	0.172			0.183	J	pCi/L				6	

Lab Sample ID: S204070-05 — **Client Sample ID: Duplicate**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8609 — **Prep Batch: 8609_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Radium-228	0.295			0.333	U	pCi/L				0	

Lab Sample ID: S204070-05 — **Client Sample ID: Duplicate**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8609 — **Prep Batch: 8609_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Gross Alpha	1.34			2.68	J	pCi/L				67	
Gross Beta	4.81			5.29		pCi/L				10	

Lab Sample ID: S204070-05 — **Client Sample ID: Duplicate**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8609 — **Prep Batch: 8609_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Radium-226	0.266			0.08	U	pCi/L				0	

GC/MS VOA

Analysis Batch: 20084

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8623-2	Trip Blanks	Total/NA	Water	624	
440-8626-A-3 MS	Matrix Spike	Total/NA	Water	624	
440-8626-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	624	
LCS 440-20084/5	Lab Control Sample	Total/NA	Water	624	
MB 440-20084/4	Method Blank	Total/NA	Water	624	

Analysis Batch: 20297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8623-1	Outfall 018 Grab	Total/NA	Water	624	
440-8650-A-3 MS	Matrix Spike	Total/NA	Water	624	
440-8650-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	624	
LCS 440-20297/5	Lab Control Sample	Total/NA	Water	624	
MB 440-20297/4	Method Blank	Total/NA	Water	624	

GC/MS Semi VOA

Prep Batch: 20598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8616-1	Outfall 018 Composite	Total/NA	Water	625	
LCS 440-20598/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 440-20598/3-A	Lab Control Sample Dup	Total/NA	Water	625	
MB 440-20598/1-A	Method Blank	Total/NA	Water	625	

Analysis Batch: 21217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8616-1	Outfall 018 Composite	Total/NA	Water	625	20598
LCS 440-20598/2-A	Lab Control Sample	Total/NA	Water	625	20598
LCSD 440-20598/3-A	Lab Control Sample Dup	Total/NA	Water	625	20598
MB 440-20598/1-A	Method Blank	Total/NA	Water	625	20598

GC Semi VOA

Prep Batch: 19875

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8616-1	Outfall 018 Composite	Total/NA	Water	608	
LCS 440-19875/2-A	Lab Control Sample	Total/NA	Water	608	
LCSD 440-19875/3-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	Prep Type	Matrix	Method	Prep Batch
440-8616-1	Outfall 018 Composite	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

HPLC/IC

Analysis Batch: 19534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8571-N-1 MS	Matrix Spike	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 19534 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8571-N-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
440-8616-1	Outfall 018 Composite	Total/NA	Water	300.0	
LCS 440-19534/3	Lab Control Sample	Total/NA	Water	300.0	
MB 440-19534/2	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 19535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8571-N-1 MS	Matrix Spike	Total/NA	Water	300.0	
440-8571-N-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
440-8616-1	Outfall 018 Composite	Total/NA	Water	300.0	
LCS 440-19535/3	Lab Control Sample	Total/NA	Water	300.0	
MB 440-19535/2	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 19785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8616-1	Outfall 018 Composite	Total/NA	Water	300.0	
440-8670-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
440-8670-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
LCS 440-19785/3	Lab Control Sample	Total/NA	Water	300.0	
MB 440-19785/2	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 21754

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8616-1	Outfall 018 Composite	Total/NA	Water	314.0	
440-8994-N-5 MS	Matrix Spike	Total/NA	Water	314.0	
440-8994-N-5 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	
LCS 440-21754/2	Lab Control Sample	Total/NA	Water	314.0	
MB 440-21754/5	Method Blank	Total/NA	Water	314.0	
MRL 440-21754/3 MRL	Lab Control Sample	Total/NA	Water	314.0	

Specialty Organics

Analysis Batch: 2114077

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8616-1	Outfall 018 Composite	Total	Water	1613B	
G2D230000077B	Method Blank	Total	Water	1613B	
G2D230000077C	Lab Control Sample	Total	Water	1613B	

Prep Batch: 2114077_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8616-1	Outfall 018 Composite	Total	Water	3542	
G2D230000077B	Method Blank	Total	Water	3542	
G2D230000077C	Lab Control Sample	Total	Water	3542	

Metals

Prep Batch: 20031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8609-G-14-B MS	Matrix Spike	Total/NA	Water	245.1	
440-8609-G-14-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	
440-8616-1	Outfall 018 Composite	Total/NA	Water	245.1	
LCS 440-20031/2-A	Lab Control Sample	Total/NA	Water	245.1	

Metals (Continued)

Prep Batch: 20031 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-20031/1-A	Method Blank	Total/NA	Water	245.1	

Prep Batch: 20049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8443-G-1-C MS	Matrix Spike	Dissolved	Water	245.1	
440-8443-G-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	
440-8616-1	Outfall 018 Composite	Dissolved	Water	245.1	
LCS 440-19679/2-C	Lab Control Sample	Dissolved	Water	245.1	
MB 440-19679/1-C	Method Blank	Dissolved	Water	245.1	

Analysis Batch: 20257

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8609-G-14-B MS	Matrix Spike	Total/NA	Water	245.1	20031
440-8609-G-14-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	20031
440-8616-1	Outfall 018 Composite	Total/NA	Water	245.1	20031
LCS 440-20031/2-A	Lab Control Sample	Total/NA	Water	245.1	20031
MB 440-20031/1-A	Method Blank	Total/NA	Water	245.1	20031

Analysis Batch: 20502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8443-G-1-C MS	Matrix Spike	Dissolved	Water	245.1	20049
440-8443-G-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	20049
440-8616-1	Outfall 018 Composite	Dissolved	Water	245.1	20049
LCS 440-19679/2-C	Lab Control Sample	Dissolved	Water	245.1	20049
MB 440-19679/1-C	Method Blank	Dissolved	Water	245.1	20049

Prep Batch: 21269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8616-1	Outfall 018 Composite	Total Recoverable	Water	200.2	
440-8616-1 MS	Outfall 018 Composite	Total Recoverable	Water	200.2	
440-8616-1 MSD	Outfall 018 Composite	Total Recoverable	Water	200.2	
LCS 440-21269/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
MB 440-21269/1-A	Method Blank	Total Recoverable	Water	200.2	

Prep Batch: 21301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8609-F-11-E MS	Matrix Spike	Dissolved	Water	200.2	
440-8609-F-11-F MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	
440-8616-1	Outfall 018 Composite	Dissolved	Water	200.2	
LCS 440-20065/2-B	Lab Control Sample	Dissolved	Water	200.2	
MB 440-20065/1-B	Method Blank	Dissolved	Water	200.2	

Prep Batch: 21302

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8609-F-12-F MS	Matrix Spike	Dissolved	Water	200.2	
440-8609-F-12-G MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	
440-8616-1	Outfall 018 Composite	Dissolved	Water	200.2	
LCS 440-21302/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
MB 440-21302/1-A	Method Blank	Total Recoverable	Water	200.2	

Metals (Continued)

Prep Batch: 21402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8616-1	Outfall 018 Composite	Total Recoverable	Water	200.2	
440-8779-K-1-D MS	Matrix Spike	Total Recoverable	Water	200.2	
440-8779-K-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	
LCS 440-21402/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
MB 440-21402/1-A	Method Blank	Total Recoverable	Water	200.2	

Analysis Batch: 21614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8609-F-12-F MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	21302
440-8609-F-12-G MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	21302
440-8616-1	Outfall 018 Composite	Dissolved	Water	200.7 Rev 4.4	21302
LCS 440-21302/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	21302
MB 440-21302/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	21302

Analysis Batch: 21678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8616-1	Outfall 018 Composite	Total Recoverable	Water	200.7 Rev 4.4	21269
440-8616-1 MS	Outfall 018 Composite	Total Recoverable	Water	200.7 Rev 4.4	21269
440-8616-1 MSD	Outfall 018 Composite	Total Recoverable	Water	200.7 Rev 4.4	21269
LCS 440-21269/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	21269
MB 440-21269/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	21269

Analysis Batch: 22628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8616-1	Outfall 018 Composite	Total Recoverable	Water	200.8	21402
440-8779-K-1-D MS	Matrix Spike	Total Recoverable	Water	200.8	21402
440-8779-K-1-E MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	21402
LCS 440-21402/2-A	Lab Control Sample	Total Recoverable	Water	200.8	21402
MB 440-21402/1-A	Method Blank	Total Recoverable	Water	200.8	21402

Analysis Batch: 23203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8609-F-11-E MS	Matrix Spike	Dissolved	Water	200.8	21301
440-8609-F-11-F MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	21301
440-8616-1	Outfall 018 Composite	Dissolved	Water	200.8	21301
LCS 440-20065/2-B	Lab Control Sample	Dissolved	Water	200.8	21301
MB 440-20065/1-B	Method Blank	Dissolved	Water	200.8	21301

General Chemistry

Analysis Batch: 19718

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8447-S-2 MS	Matrix Spike	Total/NA	Water	SM 5540C	
440-8447-S-2 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5540C	
LCS 440-19718/4	Lab Control Sample	Total/NA	Water	SM 5540C	
MB 440-19718/3	Method Blank	Total/NA	Water	SM 5540C	

Analysis Batch: 19748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8616-1	Outfall 018 Composite	Total/NA	Water	SM 5540C	

General Chemistry (Continued)

Analysis Batch: 19790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8616-1	Outfall 018 Composite	Total/NA	Water	SM5210B	
LCS 440-19790/4	Lab Control Sample	Total/NA	Water	SM5210B	
LCSD 440-19790/5	Lab Control Sample Dup	Total/NA	Water	SM5210B	
USB 440-19790/1 USB	Method Blank	Total/NA	Water	SM5210B	

Analysis Batch: 19792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8623-1	Outfall 018 Grab	Total/NA	Water	SM 2540F	

Analysis Batch: 19801

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8616-1	Outfall 018 Composite	Total/NA	Water	180.1	
440-8616-1 DU	Outfall 018 Composite	Total/NA	Water	180.1	
MB 440-19801/6	Method Blank	Total/NA	Water	180.1	
MRL 440-19801/4 MRL	Lab Control Sample	Total/NA	Water	180.1	

Analysis Batch: 19954

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8522-A-2 DU	Duplicate	Total/NA	Water	120.1	
440-8623-1	Outfall 018 Grab	Total/NA	Water	120.1	
LCS 440-19954/2	Lab Control Sample	Total/NA	Water	120.1	
MB 440-19954/1	Method Blank	Total/NA	Water	120.1	

Analysis Batch: 19957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8418-B-1 DU	Duplicate	Total/NA	Water	SM 2540C	
440-8616-1	Outfall 018 Composite	Total/NA	Water	SM 2540C	
LCS 440-19957/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 440-19957/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 20891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8616-1	Outfall 018 Composite	Total/NA	Water	SM 2540D	
440-8689-H-1 DU	Duplicate	Total/NA	Water	SM 2540D	
LCS 440-20891/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 440-20891/1	Method Blank	Total/NA	Water	SM 2540D	

Prep Batch: 21756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8623-1	Outfall 018 Grab	Total/NA	Water	1664A	
LCS 440-21756/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 440-21756/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	
MB 440-21756/1-A	Method Blank	Total/NA	Water	1664A	

Analysis Batch: 21846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8623-1	Outfall 018 Grab	Total/NA	Water	1664A	21756
LCS 440-21756/2-A	Lab Control Sample	Total/NA	Water	1664A	21756
LCSD 440-21756/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	21756
MB 440-21756/1-A	Method Blank	Total/NA	Water	1664A	21756

General Chemistry (Continued)

Prep Batch: 22248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8616-1	Outfall 018 Composite	Total/NA	Water	Distill/CN	
440-9403-A-1-A MS	Matrix Spike	Total/NA	Water	Distill/CN	
440-9403-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	Distill/CN	
LCS 440-22248/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
MB 440-22248/1-A	Method Blank	Total/NA	Water	Distill/CN	

Analysis Batch: 22273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8616-1	Outfall 018 Composite	Total/NA	Water	SM 4500 CN E	22248
440-9403-A-1-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	22248
440-9403-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	22248
LCS 440-22248/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	22248
MB 440-22248/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	22248

Prep Batch: 22283

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8616-1	Outfall 018 Composite	Total/NA	Water	SM 4500 NH3 B	
440-8616-1 MS	Outfall 018 Composite	Total/NA	Water	SM 4500 NH3 B	
440-8616-1 MSD	Outfall 018 Composite	Total/NA	Water	SM 4500 NH3 B	
LCS 440-22283/2-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 B	
MB 440-22283/1-A	Method Blank	Total/NA	Water	SM 4500 NH3 B	

Analysis Batch: 22286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8616-1	Outfall 018 Composite	Total/NA	Water	SM 4500 NH3 C	22283
440-8616-1 MS	Outfall 018 Composite	Total/NA	Water	SM 4500 NH3 C	22283
440-8616-1 MSD	Outfall 018 Composite	Total/NA	Water	SM 4500 NH3 C	22283
LCS 440-22283/2-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 C	22283
MB 440-22283/1-A	Method Blank	Total/NA	Water	SM 4500 NH3 C	22283

Subcontract

Analysis Batch: 8609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8616-1	Outfall 018 Composite	Total/NA	Water	Gamma Spec	8609_P
440-8616-1	Outfall 018 Composite	Total/NA	Water	K-40 CS-137 Gross Alpha and Beta	8609_P
440-8616-1	Outfall 018 Composite	Total/NA	Water	Radium 228	8609_P
440-8616-1	Outfall 018 Composite	Total/NA	Water	Strontium 90	8609_P
440-8616-1	Outfall 018 Composite	Total/NA	Water	Tritium	8609_P
440-8616-1	Outfall 018 Composite	Total/NA	Water	Uranium, Combined	8609_P
S204070-03	Lab Control Sample	Total/NA	WATER	Gross Alpha and Beta	8609_P
S204070-04	Method Blank	Total/NA	WATER	Gross Alpha and Beta	8609_P
S204070-05	Duplicate	Total/NA	WATER	Gross Alpha and Beta	8609_P

Prep Batch: 8609_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8616-1	Outfall 018 Composite	Total/NA	Water	General Prep	

Subcontract (Continued)

Prep Batch: 8609_P (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
S204070-03	Lab Control Sample	Total/NA	WATER	General Prep	
S204070-04	Method Blank	Total/NA	WATER	General Prep	
S204070-05	Duplicate	Total/NA	WATER	General Prep	

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

GC/MS Semi VOA

Qualifier	Qualifier Description
BA	Relative percent difference out of control
AY	Matrix Interference suspected

HPLC/IC

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

DIOXIN

Qualifier	Qualifier Description
J	Estimated result. Result is less than the reporting limit.
Q	Estimated maximum possible concentration (EMPC).
B	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 Chemistry

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Subcontract

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: Routine Outfall 018 Composite

TestAmerica Job ID: 440-8616-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Irvine	Arizona	State Program	9	AZ0671
TestAmerica Irvine	California	LA Cty Sanitation Districts	9	10256
TestAmerica Irvine	California	NELAC	9	1108CA
TestAmerica Irvine	California	State Program	9	2706
TestAmerica Irvine	Guam	State Program	9	Cert. No. 12.002r
TestAmerica Irvine	Hawaii	State Program	9	N/A
TestAmerica Irvine	Nevada	State Program	9	CA015312007A
TestAmerica Irvine	New Mexico	State Program	6	N/A
TestAmerica Irvine	Northern Mariana Islands	State Program	9	MP0002
TestAmerica Irvine	Oregon	NELAC	10	4005
TestAmerica Irvine	USDA	Federal		P330-09-00080
TestAmerica West Sacramento	A2LA	DoD ELAP		2928-01
TestAmerica West Sacramento	Alaska (UST)	State Program	10	UST-055
TestAmerica West Sacramento	Arizona	State Program	9	AZ0708
TestAmerica West Sacramento	Arkansas DEQ	State Program	6	88-0691
TestAmerica West Sacramento	California	NELAC	9	1119CA
TestAmerica West Sacramento	Colorado	State Program	8	N/A
TestAmerica West Sacramento	Connecticut	State Program	1	PH-0691
TestAmerica West Sacramento	Florida	NELAC	4	E87570
TestAmerica West Sacramento	Georgia	State Program	4	960
TestAmerica West Sacramento	Guam	State Program	9	N/A
TestAmerica West Sacramento	Hawaii	State Program	9	N/A
TestAmerica West Sacramento	Illinois	NELAC	5	200060
TestAmerica West Sacramento	Kansas	NELAC	7	E-10375
TestAmerica West Sacramento	Louisiana	NELAC	6	30612
TestAmerica West Sacramento	Michigan	State Program	5	9947
TestAmerica West Sacramento	Nevada	State Program	9	CA44
TestAmerica West Sacramento	New Jersey	NELAC	2	CA005
TestAmerica West Sacramento	New Mexico	State Program	6	N/A
TestAmerica West Sacramento	New York	NELAC	2	11666
TestAmerica West Sacramento	Northern Mariana Islands	State Program	9	MP0007
TestAmerica West Sacramento	Oregon	NELAC	10	CA200005
TestAmerica West Sacramento	Pennsylvania	NELAC	3	68-01272
TestAmerica West Sacramento	South Carolina	State Program	4	87014
TestAmerica West Sacramento	Texas	NELAC	6	T104704399-08-TX
TestAmerica West Sacramento	US Fish & Wildlife	Federal		LE148388-0
TestAmerica West Sacramento	USDA	Federal		P330-09-00055
TestAmerica West Sacramento	Utah	NELAC	8	QUAN1
TestAmerica West Sacramento	Virginia	State Program	3	178
TestAmerica West Sacramento	Washington	State Program	10	C581
TestAmerica West Sacramento	West Virginia	State Program	3	9930C
TestAmerica West Sacramento	West Virginia DEP	State Program	3	334
TestAmerica West Sacramento	Wisconsin	State Program	5	998204680
TestAmerica 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 SERVICES

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May 9, 2012

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

Reference: **Test America-Irvine 44002624**
Eberline Analytical Report S204067-8609
Sample Delivery Group 8609

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for one water sample received under Test America Project No. 44002624. The sample was received on April 17, 2012.

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

Sincerely,

Joseph Verville
Client Services Manager

NJV/mw

Enclosure: Level IV CLP-like Data Package CD

1.0 General Comments

Sample delivery group 8609 consists of the analytical results and supporting documentation for one water sample. Sample ID and reference dates/times are given in the Sample Summary section of the Summary Data report. The sample was received as stated on the chain-of-custody document. Any discrepancies are noted on the Eberline Analytical Sample Receipt Checklist. No holding times were exceeded.

Tritium and gamma analyses were performed on the 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.

For QC purposes sample OUTFALL018 (440-8616-1) was batched with other Boeing OUTFALL samples. The duplicate analysis reported herein was a duplicate analysis of sample OUTFALL002 (440-8694-1).

3.0 Method Errors

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

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

4.0 Analysis Notes

4.1 Gross Alpha/Gross Beta Analysis – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

4.2 Tritium Analysis – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

4.3 Strontium-90 Analysis – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

4.4 Radium-226 Analysis – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

4.5 Radium-228 Analysis - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits

4.6 Total Uranium Analysis - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

4.7 Gamma Spectroscopy – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

5.0 Case Narrative Certification Statement

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

Joseph Verville
Client Services Manager

5/9/12

Date

E B E R L I N E A N A L Y T I C A L
SDG 8609

SDG 8609	Client Test America, Inc.
Contact Joseph Verville	Contract 44002624

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

T A B L E O F C O N T E N T S

Prepared by

Reviewed by

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-TOC
Version	3.06
Report date	05/09/12

SDG 8609
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract 44002624

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 05/09/12

SDG 8609
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract 44002624

ABOUT THE DATA SUMMARY SECTION

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

MATRIX SPIKES

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

DATA SHEETS

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

METHOD SUMMARIES

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

REPORT GUIDES

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 05/09/12

EBERLINE ANALYTICAL

SDG 8609

LAB SAMPLE SUMMARY

SDG 8609
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S204067-01	OUTFALL 018 (440-8616-1)	Boeing-SSFL	WATER			440-4022.1	04/13/12 12:18
S204070-03	Lab Control Sample		WATER				
S204070-04	Method Blank		WATER				
S204070-05	Duplicate (S204070-01)	Boeing-SSFL	WATER				04/13/12 17:54

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LS
Version 3.06
Report date 05/09/12

LAB SUMMARY
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SUMMARY DATA SECTION
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Contact Joseph Verville

QC SUMMARY

Client Test America, Inc.
Contract 44002624

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	DAYS SINCE COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
8609	440-4022.1	OUTFALL 018 (440-8616-1)	WATER		10.0 L		04/17/12	4	S204067-01	8609-001
8612		Method Blank	WATER						S204070-04	8612-004
		Lab Control Sample	WATER						S204070-03	8612-003
		Duplicate (S204070-01)	WATER		10.0 L		04/17/12	4	S204070-05	8612-005

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 05/09/12

EBERLINE ANALYTICAL

SDG 8609

PREP BATCH SUMMARY

SDG 8609
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

TEST	MATRIX	METHOD	PREPARATION BATCH	ERROR 2σ %	PLANCHETS ANALYZED CLIENT	MORE	RE	BLANK	LCS	DUP/ORIG	MS/ORIG	QUALIFIERS
Beta Counting												
AC	WATER	Radium-228 in Water	7271-144	10.4	1			1	1	1/0/1		
SR	WATER	Strontium-90 in Water	7271-144	10.4	1			1	1	1/0/1		
Gas Proportional Counting												
80A	WATER	Gross Alpha in Water	7271-144	20.6	1			1	1	1/0/1		
80B	WATER	Gross Beta in Water	7271-144	11.0	1			1	1	1/0/1		
Gamma Spectroscopy												
GAM	WATER	Gamma Emitters in Water	7271-144	7.0	1			1	1	1/0/1		
Kinetic Phosphorimetry												
U_T	WATER	Uranium, Total	7271-144		1			1	1	1/0/1		
Liquid Scintillation Counting												
H	WATER	Tritium in Water	7271-144	10.0	1			1	1	1/0/1		
Radon Counting												
RA	WATER	Radium-226 in Water	7271-144	16.4	1			1	1	1/0/1		

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 05/09/12

EBERLINE ANALYTICAL

SDG 8609

LAB WORK SUMMARY

SDG 8609
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

LAB SAMPLE / COLLECTED / RECEIVED	CLIENT SAMPLE ID / LOCATION / CUSTODY / SAS no	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
S204067-01	OUTFALL 018 (440-8616-1)		8609-001	80A/80		04/26/12	04/27/12	MWT	Gross Alpha in Water
04/13/12	Boeing-SSFL	WATER	8609-001	80B/80		04/26/12	04/27/12	MWT	Gross Beta in Water
04/17/12	440-4022.1		8609-001	AC		04/30/12	05/11/12	BW	Radium-228 in Water
			8609-001	GAM		04/25/12	05/02/12	MWT	Gamma Emitters in Water
			8609-001	H		04/19/12	04/24/12	BW	Tritium in Water
			8609-001	RA		05/04/12	05/07/12	BW	Radium-226 in Water
			8609-001	SR		04/26/12	04/30/12	BW	Strontium-90 in Water
			8609-001	U_T		04/27/12	04/27/12	TSC	Uranium, Total
S204070-03	Lab Control Sample		8612-003	80A/80		05/03/12	05/03/12	BW	Gross Alpha in Water
		WATER	8612-003	80B/80		05/03/12	05/03/12	BW	Gross Beta in Water
			8612-003	AC		04/30/12	05/01/12	BW	Radium-228 in Water
			8612-003	GAM		04/26/12	05/02/12	MWT	Gamma Emitters in Water
			8612-003	H		04/19/12	04/24/12	BW	Tritium in Water
			8612-003	RA		05/04/12	05/07/12	BW	Radium-226 in Water
			8612-003	SR		04/26/12	05/01/12	BW	Strontium-90 in Water
			8612-003	U_T		04/27/12	04/27/12	TSC	Uranium, Total
S204070-04	Method Blank		8612-004	80A/80		04/30/12	05/03/12	BW	Gross Alpha in Water
		WATER	8612-004	80B/80		04/30/12	05/03/12	BW	Gross Beta in Water
			8612-004	AC		04/30/12	05/01/12	BW	Radium-228 in Water
			8612-004	GAM		04/27/12	05/02/12	MWT	Gamma Emitters in Water
			8612-004	H		04/19/12	04/24/12	BW	Tritium in Water
			8612-004	RA		05/04/12	05/07/12	BW	Radium-226 in Water
			8612-004	SR		04/26/12	05/01/12	BW	Strontium-90 in Water
			8612-004	U_T		04/27/12	04/27/12	TSC	Uranium, Total
S204070-05	Duplicate (S204070-01)		8612-005	80A/80		04/30/12	05/03/12	BW	Gross Alpha in Water
04/13/12	Boeing-SSFL	WATER	8612-005	80B/80		04/30/12	05/03/12	BW	Gross Beta in Water
04/17/12			8612-005	AC		04/30/12	05/01/12	BW	Radium-228 in Water
			8612-005	GAM		04/27/12	05/02/12	MWT	Gamma Emitters in Water
			8612-005	H		04/19/12	04/24/12	BW	Tritium in Water
			8612-005	RA		05/04/12	05/07/12	BW	Radium-226 in Water
			8612-005	SR		04/26/12	05/01/12	BW	Strontium-90 in Water
			8612-005	U_T		04/27/12	04/27/12	TSC	Uranium, Total

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 05/09/12

WORK SUMMARY
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SDG 8609
Contact Joseph Verville

WORK SUMMARY, cont.

Client Test America, Inc.
Contract 44002624

COUNTS OF TESTS BY SAMPLE TYPE

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 05/09/12

EBERLINE ANALYTICAL

SDG 8609

METHOD BLANK

SDG	8609	Client	Test America, Inc.
Contact	Joseph Verville	Contract	44002624
Lab sample id	S204070-04	Client sample id	Method Blank
Dept sample id	8612-004	Material/Matrix	WATER

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	-0.192	0.30	0.606	3.00	U	80A
Gross Beta	12587472	0.051	0.52	0.863	4.00	U	80B
Tritium	10028178	60.0	92	152	500	U	H
Radium-226	13982633	0.182	0.34	0.593	1.00	U	RA
Radium-228	15262201	-0.122	0.15	0.413	1.00	U	AC
Strontium-90	10098972	0.067	0.22	0.478	2.00	U	SR
Uranium, Total		0	0.008	0.018	1.00	U	U_T
Potassium-40	13966002	1.73	18	32.1	25.0	U	GAM
Cesium-137	10045973	-0.940	1.7	3.07	20.0	U	GAM

QC-BLANK #81586

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	05/09/12

METHOD BLANKS
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EBERLINE ANALYTICAL

SDG 8609

8612-003

Lab Control Sample

LAB CONTROL SAMPLE

SDG 8609 | Client Test America, Inc.
Contact Joseph Verville | Contract 44002624

Lab sample id S204070-03 | Client sample id Lab Control Sample
Dept sample id 8612-003 | Material/Matrix WATER

ANALYTE	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ADDED pCi/L	2σ ERR pCi/L	REC %	2σ LMTS (TOTAL)	PROTOCOL LIMITS
Gross Alpha	40.4	4.2	1.66	3.00		80A	37.0	1.5	109	74-126	70-130
Gross Beta	32.6	2.5	2.14	4.00		80B	34.0	1.4	96	86-114	70-130
Tritium	2380	150	152	500		H	2440	98	98	88-112	80-120
Radium-226	48.5	2.1	0.687	1.00		RA	50.1	2.0	97	83-117	80-120
Radium-228	4.73	0.45	0.385	1.00		AC	4.41	0.18	107	84-116	60-140
Strontium-90	7.84	0.41	0.174	2.00		SR	9.34	0.37	84	89-111	80-120
Uranium, Total	64.2	7.2	0.181	1.00		U_T	56.5	2.3	114	87-113	80-120
Cobalt-60	126	6.3	6.18	10.0		GAM	130	5.2	97	91-109	80-120
Cesium-137	149	7.1	9.26	20.0		GAM	147	5.9	101	91-109	80-120

QC-LCS #81585

LAB CONTROL SAMPLES
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Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LCS
Version 3.06
Report date 05/09/12

EBERLINE ANALYTICAL

SDG 8609

8612-005

OUTFALL 002 (440-8694-1)

DUPLICATE

SDG 8609
Contact Joseph Verville
Client Test America, Inc.
Contract 44002624

DUPLICATE: Lab sample id S204070-05, Dept sample id 8612-005

ORIGINAL: Lab sample id S204070-01, Dept sample id 8612-001, Received 04/17/12

Client sample id OUTFALL 002 (440-8694-1)
Location/Matrix Boeing-SSFL WATER
Collected/Volume 04/13/12 17:54 10.0 L
Chain of custody id 440-4025.1

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	2.68	0.94	0.940	3.00	J	80A	1.34	0.81	1.26	J	67	103	1.9
Gross Beta	5.29	0.87	1.15	4.00		80B	4.81	0.97	1.44		10	45	0.6
Tritium	18.5	91	152	500	U	H	19.4	88	148	U	-		0
Radium-226	0.080	0.33	0.589	1.00	U	RA	0.266	0.35	0.587	U	-		0.8
Radium-228	0.333	0.17	0.404	1.00	U	AC	0.295	0.15	0.382	U	-		0.3
Strontium-90	0.038	0.35	0.808	2.00	U	SR	-0.131	0.33	0.835	U	-		0.7
Uranium, Total	0.183	0.021	0.018	1.00	J	U_T	0.172	0.020	0.018	J	6	25	0.8
Potassium-40	3.82	19	34.2	25.0	U	GAM	-4.54	15	26.9	U	-		0.7
Cesium-137	-0.761	1.8	3.22	20.0	U	GAM	0.152	1.3	1.58	U	-		0.8

QC-DUP#1 81587

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-DUP
Version 3.06
Report date 05/09/12

DUPLICATES
Page 1
SUMMARY DATA SECTION
Page 10

EBERLINE ANALYTICAL

SDG 8609

8609-001 OUTFALL 018 (440-8616-1)

DATA SHEET

SDG	8609	Client	Test America, Inc.
Contact	Joseph Verville	Contract	44002624
Lab sample id	S204067-01	Client sample id	OUTFALL 018 (440-8616-1)
Dept sample id	8609-001	Location/Matrix	Boeing-SSFL WATER
Received	04/17/12	Collected/Volume	04/13/12 12:18 10.0 L
		Chain of custody id	440-4022.1

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	-0.184	0.59	1.12	3.00	U	80A
Gross Beta	12587472	3.30	1.1	1.58	4.00	J	80B
Tritium	10028178	32.2	91	152	500	U	H
Radium-226	13982633	0.141	0.32	0.564	1.00	U	RA
Radium-228	15262201	0.034	0.15	0.394	1.00	U	AC
Strontium-90	10098972	0.061	0.35	0.781	2.00	U	SR
Uranium, Total		0.022	0.008	0.018	1.00	J	U_T
Potassium-40	13966002	19.0	38	65.8	25.0	U	GAM
Cesium-137	10045973	-2.11	3.4	6.06	20.0	U	GAM

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	05/09/12

EBERLINE ANALYTICAL

SDG 8609

LAB METHOD SUMMARY

RADIUM-228 IN WATER

BETA COUNTING

Test AC Matrix WATER
SDG 8609
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Radium-228	
Preparation batch 7271-144						
S204067-01			8609-001	OUTFALL 018 (440-8616-1)	U	
S204070-03			8612-003	Lab Control Sample	ok	
S204070-04			8612-004	Method Blank	U	
S204070-05			8612-005	Duplicate (S204070-01)	-	U
Nominal values and limits from method				RDLs (pCi/L)	1.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7271-144			2σ prep error 10.4 %	Reference Lab Notebook No. 7271 pg.012												
S204067-01			OUTFALL 018 (440-8616-1)	0.394	1.80			79		150			17	04/30/12	04/30	GRB-230
S204070-03			Lab Control Sample	0.385	1.80			78		150				04/30/12	04/30	GRB-223
S204070-04			Method Blank	0.413	1.80			81		150				04/30/12	04/30	GRB-224
S204070-05			Duplicate (S204070-01)	0.404	1.80			83		150			17	04/30/12	04/30	GRB-229
Nominal values and limits from method				1.00	1.80			30-105		50			180			

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

AVERAGES ± 2 SD FOR 4 SAMPLES
MDA 0.399 ± 0.024
YIELD 80 ± 4

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 05/09/12

EBERLINE ANALYTICAL

SDG 8609

LAB METHOD SUMMARY

STRONTIUM-90 IN WATER

BETA COUNTING

Test SR Matrix WATER
SDG 8609
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Strontium-90	
Preparation batch 7271-144						
S204067-01			8609-001	OUTFALL 018 (440-8616-1)	U	
S204070-03			8612-003	Lab Control Sample	ok	
S204070-04			8612-004	Method Blank	U	
S204070-05			8612-005	Duplicate (S204070-01)	-	U
Nominal values and limits from method				RDLs (pCi/L)	2.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7271-144			2σ prep error 10.4 %	Reference Lab Notebook No. 7271 pg.012												
S204067-01			OUTFALL 018 (440-8616-1)	0.781	0.500			92		50			13	04/26/12	04/26	GRB-231
S204070-03			Lab Control Sample	0.174	1.00			93		120				04/26/12	04/26	GRB-222
S204070-04			Method Blank	0.478	1.00			88		50				04/26/12	04/26	GRB-224
S204070-05			Duplicate (S204070-01)	0.808	0.500			85		50			13	04/26/12	04/26	GRB-229
Nominal values and limits from method				2.00	1.00			30-105		50			180			

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

AVERAGES ± 2 SD FOR 4 SAMPLES
MDA 0.560 ± 0.596
YIELD 90 ± 7

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 05/09/12

EBERLINE ANALYTICAL

SDG 8609

LAB METHOD SUMMARY

GROSS ALPHA IN WATER

GAS PROPORTIONAL COUNTING

Test 80A Matrix WATER
SDG 8609
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha	
Preparation batch 7271-144						
S204067-01	80		8609-001	OUTFALL 018 (440-8616-1)	U	
S204070-03	80		8612-003	Lab Control Sample	ok	
S204070-04	80		8612-004	Method Blank	U	
S204070-05	80		8612-005	Duplicate (S204070-01)	ok	J
Nominal values and limits from method				RDLs (pCi/L)	3.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7271-144			2σ prep error 20.6 %	Reference Lab Notebook No. 7271 pg.012												
S204067-01	80		OUTFALL 018 (440-8616-1)	1.12	0.220			99		400			13	04/26/12	04/26	GRB-107
S204070-03	80		Lab Control Sample	1.66	0.300			61		100				04/26/12	05/03	GRB-214
S204070-04	80		Method Blank	0.606	0.300			63		400				04/26/12	04/30	GRB-112
S204070-05	80		Duplicate (S204070-01)	0.940	0.220			93		400			17	04/26/12	04/30	GRB-109
Nominal values and limits from method				3.00	0.300			0-250		100			180			

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

AVERAGES ± 2 SD FOR 4 SAMPLES
MDA 1.08 ± 0.881
RESIDUE 79 ± 40

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 05/09/12

EBERLINE ANALYTICAL

SDG 8609

LAB METHOD SUMMARY

GROSS BETA IN WATER

GAS PROPORTIONAL COUNTING

Test 80B Matrix WATER
SDG 8609
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta
Preparation batch 7271-144					
S204067-01	80		8609-001	OUTFALL 018 (440-8616-1)	3.30 J
S204070-03	80		8612-003	Lab Control Sample	ok
S204070-04	80		8612-004	Method Blank	U
S204070-05	80		8612-005	Duplicate (S204070-01)	ok
Nominal values and limits from method				RDLs (pCi/L)	4.00

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7271-144			2σ prep error 11.0 %	Reference Lab Notebook No. 7271 pg.012												
S204067-01	80		OUTFALL 018 (440-8616-1)	1.58	0.220			99		400			13	04/26/12	04/26	GRB-107
S204070-03	80		Lab Control Sample	2.14	0.300			61		100				04/26/12	05/03	GRB-214
S204070-04	80		Method Blank	0.863	0.300			63		400				04/26/12	04/30	GRB-112
S204070-05	80		Duplicate (S204070-01)	1.15	0.220			93		400			17	04/26/12	04/30	GRB-109
Nominal values and limits from method				4.00	0.300			0-250		100			180			

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

AVERAGES ± 2 SD FOR 4 SAMPLES
MDA 1.43 ± 1.11
RESIDUE 79 ± 40

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 05/09/12

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Page 15

EBERLINE ANALYTICAL

SDG 8609

LAB METHOD SUMMARY

GAMMA EMITTERS IN WATER

GAMMA SPECTROSCOPY

Test GAM Matrix WATER
SDG 8609
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt-60	Cesium-137	
Preparation batch 7271-144							
S204067-01			8609-001	OUTFALL 018 (440-8616-1)		U	
S204070-03			8612-003	Lab Control Sample	ok	ok	
S204070-04			8612-004	Method Blank		U	
S204070-05			8612-005	Duplicate (S204070-01)		-	U
Nominal values and limits from method				RDLs (pCi/L)	10.0	20.0	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7271-144			2σ prep error 7.0 %	Reference Lab Notebook No. 7271 pg.012												
S204067-01			OUTFALL 018 (440-8616-1)		2.00					400			12	04/25/12	04/25	MB,G5,0
S204070-03			Lab Control Sample		2.00					400				04/26/12	04/26	MB,G6,0
S204070-04			Method Blank		2.00					400				04/26/12	04/27	MB,G3,0
S204070-05			Duplicate (S204070-01)		2.00					400			14	04/26/12	04/27	MB,G4,0
Nominal values and limits from method				6.00	2.00					400			180			

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 05/09/12

EBERLINE ANALYTICAL

SDG 8609

LAB METHOD SUMMARY

URANIUM, TOTAL

KINETIC PHOSPHORIMETRY

Test U_T Matrix WATER
SDG 8609
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Uranium, Total
Preparation batch 7271-144					
S204067-01			8609-001	OUTFALL 018 (440-8616-1)	0.022 J
S204070-03			8612-003	Lab Control Sample	ok
S204070-04			8612-004	Method Blank	U
S204070-05			8612-005	Duplicate (S204070-01)	ok J
Nominal values and limits from method				RDLs (pCi/L)	1.00

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7271-144			2σ prep error			Reference Lab Notebook No. 7271 pg.012										
S204067-01			OUTFALL 018 (440-8616-1)	0.018	0.0200								14	04/27/12	04/27	KPA-001
S204070-03			Lab Control Sample	0.181	0.0200									04/27/12	04/27	KPA-001
S204070-04			Method Blank	0.018	0.0200									04/27/12	04/27	KPA-001
S204070-05			Duplicate (S204070-01)	0.018	0.0200								14	04/27/12	04/27	KPA-001
Nominal values and limits from method				1.00	0.0200								180			

PROCEDURES REFERENCE D5174

AVERAGES ± 2 SD FOR 4 SAMPLES
MDA 0.059 ± 0.163
YIELD ____ ± ____

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 05/09/12

EBERLINE ANALYTICAL

SDG 8609

LAB METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Test H Matrix WATER
SDG 8609
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Tritium	
Preparation batch 7271-144						
S204067-01			8609-001	OUTFALL 018 (440-8616-1)	U	
S204070-03			8612-003	Lab Control Sample	ok	
S204070-04			8612-004	Method Blank	U	
S204070-05			8612-005	Duplicate (S204070-01)	-	U
Nominal values and limits from method				RDLs (pCi/L)	500	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7271-144			2σ prep error 10.0 %	Reference Lab Notebook No. 7271 pg.012												
S204067-01			OUTFALL 018 (440-8616-1)	152	0.0100		100		150				6	04/19/12	04/19	LSC-007
S204070-03			Lab Control Sample	152	0.100		10		150					04/19/12	04/19	LSC-007
S204070-04			Method Blank	152	0.100		10		150					04/19/12	04/19	LSC-007
S204070-05			Duplicate (S204070-01)	152	0.0100		100		150				6	04/19/12	04/19	LSC-007
Nominal values and limits from method				500	0.0100				100				180			

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

AVERAGES ± 2 SD FOR 4 SAMPLES
MDA 152 ± 0
YIELD 55 ± 104

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 05/09/12

EBERLINE ANALYTICAL

SDG 8609

LAB METHOD SUMMARY

RADIUM-226 IN WATER

RADON COUNTING

Test RA Matrix WATER
SDG 8609
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Radium-226	
Preparation batch 7271-144						
S204067-01			8609-001	OUTFALL 018 (440-8616-1)	U	
S204070-03			8612-003	Lab Control Sample	ok	
S204070-04			8612-004	Method Blank	U	
S204070-05			8612-005	Duplicate (S204070-01)	-	U
Nominal values and limits from method				RDLs (pCi/L)	1.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7271-144			2σ prep error 16.4 %	Reference Lab Notebook No. 7271 pg.012												
S204067-01			OUTFALL 018 (440-8616-1)	0.564	0.100			100		108			21	05/04/12	05/04	RN-010
S204070-03			Lab Control Sample	0.687	0.100			100		105				05/04/12	05/04	RN-009
S204070-04			Method Blank	0.593	0.100			100		80				05/04/12	05/04	RN-010
S204070-05			Duplicate (S204070-01)	0.589	0.100			100		105			21	05/04/12	05/04	RN-015
Nominal values and limits from method				1.00	0.100					100			180			

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

AVERAGES ± 2 SD FOR 4 SAMPLES
MDA 0.608 ± 0.108
YIELD 100 ± 0

Lab id EAS
Protocol TA
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Form DVD-LMS
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SDG 8609
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract 44002624

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.

SDG 8609
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
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PREPARATION BATCH SUMMARY

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

The following notes apply to this report:

* The preparation batches are shown in the same order as the Method Summary Reports are printed.

* Only analyses of planchets relevant to the SDG are included.

* Each preparation batch should have at least one Method Blank and LCS in it to validate client sample results.

* The QUALIFIERS shown are all qualifiers other than U, J, B, L and H that occur on any analysis in the preparation batch. The Method Summary Report has these qualifiers on a per sample basis.

  These qualifiers should be reviewed as follows:

  X Some data has been manually entered or modified. Transcription errors are possible.

  P One or more results are 'preliminary'. The data is not ready for final reporting.

  2 There were two or more results for one analyte on one planchet imported at one time. The results in DVD may not be the same as on the raw data sheets.

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

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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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Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 05/09/12

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DATA SHEET

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

The following notes apply to this report:

* TEST is a code for the method used to measure an analyte. If the TEST is empty, no data is available; the analyte was not analyzed for.

* The LAB SAMPLE ID and TEST uniquely identify work within the Summary Data Section of a Data Package. The Work Summary and Method Summary Reports further identify raw data that underlies this work.

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

* ERRORs can be labeled TOTAL or COUNT. TOTAL implies a preparation (non-counting method) error has been added, as square root of sum of squares, to the counting error denoted by COUNT. The preparation errors, which may vary by preparation batch, are shown on the Method Summary Report.

* A RESULT can be 'N.R.' (Not Reported). This means the lab did this work but chooses not to report it now, possibly because it was reported at another time.

* When reporting a Method Blank, a RESULT can be 'N.A.' (Not Applicable). This means there is no reported client sample work in the same preparation batch as the Blank's result. This is likely to occur when the Method Blank is associated with reanalyses of selected work for a few samples in the SDG.

The following qualifiers are defined by the DVD system:

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

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DATA SHEET

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

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

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

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

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

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

P The RESULT is 'preliminary'.

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

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

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

The following values are underlined to indicate possible problems:

* An MDA is underlined if it is bigger than its RDL.

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

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DATA SHEET

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

* A negative RESULT is underlined if it is less than the negative of its 2 sigma counting ERROR.

* When reporting a Method Blank, a RESULT is underlined if greater than its MDA. If the MDA is blank, the 2 sigma counting error is used in the comparison.

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LAB CONTROL SAMPLE

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

The following notes apply to this report:

* All fields in common with the Data Sheet Report have similar usage. Refer to its Report Guide for details.

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

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

* REC (Recovery) is RESULT divided by ADDED expressed as a percent.

* The first, computed limits for the recovery reflect:

  1. The error of RESULT, including that introduced by rounding the result prior to printing.

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

  2. The error of ADDED.

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

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

* The recovery is underlined if it is outside either of these ranges.

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DUPLICATE

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

The following notes apply to this report:

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

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

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

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

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

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

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

  This value reported for this limit is at most 999.

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

  1. A fixed percentage specified in the protocol.

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DUPLICATE

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

* The RPD is underlined if it is greater than either limit.

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

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

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

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MATRIX SPIKE

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

The following notes apply to this report:

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

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

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

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

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

* The first, computed limits for the recovery reflect:

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

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

  2. The error of ADDED.

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

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

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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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METHOD SUMMARY

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

The following notes apply to this report:

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

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

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

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

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

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

* Non-U results for Method Blanks are underlined to indicate possible contamination of other samples in the preparation batch. The Method Blank Report has supporting data.

* Lab Control Sample and Matrix Spike results are shown as: ok, No data, LOW or HIGH, with the last two underlined. 'No data' means no amount ADDED was specified. 'LOW' and 'HIGH'

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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

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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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.

TestAmerica Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

8609
S2-04-067

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Wilson, Debby	Carrier Tracking No(s):	COC No: 440-4022.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: debby.wilson@testamericainc.com		Page: Page 1 of 1
Company: Eberline Services		Analysis Requested		Job #: 440-8616-1
Address: 2030 Wright Avenue,	Due Date Requested: 4/27/2012			Preservation Codes:
City: Richmond	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: CA, 94804				
Phone:	PO #:			Other:
Email:	WO #:			
Project Name: Boeing SSFL outfalls	Project #: 44002624			
Site: Boeing SSFL	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT/ Gross Alpha	SUBCONTRACT/ Gross Beta	SUBCONTRACT/ Radium Combined	SUBCONTRACT/ Strontium 90	SUBCONTRACT/ Tritium	SUBCONTRACT/ Uranium, Combined	SUBCONTRACT/ Gamma Spec K-40 CS-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall 018 (440-8616-1)	4/13/12	12:18 Pacific		Water			X	X	X	X	X	X	X	2	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:			
Relinquished by:	Date/Time: 4-16-12 17:00	Company TMT	Received by: FedEx	Date/Time: 4-16-12 17:00	Company	
Relinquished by: FEDEX	Date/Time:	Company	Received by: Fedex Federal	Date/Time: 4/17/12 10:00	Company EBERLINE	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

RICHMOND, CA LABORATORY

EBERLINE SERVICES

SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA

Date/Time received 4/17/12 10:00 CoC No. 440-4022.1, 440-4023.1, 440-4025.1 440-4024.1

Container I.D. No. 3 ice chests Requested TAT (Days) STAND. P.O. Received Yes [ ] No [ ]

INSPECTION

1.	Custody seals on shipping container intact?	by 4/17/12 Yes [✓]	No [ ]	N/A [ ]
2.	Custody seals on shipping container dated & signed?	Yes [✓]	No [ ]	N/A [ ]
3.	Custody seals on sample containers intact? Splitted into 4 groups	Yes [ ]	No [ ]	N/A [ ] N/A ✓
4.	Custody seals on sample containers dated & signed?	Yes [ ]	No [ ]	N/A [ ] N/A ✓
5.	Packing material is:	Wet [ ]	Dry [ ]	N/A ✓

6. Number of samples in shipping container: 5 Sample Matrix WATER
7. Number of containers per sample: _____ (Or see CoC ✓)
8. Samples are in correct container Yes [✓] No [ ]
9. Paperwork agrees with samples? Yes [✓] No [ ]
10. Samples have: Tape [ ] Hazard labels [ ] Rad labels [ ] Appropriate sample labels [✓]
11. Samples are: In good condition [✓] Leaking [ ] Broken Container [ ] Missing [ ]
12. Samples are: Preserved [✓] Not preserved [ ] pH 2/6 Preservative _____
13. Describe any anomalies:

_____

_____

_____

14. Was P.M. notified of any anomalies? Yes [ ] No [ ] Date _____
15. Inspected by JK Date: 4/17/12 Time: 11:20

Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wipe	Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	wipe
All Samples <80							

Ion Chamber Ser. No. _____ Calibration date _____

Alpha Meter Ser. No. _____ Calibration date _____

Beta/Gamma Meter Ser. No. 100482 Calibration date 6 Dec 2011

LABORATORY REPORT

Aquatic Testing Laboratories

"dedicated to providing quality aquatic toxicity testing"

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

Date: April 21, 2012

Client: TestAmerica, Irvine
17461 Derian Ave., Suite 100
Irvine, CA 92614
Attn: Debby Wilson

Laboratory No.: A-12041404-001
Job No.: 440-8616-1
Sample I.D.: Outfall 018 (440-8616-1)

Sample Control: The sample was received by ATL chilled, within the recommended hold time and with the chain of custody record attached. Testing conducted on only one sample per client instruction (rain runoff sample). The temperature was acceptable as sample was received directly from field.

Date Sampled:	04/13/12
Date Received:	04/14/12
Temp. Received:	8.3°C
Chlorine (TRC):	0.0 mg/l
Date Tested:	04/14/12 to 04/20/12

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

Ceriodaphnia dubia Survival and Reproduction Test (EPA Method 1002).

Attached are the test data generated from the analysis of your sample. All testing was conducted under the direct supervision of Joseph A. LeMay. Daily test readings were taken by Joseph A. LeMay (initialed: JAL) and Jacob LeMay (initialed: J).

Result Summary:

Chronic:	NOEC	TUc
Ceriodaphnia Survival:	100%	1.0
Ceriodaphnia Reproduction:	100%	1.0

Quality Control: Reviewed and approved by:

Joseph A. LeMay
Laboratory Director

CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0

Aquatic Testing Laboratories

Lab No.: A-12041404-001
Client/ID: TestAmerica - Outfall 018 (440-8616-1)

Date Tested: 04/14/12 to 04/20/12

TEST SUMMARY

Test type: Daily static-renewal.
Species: *Ceriodaphnia dubia*.
Age: < 24 hrs; all released within 8 hrs.
Test vessel size: 30 ml.
Number of test organisms per vessel: 1.
Temperature: 25 +/- 1°C.
Dilution water: Mod. hard reconstituted (MHRW).
QA/QC Batch No.: RT-120403.

Endpoints: Survival and Reproduction.
Source: In-laboratory culture.
Food: .1 ml YTC, algae per day.
Test solution volume: 15 ml.
Number of replicates: 10.
Photoperiod: 16/8 hrs. light/dark cycle.
Test duration: 6 days.
Statistics: ToxCalc computer program.

RESULTS SUMMARY

Sample Concentration	Percent Survival	Mean Number of Young Per Female
Control	100%	21.2
100% Sample	100%	26.8
Sample not statistically significantly less than Control for either endpoint.		

CHRONIC TOXICITY

Survival NOEC	100%
Survival TUc	1.0
Reproduction NOEC	100%
Reproduction TUc	1.0

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥80%	Pass (100% survival)
≥15 young per surviving control female	Pass (21.2 young)
≥60% surviving controls had 3 broods	Pass (80% with 3 broods)
PMSD <47% for reproduction; if >47% and no toxicity at IWC, the test must be repeated	Pass (PMSD = 14.4%)
Statistically significantly different concentrations relative difference >13%	Pass (no concentration significantly different)
Concentration response relationship acceptable	Pass (no significant response at concentration tested)

Ceriodaphnia Survival and Reproduction Test-Survival Day 6

Start Date:	4/14/2012 15:00	Test ID:	12041404c	Sample ID:	Outfall 018
End Date:	4/20/2012 14:30	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	SRW2-Industrial stormwater
Sample Date:	4/13/2012 12:18	Protocol:	FWCH-EPA-821-R-02-013	Test Species:	CD-Ceriodaphnia dubia
Comments:					

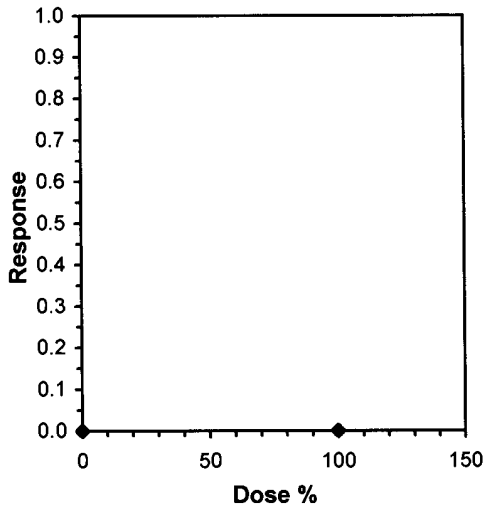
Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Conc-%	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Isotonic Mean	Isotonic N-Mean
D-Control	1.0000	1.0000	0	10	10	10			1.0000	1.0000
100	1.0000	1.0000	0	10	10	10	1.0000	0.0500	1.0000	1.0000

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	100	>100		1
Treatments vs D-Control				

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	4/14/2012 15:00	Test ID:	12041404c	Sample ID:	Outfall 018
End Date:	4/20/2012 14:30	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	SRW2-Industrial stormwater
Sample Date:	4/13/2012 12:18	Protocol:	FWCH-EPA-821-R-02-013	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	30.000	26.000	13.000	20.000	23.000	23.000	22.000	20.000	13.000	22.000
100	28.000	24.000	23.000	28.000	29.000	27.000	28.000	26.000	27.000	28.000

			Transform: Untransformed					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
D-Control	21.200	1.0000	21.200	13.000	30.000	24.641	10			24.000	1.0000
100	26.800	1.2642	26.800	23.000	29.000	7.210	10	141.50	82.00	24.000	1.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.90116	0.905	-0.375	1.77943
F-Test indicates unequal variances (p = 6.72E-03)	7.30952	6.54109		

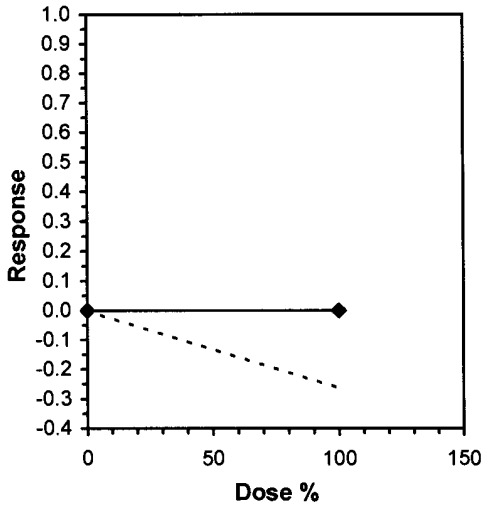
Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Treatments vs D-Control

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	4/14/2012 15:00	Test ID:	12041404c
End Date:	4/20/2012 14:30	Lab ID:	CAATL-Aquatic Testing Labs
Sample Date:	4/13/2012 12:18	Protocol:	FWCH-EPA-821-R-02-013
Comments:			

	Sample ID:	Outfall 018								
	Sample Type:	SRW2-Industrial stormwater								
	Test Species:	CD-Ceriodaphnia dubia								

Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	30.000	26.000	13.000	20.000	23.000	23.000	22.000	20.000	13.000	22.000
100	28.000	24.000	23.000	28.000	29.000	27.000	28.000	26.000	27.000	28.000

			Transform: Untransformed					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
D-Control	21.200	1.0000	21.200	13.000	30.000	24.641	10			
100	26.800	1.2642	26.800	23.000	29.000	7.210	10	-3.179	1.730	3.047

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.90116	0.905	-0.375	1.77943
F-Test indicates unequal variances (p = 6.72E-03)	7.30952	6.54109		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test Treatments vs D-Control	100	>100		1	3.04707	0.14373	156.8	15.5111	0.00519	1, 18

CERIODAPHNIA DUBIA CHRONIC BIOASSAY
EPA METHOD 1002.0 Raw Data Sheet

Aquatic Testing Laboratories

Lab No.: A-12041404-001
Client ID: TestAmerica - Outfall 018
Start Date: 04/14/2012

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr
Analyst Initials:														—	—
Time of Readings:		1500	1500	1500	1500	1500	1430	1430	1500	1500	1430	1430	1430	—	—
Control	DO	8.6	7.9	8.4	8.0	8.1	8.0	8.0	7.9	8.1	8.0	8.7	8.7	—	—
	pH	7.7	7.9	8.0	8.0	8.1	8.0	8.0	8.1	8.0	8.1	8.1	8.2	—	—
	Temp	24.4	24.4	24.3	24.5	24.8	24.4	24.7	24.2	24.3	24.3	25.1	25.0	—	—
100%	DO	9.1	8.0	9.4	8.2	8.9	8.2	8.9	8.0	9.8	8.1	9.4	8.7	—	—
	pH	7.8	7.9	8.0	8.1	7.7	8.1	7.6	8.1	7.6	8.0	7.9	8.2	—	—
	Temp	24.4	24.3	24.7	24.6	24.8	24.5	24.6	24.3	24.9	24.3	24.3	25.1	—	—

Additional Parameters	Control	100% Sample
Conductivity (umohms)	376	633
Alkalinity (mg/l $CaCO_3$)	68	82
Hardness (mg/l $CaCO_3$)	99	131
Ammonia (mg/l NH_3-N)	<0.1	0.9

Source of Neonates

Replicate:	A	B	C	D	E	F	G	H	I	J
Brood ID:	1A	3A	2D	3B	1C	2C	2E	2F	1G	2H

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
Control	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	5	0	0	0	0	0	4	0	0	0	9	10	
	4	0	4	3	3	4	4	0	5	4	3	30	10	
	5	9	10	0	7	8	9	7	6	0	7	63	10	
	6	16	12	10	10	11	10	11	9	9	12	110	10	
	7	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	30	26	13	20	23	23	22	20	13	22	218	10	
100%	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	5	3	4	0	0	0	4	0	0	0	16	10	
	4	0	0	0	5	5	4	0	5	4	4	27	10	
	5	9	9	7	11	10	10	12	9	11	10	98	10	
	6	14	12	12	12	14	13	12	12	12	14	127	10	
	7	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	28	24	23	28	29	27	28	26	27	28	268	10	

Circled fourth brood not used in statistical analysis.
7th day only used if <60% of the surviving control females have produced their third brood.

5/20/2012

Aquatic Testing Laboratories

CHAIN OF CUSTODY

Test America Version 7/19/2010

CHAIN OF CUSTODY FORM

5/20/2012

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson	Boeing-SSFL NPDES **Routine Outfall 018** **COMPOSITE** – HIGH
Project Manager: Bronwyn Kelly Sampler:	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Dissolved Metals: Cu, Pb, Hg, Cd, Se, Zn, Fe, Mn	Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, CS-137 (901.0 or 901.1)	Chronic Toxicity	Cyanide	Comments
Outfall 018	W	1L Poly	1	4-13-2012 12:18	None	16	X				Filter w/in 24hrs of receipt at lab
Outfall 018	W	2.5 Gal Cube	1	4-13-2012 12:18	None	17A		X			Unfiltered and unpreserved analysis
		500 mL Amber	1		None	17B					
~~Outfall 018~~	~~W~~	~~1 Gal Cube~~	~~1~~		~~None~~	~~18~~			X		~~Only test if first or second rain events of the year~~
Outfall 018	W	500 mL Poly	1	4-13-2012 12:18	NaOH	19				X	

COC Page 2 of 3 and Page 3 of 3 are the composite samples for Outfall 018 for this storm event.

These must be added to the same work order for COC Page 1 of 3 for Outfall 018 for the same event.

Relinquished By	Date/Time:	Received By	Date/Time:
	4-13-2012 15:30		4-13-12 15:30
Relinquished By	Date/Time:	Received By	Date/Time:
	4-14-12 14:00		4-14-12 1400
Relinquished By	Date/Time:	Received By	Date/Time:

Turn-around time: (Check)

24 Hour: ____ 72 Hour: ____ 10 Day: ____

48 Hour: ____ 5 Day: ____ Normal: X

Sample Integrity: (Check)

Intact: ____ On Ice: ____

Data Requirements: (Check)

No Level IV: __ All Level IV: __ NPDES Level IV: X

TestAmerica Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

5/20/2012

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Wilson, Debby	Carrier Tracking No(s):	COC No: 440-4016.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: debby.wilson@testamericainc.com		Page: Page 1 of 1
Company: Aquatic Testing Laboratories		**Analysis Requested**		Job #: 440-8616-1
Address: 4350 Transport #107, ,	Due Date Requested: 4/25/2012			**Preservation Codes:**
City: Ventura	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: CA, 93003				
Phone:	PO #:			Other:
Email:	WO #:			
Project Name: Boeing SSFL outfalls	Project #: 44002624			
Site: Boeing SSFL	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	SUBCONTRACT/ Chronic Cerio, EPA/821-R02-013	Total Number of containers	Special Instructions/Note:
			Preservation Code:					
Outfall 018 (440-8616-1)	4/13/12	12:18 Pacific		Water		X	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by: - See attached	Date/Time:	Company	Received by: Received:	Date/Time: 4-14-12 1400	Company ATL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Aquatic Testing Laboratories

Ceriodaphnia dubia Chronic Toxicity Test Reference Toxicant Data

CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0
REFERENCE TOXICANT - NaCl

Aquatic Testing Laboratories

QA/QC Batch No.: RT-120403

Date Tested: 04/03/12 to 04/09/12

TEST SUMMARY

Test type: Daily static-renewal.
Species: *Ceriodaphnia dubia*.
Age: <24 hrs; all released within 8 hrs.
Test vessel size: 30 ml.
Number of test organisms per vessel: 1.
Temperature: 25 +/- 1°C.
Dilution water: Mod. hard reconstituted (MHRW).
Reference Toxicant: Sodium chloride (NaCl).

Endpoints: Survival and Reproduction.
Source: In-laboratory culture.
Food: .1 ml YTC, algae per day.
Test solution volume: 20 ml.
Number of replicates: 10.
Photoperiod: 16/8 hrs. light/dark cycle.
Test duration: 6 days.
Statistics: ToxCalc computer program.

RESULTS SUMMARY

Sample Concentration	Percent Survival		Mean Number of Young Per Female	
Control	100%		23.5	
0.25 g/l	100%		24.3	
0.5 g/l	100%		21.4	
1.0 g/l	100%		16.0	*
2.0 g/l	60%	*	1.4	**
4.0 g/l	0%	*	0	**

* Statistically significantly less than control at P = 0.05 level
** Reproduction data from concentrations greater than survival NOEC are excluded from statistical analysis.

CHRONIC TOXICITY

Survival LC50	2.1 g/l
Reproduction IC25	0.82 mg/l

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥80%	Pass (100% Survival)
≥15 young per surviving control female	Pass (23.5 young)
≥60% surviving controls had 3 broods	Pass (80% with 3 broods)
PMSD <47% for reproduction	Pass (PMSD = 16.2%)
Stat. sig. diff. conc. relative difference >13%	Pass (Stat. sig. diff. conc. Relative difference= 31.9%)
Concentration response relationship acceptable	Pass (Response curve normal)

Ceriodaphnia Survival and Reproduction Test-Survival Day 6

Start Date:	4/3/2012 14:00	Test ID:	RT120403c	Sample ID:	REF-Ref Toxicant
End Date:	4/9/2012 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	NACL-Sodium chloride
Sample Date:	4/3/2012	Protocol:	FWCH-EPA-821-R-02-013	Test Species:	CD-Ceriodaphnia dubia
Comments:					

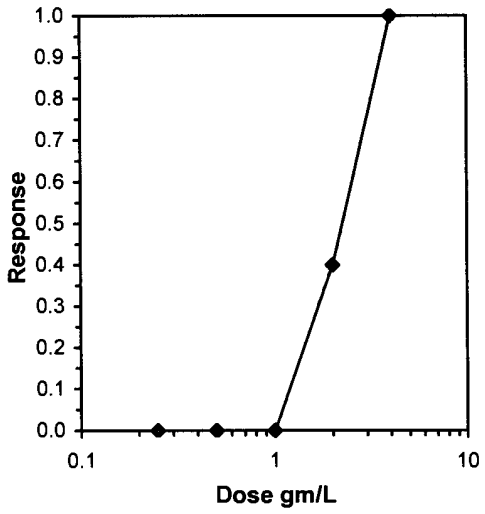
Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.25	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	0.0000	0.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	1.0000	1.0000
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Conc-gm/L	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Number Resp	Total Number
D-Control	1.0000	1.0000	0	10	10	10			0	10
0.25	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
0.5	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
1	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
*2	0.6000	0.6000	4	6	10	10	0.0433	0.0500	4	10
4	0.0000	0.0000	10	0	10	10			10	10

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	1	2	1.41421	
Treatments vs D-Control				

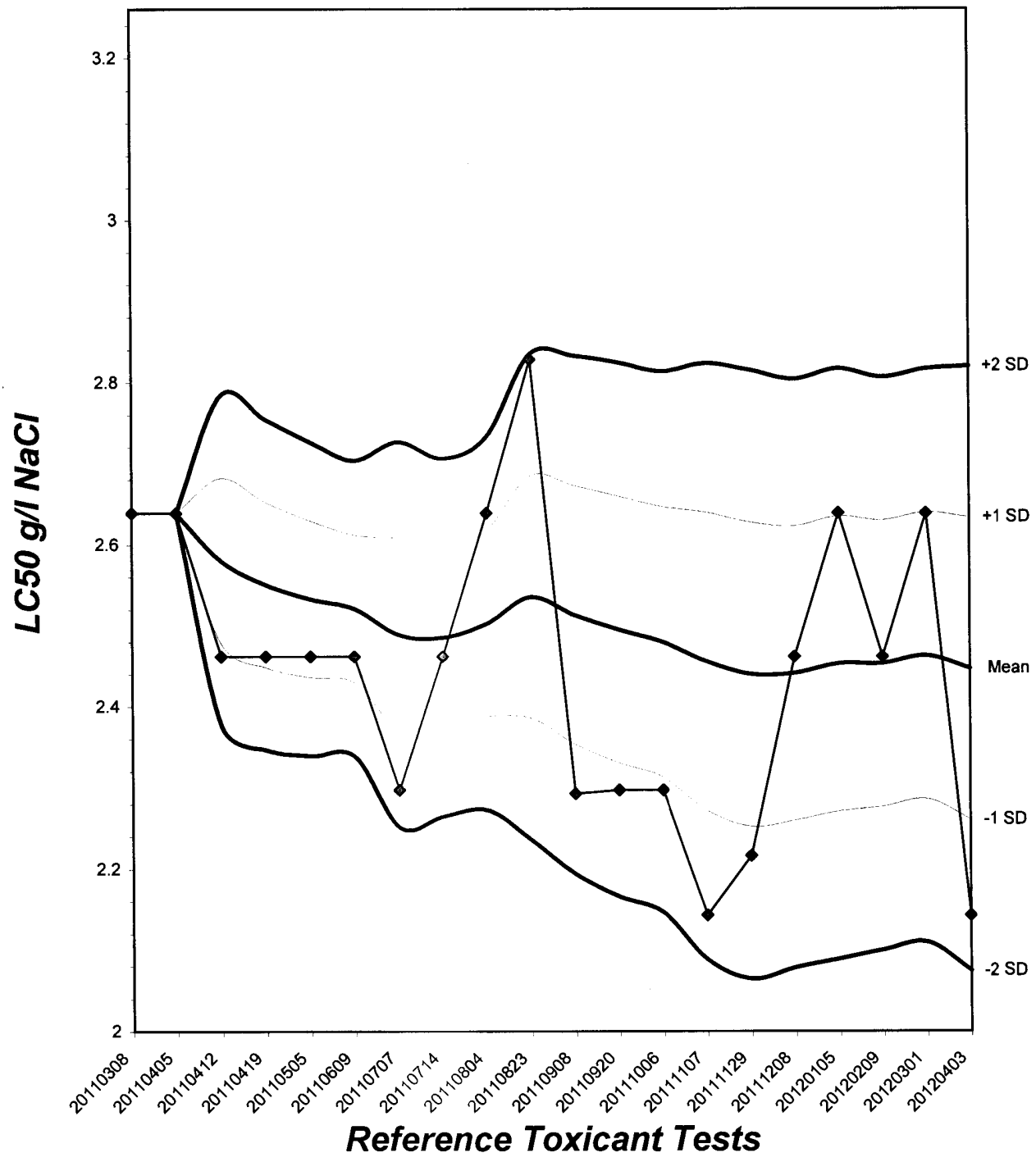
Trimmed Spearman-Karber

Trim Level	EC50	95% CL	
0.0%	2.1435	1.7293	2.6571
5.0%	2.1584	1.6984	2.7429
10.0%	2.1732	1.6538	2.8556
20.0%	2.2021	1.5017	3.2291
Auto-0.0%	2.1435	1.7293	2.6571



Ceriodaphnia Chronic Survival Laboratory Control Chart

CV% = 7.61



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	4/3/2012 14:00	Test ID:	RT120403c	Sample ID:	REF-Ref Toxicant
End Date:	4/9/2012 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	NACL-Sodium chloride
Sample Date:	4/3/2012	Protocol:	FWCH-EPA-821-R-02-013	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	20.000	17.000	25.000	25.000	24.000	27.000	28.000	27.000	20.000	22.000
0.25	21.000	17.000	29.000	26.000	27.000	25.000	25.000	27.000	23.000	23.000
0.5	16.000	14.000	23.000	22.000	24.000	23.000	23.000	23.000	23.000	23.000
1	15.000	17.000	8.000	20.000	23.000	15.000	12.000	22.000	9.000	19.000
2	0.000	0.000	0.000	2.000	4.000	3.000	0.000	0.000	0.000	5.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

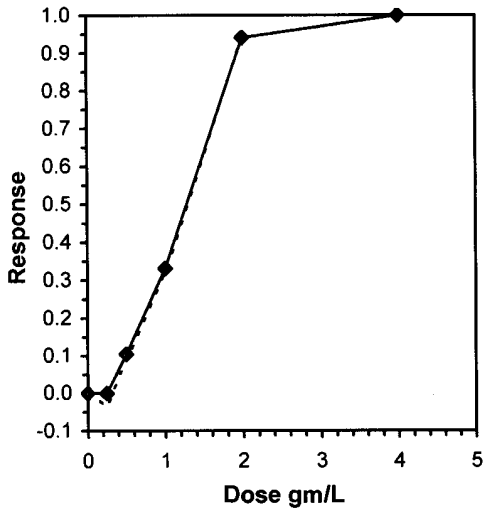
			Transform: Untransformed					Rank	1-Tailed	Isotonic	
Conc-gm/L	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
D-Control	23.500	1.0000	23.500	17.000	28.000	15.441	10			23.900	1.0000
0.25	24.300	1.0340	24.300	17.000	29.000	14.262	10	111.50	77.00	23.900	1.0000
0.5	21.400	0.9106	21.400	14.000	24.000	16.067	10	87.00	77.00	21.400	0.8954
*1	16.000	0.6809	16.000	8.000	23.000	32.409	10	66.00	77.00	16.000	0.6695
2	1.400	0.0596	1.400	0.000	5.000	139.646	10			1.400	0.0586
4	0.000	0.0000	0.000	0.000	0.000	0.000	10			0.000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.93053	0.94	-0.5964	-0.342
Bartlett's Test indicates equal variances (p = 0.53)	2.22089	11.3449		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	0.5	1	0.70711	
Treatments vs D-Control				

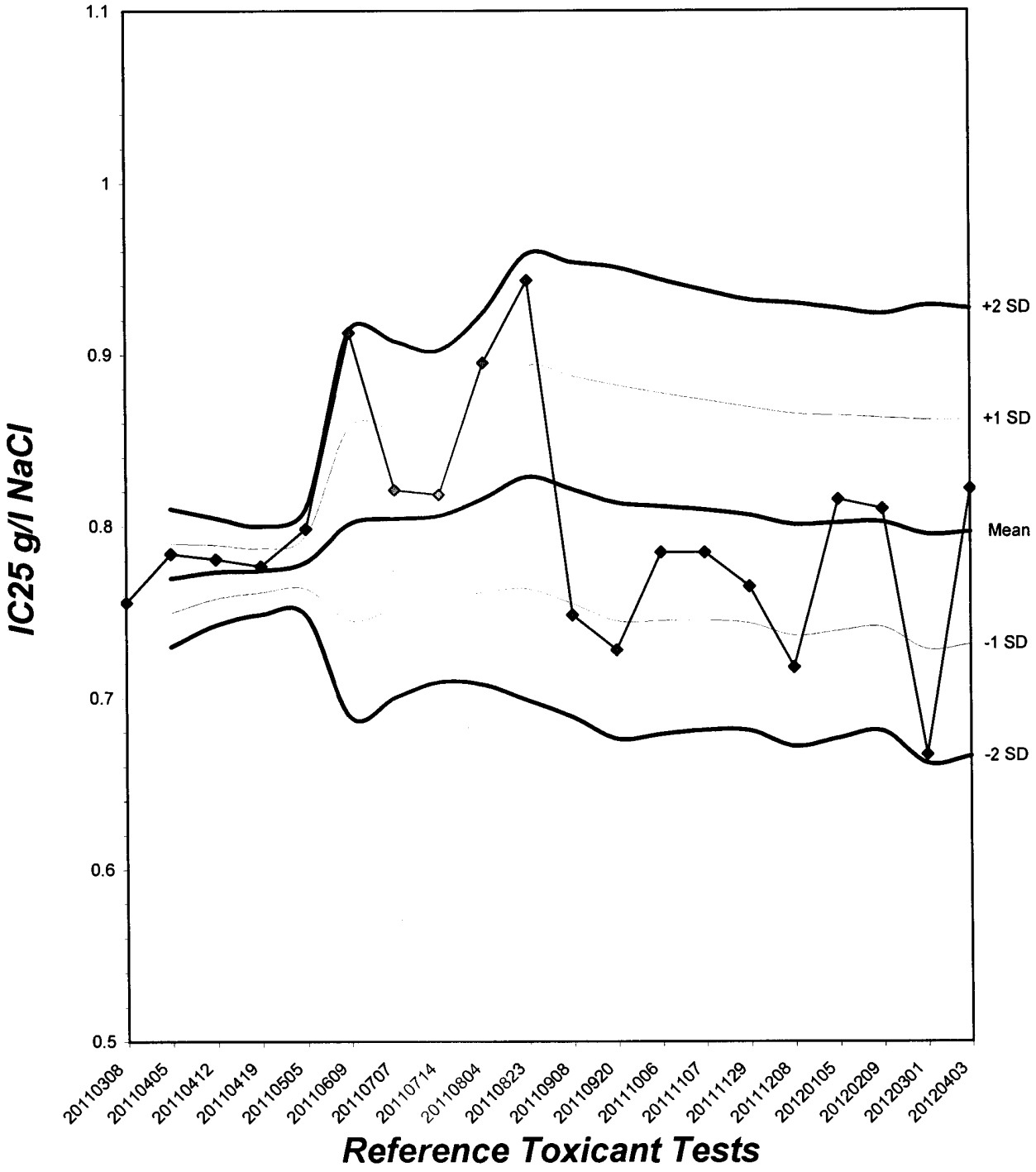
Linear Interpolation (200 Resamples)

Point	gm/L	SD	95% CL		Skew
IC05	0.3695	0.0911	0.1696	0.5686	0.2464
IC10	0.4890	0.0910	0.3077	0.6622	0.1815
IC15	0.6005	0.1009	0.4034	0.7714	0.1407
IC20	0.7111	0.1157	0.4592	0.9579	0.1807
IC25	0.8218	0.1195	0.5745	1.0536	0.0455
IC40	1.1137	0.1010	0.8928	1.2609	-0.5191
IC50	1.2774	0.0905	1.0680	1.4019	-0.8577



Ceriodaphnia Chronic Reproduction Laboratory Control Chart

CV% = 8.18



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	4/3/2012 14:00	Test ID:	RT120403c	Sample ID:	REF-Ref Toxicant
End Date:	4/9/2012 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	NACL-Sodium chloride
Sample Date:	4/3/2012	Protocol:	FWCH-EPA-821-R-02-013	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	20.000	17.000	25.000	25.000	24.000	27.000	28.000	27.000	20.000	22.000
0.25	21.000	17.000	29.000	26.000	27.000	25.000	25.000	27.000	23.000	23.000
0.5	16.000	14.000	23.000	22.000	24.000	23.000	23.000	23.000	23.000	23.000
1	15.000	17.000	8.000	20.000	23.000	15.000	12.000	22.000	9.000	19.000
2	0.000	0.000	0.000	2.000	4.000	3.000	0.000	0.000	0.000	5.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

			Transform: Untransformed					1-Tailed		
Conc-gm/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
D-Control	23.500	1.0000	23.500	17.000	28.000	15.441	10			
0.25	24.300	1.0340	24.300	17.000	29.000	14.262	10	-0.448	2.137	3.819
0.5	21.400	0.9106	21.400	14.000	24.000	16.067	10	1.175	2.137	3.819
*1	16.000	0.6809	16.000	8.000	23.000	32.409	10	4.196	2.137	3.819
2	1.400	0.0596	1.400	0.000	5.000	139.646	10			
4	0.000	0.0000	0.000	0.000	0.000	0.000	10			

Auxiliary Tests					Statistic		Critical		Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)					0.93053		0.94		-0.5964	-0.342
Bartlett's Test indicates equal variances (p = 0.53)					2.22089		11.3449			
Hypothesis Test (1-tail, 0.05)	**NOEC**	**LOEC**	**ChV**	**TU**	**MSDu**	**MSDp**	**MSB**	**MSE**	**F-Prob**	**df**
Dunnett's Test	0.5	1	0.70711		3.81887	0.1625	139.8	15.9722	1.7E-04	3, 36
Treatments vs D-Control										

Reviewed by: 5/20/2012

CERIODAPHNIA DUBIA CHRONIC BIOASSAY
Reference Toxicant - NaCl
Reproduction and Survival Raw Data Sheet

Aquatic Testing Laboratories

QA/QC No.: RT-120403

Start Date:04/03/2012

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
Control	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	0	3	0	4	3	0	0	10	10	
	4	3	5	4	4	0	4	0	0	3	4	27	10	
	5	0	0	10	8	8	9	9	10	7	8	69	10	
	6	17	12	11	13	13	14	15	14	10	10	129	10	
	7	–	–	–	–	–	–	–	–	–	–	–	–	–
	Total	20	17	25	25	24	27	28	27	20	22	235	10	
0.25 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	0	4	0	4	0	0	0	8	10	
	4	5	4	5	5	0	4	0	5	4	4	36	10	
	5	0	0	10	9	10	9	7	9	9	8	71	10	
	6	16	13	14	12	13	12	14	13	10	11	128	10	
	7	–	–	–	–	–	–	–	–	–	–	–	–	–
	Total	21	17	29	26	27	25	25	27	23	23	243	10	
0.5 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	0	0	0	4	0	0	0	4	10	
	4	4	4	3	3	5	4	0	3	4	4	34	10	
	5	0	0	7	9	8	7	9	7	7	8	62	10	
	6	12	10	13	10	11	12	10	13	12	11	114	10	
	7	–	–	–	–	–	–	–	–	–	–	–	–	–
	Total	16	14	23	22	24	23	23	23	23	23	214	10	

Circled fourth brood not used in statistical analysis.
7th day only used if <60% of the surviving control females have produced their third brood.

CERIODAPHNIA DUBIA CHRONIC BIOASSAY
Reference Toxicant - NaCl
Reproduction and Survival Raw Data Sheet

Aquatic Testing Laboratories

QA/QC No.: RT-120403

Start Date:04/03/2012

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
1.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	0	3	0	0	0	0	0	3	10	
	4	3	4	2	3	0	3	4	4	2	3	28	10	
	5	0	0	0	7	7	0	8	7	7	6	42	10	
	6	12	13	6	10	13	12	0	11	0	10	87	10	
	7	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	15	17	8	20	23	15	12	22	9	19	160	10	
2.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	X	X	0	0	0	0	X	X	0	0	0	6	
	3	—	—	0	0	0	0	—	—	0	0	0	6	
	4	—	—	0	0	0	0	—	—	0	0	0	6	
	5	—	—	0	2	2	3	—	—	0	2	9	6	
	6	—	—	0	0	2	0	—	—	0	3	5	6	
	7	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	0	0	0	2	4	3	0	0	0	5	14	6	
4.0 g/l	1	X	X	X	X	X	X	X	X	X	X	0	0	
	2	—	—	—	—	—	—	—	—	—	—	—	—	—
	3	—	—	—	—	—	—	—	—	—	—	—	—	—
	4	—	—	—	—	—	—	—	—	—	—	—	—	—
	5	—	—	—	—	—	—	—	—	—	—	—	—	—
	6	—	—	—	—	—	—	—	—	—	—	—	—	—
	7	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

Circled fourth brood not used in statistical analysis.
7th day only used if <60% of the surviving control females have produced their third brood.

CERIODAPHNIA DUBIA CHRONIC BIOASSAY
Reference Toxicant - NaCl
Water Chemistries Raw Data Sheet

Aquatic Testing Laboratories

QA/QC No.: RT-120403 Start Date:04/03/2012

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Analyst Initials:															
Time of Readings:		1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	—	—
Control	DO	8.3	8.2	7.9	8.1	7.8	8.5	7.9	8.4	8.5	8.7	8.3	8.6	—	—
	pH	8.0	8.2	8.1	8.1	8.2	8.2	8.1	8.2	8.1	8.0	8.1	8.0	—	—
	Temp	24.7	24.7	24.3	24.3	24.6	24.7	24.8	24.7	24.8	24.4	24.3	24.5	—	—
0.25 g/l	DO	8.4	8.4	8.2	8.1	8.4	8.3	8.3	8.3	7.9	8.1	8.3	8.7	—	—
	pH	8.0	8.1	8.2	8.2	8.2	8.2	8.1	8.2	8.1	8.0	8.1	8.0	—	—
	Temp	24.5	24.7	24.5	24.5	24.7	24.8	24.6	24.7	24.8	24.4	24.5	24.6	—	—
0.5 g/l	DO	8.2	8.3	8.1	8.1	8.2	8.1	8.0	8.4	8.1	8.1	8.4	8.0	—	—
	pH	8.0	8.1	8.2	8.1	8.2	8.2	8.1	8.1	8.1	8.0	8.1	8.0	—	—
	Temp	24.6	24.9	24.5	24.2	24.3	24.8	24.3	24.8	24.8	24.3	24.7	25.2	—	—
1.0 g/l	DO	8.2	8.3	8.1	8.4	8.3	8.5	7.9	8.1	8.0	8.4	8.3	8.1	—	—
	pH	8.0	8.2	8.2	8.2	8.2	8.1	8.1	8.1	8.1	8.1	8.1	8.0	—	—
	Temp	24.7	24.7	24.5	24.5	24.5	24.7	24.7	24.6	24.8	24.3	24.5	24.5	—	—
2.0 g/l	DO	8.4	8.2	7.9	8.2	8.1	8.3	7.9	8.2	8.1	8.3	8.1	8.2	—	—
	pH	8.0	8.1	8.2	8.1	8.2	8.1	8.0	8.1	8.1	8.0	8.0	8.0	—	—
	Temp	24.7	25.2	24.5	24.5	24.3	24.5	24.7	24.8	24.8	24.3	24.6	24.6	—	—
4.0 g/l	DO	8.5	8.1	—	—	—	—	—	—	—	—	—	—	—	—
	pH	8.0	8.1	—	—	—	—	—	—	—	—	—	—	—	—
	Temp	24.7	24.5	—	—	—	—	—	—	—	—	—	—	—	—

Dissolved Oxygen (DO) readings are in mg/l O_2; Temperature (Temp) readings are in °C.

Additional Parameters	Control			High Concentration		
	Day 1	Day 3	Day 5	Day 1	Day 3	Day 5
Conductivity (µS)	309	319	316	6960	2520	3310
Alkalinity (mg/l $CaCO_3$)	69	67	67	68	68	68
Hardness (mg/l $CaCO_3$)	90	87	88	90	89	88

Source of Neonates										
Replicate:	A	B	C	D	E	F	G	H	I	J
Brood ID:	1B	2C	3C	2D	1E	3E	1F	1G	3H	2I

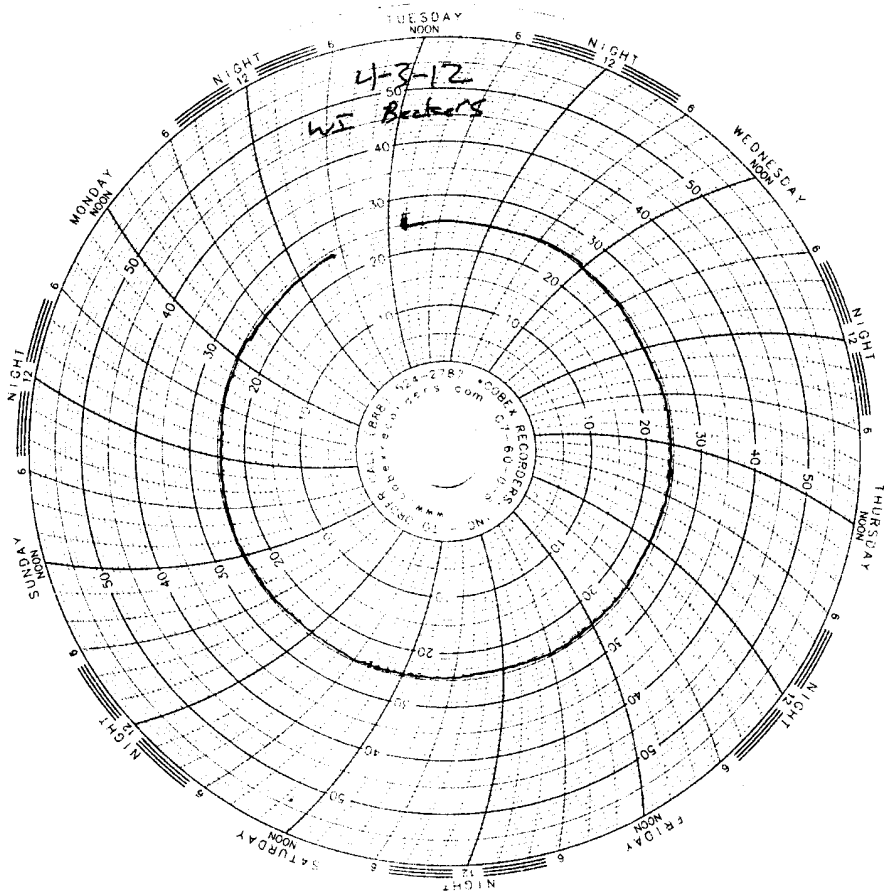
Aquatic Testing Laboratories

Test Temperature Chart

Test No: RT-120403

Date Tested: 04/03/12 to 04/09/06

Acceptable Range: 25+/- 1°C



CHAIN OF CUSTODY FORM

440-8816

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson	Boeing-SSFL NPDES **Routine Outfall 018** **COMPOSITE** – 4/13/12
Project Manager: Bronwyn Kelly Sampler: Rick Bañaga	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Cu, Pb, Hg, Cd, Se, Zn, **Fe, Mn**	TCDD (and all congeners)	BOD_5 (20 degrees C)	Surfactants (MBAS)	Cl^-, SO_4, NO_3+NO_2-N, Perchlorate	Nitrate-N, Nitrite-N	Turbidity, TDS, TSS	Ammonia-N (350.2)	Alpha BHC (608)	2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs 625)					Comments
							ANALYSIS REQUIRED														
Outfall 018	W	1L Poly	1	4-13-2012 12:18	HNO_3	6A	X														
Outfall 018 Dup	W	1L Poly	1		HNO_3	6B	X														
Outfall 018	W	1L Amber	2		None	7A, 7B		X													
Outfall 018	W	1L Poly	1		None	8			X												
Outfall 018	W	500 mL Poly	2		None	9A, 9B				X											
Outfall 018	W	500 mL Poly	2		None	10A, 10B					X										
Outfall 018	W	500 mL Poly	1		None	11						X									
Outfall 018	W	500 mL Poly	2		None	12A, 12B							X								
Outfall 018	W	500 mL Poly	1		H_2SO_4	13								X							
Outfall 018	W	1L Amber	2		None	14A, 14B									X						
Outfall 018	W	1L Amber	2	12:18	None	15A, 15B										X					

COC Page 2 of 3 and Page 3 of 3 are the composite samples for Outfall 018 for this storm event.

These must be added to the same work order for COC Page 1 of 3 for Outfall 018 for the same event.

Relinquished By	Date/Time:	Received By	Date/Time:
Rick Bañaga	4-13-2012 15:30	Mark Comulada	4-13-12 15:30
Mark Comulada	4-13-12 19:00		1900
			4-13-12
Relinquished By	Date/Time:	Received By	Date/Time:

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

Sample Integrity: (Check)
Intact: _____ On Ice: _____

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

3.5

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson	Boeing-SSFL NPDES **Routine Outfall 018** **COMPOSITE** – HIGH
Project Manager: Bronwyn Kelly Sampler: Ric Brug	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	ANALYSIS REQUIRED: Total Dissolved Metals: Cu, Pb, Hg, Cd, Se, Zn, **Fe, Mn**	ANALYSIS REQUIRED: Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, CS-137 (901.0 or 901.1)	ANALYSIS REQUIRED: Chronic Toxicity	ANALYSIS REQUIRED: Cyanide	Comments
Outfall 018	W	1L Poly	1	4-13-2012 12:18	None	16	X				Filter w/in 24hrs of receipt at lab
Outfall 018	W	2.5 Gal Cube	1	4-13-2012 12:18	None	17A		X			Unfiltered and unpreserved analysis
		500 mL Amber	1		None	17B					
~~Outfall 018~~	~~W~~	~~4 Gal Cube~~	~~1~~		~~None~~	~~18~~			X		~~Only test if first or second rain events of the year~~
Outfall 018	W	500 mL Poly	1	4-13-2012 1248	NaOH	19				X	

COC Page 2 of 3 and Page 3 of 3 are the composite samples for Outfall 018 for this storm event.

These must be added to the same work order for COC Page 1 of 3 for Outfall 018 for the same event.

Relinquished By	Date/Time:	Received By	Date/Time:
Ric Brug	4-13-2012 15:30	Matt Cruz	4-13-12 15:30
Matt Cruz	4-13-12 19:00		1900 4-13-12

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

Sample Integrity: (Check)
Intact: ____ On Ice: ____

Data Requirements: (Check)
No Level IV: __ All Level IV: __ NPDES Level IV: X

3.5

CHAIN OF CUSTODY FORM

440-862

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson	Boeing-SSFL NPDES **Routine Outfall 018** **GRAB**
Project Manager: Bronwyn Kelly Sampler: Rick Bangcaya	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	1,1-DCE, 1,2-DCA, TCE (624)	Oil & Grease (1664-HEM)	Settleable Solids	Conductivity										Comments
							ANALYSIS REQUIRED													
Outfall 018	W	VOAs	5	4-12-2012 12:45	HCl	1A, 1B, 1C, 1D, 1E	X													
Outfall 018	W	1L Amber	2		HCl	2A, 2B		X												
Outfall 018	W	1L Poly	1		None	3			X											
Outfall 018	W	500 mL Poly	2		None	4A, 4B				X										
Trip Blanks	W	VOAs	3	4-12-2012 12:45	HCl	5A, 5B, 5C	X													

Field readings:
(Log in and include in report Temp and pH)
Temp °F = 56°F or 16.55°C
pH = 7.23
DO = 10.53 mg/L
Time of readings = 1245

These Samples are the Grab Portion of Outfall 018 for this storm event. Composite samples will follow and are to be added to this work order.

Relinquished By	Date/Time:	Received By	Date/Time:
	4-13-2012 15:30		4-13-12 15:30
Relinquished By	Date/Time:	Received By	Date/Time:
	4-13-12 19:a		
Relinquished By	Date/Time:	Received By	Date/Time:
			4.13.12 1900

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

Sample Integrity: (Check)
Intact: ____ On Ice: ____

Data Requirements: (Check)
No Level IV: __ All Level IV: ____ NPDES Level IV: X

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Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 440-8616-1

Login Number: 8616

List Source: TestAmerica Irvine

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	

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 440-8616-1

Login Number: 8623

List Number: 1

Creator: Kim, Will

List Source: TestAmerica Irvine

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	

APPENDIX G

Section 15

Outfall 019 – April 4 & 5, 2012

MECX Data Validation Report

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-7559-1

Prepared by

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

I. INTRODUCTION

Task Order Title:	Boeing SSFL NPDES
Contract Task Order:	1261.100D.00
Sample Delivery Group:	440-7559-1
Project Manager:	B. Kelly
Matrix:	Water
QC Level:	IV
No. of Samples:	2
No. of Reanalyses/Dilutions:	0
Laboratory:	TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 019 (Grab)	440-7559-1	N/A	Water	4/4/2012 9:30:00 AM	120.1, 1664A, 624, SM 2540F
Outfall 019 (Composite)	440-7684-1	G2D070420-001, S204034-01	Water	4/5/2012 9:45:00 AM	1613B, 180.1, 200.7, 200.8, 245.1, 300.0, 314.0, 608, 625, 900. 901.1, 903.1, 904, 905, 906, SM 2540C, SM 2540D, SM 4500 CN E, SM 4500 F C, SM 4500 NH3 C, SM 5310B, SM 5540C, SM5210B, ASTM D-5174
Trip Blank	440-7559-2	N/A	Water	4/4/2012 9:30:00 AM	624

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at TestAmerica-Irvine and TestAmerica-West Sacramento marginally below the temperature limits of 4°C ±2°C, at 1.5 and 1.9°C, respectively; however, as the samples were not noted to be frozen or damaged, no qualifications were required. Eberline did not note the temperature upon receipt; 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. Custody seals were intact upon receipt at Eberline. As the samples were sent by courier to the remaining laboratories, custody seals were not required. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

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

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin
Date Reviewed: May 29, 2012

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

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.

- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.

    - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was analyzed prior to the initial calibration sequence and at the beginning of each analytical sequence. The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%.

    - Mass Spectrometer Performance: The mass spectrometer performance was acceptable with the static resolving power greater than 10,000.

- Calibration: Calibration criteria were met.

    - Initial Calibration: Initial calibration criteria were met. The initial calibration was acceptable with %RSDs $\leq$20% for the 15 native compounds (calibration by isotope dilution) and $\leq$35% for the two native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the Method 1613 QC limits for all standards.

    - Continuing Calibration: Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VERs were acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits.

- Blanks: The method blank had detects reported below the EDL for 1,2,3,4,6,7,8-HpCDF, OCDD, and totals for TCDD and HpCDF. 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 sample results for all of the method blank contaminants were qualified as nondetected, “U,” at the level of contamination.

- 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.

- Compound Identification: Compound identification was verified. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613. The laboratory performed a confirmation analysis for the 2,3,7,8-TCDF detect. As the result was not confirmed, and the confirmation analysis is more isomer specific for the detection of 2,3,7,8-TCDF, the original result was rejected, "R," in favor of the confirmation result.

- Compound Quantification and Reported Detection Limits: Compound quantitation was verified. 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 estimated detection limit (EDL) and the reporting limit (RL) were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Nondetects are valid to the EDL.

  EMPCs previously qualified as nondetected for method blank contamination were not further qualified as EMPCs. Remaining individual isomers reported as EMPCs were qualified as estimated nondetects, "UJ," at the level of the EMPC. Totals for HpCDD and HxCDF were qualified as estimated, "J," as additional peaks comprised the totals.

B. EPA METHODS 200.7, 200.8, and 245.1—Metals and Mercury

Reviewed By: P. Meeks
Date Reviewed: May 29, 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, 200.8, 245.1*, and the *National Functional Guidelines for Inorganic Data Review* (7/02).

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

- Tuning: The mass calibration and resolution checks criteria were met. All tuning solution %RSDs were ≤5%, and all masses of interest were calibrated to ≤ 0.1 amu and ≤0.9 amu at 10% peak height.

- Calibration: Calibration criteria were met. Mercury initial calibration r^2 values were ≥0.995 and all initial and continuing calibration recoveries were within 90-110% for the ICP and ICP-MS metals and 85-115% for mercury. CRDL/CRI recoveries were within the control limits of 70-130%.

- Blanks: Copper was detected in the total method blank at 0.639 µg/L; therefore, total copper detected in the sample was qualified as nondetected, "U." Method blanks and CCBs had no other applicable detects.

- Interference Check Samples: Recoveries were within 80-120%. Cadmium and copper were detected in the ICSA at concentrations between the MDL and the reporting limit; however, the reviewer was not able to determine if the detects were due to interference or low-level contamination of the ICSA solution.

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.

- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on the sample in this SDG for the total and dissolved 200.7 and 200.8 analytes. Recoveries and RPDs were within laboratory-established QC limits.

- Serial Dilution: No serial dilution analyses were performed on the sample in this SDG.

- Internal Standards Performance: All sample internal standard intensities were within 70-125% of the internal standard intensities measured in the initial calibration.

- 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 608—Pesticides (alpha-BHC only)

Reviewed By: L. Calvin
Date Reviewed: May 29, 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 Organochlorine Pesticides/PCBs by GC (DVP-4, Rev. 0), EPA Method 608*, and the *National Functional Guidelines for Organic Data Review* (10/99).

- Holding Times: Extraction and analytical holding times were met. The sample was extracted within seven days of collection and analyzed within 40 days of extraction.

- Calibration: The initial calibration had a %RSD of ≤10% on both analytical columns, and the ICV and CCVs had %Ds within the QC limit of ≤15% for alpha-BHC. The breakdown totals for endrin and 4,4'-DDT were ≤15%.

- Blanks: The method blank had no confirmed detect above the MDL for alpha-BHC.

- Blank Spikes and Laboratory Control Samples: Recoveries and the RPD for alpha-BHC were within the laboratory-established QC limits.

- Surrogate Recovery: Recoveries were within the laboratory-established QC limits.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on the sample from this SDG. Evaluation of method accuracy and precision was based on the LCS/LCSD results.

- 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.

- Compound Identification: Compound identification was verified. Review of the sample chromatograms and retention times indicated no problems with target compound identification. The laboratory analyzed for the pesticide alpha-BHC by Method 608.

- Compound Quantification and Reported Detection Limits: Compound quantification was verified. The reporting limit was supported by the low point of the initial calibration and the laboratory MDL. Any result reported between the MDL and the reporting limit was qualified as estimated, "J," and coded with "DNQ" in order to comply with the NPDES permit. Any reported nondetect is valid to the reporting limit.

D. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks
Date Reviewed: May 29, 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 less than 20%; therefore, nondetected gross alpha in the sample was qualified as estimated, "UJ." The remaining detector efficiencies were greater than 20%.

  The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. All chemical yields were at least 40% and were considered acceptable. The gamma spectroscopy analytes were determined at the maximum photopeak energy. The kinetic phosphorescence analyzer (KPA) was calibrated immediately prior to the sample analysis. All KPA calibration check standard recoveries were within 90-110% and were deemed acceptable.

- Blanks: There were no analytes detected in the method blanks or the KPA CCBs.

- Blank Spikes and Laboratory Control Samples: The recoveries were within laboratory-established control limits.

- Laboratory Duplicates: Laboratory duplicate analyses were performed on the sample in this SDG for all analytes. All RPDs were within the laboratory-established control limits.

- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed for the sample in this SDG. Method accuracy was evaluated based on the LCS results.

- Sample Result Verification: An EPA Level IV review was performed for the sample in this data package. The sample results and MDAs reported on the sample result form were verified against the raw data and no calculation or transcription errors were noted. Any detects between the MDA and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDA. Total uranium, normally reported in aqueous units, was converted to pCi/L using the conversion factor of 0.67 for naturally occurring uranium.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

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

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

E. EPA METHOD 625—Semivolatile Organic Compounds (SVOCs)

Reviewed By: L. Calvin
Date Reviewed: May 29, 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 Semivolatile Organics (DVP-3, Rev. 0), EPA Method 625*, and the *National Functional Guidelines for Organic Data Review* (10/99).

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted within seven days of collection and analyzed within 40 days of extraction.

- GC/MS Tuning: The DFTPP tunes met the method abundance criteria. The sample was analyzed within 12 hours of the DFTPP injection time.

- Calibration: Calibration criteria were met. The initial calibration average RRFs and the ICV and continuing calibration RRFs were ≥0.05 for all target compounds. The initial calibration %RSDs were ≤35%, or r^2 values ≥0.995. The ICV and CCV %Ds were ≤20% for all applicable target compounds.

- Blanks: The method blank had no target compound detects above the MDL.

- Blank Spikes and Laboratory Control Samples: Recoveries and RPDs were within laboratory-established QC limits.

- Surrogate Recovery: Recoveries were within laboratory-established QC limits.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on the sample in this SDG. Method accuracy and precision was evaluated based on LCS/LCSD results.

- 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 internal standard area counts and retention times were within the control limits established by the continuing calibration standards: -50%/+100% for internal standard areas and ±30 seconds for retention times.

- Compound Identification: Compound identification was verified. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification.

- Compound Quantification and Reported Detection Limits: Compound quantification was verified. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Any result reported between the MDL and the reporting limit was qualified as estimated, "J," and coded with "DNQ" in order to comply with the NPDES permit. Reported nondetects are valid to the reporting limit.

- Tentatively Identified Compounds: TICs were not reported by the laboratory for this SDG.

- System Performance: Review of the raw data indicated no problems with system performance.

F. EPA METHOD 624—Volatile Organic Compounds (VOCs)

Reviewed By: L. Calvin
Date Reviewed: May 29, 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 Volatile Organics (DVP-2, Rev. 0), EPA Method 624*, and the *National Functional Guidelines for Organic Data Review* (10/99).

- Holding Times: The preserved water samples were analyzed within 14 days of collection.

- GC/MS Tuning: The BFB tunes met the method abundance criteria. The samples were analyzed within 12 hours of the BFB injection time.

- Calibration: Calibration criteria were met. The initial calibration average RRFs and the ICV and continuing calibration RRFs were ≥0.05 for all applicable target compounds. The initial calibration %RSDs were ≤35%, or r^2 values ≥0.995. The second source ICV and all applicable CCV recoveries were within the method control limits.

- Blanks: The method blanks had no target compound detects above the MDL.

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.

- Surrogate Recovery: Recoveries were within laboratory-established QC limits.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on the site sample in this SDG. Method accuracy was evaluated based on LCS results.

- 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:

    - Trip Blanks: Sample Trip Blank was the trip blank associated with the site sample in this SDG. The trip blank had no target compounds detected above the MDL.

    - 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 internal standard area counts and retention times were within the control limits established by the continuing calibration standards: -50%/+100% for internal standard areas and ±30 seconds for retention times.

- Compound Identification: Compound identification was verified. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification.

- Compound Quantification and Reported Detection Limits: Compound quantification was verified. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Any result reported between the MDL and the reporting limit was qualified as estimated, "J," and coded with "DNQ" in order to comply with the NPDES permit. Reported nondetects are valid to the reporting limit.

- Tentatively Identified Compounds: TICs were not reported by the laboratory for this SDG.

- System Performance: Review of the raw data indicated no problems with system performance.

G. EPA METHOD 314.0—Perchlorate

Reviewed By: P. Meeks
Date Reviewed: May 29, 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 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 r^2 value was $\geq$0.995 and all initial and continuing calibration recoveries were within 90-110%. IPC recoveries were within the method-established control limit of 80-120%. The ICCS recovery was within 75-125%.

- Blanks: Method blanks and CCBs had no detects.

- Blank Spikes and Laboratory Control Samples: Recoveries were within the method-established 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. 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.

H. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks
Date Reviewed: May 29, 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 Methods 120.1, 180.1, 300.0, 1664A, SM 2540F, SM 4500F C, SM 4500CN E, SM 4500 NH3C, SM 5310B, SM 5540C, SM 5210B, SM 2540C, and SM 2540D*, and the *National Functional Guidelines for Inorganic Data Review* (7/02).

- Holding Times: MBAS was analyzed 10 hours beyond the 48 hour holding time; therefore, nondetected MBAS in the sample was qualified as estimated, "UJ." The remaining analytical holding times were met.

- Calibration: Calibration criteria were met. Initial calibration r^2 values were $\geq$0.995. the turbidity ICV was recovered at 80%; therefore, turbidity detected in the sample was qualified as estimated, "J." All remaining ICVs and all CCV recoveries were within 90-110%. Balance calibration logs were acceptable.

- Blanks: Method blanks and CCBs had no detects.

- Blank Spikes and Laboratory Control Samples: Recoveries and RPDs were within laboratory-established QC limits.

- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on the sample in this SDG for the 300.0 analytes, cyanide, fluoride, and MBAS. The TOC MSD recovery was above the control limit; therefore, TOC detected in the sample was qualified as estimated, "J." Recoveries and RPDs were within laboratory-established QC limits. Method accuracy for the remaining analyses were evaluated based on the LCS results.

- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC

data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

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

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

Validated Sample Result Forms 440-7559-1

Analysis Method 120.1

Sample Name Outfall 019 Grab **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-7559-1 **Sample Date:** 4/4/2012 9:30:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Specific Conductance	STL00244	1100	1.0	1.0	umhos/c			

Analysis Method 1613B

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

Lab Sample Name: 440-7684-1 **Sample Date:** 4/5/2012 9:45:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822-46-9	ND	0.000050	0.0000014	ug/L	J Q	UJ	*III
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.000050	0.0000014	ug/L	J Q B	U	B
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.000050	0.0000025	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.000050	0.0000016	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.000050	0.0000008	ug/L	J Q	UJ	*III
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.000050	0.0000015	ug/L		U	
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.000050	0.0000008	ug/L	J Q	UJ	*III
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.000050	0.0000014	ug/L		U	
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.000050	0.0000013	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	0.000050	0.0000023	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.000050	0.0000021	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.000050	0.0000008	ug/L	J Q	UJ	*III
2,3,4,7,8-PeCDF	57117-31-4	ND	0.000050	0.0000026	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.000010	0.0000023	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.000010	0.0000014	ug/L		U	
2,3,7,8-TCDF	51207-31-9	0.000002	0.000010	0.0000014	ug/L	J	R	D
OCDD	3268-87-9	ND	0.00010	0.0000021	ug/L	J Q B	U	B
OCDF	39001-02-0	0.000004	0.00010	0.0000025	ug/L	J	J	DNQ
Total HpCDD	37871-00-4	0.000005	0.000050	0.0000014	ug/L	J Q	J	DNQ, *III
Total HpCDF	38998-75-3	ND	0.000050	0.0000019	ug/L	J Q B	U	B
Total HxCDD	34465-46-8	ND	0.000050	0.0000014	ug/L		U	
Total HxCDF	55684-94-1	0.000005	0.000050	0.0000009	ug/L	J Q	J	DNQ, *III
Total PeCDD	36088-22-9	ND	0.000050	0.0000023	ug/L		U	
Total PeCDF	30402-15-4	ND	0.000050	0.0000021	ug/L		U	
Total TCDD	41903-57-5	ND	0.000010	0.0000012	ug/L	J B	U	B
Total TCDF	55722-27-5	0.000002	0.000010	0.0000011	ug/L	J	J	DNQ

Analysis Method 1664A

Sample Name Outfall 019 Grab **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-7559-1 **Sample Date:** 4/4/2012 9:30:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
HEM	STL00181	ND	4.7	1.3	mg/L		U	

Analysis Method 180.1

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

Lab Sample Name: 440-7684-1 **Sample Date:** 4/5/2012 9:45:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Turbidity	STL00189	0.070	0.10	0.040	NTU	J,DX	J-	R, DNQ

Analysis Method 200.7 Rev 4.4

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

Lab Sample Name: 440-7684-1 **Sample Date:** 4/5/2012 9:45:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Hardness, as CaCO3	STL00009	320	0.33	0.17	mg/L			
Hardness, as CaCO3, Dissolved	STL00009	300	0.33	0.17	mg/L			
Zinc	7440-66-6	ND	20	6.0	ug/L		U	
Zinc, Dissolved	7440-66-6	ND	20	6.0	ug/L		U	

Analysis Method 200.8

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

Lab Sample Name: 440-7684-1 **Sample Date:** 4/5/2012 9:45:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cadmium	7440-43-9	ND	1.0	0.10	ug/L		U	
Cadmium, Dissolved	7440-43-9	ND	1.0	0.10	ug/L		U	
Copper	7440-50-8	ND	2.0	0.50	ug/L	J,DX MB	U	B
Copper, Dissolved	7440-50-8	ND	2.0	0.50	ug/L		U	
Lead	7439-92-1	ND	1.0	0.20	ug/L		U	
Lead, Dissolved	7439-92-1	ND	1.0	0.20	ug/L		U	
Selenium	7782-49-2	ND	2.0	0.50	ug/L		U	
Selenium, Dissolved	7782-49-2	ND	2.0	0.50	ug/L		U	

Analysis Method 245.1

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

Lab Sample Name: 440-7684-1 **Sample Date:** 4/5/2012 9:45:00 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	IB	U	
Mercury, Dissolved	7439-97-6	ND	0.20	0.10	ug/L		U	

Analysis Method 300.0

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

Lab Sample Name: 440-7684-1 **Sample Date:** 4/5/2012 9:45:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chloride	16887-00-6	31	10	8.0	mg/L			
Nitrate as N	14797-55-8	ND	0.11	0.080	mg/L		U	
Nitrate Nitrite as N	STL00217	ND	0.26	0.19	mg/L		U	
Nitrite as N	14797-65-0	ND	0.15	0.11	mg/L		U	
Sulfate	14808-79-8	150	10	8.0	mg/L			

Analysis Method 314.0

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

Lab Sample Name: 440-7684-1 **Sample Date:** 4/5/2012 9:45:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Perchlorate	14797-73-0	ND	4.0	0.95	ug/L		U	

Analysis Method 608 Pesticides

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

Lab Sample Name: 440-7684-1 **Sample Date:** 4/5/2012 9:45:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
alpha-BHC	319-84-6	ND	0.0047	0.0024	ug/L		U	

Analysis Method 624

Sample Name Outfall 019 Grab **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-7559-1 **Sample Date:** 4/4/2012 9:30:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,1,1-Trichloroethane	71-55-6	ND	0.50	0.30	ug/L		U	
1,1,2-Trichloroethane	79-00-5	ND	0.50	0.30	ug/L		U	
1,1-Dichloroethane	75-34-3	ND	0.50	0.40	ug/L		U	
1,1-Dichloroethene	75-35-4	ND	0.50	0.42	ug/L		U	
1,2-Dichloroethane	107-06-2	ND	0.50	0.28	ug/L		U	
Benzene	71-43-2	ND	0.50	0.28	ug/L		U	
Carbon tetrachloride	56-23-5	ND	0.50	0.28	ug/L		U	
Chloroform	67-66-3	ND	0.50	0.33	ug/L		U	
cis-1,2-Dichloroethene	156-59-2	ND	0.50	0.32	ug/L		U	
Ethylbenzene	100-41-4	ND	0.50	0.25	ug/L		U	
Tetrachloroethene	127-18-4	ND	0.50	0.32	ug/L		U	
Toluene	108-88-3	ND	0.50	0.36	ug/L		U	
Trichloroethene	79-01-6	ND	0.50	0.26	ug/L		U	
Trichlorofluoromethane	75-69-4	ND	0.50	0.34	ug/L		U	
Trichlorotrifluoroethane(F-113)	76-13-1	ND	5.0	0.50	ug/L		U	
Vinyl chloride	75-01-4	ND	0.50	0.40	ug/L		U	
Xylenes, Total	1330-20-7	ND	1.5	0.90	ug/L		U	

Analysis Method 624

Sample Name Trip Blank **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-7559-2 **Sample Date:** 4/4/2012 9:30:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,1,1-Trichloroethane	71-55-6	ND	0.50	0.30	ug/L		U	
1,1,2-Trichloroethane	79-00-5	ND	0.50	0.30	ug/L		U	
1,1-Dichloroethane	75-34-3	ND	0.50	0.40	ug/L		U	
1,1-Dichloroethene	75-35-4	ND	0.50	0.42	ug/L		U	
1,2-Dichloroethane	107-06-2	ND	0.50	0.28	ug/L		U	
Benzene	71-43-2	ND	0.50	0.28	ug/L		U	
Carbon tetrachloride	56-23-5	ND	0.50	0.28	ug/L		U	
Chloroform	67-66-3	ND	0.50	0.33	ug/L		U	
cis-1,2-Dichloroethene	156-59-2	ND	0.50	0.32	ug/L		U	
Ethylbenzene	100-41-4	ND	0.50	0.25	ug/L		U	
Tetrachloroethene	127-18-4	ND	0.50	0.32	ug/L		U	
Toluene	108-88-3	ND	0.50	0.36	ug/L		U	
Trichloroethene	79-01-6	ND	0.50	0.26	ug/L		U	
Trichlorofluoromethane	75-69-4	ND	0.50	0.34	ug/L		U	
Trichlorotrifluoroethane(F-113)	76-13-1	ND	5.0	0.50	ug/L		U	
Vinyl chloride	75-01-4	ND	0.50	0.40	ug/L		U	
Xylenes, Total	1330-20-7	ND	1.5	0.90	ug/L		U	

Analysis Method 625

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

Lab Sample Name: 440-7684-1 **Sample Date:** 4/5/2012 9:45:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
2,4,6-Trichlorophenol	88-06-2	ND	11.3	0.0943	ug/L		U	
2,4-Dinitrotoluene	121-14-2	ND	9.43	0.189	ug/L		U	
Bis(2-ethylhexyl) phthalate	117-81-7	ND	9.43	1.60	ug/L		U	
N-Nitrosodimethylamine	62-75-9	ND	9.43	0.0943	ug/L		U	
Pentachlorophenol	87-86-5	ND	9.43	0.377	ug/L		U	

Analysis Method Gamma Spec K-40 CS-137

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

Lab Sample Name: 440-7684-1 **Sample Date:** 4/5/2012 9:45:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	0.346	20	2.93	pCi/L	U	U	
Potassium-40	13966002	-2.13	25	27.1	pCi/L	U	U	

Analysis Method Gross Alpha and Beta

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

Lab Sample Name: 440-7684-1 **Sample Date:** 4/5/2012 9:45:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	-0.11	3	1.65	pCi/L	U	UJ	C
Gross Beta	12587472	1.44	4	2.03	pCi/L	U	U	

Analysis Method Radium 226

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

Lab Sample Name: 440-7684-1 **Sample Date:** 4/5/2012 9:45:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	0.036	1	0.573	pCi/L	U	U	

Analysis Method Radium 228

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

Lab Sample Name: 440-7684-1 **Sample Date:** 4/5/2012 9:45:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	-0.044	1	0.393	pCi/L	U	U	

Analysis Method SM 2540C

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

Lab Sample Name: 440-7684-1 **Sample Date:** 4/5/2012 9:45:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Dissolved Solids	STL00242	520	10	10	mg/L			

Analysis Method SM 2540D

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

Lab Sample Name: 440-7684-1 **Sample Date:** 4/5/2012 9:45:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	STL00161	ND	10	10	mg/L		U	

Analysis Method SM 2540F

Sample Name Outfall 019 Grab **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-7559-1 **Sample Date:** 4/4/2012 9:30:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Settleable Solids	STL00013	ND	0.10	0.10	mL/L/Hr		U	

Analysis Method SM 4500 CN E

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

Lab Sample Name: 440-7684-1 **Sample Date:** 4/5/2012 9:45:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cyanide, Total	57-12-5	ND	5.0	3.0	ug/L		U	

Analysis Method SM 4500 F C

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

Lab Sample Name: 440-7684-1 **Sample Date:** 4/5/2012 9:45:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Fluoride	16984-48-8	0.19	0.10	0.020	mg/L			

Analysis Method SM 4500 NH3 C

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

Lab Sample Name: 440-7684-1 **Sample Date:** 4/5/2012 9:45:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Ammonia (as N)	7664-41-7	0.560	0.400	0.157	mg/L			

Analysis Method SM 5310B

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

Lab Sample Name: 440-7684-1 **Sample Date:** 4/5/2012 9:45:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Organic Carbon	7440-44-0	1.3	1.0	0.75	mg/L		J+	Q

Analysis Method SM 5540C

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

Lab Sample Name: 440-7684-1 **Sample Date:** 4/5/2012 9:45:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Methylene Blue Active Substances	STL00077	ND	0.10	0.050	mg/L		UJ	H

Analysis Method SM5210B

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

Lab Sample Name: 440-7684-1 **Sample Date:** 4/5/2012 9:45:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Biochemical Oxygen Demand	STL00311	ND	2.0	0.50	mg/L		U	

Analysis Method Strontium 90

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

Lab Sample Name: 440-7684-1 **Sample Date:** 4/5/2012 9:45:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	0.04	2	0.715	pCi/L	U	U	

Analysis Method Tritium

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

Lab Sample Name: 440-7684-1 **Sample Date:** 4/5/2012 9:45:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	61.3	500	167	pCi/L	U	U	

Analysis Method Uranium, Combined

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

Lab Sample Name: 440-7684-1 **Sample Date:** 4/5/2012 9:45:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total		0.091	1	0.02	pCi/L	J	J	DNQ

APPENDIX G

Section 16

Outfall 019 – April 4 & 5, 2012

Test America Analytical Laboratory Report

TestAmerica

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: 440-7559-1
Client Project/Site: Boeing SSFL outfalls
Sampling Event: Quarterly Outfall 019

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

Attn: Bronwyn Kelly

Debby Wilson

Authorized for release by:
5/15/2012 4:49:34 PM

Debby Wilson
Project Manager I
debby.wilson@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.

Debby Wilson
Project Manager I
5/15/2012 4:49:34 PM

Table of Contents

Sample Summary

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

TestAmerica Job ID: 440-7559-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-7559-1	Outfall 019 Grab	Water	04/04/12 09:30	04/04/12 19:00
440-7559-2	Trip Blank	Water	04/04/12 09:30	04/04/12 19:00
440-7684-1	Outfall 019 Composite	Water	04/05/12 09:45	04/05/12 18:10
440-7684-3	Trip Blank Eberline	Water	04/06/12 14:00	04/05/12 18:10

Job ID: 440-7559-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-7559-1

Comments
No additional comments.

Receipt
The samples were received on 4/4/2012 7:00 PM and 4/5/2012 6:10 PM; the samples arrived in good conditions, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.50 C and 3.50 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 18185. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

No other analytical or quality issues were noted.

HPLC
No analytical or quality issues were noted.

GC Semi VOA
Method(s) 608: The continuing calibration verification (CCV) for analytical batch 18698 exceeded control criteria for DDD,2,4 DDT, DDT and Methoxychlor. The data have been qualified and reported.

Method(s) 608: Insufficient sample volume was available to perform batch matrix spike/matrix spike duplicate (MS/MSD) associated with batch 18417. 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
Method(s) 245.1: The continuing calibration verification (CCV) for mercury associated with batch 440-19570 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) SM 5310B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries associated with batch 18689 were outside control limits: (440-7354-2 MS), (440-7354-2 MSD). Matrix interference is suspected.

No other analytical or quality issues were noted.

WATER, 1613B, Dioxins/Furans with Totals
Sample: 1
This sample was originally extracted in Batch# 2103056. The associated laboratory control sample (LCS) has recoveries for some analytes above the established control limits indicating a potential high bias in the data. The sample is non-detect (ND) or has estimated low-level concentrations (J flag) for these analytes. It was decided to re-extract the sample. It was later discovered that the elevated recoveries in the LCS is due to the standard concentrating.

The sample was re-extracted in Batch# 2111082. The associated MB and LCS both had very low internal standard recoveries (<10%) and the MB contained several analytes with concentrations at or near the reporting limit, but not in a pattern suggesting LCS carryover. The sample results from this batch are not consistent with the initial analysis and it appears that the sample may have been impacted by carryover from previously extracted samples in the Hepta and Octa chlorination levels. Thus the sample was extracted again in Batch# 2117087.

Job ID: 440-7559-1 (Continued)

Laboratory: TestAmerica Irvine (Continued)

The MB for Batch# 2117087 has appears to contain carryover from the LCS, as most target analytes are present at or near the reporting limit. The sample does not appear to have been impacted by LCS carryover. Analytical results of this sample are comparable to the initial analysis with several estimated low-level concentrations (J flag).

After discussions with Elizabeth Wessling of MECX, it was agreed to report the data from the initial analysis (Batch# 2103056) with the raw data for the other 2 batches.

Sample: 1 (Batch# 2103056)
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.

There are one or more analytes in the MB 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.

Organic Prep
No analytical or quality issues were noted.

Client Sample ID: Outfall 019 Grab

Lab Sample ID: 440-7559-1

Date Collected: 04/04/12 09:30

Matrix: Water

Date Received: 04/04/12 19:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.30	ug/L			04/09/12 13:36	1
1,1,2-Trichloroethane	ND		0.50	0.30	ug/L			04/09/12 13:36	1
1,1-Dichloroethane	ND		0.50	0.40	ug/L			04/09/12 13:36	1
Trichlorotrifluoroethane(F-113)	ND		5.0	0.50	ug/L			04/09/12 13:36	1
1,1-Dichloroethene	ND		0.50	0.42	ug/L			04/09/12 13:36	1
1,2-Dichloroethane	ND		0.50	0.28	ug/L			04/09/12 13:36	1
Benzene	ND		0.50	0.28	ug/L			04/09/12 13:36	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			04/09/12 13:36	1
Chloroform	ND		0.50	0.33	ug/L			04/09/12 13:36	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/09/12 13:36	1
Tetrachloroethene	ND		0.50	0.32	ug/L			04/09/12 13:36	1
Toluene	ND		0.50	0.36	ug/L			04/09/12 13:36	1
Trichlorofluoromethane	ND		0.50	0.34	ug/L			04/09/12 13:36	1
Trichloroethene	ND		0.50	0.26	ug/L			04/09/12 13:36	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/09/12 13:36	1
Xylenes, Total	ND		1.5	0.90	ug/L			04/09/12 13:36	1
Vinyl chloride	ND		0.50	0.40	ug/L			04/09/12 13:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*80 - 120*		*04/09/12 13:36*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*04/09/12 13:36*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*04/09/12 13:36*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		4.7	1.3	mg/L		04/12/12 09:08	04/12/12 09:24	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	**1100**		1.0	1.0	umhos/cm			04/09/12 10:08	1
Settleable Solids	ND		0.10	0.10	mL/L/Hr			04/05/12 08:36	1

Client Sample ID: Trip Blank

Lab Sample ID: 440-7559-2

Date Collected: 04/04/12 09:30

Matrix: Water

Date Received: 04/04/12 19:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.30	ug/L			04/09/12 14:03	1
1,1,2-Trichloroethane	ND		0.50	0.30	ug/L			04/09/12 14:03	1
1,1-Dichloroethane	ND		0.50	0.40	ug/L			04/09/12 14:03	1
Trichlorotrifluoroethane(F-113)	ND		5.0	0.50	ug/L			04/09/12 14:03	1
1,1-Dichloroethene	ND		0.50	0.42	ug/L			04/09/12 14:03	1
1,2-Dichloroethane	ND		0.50	0.28	ug/L			04/09/12 14:03	1
Benzene	ND		0.50	0.28	ug/L			04/09/12 14:03	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			04/09/12 14:03	1
Chloroform	ND		0.50	0.33	ug/L			04/09/12 14:03	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/09/12 14:03	1
Tetrachloroethene	ND		0.50	0.32	ug/L			04/09/12 14:03	1
Toluene	ND		0.50	0.36	ug/L			04/09/12 14:03	1
Trichlorofluoromethane	ND		0.50	0.34	ug/L			04/09/12 14:03	1
Trichloroethene	ND		0.50	0.26	ug/L			04/09/12 14:03	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/09/12 14:03	1

Client Sample ID: Trip Blank

Lab Sample ID: 440-7559-2
Date Collected: 04/04/12 09:30
Matrix: Water
Date Received: 04/04/12 19:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		1.5	0.90	ug/L			04/09/12 14:03	1
Vinyl chloride	ND		0.50	0.40	ug/L			04/09/12 14:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*80 - 120*		*04/09/12 14:03*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*04/09/12 14:03*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*04/09/12 14:03*	*1*

Client Sample ID: Outfall 019 Composite

Lab Sample ID: 440-7684-1
Date Collected: 04/05/12 09:45
Matrix: Water
Date Received: 04/05/12 18:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		11.3	0.0943	ug/L		04/07/12 10:33	04/10/12 09:31	1
Bis(2-ethylhexyl) phthalate	ND		9.43	1.60	ug/L		04/07/12 10:33	04/10/12 09:31	1
N-Nitrosodimethylamine	ND		9.43	0.0943	ug/L		04/07/12 10:33	04/10/12 09:31	1
Pentachlorophenol	ND		9.43	0.377	ug/L		04/07/12 10:33	04/10/12 09:31	1
2,4-Dinitrotoluene	ND		9.43	0.189	ug/L		04/07/12 10:33	04/10/12 09:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*100*		*40 - 120*	*04/07/12 10:33*	*04/10/12 09:31*	*1*
2-Fluorobiphenyl	*86*		*50 - 120*	*04/07/12 10:33*	*04/10/12 09:31*	*1*
2-Fluorophenol	*76*		*30 - 120*	*04/07/12 10:33*	*04/10/12 09:31*	*1*
Nitrobenzene-d5	*77*		*45 - 120*	*04/07/12 10:33*	*04/10/12 09:31*	*1*
Phenol-d6	*78*		*35 - 120*	*04/07/12 10:33*	*04/10/12 09:31*	*1*
Terphenyl-d14	*114*		*50 - 125*	*04/07/12 10:33*	*04/10/12 09:31*	*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		04/09/12 12:55	04/10/12 19:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*76*		*35 - 115*	*04/09/12 12:55*	*04/10/12 19:22*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**31**		10	8.0	mg/L			04/06/12 14:27	20
Nitrate as N	ND		0.11	0.080	mg/L			04/06/12 13:40	1
Nitrate Nitrite as N	ND		0.26	0.19	mg/L			04/06/12 13:40	1
Sulfate	**150**		10	8.0	mg/L			04/06/12 14:27	20
Nitrite as N	ND		0.15	0.11	mg/L			04/06/12 13:40	1

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			04/11/12 23:27	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	0.0000023	ug/L		04/12/12 09:00	04/14/12 02:39	0.95
Total TCDD	**0.0000027**	**J B**	0.000010	0.0000012	ug/L		04/12/12 09:00	04/14/12 02:39	0.95
1,2,3,7,8-PeCDD	ND		0.000050	0.0000023	ug/L		04/12/12 09:00	04/14/12 02:39	0.95

Client Sample ID: Outfall 019 Composite
Date Collected: 04/05/12 09:45
Date Received: 04/05/12 18:10

Lab Sample ID: 440-7684-1
Matrix: Water

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

Analyte	Result	Qualifier	ML	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total PeCDD	ND		0.000050	0.0000023	ug/L		04/12/12 09:00	04/14/12 02:39	0.95
1,2,3,4,7,8-HxCDD	ND		0.000050	0.0000016	ug/L		04/12/12 09:00	04/14/12 02:39	0.95
1,2,3,6,7,8-HxCDD	ND		0.000050	0.0000015	ug/L		04/12/12 09:00	04/14/12 02:39	0.95
1,2,3,7,8,9-HxCDD	ND		0.000050	0.0000014	ug/L		04/12/12 09:00	04/14/12 02:39	0.95
Total HxCDD	ND		0.000050	0.0000014	ug/L		04/12/12 09:00	04/14/12 02:39	0.95
1,2,3,4,6,7,8-HpCDD	**0.0000020**	**J Q**	0.000050	0.0000014	ug/L		04/12/12 09:00	04/14/12 02:39	0.95
Total HpCDD	**0.0000058**	**J Q**	0.000050	0.0000014	ug/L		04/12/12 09:00	04/14/12 02:39	0.95
OCDD	**0.0000088**	**J Q B**	0.00010	0.0000021	ug/L		04/12/12 09:00	04/14/12 02:39	0.95
2,3,7,8-TCDF	**0.0000023**	**J**	0.000010	0.0000014	ug/L		04/12/12 09:00	04/14/12 02:39	0.95
2,3,7,8-TCDF	ND		0.000010	0.0000014	ug/L		04/12/12 09:00	04/16/12 18:56	0.95
Total TCDF	**0.0000023**	**J**	0.000010	0.0000011	ug/L		04/12/12 09:00	04/14/12 02:39	0.95
1,2,3,7,8-PeCDF	ND		0.000050	0.0000021	ug/L		04/12/12 09:00	04/14/12 02:39	0.95
2,3,4,7,8-PeCDF	ND		0.000050	0.0000026	ug/L		04/12/12 09:00	04/14/12 02:39	0.95
Total PeCDF	ND		0.000050	0.0000021	ug/L		04/12/12 09:00	04/14/12 02:39	0.95
1,2,3,4,7,8-HxCDF	**0.0000018**	**J Q**	0.000050	0.00000087	ug/L		04/12/12 09:00	04/14/12 02:39	0.95
1,2,3,6,7,8-HxCDF	**0.0000013**	**J Q**	0.000050	0.00000085	ug/L		04/12/12 09:00	04/14/12 02:39	0.95
2,3,4,6,7,8-HxCDF	**0.00000096**	**J Q**	0.000050	0.00000089	ug/L		04/12/12 09:00	04/14/12 02:39	0.95
1,2,3,7,8,9-HxCDF	ND		0.000050	0.0000013	ug/L		04/12/12 09:00	04/14/12 02:39	0.95
Total HxCDF	**0.0000052**	**J Q**	0.000050	0.00000098	ug/L		04/12/12 09:00	04/14/12 02:39	0.95
1,2,3,4,6,7,8-HpCDF	**0.0000020**	**J Q B**	0.000050	0.0000014	ug/L		04/12/12 09:00	04/14/12 02:39	0.95
1,2,3,4,7,8,9-HpCDF	ND		0.000050	0.0000025	ug/L		04/12/12 09:00	04/14/12 02:39	0.95
Total HpCDF	**0.0000020**	**J Q B**	0.000050	0.0000019	ug/L		04/12/12 09:00	04/14/12 02:39	0.95
OCDF	**0.0000042**	**J**	0.00010	0.0000025	ug/L		04/12/12 09:00	04/14/12 02:39	0.95

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*86*		*35 - 197*	*04/12/12 09:00*	*04/14/12 02:39*	*0.95*
37Cl4-2,3,7,8-TCDD	*87*		*35 - 197*	*04/12/12 09:00*	*04/16/12 18:56*	*0.95*

Internal Standard	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*64*		*25 - 164*	*04/12/12 09:00*	*04/14/12 02:39*	*0.95*
13C-1,2,3,7,8-PeCDD	*63*		*25 - 181*	*04/12/12 09:00*	*04/14/12 02:39*	*0.95*
13C-1,2,3,4,7,8-HxCDD	*54*		*32 - 141*	*04/12/12 09:00*	*04/14/12 02:39*	*0.95*
13C-1,2,3,6,7,8-HxCDD	*74*		*28 - 130*	*04/12/12 09:00*	*04/14/12 02:39*	*0.95*
13C-1,2,3,4,6,7,8-HpCDD	*70*		*23 - 140*	*04/12/12 09:00*	*04/14/12 02:39*	*0.95*
13C-OCDD	*67*		*17 - 157*	*04/12/12 09:00*	*04/14/12 02:39*	*0.95*
13C-2,3,7,8-TCDF	*64*		*24 - 169*	*04/12/12 09:00*	*04/14/12 02:39*	*0.95*
13C-2,3,7,8-TCDF	*66*		*24 - 169*	*04/12/12 09:00*	*04/16/12 18:56*	*0.95*
13C-1,2,3,7,8-PeCDF	*59*		*24 - 185*	*04/12/12 09:00*	*04/14/12 02:39*	*0.95*
13C-2,3,4,7,8-PeCDF	*64*		*21 - 178*	*04/12/12 09:00*	*04/14/12 02:39*	*0.95*
13C-1,2,3,6,7,8-HxCDF	*69*		*26 - 123*	*04/12/12 09:00*	*04/14/12 02:39*	*0.95*
13C-2,3,4,6,7,8-HxCDF	*67*		*28 - 136*	*04/12/12 09:00*	*04/14/12 02:39*	*0.95*
13C-1,2,3,7,8,9-HxCDF	*68*		*29 - 147*	*04/12/12 09:00*	*04/14/12 02:39*	*0.95*
13C-1,2,3,4,6,7,8-HpCDF	*65*		*28 - 143*	*04/12/12 09:00*	*04/14/12 02:39*	*0.95*
13C-1,2,3,4,7,8,9-HpCDF	*67*		*26 - 138*	*04/12/12 09:00*	*04/14/12 02:39*	*0.95*
13C-1,2,3,4,7,8-HxCDF	*63*		*26 - 152*	*04/12/12 09:00*	*04/14/12 02:39*	*0.95*

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	ND		20	6.0	ug/L		04/07/12 07:54	04/07/12 13:35	1
Hardness, as CaCO3	**320**		0.33	0.17	mg/L		04/07/12 07:54	04/07/12 13:35	1

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

TestAmerica Job ID: 440-7559-1

Client Sample ID: Outfall 019 Composite
Date Collected: 04/05/12 09:45
Date Received: 04/05/12 18:10

Lab Sample ID: 440-7684-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	ND		20	6.0	ug/L		04/07/12 06:51	04/07/12 15:34	1
Hardness, as CaCO3	**300**		0.33	0.17	mg/L		04/07/12 06:51	04/07/12 15:34	1

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.10	ug/L		04/07/12 07:59	04/07/12 15:46	1
Copper	**0.72**	**J,DX MB**	2.0	0.50	ug/L		04/07/12 07:59	04/07/12 15:46	1
Lead	ND		1.0	0.20	ug/L		04/07/12 07:59	04/07/12 15:46	1
Selenium	ND		2.0	0.50	ug/L		04/07/12 07:59	04/07/12 15:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.10	ug/L		04/07/12 06:49	04/07/12 15:39	1
Copper	ND		2.0	0.50	ug/L		04/07/12 06:49	04/07/12 15:39	1
Lead	ND		1.0	0.20	ug/L		04/07/12 06:49	04/07/12 15:39	1
Selenium	ND		2.0	0.50	ug/L		04/07/12 06:49	04/07/12 15:39	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	IB	0.20	0.10	ug/L		04/11/12 19:11	04/13/12 02:52	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		04/12/12 20:37	04/13/12 23:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	**0.070**	**J,DX**	0.10	0.040	NTU			04/06/12 09:54	1
Total Dissolved Solids	**520**		10	10	mg/L			04/06/12 09:13	1
Total Suspended Solids	ND		10	10	mg/L			04/06/12 20:25	1
Cyanide, Total	ND		5.0	3.0	ug/L		04/17/12 17:12	04/18/12 14:58	1
Fluoride	**0.19**		0.10	0.020	mg/L			04/20/12 05:22	1
Ammonia (as N)	**0.560**		0.400	0.157	mg/L		04/09/12 20:53	04/09/12 21:30	1
Total Organic Carbon	**1.3**		1.0	0.75	mg/L			04/10/12 11:22	1
Methylene Blue Active Substances	ND		0.10	0.050	mg/L			04/06/12 19:58	1
Biochemical Oxygen Demand	ND		2.0	0.50	mg/L			04/06/12 17:27	1

Method: Gamma Spec K-40 CS-137 - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cesium-137	0.346	U	20		pCi/L		04/11/12 00:00	04/12/12 00:00	1
Potassium-40	-2.13	U	25		pCi/L		04/11/12 00:00	04/12/12 00:00	1

Method: Gross Alpha and Beta - Gross Alpha/Beta

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.11	U	3		pCi/L		04/12/12 00:00	04/17/12 15:49	1
Gross Beta	1.44	U	4		pCi/L		04/12/12 00:00	04/17/12 15:49	1

Method: Radium 226 - RAD-226-228 combined

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-226	0.036	U	1		pCi/L		04/18/12 00:00	04/18/12 13:08	1

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

TestAmerica Job ID: 440-7559-1

Client Sample ID: Outfall 019 Composite

Lab Sample ID: 440-7684-1

Date Collected: 04/05/12 09:45
Matrix: Water
Date Received: 04/05/12 18:10

Method: Radium 228 - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-228	-0.044	U	1		pCi/L		04/18/12 00:00	04/18/12 13:58	1

Method: Strontium 90 - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Strontium-90	0.04	U	2		pCi/L		04/16/12 00:00	04/16/12 07:52	1

Method: Tritium - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tritium	61.3	U	500		pCi/L		04/13/12 00:00	04/14/12 16:09	1

Method: Uranium, Combined - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium, Total	0.091	J	1		pCi/L		04/20/12 00:00	04/20/12 09:21	1

Client Sample ID: Trip Blank Eberline

Lab Sample ID: 440-7684-3

Date Collected: 04/06/12 14:00
Matrix: Water
Date Received: 04/05/12 18:10

Method: Gamma Spec K-40 CS-137 - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cesium-137	0.246	U	20		pCi/L		04/11/12 00:00	04/12/12 00:00	1
Potassium-40	-9.66	U	25		pCi/L		04/11/12 00:00	04/12/12 00:00	1

Method: Gross Alpha and Beta - Gross Alpha/Beta

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gross Alpha	0.032	U	3		pCi/L		04/12/12 00:00	04/17/12 15:49	1
Gross Beta	-0.396	U	4		pCi/L		04/12/12 00:00	04/17/12 15:49	1

Method: Radium 226 - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-226	-0.112	U	1		pCi/L		04/18/12 00:00	04/18/12 13:08	1

Method: Radium 228 - RAD-226-228 combined

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-228	-0.07	U	1		pCi/L		04/18/12 00:00	04/18/12 13:58	1

Method: Strontium 90 - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Strontium-90	-0.234	U	2		pCi/L		04/16/12 00:00	04/16/12 07:52	1

Method: Uranium, Combined - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium, Total	0	U	1		pCi/L		04/20/12 00:00	04/20/12 09:27	1

Client Sample ID: Outfall 019 Grab

Lab Sample ID: 440-7559-1

Date Collected: 04/04/12 09:30

Matrix: Water

Date Received: 04/04/12 19:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	10 mL	10 mL	18330	04/09/12 13:36	KD	TAL IRV
Total/NA	Analysis	SM 2540F		1	1000 mL	1000 mL	17635	04/05/12 08:36	RR	TAL IRV
Total/NA	Analysis	120.1		1			18376	04/09/12 10:08	XL	TAL IRV
Total/NA	Prep	1664A			1055 mL	1000 mL	19264	04/12/12 09:08	DA	TAL IRV
Total/NA	Analysis	1664A		1			19269	04/12/12 09:24	DA	TAL IRV

Client Sample ID: Trip Blank

Lab Sample ID: 440-7559-2

Date Collected: 04/04/12 09:30

Matrix: Water

Date Received: 04/04/12 19:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	10 mL	10 mL	18330	04/09/12 14:03	KD	TAL IRV

Client Sample ID: Outfall 019 Composite

Lab Sample ID: 440-7684-1

Date Collected: 04/05/12 09:45

Matrix: Water

Date Received: 04/05/12 18:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			1060 mL	2 mL	18185	04/07/12 10:33	NF	TAL IRV
Total/NA	Analysis	625		1			18525	04/10/12 09:31	AI	TAL IRV
Total/NA	Prep	608			1060 mL	2 mL	18417	04/09/12 12:55	AB	TAL IRV
Total/NA	Analysis	608 Pesticides		1			18698	04/10/12 19:22	CN	TAL IRV
Total/NA	Analysis	300.0		1	1 mL	1.0 mL	17932	04/06/12 13:40	CC	TAL IRV
Total/NA	Analysis	300.0		20	1 mL	1.0 mL	17933	04/06/12 14:27	CC	TAL IRV
Total/NA	Analysis	314.0		1	5 mL	1.0 mL	18897	04/11/12 23:27	MN	TAL IRV
Total	Prep	3542			1049.08 mL	20 uL	2103056_P	04/12/12 09:00	TL	TAL WSC
Total	Analysis	1613B		0.95			2103056	04/14/12 02:39	GSV	TAL WSC
Total	Analysis	1613B		0.95			2103056	04/16/12 18:56	GSV	TAL WSC
Total Recoverable	Prep	200.2			50 mL	50 mL	18166	04/07/12 07:54	EN	TAL IRV
Total Recoverable	Analysis	200.7 Rev 4.4		1			18211	04/07/12 13:35	DP	TAL IRV
Dissolved	Prep	200.2			50 mL	50 mL	18147	04/07/12 06:51	EN	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4		1			18213	04/07/12 15:34	DP	TAL IRV
Dissolved	Prep	200.2			50 mL	50 mL	18146	04/07/12 06:49	EN	TAL IRV
Dissolved	Analysis	200.8		1			18322	04/07/12 15:39	NH	TAL IRV
Total Recoverable	Prep	200.2			50 mL	50 mL	18168	04/07/12 07:59	EN	TAL IRV
Total Recoverable	Analysis	200.8		1			18322	04/07/12 15:46	NH	TAL IRV
Total/NA	Prep	245.1			20 mL	20 mL	19154	04/11/12 19:11	SN	TAL IRV
Total/NA	Analysis	245.1		1			19570	04/13/12 02:52	DB	TAL IRV
Dissolved	Prep	245.1			20 mL	20 mL	19467	04/12/12 20:37	SN	TAL IRV
Dissolved	Analysis	245.1		1			19759	04/13/12 23:28	DB	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	17950	04/06/12 09:13	XL	TAL IRV
Total/NA	Analysis	180.1		1			17960	04/06/12 09:54	RR	TAL IRV
Total/NA	Analysis	SM5210B		1			17982	04/06/12 17:27	QPD	TAL IRV

Lab Chronicle

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

TestAmerica Job ID: 440-7559-1

Client Sample ID: Outfall 019 Composite

Lab Sample ID: 440-7684-1

Date Collected: 04/05/12 09:45

Matrix: Water

Date Received: 04/05/12 18:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	18105	04/06/12 19:58	NEA	TAL IRV
Total/NA	Analysis	SM 2540D		1	100 mL	100 mL	18107	04/06/12 20:25	DK	TAL IRV
Total/NA	Analysis	SM 5310B		1			18689	04/10/12 11:22	FZ	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	18541	04/09/12 20:53	NP	TAL IRV
Total/NA	Analysis	SM 4500 NH3 C		1			19087	04/09/12 21:30	NP	TAL IRV
Total/NA	Prep	Distill/CN			50 mL	50 mL	20314	04/17/12 17:12	PQI	TAL IRV
Total/NA	Analysis	SM 4500 CN E		1			20530	04/18/12 14:58	PQI	TAL IRV
Total/NA	Analysis	SM 4500 F C		1			20896	04/20/12 05:22	FZ	TAL IRV
Total/NA	Prep	General Prep		1			8605_P	04/11/12 00:00		Eber-Rich
Total/NA	Analysis	Gamma Spec K-40 CS-137		1			8605	04/12/12 00:00	LS	Eber-Rich
Total/NA	Prep	General Prep		1			8605_P	04/12/12 00:00		Eber-Rich
Total/NA	Analysis	Gross Alpha and Beta		1			8605	04/17/12 15:49	DVP	Eber-Rich
Total/NA	Prep	General Prep		1			8605_P	04/18/12 00:00		Eber-Rich
Total/NA	Analysis	Radium 226		1			8605	04/18/12 13:08	TM	Eber-Rich
Total/NA	Analysis	Radium 228		1			8605	04/18/12 13:58	ASM	Eber-Rich
Total/NA	Prep	General Prep		1			8605_P	04/16/12 00:00		Eber-Rich
Total/NA	Analysis	Strontium 90		1			8605	04/16/12 07:52	SK	Eber-Rich
Total/NA	Prep	General Prep		1			8605_P	04/13/12 00:00		Eber-Rich
Total/NA	Analysis	Tritium		1			8605	04/14/12 16:09	WL	Eber-Rich
Total/NA	Prep	General Prep		1			8605_P	04/20/12 00:00		Eber-Rich
Total/NA	Analysis	Uranium, Combined		1			8605	04/20/12 09:21	LS	Eber-Rich

Client Sample ID: Trip Blank Eberline

Lab Sample ID: 440-7684-3

Date Collected: 04/06/12 14:00

Matrix: Water

Date Received: 04/05/12 18:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	General Prep		1			8605_P	04/11/12 00:00		Eber-Rich
Total/NA	Analysis	Gamma Spec K-40 CS-137		1			8605	04/12/12 00:00	LS	Eber-Rich
Total/NA	Prep	General Prep		1			8605_P	04/12/12 00:00		Eber-Rich
Total/NA	Analysis	Gross Alpha and Beta		1			8605	04/17/12 15:49	DVP	Eber-Rich
Total/NA	Prep	General Prep		1			8605_P	04/18/12 00:00		Eber-Rich
Total/NA	Analysis	Radium 226		1			8605	04/18/12 13:08	TM	Eber-Rich
Total/NA	Analysis	Radium 228		1			8605	04/18/12 13:58	ASM	Eber-Rich
Total/NA	Prep	General Prep		1			8605_P	04/16/12 00:00		Eber-Rich
Total/NA	Analysis	Strontium 90		1			8605	04/16/12 07:52	SK	Eber-Rich
Total/NA	Prep	General Prep		1			8605_P	04/20/12 00:00		Eber-Rich
Total/NA	Analysis	Uranium, Combined		1			8605	04/20/12 09:27	LS	Eber-Rich

Lab Chronicle

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

TestAmerica Job ID: 440-7559-1

Laboratory References:

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

SC0127 = Aquatic Testing Laboratories, 4350 Transport #107, Ventura, CA 93003

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

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

Lab Sample ID: MB 440-18330/7
Matrix: Water
Analysis Batch: 18330

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.30	ug/L			04/09/12 11:32	1
1,1,2-Trichloroethane	ND		0.50	0.30	ug/L			04/09/12 11:32	1
1,1-Dichloroethane	ND		0.50	0.40	ug/L			04/09/12 11:32	1
Trichlorotrifluoroethane(F-113)	ND		5.0	0.50	ug/L			04/09/12 11:32	1
1,1-Dichloroethene	ND		0.50	0.42	ug/L			04/09/12 11:32	1
1,2-Dichloroethane	ND		0.50	0.28	ug/L			04/09/12 11:32	1
Benzene	ND		0.50	0.28	ug/L			04/09/12 11:32	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			04/09/12 11:32	1
Chloroform	ND		0.50	0.33	ug/L			04/09/12 11:32	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/09/12 11:32	1
Tetrachloroethene	ND		0.50	0.32	ug/L			04/09/12 11:32	1
Toluene	ND		0.50	0.36	ug/L			04/09/12 11:32	1
Trichlorofluoromethane	ND		0.50	0.34	ug/L			04/09/12 11:32	1
Trichloroethene	ND		0.50	0.26	ug/L			04/09/12 11:32	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/09/12 11:32	1
Xylenes, Total	ND		1.5	0.90	ug/L			04/09/12 11:32	1
Vinyl chloride	ND		0.50	0.40	ug/L			04/09/12 11:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*80 - 120*		*04/09/12 11:32*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*04/09/12 11:32*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*04/09/12 11:32*	*1*

Lab Sample ID: LCS 440-18330/5
Matrix: Water
Analysis Batch: 18330

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	26.6		ug/L		106	65 - 135
1,1,2-Trichloroethane	25.0	24.7		ug/L		99	70 - 125
1,1-Dichloroethane	25.0	25.0		ug/L		100	70 - 125
1,1-Dichloroethene	25.0	23.3		ug/L		93	70 - 125
1,2-Dichloroethane	25.0	26.1		ug/L		104	60 - 140
Benzene	25.0	22.3		ug/L		89	70 - 120
Carbon tetrachloride	25.0	26.7		ug/L		107	65 - 140
Chloroform	25.0	25.4		ug/L		102	70 - 130
Ethylbenzene	25.0	24.0		ug/L		96	75 - 125
Tetrachloroethene	25.0	25.3		ug/L		101	70 - 125
Toluene	25.0	21.9		ug/L		88	70 - 120
Trichlorofluoromethane	25.0	28.9		ug/L		116	65 - 145
Trichloroethene	25.0	25.4		ug/L		102	70 - 125
cis-1,2-Dichloroethene	25.0	25.5		ug/L		102	70 - 125
m,p-Xylene	50.0	49.7		ug/L		99	75 - 125
o-Xylene	25.0	24.8		ug/L		99	75 - 125
Xylenes, Total	75.0	74.5		ug/L		99	70 - 125
Vinyl chloride	25.0	23.6		ug/L		94	55 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*80 - 120*

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

Lab Sample ID: LCS 440-18330/5
Matrix: Water
Analysis Batch: 18330

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Dibromofluoromethane (Surr)	*99*		*80 - 120*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: 440-6724-A-3 MS
Matrix: Water
Analysis Batch: 18330

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND		25.0	25.7		ug/L		103	65 - 140
1,1,2-Trichloroethane	ND		25.0	23.4		ug/L		94	65 - 130
1,1-Dichloroethane	ND		25.0	24.8		ug/L		99	65 - 130
1,1-Dichloroethene	ND		25.0	23.9		ug/L		96	60 - 130
1,2-Dichloroethane	ND		25.0	26.5		ug/L		106	60 - 140
Benzene	ND		25.0	22.3		ug/L		89	65 - 125
Carbon tetrachloride	ND		25.0	26.4		ug/L		106	65 - 140
Chloroform	ND		25.0	24.7		ug/L		99	65 - 135
Ethylbenzene	ND		25.0	22.0		ug/L		88	65 - 130
Tetrachloroethene	2.4		25.0	25.0		ug/L		91	65 - 130
Toluene	ND		25.0	21.7		ug/L		87	70 - 125
Trichlorofluoromethane	ND		25.0	29.6		ug/L		118	60 - 145
Trichloroethene	28		25.0	50.2		ug/L		87	65 - 125
cis-1,2-Dichloroethene	1.4		25.0	26.8		ug/L		102	65 - 130
m,p-Xylene	ND		50.0	44.4		ug/L		89	65 - 130
o-Xylene	ND		25.0	22.7		ug/L		91	65 - 125
Xylenes, Total	ND		75.0	67.1		ug/L		89	60 - 130
Vinyl chloride	ND		25.0	23.4		ug/L		94	45 - 140

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: 440-6724-A-3 MSD
Matrix: Water
Analysis Batch: 18330

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		25.0	27.5		ug/L		110	65 - 140	7	20
1,1,2-Trichloroethane	ND		25.0	24.8		ug/L		99	65 - 130	6	25
1,1-Dichloroethane	ND		25.0	26.0		ug/L		104	65 - 130	5	20
1,1-Dichloroethene	ND		25.0	24.5		ug/L		98	60 - 130	2	20
1,2-Dichloroethane	ND		25.0	28.0		ug/L		112	60 - 140	6	20
Benzene	ND		25.0	23.5		ug/L		94	65 - 125	5	20
Carbon tetrachloride	ND		25.0	27.7		ug/L		111	65 - 140	5	25
Chloroform	ND		25.0	26.2		ug/L		105	65 - 135	6	20
Ethylbenzene	ND		25.0	24.7		ug/L		99	65 - 130	12	20
Tetrachloroethene	2.4		25.0	28.0		ug/L		103	65 - 130	11	20
Toluene	ND		25.0	23.3		ug/L		93	70 - 125	7	20
Trichlorofluoromethane	ND		25.0	29.9		ug/L		120	60 - 145	1	25

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

Lab Sample ID: 440-6724-A-3 MSD
Matrix: Water
Analysis Batch: 18330

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene	28		25.0	51.5		ug/L		92	65 - 125	3	20
cis-1,2-Dichloroethene	1.4		25.0	28.2		ug/L		107	65 - 130	5	20
m,p-Xylene	ND		50.0	50.4		ug/L		101	65 - 130	13	25
o-Xylene	ND		25.0	25.4		ug/L		102	65 - 125	11	20
Xylenes, Total	ND		75.0	75.8		ug/L		101	60 - 130	12	20
Vinyl chloride	ND		25.0	25.0		ug/L		100	45 - 140	7	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
Toluene-d8 (Surr)	*102*		*80 - 120*

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

Lab Sample ID: MB 440-18185/1-A
Matrix: Water
Analysis Batch: 18525

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18185

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		12.0	0.100	ug/L		04/07/12 10:33	04/09/12 22:11	1
Bis(2-ethylhexyl) phthalate	ND		10.0	1.70	ug/L		04/07/12 10:33	04/09/12 22:11	1
N-Nitrosodimethylamine	ND		10.0	0.100	ug/L		04/07/12 10:33	04/09/12 22:11	1
Pentachlorophenol	ND		10.0	0.400	ug/L		04/07/12 10:33	04/09/12 22:11	1
2,4-Dinitrotoluene	ND		10.0	0.200	ug/L		04/07/12 10:33	04/09/12 22:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*83*		*40 - 120*	*04/07/12 10:33*	*04/09/12 22:11*	*1*
2-Fluorobiphenyl	*89*		*50 - 120*	*04/07/12 10:33*	*04/09/12 22:11*	*1*
2-Fluorophenol	*70*		*30 - 120*	*04/07/12 10:33*	*04/09/12 22:11*	*1*
Nitrobenzene-d5	*79*		*45 - 120*	*04/07/12 10:33*	*04/09/12 22:11*	*1*
Phenol-d6	*77*		*35 - 120*	*04/07/12 10:33*	*04/09/12 22:11*	*1*
Terphenyl-d14	*96*		*50 - 125*	*04/07/12 10:33*	*04/09/12 22:11*	*1*

Lab Sample ID: LCS 440-18185/2-A
Matrix: Water
Analysis Batch: 18525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18185

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,6-Trichlorophenol	10.0	8.460	J,DX	ug/L		85	55 - 120
Bis(2-ethylhexyl) phthalate	10.0	10.02		ug/L		100	65 - 130
N-Nitrosodimethylamine	10.0	7.260	J,DX	ug/L		73	45 - 120
Pentachlorophenol	10.0	10.32		ug/L		103	24 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*92*		*40 - 120*
2-Fluorobiphenyl	*87*		*50 - 120*
2-Fluorophenol	*67*		*30 - 120*
Nitrobenzene-d5	*79*		*45 - 120*

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

Lab Sample ID: LCS 440-18185/2-A
Matrix: Water
Analysis Batch: 18525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18185

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Phenol-d6	*78*		*35 - 120*
Terphenyl-d14	*94*		*50 - 125*

Lab Sample ID: LCSD 440-18185/3-A
Matrix: Water
Analysis Batch: 18525

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 18185

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4,6-Trichlorophenol			10.0	8.160	J,DX	ug/L		82	55 - 120	4	30
Bis(2-ethylhexyl) phthalate			10.0	9.480	J,DX	ug/L		95	65 - 130	6	20
N-Nitrosodimethylamine			10.0	6.960	J,DX	ug/L		70	45 - 120	4	20
Pentachlorophenol			10.0	10.08		ug/L		101	24 - 121	2	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol	*93*		*40 - 120*
2-Fluorobiphenyl	*78*		*50 - 120*
2-Fluorophenol	*67*		*30 - 120*
Nitrobenzene-d5	*76*		*45 - 120*
Phenol-d6	*75*		*35 - 120*
Terphenyl-d14	*90*		*50 - 125*

Method: 608 Pesticides - Organochlorine Pesticides Low level

Lab Sample ID: MB 440-18417/1-A
Matrix: Water
Analysis Batch: 18698

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18417

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0050	0.0025	ug/L		04/09/12 12:55	04/10/12 13:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	*72*		*35 - 115*	*04/09/12 12:55*	*04/10/12 13:43*	*1*

Lab Sample ID: LCS 440-18417/2-A
Matrix: Water
Analysis Batch: 18698

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18417

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
alpha-BHC			0.500	0.441		ug/L		88	45 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	*73*		*35 - 115*

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

Lab Sample ID: LCSD 440-18417/3-A
Matrix: Water
Analysis Batch: 18698

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 18417

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
alpha-BHC			0.500	0.496		ug/L		99	45 - 115	12	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*80*		*35 - 115*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-17932/2
Matrix: Water
Analysis Batch: 17932

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.11	0.080	mg/L			04/06/12 10:10	1
Nitrate Nitrite as N	ND		0.26	0.19	mg/L			04/06/12 10:10	1
Nitrite as N	ND		0.15	0.11	mg/L			04/06/12 10:10	1

Lab Sample ID: LCS 440-17932/3
Matrix: Water
Analysis Batch: 17932

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate as N			1.13	1.12		mg/L		99	90 - 110		
Nitrate Nitrite as N			2.65	2.60		mg/L		98	90 - 110		
Nitrite as N			1.52	1.48		mg/L		97	90 - 110		

Lab Sample ID: 440-7684-1 MS
Matrix: Water
Analysis Batch: 17932

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate as N	ND		11.3	11.0		mg/L		98	80 - 120		
Nitrate Nitrite as N	ND		26.5	26.1		mg/L		98	80 - 120		
Nitrite as N	ND		15.2	15.1		mg/L		99	80 - 120		

Lab Sample ID: 440-7684-1 MSD
Matrix: Water
Analysis Batch: 17932

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	ND		11.3	10.9		mg/L		96	80 - 120	2	20
Nitrate Nitrite as N	ND		26.5	25.8		mg/L		97	80 - 120	1	20
Nitrite as N	ND		15.2	14.9		mg/L		98	80 - 120	2	20

Lab Sample ID: MB 440-17933/2
Matrix: Water
Analysis Batch: 17933

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.40	mg/L			04/06/12 10:10	1
Sulfate	ND		0.50	0.40	mg/L			04/06/12 10:10	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 440-17933/3
Matrix: Water
Analysis Batch: 17933

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.90		mg/L		98	90 - 110
Sulfate	10.0	10.1		mg/L		101	90 - 110

Lab Sample ID: 440-7684-1 MS
Matrix: Water
Analysis Batch: 17933

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	31		50.0	80.0		mg/L		97	80 - 120
Sulfate	150		100	242		mg/L		96	80 - 120

Lab Sample ID: 440-7684-1 MSD
Matrix: Water
Analysis Batch: 17933

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	31		50.0	79.2		mg/L		96	80 - 120	1	20
Sulfate	150		100	240		mg/L		94	80 - 120	1	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-18897/38
Matrix: Water
Analysis Batch: 18897

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			04/11/12 21:06	1

Lab Sample ID: LCS 440-18897/37
Matrix: Water
Analysis Batch: 18897

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	25.9		ug/L		104	85 - 115

Lab Sample ID: MRL 440-18897/2 MRL
Matrix: Water
Analysis Batch: 18897

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	4.83		ug/L		121	

Lab Sample ID: 440-7958-I-2 MS
Matrix: Water
Analysis Batch: 18897

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	ND		25.0	26.0		ug/L		104	80 - 120

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: 440-7958-I-2 MSD
Matrix: Water
Analysis Batch: 18897

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	ND		25.0	25.3		ug/L		101	80 - 120	3	20

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

Lab Sample ID: G2D120000056B
Matrix: Water
Analysis Batch: 2103056

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 2103056_P

Analyte	MB Result	MB Qualifier	ML	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000022	ug/L		04/12/12 09:00	04/14/12 01:10	1
Total TCDD	0.0000021	J Q	0.000010	0.0000022	ug/L		04/12/12 09:00	04/14/12 01:10	1
1,2,3,7,8-PeCDD	ND		0.000050	0.0000057	ug/L		04/12/12 09:00	04/14/12 01:10	1
Total PeCDD	ND		0.000050	0.0000057	ug/L		04/12/12 09:00	04/14/12 01:10	1
1,2,3,4,7,8-HxCDD	ND		0.000050	0.0000020	ug/L		04/12/12 09:00	04/14/12 01:10	1
1,2,3,6,7,8-HxCDD	ND		0.000050	0.0000018	ug/L		04/12/12 09:00	04/14/12 01:10	1
1,2,3,7,8,9-HxCDD	ND		0.000050	0.0000017	ug/L		04/12/12 09:00	04/14/12 01:10	1
Total HxCDD	ND		0.000050	0.0000017	ug/L		04/12/12 09:00	04/14/12 01:10	1
1,2,3,4,6,7,8-HpCDD	ND		0.000050	0.0000020	ug/L		04/12/12 09:00	04/14/12 01:10	1
Total HpCDD	ND		0.000050	0.0000020	ug/L		04/12/12 09:00	04/14/12 01:10	1
OCDD	0.0000033	J Q	0.00010	0.0000037	ug/L		04/12/12 09:00	04/14/12 01:10	1
2,3,7,8-TCDF	ND		0.000010	0.0000024	ug/L		04/12/12 09:00	04/14/12 01:10	1
Total TCDF	ND		0.000010	0.0000024	ug/L		04/12/12 09:00	04/14/12 01:10	1
1,2,3,7,8-PeCDF	ND		0.000050	0.0000052	ug/L		04/12/12 09:00	04/14/12 01:10	1
2,3,4,7,8-PeCDF	ND		0.000050	0.0000059	ug/L		04/12/12 09:00	04/14/12 01:10	1
Total PeCDF	ND		0.000050	0.0000052	ug/L		04/12/12 09:00	04/14/12 01:10	1
1,2,3,4,7,8-HxCDF	ND		0.000050	0.0000011	ug/L		04/12/12 09:00	04/14/12 01:10	1
1,2,3,6,7,8-HxCDF	ND		0.000050	0.0000010	ug/L		04/12/12 09:00	04/14/12 01:10	1
2,3,4,6,7,8-HxCDF	ND		0.000050	0.0000011	ug/L		04/12/12 09:00	04/14/12 01:10	1
1,2,3,7,8,9-HxCDF	ND		0.000050	0.0000020	ug/L		04/12/12 09:00	04/14/12 01:10	1
Total HxCDF	ND		0.000050	0.0000010	ug/L		04/12/12 09:00	04/14/12 01:10	1
1,2,3,4,6,7,8-HpCDF	0.0000014	J Q	0.000050	0.0000022	ug/L		04/12/12 09:00	04/14/12 01:10	1
1,2,3,4,7,8,9-HpCDF	ND		0.000050	0.0000040	ug/L		04/12/12 09:00	04/14/12 01:10	1
Total HpCDF	0.0000014	J Q	0.000050	0.0000030	ug/L		04/12/12 09:00	04/14/12 01:10	1
OCDF	ND		0.00010	0.0000074	ug/L		04/12/12 09:00	04/14/12 01:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*83*		*35 - 197*	*04/12/12 09:00*	*04/14/12 01:10*	*1*

Internal Standard	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*47*		*25 - 164*	*04/12/12 09:00*	*04/14/12 01:10*	*1*
13C-1,2,3,7,8-PeCDD	*45*		*25 - 181*	*04/12/12 09:00*	*04/14/12 01:10*	*1*
13C-1,2,3,4,7,8-HxCDD	*47*		*32 - 141*	*04/12/12 09:00*	*04/14/12 01:10*	*1*
13C-1,2,3,6,7,8-HxCDD	*62*		*28 - 130*	*04/12/12 09:00*	*04/14/12 01:10*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*58*		*23 - 140*	*04/12/12 09:00*	*04/14/12 01:10*	*1*
13C-OCDD	*54*		*17 - 157*	*04/12/12 09:00*	*04/14/12 01:10*	*1*
13C-2,3,7,8-TCDF	*46*		*24 - 169*	*04/12/12 09:00*	*04/14/12 01:10*	*1*
13C-1,2,3,7,8-PeCDF	*39*		*24 - 185*	*04/12/12 09:00*	*04/14/12 01:10*	*1*
13C-2,3,4,7,8-PeCDF	*45*		*21 - 178*	*04/12/12 09:00*	*04/14/12 01:10*	*1*

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

Lab Sample ID: G2D120000056B
Matrix: Water
Analysis Batch: 2103056

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 2103056_P

Internal Standard	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDF	56		26 - 123	04/12/12 09:00	04/14/12 01:10	1
13C-2,3,4,6,7,8-HxCDF	57		28 - 136	04/12/12 09:00	04/14/12 01:10	1
13C-1,2,3,7,8,9-HxCDF	51		29 - 147	04/12/12 09:00	04/14/12 01:10	1
13C-1,2,3,4,6,7,8-HpCDF	55		28 - 143	04/12/12 09:00	04/14/12 01:10	1
13C-1,2,3,4,7,8,9-HpCDF	55		26 - 138	04/12/12 09:00	04/14/12 01:10	1
13C-1,2,3,4,7,8-HxCDF	54		26 - 152	04/12/12 09:00	04/14/12 01:10	1

Lab Sample ID: G2D120000056C
Matrix: Water
Analysis Batch: 2103056

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 2103056_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	0.000200	0.000277		ug/L		139	67 - 158
1,2,3,7,8-PeCDD	0.00100	0.00128		ug/L		128	70 - 142
1,2,3,4,7,8-HxCDD	0.00100	0.00121		ug/L		121	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.00131		ug/L		131	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.00135		ug/L		135	64 - 162
1,2,3,4,6,7,8-HpCDD	0.00100	0.00132		ug/L		132	70 - 140
OCDD	0.00200	0.00269	B	ug/L		135	78 - 144
2,3,7,8-TCDF	0.000200	0.000296		ug/L		148	75 - 158
1,2,3,7,8-PeCDF	0.00100	0.00136	a	ug/L		136	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.00128		ug/L		128	68 - 160
1,2,3,4,7,8-HxCDF	0.00100	0.00123		ug/L		123	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.00129		ug/L		129	84 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.00127		ug/L		127	70 - 156
1,2,3,7,8,9-HxCDF	0.00100	0.00140	a	ug/L		140	78 - 130
1,2,3,4,6,7,8-HpCDF	0.00100	0.00133	a B	ug/L		133	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.00133		ug/L		133	78 - 138
OCDF	0.00200	0.00259		ug/L		130	63 - 170

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	82		31 - 191

Internal Standard	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	39		20 - 175
13C-1,2,3,7,8-PeCDD	46		21 - 227
13C-1,2,3,4,7,8-HxCDD	51		21 - 193
13C-1,2,3,6,7,8-HxCDD	69		25 - 163
13C-1,2,3,4,6,7,8-HpCDD	62		26 - 166
13C-OCDD	60		13 - 199
13C-2,3,7,8-TCDF	37		22 - 152
13C-1,2,3,7,8-PeCDF	40		21 - 192
13C-2,3,4,7,8-PeCDF	46		13 - 328
13C-1,2,3,6,7,8-HxCDF	66		21 - 159
13C-2,3,4,6,7,8-HxCDF	65		22 - 176
13C-1,2,3,7,8,9-HxCDF	54		17 - 205
13C-1,2,3,4,6,7,8-HpCDF	60		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	58		20 - 186

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

Lab Sample ID: G2D120000056C
Matrix: Water
Analysis Batch: 2103056

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 2103056_P

Internal Standard	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-1,2,3,4,7,8-HxCDF	*56*		*19 - 202*

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-18166/1-A
Matrix: Water
Analysis Batch: 18211

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 18166

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	ND		20	6.0	ug/L		04/07/12 07:54	04/07/12 13:30	1
Hardness, as CaCO3	ND		0.33	0.17	mg/L		04/07/12 07:54	04/07/12 13:30	1

Lab Sample ID: LCS 440-18166/2-A
Matrix: Water
Analysis Batch: 18211

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 18166

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.500	0.538		mg/L		108	85 - 115
Zinc	500	524		ug/L		105	85 - 115

Lab Sample ID: 440-7684-1 MS
Matrix: Water
Analysis Batch: 18211

Client Sample ID: Outfall 019 Composite
Prep Type: Total Recoverable
Prep Batch: 18166

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	ND		0.500	0.541		mg/L		108	70 - 130
Zinc	ND		500	510		ug/L		102	70 - 130

Lab Sample ID: 440-7684-1 MSD
Matrix: Water
Analysis Batch: 18211

Client Sample ID: Outfall 019 Composite
Prep Type: Total Recoverable
Prep Batch: 18166

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	ND		0.500	0.537		mg/L		107	70 - 130	1	20
Zinc	ND		500	511		ug/L		102	70 - 130	0	20

Lab Sample ID: MB 440-18106/1-C
Matrix: Water
Analysis Batch: 18213

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 18147

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	ND		20	6.0	ug/L		04/07/12 06:51	04/07/12 15:29	1
Hardness, as CaCO3	ND		0.33	0.17	mg/L		04/07/12 06:51	04/07/12 15:29	1

Lab Sample ID: LCS 440-18106/2-C
Matrix: Water
Analysis Batch: 18213

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 18147

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.500	0.530		mg/L		106	85 - 115

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

Lab Sample ID: LCS 440-18106/2-C
Matrix: Water
Analysis Batch: 18213

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 18147

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Zinc			500	510		ug/L		102	85 - 115		

Lab Sample ID: 440-7684-1 MS
Matrix: Water
Analysis Batch: 18213

Client Sample ID: Outfall 019 Composite
Prep Type: Dissolved
Prep Batch: 18147

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Iron	ND		0.500	0.519		mg/L		104	70 - 130		
Zinc	ND		500	499		ug/L		100	70 - 130		

Lab Sample ID: 440-7684-1 MSD
Matrix: Water
Analysis Batch: 18213

Client Sample ID: Outfall 019 Composite
Prep Type: Dissolved
Prep Batch: 18147

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	ND		0.500	0.539		mg/L		108	70 - 130	4	20
Zinc	ND		500	509		ug/L		102	70 - 130	2	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-18168/1-A
Matrix: Water
Analysis Batch: 18322

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 18168

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.10	ug/L		04/07/12 07:59	04/07/12 15:41	1
Copper	0.639	J,DX	2.0	0.50	ug/L		04/07/12 07:59	04/07/12 15:41	1
Lead	0.697	J,DX	1.0	0.20	ug/L		04/07/12 07:59	04/07/12 15:41	1
Selenium	ND		2.0	0.50	ug/L		04/07/12 07:59	04/07/12 15:41	1

Lab Sample ID: LCS 440-18168/2-A
Matrix: Water
Analysis Batch: 18322

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 18168

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cadmium			80.0	80.3		ug/L		100	85 - 115		
Copper			80.0	81.1		ug/L		101	85 - 115		
Lead			80.0	79.1		ug/L		99	85 - 115		
Selenium			80.0	80.3		ug/L		100	85 - 115		

Lab Sample ID: 440-7684-1 MS
Matrix: Water
Analysis Batch: 18322

Client Sample ID: Outfall 019 Composite
Prep Type: Total Recoverable
Prep Batch: 18168

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cadmium	ND		80.0	79.6		ug/L		99	70 - 130		
Copper	0.72	J,DX MB	80.0	77.5		ug/L		96	70 - 130		
Lead	ND		80.0	75.4		ug/L		94	70 - 130		
Selenium	ND		80.0	79.6		ug/L		99	70 - 130		

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

Lab Sample ID: 440-7684-1 MSD — **Client Sample ID: Outfall 019 Composite**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 18322 — **Prep Batch: 18168**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	81.5		ug/L		102	70 - 130	2	20
Copper	0.72	J,DX MB	80.0	77.0		ug/L		95	70 - 130	1	20
Lead	ND		80.0	75.7		ug/L		95	70 - 130	0	20
Selenium	ND		80.0	78.3		ug/L		98	70 - 130	2	20

Lab Sample ID: MB 440-18106/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 18322 — **Prep Batch: 18146**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.10	ug/L		04/07/12 06:49	04/07/12 15:23	1
Copper	ND		2.0	0.50	ug/L		04/07/12 06:49	04/07/12 15:23	1
Lead	ND		1.0	0.20	ug/L		04/07/12 06:49	04/07/12 15:23	1
Selenium	ND		2.0	0.50	ug/L		04/07/12 06:49	04/07/12 15:23	1

Lab Sample ID: LCS 440-18106/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 18322 — **Prep Batch: 18146**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	79.8		ug/L		100	85 - 115
Copper	80.0	83.0		ug/L		104	85 - 115
Lead	80.0	77.4		ug/L		97	85 - 115
Selenium	80.0	80.9		ug/L		101	85 - 115

Lab Sample ID: 440-7663-A-2-D MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 18322 — **Prep Batch: 18146**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	81.2		ug/L		101	70 - 130
Copper	2.9		80.0	80.2		ug/L		97	70 - 130
Lead	ND		80.0	78.6		ug/L		98	70 - 130
Selenium	ND		80.0	81.2		ug/L		101	70 - 130

Lab Sample ID: 440-7663-A-2-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 18322 — **Prep Batch: 18146**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	80.0		ug/L		100	70 - 130	1	20
Copper	2.9		80.0	79.8		ug/L		96	70 - 130	1	20
Lead	ND		80.0	78.0		ug/L		97	70 - 130	1	20
Selenium	ND		80.0	79.3		ug/L		99	70 - 130	2	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-19154/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19570 — **Prep Batch: 19154**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	IB	0.20	0.10	ug/L		04/11/12 19:11	04/13/12 02:19	1

Lab Sample ID: LCS 440-19154/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19570 — **Prep Batch: 19154**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	8.00	9.10	IB	ug/L		114	85 - 115

Lab Sample ID: 440-7790-H-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19570 — **Prep Batch: 19154**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND	IB	8.00	9.43	IB	ug/L		118	70 - 130

Lab Sample ID: 440-7790-H-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19570 — **Prep Batch: 19154**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND	IB	8.00	9.45	IB	ug/L		118	70 - 130	0	20

Lab Sample ID: MB 440-19452/1-C — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 19759 — **Prep Batch: 19467**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		04/12/12 20:37	04/13/12 22:50	1

Lab Sample ID: LCS 440-19452/2-C — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 19759 — **Prep Batch: 19467**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	8.00	8.18		ug/L		102	85 - 115

Lab Sample ID: 440-8277-M-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 19759 — **Prep Batch: 19467**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		8.00	7.13		ug/L		89	70 - 130

Lab Sample ID: 440-8277-M-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 19759 — **Prep Batch: 19467**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		8.00	7.17		ug/L		90	70 - 130	1	20

Method: 120.1 - Conductivity, Specific Conductance

Lab Sample ID: MB 440-18376/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 18376

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			04/09/12 10:08	1

Lab Sample ID: LCS 440-18376/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 18376

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	501	543		umhos/cm		108	90 - 110

Lab Sample ID: 440-7559-1 DU — **Client Sample ID: Outfall 019 Grab**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 18376

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	1100		1080		umhos/cm		0.2	5

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 440-19264/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19269 — **Prep Batch: 19264**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		5.0	1.4	mg/L		04/12/12 09:08	04/12/12 09:24	1

Lab Sample ID: LCS 440-19264/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19269 — **Prep Batch: 19264**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	20.0	18.7		mg/L		93	78 - 114

Lab Sample ID: LCSD 440-19264/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19269 — **Prep Batch: 19264**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM	20.0	18.3		mg/L		92	78 - 114	2	11

Lab Sample ID: 440-7850-A-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19269 — **Prep Batch: 19264**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	ND		20.7	18.7		mg/L		90	78 - 114

Method: 1664A - HEM and SGT-HEM (Continued)

Lab Sample ID: 440-7850-A-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19269 — **Prep Batch: 19264**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM	ND		21.1	18.3		mg/L		87	78 - 114	2	18

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 440-17960/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 17960

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	ND		0.10	0.040	NTU			04/06/12 09:54	1

Lab Sample ID: MRL 440-17960/4 MRL — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 17960

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Turbidity	1.00	1.05		NTU		105	

Lab Sample ID: 440-7586-A-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 17960

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Turbidity	ND		ND		NTU		NC	20

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

Lab Sample ID: MB 440-17950/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 17950

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	10	mg/L			04/06/12 09:13	1

Lab Sample ID: LCS 440-17950/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 17950

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	1010		mg/L		101	90 - 110

Lab Sample ID: 440-7547-C-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 17950

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	990		1010		mg/L		1	10

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

Lab Sample ID: MB 440-18107/1
Matrix: Water
Analysis Batch: 18107

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		10	10	mg/L			04/06/12 20:25	1

Lab Sample ID: LCS 440-18107/2
Matrix: Water
Analysis Batch: 18107

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	1000	993		mg/L		99	85 - 115

Lab Sample ID: 440-7532-A-2 DU
Matrix: Water
Analysis Batch: 18107

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	21		21.0		mg/L		0	10

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

Lab Sample ID: MB 440-20314/1-A
Matrix: Water
Analysis Batch: 20530

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20314

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	3.0	ug/L		04/17/12 17:12	04/18/12 14:57	1

Lab Sample ID: LCS 440-20314/2-A
Matrix: Water
Analysis Batch: 20530

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20314

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	100	98.0		ug/L		98	90 - 110

Lab Sample ID: 440-7684-1 MS
Matrix: Water
Analysis Batch: 20530

Client Sample ID: Outfall 019 Composite
Prep Type: Total/NA
Prep Batch: 20314

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	ND		100	99.3		ug/L		99	70 - 115

Lab Sample ID: 440-7684-1 MSD
Matrix: Water
Analysis Batch: 20530

Client Sample ID: Outfall 019 Composite
Prep Type: Total/NA
Prep Batch: 20314

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		100	95.3		ug/L		95	70 - 115	4	15

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 440-20896/10
Matrix: Water
Analysis Batch: 20896

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.020	mg/L			04/20/12 05:27	1

Lab Sample ID: LCS 440-20896/9
Matrix: Water
Analysis Batch: 20896

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			1.00	1.00		mg/L		100	90 - 110		

Lab Sample ID: 440-7684-1 MS
Matrix: Water
Analysis Batch: 20896

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.19		1.00	1.15		mg/L		97	80 - 120		

Lab Sample ID: 440-7684-1 MSD
Matrix: Water
Analysis Batch: 20896

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.19		1.00	1.17		mg/L		98	80 - 120	1.18	20

Method: SM 4500 NH3 C - Ammonia

Lab Sample ID: MB 440-18541/1-A
Matrix: Water
Analysis Batch: 19087

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18541

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.400	0.157	mg/L		04/09/12 20:53	04/09/12 21:30	1

Lab Sample ID: LCS 440-18541/2-A
Matrix: Water
Analysis Batch: 19087

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18541

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia (as N)			10.0	9.520		mg/L		95	85 - 115		

Lab Sample ID: 720-41221-G-1-B MS
Matrix: Water
Analysis Batch: 19087

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 18541

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia (as N)	0.280	J,DX	10.0	10.08		mg/L		98	70 - 120		

Method: SM 4500 NH3 C - Ammonia (Continued)

Lab Sample ID: 720-41221-G-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19087 — **Prep Batch: 18541**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.280	J,DX	10.0	10.08		mg/L		98	70 - 120	0	15

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

Lab Sample ID: MB 440-18689/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 18689

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.75	mg/L			04/10/12 06:53	1

Lab Sample ID: LCS 440-18689/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 18689

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	10.0	10.0		mg/L		100	90 - 110

Lab Sample ID: 440-7354-G-2 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 18689

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	5.1		5.00	11.3	AY	mg/L		124	80 - 120

Lab Sample ID: 440-7354-G-2 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 18689

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	5.1		5.00	11.6	LM	mg/L		130	80 - 120	2	20

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

Lab Sample ID: MB 440-18105/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 18105

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Blue Active Substances	ND		0.10	0.050	mg/L			04/06/12 19:58	1

Lab Sample ID: LCS 440-18105/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 18105

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Blue Active Substances	0.250	0.238		mg/L		95	90 - 110

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

Lab Sample ID: 440-7684-1 MS
Matrix: Water
Analysis Batch: 18105

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Blue Active Substances	ND		0.250	0.263		mg/L		105	50 - 125

Lab Sample ID: 440-7684-1 MSD
Matrix: Water
Analysis Batch: 18105

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methylene Blue Active Substances	ND		0.250	0.305		mg/L		122	50 - 125	15	20

Method: SM5210B - BOD, 5 Day

Lab Sample ID: USB 440-17982/1 USB
Matrix: Water
Analysis Batch: 17982

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	0.50	mg/L			04/06/12 11:31	1

Lab Sample ID: LCS 440-17982/4
Matrix: Water
Analysis Batch: 17982

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Biochemical Oxygen Demand	199	186		mg/L		94	85 - 115

Lab Sample ID: LCSD 440-17982/5
Matrix: Water
Analysis Batch: 17982

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Biochemical Oxygen Demand	199	194		mg/L		97	85 - 115	4	20

Method: Gross Alpha and Beta - Gross Alpha/Beta

Lab Sample ID: S204034-04
Matrix: WATER
Analysis Batch: 8605

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 8605_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cesium-137	-1.01	U	20		pCi/L		04/11/12 00:00	04/12/12 00:00	1
Potassium-40	-11.1	U	25		pCi/L		04/11/12 00:00	04/12/12 00:00	1

Lab Sample ID: S204034-04
Matrix: WATER
Analysis Batch: 8605

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 8605_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tritium	-2.29	U	500		pCi/L		04/13/12 00:00	04/14/12 16:09	1

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

Lab Sample ID: S204034-04 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8605 — **Prep Batch: 8605_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Strontium-90	0.04	U	2		pCi/L		04/16/12 00:00	04/16/12 07:52	1

Lab Sample ID: S204034-04 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8605 — **Prep Batch: 8605_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gross Alpha	0.021	U	3		pCi/L		04/12/12 00:00	04/17/12 15:49	1
Gross Beta	-0.385	U	4		pCi/L		04/12/12 00:00	04/17/12 15:49	1

Lab Sample ID: S204034-04 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8605 — **Prep Batch: 8605_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-226	0.127	U	1		pCi/L		04/18/12 00:00	04/18/12 13:08	1

Lab Sample ID: S204034-04 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8605 — **Prep Batch: 8605_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-228	-0.258	U	1		pCi/L		04/18/12 00:00	04/18/12 18:59	1

Lab Sample ID: S204034-04 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8605 — **Prep Batch: 8605_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium, Total	0	U	1		pCi/L		04/20/12 00:00	04/20/12 09:36	1

Lab Sample ID: S204034-03 — **Client Sample ID: Lab Control Sample**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8605 — **Prep Batch: 8605_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tritium	367	348	J	pCi/L		95	80 - 120

Lab Sample ID: S204034-03 — **Client Sample ID: Lab Control Sample**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8605 — **Prep Batch: 8605_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cesium-137	122	133		pCi/L		109	80 - 120
Cobalt-60	108	110		pCi/L		102	80 - 120

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

Lab Sample ID: S204034-03 — **Client Sample ID: Lab Control Sample**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8605 — **Prep Batch: 8605_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Strontium-90	8.5	7.54		pCi/L		89	80 - 120

Lab Sample ID: S204034-03 — **Client Sample ID: Lab Control Sample**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8605 — **Prep Batch: 8605_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gross Alpha	33.7	39		pCi/L		116	70 - 130
Gross Beta	28.3	26.5		pCi/L		94	70 - 130

Lab Sample ID: S204034-03 — **Client Sample ID: Lab Control Sample**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8605 — **Prep Batch: 8605_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Radium-226	55.7	58.1		pCi/L		104	80 - 120

Lab Sample ID: S204034-03 — **Client Sample ID: Lab Control Sample**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8605 — **Prep Batch: 8605_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Radium-228	4.43	4.52		pCi/L		102	60 - 140

Lab Sample ID: S204034-03 — **Client Sample ID: Lab Control Sample**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8605 — **Prep Batch: 8605_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Uranium, Total	56.5	57		pCi/L		101	80 - 120

Lab Sample ID: S204034-05 — **Client Sample ID: OUTFALL 019 (440-7684-1) DU**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8605 — **Prep Batch: 8605_P**

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Cesium-137	0.346	U	-1.64	U	pCi/L		0	
Potassium-40	-2.13	U	16.4	U	pCi/L		0	

Lab Sample ID: S204034-05 — **Client Sample ID: OUTFALL 019 (440-7684-1) DU**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8605 — **Prep Batch: 8605_P**

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Tritium	61.3	U	57.5	U	pCi/L		0	

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

Lab Sample ID: S204034-05 — **Client Sample ID: OUTFALL 019 (440-7684-1) DU**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8605 — **Prep Batch: 8605_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Strontium-90	0.04	U		0.012	U	pCi/L				0	

Lab Sample ID: S204034-05 — **Client Sample ID: OUTFALL 019 (440-7684-1) DU**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8605 — **Prep Batch: 8605_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Gross Alpha	-0.11	U		0.245	U	pCi/L				0	
Gross Beta	1.44	U		1.96	J	pCi/L				31	

Lab Sample ID: S204034-05 — **Client Sample ID: OUTFALL 019 (440-7684-1) DU**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8605 — **Prep Batch: 8605_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Radium-226	0.036	U		-0.189	U	pCi/L				0	

Lab Sample ID: S204034-05 — **Client Sample ID: OUTFALL 019 (440-7684-1) DU**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8605 — **Prep Batch: 8605_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Radium-228	-0.044	U		-0.051	U	pCi/L				0	

Lab Sample ID: S204034-05 — **Client Sample ID: OUTFALL 019 (440-7684-1) DU**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8605 — **Prep Batch: 8605_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Uranium, Total	0.091	J		0.093	J	pCi/L				2	

QC Association Summary

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

TestAmerica Job ID: 440-7559-1

GC/MS VOA

Analysis Batch: 18330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-6724-A-3 MS	Matrix Spike	Total/NA	Water	624	
440-6724-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	624	
440-7559-1	Outfall 019 Grab	Total/NA	Water	624	
440-7559-2	Trip Blank	Total/NA	Water	624	
LCS 440-18330/5	Lab Control Sample	Total/NA	Water	624	
MB 440-18330/7	Method Blank	Total/NA	Water	624	

GC/MS Semi VOA

Prep Batch: 18185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Total/NA	Water	625	
LCS 440-18185/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 440-18185/3-A	Lab Control Sample Dup	Total/NA	Water	625	
MB 440-18185/1-A	Method Blank	Total/NA	Water	625	

Analysis Batch: 18525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Total/NA	Water	625	18185
LCS 440-18185/2-A	Lab Control Sample	Total/NA	Water	625	18185
LCSD 440-18185/3-A	Lab Control Sample Dup	Total/NA	Water	625	18185
MB 440-18185/1-A	Method Blank	Total/NA	Water	625	18185

GC Semi VOA

Prep Batch: 18417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Total/NA	Water	608	
LCS 440-18417/2-A	Lab Control Sample	Total/NA	Water	608	
LCSD 440-18417/3-A	Lab Control Sample Dup	Total/NA	Water	608	
MB 440-18417/1-A	Method Blank	Total/NA	Water	608	

Analysis Batch: 18698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Total/NA	Water	608 Pesticides	18417
LCS 440-18417/2-A	Lab Control Sample	Total/NA	Water	608 Pesticides	18417
LCSD 440-18417/3-A	Lab Control Sample Dup	Total/NA	Water	608 Pesticides	18417
MB 440-18417/1-A	Method Blank	Total/NA	Water	608 Pesticides	18417

HPLC/IC

Analysis Batch: 17932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Total/NA	Water	300.0	
440-7684-1 MS	Outfall 019 Composite	Total/NA	Water	300.0	
440-7684-1 MSD	Outfall 019 Composite	Total/NA	Water	300.0	
LCS 440-17932/3	Lab Control Sample	Total/NA	Water	300.0	
MB 440-17932/2	Method Blank	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 17933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Total/NA	Water	300.0	
440-7684-1 MS	Outfall 019 Composite	Total/NA	Water	300.0	
440-7684-1 MSD	Outfall 019 Composite	Total/NA	Water	300.0	
LCS 440-17933/3	Lab Control Sample	Total/NA	Water	300.0	
MB 440-17933/2	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 18897

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Total/NA	Water	314.0	
440-7958-I-2 MS	Matrix Spike	Total/NA	Water	314.0	
440-7958-I-2 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	
LCS 440-18897/37	Lab Control Sample	Total/NA	Water	314.0	
MB 440-18897/38	Method Blank	Total/NA	Water	314.0	
MRL 440-18897/2 MRL	Lab Control Sample	Total/NA	Water	314.0	

Specialty Organics

Analysis Batch: 2103056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Total	Water	1613B	
G2D120000056B	Method Blank	Total	Water	1613B	
G2D120000056C	Lab Control Sample	Total	Water	1613B	

Prep Batch: 2103056_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Total	Water	3542	
G2D120000056B	Method Blank	Total	Water	3542	
G2D120000056C	Lab Control Sample	Total	Water	3542	

Metals

Prep Batch: 18146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7663-A-2-D MS	Matrix Spike	Dissolved	Water	200.2	
440-7663-A-2-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	
440-7684-1	Outfall 019 Composite	Dissolved	Water	200.2	
LCS 440-18106/2-B	Lab Control Sample	Dissolved	Water	200.2	
MB 440-18106/1-B	Method Blank	Dissolved	Water	200.2	

Prep Batch: 18147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Dissolved	Water	200.2	
440-7684-1 MS	Outfall 019 Composite	Dissolved	Water	200.2	
440-7684-1 MSD	Outfall 019 Composite	Dissolved	Water	200.2	
LCS 440-18106/2-C	Lab Control Sample	Dissolved	Water	200.2	
MB 440-18106/1-C	Method Blank	Dissolved	Water	200.2	

Prep Batch: 18166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Total Recoverable	Water	200.2	
440-7684-1 MS	Outfall 019 Composite	Total Recoverable	Water	200.2	
440-7684-1 MSD	Outfall 019 Composite	Total Recoverable	Water	200.2	

Metals (Continued)

Prep Batch: 18166 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-18166/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
MB 440-18166/1-A	Method Blank	Total Recoverable	Water	200.2	

Prep Batch: 18168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Total Recoverable	Water	200.2	
440-7684-1 MS	Outfall 019 Composite	Total Recoverable	Water	200.2	
440-7684-1 MSD	Outfall 019 Composite	Total Recoverable	Water	200.2	
LCS 440-18168/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
MB 440-18168/1-A	Method Blank	Total Recoverable	Water	200.2	

Analysis Batch: 18211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Total Recoverable	Water	200.7 Rev 4.4	18166
440-7684-1 MS	Outfall 019 Composite	Total Recoverable	Water	200.7 Rev 4.4	18166
440-7684-1 MSD	Outfall 019 Composite	Total Recoverable	Water	200.7 Rev 4.4	18166
LCS 440-18166/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	18166
MB 440-18166/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	18166

Analysis Batch: 18213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Dissolved	Water	200.7 Rev 4.4	18147
440-7684-1 MS	Outfall 019 Composite	Dissolved	Water	200.7 Rev 4.4	18147
440-7684-1 MSD	Outfall 019 Composite	Dissolved	Water	200.7 Rev 4.4	18147
LCS 440-18106/2-C	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	18147
MB 440-18106/1-C	Method Blank	Dissolved	Water	200.7 Rev 4.4	18147

Analysis Batch: 18322

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7663-A-2-D MS	Matrix Spike	Dissolved	Water	200.8	18146
440-7663-A-2-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	18146
440-7684-1	Outfall 019 Composite	Dissolved	Water	200.8	18146
440-7684-1	Outfall 019 Composite	Total Recoverable	Water	200.8	18168
440-7684-1 MS	Outfall 019 Composite	Total Recoverable	Water	200.8	18168
440-7684-1 MSD	Outfall 019 Composite	Total Recoverable	Water	200.8	18168
LCS 440-18106/2-B	Lab Control Sample	Dissolved	Water	200.8	18146
LCS 440-18168/2-A	Lab Control Sample	Total Recoverable	Water	200.8	18168
MB 440-18106/1-B	Method Blank	Dissolved	Water	200.8	18146
MB 440-18168/1-A	Method Blank	Total Recoverable	Water	200.8	18168

Prep Batch: 19154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Total/NA	Water	245.1	
440-7790-H-1-B MS	Matrix Spike	Total/NA	Water	245.1	
440-7790-H-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	
LCS 440-19154/2-A	Lab Control Sample	Total/NA	Water	245.1	
MB 440-19154/1-A	Method Blank	Total/NA	Water	245.1	

Prep Batch: 19467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Dissolved	Water	245.1	
440-8277-M-1-C MS	Matrix Spike	Dissolved	Water	245.1	

Metals (Continued)

Prep Batch: 19467 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8277-M-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	
LCS 440-19452/2-C	Lab Control Sample	Dissolved	Water	245.1	
MB 440-19452/1-C	Method Blank	Dissolved	Water	245.1	

Analysis Batch: 19570

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Total/NA	Water	245.1	19154
440-7790-H-1-B MS	Matrix Spike	Total/NA	Water	245.1	19154
440-7790-H-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	19154
LCS 440-19154/2-A	Lab Control Sample	Total/NA	Water	245.1	19154
MB 440-19154/1-A	Method Blank	Total/NA	Water	245.1	19154

Analysis Batch: 19759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Dissolved	Water	245.1	19467
440-8277-M-1-C MS	Matrix Spike	Dissolved	Water	245.1	19467
440-8277-M-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	19467
LCS 440-19452/2-C	Lab Control Sample	Dissolved	Water	245.1	19467
MB 440-19452/1-C	Method Blank	Dissolved	Water	245.1	19467

General Chemistry

Analysis Batch: 17635

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7559-1	Outfall 019 Grab	Total/NA	Water	SM 2540F	

Analysis Batch: 17950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7547-C-1 DU	Duplicate	Total/NA	Water	SM 2540C	
440-7684-1	Outfall 019 Composite	Total/NA	Water	SM 2540C	
LCS 440-17950/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 440-17950/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 17960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7586-A-3 DU	Duplicate	Total/NA	Water	180.1	
440-7684-1	Outfall 019 Composite	Total/NA	Water	180.1	
MB 440-17960/6	Method Blank	Total/NA	Water	180.1	
MRL 440-17960/4 MRL	Lab Control Sample	Total/NA	Water	180.1	

Analysis Batch: 17982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Total/NA	Water	SM5210B	
LCS 440-17982/4	Lab Control Sample	Total/NA	Water	SM5210B	
LCSD 440-17982/5	Lab Control Sample Dup	Total/NA	Water	SM5210B	
USB 440-17982/1 USB	Method Blank	Total/NA	Water	SM5210B	

Analysis Batch: 18105

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Total/NA	Water	SM 5540C	
440-7684-1 MS	Outfall 019 Composite	Total/NA	Water	SM 5540C	
440-7684-1 MSD	Outfall 019 Composite	Total/NA	Water	SM 5540C	

General Chemistry (Continued)

Analysis Batch: 18105 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-18105/4	Lab Control Sample	Total/NA	Water	SM 5540C	
MB 440-18105/3	Method Blank	Total/NA	Water	SM 5540C	

Analysis Batch: 18107

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7532-A-2 DU	Duplicate	Total/NA	Water	SM 2540D	
440-7684-1	Outfall 019 Composite	Total/NA	Water	SM 2540D	
LCS 440-18107/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 440-18107/1	Method Blank	Total/NA	Water	SM 2540D	

Analysis Batch: 18376

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7559-1	Outfall 019 Grab	Total/NA	Water	120.1	
440-7559-1 DU	Outfall 019 Grab	Total/NA	Water	120.1	
LCS 440-18376/2	Lab Control Sample	Total/NA	Water	120.1	
MB 440-18376/1	Method Blank	Total/NA	Water	120.1	

Prep Batch: 18541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Total/NA	Water	SM 4500 NH3 B	
720-41221-G-1-B MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 B	
720-41221-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 B	
LCS 440-18541/2-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 B	
MB 440-18541/1-A	Method Blank	Total/NA	Water	SM 4500 NH3 B	

Analysis Batch: 18689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7354-G-2 MS	Matrix Spike	Total/NA	Water	SM 5310B	
440-7354-G-2 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	
440-7684-1	Outfall 019 Composite	Total/NA	Water	SM 5310B	
LCS 440-18689/5	Lab Control Sample	Total/NA	Water	SM 5310B	
MB 440-18689/4	Method Blank	Total/NA	Water	SM 5310B	

Analysis Batch: 19087

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Total/NA	Water	SM 4500 NH3 C	18541
720-41221-G-1-B MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 C	18541
720-41221-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 C	18541
LCS 440-18541/2-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 C	18541
MB 440-18541/1-A	Method Blank	Total/NA	Water	SM 4500 NH3 C	18541

Prep Batch: 19264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7559-1	Outfall 019 Grab	Total/NA	Water	1664A	
440-7850-A-1-A MS	Matrix Spike	Total/NA	Water	1664A	
440-7850-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	1664A	
LCS 440-19264/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 440-19264/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	
MB 440-19264/1-A	Method Blank	Total/NA	Water	1664A	

General Chemistry (Continued)

Analysis Batch: 19269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7559-1	Outfall 019 Grab	Total/NA	Water	1664A	19264
440-7850-A-1-A MS	Matrix Spike	Total/NA	Water	1664A	19264
440-7850-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	1664A	19264
LCS 440-19264/2-A	Lab Control Sample	Total/NA	Water	1664A	19264
LCSD 440-19264/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	19264
MB 440-19264/1-A	Method Blank	Total/NA	Water	1664A	19264

Prep Batch: 20314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Total/NA	Water	Distill/CN	
440-7684-1 MS	Outfall 019 Composite	Total/NA	Water	Distill/CN	
440-7684-1 MSD	Outfall 019 Composite	Total/NA	Water	Distill/CN	
LCS 440-20314/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
MB 440-20314/1-A	Method Blank	Total/NA	Water	Distill/CN	

Analysis Batch: 20530

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Total/NA	Water	SM 4500 CN E	20314
440-7684-1 MS	Outfall 019 Composite	Total/NA	Water	SM 4500 CN E	20314
440-7684-1 MSD	Outfall 019 Composite	Total/NA	Water	SM 4500 CN E	20314
LCS 440-20314/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	20314
MB 440-20314/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	20314

Analysis Batch: 20896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Total/NA	Water	SM 4500 F C	
440-7684-1 MS	Outfall 019 Composite	Total/NA	Water	SM 4500 F C	
440-7684-1 MSD	Outfall 019 Composite	Total/NA	Water	SM 4500 F C	
LCS 440-20896/9	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 440-20896/10	Method Blank	Total/NA	Water	SM 4500 F C	

Subcontract

Analysis Batch: 8605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Total/NA	Water	Gamma Spec	8605_P
440-7684-1	Outfall 019 Composite	Total/NA	Water	K-40 CS-137 Gross Alpha and Beta	8605_P
440-7684-1	Outfall 019 Composite	Total/NA	Water	Radium 226	8605_P
440-7684-1	Outfall 019 Composite	Total/NA	Water	Radium 228	8605_P
440-7684-1	Outfall 019 Composite	Total/NA	Water	Strontium 90	8605_P
440-7684-1	Outfall 019 Composite	Total/NA	Water	Tritium	8605_P
440-7684-1	Outfall 019 Composite	Total/NA	Water	Uranium, Combined	8605_P
440-7684-3	Trip Blank Eberline	Total/NA	Water	Gamma Spec	8605_P
440-7684-3	Trip Blank Eberline	Total/NA	Water	K-40 CS-137 Gross Alpha and Beta	8605_P
440-7684-3	Trip Blank Eberline	Total/NA	Water	Radium 226	8605_P
440-7684-3	Trip Blank Eberline	Total/NA	Water	Radium 228	8605_P
440-7684-3	Trip Blank Eberline	Total/NA	Water	Strontium 90	8605_P

Subcontract (Continued)

Analysis Batch: 8605 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-3	Trip Blank Eberline	Total/NA	Water	Uranium, Combined	8605_P
S204034-03	Lab Control Sample	Total/NA	WATER	Gross Alpha and Beta	8605_P
S204034-04	Method Blank	Total/NA	WATER	Gross Alpha and Beta	8605_P
S204034-05	OUTFALL 019 (440-7684-1) DU	Total/NA	WATER	Gross Alpha and Beta	8605_P

Prep Batch: 8605_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7684-1	Outfall 019 Composite	Total/NA	Water	General Prep	
440-7684-3	Trip Blank Eberline	Total/NA	Water	General Prep	
S204034-03	Lab Control Sample	Total/NA	WATER	General Prep	
S204034-04	Method Blank	Total/NA	WATER	General Prep	
S204034-05	OUTFALL 019 (440-7684-1) DU	Total/NA	WATER	General Prep	

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

DIOXIN

Qualifier	Qualifier Description
J	Estimated result. Result is less than the reporting limit.
Q	Estimated maximum possible concentration (EMPC).
B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
a	Spiked analyte recovery is outside stated control limits.

Metals

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
IB	CCV recovery above limit; analyte not detected

General Chemistry

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

Subcontract

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: Boeing SSFL outfalls

TestAmerica Job ID: 440-7559-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Irvine	Arizona	State Program	9	AZ0671
TestAmerica Irvine	California	LA Cty Sanitation Districts	9	10256
TestAmerica Irvine	California	NELAC	9	1108CA
TestAmerica Irvine	California	State Program	9	2706
TestAmerica Irvine	Guam	State Program	9	Cert. No. 12.002r
TestAmerica Irvine	Hawaii	State Program	9	N/A
TestAmerica Irvine	Nevada	State Program	9	CA015312007A
TestAmerica Irvine	New Mexico	State Program	6	N/A
TestAmerica Irvine	Northern Mariana Islands	State Program	9	MP0002
TestAmerica Irvine	Oregon	NELAC	10	4005
TestAmerica Irvine	USDA	Federal		P330-09-00080
TestAmerica West Sacramento	A2LA	DoD ELAP		2928-01
TestAmerica West Sacramento	Alaska (UST)	State Program	10	UST-055
TestAmerica West Sacramento	Arizona	State Program	9	AZ0708
TestAmerica West Sacramento	Arkansas DEQ	State Program	6	88-0691
TestAmerica West Sacramento	California	NELAC	9	1119CA
TestAmerica West Sacramento	Colorado	State Program	8	N/A
TestAmerica West Sacramento	Connecticut	State Program	1	PH-0691
TestAmerica West Sacramento	Florida	NELAC	4	E87570
TestAmerica West Sacramento	Georgia	State Program	4	960
TestAmerica West Sacramento	Guam	State Program	9	N/A
TestAmerica West Sacramento	Hawaii	State Program	9	N/A
TestAmerica West Sacramento	Illinois	NELAC	5	200060
TestAmerica West Sacramento	Kansas	NELAC	7	E-10375
TestAmerica West Sacramento	Louisiana	NELAC	6	30612
TestAmerica West Sacramento	Michigan	State Program	5	9947
TestAmerica West Sacramento	Nevada	State Program	9	CA44
TestAmerica West Sacramento	New Jersey	NELAC	2	CA005
TestAmerica West Sacramento	New Mexico	State Program	6	N/A
TestAmerica West Sacramento	New York	NELAC	2	11666
TestAmerica West Sacramento	Northern Mariana Islands	State Program	9	MP0007
TestAmerica West Sacramento	Oregon	NELAC	10	CA200005
TestAmerica West Sacramento	Pennsylvania	NELAC	3	68-01272
TestAmerica West Sacramento	South Carolina	State Program	4	87014
TestAmerica West Sacramento	Texas	NELAC	6	T104704399-08-TX
TestAmerica West Sacramento	US Fish & Wildlife	Federal		LE148388-0
TestAmerica West Sacramento	USDA	Federal		P330-09-00055
TestAmerica West Sacramento	Utah	NELAC	8	QUAN1
TestAmerica West Sacramento	Virginia	State Program	3	178
TestAmerica West Sacramento	Washington	State Program	10	C581
TestAmerica West Sacramento	West Virginia	State Program	3	9930C
TestAmerica West Sacramento	West Virginia DEP	State Program	3	334
TestAmerica West Sacramento	Wisconsin	State Program	5	998204680
TestAmerica 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.

LABORATORY REPORT

Aquatic Testing Laboratories
"dedicated to providing quality aquatic toxicity testing"
4350 Transport Street, Unit 107
Ventura, CA 93003
(805) 650-0546 FAX (805) 650-0756
CA DOHS ELAP Cert. No.: 1775

Date: April 12, 2012

Client: TestAmerica, Irvine
17461 Derian Ave., Suite 100
Irvine, CA 92614
Attn: Debby Wilson

Laboratory No.: A-12040505-001
Job No.: 440-7684-1
Sample I.D.: Outfall 019 (440-7684-1)

Sample Control: The sample was received by ATL chilled, within the recommended hold time and with the chain of custody record attached. Testing conducted on only one sample per client instruction (rain runoff sample).

Date Sampled:	04/05/12
Date Received:	04/05/12
Temp. Received:	5.8°C
Chlorine (TRC):	0.0 mg/l
Date Tested:	04/05/12 to 04/11/12

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

Fathead Minnow 96hr Percent Survival Bioassay (EPA Method 2000.0).
Ceriodaphnia dubia Survival and Reproduction Test (EPA Method 1002).

Attached are the test data generated from the analysis of your sample. All testing was conducted under the direct supervision of Joseph A. LeMay. Daily test readings were taken by Joseph A. LeMay (initialed: JAL) and Jacob LeMay (initialed: J).

Result Summary:

Acute:	**Survival**	**TUa**
Fathead Minnow:	100%	0.0

Chronic:	**NOEC**	**TUc**
Ceriodaphnia Survival:	100%	1.0
Ceriodaphnia Reproduction:	100%	1.0

Quality Control: Reviewed and approved by:

Joseph A. LeMay
Laboratory Director

FATHEAD MINNOW PERCENT SURVIVAL TEST
EPA Method 2000.0

Aquatic Testing Laboratories

Lab No.: A-12040505-001
Client/ID: TestAmerica Outfall 019

Start Date: 04/05/2012

TEST SUMMARY

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

Source: In-laboratory Culture.
Test type: Static-Renewal.
Test Protocol: EPA-821-R-02-012.
Endpoints: Percent Survival at 96 hrs.
Test chamber: 600 ml beakers.
Temperature: 20 +/- 1°C.
Number of fish per chamber: 10.
QA/QC No.: RT-120403.

TEST DATA

		°C	DO	pH	# Dead A	# Dead B	Analyst & Time of Readings
INITIAL	Control	19.6	8.5	8.2	0	0	JR 1500
	100%	19.7	7.2	7.4	0	0	
24 Hr	Control	19.8	8.3	8.0	0	0	Z 1430
	100%	19.4	8.3	8.2	0	0	
48 Hr	Control	19.5	8.5	7.9	0	0	Z 1430
	100%	19.4	8.6	8.2	0	0	
Renewal	Control	19.6	8.7	8.0	0	0	Z 1430
	100%	19.6	9.0	7.8	0	0	
72 Hr	Control	19.5	8.4	8.0	0	0	Z 1430
	100%	19.4	7.7	8.4	0	0	
96 Hr	Control	19.4	8.4	8.0	0	0	JR 1500
	100%	19.3	8.2	8.3	0	0	

Comments:
Sample as received: Chlorine: 0.0 mg/l; pH: 7.4; Conductivity: 767 umho; Temp: 5.8°C;
DO: 7.2 mg/l; Alkalinity: 231 mg/l; Hardness: 316 mg/l; NH_3-N: 0.2 mg/l.
Sample aerated moderately (approx. 500 ml/min) to raise or lower DO? Yes / (No)
Control: Alkalinity: 67 mg/l; Hardness: 87 mg/l; Conductivity: 319 umho.
Test solution aerated (not to exceed 100 bubbles/min) to maintain DO >4.0 mg/l? Yes / (No.)
Sample used for renewal is the original sample kept at 0-6°C with minimal headspace.
Dissolved Oxygen (DO) readings in mg/l O_2.

RESULTS

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

Aquatic Testing Laboratories

CERIODAPHNIA SURVIVAL AND REPRODUCTION TEST

- *Test and Results Summary*
- *Data Summary and Statistical Analyses*
- *Raw Test Data: Water Quality & Test Organism Measurements*

CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0

Aquatic Testing Laboratories

Lab No.: A-12040505-001
Client/ID: TestAmerica - Outfall 019

Date Tested: 04/05/12 to 04/11/12

TEST SUMMARY

Test type: Daily static-renewal.
Species: *Ceriodaphnia dubia*.
Age: < 24 hrs; all released within 8 hrs.
Test vessel size: 30 ml.
Number of test organisms per vessel: 1.
Temperature: 25 +/- 1°C.
Dilution water: Mod. hard reconstituted (MHRW).
QA/QC Batch No.: RT-120403.

Endpoints: Survival and Reproduction.
Source: In-laboratory culture.
Food: .1 ml YTC, algae per day.
Test solution volume: 15 ml.
Number of replicates: 10.
Photoperiod: 16/8 hrs. light/dark cycle.
Test duration: 6 days.
Statistics: ToxCalc computer program.

RESULTS SUMMARY

Sample Concentration	Percent Survival	Mean Number of Young Per Female
Control	100%	23.8
100% Sample	100%	26.9
* Sample not statistically significantly less than Control.		

CHRONIC TOXICITY

Survival NOEC	100%
Survival TUc	1.0
Reproduction NOEC	100%
Reproduction TUc	1.0

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥80%	Pass (100% survival)
≥15 young per surviving control female	Pass (23.8 young)
≥60% surviving controls had 3 broods	Pass (80% with 3 broods)
PMSD <47% for reproduction; if >47% and no toxicity at IWC, the test must be repeated	Pass (PMSD = 16.2%)
Statistically significantly different concentrations relative difference >13%	Pass (no concentration significantly different)
Concentration response relationship acceptable	Pass (no significant response at concentration tested)

Ceriodaphnia Survival and Reproduction Test-Survival Day 6

Start Date:	4/5/2012 14:00	Test ID:	12040505c	Sample ID:	Outfall 019
End Date:	4/11/2012 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	SRW2-Industrial stormwater
Sample Date:	4/5/2012 09:45	Protocol:	FWCH-EPA-821-R-02-013	Test Species:	CD-Ceriodaphnia dubia
Comments:					

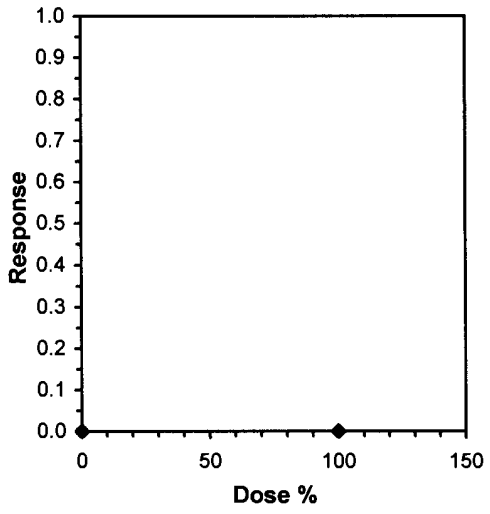
Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Conc-%	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Isotonic Mean	Isotonic N-Mean
D-Control	1.0000	1.0000	0	10	10	10			1.0000	1.0000
100	1.0000	1.0000	0	10	10	10	1.0000	0.0500	1.0000	1.0000

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	100	>100		1
Treatments vs D-Control				

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	4/5/2012 14:00	Test ID:	12040505c
End Date:	4/11/2012 14:00	Lab ID:	CAATL-Aquatic Testing Labs
Sample Date:	4/5/2012 09:45	Protocol:	FWCH-EPA-821-R-02-013
Comments:			

Sample ID:	Outfall 019		
Sample Type:	SRW2-Industrial stormwater		
Test Species:	CD-Ceriodaphnia dubia		

Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	24.000	23.000	26.000	26.000	23.000	14.000	28.000	30.000	29.000	15.000
100	15.000	25.000	28.000	28.000	30.000	30.000	29.000	27.000	28.000	29.000

			Transform: Untransformed					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
D-Control	23.800	1.0000	23.800	14.000	30.000	22.911	10			25.350	1.0000
100	26.900	1.1303	26.900	15.000	30.000	16.481	10	127.00	82.00	25.350	1.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.83018	0.905	-1.426	1.48728
F-Test indicates equal variances (p = 0.55)	1.51272	6.54109		

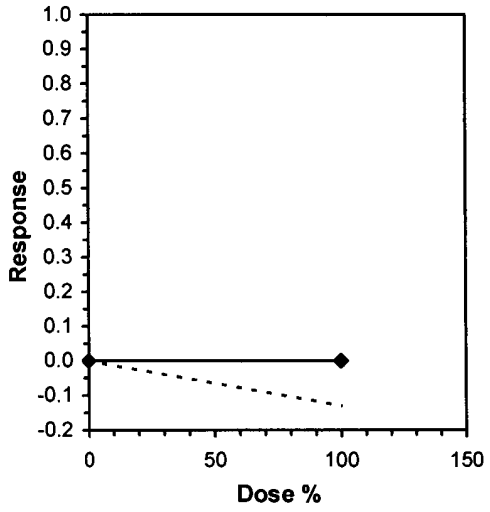
Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Treatments vs D-Control

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	4/5/2012 14:00	Test ID:	12040505c
End Date:	4/11/2012 14:00	Lab ID:	CAATL-Aquatic Testing Labs
Sample Date:	4/5/2012 09:45	Protocol:	FWCH-EPA-821-R-02-013
Comments:			

Sample ID:	Outfall 019		
Sample Type:	SRW2-Industrial stormwater		
Test Species:	CD-Ceriodaphnia dubia		

Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	24.000	23.000	26.000	26.000	23.000	14.000	28.000	30.000	29.000	15.000
100	15.000	25.000	28.000	28.000	30.000	30.000	29.000	27.000	28.000	29.000

			Transform: Untransformed						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
D-Control	23.800	1.0000	23.800	14.000	30.000	22.911	10			
100	26.900	1.1303	26.900	15.000	30.000	16.481	10	-1.395	1.730	3.845

Auxiliary Tests					Statistic		Critical		Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)					0.83018		0.905		-1.426	1.48728
F-Test indicates equal variances (p = 0.55)					1.51272		6.54109			
Hypothesis Test (1-tail, 0.05)	**NOEC**	**LOEC**	**ChV**	**TU**	**MSDu**	**MSDp**	**MSB**	**MSE**	**F-Prob**	**df**
Dunnett's Test Treatments vs D-Control	100	>100		1	3.84468	0.16154	48.05	24.6944	0.18002	1, 18

CERIODAPHNIA DUBIA CHRONIC BIOASSAY
EPA METHOD 1002.0 Raw Data Sheet

Aquatic Testing Laboratories

Lab No.: A-12040505-001
Client ID: TestAmerica - Outfall 019
Start Date: 04/05/2012

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr
Analyst Initials:														—	—
Time of Readings:		1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	—	—
Control	DO	7.9	8.1	8.3	8.0	8.3	8.0	8.7	8.0	8.2	7.9	8.2	7.9	—	—
	pH	8.1	8.2	7.8	8.2	7.8	8.1	8.0	8.0	8.0	8.3	8.2	8.1	—	—
	Temp	24.5	25.0	24.8	25.0	24.7	24.6	24.5	24.7	24.3	24.7	24.5	24.3	—	—
100%	DO	6.2	8.5	7.9	8.2	7.9	8.0	8.0	8.2	8.2	7.9	8.9	8.1	—	—
	pH	7.4	8.4	7.5	8.1	7.5	8.4	7.5	7.9	8.2	8.5	7.5	8.4	—	—
	Temp	24.8	24.7	24.7	25.0	24.8	24.7	24.1	24.7	24.0	24.3	24.7	24.2	—	—

Additional Parameters	Control	100% Sample
Conductivity (umohms)	319	768
Alkalinity (mg/l $CaCO_3$)	67	221
Hardness (mg/l $CaCO_3$)	87	318
Ammonia (mg/l NH_3-N)	<0.1	0.2

Source of Neonates

Replicate:	A	B	C	D	E	F	G	H	I	J
Brood ID:	3A	1D	2D	3B	1C	2C	3C	1D	3D	2E

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
Control	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	3	4	0	0	0	5	0	0	12	10	
	4	5	5	0	0	4	5	4	0	4	5	32	10	
	5	6	8	9	9	7	9	9	12	10	0	79	10	
	6	13	10	14	13	12	0	15	13	15	10	115	10	
	7	—	—	—	—	—	—	—	—	—	—	38	—	—
	Total	24	23	26	26	23	14	28	30	29	15	242	10	
100%	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	3	0	4	0	3	0	0	10	10	
	4	5	5	4	0	5	0	4	0	5	5	33	10	
	5	0	8	9	11	9	11	10	12	9	10	89	10	
	6	10	12	15	14	16	15	15	12	14	14	137	10	
	7	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	15	25	28	28	30	30	29	27	28	29	269	10	

Circled fourth brood not used in statistical analysis.
7th day only used if <60% of the surviving control females have produced their third brood.

Aquatic Testing Laboratories

CHAIN OF CUSTODY

Test America Version 7/19/2010

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson	Boeing-SSFL NPDES **Quarterly Outfall 019** **COMPOSITE**
Project Manager: Bronwyn Kelly Sampler: Rick Banagd	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Dissolved Metals: Cu, Pb, Hg, Cd, Se, Zn, Hardness as CaCO3	Total Organic Carbon	Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, CS-137 (901.0 or 901.1)	Acute Toxicity	Cyanide	Chronic Toxicity									Comments
ANALYSIS REQUIRED																					
Outfall 019	W	1L Poly	1	4-5-2012 09:45	None	16	X														Filter w/in 24hrs of receipt at lab
Outfall 019	W	250 mL Glass	1		HCl	17		X													
Outfall 019	W	2.5 Gal Cube	1		None	18A			X												Unfiltered and unpreserved analysis
		500 mL Amber	1		None	18B															
Outfall 019	W	1 Gal Cube	1		None	19				X											
Outfall 019	W	500 mL Poly	1		NaOH	20					X										
Outfall 019	W	1 Gal Poly	1	4-5-2012 09:45	None	21						X									Only test if first or second rain events of the year

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

Relinquished By	Date/Time:	Received By	Date/Time:
Rick Banagd	4-5-2012 12:00	Matt Cruz	4-5-12 12:00
Matt Cruz	4-5-12 13:05	[illegible]	4/5/12 13:05
[illegible]	4/5/12 2:10	[illegible] ATL	4-5-12 14:10

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

Sample Integrity: (Check)
Intact: ____ On Ice: ____

Data Requirements: (Check)
No Level IV: _ All Level IV: __ NPDES Level IV: X

TestAmerica Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Wilson, Debby	Carrier Tracking No(s):	COC No: 440-3563.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: debby.wilson@testamericainc.com		Page: Page 1 of 1
Company: Aquatic Testing Laboratories				Job #: 440-7684-1
Address: 4350 Transport #107, ,	Due Date Requested: 4/17/2012			
City: Ventura	TAT Requested (days):			
State, Zip: CA, 93003				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL outfalls	Project #: 44002624			
Site: Boeing SSFL	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT/ Chronic Ceriodaphnia, EPA/821-R02-013	SUBCONTRACT/ Acute FH minnow, EPA/821-R02-012	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Outfall 019 (440-7684-1)	4/5/12	09:45 Pacific		Water			X	X	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: TA-See attached	Date/Time:	Company	Received by: Date/Time: 4-5-12 1430 Company
Relinquished by:	Date/Time:	Company	Received by: Date/Time: Company
Relinquished by:	Date/Time:	Company	Received by: Date/Time: Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 5.8°

Page 55 of 119

5/15/2012

Aquatic Testing Laboratories

REFERENCE TOXICANT DATA

Aquatic Testing Laboratories

Fathead Minnow Acute Toxicity Test Reference Toxicant Data

FATHEAD MINNOW ACUTE
Reference Toxicant - SDS

Aquatic Testing Laboratories

QA/QC Batch No.: RT-120403

TEST SUMMARY

Species: *Pimephales promelas.*
Age: 14 days old.
Regulations: NPDES.
Test chamber volume: 250 ml.
Feeding: Prior to renewal at 48 hrs.
Temperature: 20 +/- 1°C.
Number of replicates: 2.
Dilution water: MHSF.

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

TEST DATA

	INITIAL			24 Hr					48 Hr				
Date/Time:	4-3-12 1130			4-4-12 1130					4-5-12 1130				
Analyst:	Z			Z					Z				
	°C	DO	pH	°C	DO	pH	# Dead A	# Dead B	°C	DO	pH	# Dead A	# Dead B
Control	20.1	8.4	8.0	19.8	8.2	7.9	0	0	19.7	8.2	7.9	0	0
1.0 mg/l	19.9	8.5	7.9	19.8	8.2	7.9	0	0	19.6	8.1	7.9	0	0
2.0 mg/l	19.8	8.6	8.0	19.8	8.1	7.9	0	0	19.7	7.9	7.9	0	0
4.0 mg/l	19.7	8.8	8.0	19.8	8.2	7.9	0	0	19.7	7.8	7.9	1	0
8.0 mg/l	19.7	8.7	8.0	19.8	8.1	7.8	10	10	-	-	-	-	-
16.0 mg/l	19.8	8.8	8.1	19.8	7.2	7.6	10	10	-	-	-	-	-

	RENEWAL			72 Hr					96 Hr				
Date/Time:	4-5-12 1130			4-6-12 1130					4-7-12 1130				
Analyst:	Z			Z					Z				
	°C	DO	pH	°C	DO	pH	# Dead A	# Dead B	°C	DO	pH	# Dead A	# Dead B
Control	19.2	6.5	8.2	19.6	7.5	8.0	0	0	19.5	7.6	7.8	0	0
1.0 mg/l	19.6	6.8	8.1	19.6	7.8	7.9	0	0	19.4	7.8	7.8	0	0
2.0 mg/l	19.7	6.9	8.0	19.5	8.0	8.0	0	0	19.4	7.9	7.8	0	0
4.0 mg/l	19.7	6.9	8.0	19.6	8.1	7.9	0	0	19.4	8.0	7.8	0	1
8.0 mg/l	-	-	-	-	-	-	-	-	-	-	-	-	-
16.0 mg/l	-	-	-	-	-	-	-	-	-	-	-	-	-

Comments: Control: Alkalinity: 68 mg/l; Hardness: 97 mg/l; Conductivity: 327 umho.
SDS: Alkalinity: 69 mg/l; Hardness: 93 mg/l; Conductivity: 331 umho.

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

Acute Fish Test-96 Hr Survival

Start Date:	4/3/2012 11:30	Test ID:	RT120403	Sample ID:	REF-Ref Toxicant
End Date:	4/7/2012 11:30	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	SDS-Sodium dodecyl sulfate
Sample Date:	4/3/2012	Protocol:	ACUTE-EPA-821-R-02-012	Test Species:	PP-Pimephales promelas
Comments:					

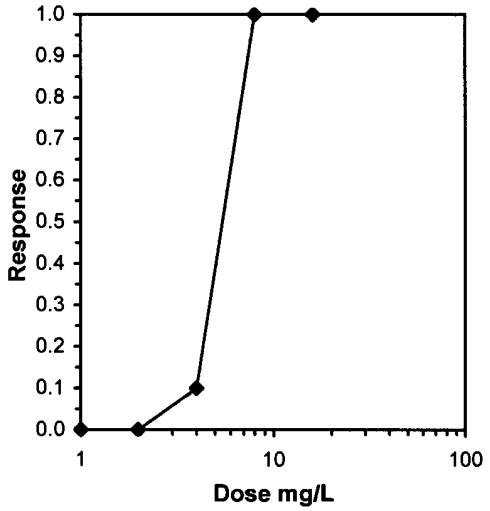
Conc-mg/L	1	2
D-Control	1.0000	1.0000
1	1.0000	1.0000
2	1.0000	1.0000
4	0.9000	0.9000
8	0.0000	0.0000
16	0.0000	0.0000

			Transform: Arcsin Square Root					Number	Total
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	Resp	Number
D-Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
1	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
2	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
4	0.9000	0.9000	1.2490	1.2490	1.2490	0.000	2	2	20
8	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
16	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

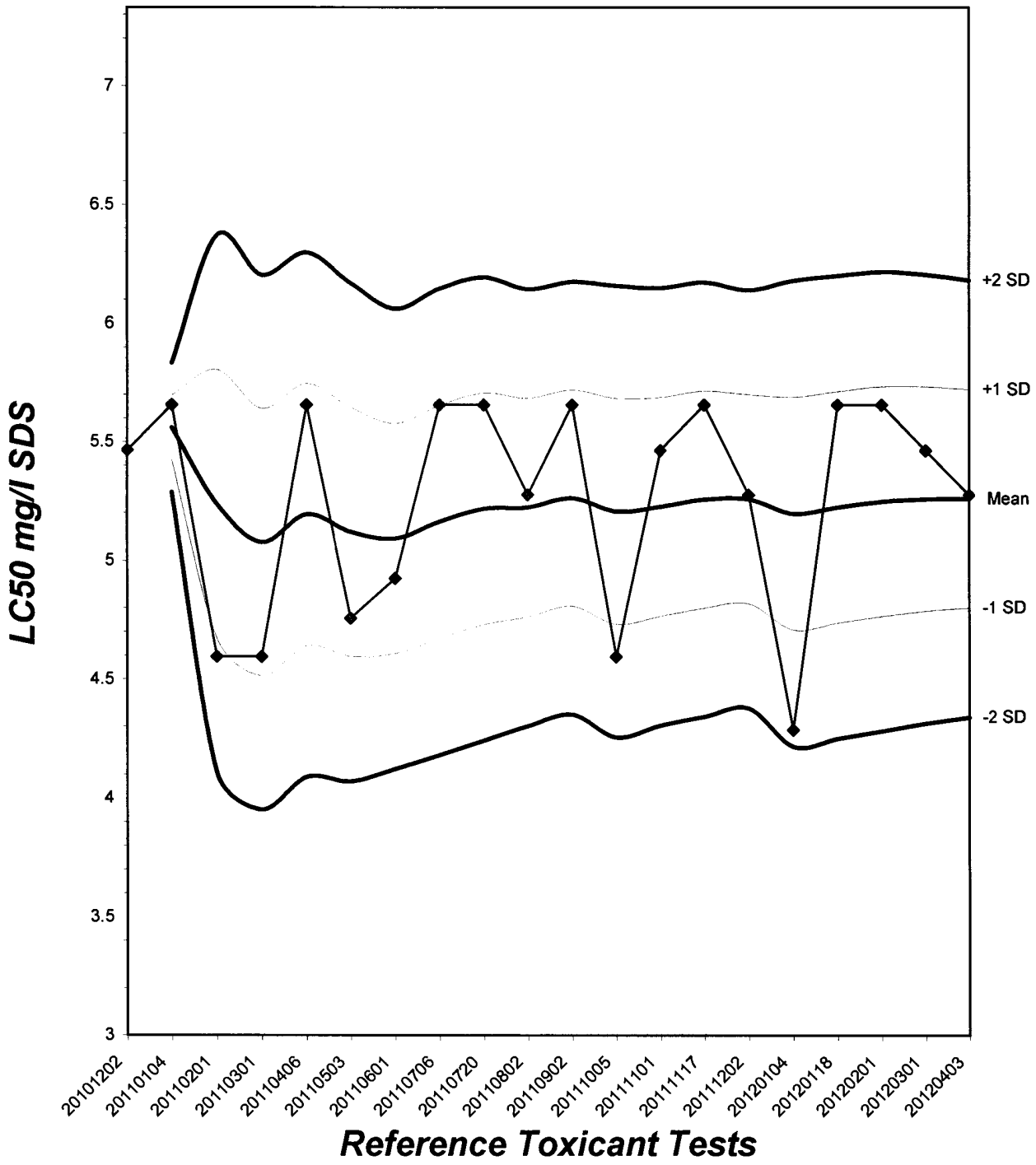
Trimmed Spearman-Karber

Trim Level	EC50	95% CL	
0.0%	5.2780	4.8093	5.7924
5.0%	5.3968	4.8053	6.0611
10.0%	5.4432	5.1395	5.7648
20.0%	5.4432	5.1395	5.7648
Auto-0.0%	5.2780	4.8093	5.7924



Fathead Minnow Acute Laboratory Control Chart

CV% = 8.75



TEST ORGANISM LOG

Aquatic Testing Laboratories

FATHEAD MINNOW - LARVAL
(Pimephales promelas)

QA/QC BATCH NO.: RT 12043

SOURCE: In-Lab Culture

DATE HATCHED: 3-20-12

APPROXIMATE QUANTITY: 4w

GENERAL APPEARANCE: Good

 # MORTALITIES 48 HOURS PRIOR TO TO USE IN TESTING: 0

DATE USED IN LAB: 4/3/12

AVERAGE FISH WEIGHT: 0.006 gm

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

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

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

200 ml test solution volume = 0.013 gm mean fish weight limit @ 20°C; 0.008 @ 25°C
250 ml test solution volume = 0.016 gm mean fish weight limit @ 20°C; 0.010 @ 25°C

ACCLIMATION WATER QUALITY:

Temp.: 20.1 °C **pH:** 8.0 **Ammonia:** <0.1 mg/l NH_3-N

DO: 8.4 mg/l **Alkalinity:** 68 mg/l **Hardness:** 93 mg/l

READINGS RECORDED BY: [signature] **DATE:** 4-4-12

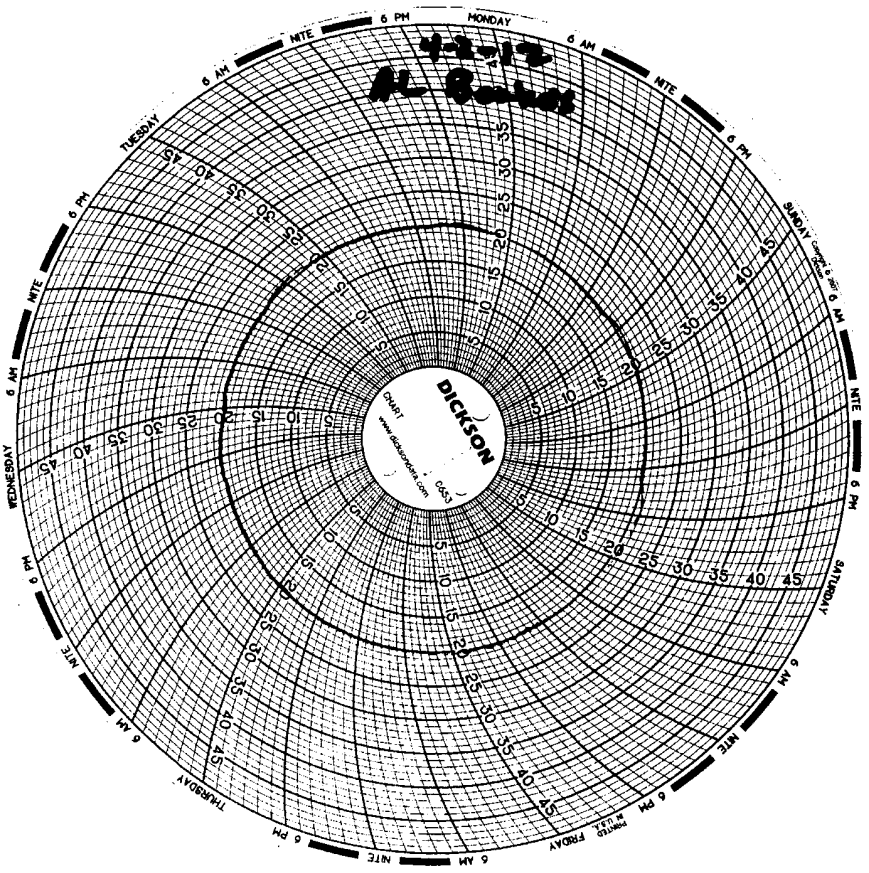
Aquatic Testing Laboratories

Test Temperature Chart

Test No: RT-120403

Date Tested: 04/03/12 to 04/07/06

Acceptable Range: 20+/- 1°C



Aquatic Testing Laboratories

CERIODAPHNIA SURVIVAL AND REPRODUCTION TEST

- *Test and Results Summary*
- *Data Summary and Statistical Analyses*
- *Raw Test Data: Water Quality & Test Organism Measurements*

CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0
REFERENCE TOXICANT - NaCl

Aquatic Testing Laboratories

QA/QC Batch No.: RT-120403

Date Tested: 04/03/12 to 04/09/12

TEST SUMMARY

Test type: Daily static-renewal.
Species: *Ceriodaphnia dubia*.
Age: <24 hrs; all released within 8 hrs.
Test vessel size: 30 ml.
Number of test organisms per vessel: 1.
Temperature: 25 +/- 1°C.
Dilution water: Mod. hard reconstituted (MHRW).
Reference Toxicant: Sodium chloride (NaCl).

Endpoints: Survival and Reproduction.
Source: In-laboratory culture.
Food: .1 ml YTC, algae per day.
Test solution volume: 20 ml.
Number of replicates: 10.
Photoperiod: 16/8 hrs. light/dark cycle.
Test duration: 6 days.
Statistics: ToxCalc computer program.

RESULTS SUMMARY

Sample Concentration	Percent Survival		Mean Number of Young Per Female	
Control	100%		23.5	
0.25 g/l	100%		24.3	
0.5 g/l	100%		21.4	
1.0 g/l	100%		16.0	*
2.0 g/l	60%	*	1.4	**
4.0 g/l	0%	*	0	**

* Statistically significantly less than control at P = 0.05 level
** Reproduction data from concentrations greater than survival NOEC are excluded from statistical analysis.

CHRONIC TOXICITY

Survival LC50	2.1 g/l
Reproduction IC25	0.82 mg/l

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥80%	Pass (100% Survival)
≥15 young per surviving control female	Pass (23.5 young)
≥60% surviving controls had 3 broods	Pass (80% with 3 broods)
PMSD <47% for reproduction	Pass (PMSD = 16.2%)
Stat. sig. diff. conc. relative difference >13%	Pass (Stat. sig. diff. conc. Relative difference= 31.9%)
Concentration response relationship acceptable	Pass (Response curve normal)

Ceriodaphnia Survival and Reproduction Test-Survival Day 6

Start Date:	4/3/2012 14:00	Test ID:	RT120403c	Sample ID:	REF-Ref Toxicant
End Date:	4/9/2012 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	NACL-Sodium chloride
Sample Date:	4/3/2012	Protocol:	FWCH-EPA-821-R-02-013	Test Species:	CD-Ceriodaphnia dubia
Comments:					

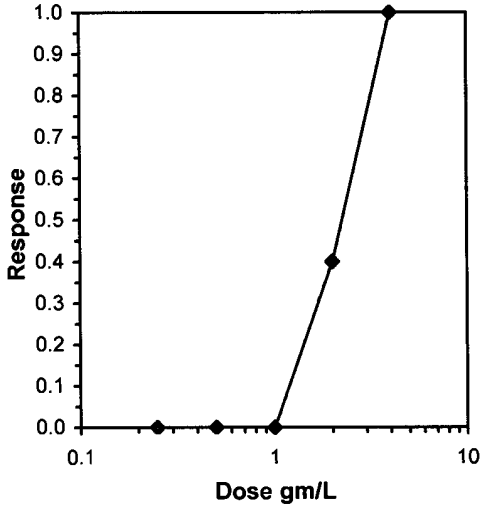
Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.25	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	0.0000	0.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	1.0000	1.0000
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Conc-gm/L	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Number Resp	Total Number
D-Control	1.0000	1.0000	0	10	10	10			0	10
0.25	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
0.5	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
1	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
*2	0.6000	0.6000	4	6	10	10	0.0433	0.0500	4	10
4	0.0000	0.0000	10	0	10	10			10	10

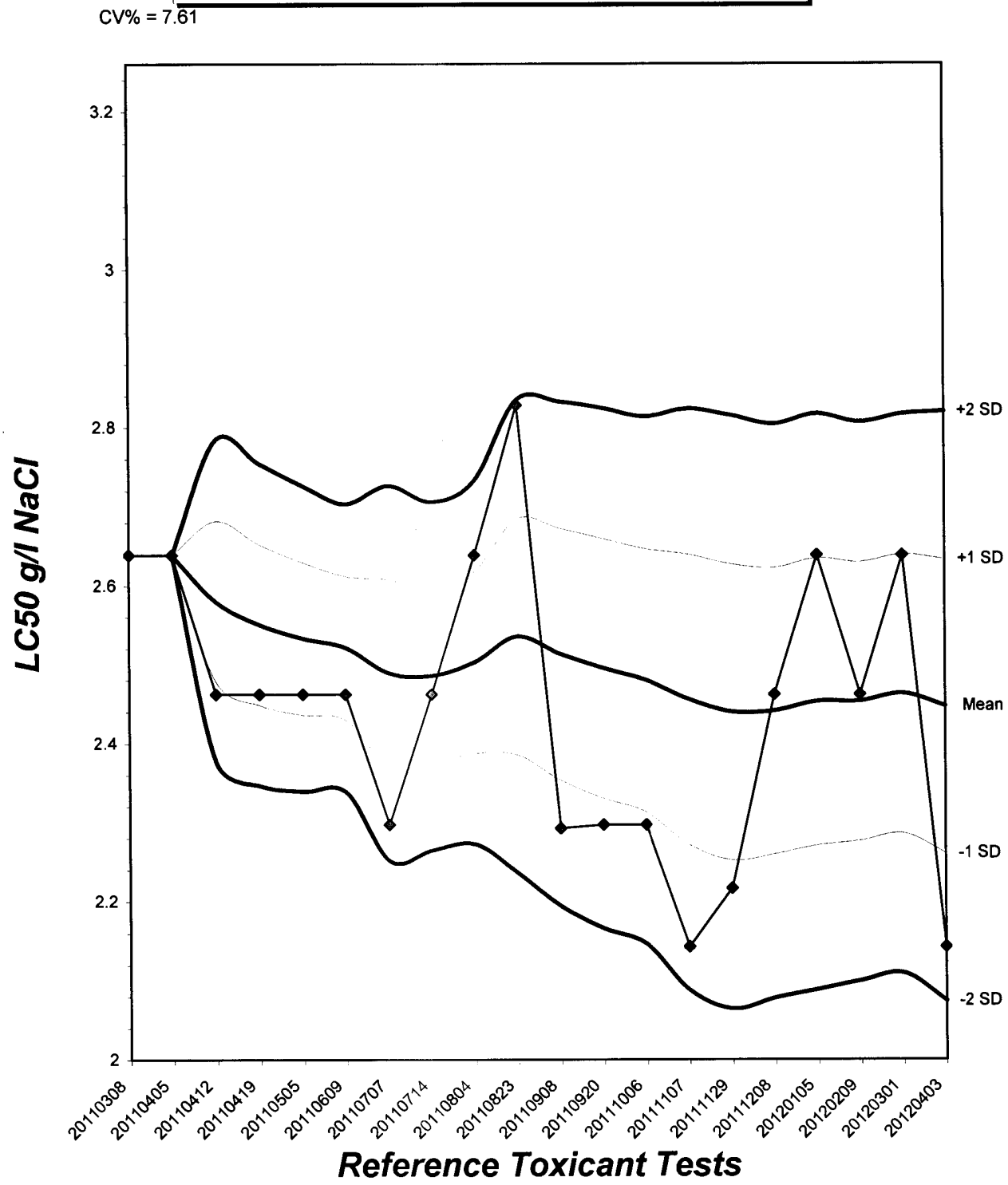
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	1	2	1.41421	
Treatments vs D-Control				

Trimmed Spearman-Karber

Trim Level	EC50	95% CL	
0.0%	2.1435	1.7293	2.6571
5.0%	2.1584	1.6984	2.7429
10.0%	2.1732	1.6538	2.8556
20.0%	2.2021	1.5017	3.2291
Auto-0.0%	2.1435	1.7293	2.6571



Ceriodaphnia Chronic Survival Laboratory Control Chart



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	4/3/2012 14:00	Test ID:	RT120403c	Sample ID:	REF-Ref Toxicant
End Date:	4/9/2012 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	NACL-Sodium chloride
Sample Date:	4/3/2012	Protocol:	FWCH-EPA-821-R-02-013	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	20.000	17.000	25.000	25.000	24.000	27.000	28.000	27.000	20.000	22.000
0.25	21.000	17.000	29.000	26.000	27.000	25.000	25.000	27.000	23.000	23.000
0.5	16.000	14.000	23.000	22.000	24.000	23.000	23.000	23.000	23.000	23.000
1	15.000	17.000	8.000	20.000	23.000	15.000	12.000	22.000	9.000	19.000
2	0.000	0.000	0.000	2.000	4.000	3.000	0.000	0.000	0.000	5.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

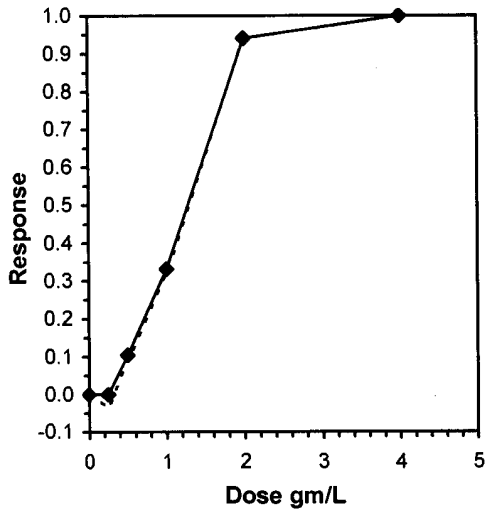
			Transform: Untransformed					Rank	1-Tailed	Isotonic	
Conc-gm/L	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
D-Control	23.500	1.0000	23.500	17.000	28.000	15.441	10			23.900	1.0000
0.25	24.300	1.0340	24.300	17.000	29.000	14.262	10	111.50	77.00	23.900	1.0000
0.5	21.400	0.9106	21.400	14.000	24.000	16.067	10	87.00	77.00	21.400	0.8954
*1	16.000	0.6809	16.000	8.000	23.000	32.409	10	66.00	77.00	16.000	0.6695
2	1.400	0.0596	1.400	0.000	5.000	139.646	10			1.400	0.0586
4	0.000	0.0000	0.000	0.000	0.000	0.000	10			0.000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.93053	0.94	-0.5964	-0.342
Bartlett's Test indicates equal variances (p = 0.53)	2.22089	11.3449		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	0.5	1	0.70711	
Treatments vs D-Control				

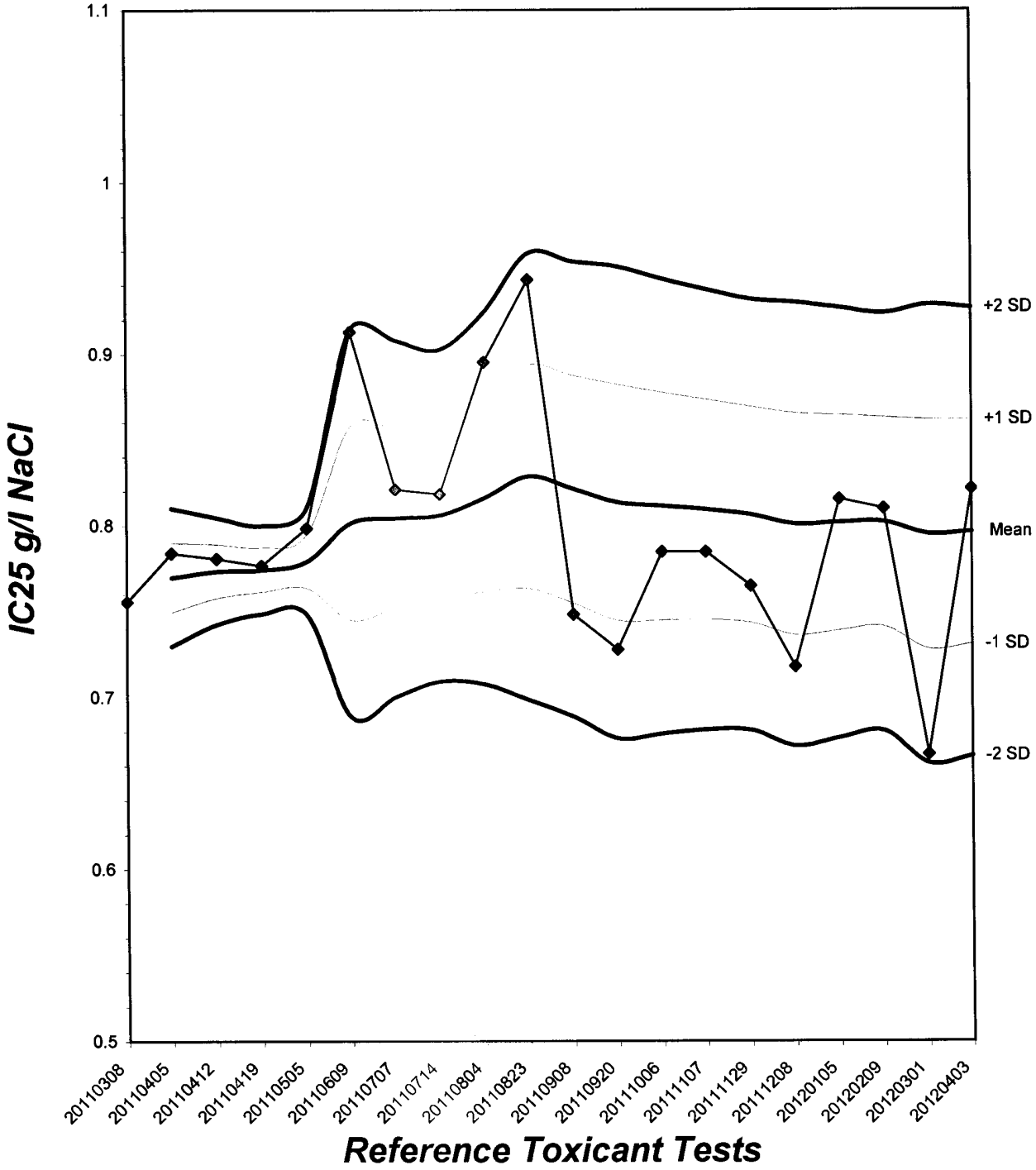
Linear Interpolation (200 Resamples)

Point	gm/L	SD	95% CL		Skew
IC05	0.3695	0.0911	0.1696	0.5686	0.2464
IC10	0.4890	0.0910	0.3077	0.6622	0.1815
IC15	0.6005	0.1009	0.4034	0.7714	0.1407
IC20	0.7111	0.1157	0.4592	0.9579	0.1807
IC25	0.8218	0.1195	0.5745	1.0536	0.0455
IC40	1.1137	0.1010	0.8928	1.2609	-0.5191
IC50	1.2774	0.0905	1.0680	1.4019	-0.8577



Ceriodaphnia Chronic Reproduction Laboratory Control Chart

CV% = 8.18



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	4/3/2012 14:00	Test ID:	RT120403c	Sample ID:	REF-Ref Toxicant
End Date:	4/9/2012 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	NACL-Sodium chloride
Sample Date:	4/3/2012	Protocol:	FWCH-EPA-821-R-02-013	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	20.000	17.000	25.000	25.000	24.000	27.000	28.000	27.000	20.000	22.000
0.25	21.000	17.000	29.000	26.000	27.000	25.000	25.000	27.000	23.000	23.000
0.5	16.000	14.000	23.000	22.000	24.000	23.000	23.000	23.000	23.000	23.000
1	15.000	17.000	8.000	20.000	23.000	15.000	12.000	22.000	9.000	19.000
2	0.000	0.000	0.000	2.000	4.000	3.000	0.000	0.000	0.000	5.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

			Transform: Untransformed					1-Tailed		
Conc-gm/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
D-Control	23.500	1.0000	23.500	17.000	28.000	15.441	10			
0.25	24.300	1.0340	24.300	17.000	29.000	14.262	10	-0.448	2.137	3.819
0.5	21.400	0.9106	21.400	14.000	24.000	16.067	10	1.175	2.137	3.819
*1	16.000	0.6809	16.000	8.000	23.000	32.409	10	4.196	2.137	3.819
2	1.400	0.0596	1.400	0.000	5.000	139.646	10			
4	0.000	0.0000	0.000	0.000	0.000	0.000	10			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.93053	0.94	-0.5964	-0.342
Bartlett's Test indicates equal variances (p = 0.53)	2.22089	11.3449		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test Treatments vs D-Control	0.5	1	0.70711		3.81887	0.1625	139.8	15.9722	1.7E-04	3, 36

CERIODAPHNIA DUBIA CHRONIC BIOASSAY
Reference Toxicant - NaCl
Reproduction and Survival Raw Data Sheet

Aquatic Testing Laboratories

QA/QC No.: RT-120403

Start Date:04/03/2012

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
Control	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	0	3	0	4	3	0	0	10	10	
	4	3	5	4	4	0	4	0	0	3	4	27	10	
	5	0	0	10	8	8	9	9	10	7	8	69	10	
	6	17	12	11	13	13	14	15	14	10	10	129	10	
	7	–	–	–	–	–	–	–	–	–	–	–	–	–
	Total	20	17	25	25	24	27	28	27	20	22	235	10	
0.25 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	0	4	0	4	0	0	0	8	10	
	4	5	4	5	5	0	4	0	5	4	4	36	10	
	5	0	0	10	9	10	9	7	9	9	8	71	10	
	6	16	13	14	12	13	12	14	13	10	11	128	10	
	7	–	–	–	–	–	–	–	–	–	–	–	–	–
	Total	21	17	29	26	27	25	25	27	23	23	243	10	
0.5 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	0	0	0	4	0	0	0	4	10	
	4	4	4	3	3	5	4	0	3	4	4	34	10	
	5	0	0	7	9	8	7	9	7	7	8	62	10	
	6	12	10	13	10	11	12	10	13	12	11	114	10	
	7	–	–	–	–	–	–	–	–	–	–	–	–	–
	Total	16	14	23	22	24	23	23	23	23	23	214	10	

Circled fourth brood not used in statistical analysis.
7th day only used if <60% of the surviving control females have produced their third brood.

CERIODAPHNIA DUBIA CHRONIC BIOASSAY
Reference Toxicant - NaCl
Reproduction and Survival Raw Data Sheet

Aquatic Testing Laboratories

QA/QC No.: RT-120403

Start Date:04/03/2012

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
1.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	0	3	0	0	0	0	0	3	10	
	4	3	4	2	3	0	3	4	4	2	3	28	10	
	5	0	0	0	7	7	0	8	7	7	6	42	10	
	6	12	13	6	10	13	12	0	11	0	10	87	10	
	7	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	15	17	8	20	23	15	12	22	9	19	160	10	
2.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	X	X	0	0	0	0	X	X	0	0	0	6	
	3	—	—	0	0	0	0	—	—	0	0	0	6	
	4	—	—	0	0	0	0	—	—	0	0	0	6	
	5	—	—	0	2	2	3	—	—	0	2	9	6	
	6	—	—	0	0	2	0	—	—	0	3	5	6	
	7	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	0	0	0	2	4	3	0	0	0	5	14	6	
4.0 g/l	1	X	X	X	X	X	X	X	X	X	X	0	0	
	2	—	—	—	—	—	—	—	—	—	—	—	—	—
	3	—	—	—	—	—	—	—	—	—	—	—	—	—
	4	—	—	—	—	—	—	—	—	—	—	—	—	—
	5	—	—	—	—	—	—	—	—	—	—	—	—	—
	6	—	—	—	—	—	—	—	—	—	—	—	—	—
	7	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

Circled fourth brood not used in statistical analysis.
7th day only used if <60% of the surviving control females have produced their third brood.

CERIODAPHNIA DUBIA CHRONIC BIOASSAY
Reference Toxicant - NaCl
Water Chemistries Raw Data Sheet

Aquatic Testing Laboratories

QA/QC No.: RT-120403 Start Date:04/03/2012

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Analyst Initials:															
Time of Readings:		1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	—	—
Control	DO	8.3	8.2	7.9	8.1	7.8	8.5	7.9	8.4	8.5	8.7	8.3	8.6	—	—
	pH	8.0	8.2	8.1	8.1	8.2	8.2	8.1	8.2	8.1	8.0	8.1	8.0	—	—
	Temp	24.7	24.7	24.3	24.3	24.6	24.7	24.8	24.7	24.8	24.4	24.3	24.5	—	—
0.25 g/l	DO	8.4	8.4	8.2	8.1	8.4	8.3	8.3	8.3	7.9	8.1	8.3	8.7	—	—
	pH	8.0	8.1	8.2	8.2	8.2	8.2	8.1	8.2	8.1	8.0	8.1	8.0	—	—
	Temp	24.5	24.7	24.5	24.5	24.7	24.8	24.6	24.7	24.8	24.4	24.5	24.6	—	—
0.5 g/l	DO	8.2	8.3	8.1	8.1	8.2	8.1	8.0	8.4	8.1	8.1	8.4	8.0	—	—
	pH	8.0	8.1	8.2	8.1	8.2	8.2	8.1	8.1	8.1	8.0	8.1	8.0	—	—
	Temp	24.6	24.9	24.5	24.2	24.3	24.8	24.3	24.8	24.8	24.3	24.7	25.2	—	—
1.0 g/l	DO	8.2	8.3	8.1	8.4	8.3	8.5	7.9	8.1	8.0	8.4	8.3	8.1	—	—
	pH	8.0	8.2	8.2	8.2	8.2	8.1	8.1	8.1	8.1	8.1	8.1	8.0	—	—
	Temp	24.7	24.7	24.5	24.5	24.5	24.7	24.7	24.6	24.8	24.3	24.5	24.5	—	—
2.0 g/l	DO	8.4	8.2	7.9	8.2	8.1	8.3	7.9	8.2	8.1	8.3	8.1	8.2	—	—
	pH	8.0	8.1	8.2	8.1	8.2	8.1	8.0	8.1	8.1	8.0	8.0	8.0	—	—
	Temp	24.7	25.2	24.5	24.5	24.3	24.5	24.7	24.8	24.8	24.3	24.6	24.6	—	—
4.0 g/l	DO	8.5	8.1	—	—	—	—	—	—	—	—	—	—	—	—
	pH	8.0	8.1	—	—	—	—	—	—	—	—	—	—	—	—
	Temp	24.7	24.5	—	—	—	—	—	—	—	—	—	—	—	—

Dissolved Oxygen (DO) readings are in mg/l O_2; Temperature (Temp) readings are in °C.

Additional Parameters	Control			High Concentration		
	Day 1	Day 3	Day 5	Day 1	Day 3	Day 5
Conductivity (µS)	309	319	316	6960	2520	3310
Alkalinity (mg/l $CaCO_3$)	69	67	67	68	68	68
Hardness (mg/l $CaCO_3$)	90	87	88	90	89	88

Source of Neonates

Replicate:	A	B	C	D	E	F	G	H	I	J
Brood ID:	1B	2C	3C	2D	1E	3E	1F	1G	3H	2I

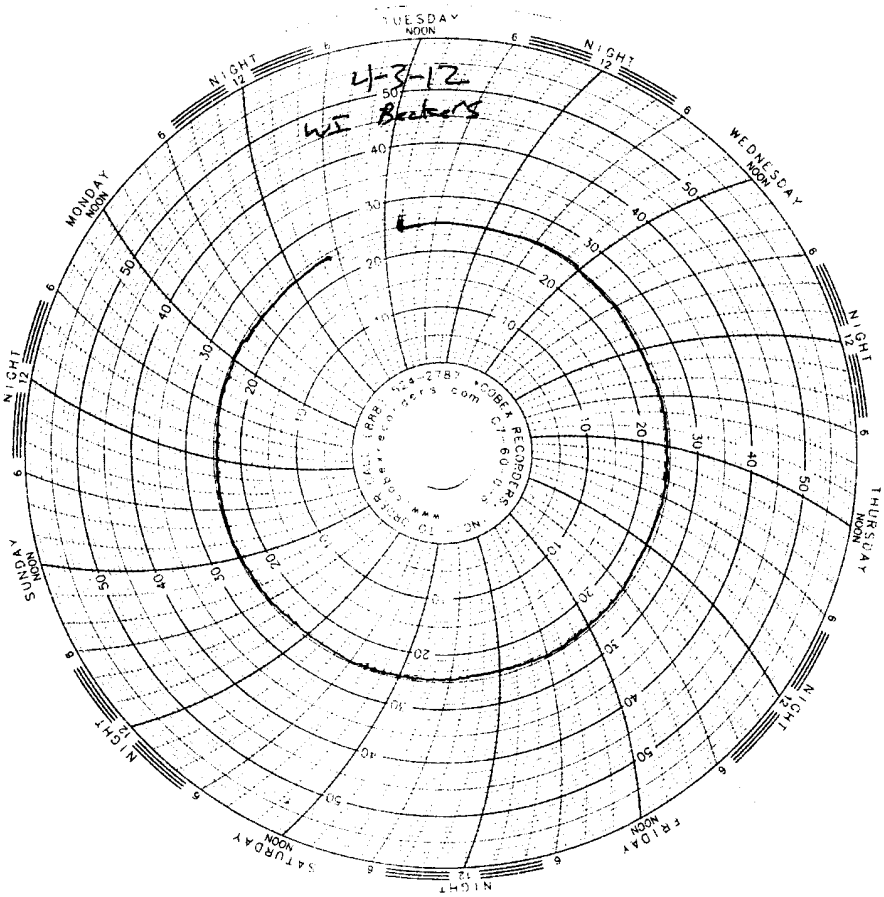
Aquatic Testing Laboratories

Test Temperature Chart

Test No: RT-120403

Date Tested: 04/03/12 to 04/09/06

Acceptable Range: 25+/- 1°C



EBERLINE SERVICES

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April 24, 2012

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

Reference: **Test America-Irvine 44002624**
Eberline Analytical Report S204034-8605
Sample Delivery Group 8605

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 April 7, 2012.

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

Sincerely,

Joseph Verville
Client Services Manager

NJV/mw

Enclosure: Level IV CLP-like Data Package CD

1.0 General Comments

Sample delivery group 8605 consists of the analytical results and supporting documentation for two water samples. Sample ID's and reference dates/times are given in the Sample Summary section of the Summary Data report. The samples were received as stated on the chain-of-custody document. Any discrepancies are noted on the Eberline Analytical Sample Receipt Checklist. No holding times were exceeded.

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

2.0 Quality Control

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

3.0 Method Errors

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

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

4.0 Analysis Notes

4.1 Gross Alpha/Gross Beta Analysis – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

4.2 Tritium Analysis – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

4.3 Strontium-90 Analysis – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

4.4 Radium-226 Analysis – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

4.5 Radium-228 Analysis - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits

4.6 Total Uranium Analysis - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

4.7 Gamma Spectroscopy – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

5.0 Case Narrative Certification Statement

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

4/24/12

Joseph Verville
Client Services Manager

Date

SDG 8605	Client Test America, Inc.
Contact Joseph Verville	Contract 44002624

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

T A B L E O F C O N T E N T S

Prepared by

Reviewed by

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-TOC
Version	3.06
Report date	04/24/12

SDG 8605
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract 44002624

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 04/24/12

SDG 8605
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract 44002624

ABOUT THE DATA SUMMARY SECTION

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

MATRIX SPIKES

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

DATA SHEETS

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

METHOD SUMMARIES

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

REPORT GUIDES

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

EBERLINE ANALYTICAL

SDG 8605

LAB SAMPLE SUMMARY

SDG 8605
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Client Test America, Inc.
Contract 44002624

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S204034-01	OUTFALL 019 (440-7684-1)	BOEING-SSFL	WATER			440-3590.1	04/05/12 09:45
S204034-02	TRIP-BLANK (440-7684-3)	BOEING-SSFL	WATER			440-3590.1	04/06/12 14:00
S204034-03	Lab Control Sample		WATER				
S204034-04	Method Blank		WATER				
S204034-05	Duplicate (S204034-01)	BOEING-SSFL	WATER				04/05/12 09:45

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LS
Version 3.06
Report date 04/24/12

EBERLINE ANALYTICAL

SDG 8605

QC SUMMARY

SDG 8605
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	DAYS SINCE COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
8605	440-3590.1	OUTFALL 019 (440-7684-1)	WATER		10.0 L		04/07/12	2	S204034-01	8605-001
		TRIP-BLANK (440-7684-3)	WATER		10.0 L		04/07/12	1	S204034-02	8605-002
		Method Blank	WATER						S204034-04	8605-004
		Lab Control Sample	WATER						S204034-03	8605-003
		Duplicate (S204034-01)	WATER		10.0 L		04/07/12	2	S204034-05	8605-005

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 04/24/12

EBERLINE ANALYTICAL

SDG 8605

PREP BATCH SUMMARY

SDG 8605
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

TEST	MATRIX	METHOD	PREPARATION BATCH	ERROR 2σ %	PLANCHETS ANALYZED CLIENT	MORE	RE	BLANK	LCS	DUP/ORIG	MS/ORIG	QUALIFIERS
Beta Counting												
AC	WATER	Radium-228 in Water	7271-134	10.4	2			1	1	1/1		
SR	WATER	Strontium-90 in Water	7271-134	10.4	2			1	1	1/1		
Gas Proportional Counting												
80A	WATER	Gross Alpha in Water	7271-134	20.6	2			1	1	1/1		
80B	WATER	Gross Beta in Water	7271-134	11.0	2			1	1	1/1		
Gamma Spectroscopy												
GAM	WATER	Gamma Emitters in Water	7271-134	7.0	2			1	1	1/1		
Kinetic Phosphorimetry												
U_T	WATER	Uranium, Total	7271-134		2			1	1	1/1		
Liquid Scintillation Counting												
H	WATER	Tritium in Water	7271-134	10.0	1			1	1	1/1		
Radon Counting												
RA	WATER	Radium-226 in Water	7271-134	16.4	2			1	1	1/1		

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 04/24/12

EBERLINE ANALYTICAL

SDG 8605

LAB WORK SUMMARY

SDG 8605
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

LAB SAMPLE / COLLECTED / RECEIVED	CLIENT SAMPLE ID / LOCATION / CUSTODY / SAS no	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
S204034-01	OUTFALL 019 (440-7684-1)		8605-001	80A/80		04/17/12	04/18/12	BW	Gross Alpha in Water
04/05/12	BOEING-SSFL	WATER	8605-001	80B/80		04/17/12	04/18/12	BW	Gross Beta in Water
04/07/12	440-3590.1		8605-001	AC		04/18/12	04/19/12	BW	Radium-228 in Water
			8605-001	GAM		04/12/12	04/18/12	MWT	Gamma Emitters in Water
			8605-001	H		04/14/12	04/17/12	BW	Tritium in Water
			8605-001	RA		04/18/12	04/19/12	BW	Radium-226 in Water
			8605-001	SR		04/16/12	04/23/12	BW	Strontium-90 in Water
			8605-001	U_T		04/20/12	04/20/12	AK	Uranium, Total
S204034-02	TRIP-BLANK (440-7684-3)		8605-002	80A/80		04/17/12	04/18/12	BW	Gross Alpha in Water
04/06/12	BOEING-SSFL	WATER	8605-002	80B/80		04/17/12	04/18/12	BW	Gross Beta in Water
04/07/12	440-3590.1		8605-002	AC		04/18/12	04/19/12	BW	Radium-228 in Water
			8605-002	GAM		04/12/12	04/18/12	MWT	Gamma Emitters in Water
			8605-002	RA		04/18/12	04/19/12	BW	Radium-226 in Water
			8605-002	SR		04/16/12	04/23/12	BW	Strontium-90 in Water
			8605-002	U_T		04/20/12	04/20/12	AK	Uranium, Total
S204034-03	Lab Control Sample		8605-003	80A/80		04/17/12	04/18/12	BW	Gross Alpha in Water
		WATER	8605-003	80B/80		04/17/12	04/18/12	BW	Gross Beta in Water
			8605-003	AC		04/18/12	04/19/12	BW	Radium-228 in Water
			8605-003	GAM		04/16/12	04/18/12	MWT	Gamma Emitters in Water
			8605-003	H		04/14/12	04/17/12	BW	Tritium in Water
			8605-003	RA		04/18/12	04/19/12	BW	Radium-226 in Water
			8605-003	SR		04/16/12	04/23/12	BW	Strontium-90 in Water
			8605-003	U_T		04/20/12	04/20/12	AK	Uranium, Total
S204034-04	Method Blank		8605-004	80A/80		04/17/12	04/18/12	BW	Gross Alpha in Water
		WATER	8605-004	80B/80		04/17/12	04/18/12	BW	Gross Beta in Water
			8605-004	AC		04/18/12	04/19/12	BW	Radium-228 in Water
			8605-004	GAM		04/12/12	04/18/12	MWT	Gamma Emitters in Water
			8605-004	H		04/14/12	04/17/12	BW	Tritium in Water
			8605-004	RA		04/18/12	04/19/12	BW	Radium-226 in Water
			8605-004	SR		04/16/12	04/23/12	BW	Strontium-90 in Water
			8605-004	U_T		04/20/12	04/20/12	AK	Uranium, Total

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
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SDG 8605
Contact Joseph Verville

WORK SUMMARY, cont.

Client Test America, Inc.
Contract 44002624

LAB SAMPLE / COLLECTED / RECEIVED	CLIENT SAMPLE ID / LOCATION / CUSTODY	SAS no	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
S204034-05	Duplicate (S204034-01)			8605-005	80A/80		04/17/12	04/18/12	BW	Gross Alpha in Water
04/05/12	BOEING-SSFL		WATER	8605-005	80B/80		04/17/12	04/18/12	BW	Gross Beta in Water
04/07/12				8605-005	AC		04/18/12	04/19/12	BW	Radium-228 in Water
				8605-005	GAM		04/13/12	04/18/12	MWT	Gamma Emitters in Water
				8605-005	H		04/14/12	04/17/12	BW	Tritium in Water
				8605-005	RA		04/18/12	04/19/12	BW	Radium-226 in Water
				8605-005	SR		04/16/12	04/23/12	BW	Strontium-90 in Water
				8605-005	U_T		04/20/12	04/20/12	AK	Uranium, Total

COUNTS OF TESTS BY SAMPLE TYPE

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 04/24/12

8605-004 Method Blank

M E T H O D B L A N K

SDG 8605 Client Test America, Inc.
Contact Joseph Verville Contract 44002624

Lab sample id S204034-04 Client sample id Method Blank
Dept sample id 8605-004 Material/Matrix WATER

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	0.021	0.26	0.474	3.00	U	80A
Gross Beta	12587472	-0.385	0.48	0.822	4.00	U	80B
Tritium	10028178	-2.29	16	27.3	500	U	H
Radium-226	13982633	0.127	0.33	0.576	1.00	U	RA
Radium-228	15262201	-0.258	0.32	0.630	1.00	U	AC
Strontium-90	10098972	0.040	0.21	0.471	2.00	U	SR
Uranium, Total		0	0.008	0.020	1.00	U	U_T
Potassium-40	13966002	-11.1	23	40.9	25.0	U	GAM
Cesium-137	10045973	-1.01	1.4	1.49	20.0	U	GAM

QC-BLANK #81518

EBERLINE ANALYTICAL

SDG 8605

8605-003 Lab Control Sample

LAB CONTROL SAMPLE

SDG 8605 Client Test America, Inc.

Contact Joseph Verville Contract 44002624

Lab sample id S204034-03 Client sample id Lab Control Sample

Dept sample id 8605-003 Material/Matrix WATER

ANALYTE	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ADDED pCi/L	2σ ERR pCi/L	REC %	2σ LMTS (TOTAL)	PROTOCOL LIMITS
Gross Alpha	39.0	2.0	0.687	3.00		80A	33.7	1.3	116	75-125	70-130
Gross Beta	26.5	1.1	0.807	4.00		80B	28.3	1.1	94	88-112	70-130
Tritium	348	26	27.6	500	J	H	367	15	95	87-113	80-120
Radium-226	58.1	2.3	0.731	1.00		RA	55.7	2.2	104	82-118	80-120
Radium-228	4.52	0.29	0.427	1.00		AC	4.43	0.18	102	87-113	60-140
Strontium-90	7.54	0.46	0.229	2.00		SR	8.50	0.34	89	89-111	80-120
Uranium, Total	57.0	6.5	0.197	1.00		U_T	56.5	2.3	101	88-112	80-120
Cobalt-60	110	4.7	3.34	10.0		GAM	108	4.3	102	91-109	80-120
Cesium-137	133	6.8	2.72	20.0		GAM	122	4.9	109	90-110	80-120

QC-LCS #81517

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LCS
Version 3.06
Report date 04/24/12

EBERLINE ANALYTICAL

SDG 8605

8605-005 OUTFALL 019 (440-7684-1)

DUPLICATE

SDG 8605 Client Test America, Inc.

Contact Joseph Verville Contract 44002624

DUPLICATE	ORIGINAL	
Lab sample id S204034-05	Lab sample id S204034-01	Client sample id OUTFALL 019 (440-7684-1)
Dept sample id 8605-005	Dept sample id 8605-001	Location/Matrix BOEING-SSFL WATER
	Received 04/07/12	Collected/Volume 04/05/12 09:45 10.0 L
		Chain of custody id 440-3590.1

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	0.245	0.59	1.05	3.00	U	80A	-0.110	0.87	1.65	U	-		0.7
Gross Beta	1.96	1.2	1.84	4.00	J	80B	1.44	1.3	2.03	U	31	158	0.6
Tritium	57.5	100	166	500	U	H	61.3	100	167	U	-		0.1
Radium-226	-0.189	0.34	0.656	1.00	U	RA	0.036	0.32	0.573	U	-		1.0
Radium-228	-0.051	0.13	0.358	1.00	U	AC	-0.044	0.14	0.393	U	-		0.1
Strontium-90	0.012	0.29	0.671	2.00	U	SR	0.040	0.32	0.715	U	-		0.1
Uranium, Total	0.093	0.013	0.020	1.00	J	U_T	0.091	0.013	0.020	J	2	30	0.2
Potassium-40	16.4	34	57.8	25.0	U	GAM	-2.13	15	27.1	U	-		1.0
Cesium-137	-1.64	3.5	6.22	20.0	U	GAM	0.346	1.7	2.93	U	-		1.0

QC-DUP#1 81519

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-DUP
Version 3.06
Report date 04/24/12

DUPLICATES
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SUMMARY DATA SECTION
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EBERLINE ANALYTICAL

SDG 8605

8605-001 OUTFALL 019 (440-7684-1)

DATA SHEET

SDG 8605 Client Test America, Inc.
Contact Joseph Verville Contract 44002624

Lab sample id S204034-01 Client sample id OUTFALL 019 (440-7684-1)
Dept sample id 8605-001 Location/Matrix BOEING-SSFL WATER
Received 04/07/12 Collected/Volume 04/05/12 09:45 10.0 L
Chain of custody id 440-3590.1

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	-0.110	0.87	1.65	3.00	U	80A
Gross Beta	12587472	1.44	1.3	2.03	4.00	U	80B
Tritium	10028178	61.3	100	167	500	U	H
Radium-226	13982633	0.036	0.32	0.573	1.00	U	RA
Radium-228	15262201	-0.044	0.14	0.393	1.00	U	AC
Strontium-90	10098972	0.040	0.32	0.715	2.00	U	SR
Uranium, Total		0.091	0.013	0.020	1.00	J	U_T
Potassium-40	13966002	-2.13	15	27.1	25.0	U	GAM
Cesium-137	10045973	0.346	1.7	2.93	20.0	U	GAM

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-DS
Version 3.06
Report date 04/24/12

EBERLINE ANALYTICAL

SDG 8605

8605-002 TRIP-BLANK (440-7684-3)

DATA SHEET

SDG	8605	Client	Test America, Inc.
Contact	Joseph Verville	Contract	44002624
Lab sample id	S204034-02	Client sample id	TRIP-BLANK (440-7684-3)
Dept sample id	8605-002	Location/Matrix	BOEING-SSFL WATER
Received	04/07/12	Collected/Volume	04/06/12 14:00 10.0 L
		Chain of custody id	440-3590.1

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	0.032	0.15	0.278	3.00	U	80A
Gross Beta	12587472	-0.396	0.55	0.933	4.00	U	80B
Radium-226	13982633	-0.112	0.32	0.611	1.00	U	RA
Radium-228	15262201	-0.070	0.12	0.341	1.00	U	AC
Strontium-90	10098972	-0.234	0.33	0.907	2.00	U	SR
Uranium, Total		0	0.008	0.020	1.00	U	U_T
Potassium-40	13966002	-9.66	21	37.8	25.0	U	GAM
Cesium-137	10045973	0.246	0.81	1.35	20.0	U	GAM

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	04/24/12

EBERLINE ANALYTICAL

SDG 8605

LAB METHOD SUMMARY

RADIUM-228 IN WATER

BETA COUNTING

Test AC Matrix WATER
SDG 8605
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Radium-228	
Preparation batch 7271-134						
S204034-01			8605-001	OUTFALL 019 (440-7684-1)	U	
S204034-02			8605-002	TRIP-BLANK (440-7684-3)	U	
S204034-03			8605-003	Lab Control Sample	ok	
S204034-04			8605-004	Method Blank	U	
S204034-05			8605-005	Duplicate (S204034-01)	-	U
Nominal values and limits from method				RDLs (pCi/L)	1.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7271-134			2σ prep error 10.4 %	Reference Lab Notebook No. 7271 pg.024												
S204034-01			OUTFALL 019 (440-7684-1)	0.393	1.80			88		150			13	04/18/12	04/18	GRB-201
S204034-02			TRIP-BLANK (440-7684-3)	0.341	1.80			89		150			12	04/18/12	04/18	GRB-202
S204034-03			Lab Control Sample	0.427	1.80			85		150				04/18/12	04/18	GRB-207
S204034-04			Method Blank	0.630	1.80			86		150				04/18/12	04/18	GRB-203
S204034-05			Duplicate (S204034-01)	0.358	1.80			87		150			13	04/18/12	04/18	GRB-204
Nominal values and limits from method				1.00	1.80			30-105		50			180			

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

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.430 ± 0.233
YIELD 87 ± 3

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 04/24/12

EBERLINE ANALYTICAL

SDG 8605

Test SR Matrix WATER
SDG 8605
Contact Joseph Verville

LAB METHOD SUMMARY

STRONTIUM-90 IN WATER

BETA COUNTING

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Strontium-90	
Preparation batch 7271-134						
S204034-01			8605-001	OUTFALL 019 (440-7684-1)	U	
S204034-02			8605-002	TRIP-BLANK (440-7684-3)	U	
S204034-03			8605-003	Lab Control Sample	ok	
S204034-04			8605-004	Method Blank	U	
S204034-05			8605-005	Duplicate (S204034-01)	-	U
Nominal values and limits from method				RDLs (pCi/L)	2.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7271-134			2σ prep error 10.4 %	Reference Lab Notebook No. 7271 pg.024												
S204034-01			OUTFALL 019 (440-7684-1)	0.715	0.500			85	50				11	04/16/12	04/16	GRB-225
S204034-02			TRIP-BLANK (440-7684-3)	0.907	0.500			82	50				10	04/16/12	04/16	GRB-228
S204034-03			Lab Control Sample	0.229	1.00			83	100					04/16/12	04/16	GRB-225
S204034-04			Method Blank	0.471	1.00			80	50					04/16/12	04/16	GRB-202
S204034-05			Duplicate (S204034-01)	0.671	0.500			89	50				11	04/16/12	04/16	GRB-227
Nominal values and limits from method				2.00	1.00			30-105	50				180			

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

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.599 ± 0.517
YIELD 84 ± 7

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 04/24/12

EBERLINE ANALYTICAL

SDG 8605

LAB METHOD SUMMARY

GROSS ALPHA IN WATER

GAS PROPORTIONAL COUNTING

Test 80A Matrix WATER
SDG 8605
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha	
Preparation batch 7271-134						
S204034-01	80		8605-001	OUTFALL 019 (440-7684-1)	U	
S204034-02	80		8605-002	TRIP-BLANK (440-7684-3)	U	
S204034-03	80		8605-003	Lab Control Sample	ok	
S204034-04	80		8605-004	Method Blank	U	
S204034-05	80		8605-005	Duplicate (S204034-01)	-	U
Nominal values and limits from method				RDLs (pCi/L)	3.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7271-134			2σ prep error 20.6 %	Reference Lab Notebook No. 7271 pg.024												
S204034-01	80		OUTFALL 019 (440-7684-1)	1.65	0.140			84		400			12	04/12/12	04/17	GRB-101
S204034-02	80		TRIP-BLANK (440-7684-3)	0.278	0.300			0		400			11	04/12/12	04/17	GRB-103
S204034-03	80		Lab Control Sample	0.687	0.300			60		400				04/12/12	04/17	GRB-104
S204034-04	80		Method Blank	0.474	0.300			60		400				04/12/12	04/17	GRB-109
S204034-05	80		Duplicate (S204034-01)	1.05	0.140			86		400			12	04/12/12	04/17	GRB-111
Nominal values and limits from method				3.00	0.300			0-250		100			180			

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

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.828 ± 1.08
RESIDUE 58 ± 70

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 04/24/12

EBERLINE ANALYTICAL

SDG 8605

Test 80B Matrix WATER
SDG 8605
Contact Joseph Verville

LAB METHOD SUMMARY

GROSS BETA IN WATER
GAS PROPORTIONAL COUNTING

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta	
Preparation batch 7271-134						
S204034-01	80		8605-001	OUTFALL 019 (440-7684-1)	U	
S204034-02	80		8605-002	TRIP-BLANK (440-7684-3)	U	
S204034-03	80		8605-003	Lab Control Sample	ok	
S204034-04	80		8605-004	Method Blank	U	
S204034-05	80		8605-005	Duplicate (S204034-01)	ok	J
Nominal values and limits from method				RDLs (pCi/L)	4.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7271-134			2σ prep error 11.0 %	Reference Lab Notebook No. 7271 pg.024												
S204034-01	80		OUTFALL 019 (440-7684-1)	2.03	0.140			84		400			12	04/12/12	04/17	GRB-101
S204034-02	80		TRIP-BLANK (440-7684-3)	0.933	0.300			0		400			11	04/12/12	04/17	GRB-103
S204034-03	80		Lab Control Sample	0.807	0.300			60		400				04/12/12	04/17	GRB-104
S204034-04	80		Method Blank	0.822	0.300			60		400				04/12/12	04/17	GRB-109
S204034-05	80		Duplicate (S204034-01)	1.84	0.140			86		400			12	04/12/12	04/17	GRB-111
Nominal values and limits from method				4.00	0.300			0-250		100			180			

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

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 1.29 ± 1.20
RESIDUE 58 ± 70

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 04/24/12

EBERLINE ANALYTICAL

SDG 8605

LAB METHOD SUMMARY

GAMMA EMITTERS IN WATER

GAMMA SPECTROSCOPY

Test GAM Matrix WATER
SDG 8605
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt-60	Cesium-137	
Preparation batch 7271-134							
S204034-01			8605-001	OUTFALL 019 (440-7684-1)		U	
S204034-02			8605-002	TRIP-BLANK (440-7684-3)		U	
S204034-03			8605-003	Lab Control Sample	ok	ok	
S204034-04			8605-004	Method Blank		U	
S204034-05			8605-005	Duplicate (S204034-01)		-	U
Nominal values and limits from method				RDLs (pCi/L)	10.0	20.0	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7271-134			2σ prep error 7.0 %		Reference Lab Notebook No. 7271 pg.024											
S204034-01			OUTFALL 019 (440-7684-1)		2.00					400			7	04/11/12	04/12	MB,G1,0
S204034-02			TRIP-BLANK (440-7684-3)		2.00					400			6	04/11/12	04/12	MB,G2,0
S204034-03			Lab Control Sample		2.00					400				04/11/12	04/16	MB,G2,0
S204034-04			Method Blank		2.00					400				04/11/12	04/12	MB,G4,0
S204034-05			Duplicate (S204034-01)		2.00					400			8	04/11/12	04/13	MB,G5,0
Nominal values and limits from method				6.00	2.00					400			180			

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 04/24/12

EBERLINE ANALYTICAL

SDG 8605

LAB METHOD SUMMARY

URANIUM, TOTAL

KINETIC PHOSPHORIMETRY

Test U_T Matrix WATER
SDG 8605
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Uranium, Total
Preparation batch 7271-134					
S204034-01			8605-001	OUTFALL 019 (440-7684-1)	0.091 J
S204034-02			8605-002	TRIP-BLANK (440-7684-3)	U
S204034-03			8605-003	Lab Control Sample	ok
S204034-04			8605-004	Method Blank	U
S204034-05			8605-005	Duplicate (S204034-01)	ok J
Nominal values and limits from method				RDLs (pCi/L)	1.00

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7271-134			2σ prep error		Reference Lab Notebook No. 7271 pg.024											
S204034-01			OUTFALL 019 (440-7684-1)	0.020	0.0200								15	04/20/12	04/20	KPA-001
S204034-02			TRIP-BLANK (440-7684-3)	0.020	0.0200								14	04/20/12	04/20	KPA-001
S204034-03			Lab Control Sample	0.197	0.0200									04/20/12	04/20	KPA-001
S204034-04			Method Blank	0.020	0.0200									04/20/12	04/20	KPA-001
S204034-05			Duplicate (S204034-01)	0.020	0.0200								15	04/20/12	04/20	KPA-001
Nominal values and limits from method				1.00	0.0200								180			

PROCEDURES REFERENCE D5174

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.055 ± 0.158
YIELD _____ ± _____

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 04/24/12

EBERLINE ANALYTICAL

SDG 8605

Test H Matrix WATER
SDG 8605
Contact Joseph Verville

LAB METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Tritium	
Preparation batch 7271-134						
S204034-01			8605-001	OUTFALL 019 (440-7684-1)	U	
S204034-03			8605-003	Lab Control Sample	ok	J
S204034-04			8605-004	Method Blank	U	
S204034-05			8605-005	Duplicate (S204034-01)	-	U
Nominal values and limits from method				RDLs (pCi/L)	500	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7271-134			2σ prep error 10.0 %	Reference Lab Notebook No. 7271 pg.024												
S204034-01			OUTFALL 019 (440-7684-1)	167	0.0100			100		150			9	04/13/12	04/14	LSC-006
S204034-03			Lab Control Sample	27.6	0.605			10		150				04/13/12	04/14	LSC-006
S204034-04			Method Blank	27.3	0.605			10		150				04/13/12	04/14	LSC-006
S204034-05			Duplicate (S204034-01)	166	0.0100			100		150			9	04/13/12	04/14	LSC-006
Nominal values and limits from method				500	0.605					100			180			

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

AVERAGES ± 2 SD FOR 4 SAMPLES
MDA 97.0 ± 161
YIELD 55 ± 104

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 04/24/12

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SDG 8605

LAB METHOD SUMMARY

RADIUM-226 IN WATER

RADON COUNTING

Test RA Matrix WATER
SDG 8605
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Radium-226	
Preparation batch 7271-134						
S204034-01			8605-001	OUTFALL 019 (440-7684-1)	U	
S204034-02			8605-002	TRIP-BLANK (440-7684-3)	U	
S204034-03			8605-003	Lab Control Sample	ok	
S204034-04			8605-004	Method Blank	U	
S204034-05			8605-005	Duplicate (S204034-01)	-	U
Nominal values and limits from method				RDLs (pCi/L)	1.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7271-134			2σ prep error 16.4 %	Reference Lab Notebook No. 7271 pg.024												
S204034-01			OUTFALL 019 (440-7684-1)	0.573	0.100			100		136			13	04/18/12	04/18	RN-012
S204034-02			TRIP-BLANK (440-7684-3)	0.611	0.100			100		136			12	04/18/12	04/18	RN-011
S204034-03			Lab Control Sample	0.731	0.100			100		136				04/18/12	04/18	RN-009
S204034-04			Method Blank	0.576	0.100			100		136				04/18/12	04/18	RN-010
S204034-05			Duplicate (S204034-01)	0.656	0.100			100		136			13	04/18/12	04/18	RN-015
Nominal values and limits from method				1.00	0.100					100			180			

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

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.629 ± 0.132
YIELD 100 ± 0

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 04/24/12

SDG 8605
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract 44002624

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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REPORT GUIDE

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PREPARATION BATCH SUMMARY

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

The following notes apply to this report:

* The preparation batches are shown in the same order as the Method Summary Reports are printed.

* Only analyses of planchets relevant to the SDG are included.

* Each preparation batch should have at least one Method Blank and LCS in it to validate client sample results.

* The QUALIFIERS shown are all qualifiers other than U, J, B, L and H that occur on any analysis in the preparation batch. The Method Summary Report has these qualifiers on a per sample basis.

  These qualifiers should be reviewed as follows:

  X Some data has been manually entered or modified. Transcription errors are possible.

  P One or more results are 'preliminary'. The data is not ready for final reporting.

  2 There were two or more results for one analyte on one planchet imported at one time. The results in DVD may not be the same as on the raw data sheets.

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

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Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 04/24/12

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REPORT GUIDE

Client Test America, Inc.
Contract 44002624

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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REPORT GUIDE

Client Test America, Inc.
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DATA SHEET

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

The following notes apply to this report:

* TEST is a code for the method used to measure an analyte. If the TEST is empty, no data is available; the analyte was not analyzed for.

* The LAB SAMPLE ID and TEST uniquely identify work within the Summary Data Section of a Data Package. The Work Summary and Method Summary Reports further identify raw data that underlies this work.

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

* ERRORs can be labeled TOTAL or COUNT. TOTAL implies a preparation (non-counting method) error has been added, as square root of sum of squares, to the counting error denoted by COUNT. The preparation errors, which may vary by preparation batch, are shown on the Method Summary Report.

* A RESULT can be 'N.R.' (Not Reported). This means the lab did this work but chooses not to report it now, possibly because it was reported at another time.

* When reporting a Method Blank, a RESULT can be 'N.A.' (Not Applicable). This means there is no reported client sample work in the same preparation batch as the Blank's result. This is likely to occur when the Method Blank is associated with reanalyses of selected work for a few samples in the SDG.

The following qualifiers are defined by the DVD system:

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

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GUIDE, cont.

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DATA SHEET

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

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

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

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

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

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

P The RESULT is 'preliminary'.

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

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

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

The following values are underlined to indicate possible problems:

* An MDA is underlined if it is bigger than its RDL.

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

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GUIDE, cont.

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DATA SHEET

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

* A negative RESULT is underlined if it is less than the negative of its 2 sigma counting ERROR.

* When reporting a Method Blank, a RESULT is underlined if greater than its MDA. If the MDA is blank, the 2 sigma counting error is used in the comparison.

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LAB CONTROL SAMPLE

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

The following notes apply to this report:

* All fields in common with the Data Sheet Report have similar usage. Refer to its Report Guide for details.

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

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

* REC (Recovery) is RESULT divided by ADDED expressed as a percent.

* The first, computed limits for the recovery reflect:

  1. The error of RESULT, including that introduced by rounding the result prior to printing.

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

  2. The error of ADDED.

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

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

* The recovery is underlined if it is outside either of these ranges.

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REPORT GUIDE

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DUPLICATE

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

The following notes apply to this report:

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

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

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

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

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

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

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

  This value reported for this limit is at most 999.

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

  1. A fixed percentage specified in the protocol.

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DUPLICATE

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

* The RPD is underlined if it is greater than either limit.

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

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

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

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REPORT GUIDE

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MATRIX SPIKE

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

The following notes apply to this report:

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

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

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

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

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

* The first, computed limits for the recovery reflect:

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

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

  2. The error of ADDED.

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

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
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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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REPORT GUIDE

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METHOD SUMMARY

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

The following notes apply to this report:

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

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

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

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

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

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

* Non-U results for Method Blanks are underlined to indicate possible contamination of other samples in the preparation batch. The Method Blank Report has supporting data.

* Lab Control Sample and Matrix Spike results are shown as: ok, No data, LOW or HIGH, with the last two underlined. 'No data' means no amount ADDED was specified. 'LOW' and 'HIGH'

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

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.

SDG 8605
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract 44002624

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.

TestAmerica Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

36005
S2-04-034

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

5/15/2012

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Wilson, Debby	Carrier Tracking No(s):	COC No: 440-3590.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: debby.wilson@testamericainc.com		Page: Page 1 of 1
Company: Eberline Services				Job #: 440-7684-1

Address: 2030 Wright Avenue,	Due Date Requested: 4/19/2012
City: Richmond	TAT Requested (days):
State, Zip: CA, 94804	
Phone:	PO #:
Email:	WO #:
Project Name: Boeing SSFL outfalls	Project #: 44002624
Site: Boeing SSFL	SSOW#:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT/ Gross Alpha	SUBCONTRACT/ Gross Beta	SUBCONTRACT/ Radium Combined	SUBCONTRACT/ Strontium 90	SUBCONTRACT/ Tritium	SUBCONTRACT/ Uranium, Combined	SUBCONTRACT/ Gamma Spec K-40 CS-137	Total Number of containers	Special Instructions/Note:
		Preservation Code:													
Outfall 019 (440-7684-1)	4/5/12	09:45 Pacific		Water			X	X	X	X	X	X	X	2	
Trip Blank (440-7684-3)	4/6/12	14:00 Pacific		Water			X	X	X	X		X	X	1	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	4/6/12 17:00	TAI	FedEx	4/6/12 17:00	
Relinquished by: FEDEX	Date/Time: 4/7/12 10:00	Company	Received by: [signature]	Date/Time: 4/7/12 10:00	Company EBERLINE
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

EBERLINE SERVICES

RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA

Date/Time received 4/7/11 10:00 CoC No. 440-3590.1

Container I.D. No. Ice chest Requested TAT (Days) STAND P.O. Received Yes [ ] No [ ]

INSPECTION

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

14. Was P.M. notified of any anomalies? Yes [ ] No [ ] Date

15. Inspected by JK Date: 4/9/12 Time: 10:30

Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wipe	Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	wipe
ALL Samples	<80						

Ion Chamber Ser. No. _____ Calibration date _____

Alpha Meter Ser. No. _____ Calibration date _____

Beta/Gamma Meter Ser. No. 100482 Calibration date 6 Dec 2011

Form SCP-02, 07-30-07

"over 55 years of quality nuclear services"

Test America Version 7/19/2010

CHAIN OF CUSTODY FORM

440-7559

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson	Boeing-SSFL NPDES **Quarterly Outfall 019** **GRAB**
Project Manager: Bronwyn Kelly Sampler: Rick BANAGA	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	VOCs 624 + cis-1,2-DCE & Freon 113	Oil & Grease (1664-HEM)	Settleable Solids	Conductivity										Comments
							ANALYSIS REQUIRED													
Outfall 019	W	VOAs	5	4-4-2012 09:30	HCl	1A, 1B, 1C, 1D, 1E	X													
Outfall 019	W	1L Amber	2		HCl	2A, 2B		X												
Outfall 019	W	1L Poly	1		None	3			X											
Outfall 019	W	500 mL Poly	2		None	4A, 4B				X										
Trip Blanks	W	VOAs	3	4-4-2012 09:30	HCl	5A, 5B, 5C	X													

Field readings:
(Log in and include in report Temp and pH)

Temp °F = 57.0
pH = 7.5
DO = 4.31 mg/L

Time of readings = 09:30

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

Relinquished By	Date/Time:	Received By	Date/Time:
Ron Banaga	4-4-2012 11:55	Matt Crum	4-4-12 11:55
Matt Crum	4-4-12 19:20	Vu Bandi	4/4/12 19:00

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

Sample Integrity: (Check)
Intact: ✓ On Ice: ✓ 1.5°C

Data Requirements: (Check)
No Level IV: __ All Level IV: ____ NPDES Level IV: X

Test America Version 7/19/2010

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson	Boeing-SSFL NPDES **Quarterly Outfall 019** **COMPOSITE**
Project Manager: Bronwyn Kelly Sampler: Rick Banaga	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Cu, Pb, Hg, Cd, Se, Zn, Hardness as $CaCO_3$	TCDD (and all congeners)	BOD_5 (20 degrees C)	Surfactants (MBAS)	Cl^-, SO_4, NO_3+NO_2-N, Perchlorate	Nitrate-N, Nitrite-N	Turbidity, TDS, TSS	Ammonia-N (350.2)	Alpha BHC (608)	2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs 625)					Comments
							ANALYSIS REQUIRED														
Outfall 019	W	1L Poly	1	4-4-2012 09:45	HNO_3	6A	X														24 HRS TAT
Outfall 019 Dup	W	1L Poly	1		HNO_3	6B	X														
Outfall 019	W	1L Amber	2		None	7A, 7B		X													
Outfall 019	W	1L Poly	1		None	8			X												
Outfall 019	W	500 mL Poly	2		None	9A, 9B				X											
Outfall 019	W	500 mL Poly	2		None	10A, 10B					X										
Outfall 019	W	500 mL Poly	1		None	11						X									
Outfall 019	W	500 mL Poly	2		None	12A, 12B							X								
Outfall 019	W	500 mL Poly	1		H_2SO_4	13								X							
Outfall 019	W	1L Amber	2		None	14A, 14B									X						
Outfall 019	W	1L Amber	2	4-4-2012 09:45	None	15A, 15B										X					

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

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

Relinquished By	Date/Time:	Received By	Date/Time:
Rick Banaga	4-5-2012 12:00		4-5-12 12:00
Matt Quinn	4.5.12 18:10		1810 4.5.12

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

Sample Integrity: (Check)
Intact: _____ On Ice: ✓

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

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson	Boeing-SSFL NPDES **Quarterly Outfall 019** **COMPOSITE**
Project Manager: Bronwyn Kelly Sampler: Rick Banning	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Dissolved Metals: Cu, Pb, Hg, Cd, Se, Zn, Hardness as CaCO3	Total Organic Carbon	Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, CS-137 (901.0 or 901.1)	Acute Toxicity	Cyanide	Chronic Toxicity									Comments
							ANALYSIS REQUIRED														
Outfall 019	W	1L Poly	1	4-5-2012 09:45	None	16	X														Filter w/in 24hrs of receipt at lab
Outfall 019	W	250 mL Glass	1		HCl	17		X													
Outfall 019	W	2.5 Gal Cube	1		None	18A			X												Unfiltered and unpreserved analysis
		500 mL Amber	1		None	18B															
Outfall 019	W	1 Gal Cube	1		None	19				X											
Outfall 019	W	500 mL Poly	1		NaOH	20					X										
Outfall 019	W	1 Gal Poly	1	4-5-2012 09:45	None	21						X									**Only test if first or second rain events of the year**

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

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

Relinquished By	Date/Time:	Received By	Date/Time:
Rick Banning	4-5-2012 12:00		4-5-12 12:00
		Received By	Date/Time:
Relinquished By	Date/Time:		4.5.12 1810
	4-5-12 18:10		
Relinquished By	Date/Time:	Received By	Date/Time:

Turn-around time: (Check)

24 Hour: ____ 72 Hour: ____ 10 Day: ____

48 Hour: ____ 5 Day: ____ Normal: X

Sample Integrity: (Check)

Intact: ✓ On Ice: ✓

Data Requirements: (Check)

No Level IV: _ All Level IV: _ NPDES Level IV: X

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 440-7559-1

Login Number: 7559

List Number: 1

Creator: Robb, Kathleen

List Source: TestAmerica Irvine

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	

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 440-7559-1

Login Number: 7684
List Number: 1
Creator: Perez, Angel

List Source: TestAmerica Irvine

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.	True	
Residual Chlorine Checked.	N/A	

APPENDIX G

Section 17

Outfall 019 – May 3, 2012

MECX Data Validation Report

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-10462-1

Prepared by

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

I. INTRODUCTION

Task Order Title:	Boeing SSFL NPDES
Contract Task Order:	1261.100D.00
Sample Delivery Group:	440-10462-1
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 Composite	440-10651-1	H2E180407-001, S205027-01	Water	5/3/2012 9:30:00 AM	1613B, 180.1, 200.7 total/dissolved, 245.1 total/dissolved, 314.0, 900, 901.1, 903.1, 904, 905, 906, SM 5310B, ASTM D5174

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at TestAmerica-Irvine and TestAmerica-West Sacramento nominally below the control limit; however, the sample containers were not noted to be frozen or damaged. The temperature upon receipt was not noted by Eberline; however, due to the nonvolatile nature of the analytes, no qualifications were required. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the samples were couriered to TestAmerica-Irvine, custody seals were not necessary. Custody seals were present on the coolers upon arrival at TestAmerica-West Sacramento. Custody seals were not present on the coolers upon arrival at Eberline. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

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

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin
Date Reviewed: June 15, 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 $\leq$20% for the 15 native compounds (calibration by isotope dilution) and $\leq$35% for the two native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the Method 1613 QC limits for all standards.

    - Continuing Calibration: Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VERs were acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits.

- Blanks: The method blank had a detect above the EDL for OCDD. The sample result for OCDD detected between the EDL and the reporting limit was qualified as nondetected, "U," at the level of contamination.

- 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.

- Compound Identification: Compound identification was verified. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613.

- Compound Quantification and Reported Detection Limits: Compound quantitation was verified by recalculating any sample detects and a representative number of blank spike concentrations. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J." Any detects reported between the estimated detection limit (EDL) and the reporting limit (RL) were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Nondetects are valid to the EDL.

B. EPA METHODS 200.7 and 245.1—Metals and Mercury

Reviewed By: P. Meeks
Date Reviewed: June 13, 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, 200.8, 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 r^2 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 laboratory-established 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 total and dissolved mercury. Recoveries and RPDs were within laboratory-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: June 13, 2012

The sample listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X 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 r^2 value was ≥0.995 and all initial and continuing calibration recoveries were within 90-110%. 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 method-established 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: June 13, 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 laboratory-established 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: June 13, 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*, SM5310B, 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: TOC in the method blank was reported at 0.8 mg/L; therefore, TOC detected in the sample was qualified as estimated, "J." The turbidity method blank and all CCBs had no detects.

- Blank Spikes and Laboratory Control Samples: The recovery was within laboratory-established QC limits.

- Laboratory Duplicates: A laboratory duplicate analysis was performed on the sample in this SDG for turbidity. The RPD was within the laboratory control limit.

- Matrix Spike/Matrix Spike Duplicate: Not applicable to these analyses.

- 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 440-10462-1

Analysis Method 1613B

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

Lab Sample Name: 440-10651-1 **Sample Date:** 5/3/2012 9:30:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822-46-9	ND	0.000047	0.0000026	ug/L		U	
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.000047	0.0000019	ug/L		U	
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.000047	0.0000030	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.000047	0.0000021	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.000047	0.0000013	ug/L		U	
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.000047	0.0000022	ug/L		U	
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.000047	0.0000013	ug/L		U	
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.000047	0.0000020	ug/L		U	
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.000047	0.0000019	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	0.000047	0.0000022	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.000047	0.0000018	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.000047	0.0000013	ug/L		U	
2,3,4,7,8-PeCDF	57117-31-4	ND	0.000047	0.0000017	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.0000094	0.0000045	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.0000094	0.0000031	ug/L		U	
OCDD	3268-87-9	ND	0.000094	0.0000040	ug/L	B J	U	B
OCDF	39001-02-0	ND	0.000094	0.0000032	ug/L		U	
Total HpCDD	37871-00-4	ND	0.000047	0.0000026	ug/L		U	
Total HpCDF	38998-75-3	ND	0.000047	0.0000023	ug/L		U	
Total HxCDD	34465-46-8	ND	0.000047	0.0000021	ug/L		U	
Total HxCDF	55684-94-1	ND	0.000047	0.0000014	ug/L		U	
Total PeCDD	36088-22-9	ND	0.000047	0.0000022	ug/L		U	
Total PeCDF	30402-15-4	ND	0.000047	0.0000017	ug/L		U	
Total TCDD	41903-57-5	ND	0.0000094	0.0000045	ug/L		U	
Total TCDF	55722-27-5	ND	0.0000094	0.0000031	ug/L		U	

Analysis Method 180.1

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

Lab Sample Name: 440-10651-1 **Sample Date:** 5/3/2012 9:30:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Turbidity	STL00189	0.22	0.10	0.040	NTU			

Analysis Method 200.7 Rev 4.4

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

Lab Sample Name: 440-10651-1 **Sample Date:** 5/3/2012 9:30:00 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 Method 245.1

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

Lab Sample Name: 440-10651-1 **Sample Date:** 5/3/2012 9:30:00 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 Method 314.0

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

Lab Sample Name: 440-10651-1 **Sample Date:** 5/3/2012 9:30:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Perchlorate	14797-73-0	0.96	4.0	0.95	ug/L	J,DX	J	DNQ

Analysis Method Gamma Spec K-40 CS-137

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

Lab Sample Name: 440-10651-1 **Sample Date:** 5/3/2012 9:30:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	-0.662	20	1.85	pCi/L	U	U	
Potassium-40	13966002	9.67	25	23.4	pCi/L	U	U	

Analysis Method Gross Alpha and Beta

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

Lab Sample Name: 440-10651-1 **Sample Date:** 5/3/2012 9:30:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	0.13	3	1.24	pCi/L	U	UJ	C
Gross Beta	12587472	2.15	4	1.45	pCi/L	J	J	E, DNQ

Analysis Method Radium 226

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

Lab Sample Name: 440-10651-1 **Sample Date:** 5/3/2012 9:30:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	-0.032	1	0.622	pCi/L	U	U	

Analysis Method Radium 228

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

Lab Sample Name: 440-10651-1 **Sample Date:** 5/3/2012 9:30:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	0.026	1	0.374	pCi/L	U	U	

Analysis Method SM 5310B

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

Lab Sample Name: 440-10651-1 **Sample Date:** 5/3/2012 9:30:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Organic Carbon	7440-44-0	ND	3.3	0.75	mg/L		UJ	B

Analysis Method Strontium 90

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

Lab Sample Name: 440-10651-1 **Sample Date:** 5/3/2012 9:30:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	0.018	2	0.957	pCi/L	U	U	

Analysis Method Tritium

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

Lab Sample Name: 440-10651-1 **Sample Date:** 5/3/2012 9:30:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	-104	500	179	pCi/L	U	U	

Analysis Method Uranium, Combined

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

Lab Sample Name: 440-10651-1 **Sample Date:** 5/3/2012 9:30:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total	NA	0.018	1	0.007	pCi/L	J	J	DNQ