APPENDIX G

Section 10

Outfall 009 – April 11 & 12, 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: 440-8315-1
Client Project/Site: Routine Outfall 009

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

Attn: Bronwyn Kelly

Debby Wilson

Authorized for release by:
5/23/2012 3:48:55 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
5/23/2012 3:48:55 PM

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Sample Summary

Client: MWH Americas Inc
Project/Site: Routine Outfall 009

TestAmerica Job ID: 440-8315-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-8315-1	Outfall 009 Grab	Water	04/11/12 08:45	04/11/12 18:30
440-8443-1	Outfall 009 Composite	Water	04/11/12 20:31	04/12/12 18:35
440-8443-2	Trip Blank	Water	04/13/12 14:18	04/12/12 18:35

Job ID: 440-8315-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-8315-1

Comments
No additional comments.

Receipt
The samples were received on 4/11/2012 6:30 PM and 4/12/2012 6:35 PM; the samples arrived in good conditions, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.5 C and 5.9 C.

HPLC
Method(s) 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for nitrite in batch 19241 were outside control limits due to matrix effects. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for phoshpate in batch 19241 were outside control limits due to matrix effects. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Metals
Method(s) 245.1: Matrix spikes for batch 20257 could not be recovered for mercury due to sample matrix interferences which required sample dilution. The associated laboratory control sample (LCS) met acceptance criteria.

No other analytical or quality issues were noted.

General Chemistry
Method(s) 1664A: Insufficient sample volume was available to perform batch matrix spike/matrix spike duplicate (MS/MSD) associated with batch 21480. 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 (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.

Client Sample ID: Outfall 009 Grab

Lab Sample ID: 440-8315-1

Date Collected: 04/11/12 08:45

Matrix: Water

Date Received: 04/11/12 18:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		4.8	1.3	mg/L		04/24/12 06:01	04/24/12 06:38	1

Client Sample ID: Outfall 009 Composite

Lab Sample ID: 440-8443-1

Date Collected: 04/11/12 20:31

Matrix: Water

Date Received: 04/12/12 18:35

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.6		0.50	0.40	mg/L			04/13/12 06:17	1
Nitrate Nitrite as N	0.31		0.26	0.19	mg/L			04/13/12 06:17	1
Sulfate	3.3		0.50	0.40	mg/L			04/13/12 06:17	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	0.00000080	ug/L		04/19/12 09:00	04/22/12 19:38	0.97
Total TCDD	ND		0.000010	0.00000080	ug/L		04/19/12 09:00	04/22/12 19:38	0.97
1,2,3,7,8-PeCDD	0.0000024	J Q	0.000050	0.00000062	ug/L		04/19/12 09:00	04/22/12 19:38	0.97
Total PeCDD	0.0000024	J Q	0.000050	0.00000062	ug/L		04/19/12 09:00	04/22/12 19:38	0.97
1,2,3,4,7,8-HxCDD	0.0000031	J Q B	0.000050	0.00000047	ug/L		04/19/12 09:00	04/22/12 19:38	0.97
1,2,3,6,7,8-HxCDD	0.0000044	J Q	0.000050	0.00000046	ug/L		04/19/12 09:00	04/22/12 19:38	0.97
1,2,3,7,8,9-HxCDD	0.0000048	J B	0.000050	0.00000040	ug/L		04/19/12 09:00	04/22/12 19:38	0.97
Total HxCDD	0.000024	J Q B	0.000050	0.00000044	ug/L		04/19/12 09:00	04/22/12 19:38	0.97
1,2,3,4,6,7,8-HpCDD	0.000073		0.000050	0.00000059	ug/L		04/19/12 09:00	04/22/12 19:38	0.97
Total HpCDD	0.00017	B	0.000050	0.00000059	ug/L		04/19/12 09:00	04/22/12 19:38	0.97
OCDD	0.00073	B	0.00010	0.0000018	ug/L		04/19/12 09:00	04/22/12 19:38	0.97
2,3,7,8-TCDF	0.0000049	J B	0.000010	0.00000061	ug/L		04/19/12 09:00	04/22/12 19:38	0.97
2,3,7,8-TCDF	0.0000025	J Q	0.000010	0.0000019	ug/L		04/19/12 09:00	04/24/12 20:10	0.97
Total TCDF	0.000019	J Q B	0.000010	0.00000061	ug/L		04/19/12 09:00	04/22/12 19:38	0.97
1,2,3,7,8-PeCDF	0.0000060	J B	0.000050	0.00000066	ug/L		04/19/12 09:00	04/22/12 19:38	0.97
2,3,4,7,8-PeCDF	0.0000030	J Q	0.000050	0.00000066	ug/L		04/19/12 09:00	04/22/12 19:38	0.97
Total PeCDF	0.000023	J Q B	0.000050	0.00000066	ug/L		04/19/12 09:00	04/22/12 19:38	0.97
1,2,3,4,7,8-HxCDF	0.0000068	J Q B	0.000050	0.000000070	ug/L		04/19/12 09:00	04/22/12 19:38	0.97
1,2,3,6,7,8-HxCDF	0.0000049	J	0.000050	0.000000070	ug/L		04/19/12 09:00	04/22/12 19:38	0.97
2,3,4,6,7,8-HxCDF	ND		0.000050	0.0000030	ug/L		04/19/12 09:00	04/22/12 19:38	0.97
1,2,3,7,8,9-HxCDF	0.0000028	J B	0.000050	0.000000070	ug/L		04/19/12 09:00	04/22/12 19:38	0.97
Total HxCDF	0.000039	J Q B	0.000050	0.000000070	ug/L		04/19/12 09:00	04/22/12 19:38	0.97
1,2,3,4,6,7,8-HpCDF	0.000029	J B	0.000050	0.00000046	ug/L		04/19/12 09:00	04/22/12 19:38	0.97
1,2,3,4,7,8,9-HpCDF	0.0000056	J B	0.000050	0.00000056	ug/L		04/19/12 09:00	04/22/12 19:38	0.97
Total HpCDF	0.000058	J Q B	0.000050	0.00000050	ug/L		04/19/12 09:00	04/22/12 19:38	0.97
OCDF	0.000053	J B	0.00010	0.00000039	ug/L		04/19/12 09:00	04/22/12 19:38	0.97

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*84*		*35 - 197*	*04/19/12 09:00*	*04/22/12 19:38*	*0.97*
37Cl4-2,3,7,8-TCDD	*118*		*35 - 197*	*04/19/12 09:00*	*04/24/12 20:10*	*0.97*

Internal Standard	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*53*		*25 - 164*	*04/19/12 09:00*	*04/22/12 19:38*	*0.97*
13C-1,2,3,7,8-PeCDD	*58*		*25 - 181*	*04/19/12 09:00*	*04/22/12 19:38*	*0.97*
13C-1,2,3,4,7,8-HxCDD	*58*		*32 - 141*	*04/19/12 09:00*	*04/22/12 19:38*	*0.97*
13C-1,2,3,6,7,8-HxCDD	*55*		*28 - 130*	*04/19/12 09:00*	*04/22/12 19:38*	*0.97*
13C-1,2,3,4,6,7,8-HpCDD	*75*		*23 - 140*	*04/19/12 09:00*	*04/22/12 19:38*	*0.97*

Client: MWH Americas Inc
Project/Site: Routine Outfall 009

TestAmerica Job ID: 440-8315-1

Client Sample ID: Outfall 009 Composite
Date Collected: 04/11/12 20:31
Date Received: 04/12/12 18:35

Lab Sample ID: 440-8443-1
Matrix: Water

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

Internal Standard	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-OCDD	*61*		*17 - 157*	*04/19/12 09:00*	*04/22/12 19:38*	*0.97*
13C-2,3,7,8-TCDF	*47*		*24 - 169*	*04/19/12 09:00*	*04/22/12 19:38*	*0.97*
13C-2,3,7,8-TCDF	*67*		*24 - 169*	*04/19/12 09:00*	*04/24/12 20:10*	*0.97*
13C-1,2,3,7,8-PeCDF	*49*		*24 - 185*	*04/19/12 09:00*	*04/22/12 19:38*	*0.97*
13C-2,3,4,7,8-PeCDF	*52*		*21 - 178*	*04/19/12 09:00*	*04/22/12 19:38*	*0.97*
13C-1,2,3,6,7,8-HxCDF	*60*		*26 - 123*	*04/19/12 09:00*	*04/22/12 19:38*	*0.97*
13C-2,3,4,6,7,8-HxCDF	*51*		*28 - 136*	*04/19/12 09:00*	*04/22/12 19:38*	*0.97*
13C-1,2,3,7,8,9-HxCDF	*53*		*29 - 147*	*04/19/12 09:00*	*04/22/12 19:38*	*0.97*
13C-1,2,3,4,6,7,8-HpCDF	*59*		*28 - 143*	*04/19/12 09:00*	*04/22/12 19:38*	*0.97*
13C-1,2,3,4,7,8,9-HpCDF	*63*		*26 - 138*	*04/19/12 09:00*	*04/22/12 19:38*	*0.97*
13C-1,2,3,4,7,8-HxCDF	*49*		*26 - 152*	*04/19/12 09:00*	*04/22/12 19:38*	*0.97*

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		04/21/12 06:17	04/27/12 18:38	1
Copper	**4.5**		2.0	0.50	ug/L		04/21/12 06:17	04/27/12 18:38	1
Lead	**3.2**		1.0	0.20	ug/L		04/21/12 06:17	04/28/12 18:14	1
Antimony	**0.51**	**J,DX**	2.0	0.30	ug/L		04/21/12 06:17	04/27/12 18:38	1
Thallium	ND		1.0	0.20	ug/L		04/21/12 06:17	04/28/12 18:14	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		04/21/12 07:51	04/25/12 15:39	1
Copper	**3.6**		2.0	0.50	ug/L		04/21/12 07:51	04/25/12 15:39	1
Lead	**0.63**	**J,DX**	1.0	0.20	ug/L		04/21/12 07:51	04/25/12 15:39	1
Antimony	**0.60**	**J,DX**	2.0	0.30	ug/L		04/21/12 07:51	04/25/12 15:39	1
Thallium	ND		1.0	0.20	ug/L		04/21/12 07:51	04/25/12 15:39	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 14:58	04/17/12 13:55	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		04/16/12 15:30	04/18/12 12:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**35**		10	10	mg/L			04/13/12 10:06	1
Total Suspended Solids	**16**		10	10	mg/L			04/18/12 15:13	1
Cyanide, Total	ND		5.0	3.0	ug/L		04/25/12 15:36	04/25/12 19:45	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	0.386	U	20		pCi/L		04/19/12 00:00	04/23/12 00:00	1
Potassium-40	1.85	U	25		pCi/L		04/19/12 00:00	04/23/12 00:00	1

Method: Gross Alpha and Beta - Gross Alpha/Beta

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gross Alpha	1.23	J	3		pCi/L		04/24/12 00:00	04/26/12 07:51	1
Gross Beta	2.29	J	4		pCi/L		04/24/12 00:00	04/26/12 07:51	1

Client: MWH Americas Inc
Project/Site: Routine Outfall 009

TestAmerica Job ID: 440-8315-1

Client Sample ID: Outfall 009 Composite

Lab Sample ID: 440-8443-1

Date Collected: 04/11/12 20:31
Matrix: Water
Date Received: 04/12/12 18:35

Method: Radium 226 - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-226	0.126	U	1		pCi/L		04/30/12 00:00	04/30/12 13:18	1

Method: Radium 228 - RAD-226-228 combined

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-228	0.118	U	1		pCi/L		04/25/12 00:00	04/25/12 14:21	1

Method: Strontium 90 - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Strontium-90	-0.156	U	2		pCi/L		04/24/12 00:00	04/24/12 08:20	1

Method: Tritium - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tritium	-72.3	U	500		pCi/L		04/19/12 00:00	04/20/12 11:36	1

Method: Uranium, Combined - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium, Total	0.074	J	1		pCi/L		04/25/12 00:00	04/25/12 01:58	1

Client Sample ID: Trip Blank

Lab Sample ID: 440-8443-2

Date Collected: 04/13/12 14:18
Matrix: Water
Date Received: 04/12/12 18:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cesium-137	-1.89	U	20		pCi/L		04/19/12 00:00	04/20/12 00:00	1
Potassium-40	-13.1	U	25		pCi/L		04/19/12 00:00	04/20/12 00:00	1

Method: Gross Alpha and Beta - Gross Alpha/Beta

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gross Alpha	0.009	U	3		pCi/L		04/24/12 00:00	04/26/12 16:42	1
Gross Beta	-0.428	U	4		pCi/L		04/24/12 00:00	04/26/12 16:42	1

Method: Radium 226 - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-226	0.022	U	1		pCi/L		04/30/12 00:00	04/30/12 13:18	1

Method: Radium 228 - RAD-226-228 combined

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-228	-0.131	U	1		pCi/L		04/25/12 00:00	04/25/12 14:02	1

Method: Strontium 90 - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Strontium-90	0.352	U	2		pCi/L		04/24/12 00:00	04/24/12 08:20	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		04/25/12 00:00	04/25/12 02:17	1

Lab Chronicle

Client: MWH Americas Inc
Project/Site: Routine Outfall 009

TestAmerica Job ID: 440-8315-1

Client Sample ID: Outfall 009 Grab

Lab Sample ID: 440-8315-1

Date Collected: 04/11/12 08:45

Matrix: Water

Date Received: 04/11/12 18:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664A			1045 mL	1000 mL	21464	04/24/12 06:01	DA	TAL IRV
Total/NA	Analysis	1664A		1			21480	04/24/12 06:38	DA	TAL IRV

Client Sample ID: Outfall 009 Composite

Lab Sample ID: 440-8443-1

Date Collected: 04/11/12 20:31

Matrix: Water

Date Received: 04/12/12 18:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	1 mL	1.0 mL	19241	04/13/12 06:17	NN	TAL IRV
Total/NA	Analysis	300.0		1	1 mL	1.0 mL	19242	04/13/12 06:17	NN	TAL IRV
Total	Prep	3542			1028.79 mL	20 uL	2110042_P	04/19/12 09:00	TL	TAL WSC
Total	Analysis	1613B		0.97			2110042	04/22/12 19:38	SO	TAL WSC
Total	Analysis	1613B		0.97			2110042	04/24/12 20:10	SO	TAL WSC
Total/NA	Prep	245.1			20 mL	20 mL	20030	04/16/12 14:58	SN	TAL IRV
Total/NA	Analysis	245.1		1			20257	04/17/12 13:55	MP	TAL IRV
Dissolved	Prep	245.1			20 mL	20 mL	20049	04/16/12 15:30	SN	TAL IRV
Dissolved	Analysis	245.1		1			20502	04/18/12 12:23	MP	TAL IRV
Dissolved	Prep	200.2			50 mL	50 mL	21118	04/21/12 07:51	EN	TAL IRV
Dissolved	Analysis	200.8		1			22049	04/25/12 15:39	RC	TAL IRV
Total Recoverable	Prep	200.2			50 mL	50 mL	21114	04/21/12 06:17	EN	TAL IRV
Total Recoverable	Analysis	200.8		1			22549	04/27/12 18:38	NH	TAL IRV
Total Recoverable	Analysis	200.8		1			22627	04/28/12 18:14	RC	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	19574	04/13/12 10:06	XL	TAL IRV
Total/NA	Analysis	SM 2540D		1	100 mL	100 mL	20537	04/18/12 15:13	DK	TAL IRV
Total/NA	Prep	Distill/CN			50 mL	50 mL	21913	04/25/12 15:36	PQI	TAL IRV
Total/NA	Analysis	SM 4500 CN E		1			21973	04/25/12 19:45	PQI	TAL IRV
Total/NA	Prep	General Prep		1			8608_P	04/19/12 00:00		Eber-Rich
Total/NA	Analysis	Gamma Spec K-40 CS-137		1			8608	04/23/12 00:00	LS	Eber-Rich
Total/NA	Prep	General Prep		1			8608_P	04/24/12 00:00		Eber-Rich
Total/NA	Analysis	Gross Alpha and Beta		1			8608	04/26/12 07:51	DVP	Eber-Rich
Total/NA	Prep	General Prep		1			8608_P	04/30/12 00:00		Eber-Rich
Total/NA	Analysis	Radium 226		1			8608	04/30/12 13:18	TM	Eber-Rich
Total/NA	Prep	General Prep		1			8608_P	04/25/12 00:00		Eber-Rich
Total/NA	Analysis	Radium 228		1			8608	04/25/12 14:21	ASM	Eber-Rich
Total/NA	Analysis	Strontium 90		1			8608	04/24/12 08:20	ASM	Eber-Rich
Total/NA	Analysis	Tritium		1			8608	04/20/12 11:36	WL	Eber-Rich
Total/NA	Analysis	Uranium, Combined		1			8608	04/25/12 01:58	LS	Eber-Rich

Lab Chronicle

Client: MWH Americas Inc
Project/Site: Routine Outfall 009

TestAmerica Job ID: 440-8315-1

Client Sample ID: Trip Blank

Lab Sample ID: 440-8443-2

Date Collected: 04/13/12 14:18

Matrix: Water

Date Received: 04/12/12 18:35

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			8608_P	04/19/12 00:00		Eber-Rich
Total/NA	Analysis	Gamma Spec K-40 CS-137		1			8608	04/20/12 00:00	LS	Eber-Rich
Total/NA	Prep	General Prep		1			8608_P	04/24/12 00:00		Eber-Rich
Total/NA	Analysis	Gross Alpha and Beta		1			8608	04/26/12 16:42	DVP	Eber-Rich
Total/NA	Prep	General Prep		1			8608_P	04/30/12 00:00		Eber-Rich
Total/NA	Analysis	Radium 226		1			8608	04/30/12 13:18	TM	Eber-Rich
Total/NA	Prep	General Prep		1			8608_P	04/25/12 00:00		Eber-Rich
Total/NA	Analysis	Radium 228		1			8608	04/25/12 14:02	ASM	Eber-Rich
Total/NA	Analysis	Strontium 90		1			8608	04/24/12 08:20	ASM	Eber-Rich
Total/NA	Analysis	Uranium, Combined		1			8608	04/25/12 02:17	LS	Eber-Rich

Laboratory References:

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

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

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-19241/41
Matrix: Water
Analysis Batch: 19241

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.26	0.19	mg/L			04/12/12 22:04	1

Lab Sample ID: LCS 440-19241/42
Matrix: Water
Analysis Batch: 19241

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	2.65	2.74		mg/L		103	90 - 110

Lab Sample ID: 440-8441-I-4 MS
Matrix: Water
Analysis Batch: 19241

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 Nitrite as N	11		26.5	38.8		mg/L		105	80 - 120

Lab Sample ID: 440-8441-I-4 MSD
Matrix: Water
Analysis Batch: 19241

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 Nitrite as N	11		26.5	38.4		mg/L		103	80 - 120	1	20

Lab Sample ID: MB 440-19242/41
Matrix: Water
Analysis Batch: 19242

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			04/12/12 22:04	1
Sulfate	ND		0.50	0.40	mg/L			04/12/12 22:04	1

Lab Sample ID: LCS 440-19242/42
Matrix: Water
Analysis Batch: 19242

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	4.94		mg/L		99	90 - 110
Sulfate	10.0	9.69		mg/L		97	90 - 110

Lab Sample ID: 440-8441-I-4 MS
Matrix: Water
Analysis Batch: 19242

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	79		50.0	122		mg/L		87	80 - 120
Sulfate	160		100	250		mg/L		88	80 - 120

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 440-8441-I-4 MSD
Matrix: Water
Analysis Batch: 19242

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
Chloride	79		50.0	123		mg/L		88	80 - 120	0	20
Sulfate	160		100	248		mg/L		86	80 - 120	1	20

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

Lab Sample ID: G2D190000042B
Matrix: Water
Analysis Batch: 2110042

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 2110042_P

Analyte	MB Result	MB Qualifier	ML	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000011	ug/L		04/19/12 09:00	04/21/12 10:33	1
Total TCDD	ND		0.000010	0.0000011	ug/L		04/19/12 09:00	04/21/12 10:33	1
1,2,3,7,8-PeCDD	ND		0.000050	0.0000023	ug/L		04/19/12 09:00	04/21/12 10:33	1
Total PeCDD	ND		0.000050	0.0000023	ug/L		04/19/12 09:00	04/21/12 10:33	1
1,2,3,4,7,8-HxCDD	0.0000019	J Q	0.000050	0.0000013	ug/L		04/19/12 09:00	04/21/12 10:33	1
1,2,3,6,7,8-HxCDD	ND		0.000050	0.0000024	ug/L		04/19/12 09:00	04/21/12 10:33	1
1,2,3,7,8,9-HxCDD	0.0000031	J Q	0.000050	0.0000012	ug/L		04/19/12 09:00	04/21/12 10:33	1
Total HxCDD	0.0000050	J Q	0.000050	0.0000013	ug/L		04/19/12 09:00	04/21/12 10:33	1
1,2,3,4,6,7,8-HpCDD	0.0000043	J Q	0.000050	0.0000012	ug/L		04/19/12 09:00	04/21/12 10:33	1
Total HpCDD	0.0000059	J Q	0.000050	0.0000012	ug/L		04/19/12 09:00	04/21/12 10:33	1
OCDD	0.000010	J Q	0.00010	0.0000028	ug/L		04/19/12 09:00	04/21/12 10:33	1
2,3,7,8-TCDF	0.0000019	J Q	0.000010	0.0000013	ug/L		04/19/12 09:00	04/21/12 10:33	1
Total TCDF	0.0000019	J Q	0.000010	0.0000013	ug/L		04/19/12 09:00	04/21/12 10:33	1
1,2,3,7,8-PeCDF	0.0000045	J Q	0.000050	0.0000019	ug/L		04/19/12 09:00	04/21/12 10:33	1
2,3,4,7,8-PeCDF	ND		0.000050	0.0000044	ug/L		04/19/12 09:00	04/21/12 10:33	1
Total PeCDF	0.0000045	J Q	0.000050	0.0000019	ug/L		04/19/12 09:00	04/21/12 10:33	1
1,2,3,4,7,8-HxCDF	0.0000037	J	0.000050	0.00000086	ug/L		04/19/12 09:00	04/21/12 10:33	1
1,2,3,6,7,8-HxCDF	ND		0.000050	0.0000026	ug/L		04/19/12 09:00	04/21/12 10:33	1
2,3,4,6,7,8-HxCDF	0.0000029	J Q	0.000050	0.00000082	ug/L		04/19/12 09:00	04/21/12 10:33	1
1,2,3,7,8,9-HxCDF	0.0000049	J	0.000050	0.00000096	ug/L		04/19/12 09:00	04/21/12 10:33	1
Total HxCDF	0.000013	J Q	0.000050	0.00000087	ug/L		04/19/12 09:00	04/21/12 10:33	1
1,2,3,4,6,7,8-HpCDF	0.0000058	J	0.000050	0.0000016	ug/L		04/19/12 09:00	04/21/12 10:33	1
1,2,3,4,7,8,9-HpCDF	0.0000042	J Q	0.000050	0.0000020	ug/L		04/19/12 09:00	04/21/12 10:33	1
Total HpCDF	0.000010	J Q	0.000050	0.0000018	ug/L		04/19/12 09:00	04/21/12 10:33	1
OCDF	0.0000074	J	0.00010	0.0000027	ug/L		04/19/12 09:00	04/21/12 10:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*88*		*35 - 197*	*04/19/12 09:00*	*04/21/12 10:33*	*1*

Internal Standard	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*60*		*25 - 164*	*04/19/12 09:00*	*04/21/12 10:33*	*1*
13C-1,2,3,7,8-PeCDD	*61*		*25 - 181*	*04/19/12 09:00*	*04/21/12 10:33*	*1*
13C-1,2,3,4,7,8-HxCDD	*66*		*32 - 141*	*04/19/12 09:00*	*04/21/12 10:33*	*1*
13C-1,2,3,6,7,8-HxCDD	*70*		*28 - 130*	*04/19/12 09:00*	*04/21/12 10:33*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*66*		*23 - 140*	*04/19/12 09:00*	*04/21/12 10:33*	*1*
13C-OCDD	*70*		*17 - 157*	*04/19/12 09:00*	*04/21/12 10:33*	*1*
13C-2,3,7,8-TCDF	*63*		*24 - 169*	*04/19/12 09:00*	*04/21/12 10:33*	*1*
13C-1,2,3,7,8-PeCDF	*60*		*24 - 185*	*04/19/12 09:00*	*04/21/12 10:33*	*1*

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

Lab Sample ID: G2D190000042B
Matrix: Water
Analysis Batch: 2110042

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 2110042_P

Internal Standard	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,7,8-PeCDF	66		21 - 178	04/19/12 09:00	04/21/12 10:33	1
13C-1,2,3,6,7,8-HxCDF	69		26 - 123	04/19/12 09:00	04/21/12 10:33	1
13C-2,3,4,6,7,8-HxCDF	69		28 - 136	04/19/12 09:00	04/21/12 10:33	1
13C-1,2,3,7,8,9-HxCDF	66		29 - 147	04/19/12 09:00	04/21/12 10:33	1
13C-1,2,3,4,6,7,8-HpCDF	65		28 - 143	04/19/12 09:00	04/21/12 10:33	1
13C-1,2,3,4,7,8,9-HpCDF	69		26 - 138	04/19/12 09:00	04/21/12 10:33	1
13C-1,2,3,4,7,8-HxCDF	67		26 - 152	04/19/12 09:00	04/21/12 10:33	1

Lab Sample ID: G2D190000042B
Matrix: Water
Analysis Batch: 2110042

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 2110042_P

Analyte	MB Result	MB Qualifier	ML	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.000010	0.0000013	ug/L		04/19/12 09:00	04/21/12 15:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	114		35 - 197	04/19/12 09:00	04/21/12 15:14	1

Internal Standard	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF	75		24 - 169	04/19/12 09:00	04/21/12 15:14	1

Lab Sample ID: G2D190000042C
Matrix: Water
Analysis Batch: 2110042

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 2110042_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	0.000200	0.000205		ug/L		102	67 - 158
1,2,3,7,8-PeCDD	0.00100	0.00100		ug/L		100	70 - 142
1,2,3,4,7,8-HxCDD	0.00100	0.000926	B	ug/L		93	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000931		ug/L		93	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.000920	B	ug/L		92	64 - 162
1,2,3,4,6,7,8-HpCDD	0.00100	0.000952	B	ug/L		95	70 - 140
OCDD	0.00200	0.00195	B	ug/L		97	78 - 144
2,3,7,8-TCDF	0.000200	0.000206	B	ug/L		103	75 - 158
1,2,3,7,8-PeCDF	0.00100	0.00107	B	ug/L		107	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000985		ug/L		98	68 - 160
1,2,3,4,7,8-HxCDF	0.00100	0.000936	B	ug/L		94	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.000984		ug/L		98	84 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.000966	B	ug/L		97	70 - 156
1,2,3,7,8,9-HxCDF	0.00100	0.000978	B	ug/L		98	78 - 130
1,2,3,4,6,7,8-HpCDF	0.00100	0.00104	B	ug/L		104	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000947	B	ug/L		95	78 - 138
OCDF	0.00200	0.00192	B	ug/L		96	63 - 170

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	92		31 - 191

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

Lab Sample ID: G2D190000042C
Matrix: Water
Analysis Batch: 2110042

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 2110042_P

Internal Standard	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*47*		*20 - 175*
13C-1,2,3,7,8-PeCDD	*54*		*21 - 227*
13C-1,2,3,4,7,8-HxCDD	*59*		*21 - 193*
13C-1,2,3,6,7,8-HxCDD	*58*		*25 - 163*
13C-1,2,3,4,6,7,8-HpCDD	*61*		*26 - 166*
13C-OCDD	*70*		*13 - 199*
13C-2,3,7,8-TCDF	*50*		*22 - 152*
13C-1,2,3,7,8-PeCDF	*51*		*21 - 192*
13C-2,3,4,7,8-PeCDF	*57*		*13 - 328*
13C-1,2,3,6,7,8-HxCDF	*55*		*21 - 159*
13C-2,3,4,6,7,8-HxCDF	*60*		*22 - 176*
13C-1,2,3,7,8,9-HxCDF	*59*		*17 - 205*
13C-1,2,3,4,6,7,8-HpCDF	*59*		*21 - 158*
13C-1,2,3,4,7,8,9-HpCDF	*67*		*20 - 186*
13C-1,2,3,4,7,8-HxCDF	*58*		*19 - 202*

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-21114/1-A
Matrix: Water
Analysis Batch: 22549

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 21114

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.10	ug/L		04/21/12 06:17	04/27/12 17:09	1
Copper	ND		2.0	0.50	ug/L		04/21/12 06:17	04/27/12 17:09	1
Lead	ND		1.0	0.20	ug/L		04/21/12 06:17	04/27/12 17:09	1
Antimony	ND		2.0	0.30	ug/L		04/21/12 06:17	04/27/12 17:09	1
Thallium	ND		1.0	0.20	ug/L		04/21/12 06:17	04/27/12 17:09	1

Lab Sample ID: LCS 440-21114/2-A
Matrix: Water
Analysis Batch: 22549

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 21114

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	85.0		ug/L		106	85 - 115
Lead	80.0	84.7		ug/L		106	85 - 115
Antimony	80.0	85.5		ug/L		107	85 - 115
Thallium	80.0	85.1		ug/L		106	85 - 115

Lab Sample ID: 440-8443-1 MS
Matrix: Water
Analysis Batch: 22549

Client Sample ID: Outfall 009 Composite
Prep Type: Total Recoverable
Prep Batch: 21114

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	86.3		ug/L		108	70 - 130
Copper	4.5		80.0	92.9		ug/L		110	70 - 130
Antimony	0.51	J,DX	80.0	84.8		ug/L		105	70 - 130

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

Lab Sample ID: 440-8443-1 MS
Matrix: Water
Analysis Batch: 22627

Client Sample ID: Outfall 009 Composite
Prep Type: Total Recoverable
Prep Batch: 21114

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	3.2		80.0	89.4		ug/L		108	70 - 130
Thallium	ND		80.0	89.4		ug/L		112	70 - 130

Lab Sample ID: 440-8443-1 MSD
Matrix: Water
Analysis Batch: 22549

Client Sample ID: Outfall 009 Composite
Prep Type: Total Recoverable
Prep Batch: 21114

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	86.9		ug/L		109	70 - 130	1	20
Copper	4.5		80.0	91.3		ug/L		108	70 - 130	2	20
Antimony	0.51	J,DX	80.0	85.8		ug/L		107	70 - 130	1	20

Lab Sample ID: 440-8443-1 MSD
Matrix: Water
Analysis Batch: 22627

Client Sample ID: Outfall 009 Composite
Prep Type: Total Recoverable
Prep Batch: 21114

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	3.2		80.0	90.8		ug/L		109	70 - 130	2	20
Thallium	ND		80.0	91.0		ug/L		114	70 - 130	2	20

Lab Sample ID: MB 440-19679/1-D
Matrix: Water
Analysis Batch: 22049

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 21118

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.10	ug/L		04/21/12 07:51	04/25/12 15:35	1
Copper	ND		2.0	0.50	ug/L		04/21/12 07:51	04/25/12 15:35	1
Lead	ND		1.0	0.20	ug/L		04/21/12 07:51	04/25/12 15:35	1
Antimony	ND		2.0	0.30	ug/L		04/21/12 07:51	04/25/12 15:35	1
Thallium	ND		1.0	0.20	ug/L		04/21/12 07:51	04/25/12 15:35	1

Lab Sample ID: LCS 440-19679/2-D
Matrix: Water
Analysis Batch: 22049

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 21118

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	84.9		ug/L		106	85 - 115
Copper	80.0	91.4		ug/L		114	85 - 115
Lead	80.0	78.6		ug/L		98	85 - 115
Antimony	80.0	84.0		ug/L		105	85 - 115
Thallium	80.0	78.9		ug/L		99	85 - 115

Lab Sample ID: 440-8443-1 MS
Matrix: Water
Analysis Batch: 22049

Client Sample ID: Outfall 009 Composite
Prep Type: Dissolved
Prep Batch: 21118

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	84.7		ug/L		106	70 - 130
Copper	3.6		80.0	93.4		ug/L		112	70 - 130
Lead	0.63	J,DX	80.0	79.0		ug/L		98	70 - 130
Antimony	0.60	J,DX	80.0	85.2		ug/L		106	70 - 130

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

Lab Sample ID: 440-8443-1 MS
Matrix: Water
Analysis Batch: 22049

Client Sample ID: Outfall 009 Composite
Prep Type: Dissolved
Prep Batch: 21118

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Thallium	ND		80.0	79.0		ug/L		99	70 - 130

Lab Sample ID: 440-8443-1 MSD
Matrix: Water
Analysis Batch: 22049

Client Sample ID: Outfall 009 Composite
Prep Type: Dissolved
Prep Batch: 21118

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	85.6		ug/L		107	70 - 130	1	20
Copper	3.6		80.0	93.5		ug/L		112	70 - 130	0	20
Lead	0.63	J,DX	80.0	81.1		ug/L		101	70 - 130	3	20
Antimony	0.60	J,DX	80.0	86.8		ug/L		108	70 - 130	2	20
Thallium	ND		80.0	80.3		ug/L		100	70 - 130	2	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-20030/1-A
Matrix: Water
Analysis Batch: 20257

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20030

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		04/16/12 14:58	04/17/12 13:37	1

Lab Sample ID: LCS 440-20030/2-A
Matrix: Water
Analysis Batch: 20257

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20030

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	8.00	8.12		ug/L		102	85 - 115

Lab Sample ID: 440-8257-F-1-C MS
Matrix: Water
Analysis Batch: 20257

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 20030

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		8.00	1.95	LN	ug/L		24	70 - 130

Lab Sample ID: 440-8257-F-1-D MSD
Matrix: Water
Analysis Batch: 20257

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 20030

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		8.00	2.03	AY	ug/L		25	70 - 130	3.97	20

Lab Sample ID: MB 440-19679/1-C
Matrix: Water
Analysis Batch: 20502

Client Sample ID: Method Blank
Prep Type: Dissolved
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

Method: 245.1 - Mercury (CVAA) (Continued)

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

Lab Sample ID: 440-8443-1 MS — **Client Sample ID: Outfall 009 Composite**
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: 440-8443-1 MSD — **Client Sample ID: Outfall 009 Composite**
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: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 440-21464/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 21480 — **Prep Batch: 21464**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		5.0	1.4	mg/L		04/24/12 06:01	04/24/12 06:38	1

Lab Sample ID: LCS 440-21464/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 21480 — **Prep Batch: 21464**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	20.0	19.1		mg/L		95	78 - 114

Lab Sample ID: LCSD 440-21464/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 21480 — **Prep Batch: 21464**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM	20.0	18.2		mg/L		91	78 - 114	5	11

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

Lab Sample ID: MB 440-19574/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19574

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	10	mg/L			04/13/12 10:06	1

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

Lab Sample ID: LCS 440-19574/2
Matrix: Water
Analysis Batch: 19574

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	1000		mg/L		100	90 - 110

Lab Sample ID: 440-8336-A-1 DU
Matrix: Water
Analysis Batch: 19574

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	890		858		mg/L		4	10

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

Lab Sample ID: MB 440-20537/1
Matrix: Water
Analysis Batch: 20537

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			04/18/12 15:13	1

Lab Sample ID: LCS 440-20537/2
Matrix: Water
Analysis Batch: 20537

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	988		mg/L		99	85 - 115

Lab Sample ID: 440-8248-G-1 DU
Matrix: Water
Analysis Batch: 20537

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	150		145		mg/L		0.000	10

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

Lab Sample ID: MB 440-21913/1-A
Matrix: Water
Analysis Batch: 21973

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 21913

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	3.0	ug/L		04/25/12 15:36	04/25/12 19:45	1

Lab Sample ID: LCS 440-21913/2-A
Matrix: Water
Analysis Batch: 21973

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 21913

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	100	106		ug/L		106	90 - 110

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

Lab Sample ID: 440-8515-A-3-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 21973 — **Prep Batch: 21913**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	7.7		100	112		ug/L		112	70 - 115

Lab Sample ID: 440-8515-A-3-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 21973 — **Prep Batch: 21913**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	7.7		100	112		ug/L		112	70 - 115	0	15

Method: Gross Alpha and Beta - Gross Alpha/Beta

Lab Sample ID: S204064-04 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8608 — **Prep Batch: 8608_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tritium	5.24	U	500		pCi/L		04/19/12 00:00	04/20/12 11:36	1

Lab Sample ID: S204064-04 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8608 — **Prep Batch: 8608_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cesium-137	-0.038	U	20		pCi/L		04/19/12 00:00	04/23/12 00:00	1
Potassium-40	9.54	U	25		pCi/L		04/19/12 00:00	04/23/12 00:00	1

Lab Sample ID: S204064-04 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8608 — **Prep Batch: 8608_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Strontium-90	0.035	U	2		pCi/L		04/24/12 00:00	04/24/12 08:20	1

Lab Sample ID: S204064-04 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8608 — **Prep Batch: 8608_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium, Total	0	U	1		pCi/L		04/25/12 00:00	04/25/12 02:32	1

Lab Sample ID: S204064-04 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8608 — **Prep Batch: 8608_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-228	-0.071	U	1		pCi/L		04/25/12 00:00	04/25/12 14:02	1

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

Lab Sample ID: S204064-04 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8608 — **Prep Batch: 8608_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.06	U	3		pCi/L		04/24/12 00:00	04/26/12 16:42	1
Gross Beta	-0.339	U	4		pCi/L		04/24/12 00:00	04/26/12 16:42	1

Lab Sample ID: S204064-04 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8608 — **Prep Batch: 8608_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-226	-0.004	U	1		pCi/L		04/30/12 00:00	04/30/12 13:18	1

Lab Sample ID: S204064-03 — **Client Sample ID: Lab Control Sample**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8608 — **Prep Batch: 8608_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tritium	2210	1990		pCi/L		90	80 - 120

Lab Sample ID: S204064-03 — **Client Sample ID: Lab Control Sample**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8608 — **Prep Batch: 8608_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cesium-137	147	141		pCi/L		96	80 - 120
Cobalt-60	130	106		pCi/L		82	80 - 120

Lab Sample ID: S204064-03 — **Client Sample ID: Lab Control Sample**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8608 — **Prep Batch: 8608_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Strontium-90	9.34	9.29		pCi/L		99	80 - 120

Lab Sample ID: S204064-03 — **Client Sample ID: Lab Control Sample**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8608 — **Prep Batch: 8608_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Uranium, Total	62	66		pCi/L		106	80 - 120

Lab Sample ID: S204064-03 — **Client Sample ID: Lab Control Sample**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8608 — **Prep Batch: 8608_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Radium-228	5.3	5.21		pCi/L		98	60 - 140

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

Lab Sample ID: S204064-03
Matrix: WATER
Analysis Batch: 8608

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8608_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gross Alpha	33.7	39.4		pCi/L		117	70 - 130
Gross Beta	28.3	27.9		pCi/L		99	70 - 130

Lab Sample ID: S204064-03
Matrix: WATER
Analysis Batch: 8608

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8608_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Radium-226	55.7	50.6		pCi/L		91	80 - 120

Lab Sample ID: S204064-05
Matrix: WATER
Analysis Batch: 8608

Client Sample ID: OUTFALL 009 (440-8443-1) DU
Prep Type: Total/NA
Prep Batch: 8608_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Tritium	-72.3	U	-22.4	U	pCi/L		0	

Lab Sample ID: S204064-05
Matrix: WATER
Analysis Batch: 8608

Client Sample ID: OUTFALL 009 (440-8443-1) DU
Prep Type: Total/NA
Prep Batch: 8608_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Cesium-137	0.386	U	1.06	U	pCi/L		0	
Potassium-40	1.85	U	2.44	U	pCi/L		0	

Lab Sample ID: S204064-05
Matrix: WATER
Analysis Batch: 8608

Client Sample ID: OUTFALL 009 (440-8443-1) DU
Prep Type: Total/NA
Prep Batch: 8608_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Strontium-90	-0.156	U	0.361	U	pCi/L		0	

Lab Sample ID: S204064-05
Matrix: WATER
Analysis Batch: 8608

Client Sample ID: OUTFALL 009 (440-8443-1) DU
Prep Type: Total/NA
Prep Batch: 8608_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Uranium, Total	0.074	J	0.08	J	pCi/L		8	

Lab Sample ID: S204064-05
Matrix: WATER
Analysis Batch: 8608

Client Sample ID: OUTFALL 009 (440-8443-1) DU
Prep Type: Total/NA
Prep Batch: 8608_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Radium-228	0.118	U	-0.006	U	pCi/L		0	

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

Lab Sample ID: S204064-05 — **Client Sample ID: OUTFALL 009 (440-8443-1) DU**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8608 — **Prep Batch: 8608_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Gross Alpha	1.23	J		1.68	J	pCi/L				31	
Gross Beta	2.29	J		1.43	J	pCi/L				46	

Lab Sample ID: S204064-05 — **Client Sample ID: OUTFALL 009 (440-8443-1) DU**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8608 — **Prep Batch: 8608_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Radium-226	0.126	U		-0.044	U	pCi/L				0	

HPLC/IC

Analysis Batch: 19241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8441-I-4 MS	Matrix Spike	Total/NA	Water	300.0	
440-8441-I-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
440-8443-1	Outfall 009 Composite	Total/NA	Water	300.0	
LCS 440-19241/42	Lab Control Sample	Total/NA	Water	300.0	
MB 440-19241/41	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 19242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8441-I-4 MS	Matrix Spike	Total/NA	Water	300.0	
440-8441-I-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
440-8443-1	Outfall 009 Composite	Total/NA	Water	300.0	
LCS 440-19242/42	Lab Control Sample	Total/NA	Water	300.0	
MB 440-19242/41	Method Blank	Total/NA	Water	300.0	

Specialty Organics

Analysis Batch: 2110042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8443-1	Outfall 009 Composite	Total	Water	1613B	
G2D190000042B	Method Blank	Total	Water	1613B	
G2D190000042C	Lab Control Sample	Total	Water	1613B	

Prep Batch: 2110042_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8443-1	Outfall 009 Composite	Total	Water	3542	
G2D190000042B	Method Blank	Total	Water	3542	
G2D190000042C	Lab Control Sample	Total	Water	3542	

Metals

Prep Batch: 20030

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8257-F-1-C MS	Matrix Spike	Total/NA	Water	245.1	
440-8257-F-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	
440-8443-1	Outfall 009 Composite	Total/NA	Water	245.1	
LCS 440-20030/2-A	Lab Control Sample	Total/NA	Water	245.1	
MB 440-20030/1-A	Method Blank	Total/NA	Water	245.1	

Prep Batch: 20049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8443-1	Outfall 009 Composite	Dissolved	Water	245.1	
440-8443-1 MS	Outfall 009 Composite	Dissolved	Water	245.1	
440-8443-1 MSD	Outfall 009 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
440-8257-F-1-C MS	Matrix Spike	Total/NA	Water	245.1	20030
440-8257-F-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	20030
440-8443-1	Outfall 009 Composite	Total/NA	Water	245.1	20030
LCS 440-20030/2-A	Lab Control Sample	Total/NA	Water	245.1	20030

Metals (Continued)

Analysis Batch: 20257 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-20030/1-A	Method Blank	Total/NA	Water	245.1	20030

Analysis Batch: 20502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8443-1	Outfall 009 Composite	Dissolved	Water	245.1	20049
440-8443-1 MS	Outfall 009 Composite	Dissolved	Water	245.1	20049
440-8443-1 MSD	Outfall 009 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: 21114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8443-1	Outfall 009 Composite	Total Recoverable	Water	200.2	
440-8443-1 MS	Outfall 009 Composite	Total Recoverable	Water	200.2	
440-8443-1 MSD	Outfall 009 Composite	Total Recoverable	Water	200.2	
LCS 440-21114/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
MB 440-21114/1-A	Method Blank	Total Recoverable	Water	200.2	

Prep Batch: 21118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8443-1	Outfall 009 Composite	Dissolved	Water	200.2	
440-8443-1 MS	Outfall 009 Composite	Dissolved	Water	200.2	
440-8443-1 MSD	Outfall 009 Composite	Dissolved	Water	200.2	
LCS 440-19679/2-D	Lab Control Sample	Dissolved	Water	200.2	
MB 440-19679/1-D	Method Blank	Dissolved	Water	200.2	

Analysis Batch: 22049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8443-1	Outfall 009 Composite	Dissolved	Water	200.8	21118
440-8443-1 MS	Outfall 009 Composite	Dissolved	Water	200.8	21118
440-8443-1 MSD	Outfall 009 Composite	Dissolved	Water	200.8	21118
LCS 440-19679/2-D	Lab Control Sample	Dissolved	Water	200.8	21118
MB 440-19679/1-D	Method Blank	Dissolved	Water	200.8	21118

Analysis Batch: 22549

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8443-1	Outfall 009 Composite	Total Recoverable	Water	200.8	21114
440-8443-1 MS	Outfall 009 Composite	Total Recoverable	Water	200.8	21114
440-8443-1 MSD	Outfall 009 Composite	Total Recoverable	Water	200.8	21114
LCS 440-21114/2-A	Lab Control Sample	Total Recoverable	Water	200.8	21114
MB 440-21114/1-A	Method Blank	Total Recoverable	Water	200.8	21114

Analysis Batch: 22627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8443-1	Outfall 009 Composite	Total Recoverable	Water	200.8	21114
440-8443-1 MS	Outfall 009 Composite	Total Recoverable	Water	200.8	21114
440-8443-1 MSD	Outfall 009 Composite	Total Recoverable	Water	200.8	21114

General Chemistry

Analysis Batch: 19574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8336-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	
440-8443-1	Outfall 009 Composite	Total/NA	Water	SM 2540C	
LCS 440-19574/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 440-19574/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 20537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8248-G-1 DU	Duplicate	Total/NA	Water	SM 2540D	
440-8443-1	Outfall 009 Composite	Total/NA	Water	SM 2540D	
LCS 440-20537/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 440-20537/1	Method Blank	Total/NA	Water	SM 2540D	

Prep Batch: 21464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8315-1	Outfall 009 Grab	Total/NA	Water	1664A	
LCS 440-21464/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 440-21464/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	
MB 440-21464/1-A	Method Blank	Total/NA	Water	1664A	

Analysis Batch: 21480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8315-1	Outfall 009 Grab	Total/NA	Water	1664A	21464
LCS 440-21464/2-A	Lab Control Sample	Total/NA	Water	1664A	21464
LCSD 440-21464/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	21464
MB 440-21464/1-A	Method Blank	Total/NA	Water	1664A	21464

Prep Batch: 21913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8443-1	Outfall 009 Composite	Total/NA	Water	Distill/CN	
440-8515-A-3-B MS	Matrix Spike	Total/NA	Water	Distill/CN	
440-8515-A-3-D MSD	Matrix Spike Duplicate	Total/NA	Water	Distill/CN	
LCS 440-21913/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
MB 440-21913/1-A	Method Blank	Total/NA	Water	Distill/CN	

Analysis Batch: 21973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8443-1	Outfall 009 Composite	Total/NA	Water	SM 4500 CN E	21913
440-8515-A-3-B MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	21913
440-8515-A-3-D MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	21913
LCS 440-21913/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	21913
MB 440-21913/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	21913

Subcontract

Analysis Batch: 8608

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8443-1	Outfall 009 Composite	Total/NA	Water	Gamma Spec	8608_P
440-8443-1	Outfall 009 Composite	Total/NA	Water	K-40 CS-137 Gross Alpha and Beta	8608_P
440-8443-1	Outfall 009 Composite	Total/NA	Water	Radium 226	8608_P
440-8443-1	Outfall 009 Composite	Total/NA	Water	Radium 228	8608_P

Subcontract (Continued)

Analysis Batch: 8608 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8443-1	Outfall 009 Composite	Total/NA	Water	Strontium 90	8608_P
440-8443-1	Outfall 009 Composite	Total/NA	Water	Tritium	8608_P
440-8443-1	Outfall 009 Composite	Total/NA	Water	Uranium, Combined	8608_P
440-8443-2	Trip Blank	Total/NA	Water	Gamma Spec K-40 CS-137	8608_P
440-8443-2	Trip Blank	Total/NA	Water	Gross Alpha and Beta	8608_P
440-8443-2	Trip Blank	Total/NA	Water	Radium 226	8608_P
440-8443-2	Trip Blank	Total/NA	Water	Radium 228	8608_P
440-8443-2	Trip Blank	Total/NA	Water	Strontium 90	8608_P
440-8443-2	Trip Blank	Total/NA	Water	Uranium, Combined	8608_P
S204064-03	Lab Control Sample	Total/NA	WATER	Gross Alpha and Beta	8608_P
S204064-04	Method Blank	Total/NA	WATER	Gross Alpha and Beta	8608_P
S204064-05	OUTFALL 009 (440-8443-1) DU	Total/NA	WATER	Gross Alpha and Beta	8608_P

Prep Batch: 8608_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8443-1	Outfall 009 Composite	Total/NA	Water	General Prep	
440-8443-2	Trip Blank	Total/NA	Water	General Prep	
S204064-03	Lab Control Sample	Total/NA	WATER	General Prep	
S204064-04	Method Blank	Total/NA	WATER	General Prep	
S204064-05	OUTFALL 009 (440-8443-1) DU	Total/NA	WATER	General Prep	

Qualifiers

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
LN	MS and/or MSD below acceptance limits. See Blank Spike (LCS)
AY	Matrix Interference suspected
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 009

TestAmerica Job ID: 440-8315-1

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

EBERLINE ANALYTICAL CORPORATION
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www.eberlineservices.com

May 8, 2012

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

Reference: Test America-Irvine 44002624
Eberline Analytical Report S204064-8608
Sample Delivery Group 8608

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 14, 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 8608 consists of the analytical results and supporting documentation for two water samples. Sample ID's and reference dates/times are given in the Sample Summary section of the Summary Data report. The samples were received as stated on the chain-of-custody document. Any discrepancies are noted on the Eberline Analytical Sample Receipt Checklist. No holding times were exceeded.

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

2.0 Quality Control

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

3.0 Method Errors

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

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

4.0 Analysis Notes

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

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

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

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

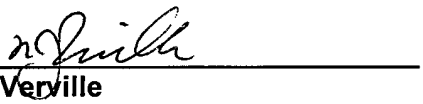
4.5 Radium-228 Analysis - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits

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

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

5.0 Case Narrative Certification Statement

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



Joseph Verville
Client Services Manager

5/8/12

Date

SDG 8608	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	05/08/12

SDG 8608
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 05/08/12

SDG 8608
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 8608

LAB SAMPLE SUMMARY

SDG 8608
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S204064-01	OUTFALL 009 (440-8443-1)	Boeing-SSFL	WATER			440-3894.1	04/11/12 20:31
S204064-02	TRIP-BLANK (440-8443-2)	Boeing-SSFL	WATER			440-3894.1	04/13/12 14:18
S204064-03	Lab Control Sample		WATER				
S204064-04	Method Blank		WATER				
S204064-05	Duplicate (S204064-01)	Boeing-SSFL	WATER				04/11/12 20:31

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LS
Version 3.06
Report date 05/08/12

EBERLINE ANALYTICAL

SDG 8608

QC SUMMARY

SDG 8608
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
8608	440-3894.1	OUTFALL 009 (440-8443-1)	WATER		10.0 L		04/14/12	3	S204064-01	8608-001
		TRIP-BLANK (440-8443-2)	WATER		10.0 L		04/14/12	1	S204064-02	8608-002
		Method Blank	WATER						S204064-04	8608-004
		Lab Control Sample	WATER						S204064-03	8608-003
		Duplicate (S204064-01)	WATER		10.0 L		04/14/12	3	S204064-05	8608-005

QC SUMMARY
Page 1
SUMMARY DATA SECTION
Page 4

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 05/08/12

EBERLINE ANALYTICAL

SDG 8608

PREP BATCH SUMMARY

SDG 8608
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	7271-142	10.4	2			1	1	1/1		
SR	WATER	Strontium-90 in Water	7271-142	10.4	2			1	1	1/1		
Gas Proportional Counting												
80A	WATER	Gross Alpha in Water	7271-142	20.6	2			1	1	1/1		
80B	WATER	Gross Beta in Water	7271-142	11.0	2			1	1	1/1		
Gamma Spectroscopy												
GAM	WATER	Gamma Emitters in Water	7271-142	7.0	2			1	1	1/1		
Kinetic Phosphorimetry												
U_T	WATER	Uranium, Total	7271-142		2			1	1	1/1		
Liquid Scintillation Counting												
H	WATER	Tritium in Water	7271-142	10.0	1			1	1	1/1		
Radon Counting												
RA	WATER	Radium-226 in Water	7271-142	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 05/08/12

EBERLINE ANALYTICAL

SDG 8608

LAB WORK SUMMARY

SDG 8608
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
S204064-01	OUTFALL 009 (440-8443-1)		8608-001	80A/80		04/26/12	04/27/12	MWT	Gross Alpha in Water
04/11/12	Boeing-SSFL	WATER	8608-001	80B/80		04/26/12	04/27/12	BW	Gross Beta in Water
04/14/12	440-3894.1		8608-001	AC		04/25/12	05/03/12	BW	Radium-228 in Water
			8608-001	GAM		04/23/12	04/30/12	MWT	Gamma Emitters in Water
			8608-001	H		04/20/12	04/24/12	BW	Tritium in Water
			8608-001	RA		04/30/12	05/01/12	BW	Radium-226 in Water
			8608-001	SR		04/24/12	04/30/12	BW	Strontium-90 in Water
			8608-001	U_T		04/25/12	04/26/12	CSS	Uranium, Total
S204064-02	TRIP-BLANK (440-8443-2)		8608-002	80A/80		04/26/12	04/27/12	MWT	Gross Alpha in Water
04/13/12	Boeing-SSFL	WATER	8608-002	80B/80		04/26/12	04/27/12	BW	Gross Beta in Water
04/14/12	440-3894.1		8608-002	AC		04/25/12	05/03/12	BW	Radium-228 in Water
			8608-002	GAM		04/20/12	04/30/12	MWT	Gamma Emitters in Water
			8608-002	RA		04/30/12	05/01/12	BW	Radium-226 in Water
			8608-002	SR		04/24/12	04/30/12	BW	Strontium-90 in Water
			8608-002	U_T		04/25/12	04/26/12	CSS	Uranium, Total
S204064-03	Lab Control Sample		8608-003	80A/80		04/26/12	04/27/12	MWT	Gross Alpha in Water
		WATER	8608-003	80B/80		04/26/12	04/27/12	BW	Gross Beta in Water
			8608-003	AC		04/25/12	05/03/12	BW	Radium-228 in Water
			8608-003	GAM		04/23/12	04/30/12	MWT	Gamma Emitters in Water
			8608-003	H		04/20/12	04/24/12	BW	Tritium in Water
			8608-003	RA		04/30/12	05/01/12	BW	Radium-226 in Water
			8608-003	SR		04/24/12	04/30/12	BW	Strontium-90 in Water
			8608-003	U_T		04/25/12	04/26/12	CSS	Uranium, Total
S204064-04	Method Blank		8608-004	80A/80		04/26/12	04/27/12	MWT	Gross Alpha in Water
		WATER	8608-004	80B/80		04/26/12	04/27/12	BW	Gross Beta in Water
			8608-004	AC		04/25/12	05/03/12	BW	Radium-228 in Water
			8608-004	GAM		04/23/12	04/30/12	MWT	Gamma Emitters in Water
			8608-004	H		04/20/12	04/24/12	BW	Tritium in Water
			8608-004	RA		04/30/12	05/01/12	BW	Radium-226 in Water
			8608-004	SR		04/24/12	04/30/12	BW	Strontium-90 in Water
			8608-004	U_T		04/25/12	04/26/12	CSS	Uranium, Total

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 05/08/12

SDG 8608
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
S204064-05	Duplicate (S204064-01)			8608-005	80A/80		04/26/12	04/27/12	MWT	Gross Alpha in Water
04/11/12	Boeing-SSFL		WATER	8608-005	80B/80		04/26/12	04/27/12	BW	Gross Beta in Water
04/14/12				8608-005	AC		04/25/12	05/03/12	BW	Radium-228 in Water
				8608-005	GAM		04/24/12	04/30/12	MWT	Gamma Emitters in Water
				8608-005	H		04/20/12	04/24/12	BW	Tritium in Water
				8608-005	RA		04/30/12	05/01/12	BW	Radium-226 in Water
				8608-005	SR		04/24/12	04/30/12	BW	Strontium-90 in Water
				8608-005	U_T		04/25/12	04/26/12	CSS	Uranium, Total

COUNTS OF TESTS BY SAMPLE TYPE

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 05/08/12

EBERLINE ANALYTICAL

SDG 8608

8608-004 Method Blank

METHOD BLANK

SDG	8608	Client	Test America, Inc.
Contact	Joseph Verville	Contract	44002624
Lab sample id	S204064-04	Client sample id	Method Blank
Dept sample id	8608-004	Material/Matrix	WATER

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	-0.060	0.32	0.599	3.00	U	80A
Gross Beta	12587472	-0.339	0.50	0.864	4.00	U	80B
Tritium	10028178	5.24	100	174	500	U	H
Radium-226	13982633	-0.004	0.28	0.508	1.00	U	RA
Radium-228	15262201	-0.071	0.23	0.393	1.00	U	AC
Strontium-90	10098972	0.035	0.14	0.277	2.00	U	SR
Uranium, Total		0	0.008	0.019	1.00	U	U_T
Potassium-40	13966002	9.54	17	29.1	25.0	U	GAM
Cesium-137	10045973	-0.038	1.0	1.50	20.0	U	GAM

QC-BLANK #81580

EBERLINE ANALYTICAL

SDG 8608

8608-003

Lab Control Sample

LAB CONTROL SAMPLE

SDG 8608 | Client Test America, Inc.

Contact Joseph Verville | Contract 44002624

Lab sample id S204064-03 | Client sample id Lab Control Sample

Dept sample id 8608-003 | 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	39.4	2.2	0.540	3.00		80A	33.7	1.3	117	75-125	70-130
Gross Beta	27.9	1.2	0.837	4.00		80B	28.3	1.1	99	88-112	70-130
Tritium	1990	160	174	500		H	2210	88	90	88-112	80-120
Radium-226	50.6	2.0	0.639	1.00		RA	55.7	2.2	91	84-116	80-120
Radium-228	5.21	0.57	0.356	1.00		AC	5.30	0.21	98	85-115	60-140
Strontium-90	9.29	0.59	0.296	2.00		SR	9.34	0.37	99	87-113	80-120
Uranium, Total	66.0	7.7	0.193	1.00		U_T	62.0	2.5	106	87-113	80-120
Cobalt-60	106	5.6	5.40	10.0		GAM	130	5.2	82	92-108	80-120
Cesium-137	141	5.3	5.26	20.0		GAM	147	5.9	96	91-109	80-120

QC-LCS #81579

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LCS
Version 3.06
Report date 05/08/12

LAB CONTROL SAMPLES
Page 1
SUMMARY DATA SECTION
Page 9

EBERLINE ANALYTICAL

SDG 8608

8608-005 OUTFALL 009 (440-8443-1)

DUPLICATE

SDG 8608 Client Test America, Inc.
Contact Joseph Verville Contract 44002624

DUPLICATE	ORIGINAL	
Lab sample id S204064-05	Lab sample id S204064-01	Client sample id OUTFALL 009 (440-8443-1)
Dept sample id 8608-005	Dept sample id 8608-001	Location/Matrix Boeing-SSFL WATER
	Received 04/14/12	Collected/Volume 04/11/12 20:31 10.0 L
		Chain of custody id 440-3894.1

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	1.68	0.42	0.371	3.00	J	80A	1.23	0.36	0.347	J	31	72	1.3
Gross Beta	1.43	0.58	0.889	4.00	J	80B	2.29	0.72	1.08	J	46	78	1.8
Tritium	-22.4	100	172	500	U	H	-72.3	100	176	U	-		0.7
Radium-226	-0.044	0.32	0.590	1.00	U	RA	0.126	0.29	0.509	U	-		0.8
Radium-228	-0.006	0.31	0.612	1.00	U	AC	0.118	0.14	0.378	U	-		0.7
Strontium-90	0.361	0.51	1.04	2.00	U	SR	-0.156	0.36	0.943	U	-		1.7
Uranium, Total	0.080	0.012	0.019	1.00	J	U_T	0.074	0.012	0.019	J	8	33	0.7
Potassium-40	2.44	18	31.3	25.0	U	GAM	1.85	32	57.4	U	-		0
Cesium-137	1.06	1.7	2.86	20.0	U	GAM	0.386	2.8	4.96	U	-		0.4

QC-DUP#1 81581

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-DUP
Version 3.06
Report date 05/08/12

DUPLICATES
Page 1
SUMMARY DATA SECTION
Page 10

EBERLINE ANALYTICAL

SDG 8608

8608-001 OUTFALL 009 (440-8443-1)

DATA SHEET

SDG	8608	Client	Test America, Inc.
Contact	Joseph Verville	Contract	44002624
Lab sample id	S204064-01	Client sample id	OUTFALL 009 (440-8443-1)
Dept sample id	8608-001	Location/Matrix	Boeing-SSFL WATER
Received	04/14/12	Collected/Volume	04/11/12 20:31 10.0 L
		Chain of custody id	440-3894.1

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	1.23	0.36	0.347	3.00	J	80A
Gross Beta	12587472	2.29	0.72	1.08	4.00	J	80B
Tritium	10028178	-72.3	100	176	500	U	H
Radium-226	13982633	0.126	0.29	0.509	1.00	U	RA
Radium-228	15262201	0.118	0.14	0.378	1.00	U	AC
Strontium-90	10098972	-0.156	0.36	0.943	2.00	U	SR
Uranium, Total		0.074	0.012	0.019	1.00	J	U_T
Potassium-40	13966002	1.85	32	57.4	25.0	U	GAM
Cesium-137	10045973	0.386	2.8	4.96	20.0	U	GAM

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	05/08/12

DATA SHEETS
Page 1
SUMMARY DATA SECTION
Page 11

EBERLINE ANALYTICAL

SDG 8608

8608-002 TRIP-BLANK (440-8443-2)

DATA SHEET

SDG	8608	Client	Test America, Inc.
Contact	Joseph Verville	Contract	44002624
Lab sample id	S204064-02	Client sample id	TRIP-BLANK (440-8443-2)
Dept sample id	8608-002	Location/Matrix	Boeing-SSFL WATER
Received	04/14/12	Collected/Volume	04/13/12 14:18 10.0 L
		Chain of custody id	440-3894.1

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	0.009	0.17	0.306	3.00	U	80A
Gross Beta	12587472	-0.428	0.46	0.784	4.00	U	80B
Radium-226	13982633	0.022	0.27	0.498	1.00	U	RA
Radium-228	15262201	-0.131	0.17	0.416	1.00	U	AC
Strontium-90	10098972	0.352	0.50	1.02	2.00	U	SR
Uranium, Total		0	0.008	0.019	1.00	U	U_T
Potassium-40	13966002	-13.1	20	35.6	25.0	U	GAM
Cesium-137	10045973	-1.89	2.1	2.03	20.0	U	GAM

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	05/08/12

EBERLINE ANALYTICAL

SDG 8608

LAB METHOD SUMMARY

RADIUM-228 IN WATER

BETA COUNTING

Test AC Matrix WATER
SDG 8608
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 7271-142						
S204064-01			8608-001	OUTFALL 009 (440-8443-1)	U	
S204064-02			8608-002	TRIP-BLANK (440-8443-2)	U	
S204064-03			8608-003	Lab Control Sample	ok	
S204064-04			8608-004	Method Blank	U	
S204064-05			8608-005	Duplicate (S204064-01)	-	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 7271-142			2σ prep error 10.4 %	Reference Lab Notebook No. 7271 pg.012												
S204064-01			OUTFALL 009 (440-8443-1)	0.378	1.80			85		150			14	04/25/12	04/25	GRB-228
S204064-02			TRIP-BLANK (440-8443-2)	0.416	1.80			87		150			12	04/25/12	04/25	GRB-201
S204064-03			Lab Control Sample	0.356	1.80			89		150				04/25/12	04/25	GRB-202
S204064-04			Method Blank	0.393	1.80			80		150				04/25/12	04/25	GRB-204
S204064-05			Duplicate (S204064-01)	0.612	1.80			91		150			14	04/25/12	04/25	GRB-206
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 0.431 ± 0.207
YIELD 86 ± 8

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 05/08/12

EBERLINE ANALYTICAL

SDG 8608

Test SR Matrix WATER
SDG 8608
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 7271-142						
S204064-01			8608-001	OUTFALL 009 (440-8443-1)	U	
S204064-02			8608-002	TRIP-BLANK (440-8443-2)	U	
S204064-03			8608-003	Lab Control Sample	ok	
S204064-04			8608-004	Method Blank	U	
S204064-05			8608-005	Duplicate (S204064-01)	-	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 7271-142			2σ prep error 10.4 %	Reference Lab Notebook No. 7271 pg.012												
S204064-01			OUTFALL 009 (440-8443-1)	0.943	0.500			79		50			13	04/24/12	04/24	GRB-228
S204064-02			TRIP-BLANK (440-8443-2)	1.02	0.500			81		50			11	04/24/12	04/24	GRB-229
S204064-03			Lab Control Sample	0.296	1.00			80		100				04/24/12	04/24	GRB-231
S204064-04			Method Blank	0.277	1.00			79		100				04/24/12	04/24	GRB-232
S204064-05			Duplicate (S204064-01)	1.04	0.500			78		50			13	04/24/12	04/24	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 5 SAMPLES
MDA 0.715 ± 0.786
YIELD 79 ± 2

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 05/08/12

EBERLINE ANALYTICAL

SDG 8608

Test 80A Matrix WATER
SDG 8608
Contact Joseph Verville

LAB METHOD SUMMARY

GROSS ALPHA IN WATER
GAS PROPORTIONAL COUNTING

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha	
Preparation batch 7271-142						
S204064-01	80		8608-001	OUTFALL 009 (440-8443-1)	1.23	J
S204064-02	80		8608-002	TRIP-BLANK (440-8443-2)	U	
S204064-03	80		8608-003	Lab Control Sample	ok	
S204064-04	80		8608-004	Method Blank	U	
S204064-05	80		8608-005	Duplicate (S204064-01)	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 7271-142			2σ prep error 20.6 %	Reference Lab Notebook No. 7271 pg.012												
S204064-01	80		OUTFALL 009 (440-8443-1)	0.347	0.300			11		400			15	04/24/12	04/26	GRB-107
S204064-02	80		TRIP-BLANK (440-8443-2)	0.306	0.300			0		400			13	04/24/12	04/26	GRB-109
S204064-03	80		Lab Control Sample	0.540	0.300			59		400				04/24/12	04/26	GRB-111
S204064-04	80		Method Blank	0.599	0.300			62		400				04/24/12	04/26	GRB-112
S204064-05	80		Duplicate (S204064-01)	0.371	0.300			12		400			15	04/24/12	04/26	GRB-105
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 0.433 ± 0.258
RESIDUE 29 ± 59

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 05/08/12

EBERLINE ANALYTICAL

SDG 8608

LAB METHOD SUMMARY

GROSS BETA IN WATER

GAS PROPORTIONAL COUNTING

Test 80B Matrix WATER
SDG 8608
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 7271-142						
S204064-01	80		8608-001	OUTFALL 009 (440-8443-1)	2.29	J
S204064-02	80		8608-002	TRIP-BLANK (440-8443-2)	U	
S204064-03	80		8608-003	Lab Control Sample	ok	
S204064-04	80		8608-004	Method Blank	U	
S204064-05	80		8608-005	Duplicate (S204064-01)	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 7271-142			2σ prep error 11.0 %	Reference Lab Notebook No. 7271 pg.012												
S204064-01	80		OUTFALL 009 (440-8443-1)	1.08	0.300			11		400			15	04/24/12	04/26	GRB-107
S204064-02	80		TRIP-BLANK (440-8443-2)	0.784	0.300			0		400			13	04/24/12	04/26	GRB-109
S204064-03	80		Lab Control Sample	0.837	0.300			59		400				04/24/12	04/26	GRB-111
S204064-04	80		Method Blank	0.864	0.300			62		400				04/24/12	04/26	GRB-112
S204064-05	80		Duplicate (S204064-01)	0.889	0.300			12		400			15	04/24/12	04/26	GRB-105
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 0.891 ± 0.225
RESIDUE 29 ± 59

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 05/08/12

EBERLINE ANALYTICAL

SDG 8608

Test GAM Matrix WATER
SDG 8608
Contact Joseph Verville

LAB METHOD SUMMARY

GAMMA EMITTERS IN WATER

GAMMA SPECTROSCOPY

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt-60	Cesium-137	
Preparation batch 7271-142							
S204064-01			8608-001	OUTFALL 009 (440-8443-1)		U	
S204064-02			8608-002	TRIP-BLANK (440-8443-2)		U	
S204064-03			8608-003	Lab Control Sample	ok	ok	
S204064-04			8608-004	Method Blank		U	
S204064-05			8608-005	Duplicate (S204064-01)		-	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 7271-142			2σ prep error 7.0 %	Reference Lab Notebook No. 7271 pg.012												
S204064-01			OUTFALL 009 (440-8443-1)		2.00					400			12	04/19/12	04/23	MB,G5,0
S204064-02			TRIP-BLANK (440-8443-2)		2.00					400			7	04/19/12	04/20	MB,G2,0
S204064-03			Lab Control Sample		2.00					400				04/19/12	04/23	MB,G3,0
S204064-04			Method Blank		2.00					400				04/19/12	04/23	MB,G4,0
S204064-05			Duplicate (S204064-01)		2.00					400			13	04/19/12	04/24	MB,G3,0
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 05/08/12

EBERLINE ANALYTICAL

SDG 8608

LAB METHOD SUMMARY

URANIUM, TOTAL

KINETIC PHOSPHORIMETRY

Test U T Matrix WATER
SDG 8608
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 7271-142					
S204064-01			8608-001	OUTFALL 009 (440-8443-1)	0.074 J
S204064-02			8608-002	TRIP-BLANK (440-8443-2)	U
S204064-03			8608-003	Lab Control Sample	ok
S204064-04			8608-004	Method Blank	U
S204064-05			8608-005	Duplicate (S204064-01)	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 7271-142			2σ prep error		Reference Lab Notebook No. 7271 pg.012											
S204064-01			OUTFALL 009 (440-8443-1)	0.019	0.0200								14	04/25/12	04/25	KPA-001
S204064-02			TRIP-BLANK (440-8443-2)	0.019	0.0200								12	04/25/12	04/25	KPA-001
S204064-03			Lab Control Sample	0.193	0.0200									04/25/12	04/25	KPA-001
S204064-04			Method Blank	0.019	0.0200									04/25/12	04/25	KPA-001
S204064-05			Duplicate (S204064-01)	0.019	0.0200								14	04/25/12	04/25	KPA-001
Nominal values and limits from method				1.00	0.0200								180			

PROCEDURES REFERENCE D5174

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.054 ± 0.156
YIELD _____ ± _____

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 05/08/12

EBERLINE ANALYTICAL

SDG 8608

Test H Matrix WATER
SDG 8608
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 7271-142						
S204064-01			8608-001	OUTFALL 009 (440-8443-1)	U	
S204064-03			8608-003	Lab Control Sample	ok	
S204064-04			8608-004	Method Blank	U	
S204064-05			8608-005	Duplicate (S204064-01)	-	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 7271-142			2σ prep error 10.0 %	Reference Lab Notebook No. 7271 pg.012												
S204064-01			OUTFALL 009 (440-8443-1)	176	0.0100			100		150			9	04/19/12	04/20	LSC-006
S204064-03			Lab Control Sample	174	0.100			10		150				04/19/12	04/20	LSC-006
S204064-04			Method Blank	174	0.100			10		150				04/19/12	04/20	LSC-006
S204064-05			Duplicate (S204064-01)	172	0.0100			100		150			9	04/19/12	04/20	LSC-006
Nominal values and limits from method				500	0.0100					100			180			

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

AVERAGES ± 2 SD FOR 4 SAMPLES
MDA 174 ± 3.27
YIELD 55 ± 104

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 05/08/12

EBERLINE ANALYTICAL

SDG 8608

LAB METHOD SUMMARY

RADIUM-226 IN WATER

RADON COUNTING

Test RA Matrix WATER
SDG 8608
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 7271-142						
S204064-01			8608-001	OUTFALL 009 (440-8443-1)	U	
S204064-02			8608-002	TRIP-BLANK (440-8443-2)	U	
S204064-03			8608-003	Lab Control Sample	ok	
S204064-04			8608-004	Method Blank	U	
S204064-05			8608-005	Duplicate (S204064-01)	-	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 7271-142			2σ prep error 16.4 %	Reference Lab Notebook No. 7271 pg.012												
S204064-01			OUTFALL 009 (440-8443-1)	0.509	0.100			100		132			19	04/30/12	04/30	RN-013
S204064-02			TRIP-BLANK (440-8443-2)	0.498	0.100			100		132			17	04/30/12	04/30	RN-015
S204064-03			Lab Control Sample	0.639	0.100			100		132				04/30/12	04/30	RN-009
S204064-04			Method Blank	0.508	0.100			100		132				04/30/12	04/30	RN-010
S204064-05			Duplicate (S204064-01)	0.590	0.100			100		132			19	04/30/12	04/30	RN-016
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 0.549 ± 0.125
YIELD 100 ± 0

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 05/08/12

SDG 8608
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 8608
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract 44002624

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.

SDG 8608
Contact Joseph Verville

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.

SDG 8608
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract 44002624

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.

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 05/08/12

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Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract 44002624

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

SDG 8608
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GUIDE, cont.

Client Test America, Inc.
Contract 44002624

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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REPORT GUIDE

Client Test America, Inc.
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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

Client Test America, Inc.
Contract 44002624

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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GUIDE, cont.

Client Test America, Inc.
Contract 44002624

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

Client Test America, Inc.
Contract 44002624

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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GUIDE, cont.

Client Test America, Inc.
Contract 44002624

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

Client Test America, Inc.
Contract 44002624

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.

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GUIDE, cont.

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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.

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

Chain of Custody Record

8608

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Wilson, Debby	Carrier Tracking No(s):	COC No: 440-3894.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: debby.wilson@testamericainc.com		Page: Page 1 of 1
Company: Eberline Services				Job #: 440-8315-1

Address: 2030 Wright Avenue, ,	Due Date Requested: 4/26/2012
City: Richmond	TAT Requested (days):
State, Zip: CA, 94804	
Phone:	PO #:
Email:	WO #:
Project Name: Routine Outfall 009	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/ 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 009 Composite (440-8443-1)	4/11/12	20:31 Pacific		Water			X	X	X	X	X	X	X	2	

Possible Hazard Identification
Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify)

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

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Jn Bank	4/13/12 17:00	TAI	FedEx	4/13/12 17:00	
Relinquished by: FEDEX	Date/Time:	Company	Received by: Alex Kelly	Date/Time: 4/14/12 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:

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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: 440-3894.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: debby.wilson@testamericainc.com		Page: Page 1 of 1
Company: Eberline Services		Analysis Requested		Job #: 440-8443-1
Address: 2030 Wright Avenue, ,	Due Date Requested: 4/26/2012			Preservation Codes:
City: Richmond	TAT Requested (days):			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:
State, Zip: CA, 94804				
Phone:	PO #:			
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/ Uranium, Combined	SUBCONTRACT/ Gamma Spec K-40 CS-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
Trip Blank (440-8443-2)	4/13/12	14:18 Pacific		Water			X	X	X	X	X	X		

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
1	[signature]	4/13/12 17:00	TAI	FedEx	4/13/12 17:00	
2	FEDEX			[signature]	4/14/12 10:00	EBERLINE
3						

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 4/14/12 10:00 CoC No. 440-38924.1

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 2/6 Preservative _____
13. Describe any anomalies:

    _____

    _____

    _____
14. Was P.M. notified of any anomalies? Yes [ ] No [ ] Date _____
15. Inspected by JK Date: 4/16/12 Time: 10:20

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

Form SCP-02, 07-30-07

"over 55 years of quality nuclear services"

Test America Version 7/19/2010

CHAIN OF CUSTODY FORM

440 - 8315

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson	Boeing-SSFL NPDES **Routine Outfall 009** **GRAB** Stormwater at SW-13
Project Manager: Bronwyn Kelly Sampler: Rick Banagan	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Oil & Grease (1664-HEM)													Comments
Outfall 009	W	1L Amber	2	4-11-2012 08:45	HCl	1A, 1B	X													

ANALYSIS REQUIRED

Field readings:
(Log in and include in report Temp and pH)

Temp °F = 53

pH = 6.7

Time of readings = 08:45

These Samples are the Grab Portion of Outfall 009 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
Rick Banagan	4-11-2012	[illegible]	4/11/12 15:25
[illegible]	4/11/12 18:30	VuBanh	4/11/12 18:30

Turn-around time: (Check)

24 Hour: _____ 72 Hour: _____ 10 Day: _____

48 Hour: _____ 5 Day: _____ Normal: X

Sample Integrity: (Check)

Intact: ✓ On Ice: ✓ 5.9°C

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 **Routine Outfall 009** **COMPOSITE** Stormwater at SW-13
Project Manager: Bronwyn Kelly Sampler: Rick BATNAGA	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: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Cl, SO_4, NO_3+NO_2-N	TDS, TSS	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl	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 009	W	1L Poly	1	4-11-2012 20:31	HNO_3	2A	X														
Outfall 009 Dup	W	1L Poly	1		HNO_3	2B	X														
Outfall 009	W	1L Amber	2		None	3A, 3B		X													
Outfall 009	W	500 mL Poly	2		None	4A, 4B			X												
Outfall 009	W	500 mL Poly	1		None	5				X											
Outfall 009	W	1L Poly	1		None	6					X										Filter w/in 24hrs of receipt at lab
Outfall 009	W	2.5 Gal Cube	1	4-11-2012 20:31	None	7A						X									Unfiltered and unpreserved analysis
		500 mL Amber	1		None	7B															
Outfall 009	W	1 Gal Poly	1		None	8							X								Only test if first or second rain events of the year
Outfall 009	W	500 mL Poly	1	4-11-2012 20:31	NaOH	9								X							

COC Page 2 of 2 list the Composite Samples for Outfall 009 for this storm event.

These must be added to the same work order for COC Page 1 of 2 for Outfall 009 for the same event.

Relinquished By	Date/Time:	Received By	Date/Time:
	4-12-2012 11:45		4-12-12 11:45
Relinquished By	Date/Time:	Received By	Date/Time:
	4-12-12 18:35		4.12.12 1835
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: 440-8315-1

Login Number: 8315

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	

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 440-8315-1

Login Number: 8443
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.	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

APPENDIX G

Section 11

Outfall 018 – April 10 &11, 2012

MECX Data Validation Report

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-8129-1

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:	440-8129-1
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 018 Grab	440-8129-1	N/A	Water	4/10/2012 2:45:00 PM	120.1, 8015B
Outfall 018 Composite	440-8282-1	G2D130465-001, S204062-01	Water	4/11/2012 1:45:00 PM	1613B, 180.1, 200.7, 200.8, 245.0, 314.0, 625, 900. 901.1, 903.1, 904, 905, 906, SM2340B,SM5310B, ASTM D5174

II. Sample Management

No anomalies were observed regarding sample management. One cooler was received at 7.2°C. The GRO result was qualified as estimated, "J." Remaining analyses were nonvolatile in nature and required no qualification. Eberline did not note the temperature upon receipt; however, due to the nonvolatile nature of the analytes, no qualifications were necessary. The remaining samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact upon receipt at Eberline and TestAmerica-West Sacramento. As the samples were delivered by courier to TestAmerica-Irvine, custody seals were not required. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

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

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin
Date Reviewed: May 31, 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 ≤20% for the 15 native compounds (calibration by isotope dilution) and ≤35% for the two native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the Method 1613 QC limits for all standards.

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

- Blanks: The method blank had detects reported below the EDL for total HpCDD, 1,2,3,4,6,7,8-HpCDF, and OCDF, and a detect above the EDL but below the RL for total HpCDF. All of the method blank results were reported as EMPCs; however, the reviewer deemed it appropriate to evaluate all method blank results for the purpose of qualifying sample results. Sample results for 1,2,3,4,6,7,8-HpCDF and OCDF were qualified as

nondetected "U," at the level of contamination. Total HpCDD and total HpCDF were qualified as estimated, "J," as only a portion of the total was considered method blank 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 below the acceptance criteria listed in Table 7 of Method 1613 for all internal standard except 13C-OCDD, 13C-2,3,7,8-TCDF, and 13C-2,3,4,7,8-PeCDF. Signal to noise ratios were acceptable for all internal standards; however, due to the low recoveries, all target compounds except OCDD, 2,3,7,8-TCDF, total TCDF, and 2,3,4,7,8-PeCDF were qualified as estimated, "J," for detects and "UJ," for nondetects.

- Compound Identification: Compound identification was verified. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613.

- Compound Quantification and Reported Detection Limits: Compound quantitation was verified by recalculating any reportable sample concentrations. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J." Any detects reported between the 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.

  Results reported as EMPCs previously qualified as nondetected for method blank contamination were not further qualified as EMPCs. The result for 1,2,3,4,6,7,8-HpCDD, reported as an EMPC, was qualified as an estimated nondetect, "UJ," at the level of the EMPC. Totals containing isomers reported as EMPCs or other EMPC peaks were qualified as estimated, "J."

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

Reviewed By: P. Meeks
Date Reviewed: June 1, 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: Total boron was detected in the method blank at 0.0487 mg/L; therefore, total boron detected in the sample was qualified as nondetected, "U." Dissolved boron was also detected in the method blank, but at a concentration nominally less than 5× the sample result. Method blanks and CCBs had no other applicable detects.

- Interference Check Samples: Recoveries were within 80-120%. There were target compounds present in the ICSA solution, but not at concentrations indicative of matrix interference.

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

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

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

- Serial Dilution: No serial dilution analyses were performed.

- Internal Standards Performance: All sample internal standard intensities were within 60-125% of the internal standard intensities measured in the initial calibration blank.

- 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.

  The total arsenic result was -7.9 µg/L; therefore, the reviewer raised the DL to the absolute value of the result.

  Total antimony and total thallium were not detected but dissolved antimony and dissolved thallium were detected nominally above the MDL. These differences are within the error of the method.

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

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

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

C. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks
Date Reviewed: June 4, 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.

D. EPA METHODs 8015Mod—Gasoline Range Organics (GRO), and 8015B—Diesel Range Organics (DRO)

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 Total Fuel Hydrocarbons (DVP-8, Rev. 0), EPA Method 8015B*, and the *National Functional Guidelines for Organic Data Review* (10/99).

- Holding Times: Extraction and analytical holding times were met. The GRO sample was analyzed within 14 days of collection and the DRO sample was extracted within seven days of collection and analyzed within 40 days of extraction.

- Calibration: The initial calibration %RSD for GRO was less than 20%, the DRO r^2 was ≥0.995, and all continuing calibration %Ds were less than 15%.

- Blanks: The method blanks had no GRO or DRO detects above the MDL.

- Blank Spikes and Laboratory Control Samples: Recoveries for all LCSs and RPDs for the DRO LCS/LCSD were within laboratory-established QC limits.

- Surrogate Recovery: The surrogate recoveries were within laboratory-established QC limits.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on the sample of this SDG. Method accuracy for GRO and DRO, and precision for DRO were evaluated based on the blank spike 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: There were no field duplicate samples identified for this SDG.

- Compound Identification: Compound identification was verified. Two hydrocarbon ranges were reported: GRO (C4-C12) and DRO (C13-C28). Review of the sample chromatograms and retention time ranges 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 calibrations 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.

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: 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 %D for benzidine, ICV and CCV %Ds for hexachlorocyclopentadiene, and CCV %Ds for n-nitroso-di-n-propylamine, 2-nitroaniline, and 4-nitrophenol exceeded 20%. Sample results for the %D outliers, all nondetects, were qualified as estimated, "UJ." The remaining 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: In both the LCS and LCSD, benzidine was recovered below the QC limits but ≥10%, and 4-nitrophenol was recovered above the QC limits. The nondetected sample result for benzidine was qualified as estimated, "UJ." As 4-nitrophenol was not detected in the associated sample, no qualification was necessary. In the LCS only, 2-nitroaniline was recovered above the QC limits. The RPD for n-nitroso-dimethylamine exceeded the QC limit; therefore, the nondetected sample result for n-nitroso-dimethylamine was qualified as estimated, "UJ." Remaining recoveries and RPDs for applicable target compounds 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 314.0—Perchlorate

Reviewed By: P. Meeks
Date Reviewed: June 4, 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 ≥0.995 and all initial and continuing calibration recoveries were within 90-110%. The IPC recovery was within the method control limit of 80-120%. ICCS recovery was within the method control limit of 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.

- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on a 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.

G. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks
Date Reviewed: June 4, 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 120.0 and 180.0, Standard Method SM 5310B*, and the *National Functional Guidelines for Inorganic Data Review* (7/02).

- Holding Times: Analytical holding times, 48 hours from preparation for turbidity and 28 days for conductivity and TOC, were met.

- Calibration: Calibration criteria were met. Initial calibration r^2 values were $\geq$0.995. The turbidity ICV was recovered at 70%; therefore, turbidity detected in the sample was qualified as estimated, "J." The remaining initial and all continuing calibration recoveries were within 90-110%.

- Blanks: Method blanks and CCBs had no detects.

- Blank Spikes and Laboratory Control Samples: Recoveries were 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-established control limit.

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

- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

- 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 440-8129-1

Analysis Method 120.1

Sample Name Outfall 018 Grab **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8129-1 **Sample Date:** 4/10/2012 2:45:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Specific Conductance	STL00244	600	1.0	1.0	umhos/c			

Analysis Method 1613B

Sample Name Outfall 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8282-1 **Sample Date:** 4/11/2012 1:45:00 PM

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	0.0000026	ug/L	J Q	UJ	I, *III
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.000050	0.0000022	ug/L	J B	UJ	B, I
1,2,3,4,7,8,9-HpCDF	55673-89-7	0.000014	0.000050	0.0000028	ug/L	J	J	DNQ, I
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.000050	0.0000023	ug/L		UJ	I
1,2,3,4,7,8-HxCDF	70648-26-9	0.000005	0.000050	0.0000015	ug/L	J	J	DNQ, I
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.000050	0.0000023	ug/L		UJ	I
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.000050	0.0000015	ug/L		UJ	I
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.000050	0.0000021	ug/L		UJ	I
1,2,3,7,8,9-HxCDF	72918-21-9	0.000004	0.000050	0.0000018	ug/L	J	J	DNQ, I
1,2,3,7,8-PeCDD	40321-76-4	ND	0.000050	0.0000040	ug/L		UJ	I
1,2,3,7,8-PeCDF	57117-41-6	ND	0.000050	0.0000045	ug/L		UJ	I
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.000050	0.0000014	ug/L		UJ	I
2,3,4,7,8-PeCDF	57117-31-4	ND	0.000050	0.0000045	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.000010	0.0000033	ug/L		UJ	I
2,3,7,8-TCDF	51207-31-9	ND	0.000010	0.0000032	ug/L		U	
OCDD	3268-87-9	0.000033	0.00010	0.0000055	ug/L	J	J	DNQ
OCDF	39001-02-0	ND	0.00010	0.0000076	ug/L	J Q B	UJ	B, I
Total HpCDD	37871-00-4	0.000006	0.000050	0.0000026	ug/L	J Q B	J	B, DNQ, I, *III
Total HpCDF	38998-75-3	0.000036	0.000050	0.0000025	ug/L	J B	J	B, DNQ, I
Total HxCDD	34465-46-8	ND	0.000050	0.0000021	ug/L		UJ	I
Total HxCDF	55684-94-1	0.000020	0.000050	0.0000015	ug/L	J Q	J	DNQ, I, *III
Total PeCDD	36088-22-9	ND	0.000050	0.0000040	ug/L		UJ	I
Total PeCDF	30402-15-4	ND	0.000050	0.0000045	ug/L		UJ	I
Total TCDD	41903-57-5	ND	0.000010	0.0000033	ug/L		UJ	I
Total TCDF	55722-27-5	ND	0.000010	0.0000032	ug/L		U	

Analysis Method 180.1

Sample Name Outfall 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8282-1 **Sample Date:** 4/11/2012 1:45:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Turbidity	STL00189	1.8	0.10	0.040	NTU		J	C

Analysis Method 200.7 Rev 4.4

Sample Name Outfall 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8282-1 **Sample Date:** 4/11/2012 1:45:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Arsenic	7440-38-2	ND	10	7.9	ug/L		U	$, DL changed from 7
Arsenic, Dissolved	7440-38-2	ND	10	7.0	ug/L		U	
Barium	7440-39-3	21	10	6.0	ug/L			
Barium, Dissolved	7440-39-3	18	10	6.0	ug/L			
Beryllium	7440-41-7	ND	2.0	0.90	ug/L		U	
Beryllium, Dissolved	7440-41-7	ND	2.0	0.90	ug/L		U	
Boron	7440-42-8	ND	0.22	0.020	mg/L	MB	U	B
Boron, Dissolved	7440-42-8	0.20	0.050	0.020	mg/L	MB		
Calcium	7440-70-2	28	0.10	0.050	mg/L	MB		
Calcium, Dissolved	7440-70-2	27	0.10	0.050	mg/L	MB		
Chromium	7440-47-3	ND	5.0	2.0	ug/L		U	
Chromium, Dissolved	7440-47-3	ND	5.0	2.0	ug/L		U	
Iron	7439-89-6	0.086	0.040	0.015	mg/L			
Iron, Dissolved	7439-89-6	ND	0.040	0.015	mg/L		U	
Magnesium	7439-95-4	7.9	0.020	0.012	mg/L			
Magnesium, Dissolved	7439-95-4	7.3	0.020	0.012	mg/L			
Manganese	7439-96-5	18	20	7.0	ug/L	J,DX	J	DNQ
Manganese, Dissolved	7439-96-5	9.7	20	7.0	ug/L	J,DX	J	DNQ
Nickel	7440-02-0	2.2	10	2.0	ug/L	J,DX	J	DNQ
Nickel, Dissolved	7440-02-0	ND	10	2.0	ug/L		U	
Silver	7440-22-4	ND	10	6.0	ug/L		U	
Silver, Dissolved	7440-22-4	ND	10	6.0	ug/L		U	
Vanadium	7440-62-2	ND	10	3.0	ug/L		U	
Vanadium, Dissolved	7440-62-2	ND	10	3.0	ug/L		U	
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 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8282-1 **Sample Date:** 4/11/2012 1:45:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	ND	2.0	0.30	ug/L		U	
Antimony, Dissolved	7440-36-0	0.43	2.0	0.30	ug/L	J,DX	J	DNQ
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	
Cobalt	7440-48-4	0.10	1.0	0.10	ug/L	J,DX	J	DNQ
Cobalt, Dissolved	7440-48-4	0.16	1.0	0.10	ug/L	J,DX	J	DNQ
Copper	7440-50-8	0.85	2.0	0.50	ug/L	J,DX	J	DNQ
Copper, Dissolved	7440-50-8	0.81	2.0	0.50	ug/L	J,DX	J	DNQ
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	
Thallium	7440-28-0	ND	1.0	0.20	ug/L		U	
Thallium, Dissolved	7440-28-0	0.24	1.0	0.20	ug/L	J,DX	J	DNQ

Analysis Method 245.1

Sample Name Outfall 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8282-1 **Sample Date:** 4/11/2012 1:45:00 PM

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 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8282-1 **Sample Date:** 4/11/2012 1:45:00 PM

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 625

Sample Name Outfall 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8282-1 **Sample Date:** 4/11/2012 1:45:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,4-Trichlorobenzene	120-82-1	ND	0.943	0.0943	ug/L		U	
1,2-Dichlorobenzene	95-50-1	ND	0.472	0.0943	ug/L		U	
1,2-Diphenylhydrazine(as Azobenzene)	122-66-7	ND	0.943	0.189	ug/L		U	
1,3-Dichlorobenzene	541-73-1	ND	0.472	0.0943	ug/L		U	
1,4-Dichlorobenzene	106-46-7	ND	0.472	0.189	ug/L		U	
2,4,6-Trichlorophenol	88-06-2	ND	0.943	0.0943	ug/L		U	
2,4-Dichlorophenol	120-83-2	ND	1.89	0.189	ug/L		U	
2,4-Dimethylphenol	105-67-9	ND	1.89	0.283	ug/L		U	
2,4-Dinitrophenol	51-28-5	ND	4.72	0.849	ug/L		U	
2,4-Dinitrotoluene	121-14-2	ND	4.72	0.189	ug/L		U	
2,6-Dinitrotoluene	606-20-2	ND	4.72	0.0943	ug/L		U	
2-Chloronaphthalene	91-58-7	ND	0.472	0.0943	ug/L		U	
2-Chlorophenol	95-57-8	ND	0.943	0.189	ug/L		U	
2-Methylnaphthalene	91-57-6	ND	0.943	0.189	ug/L		U	
2-Methylphenol	95-48-7	ND	1.89	0.0943	ug/L		U	
2-Nitroaniline	88-74-4	ND	4.72	0.0943	ug/L	LQ	UJ	C
2-Nitrophenol	88-75-5	ND	1.89	0.0943	ug/L		U	
3,3'-Dichlorobenzidine	91-94-1	ND	4.72	0.472	ug/L		U	
3-Nitroaniline	99-09-2	ND	4.72	0.943	ug/L		U	
4,6-Dinitro-2-methylphenol	534-52-1	ND	4.72	0.283	ug/L		U	
4-Bromophenyl phenyl ether	101-55-3	ND	0.943	0.189	ug/L		U	
4-Chloro-3-methylphenol	59-50-7	ND	1.89	0.189	ug/L		U	
4-Chloroaniline	106-47-8	ND	1.89	0.283	ug/L		U	
4-Chlorophenyl phenyl ether	7005-72-3	ND	0.472	0.189	ug/L		U	
4-Methylphenol	106-44-5	ND	4.72	0.189	ug/L		U	
4-Nitroaniline	100-01-6	ND	4.72	0.472	ug/L		U	
4-Nitrophenol	100-02-7	ND	4.72	2.36	ug/L	LQ	UJ	C
Acenaphthene	83-32-9	ND	0.472	0.189	ug/L		U	
Acenaphthylene	208-96-8	ND	0.472	0.189	ug/L		U	
Aniline	62-53-3	ND	9.43	0.283	ug/L		U	
Anthracene	120-12-7	ND	0.472	0.0943	ug/L		U	
Benzidine	92-87-5	ND	4.72	0.943	ug/L	LR	UJ	C, L
Benzo[a]anthracene	56-55-3	ND	4.72	0.0943	ug/L		U	
Benzo[a]pyrene	50-32-8	ND	1.89	0.0943	ug/L		U	
Benzo[b]fluoranthene	205-99-2	ND	1.89	0.0943	ug/L		U	

Analysis Method 625

Benzo[g,h,i]perylene	191-24-2	ND	4.72	0.0943	ug/L		U	
Benzo[k]fluoranthene	207-08-9	ND	0.472	0.189	ug/L		U	
Benzoic acid	65-85-0	ND	18.9	2.83	ug/L		U	
Benzyl alcohol	100-51-6	ND	4.72	0.0943	ug/L		U	
bis (2-chloroisopropyl) ether	108-60-1	ND	0.472	0.0943	ug/L		U	
Bis(2-chloroethoxy)methane	111-91-1	ND	0.472	0.0943	ug/L		U	
Bis(2-chloroethyl)ether	111-44-4	ND	0.472	0.0943	ug/L		U	
Bis(2-ethylhexyl) phthalate	117-81-7	ND	4.72	1.60	ug/L		U	
Butyl benzyl phthalate	85-68-7	ND	4.72	0.660	ug/L		U	
Chrysene	218-01-9	ND	0.472	0.0943	ug/L		U	
Dibenz(a,h)anthracene	53-70-3	ND	0.472	0.0943	ug/L		U	
Dibenzofuran	132-64-9	ND	0.472	0.0943	ug/L		U	
Diethyl phthalate	84-66-2	0.195	0.943	0.0943	ug/L	J,DX	J	DNQ
Dimethyl phthalate	131-11-3	ND	0.472	0.189	ug/L		U	
Di-n-butyl phthalate	84-74-2	ND	1.89	0.283	ug/L		U	
Di-n-octyl phthalate	117-84-0	ND	4.72	0.189	ug/L		U	
Fluoranthene	206-44-0	ND	0.472	0.0943	ug/L		U	
Fluorene	86-73-7	ND	0.472	0.0943	ug/L		U	
Hexachlorobenzene	118-74-1	ND	0.943	0.0943	ug/L		U	
Hexachlorobutadiene	87-68-3	ND	1.89	0.189	ug/L		U	
Hexachlorocyclopentadiene	77-47-4	ND	4.72	0.0943	ug/L		UJ	C
Hexachloroethane	67-72-1	ND	2.83	0.189	ug/L		U	
Indeno[1,2,3-cd]pyrene	193-39-5	ND	1.89	0.0943	ug/L		U	
Isophorone	78-59-1	ND	0.943	0.0943	ug/L		U	
Naphthalene	91-20-3	ND	0.943	0.0943	ug/L		U	
Nitrobenzene	98-95-3	ND	0.943	0.0943	ug/L		U	
N-Nitrosodimethylamine	62-75-9	ND	1.89	0.0943	ug/L	BA	UJ	*III
N-Nitrosodi-n-propylamine	621-64-7	ND	1.89	0.0943	ug/L		UJ	C
N-Nitrosodiphenylamine	86-30-6	ND	0.943	0.0943	ug/L		U	
Pentachlorophenol	87-86-5	ND	1.89	0.377	ug/L		U	
Phenanthrene	85-01-8	ND	0.472	0.0943	ug/L		U	
Phenol	108-95-2	ND	0.943	0.283	ug/L		U	
Pyrene	129-00-0	ND	0.472	0.0943	ug/L		U	

Analysis Method 8015B

Sample Name Outfall 018 Grab **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8129-1 **Sample Date:** 4/10/2012 2:45:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
C13-C28	STL01628	ND	0.47	0.094	mg/L		U	
GRO (C4-C12)	STL00350	0.035	0.050	0.025	mg/L	J,DX	J	DNQ, *II

Analysis Method Gamma Spec K-40 CS-137

Sample Name Outfall 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8282-1 **Sample Date:** 4/11/2012 1:45:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	0.048	20	1.76	pCi/L	U	U	
Potassium-40	13966002	12.9	25	23.3	pCi/L	U	U	

Analysis Method Gross Alpha and Beta

Sample Name Outfall 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8282-1 **Sample Date:** 4/11/2012 1:45:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	0.114	3	0.835	pCi/L	U	UJ	C
Gross Beta	12587472	4.32	4	0.853	pCi/L			

Analysis Method Radium 226

Sample Name Outfall 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8282-1 **Sample Date:** 4/11/2012 1:45:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	0.118	1	0.477	pCi/L	U	U	

Analysis Method Radium 228

Sample Name Outfall 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8282-1 **Sample Date:** 4/11/2012 1:45:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	-0.12	1	0.396	pCi/L	U	U	

Analysis Method SM 2340B

Sample Name Outfall 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8282-1 **Sample Date:** 4/11/2012 1:45:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Hardness, as CaCO3	STL00009	100	0.33	0.17	mg/L			
Hardness, as CaCO3, Dissolved	STL00009	97	0.33	0.17	mg/L			

Analysis Method SM 5310B

Sample Name Outfall 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8282-1 **Sample Date:** 4/11/2012 1:45:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Organic Carbon	7440-44-0	7.4	1.0	0.75	mg/L			

Analysis Method Strontium 90

Sample Name Outfall 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8282-1 **Sample Date:** 4/11/2012 1:45:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	-0.277	2	0.981	pCi/L	U	U	

Analysis Method Tritium

Sample Name Outfall 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8282-1 **Sample Date:** 4/11/2012 1:45:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	47.2	500	172	pCi/L	U	U	

Analysis Method Uranium, Combined

Sample Name Outfall 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8282-1 **Sample Date:** 4/11/2012 1:45:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total		0.047	1	0.019	pCi/L	J	J	DNQ

APPENDIX G

Section 12

Outfall 018 – April 10 & 11, 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: 440-8129-1
Client Project/Site: Boeing SSFL Annual Outfall 018

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

Attn: Bronwyn Kelly

Debby Wilson

Authorized for release by:
5/17/2012 10:30:01 AM

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
5/17/2012 10:30:01 AM

Table of Contents

Sample Summary

Client: MWH Americas Inc
Project/Site: Boeing SSFL Annual Outfall 018

TestAmerica Job ID: 440-8129-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-8129-1	Outfall 018 Grab	Water	04/10/12 14:45	04/10/12 18:05
440-8129-2	Trip Blanks	Water	04/10/12 14:45	04/10/12 18:05
440-8282-1	Outfall 018 Composite	Water	04/11/12 13:45	04/11/12 18:30

Job ID: 440-8129-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-8129-1

Comments
No additional comments.

Receipt
The samples were received on 4/10/2012 6:05 PM and 4/11/2012 6:30 PM; the samples arrived in good conditions, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 5.8 C and 7.2 C.

GC/MS VOA
Method(s) 624, 8260B: The following sample(s) submitted for volatiles analysis was analyzed from an unpreserved VOA vial (pH >2): (440-8172-1 MS), (440-8172-1 MSD), Outfall 018 Grab (440-8129-1), Trip Blanks (440-8129-2). pH= 7. However, sample was analyzed within 7 days per EPA recommendation.

Method(s) 624, 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries of 2-CVE for batch 19096 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) 8260B SIM: Surrogate recovery for the following sample(s) was outside the upper control limit: 440-8277-1, 440-8689-1, and 440-8282-1. These sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

No other analytical or quality issues were noted.

GC/MS Semi VOA
Method(s) 625: Surrogate recovery for the following sample(s) was outside control limits: Outfall 018 Composite (440-8282-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 625: The continuing calibration verification (CCV) for 2-nitroaniline, 4-nitrophenol, hexachlorocyclopentadiene, and n-nitrosodi-n-propylamine associated with batch 21217 recovered above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 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: 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 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

Job ID: 440-8129-1 (Continued)

Laboratory: TestAmerica Irvine (Continued)

Method(s) 300.0: Results exceeded the linear range in the MS/MSD for chloride and sulfate in batch 18919 and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).

No other analytical or quality issues were noted.

GC VOA
No analytical or quality issues were noted.

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

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

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

No other analytical or quality issues were noted.

Metals
Method(s) 200.7 Rev 4.4: The method blank for preparation batch 19452 contained Ca above the reporting limit (RL). The associated sample(s) contained detects for this analyte at concentrations greater than 10X the value found in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 200.8: The continuing calibration verification (CCV) for Se associated with batch 20965 recovered above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No other analytical or quality issues were noted.

General Chemistry
Method(s) 1664A: Insufficient sample volume was available to perform batch matrix spike/matrix spike duplicate (MS/MSD) associated with batch 21254. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

No other analytical or quality issues were noted.

Biology
No analytical or quality issues were noted.

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

Several internal standard recoveries are below the method criteria. Data quality is not considered affected if the internal standard signal-to-noise ratio is greater than 10:1, which is achieved for all internal standards in the sample. All detection limits are below the lower calibration limit and there is no adverse impact on data quality.

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

The reporting limit has been raised for 2,3,7,8-TCDF in the associated laboratory control sample (LCS) due to elevated instrument noise. There is no adverse impact to the quality of the data as a result of this anomaly.

Job ID: 440-8129-1 (Continued)

Laboratory: TestAmerica Irvine (Continued)

Organic Prep
No analytical or quality issues were noted.

VOA Prep
No analytical or quality issues were noted.

Client: MWH Americas Inc
Project/Site: Boeing SSFL Annual Outfall 018

TestAmerica Job ID: 440-8129-1

Client Sample ID: Outfall 018 Grab
Date Collected: 04/10/12 14:45
Date Received: 04/10/12 18:05

Lab Sample ID: 440-8129-1
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			04/12/12 11:54	1
2-Chloroethyl vinyl ether	ND		2.0	1.8	ug/L			04/12/12 01:40	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.30	ug/L			04/12/12 11:54	1
Acrolein	ND		5.0	4.0	ug/L			04/12/12 01:40	1
1,1,2-Trichloroethane	ND		0.50	0.30	ug/L			04/12/12 11:54	1
Acrylonitrile	ND		2.0	1.2	ug/L			04/12/12 01:40	1
1,1-Dichloroethane	ND		0.50	0.40	ug/L			04/12/12 11:54	1
Trichlorotrifluoroethane(F-113)	ND		2.0	0.50	ug/L			04/12/12 11:54	1
1,1-Dichloroethene	ND		0.50	0.42	ug/L			04/12/12 11:54	1
1,2-Dichlorobenzene	ND		0.50	0.32	ug/L			04/12/12 11:54	1
1,2-Dichloroethane	ND		0.50	0.28	ug/L			04/12/12 11:54	1
1,2-Dichloropropane	ND		0.50	0.35	ug/L			04/12/12 11:54	1
1,3-Dichlorobenzene	ND		0.50	0.35	ug/L			04/12/12 11:54	1
1,4-Dichlorobenzene	ND		0.50	0.37	ug/L			04/12/12 11:54	1
Benzene	ND		0.50	0.28	ug/L			04/12/12 11:54	1
Bromoform	ND		0.50	0.40	ug/L			04/12/12 11:54	1
1,2-Dichloro-1,1,2-trifluoroethane	ND		2.0	1.1	ug/L			04/12/12 11:54	1
Bromomethane	ND		0.50	0.42	ug/L			04/12/12 11:54	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			04/12/12 11:54	1
Chlorobenzene	ND		0.50	0.36	ug/L			04/12/12 11:54	1
Dibromochloromethane	ND		0.50	0.40	ug/L			04/12/12 11:54	1
Chloroethane	ND		0.50	0.40	ug/L			04/12/12 11:54	1
Chloroform	ND		0.50	0.33	ug/L			04/12/12 11:54	1
Chloromethane	ND		0.50	0.40	ug/L			04/12/12 11:54	1
cis-1,3-Dichloropropene	ND		0.50	0.22	ug/L			04/12/12 11:54	1
Bromodichloromethane	ND		0.50	0.30	ug/L			04/12/12 11:54	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/12/12 11:54	1
Methylene Chloride	ND		1.0	0.95	ug/L			04/12/12 11:54	1
Tetrachloroethene	ND		0.50	0.32	ug/L			04/12/12 11:54	1
Toluene	ND		0.50	0.36	ug/L			04/12/12 11:54	1
trans-1,2-Dichloroethene	ND		0.50	0.30	ug/L			04/12/12 11:54	1
trans-1,3-Dichloropropene	ND		0.50	0.32	ug/L			04/12/12 11:54	1
Trichlorofluoromethane	ND		0.50	0.34	ug/L			04/12/12 11:54	1
Vinyl chloride	ND		0.50	0.40	ug/L			04/12/12 11:54	1
Trichloroethene	ND		0.50	0.26	ug/L			04/12/12 11:54	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/12/12 11:54	1
Cyclohexane	ND		2.0	0.40	ug/L			04/12/12 11:54	1
Xylenes, Total	ND		1.0	0.90	ug/L			04/12/12 11:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 120*		*04/12/12 01:40*	*1*
Dibromofluoromethane (Surr)	*94*		*80 - 120*		*04/12/12 01:40*	*1*
4-Bromofluorobenzene (Surr)	*113*		*80 - 120*		*04/12/12 11:54*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*04/12/12 11:54*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*04/12/12 11:54*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	**0.035**	**J,DX**	0.050	0.025	mg/L			04/18/12 15:56	1

Client Sample ID: Outfall 018 Grab

Lab Sample ID: 440-8129-1

Date Collected: 04/10/12 14:45

Matrix: Water

Date Received: 04/10/12 18:05

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*65 - 140*		*04/18/12 15:56*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C28	ND		0.47	0.094	mg/L		04/16/12 11:19	04/17/12 06:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*82*		*45 - 120*	*04/16/12 11:19*	*04/17/12 06:50*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		4.7	1.3	mg/L		04/23/12 06:18	04/23/12 06:54	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	**600**		1.0	1.0	umhos/cm			04/16/12 10:04	1
Settleable Solids	ND		0.10	0.10	mL/L/Hr			04/11/12 09:00	1

Method: SM 9221E - Coliforms, Fecal (Multiple-Tube Fermentation)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coliform, Fecal	ND		2.0	2.0	MPN/100mL			04/10/12 18:23	1

Method: SM 9221F - E.Coli (Multiple-Tube Fermentation; EC-MUG)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Escherichia coli	ND		2.0	2.0	MPN/100mL			04/10/12 18:23	1

Client Sample ID: Trip Blanks

Lab Sample ID: 440-8129-2

Date Collected: 04/10/12 14:45

Matrix: Water

Date Received: 04/10/12 18:05

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			04/12/12 12:22	1
2-Chloroethyl vinyl ether	ND		2.0	1.8	ug/L			04/12/12 02:09	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.30	ug/L			04/12/12 12:22	1
Acrolein	ND		5.0	4.0	ug/L			04/12/12 02:09	1
1,1,2-Trichloroethane	ND		0.50	0.30	ug/L			04/12/12 12:22	1
Acrylonitrile	ND		2.0	1.2	ug/L			04/12/12 02:09	1
1,1-Dichloroethane	ND		0.50	0.40	ug/L			04/12/12 12:22	1
Trichlorotrifluoroethane(F-113)	ND		2.0	0.50	ug/L			04/12/12 12:22	1
1,1-Dichloroethene	ND		0.50	0.42	ug/L			04/12/12 12:22	1
1,2-Dichlorobenzene	ND		0.50	0.32	ug/L			04/12/12 12:22	1
1,2-Dichloroethane	ND		0.50	0.28	ug/L			04/12/12 12:22	1
1,2-Dichloropropane	ND		0.50	0.35	ug/L			04/12/12 12:22	1
1,3-Dichlorobenzene	ND		0.50	0.35	ug/L			04/12/12 12:22	1
1,4-Dichlorobenzene	ND		0.50	0.37	ug/L			04/12/12 12:22	1
Benzene	ND		0.50	0.28	ug/L			04/12/12 12:22	1
Bromoform	ND		0.50	0.40	ug/L			04/12/12 12:22	1
1,2-Dichloro-1,1,2-trifluoroethane	ND		2.0	1.1	ug/L			04/12/12 12:22	1
Bromomethane	ND		0.50	0.42	ug/L			04/12/12 12:22	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			04/12/12 12:22	1
Chlorobenzene	ND		0.50	0.36	ug/L			04/12/12 12:22	1
Dibromochloromethane	ND		0.50	0.40	ug/L			04/12/12 12:22	1
Chloroethane	ND		0.50	0.40	ug/L			04/12/12 12:22	1
Chloroform	ND		0.50	0.33	ug/L			04/12/12 12:22	1

Client Sample ID: Trip Blanks

Lab Sample ID: 440-8129-2

Date Collected: 04/10/12 14:45

Matrix: Water

Date Received: 04/10/12 18:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		0.50	0.40	ug/L			04/12/12 12:22	1
cis-1,3-Dichloropropene	ND		0.50	0.22	ug/L			04/12/12 12:22	1
Bromodichloromethane	ND		0.50	0.30	ug/L			04/12/12 12:22	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/12/12 12:22	1
Methylene Chloride	ND		1.0	0.95	ug/L			04/12/12 12:22	1
Tetrachloroethene	ND		0.50	0.32	ug/L			04/12/12 12:22	1
Toluene	ND		0.50	0.36	ug/L			04/12/12 12:22	1
trans-1,2-Dichloroethene	ND		0.50	0.30	ug/L			04/12/12 12:22	1
trans-1,3-Dichloropropene	ND		0.50	0.32	ug/L			04/12/12 12:22	1
Trichlorofluoromethane	ND		0.50	0.34	ug/L			04/12/12 12:22	1
Vinyl chloride	ND		0.50	0.40	ug/L			04/12/12 12:22	1
Trichloroethene	ND		0.50	0.26	ug/L			04/12/12 12:22	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/12/12 12:22	1
Cyclohexane	ND		2.0	0.40	ug/L			04/12/12 12:22	1
Xylenes, Total	ND		1.0	0.90	ug/L			04/12/12 12:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 120*		*04/12/12 02:09*	*1*
Dibromofluoromethane (Surr)	*94*		*80 - 120*		*04/12/12 02:09*	*1*
4-Bromofluorobenzene (Surr)	*110*		*80 - 120*		*04/12/12 12:22*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*04/12/12 12:22*	*1*
Toluene-d8 (Surr)	*107*		*80 - 120*		*04/12/12 12:22*	*1*

Client Sample ID: Outfall 018 Composite

Lab Sample ID: 440-8282-1

Date Collected: 04/11/12 13:45

Matrix: Water

Date Received: 04/11/12 18:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		2.0	1.0	ug/L			04/19/12 00:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*132*	*AY*	*80 - 120*		*04/19/12 00:15*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.472	0.189	ug/L		04/18/12 18:02	04/22/12 19:54	1
Acenaphthylene	ND		0.472	0.189	ug/L		04/18/12 18:02	04/22/12 19:54	1
Aniline	ND		9.43	0.283	ug/L		04/18/12 18:02	04/22/12 19:54	1
Anthracene	ND		0.472	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
Benzidine	ND	LR	4.72	0.943	ug/L		04/18/12 18:02	04/22/12 19:54	1
Benzo[a]anthracene	ND		4.72	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
Benzo[b]fluoranthene	ND		1.89	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
Benzo[k]fluoranthene	ND		0.472	0.189	ug/L		04/18/12 18:02	04/22/12 19:54	1
Benzoic acid	ND		18.9	2.83	ug/L		04/18/12 18:02	04/22/12 19:54	1
Benzo[a]pyrene	ND		1.89	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
Bis(2-chloroethoxy)methane	ND		0.472	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
Bis(2-chloroethyl)ether	ND		0.472	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
Bis(2-ethylhexyl) phthalate	ND		4.72	1.60	ug/L		04/18/12 18:02	04/22/12 19:54	1
4-Bromophenyl phenyl ether	ND		0.943	0.189	ug/L		04/18/12 18:02	04/22/12 19:54	1
Butyl benzyl phthalate	ND		4.72	0.660	ug/L		04/18/12 18:02	04/22/12 19:54	1
4-Chloro-3-methylphenol	ND		1.89	0.189	ug/L		04/18/12 18:02	04/22/12 19:54	1

Client: MWH Americas Inc
Project/Site: Boeing SSFL Annual Outfall 018

TestAmerica Job ID: 440-8129-1

Client Sample ID: Outfall 018 Composite
Date Collected: 04/11/12 13:45
Date Received: 04/11/12 18:30

Lab Sample ID: 440-8282-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloronaphthalene	ND		0.472	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
2-Chlorophenol	ND		0.943	0.189	ug/L		04/18/12 18:02	04/22/12 19:54	1
4-Chlorophenyl phenyl ether	ND		0.472	0.189	ug/L		04/18/12 18:02	04/22/12 19:54	1
Chrysene	ND		0.472	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
Dibenz(a,h)anthracene	ND		0.472	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
Di-n-butyl phthalate	ND		1.89	0.283	ug/L		04/18/12 18:02	04/22/12 19:54	1
1,2-Dichlorobenzene	ND		0.472	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
1,3-Dichlorobenzene	ND		0.472	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
1,4-Dichlorobenzene	ND		0.472	0.189	ug/L		04/18/12 18:02	04/22/12 19:54	1
3,3'-Dichlorobenzidine	ND		4.72	0.472	ug/L		04/18/12 18:02	04/22/12 19:54	1
2,4-Dichlorophenol	ND		1.89	0.189	ug/L		04/18/12 18:02	04/22/12 19:54	1
Diethyl phthalate	**0.195**	**J,DX**	0.943	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
2,4-Dimethylphenol	ND		1.89	0.283	ug/L		04/18/12 18:02	04/22/12 19:54	1
Dimethyl phthalate	ND		0.472	0.189	ug/L		04/18/12 18:02	04/22/12 19:54	1
4,6-Dinitro-2-methylphenol	ND		4.72	0.283	ug/L		04/18/12 18:02	04/22/12 19:54	1
2,4-Dinitrophenol	ND		4.72	0.849	ug/L		04/18/12 18:02	04/22/12 19:54	1
2,4-Dinitrotoluene	ND		4.72	0.189	ug/L		04/18/12 18:02	04/22/12 19:54	1
2,6-Dinitrotoluene	ND		4.72	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
Di-n-octyl phthalate	ND		4.72	0.189	ug/L		04/18/12 18:02	04/22/12 19:54	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.943	0.189	ug/L		04/18/12 18:02	04/22/12 19:54	1
Fluoranthene	ND		0.472	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
Fluorene	ND		0.472	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
Hexachlorobenzene	ND		0.943	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
Hexachlorobutadiene	ND		1.89	0.189	ug/L		04/18/12 18:02	04/22/12 19:54	1
Hexachloroethane	ND		2.83	0.189	ug/L		04/18/12 18:02	04/22/12 19:54	1
Hexachlorocyclopentadiene	ND		4.72	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
Indeno[1,2,3-cd]pyrene	ND		1.89	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
Isophorone	ND		0.943	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
4-Methylphenol	ND		4.72	0.189	ug/L		04/18/12 18:02	04/22/12 19:54	1
Naphthalene	ND		0.943	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
Nitrobenzene	ND		0.943	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
2-Nitrophenol	ND		1.89	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
4-Nitrophenol	ND	LQ	4.72	2.36	ug/L		04/18/12 18:02	04/22/12 19:54	1
N-Nitrosodimethylamine	ND	BA	1.89	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
N-Nitrosodiphenylamine	ND		0.943	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
N-Nitrosodi-n-propylamine	ND		1.89	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
Pentachlorophenol	ND		1.89	0.377	ug/L		04/18/12 18:02	04/22/12 19:54	1
Phenanthrene	ND		0.472	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
Phenol	ND		0.943	0.283	ug/L		04/18/12 18:02	04/22/12 19:54	1
Pyrene	ND		0.472	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
1,2,4-Trichlorobenzene	ND		0.943	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
2,4,6-Trichlorophenol	ND		0.943	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
2-Methylphenol	ND		1.89	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
4-Chloroaniline	ND		1.89	0.283	ug/L		04/18/12 18:02	04/22/12 19:54	1
2-Methylnaphthalene	ND		0.943	0.189	ug/L		04/18/12 18:02	04/22/12 19:54	1
2-Nitroaniline	ND	LQ	4.72	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
3-Nitroaniline	ND		4.72	0.943	ug/L		04/18/12 18:02	04/22/12 19:54	1
Dibenzofuran	ND		0.472	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
4-Nitroaniline	ND		4.72	0.472	ug/L		04/18/12 18:02	04/22/12 19:54	1
Benzo[g,h,i]perylene	ND		4.72	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1

Client: MWH Americas Inc
Project/Site: Boeing SSFL Annual Outfall 018

TestAmerica Job ID: 440-8129-1

Client Sample ID: Outfall 018 Composite
Date Collected: 04/11/12 13:45
Date Received: 04/11/12 18:30

Lab Sample ID: 440-8282-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzyl alcohol	ND		4.72	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1
bis (2-chloroisopropyl) ether	ND		0.472	0.0943	ug/L		04/18/12 18:02	04/22/12 19:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*108*		*50 - 120*	*04/18/12 18:02*	*04/22/12 19:54*	*1*
2-Fluorophenol	*91*		*30 - 120*	*04/18/12 18:02*	*04/22/12 19:54*	*1*
2,4,6-Tribromophenol	*119*		*40 - 120*	*04/18/12 18:02*	*04/22/12 19:54*	*1*
Nitrobenzene-d5	*115*		*45 - 120*	*04/18/12 18:02*	*04/22/12 19:54*	*1*
Terphenyl-d14	*132*	*AY*	*50 - 125*	*04/18/12 18:02*	*04/22/12 19:54*	*1*
Phenol-d6	*96*		*35 - 120*	*04/18/12 18:02*	*04/22/12 19:54*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.48	0.24	ug/L		04/15/12 14:34	04/16/12 22:57	1
Aroclor 1221	ND		0.48	0.24	ug/L		04/15/12 14:34	04/16/12 22:57	1
Aroclor 1232	ND		0.48	0.24	ug/L		04/15/12 14:34	04/16/12 22:57	1
Aroclor 1242	ND		0.48	0.24	ug/L		04/15/12 14:34	04/16/12 22:57	1
Aroclor 1248	ND		0.48	0.24	ug/L		04/15/12 14:34	04/16/12 22:57	1
Aroclor 1254	ND		0.48	0.24	ug/L		04/15/12 14:34	04/16/12 22:57	1
Aroclor 1260	ND		0.48	0.24	ug/L		04/15/12 14:34	04/16/12 22:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*88*		*45 - 120*	*04/15/12 14:34*	*04/16/12 22:57*	*1*

Method: 608 Pesticides - Organochlorine Pesticides Low level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0048	0.0014	ug/L		04/15/12 14:34	04/16/12 14:12	1
alpha-BHC	ND		0.0048	0.0024	ug/L		04/15/12 14:34	04/16/12 14:12	1
beta-BHC	ND		0.0095	0.0038	ug/L		04/15/12 14:34	04/16/12 14:12	1
Chlordane (technical)	ND		0.095	0.0076	ug/L		04/15/12 14:34	04/16/12 14:12	1
delta-BHC	ND		0.0048	0.0033	ug/L		04/15/12 14:34	04/16/12 14:12	1
Dieldrin	ND		0.0048	0.0019	ug/L		04/15/12 14:34	04/16/12 14:12	1
Endosulfan I	ND		0.0048	0.0029	ug/L		04/15/12 14:34	04/16/12 14:12	1
Endosulfan II	ND		0.0048	0.0019	ug/L		04/15/12 14:34	04/16/12 14:12	1
Endosulfan sulfate	ND		0.0095	0.0029	ug/L		04/15/12 14:34	04/16/12 14:12	1
Endrin	ND		0.0048	0.0019	ug/L		04/15/12 14:34	04/16/12 14:12	1
Endrin aldehyde	ND		0.0095	0.0019	ug/L		04/15/12 14:34	04/16/12 14:12	1
gamma-BHC (Lindane)	ND		0.0095	0.0029	ug/L		04/15/12 14:34	04/16/12 14:12	1
Heptachlor	ND		0.0095	0.0029	ug/L		04/15/12 14:34	04/16/12 14:12	1
Heptachlor epoxide	ND		0.0048	0.0024	ug/L		04/15/12 14:34	04/16/12 14:12	1
Toxaphene	ND		0.48	0.24	ug/L		04/15/12 14:34	04/16/12 14:12	1
4,4'-DDD	ND		0.0048	0.0038	ug/L		04/15/12 14:34	04/16/12 14:12	1
4,4'-DDE	ND		0.0048	0.0029	ug/L		04/15/12 14:34	04/16/12 14:12	1
4,4'-DDT	ND		0.0095	0.0038	ug/L		04/15/12 14:34	04/16/12 14:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*60*		*35 - 115*	*04/15/12 14:34*	*04/16/12 14:12*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			04/12/12 00:07	1

Client: MWH Americas Inc
Project/Site: Boeing SSFL Annual Outfall 018

TestAmerica Job ID: 440-8129-1

Client Sample ID: Outfall 018 Composite
Date Collected: 04/11/12 13:45
Date Received: 04/11/12 18:30

Lab Sample ID: 440-8282-1
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**25**		5.0	4.0	mg/L			04/12/12 00:32	10
Nitrate as N	**1.1**		0.11	0.080	mg/L			04/12/12 00:16	1
Nitrate Nitrite as N	**1.1**		0.26	0.19	mg/L			04/12/12 00:16	1
Sulfate	**150**		5.0	4.0	mg/L			04/12/12 00:32	10
Nitrite as N	ND		0.15	0.11	mg/L			04/12/12 00:16	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			04/19/12 15:40	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	0.0000033	ug/L		04/17/12 09:00	04/22/12 01:24	0.96
Total TCDD	ND		0.000010	0.0000033	ug/L		04/17/12 09:00	04/22/12 01:24	0.96
1,2,3,7,8-PeCDD	ND		0.000050	0.0000040	ug/L		04/17/12 09:00	04/22/12 01:24	0.96
Total PeCDD	ND		0.000050	0.0000040	ug/L		04/17/12 09:00	04/22/12 01:24	0.96
1,2,3,4,7,8-HxCDD	ND		0.000050	0.0000023	ug/L		04/17/12 09:00	04/22/12 01:24	0.96
1,2,3,6,7,8-HxCDD	ND		0.000050	0.0000023	ug/L		04/17/12 09:00	04/22/12 01:24	0.96
1,2,3,7,8,9-HxCDD	ND		0.000050	0.0000021	ug/L		04/17/12 09:00	04/22/12 01:24	0.96
Total HxCDD	ND		0.000050	0.0000021	ug/L		04/17/12 09:00	04/22/12 01:24	0.96
1,2,3,4,6,7,8-HpCDD	**0.0000030**	**J Q**	0.000050	0.0000026	ug/L		04/17/12 09:00	04/22/12 01:24	0.96
Total HpCDD	**0.0000062**	**J Q B**	0.000050	0.0000026	ug/L		04/17/12 09:00	04/22/12 01:24	0.96
OCDD	**0.000033**	**J**	0.00010	0.0000055	ug/L		04/17/12 09:00	04/22/12 01:24	0.96
2,3,7,8-TCDF	ND		0.000010	0.0000032	ug/L		04/17/12 09:00	04/22/12 01:24	0.96
Total TCDF	ND		0.000010	0.0000032	ug/L		04/17/12 09:00	04/22/12 01:24	0.96
1,2,3,7,8-PeCDF	ND		0.000050	0.0000045	ug/L		04/17/12 09:00	04/22/12 01:24	0.96
2,3,4,7,8-PeCDF	ND		0.000050	0.0000045	ug/L		04/17/12 09:00	04/22/12 01:24	0.96
Total PeCDF	ND		0.000050	0.0000045	ug/L		04/17/12 09:00	04/22/12 01:24	0.96
1,2,3,4,7,8-HxCDF	**0.0000054**	**J**	0.000050	0.0000015	ug/L		04/17/12 09:00	04/22/12 01:24	0.96
1,2,3,6,7,8-HxCDF	ND		0.000050	0.0000015	ug/L		04/17/12 09:00	04/22/12 01:24	0.96
2,3,4,6,7,8-HxCDF	ND		0.000050	0.0000014	ug/L		04/17/12 09:00	04/22/12 01:24	0.96
1,2,3,7,8,9-HxCDF	**0.0000046**	**J**	0.000050	0.0000018	ug/L		04/17/12 09:00	04/22/12 01:24	0.96
Total HxCDF	**0.000020**	**J Q**	0.000050	0.0000015	ug/L		04/17/12 09:00	04/22/12 01:24	0.96
1,2,3,4,6,7,8-HpCDF	**0.000011**	**J B**	0.000050	0.0000022	ug/L		04/17/12 09:00	04/22/12 01:24	0.96
1,2,3,4,7,8,9-HpCDF	**0.000014**	**J**	0.000050	0.0000028	ug/L		04/17/12 09:00	04/22/12 01:24	0.96
Total HpCDF	**0.000036**	**J B**	0.000050	0.0000025	ug/L		04/17/12 09:00	04/22/12 01:24	0.96
OCDF	**0.000015**	**J Q B**	0.00010	0.0000076	ug/L		04/17/12 09:00	04/22/12 01:24	0.96

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*70*		*35 - 197*	*04/17/12 09:00*	*04/22/12 01:24*	*0.96*

Internal Standard	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*22*	*	*25 - 164*	*04/17/12 09:00*	*04/22/12 01:24*	*0.96*
13C-1,2,3,7,8-PeCDD	*20*	*	*25 - 181*	*04/17/12 09:00*	*04/22/12 01:24*	*0.96*
13C-1,2,3,4,7,8-HxCDD	*21*	*	*32 - 141*	*04/17/12 09:00*	*04/22/12 01:24*	*0.96*
13C-1,2,3,6,7,8-HxCDD	*22*	*	*28 - 130*	*04/17/12 09:00*	*04/22/12 01:24*	*0.96*
13C-1,2,3,4,6,7,8-HpCDD	*21*	*	*23 - 140*	*04/17/12 09:00*	*04/22/12 01:24*	*0.96*
13C-OCDD	*22*		*17 - 157*	*04/17/12 09:00*	*04/22/12 01:24*	*0.96*
13C-2,3,7,8-TCDF	*24*		*24 - 169*	*04/17/12 09:00*	*04/22/12 01:24*	*0.96*
13C-1,2,3,7,8-PeCDF	*20*	*	*24 - 185*	*04/17/12 09:00*	*04/22/12 01:24*	*0.96*
13C-2,3,4,7,8-PeCDF	*22*		*21 - 178*	*04/17/12 09:00*	*04/22/12 01:24*	*0.96*

Client Sample ID: Outfall 018 Composite
Date Collected: 04/11/12 13:45
Date Received: 04/11/12 18:30

Lab Sample ID: 440-8282-1
Matrix: Water

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

Internal Standard	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,6,7,8-HxCDF	*22*	*	*26 - 123*	*04/17/12 09:00*	*04/22/12 01:24*	*0.96*
13C-2,3,4,6,7,8-HxCDF	*21*	*	*28 - 136*	*04/17/12 09:00*	*04/22/12 01:24*	*0.96*
13C-1,2,3,7,8,9-HxCDF	*20*	*	*29 - 147*	*04/17/12 09:00*	*04/22/12 01:24*	*0.96*
13C-1,2,3,4,6,7,8-HpCDF	*20*	*	*28 - 143*	*04/17/12 09:00*	*04/22/12 01:24*	*0.96*
13C-1,2,3,4,7,8,9-HpCDF	*22*	*	*26 - 138*	*04/17/12 09:00*	*04/22/12 01:24*	*0.96*
13C-1,2,3,4,7,8-HxCDF	*22*	*	*26 - 152*	*04/17/12 09:00*	*04/22/12 01:24*	*0.96*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		10	7.0	ug/L		04/18/12 17:48	04/20/12 03:40	1
Boron	**0.22**	**MB**	0.050	0.020	mg/L		04/18/12 17:48	04/20/12 03:40	1
Beryllium	ND		2.0	0.90	ug/L		04/18/12 17:48	04/20/12 03:40	1
Calcium	**28**	**MB**	0.10	0.050	mg/L		04/18/12 17:48	04/20/12 13:22	1
Chromium	ND		5.0	2.0	ug/L		04/18/12 17:48	04/20/12 03:40	1
Iron	**0.086**		0.040	0.015	mg/L		04/18/12 17:48	04/20/12 13:22	1
Magnesium	**7.9**		0.020	0.012	mg/L		04/18/12 17:48	04/20/12 03:40	1
Nickel	**2.2**	**J,DX**	10	2.0	ug/L		04/18/12 17:48	04/20/12 03:40	1
Vanadium	ND		10	3.0	ug/L		04/18/12 17:48	04/20/12 03:40	1
Zinc	ND		20	6.0	ug/L		04/18/12 17:48	04/20/12 03:40	1
Silver	ND		10	6.0	ug/L		04/18/12 17:48	04/20/12 03:40	1
Barium	**21**		10	6.0	ug/L		04/18/12 17:48	04/20/12 03:40	1
Manganese	**18**	**J,DX**	20	7.0	ug/L		04/18/12 17:48	04/20/12 03:40	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		10	7.0	ug/L		04/20/12 09:32	04/20/12 17:31	1
Boron	**0.20**	**MB**	0.050	0.020	mg/L		04/20/12 09:32	04/20/12 17:31	1
Beryllium	ND		2.0	0.90	ug/L		04/20/12 09:32	04/20/12 17:31	1
Calcium	**27**	**MB**	0.10	0.050	mg/L		04/20/12 09:32	04/20/12 17:31	1
Chromium	ND		5.0	2.0	ug/L		04/20/12 09:32	04/20/12 17:31	1
Iron	ND		0.040	0.015	mg/L		04/20/12 09:32	04/20/12 17:31	1
Magnesium	**7.3**		0.020	0.012	mg/L		04/20/12 09:32	04/20/12 17:31	1
Nickel	ND		10	2.0	ug/L		04/20/12 09:32	04/20/12 17:31	1
Vanadium	ND		10	3.0	ug/L		04/20/12 09:32	04/20/12 17:31	1
Zinc	ND		20	6.0	ug/L		04/20/12 09:32	04/20/12 17:31	1
Silver	ND		10	6.0	ug/L		04/20/12 09:32	04/20/12 17:31	1
Barium	**18**		10	6.0	ug/L		04/20/12 09:32	04/20/12 17:31	1
Manganese	**9.7**	**J,DX**	20	7.0	ug/L		04/20/12 09:32	04/20/12 17:31	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		04/19/12 10:41	04/21/12 21:21	1
Copper	**0.85**	**J,DX**	2.0	0.50	ug/L		04/19/12 10:41	04/21/12 21:21	1
Lead	ND		1.0	0.20	ug/L		04/19/12 10:41	04/23/12 15:32	1
Antimony	ND		2.0	0.30	ug/L		04/19/12 10:41	04/21/12 21:21	1
Selenium	ND		2.0	0.50	ug/L		04/19/12 10:41	04/21/12 21:21	1
Thallium	ND		1.0	0.20	ug/L		04/19/12 10:41	04/23/12 15:32	1
Cobalt	**0.10**	**J,DX**	1.0	0.10	ug/L		04/19/12 10:41	04/21/12 21:21	1

Client: MWH Americas Inc
Project/Site: Boeing SSFL Annual Outfall 018

TestAmerica Job ID: 440-8129-1

Client Sample ID: Outfall 018 Composite
Date Collected: 04/11/12 13:45
Date Received: 04/11/12 18:30

Lab Sample ID: 440-8282-1
Matrix: Water

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		04/20/12 09:35	04/25/12 17:10	1
Copper	**0.81**	**J,DX**	2.0	0.50	ug/L		04/20/12 09:35	04/26/12 18:48	1
Lead	ND		1.0	0.20	ug/L		04/20/12 09:35	04/25/12 17:10	1
Antimony	**0.43**	**J,DX**	2.0	0.30	ug/L		04/20/12 09:35	04/25/12 17:10	1
Selenium	ND		2.0	0.50	ug/L		04/20/12 09:35	04/25/12 17:10	1
Thallium	**0.24**	**J,DX**	1.0	0.20	ug/L		04/20/12 09:35	04/25/12 17:10	1
Cobalt	**0.16**	**J,DX**	1.0	0.10	ug/L		04/20/12 09:35	04/26/12 18:48	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		04/12/12 18:47	04/13/12 21:18	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 23:08	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness, as CaCO3	**100**		0.33	0.17	mg/L			04/18/12 13:18	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness, as CaCO3	**97**		0.33	0.17	mg/L			04/23/12 11:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	**1.8**		0.10	0.040	NTU			04/12/12 12:47	1
Total Dissolved Solids	**310**		10	10	mg/L			04/13/12 09:21	1
Total Suspended Solids	ND		10	10	mg/L			04/17/12 22:29	1
Cyanide, Total	ND		0.0050	0.0030	mg/L		04/25/12 15:36	04/25/12 19:45	1
Fluoride	**0.11**		0.10	0.020	mg/L			04/16/12 06:20	1
Ammonia (as N)	**0.280**	**J,DX**	0.400	0.157	mg/L		04/12/12 16:52	04/12/12 21:16	1
Total Organic Carbon	**7.4**		1.0	0.75	mg/L			04/13/12 07:23	1
Methylene Blue Active Substances	ND		0.10	0.050	mg/L			04/12/12 19:40	1
Biochemical Oxygen Demand	ND		2.0	0.50	mg/L			04/13/12 09:06	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	0.048	U	20		pCi/L		04/19/12 00:00	04/19/12 00:00	1
Potassium-40	12.9	U	25		pCi/L		04/19/12 00:00	04/19/12 00:00	1

Method: Gross Alpha and Beta - Gross Alpha/Beta

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gross Alpha	0.114	U	3		pCi/L		04/24/12 00:00	04/25/12 08:07	1
Gross Beta	4.32		4		pCi/L		04/24/12 00:00	04/25/12 08:07	1

Method: Radium 226 - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-226	0.118	U	1		pCi/L		05/02/12 00:00	05/02/12 13:19	1

Method: Radium 228 - RAD-226-228 combined

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-228	-0.12	U	1		pCi/L		04/25/12 00:00	04/25/12 14:21	1

Client: MWH Americas Inc
Project/Site: Boeing SSFL Annual Outfall 018

TestAmerica Job ID: 440-8129-1

Client Sample ID: Outfall 018 Composite
Date Collected: 04/11/12 13:45
Date Received: 04/11/12 18:30

Lab Sample ID: 440-8282-1
Matrix: Water

Method: Strontium 90 - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Strontium-90	-0.277	U	2		pCi/L		04/24/12 00:00	04/24/12 08:20	1

Method: Tritium - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tritium	47.2	U	500		pCi/L		04/19/12 00:00	04/19/12 20:20	1

Method: Uranium, Combined - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium, Total	0.047	J	1		pCi/L		04/25/12 00:00	04/25/12 03:59	1

Lab Chronicle

Client: MWH Americas Inc
Project/Site: Boeing SSFL Annual Outfall 018

TestAmerica Job ID: 440-8129-1

Client Sample ID: Outfall 018 Grab

Lab Sample ID: 440-8129-1

Date Collected: 04/10/12 14:45

Matrix: Water

Date Received: 04/10/12 18:05

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	19096	04/12/12 01:40	RM	TAL IRV
Total/NA	Analysis	624		1	10 mL	10 mL	19220	04/12/12 11:54	MR	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	20433	04/18/12 15:56	KS	TAL IRV
Total/NA	Prep	3510C			1060 mL	1 mL	19972	04/16/12 11:19	AV	TAL IRV
Total/NA	Analysis	8015B		1			19895	04/17/12 06:50	CP	TAL IRV
Total/NA	Analysis	SM 2540F		1	1000 mL	1000 mL	18926	04/11/12 09:00	RR	TAL IRV
Total/NA	Analysis	120.1		1			19950	04/16/12 10:04	XL	TAL IRV
Total/NA	Prep	1664A			1055 mL	1000 mL	21239	04/23/12 06:18	DA	TAL IRV
Total/NA	Analysis	1664A		1			21254	04/23/12 06:54	DA	TAL IRV
Total/NA	Analysis	SM 9221E		1	100 mL	100 mL	19610		AK	TAL IRV
								(Start) 04/10/12 18:23		
								(End) 04/13/12 14:47		
Total/NA	Analysis	SM 9221F		1	100 mL	100 mL	19611		AK	TAL IRV
								(Start) 04/10/12 18:23		
								(End) 04/13/12 14:47		

Client Sample ID: Trip Blanks

Lab Sample ID: 440-8129-2

Date Collected: 04/10/12 14:45

Matrix: Water

Date Received: 04/10/12 18:05

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	19096	04/12/12 02:09	RM	TAL IRV
Total/NA	Analysis	624		1	10 mL	10 mL	19220	04/12/12 12:22	MR	TAL IRV

Client Sample ID: Outfall 018 Composite

Lab Sample ID: 440-8282-1

Date Collected: 04/11/12 13:45

Matrix: Water

Date Received: 04/11/12 18:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	10 mL	10 mL	20473	04/19/12 00:15	GK	TAL IRV
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 19:54	AI	TAL IRV
Total/NA	Prep	608			1050 mL	2 mL	19875	04/15/12 14:34	AB	TAL IRV
Total/NA	Analysis	608 Pesticides		1			19946	04/16/12 14:12	DD	TAL IRV
Total/NA	Analysis	608 PCB LL		1			20064	04/16/12 22:57	CN	TAL IRV
Total/NA	Analysis	300.0		1	1 mL	1.0 mL	18918	04/12/12 00:16	NN	TAL IRV
Total/NA	Analysis	300.0		10	1 mL	1.0 mL	18919	04/12/12 00:32	NN	TAL IRV
Total/NA	Analysis	218.6		1	10 mL	10 mL	19011	04/12/12 00:07	SL	TAL IRV
Total/NA	Analysis	314.0		1	5 mL	1.0 mL	20654	04/19/12 15:40	MN	TAL IRV
Total	Prep	3542			1040.23 mL	20 uL	2108092_P	04/17/12 09:00	TL	TAL WSC
Total	Analysis	1613B		0.96			2108092	04/22/12 01:24	SO	TAL WSC
Total/NA	Prep	245.1			20 mL	20 mL	19442	04/12/12 18:47	SN	TAL IRV
Total/NA	Analysis	245.1		1			19759	04/13/12 21:18	DB	TAL IRV

Lab Chronicle

Client: MWH Americas Inc
Project/Site: Boeing SSFL Annual Outfall 018

TestAmerica Job ID: 440-8129-1

Client Sample ID: Outfall 018 Composite

Lab Sample ID: 440-8282-1

Date Collected: 04/11/12 13:45

Matrix: Water

Date Received: 04/11/12 18:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
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 23:08	DB	TAL IRV
Total/NA	Analysis	SM 2340B		1			20492	04/18/12 13:18	FR	TAL IRV
Total Recoverable	Prep	200.2			50 mL	50 mL	20594	04/18/12 17:48	SC	TAL IRV
Total Recoverable	Analysis	200.7 Rev 4.4		1			20926	04/20/12 03:40	TK	TAL IRV
Total Recoverable	Analysis	200.7 Rev 4.4		1			21033	04/20/12 13:22	VS	TAL IRV
Dissolved	Prep	200.2			50 mL	50 mL	20964	04/20/12 09:32	EN	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4		1			21093	04/20/12 17:31	DP	TAL IRV
Total Recoverable	Prep	200.2			50 mL	50 mL	20735	04/19/12 10:41	EN	TAL IRV
Total Recoverable	Analysis	200.8		1			21222	04/21/12 21:21	NH	TAL IRV
Dissolved	Analysis	SM 2340B		1			21322	04/23/12 11:19	FR	TAL IRV
Total Recoverable	Analysis	200.8		1			21383	04/23/12 15:32	NH	TAL IRV
Dissolved	Prep	200.2			50 mL	50 mL	20965	04/20/12 09:35	EN	TAL IRV
Dissolved	Analysis	200.8		1			22049	04/25/12 17:10	RC	TAL IRV
Dissolved	Analysis	200.8		1			22325	04/26/12 18:48	RC	TAL IRV
Total/NA	Analysis	180.1		1			19334	04/12/12 12:47	RR	TAL IRV
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	19455	04/12/12 19:40	NEA	TAL IRV
Total/NA	Prep	SM 4500 NH3 B			50 mL	50 mL	19411	04/12/12 16:52	NP	TAL IRV
Total/NA	Analysis	SM 4500 NH3 C		1			19480	04/12/12 21:16	NP	TAL IRV
Total/NA	Analysis	SM5210B		1			19553	04/13/12 09:06	QPD	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	19559	04/13/12 09:21	XL	TAL IRV
Total/NA	Analysis	SM 5310B		1			19604	04/13/12 07:23	FZ	TAL IRV
Total/NA	Analysis	SM 4500 F C		1			19968	04/16/12 06:20	FZ	TAL IRV
Total/NA	Analysis	SM 2540D		1	100 mL	100 mL	20344	04/17/12 22:29	DK	TAL IRV
Total/NA	Prep	Distill/CN			50 mL	50 mL	21913	04/25/12 15:36	PQI	TAL IRV
Total/NA	Analysis	SM 4500 CN E		1			21973	04/25/12 19:45	PQI	TAL IRV
Total/NA	Analysis	Gamma Spec K-40 CS-137		1			8607	04/19/12 00:00	LS	Eber-Rich
Total/NA	Prep	General Prep		1			8607_P	04/19/12 00:00		Eber-Rich
Total/NA	Prep	General Prep		1			8607_P	04/24/12 00:00		Eber-Rich
Total/NA	Analysis	Gross Alpha and Beta		1			8607	04/25/12 08:07	DVP	Eber-Rich
Total/NA	Prep	General Prep		1			8607_P	05/02/12 00:00		Eber-Rich
Total/NA	Analysis	Radium 226		1			8607	05/02/12 13:19	TM	Eber-Rich
Total/NA	Prep	General Prep		1			8607_P	04/25/12 00:00		Eber-Rich
Total/NA	Analysis	Radium 228		1			8607	04/25/12 14:21	ASM	Eber-Rich
Total/NA	Analysis	Strontium 90		1			8607	04/24/12 08:20	SK	Eber-Rich
Total/NA	Analysis	Tritium		1			8607	04/19/12 20:20	WL	Eber-Rich
Total/NA	Analysis	Uranium, Combined		1			8607	04/25/12 03:59	LS	Eber-Rich

Lab Chronicle

Client: MWH Americas Inc
Project/Site: Boeing SSFL Annual Outfall 018

TestAmerica Job ID: 440-8129-1

Laboratory References:

= Truesdail Laboratories Inc, 14201 Franklin Ave, Tustin, CA 92780

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

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

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 440-19096/4
Matrix: Water
Analysis Batch: 19096

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND		2.0	1.8	ug/L			04/11/12 20:55	1
Acrolein	ND		5.0	4.0	ug/L			04/11/12 20:55	1
Acrylonitrile	ND		2.0	1.2	ug/L			04/11/12 20:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*04/11/12 20:55*	*1*
Dibromofluoromethane (Surr)	*84*		*80 - 120*		*04/11/12 20:55*	*1*

Lab Sample ID: LCS 440-19096/5
Matrix: Water
Analysis Batch: 19096

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2-Chloroethyl vinyl ether			25.0	20.8		ug/L		83	25 - 170		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*87*		*80 - 120*

Lab Sample ID: 440-7823-A-10 MS
Matrix: Water
Analysis Batch: 19096

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		
2-Chloroethyl vinyl ether	ND		25.0	ND	LN	ug/L		0	25 - 170		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*92*		*80 - 120*

Lab Sample ID: 440-7823-A-10 MSD
Matrix: Water
Analysis Batch: 19096

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
2-Chloroethyl vinyl ether	ND		25.0	ND	AY	ug/L		0	25 - 170	NC	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*94*		*80 - 120*

Lab Sample ID: MB 440-19220/4
Matrix: Water
Analysis Batch: 19220

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			04/12/12 09:08	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.30	ug/L			04/12/12 09:08	1

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

Lab Sample ID: MB 440-19220/4
Matrix: Water
Analysis Batch: 19220

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		0.50	0.30	ug/L			04/12/12 09:08	1
1,1-Dichloroethane	ND		0.50	0.40	ug/L			04/12/12 09:08	1
Trichlorotrifluoroethane(F-113)	ND		2.0	0.50	ug/L			04/12/12 09:08	1
1,1-Dichloroethene	ND		0.50	0.42	ug/L			04/12/12 09:08	1
1,2-Dichlorobenzene	ND		0.50	0.32	ug/L			04/12/12 09:08	1
1,2-Dichloroethane	ND		0.50	0.28	ug/L			04/12/12 09:08	1
1,2-Dichloropropane	ND		0.50	0.35	ug/L			04/12/12 09:08	1
1,3-Dichlorobenzene	ND		0.50	0.35	ug/L			04/12/12 09:08	1
1,4-Dichlorobenzene	ND		0.50	0.37	ug/L			04/12/12 09:08	1
Benzene	ND		0.50	0.28	ug/L			04/12/12 09:08	1
Bromoform	ND		0.50	0.40	ug/L			04/12/12 09:08	1
1,2-Dichloro-1,1,2-trifluoroethane	ND		2.0	1.1	ug/L			04/12/12 09:08	1
Bromomethane	ND		0.50	0.42	ug/L			04/12/12 09:08	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			04/12/12 09:08	1
Chlorobenzene	ND		0.50	0.36	ug/L			04/12/12 09:08	1
Dibromochloromethane	ND		0.50	0.40	ug/L			04/12/12 09:08	1
Chloroethane	ND		0.50	0.40	ug/L			04/12/12 09:08	1
Chloroform	ND		0.50	0.33	ug/L			04/12/12 09:08	1
Chloromethane	ND		0.50	0.40	ug/L			04/12/12 09:08	1
cis-1,3-Dichloropropene	ND		0.50	0.22	ug/L			04/12/12 09:08	1
Bromodichloromethane	ND		0.50	0.30	ug/L			04/12/12 09:08	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/12/12 09:08	1
Methylene Chloride	ND		1.0	0.95	ug/L			04/12/12 09:08	1
Tetrachloroethene	ND		0.50	0.32	ug/L			04/12/12 09:08	1
Toluene	ND		0.50	0.36	ug/L			04/12/12 09:08	1
trans-1,2-Dichloroethene	ND		0.50	0.30	ug/L			04/12/12 09:08	1
trans-1,3-Dichloropropene	ND		0.50	0.32	ug/L			04/12/12 09:08	1
Trichlorofluoromethane	ND		0.50	0.34	ug/L			04/12/12 09:08	1
Vinyl chloride	ND		0.50	0.40	ug/L			04/12/12 09:08	1
Trichloroethene	ND		0.50	0.26	ug/L			04/12/12 09:08	1
cis-1,2-Dichloroethene	ND		0.50	0.32	ug/L			04/12/12 09:08	1
Cyclohexane	ND		2.0	0.40	ug/L			04/12/12 09:08	1
Xylenes, Total	ND		1.0	0.90	ug/L			04/12/12 09:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*80 - 120*		*04/12/12 09:08*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*04/12/12 09:08*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*04/12/12 09:08*	*1*

Lab Sample ID: LCS 440-19220/5
Matrix: Water
Analysis Batch: 19220

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	24.9		ug/L		100	65 - 135
1,1,2,2-Tetrachloroethane	25.0	24.4		ug/L		98	55 - 130
1,1,2-Trichloroethane	25.0	24.4		ug/L		98	70 - 125
1,1-Dichloroethane	25.0	26.0		ug/L		104	70 - 125
1,1-Dichloroethene	25.0	23.2		ug/L		93	70 - 125

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

Lab Sample ID: LCS 440-19220/5
Matrix: Water
Analysis Batch: 19220

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	25.0	25.5		ug/L		102	75 - 120
1,2-Dichloroethane	25.0	27.0		ug/L		108	60 - 140
1,2-Dichloropropane	25.0	24.5		ug/L		98	70 - 125
1,3-Dichlorobenzene	25.0	26.6		ug/L		106	75 - 120
1,4-Dichlorobenzene	25.0	25.6		ug/L		102	75 - 120
Benzene	25.0	23.3		ug/L		93	70 - 120
Bromoform	25.0	16.3		ug/L		65	55 - 130
Bromomethane	25.0	25.3		ug/L		101	65 - 140
Carbon tetrachloride	25.0	21.8		ug/L		87	65 - 140
Chlorobenzene	25.0	25.3		ug/L		101	75 - 120
Dibromochloromethane	25.0	22.2		ug/L		89	70 - 140
Chloroethane	25.0	22.9		ug/L		92	60 - 140
Chloroform	25.0	26.8		ug/L		107	70 - 130
Chloromethane	25.0	22.4		ug/L		90	50 - 140
cis-1,3-Dichloropropene	25.0	25.2		ug/L		101	75 - 125
Bromodichloromethane	25.0	25.6		ug/L		102	70 - 135
Ethylbenzene	25.0	24.8		ug/L		99	75 - 125
Methylene Chloride	25.0	24.4		ug/L		98	55 - 130
Tetrachloroethene	25.0	24.1		ug/L		96	70 - 125
Toluene	25.0	25.3		ug/L		101	70 - 120
trans-1,2-Dichloroethene	25.0	24.1		ug/L		96	70 - 125
trans-1,3-Dichloropropene	25.0	26.4		ug/L		106	70 - 125
Trichlorofluoromethane	25.0	28.8		ug/L		115	65 - 145
Vinyl chloride	25.0	23.2		ug/L		93	55 - 135
Trichloroethene	25.0	25.8		ug/L		103	70 - 125
cis-1,2-Dichloroethene	25.0	26.2		ug/L		105	70 - 125
Xylenes, Total	75.0	75.9		ug/L		101	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*
Toluene-d8 (Surr)	*105*		*80 - 120*

Lab Sample ID: 440-8172-F-1 MS
Matrix: Water
Analysis Batch: 19220

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	23.4		ug/L		94	65 - 140
1,1,2,2-Tetrachloroethane	ND		25.0	23.1		ug/L		92	55 - 135
1,1,2-Trichloroethane	ND		25.0	23.5		ug/L		94	65 - 130
1,1-Dichloroethane	ND		25.0	24.2		ug/L		97	65 - 130
1,1-Dichloroethene	ND		25.0	22.1		ug/L		88	60 - 130
1,2-Dichlorobenzene	ND		25.0	24.4		ug/L		98	75 - 125
1,2-Dichloroethane	ND		25.0	25.9		ug/L		104	60 - 140
1,2-Dichloropropane	ND		25.0	23.1		ug/L		92	65 - 130
1,3-Dichlorobenzene	ND		25.0	24.8		ug/L		99	75 - 125
1,4-Dichlorobenzene	ND		25.0	24.4		ug/L		98	75 - 125
Benzene	ND		25.0	22.0		ug/L		88	65 - 125

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

Lab Sample ID: 440-8172-F-1 MS
Matrix: Water
Analysis Batch: 19220

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
Bromoform	ND		25.0	16.4		ug/L		66	55 - 135
Bromomethane	ND		25.0	23.9		ug/L		96	55 - 145
Carbon tetrachloride	ND		25.0	20.8		ug/L		83	65 - 140
Chlorobenzene	ND		25.0	23.7		ug/L		95	75 - 125
Dibromochloromethane	ND		25.0	21.7		ug/L		87	65 - 140
Chloroethane	ND		25.0	20.9		ug/L		84	55 - 140
Chloroform	ND		25.0	25.0		ug/L		100	65 - 135
Chloromethane	ND		25.0	19.9		ug/L		80	45 - 145
cis-1,3-Dichloropropene	ND		25.0	24.1		ug/L		96	70 - 130
Bromodichloromethane	ND		25.0	24.6		ug/L		98	70 - 135
Ethylbenzene	ND		25.0	23.2		ug/L		93	65 - 130
Methylene Chloride	ND		25.0	23.2		ug/L		93	50 - 135
Tetrachloroethene	ND		25.0	22.3		ug/L		89	65 - 130
Toluene	ND		25.0	23.8		ug/L		95	70 - 125
trans-1,2-Dichloroethene	ND		25.0	22.3		ug/L		89	65 - 130
trans-1,3-Dichloropropene	ND		25.0	25.6		ug/L		102	65 - 135
Trichlorofluoromethane	ND		25.0	27.0		ug/L		108	60 - 145
Vinyl chloride	ND		25.0	21.0		ug/L		84	45 - 140
Trichloroethene	ND		25.0	24.1		ug/L		96	65 - 125
cis-1,2-Dichloroethene	ND		25.0	24.4		ug/L		98	65 - 130
Xylenes, Total	ND		75.0	70.8		ug/L		94	60 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*80 - 120*
Dibromofluoromethane (Surr)	*105*		*80 - 120*
Toluene-d8 (Surr)	*104*		*80 - 120*

Lab Sample ID: 440-8172-F-1 MSD
Matrix: Water
Analysis Batch: 19220

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	24.0		ug/L		96	65 - 140	3	20
1,1,2,2-Tetrachloroethane	ND		25.0	22.5		ug/L		90	55 - 135	3	30
1,1,2-Trichloroethane	ND		25.0	23.2		ug/L		93	65 - 130	1	25
1,1-Dichloroethane	ND		25.0	25.1		ug/L		100	65 - 130	4	20
1,1-Dichloroethene	ND		25.0	23.0		ug/L		92	60 - 130	4	20
1,2-Dichlorobenzene	ND		25.0	24.3		ug/L		97	75 - 125	0	20
1,2-Dichloroethane	ND		25.0	25.8		ug/L		103	60 - 140	0	20
1,2-Dichloropropane	ND		25.0	23.9		ug/L		96	65 - 130	3	20
1,3-Dichlorobenzene	ND		25.0	24.9		ug/L		100	75 - 125	0	20
1,4-Dichlorobenzene	ND		25.0	24.2		ug/L		97	75 - 125	1	20
Benzene	ND		25.0	22.9		ug/L		92	65 - 125	4	20
Bromoform	ND		25.0	17.0		ug/L		68	55 - 135	4	25
Bromomethane	ND		25.0	23.7		ug/L		95	55 - 145	1	25
Carbon tetrachloride	ND		25.0	21.5		ug/L		86	65 - 140	3	25
Chlorobenzene	ND		25.0	25.2		ug/L		101	75 - 125	6	20
Dibromochloromethane	ND		25.0	23.4		ug/L		94	65 - 140	8	25
Chloroethane	ND		25.0	22.1		ug/L		88	55 - 140	6	25

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

Lab Sample ID: 440-8172-F-1 MSD
Matrix: Water
Analysis Batch: 19220

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
Chloroform	ND		25.0	25.9		ug/L		104	65 - 135	4	20
Chloromethane	ND		25.0	20.6		ug/L		82	45 - 145	3	25
cis-1,3-Dichloropropene	ND		25.0	24.8		ug/L		99	70 - 130	3	20
Bromodichloromethane	ND		25.0	24.8		ug/L		99	70 - 135	1	20
Ethylbenzene	ND		25.0	24.6		ug/L		98	65 - 130	6	20
Methylene Chloride	ND		25.0	23.7		ug/L		95	50 - 135	2	20
Tetrachloroethene	ND		25.0	23.0		ug/L		92	65 - 130	3	20
Toluene	ND		25.0	24.2		ug/L		97	70 - 125	2	20
trans-1,2-Dichloroethene	ND		25.0	22.9		ug/L		92	65 - 130	3	20
trans-1,3-Dichloropropene	ND		25.0	25.6		ug/L		102	65 - 135	0	25
Trichlorofluoromethane	ND		25.0	27.1		ug/L		108	60 - 145	0	25
Vinyl chloride	ND		25.0	21.6		ug/L		86	45 - 140	3	30
Trichloroethene	ND		25.0	24.3		ug/L		97	65 - 125	1	20
cis-1,2-Dichloroethene	ND		25.0	25.2		ug/L		101	65 - 130	3	20
Xylenes, Total	ND		75.0	75.3		ug/L		100	60 - 130	6	20

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

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-20473/2
Matrix: Water
Analysis Batch: 20473

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		2.0	1.0	ug/L			04/18/12 15:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*115*		*80 - 120*		*04/18/12 15:08*	*1*

Lab Sample ID: LCS 440-20473/3
Matrix: Water
Analysis Batch: 20473

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			10.0	9.22		ug/L		92	70 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*112*		*80 - 120*

Lab Sample ID: 440-8769-A-2 MS
Matrix: Water
Analysis Batch: 20473

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		
1,4-Dioxane	ND		10.0	9.25		ug/L		93	70 - 130		

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-8769-A-2 MS
Matrix: Water
Analysis Batch: 20473

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

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	*114*		*80 - 120*

Lab Sample ID: 440-8769-A-2 MSD
Matrix: Water
Analysis Batch: 20473

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
1,4-Dioxane	ND		10.0	9.58		ug/L		96	70 - 130	3.51	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Dibromofluoromethane (Surr)	*117*		*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
Acenaphthene	ND		0.500	0.200	ug/L		04/18/12 18:02	04/22/12 15:46	1
Acenaphthylene	ND		0.500	0.200	ug/L		04/18/12 18:02	04/22/12 15:46	1
Aniline	ND		10.0	0.300	ug/L		04/18/12 18:02	04/22/12 15:46	1
Anthracene	ND		0.500	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
Benzidine	ND		5.00	1.00	ug/L		04/18/12 18:02	04/22/12 15:46	1
Benzo[a]anthracene	ND		5.00	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
Benzo[b]fluoranthene	ND		2.00	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
Benzo[k]fluoranthene	ND		0.500	0.200	ug/L		04/18/12 18:02	04/22/12 15:46	1
Benzoic acid	ND		20.0	3.00	ug/L		04/18/12 18:02	04/22/12 15:46	1
Benzo[a]pyrene	ND		2.00	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
Bis(2-chloroethoxy)methane	ND		0.500	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
Bis(2-chloroethyl)ether	ND		0.500	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
4-Bromophenyl phenyl ether	ND		1.00	0.200	ug/L		04/18/12 18:02	04/22/12 15:46	1
Butyl benzyl phthalate	ND		5.00	0.700	ug/L		04/18/12 18:02	04/22/12 15:46	1
4-Chloro-3-methylphenol	ND		2.00	0.200	ug/L		04/18/12 18:02	04/22/12 15:46	1
2-Chloronaphthalene	ND		0.500	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
2-Chlorophenol	ND		1.00	0.200	ug/L		04/18/12 18:02	04/22/12 15:46	1
4-Chlorophenyl phenyl ether	ND		0.500	0.200	ug/L		04/18/12 18:02	04/22/12 15:46	1
Chrysene	ND		0.500	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
Dibenz(a,h)anthracene	ND		0.500	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
Di-n-butyl phthalate	ND		2.00	0.300	ug/L		04/18/12 18:02	04/22/12 15:46	1
1,2-Dichlorobenzene	ND		0.500	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
1,3-Dichlorobenzene	ND		0.500	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
1,4-Dichlorobenzene	ND		0.500	0.200	ug/L		04/18/12 18:02	04/22/12 15:46	1
3,3'-Dichlorobenzidine	ND		5.00	0.500	ug/L		04/18/12 18:02	04/22/12 15:46	1
2,4-Dichlorophenol	ND		2.00	0.200	ug/L		04/18/12 18:02	04/22/12 15:46	1
Diethyl phthalate	ND		1.00	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
2,4-Dimethylphenol	ND		2.00	0.300	ug/L		04/18/12 18:02	04/22/12 15:46	1
Dimethyl phthalate	ND		0.500	0.200	ug/L		04/18/12 18:02	04/22/12 15:46	1

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

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
4,6-Dinitro-2-methylphenol	ND		5.00	0.300	ug/L		04/18/12 18:02	04/22/12 15:46	1
2,4-Dinitrophenol	ND		5.00	0.900	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
2,6-Dinitrotoluene	ND		5.00	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
Di-n-octyl phthalate	ND		5.00	0.200	ug/L		04/18/12 18:02	04/22/12 15:46	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		1.00	0.200	ug/L		04/18/12 18:02	04/22/12 15:46	1
Fluoranthene	ND		0.500	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
Fluorene	ND		0.500	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
Hexachlorobenzene	ND		1.00	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
Hexachlorobutadiene	ND		2.00	0.200	ug/L		04/18/12 18:02	04/22/12 15:46	1
Hexachloroethane	ND		3.00	0.200	ug/L		04/18/12 18:02	04/22/12 15:46	1
Hexachlorocyclopentadiene	ND		5.00	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
Indeno[1,2,3-cd]pyrene	ND		2.00	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
Isophorone	ND		1.00	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
4-Methylphenol	ND		5.00	0.200	ug/L		04/18/12 18:02	04/22/12 15:46	1
Naphthalene	ND		1.00	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
Nitrobenzene	ND		1.00	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
2-Nitrophenol	ND		2.00	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
4-Nitrophenol	ND		5.00	2.50	ug/L		04/18/12 18:02	04/22/12 15:46	1
N-Nitrosodimethylamine	ND		2.00	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
N-Nitrosodiphenylamine	ND		1.00	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
N-Nitrosodi-n-propylamine	ND		2.00	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
Pentachlorophenol	ND		2.00	0.400	ug/L		04/18/12 18:02	04/22/12 15:46	1
Phenanthrene	ND		0.500	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
Phenol	ND		1.00	0.300	ug/L		04/18/12 18:02	04/22/12 15:46	1
Pyrene	ND		0.500	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
1,2,4-Trichlorobenzene	ND		1.00	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
2,4,6-Trichlorophenol	ND		1.00	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
2-Methylphenol	ND		2.00	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
4-Chloroaniline	ND		2.00	0.300	ug/L		04/18/12 18:02	04/22/12 15:46	1
2-Methylnaphthalene	ND		1.00	0.200	ug/L		04/18/12 18:02	04/22/12 15:46	1
2-Nitroaniline	ND		5.00	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
3-Nitroaniline	ND		5.00	1.00	ug/L		04/18/12 18:02	04/22/12 15:46	1
Dibenzofuran	ND		0.500	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
4-Nitroaniline	ND		5.00	0.500	ug/L		04/18/12 18:02	04/22/12 15:46	1
Benzo[g,h,i]perylene	ND		5.00	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
Benzyl alcohol	ND		5.00	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1
bis (2-chloroisopropyl) ether	ND		0.500	0.100	ug/L		04/18/12 18:02	04/22/12 15:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
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*
2,4,6-Tribromophenol	*127*	*AY*	*40 - 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*
Terphenyl-d14	*114*		*50 - 125*	*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*

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

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
Acenaphthene	10.0	9.120		ug/L		91	60 - 120
Acenaphthylene	10.0	11.12		ug/L		111	60 - 120
Aniline	10.0	8.680	J,DX	ug/L		87	35 - 120
Anthracene	10.0	10.40		ug/L		104	65 - 120
Benzidine	10.0	3.140	J,DX	ug/L		31	30 - 160
Benzo[a]anthracene	10.0	10.86		ug/L		109	65 - 120
Benzo[b]fluoranthene	10.0	10.32		ug/L		103	55 - 125
Benzo[k]fluoranthene	10.0	9.260		ug/L		93	50 - 125
Benzoic acid	10.0	9.140	J,DX	ug/L		91	25 - 120
Benzo[a]pyrene	10.0	10.28		ug/L		103	55 - 130
Bis(2-chloroethoxy)methane	10.0	9.580		ug/L		96	55 - 120
Bis(2-chloroethyl)ether	10.0	8.840		ug/L		88	50 - 120
Bis(2-ethylhexyl) phthalate	10.0	11.60		ug/L		116	65 - 130
4-Bromophenyl phenyl ether	10.0	8.560		ug/L		86	60 - 120
Butyl benzyl phthalate	10.0	12.02		ug/L		120	55 - 130
4-Chloro-3-methylphenol	10.0	10.98		ug/L		110	60 - 120
2-Chloronaphthalene	10.0	9.500		ug/L		95	60 - 120
2-Chlorophenol	10.0	8.540		ug/L		85	45 - 120
4-Chlorophenyl phenyl ether	10.0	9.020		ug/L		90	65 - 120
Chrysene	10.0	9.780		ug/L		98	65 - 120
Dibenz(a,h)anthracene	10.0	8.660		ug/L		87	50 - 135
Di-n-butyl phthalate	10.0	12.28		ug/L		123	60 - 125
1,2-Dichlorobenzene	10.0	7.320		ug/L		73	40 - 120
1,3-Dichlorobenzene	10.0	7.020		ug/L		70	35 - 120
1,4-Dichlorobenzene	10.0	7.060		ug/L		71	35 - 120
3,3'-Dichlorobenzidine	10.0	8.640		ug/L		86	45 - 135
2,4-Dichlorophenol	10.0	9.260		ug/L		93	55 - 120
Diethyl phthalate	10.0	10.22		ug/L		102	55 - 120
2,4-Dimethylphenol	10.0	8.620		ug/L		86	40 - 120
Dimethyl phthalate	10.0	9.520		ug/L		95	30 - 120
4,6-Dinitro-2-methylphenol	10.0	10.92		ug/L		109	45 - 120
2,4-Dinitrophenol	10.0	6.220		ug/L		62	40 - 120
2,4-Dinitrotoluene	10.0	9.740		ug/L		97	65 - 120
2,6-Dinitrotoluene	10.0	9.400		ug/L		94	65 - 120
Di-n-octyl phthalate	10.0	11.68		ug/L		117	65 - 135
1,2-Diphenylhydrazine(as Azobenzene)	10.0	10.46		ug/L		105	60 - 120
Fluoranthene	10.0	10.98		ug/L		110	60 - 120
Fluorene	10.0	9.460		ug/L		95	65 - 120
Hexachlorobenzene	10.0	9.040		ug/L		90	60 - 120
Hexachlorobutadiene	10.0	6.640		ug/L		66	40 - 120
Hexachloroethane	10.0	6.920		ug/L		69	35 - 120
Hexachlorocyclopentadiene	10.0	7.100		ug/L		71	25 - 120
Indeno[1,2,3-cd]pyrene	10.0	9.340		ug/L		93	45 - 135
Isophorone	10.0	10.44		ug/L		104	50 - 120
4-Methylphenol	10.0	9.720		ug/L		97	50 - 120
Naphthalene	10.0	8.280		ug/L		83	55 - 120
Nitrobenzene	10.0	9.600		ug/L		96	55 - 120
2-Nitrophenol	10.0	9.460		ug/L		95	50 - 120
4-Nitrophenol	10.0	13.44	LQ	ug/L		134	45 - 120

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

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
N-Nitrosodimethylamine	10.0	7.360		ug/L		74	45 - 120
N-Nitrosodiphenylamine	10.0	9.160		ug/L		92	60 - 120
N-Nitrosodi-n-propylamine	10.0	11.24		ug/L		112	45 - 120
Pentachlorophenol	10.0	8.920		ug/L		89	24 - 121
Phenanthrene	10.0	9.660		ug/L		97	65 - 120
Phenol	10.0	8.420		ug/L		84	40 - 120
Pyrene	10.0	10.76		ug/L		108	55 - 125
1,2,4-Trichlorobenzene	10.0	7.280		ug/L		73	45 - 120
2,4,6-Trichlorophenol	10.0	9.980		ug/L		100	55 - 120
2-Methylphenol	10.0	9.060		ug/L		91	50 - 120
4-Chloroaniline	10.0	8.800		ug/L		88	55 - 120
2-Methylnaphthalene	10.0	9.440		ug/L		94	55 - 120
2-Nitroaniline	10.0	11.54		ug/L		115	65 - 120
3-Nitroaniline	10.0	9.140		ug/L		91	60 - 120
Dibenzofuran	10.0	9.440		ug/L		94	65 - 120
4-Nitroaniline	10.0	9.380		ug/L		94	55 - 125
Benzo[g,h,i]perylene	10.0	9.240		ug/L		92	45 - 135
Benzyl alcohol	10.0	9.560		ug/L		96	50 - 120
bis (2-chloroisopropyl) ether	10.0	9.680		ug/L		97	45 - 120

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

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
Acenaphthene	10.0	9.720		ug/L		97	60 - 120	6	20
Acenaphthylene	10.0	11.84		ug/L		118	60 - 120	6	20
Aniline	10.0	10.04		ug/L		100	35 - 120	15	30
Anthracene	10.0	10.44		ug/L		104	65 - 120	0	20
Benzidine	10.0	2.520	J,DX LR	ug/L		25	30 - 160	22	35
Benzo[a]anthracene	10.0	10.68		ug/L		107	65 - 120	2	20
Benzo[b]fluoranthene	10.0	10.24		ug/L		102	55 - 125	1	25
Benzo[k]fluoranthene	10.0	10.00		ug/L		100	50 - 125	8	20
Benzoic acid	10.0	9.780	J,DX	ug/L		98	25 - 120	7	30
Benzo[a]pyrene	10.0	10.12		ug/L		101	55 - 130	2	25
Bis(2-chloroethoxy)methane	10.0	10.40		ug/L		104	55 - 120	8	20
Bis(2-chloroethyl)ether	10.0	9.620		ug/L		96	50 - 120	8	20
Bis(2-ethylhexyl) phthalate	10.0	11.38		ug/L		114	65 - 130	2	20
4-Bromophenyl phenyl ether	10.0	8.980		ug/L		90	60 - 120	5	25
Butyl benzyl phthalate	10.0	11.60		ug/L		116	55 - 130	4	20
4-Chloro-3-methylphenol	10.0	10.94		ug/L		109	60 - 120	0	25

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

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-Chloronaphthalene	10.0	10.08		ug/L		101	60 - 120	6	20
2-Chlorophenol	10.0	8.960		ug/L		90	45 - 120	5	25
4-Chlorophenyl phenyl ether	10.0	9.800		ug/L		98	65 - 120	8	20
Chrysene	10.0	9.300		ug/L		93	65 - 120	5	20
Dibenz(a,h)anthracene	10.0	9.160		ug/L		92	50 - 135	6	25
Di-n-butyl phthalate	10.0	11.80		ug/L		118	60 - 125	4	20
1,2-Dichlorobenzene	10.0	8.020		ug/L		80	40 - 120	9	25
1,3-Dichlorobenzene	10.0	7.820		ug/L		78	35 - 120	11	25
1,4-Dichlorobenzene	10.0	7.780		ug/L		78	35 - 120	10	25
3,3'-Dichlorobenzidine	10.0	7.960		ug/L		80	45 - 135	8	25
2,4-Dichlorophenol	10.0	9.780		ug/L		98	55 - 120	5	20
Diethyl phthalate	10.0	10.96		ug/L		110	55 - 120	7	30
2,4-Dimethylphenol	10.0	8.760		ug/L		88	40 - 120	2	25
Dimethyl phthalate	10.0	10.28		ug/L		103	30 - 120	8	30
4,6-Dinitro-2-methylphenol	10.0	10.52		ug/L		105	45 - 120	4	25
2,4-Dinitrophenol	10.0	6.600		ug/L		66	40 - 120	6	25
2,4-Dinitrotoluene	10.0	10.38		ug/L		104	65 - 120	6	20
2,6-Dinitrotoluene	10.0	10.24		ug/L		102	65 - 120	9	20
Di-n-octyl phthalate	10.0	10.96		ug/L		110	65 - 135	6	20
1,2-Diphenylhydrazine(as Azobenzene)	10.0	11.44		ug/L		114	60 - 120	9	25
Fluoranthene	10.0	10.86		ug/L		109	60 - 120	1	20
Fluorene	10.0	10.20		ug/L		102	65 - 120	8	20
Hexachlorobenzene	10.0	9.060		ug/L		91	60 - 120	0	20
Hexachlorobutadiene	10.0	7.840		ug/L		78	40 - 120	17	25
Hexachloroethane	10.0	7.760		ug/L		78	35 - 120	11	25
Hexachlorocyclopentadiene	10.0	8.660		ug/L		87	25 - 120	20	30
Indeno[1,2,3-cd]pyrene	10.0	9.140		ug/L		91	45 - 135	2	25
Isophorone	10.0	10.36		ug/L		104	50 - 120	1	20
4-Methylphenol	10.0	10.72		ug/L		107	50 - 120	10	20
Naphthalene	10.0	9.040		ug/L		90	55 - 120	9	20
Nitrobenzene	10.0	10.34		ug/L		103	55 - 120	7	25
2-Nitrophenol	10.0	9.740		ug/L		97	50 - 120	3	25
4-Nitrophenol	10.0	13.52	LQ	ug/L		135	45 - 120	1	30
N-Nitrosodimethylamine	10.0	10.18	BA	ug/L		102	45 - 120	32	20
N-Nitrosodiphenylamine	10.0	9.500		ug/L		95	60 - 120	4	20
N-Nitrosodi-n-propylamine	10.0	11.52		ug/L		115	45 - 120	2	20
Pentachlorophenol	10.0	8.280		ug/L		83	24 - 121	7	25
Phenanthrene	10.0	9.900		ug/L		99	65 - 120	2	20
Phenol	10.0	9.920		ug/L		99	40 - 120	16	25
Pyrene	10.0	10.98		ug/L		110	55 - 125	2	25
1,2,4-Trichlorobenzene	10.0	7.880		ug/L		79	45 - 120	8	20
2,4,6-Trichlorophenol	10.0	10.54		ug/L		105	55 - 120	5	30
2-Methylphenol	10.0	9.620		ug/L		96	50 - 120	6	20
4-Chloroaniline	10.0	10.34		ug/L		103	55 - 120	16	25
2-Methylnaphthalene	10.0	9.780		ug/L		98	55 - 120	4	20
2-Nitroaniline	10.0	12.48	LQ	ug/L		125	65 - 120	8	20
3-Nitroaniline	10.0	10.04		ug/L		100	60 - 120	9	25
Dibenzofuran	10.0	10.16		ug/L		102	65 - 120	7	20
4-Nitroaniline	10.0	9.500		ug/L		95	55 - 125	1	20

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

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
Benzo[g,h,i]perylene			10.0	9.020		ug/L		90	45 - 135	2	25
Benzyl alcohol			10.0	11.42		ug/L		114	50 - 120	18	20
bis (2-chloroisopropyl) ether			10.0	10.38		ug/L		104	45 - 120	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*108*		*50 - 120*
2-Fluorophenol	*84*		*30 - 120*
2,4,6-Tribromophenol	*104*		*40 - 120*
Nitrobenzene-d5	*110*		*45 - 120*
Terphenyl-d14	*111*		*50 - 125*
Phenol-d6	*98*		*35 - 120*

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 440-20433/3
Matrix: Water
Analysis Batch: 20433

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		0.050	0.025	mg/L			04/18/12 10:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*65 - 140*		*04/18/12 10:25*	*1*

Lab Sample ID: LCS 440-20433/2
Matrix: Water
Analysis Batch: 20433

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)			0.800	0.747		mg/L		93	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*127*		*65 - 140*

Lab Sample ID: 440-8149-B-5 MS
Matrix: Water
Analysis Batch: 20433

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		
GRO (C4-C12)	0.046	J,DX	0.800	0.738		mg/L		87	65 - 140		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*65 - 140*

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: 440-8149-B-5 MSD
Matrix: Water
Analysis Batch: 20433

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
GRO (C4-C12)	0.046	J,DX	0.800	0.735		mg/L		86	65 - 140	0.000	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*123*		*65 - 140*

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

Lab Sample ID: MB 440-19875/1-A
Matrix: Water
Analysis Batch: 20064

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19875

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.50	0.25	ug/L		04/15/12 14:34	04/16/12 21:52	1
Aroclor 1221	ND		0.50	0.25	ug/L		04/15/12 14:34	04/16/12 21:52	1
Aroclor 1232	ND		0.50	0.25	ug/L		04/15/12 14:34	04/16/12 21:52	1
Aroclor 1242	ND		0.50	0.25	ug/L		04/15/12 14:34	04/16/12 21:52	1
Aroclor 1248	ND		0.50	0.25	ug/L		04/15/12 14:34	04/16/12 21:52	1
Aroclor 1254	ND		0.50	0.25	ug/L		04/15/12 14:34	04/16/12 21:52	1
Aroclor 1260	ND		0.50	0.25	ug/L		04/15/12 14:34	04/16/12 21:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*48*		*45 - 120*	*04/15/12 14:34*	*04/16/12 21:52*	*1*

Lab Sample ID: LCS 440-19875/4-A
Matrix: Water
Analysis Batch: 20064

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19875

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016	4.00	3.75		ug/L		94	50 - 115
Aroclor 1260	4.00	3.70		ug/L		93	60 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*94*		*45 - 120*

Lab Sample ID: LCSD 440-19875/5-A
Matrix: Water
Analysis Batch: 20064

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 19875

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016	4.00	3.25		ug/L		81	50 - 115	14	30
Aroclor 1260	4.00	3.60		ug/L		90	60 - 120	3	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*94*		*45 - 120*

Method: 608 Pesticides - Organochlorine Pesticides Low level

Lab Sample ID: MB 440-19875/1-A
Matrix: Water
Analysis Batch: 19946

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19875

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0050	0.0015	ug/L		04/15/12 14:34	04/16/12 12:21	1
alpha-BHC	ND		0.0050	0.0025	ug/L		04/15/12 14:34	04/16/12 12:21	1
beta-BHC	ND		0.010	0.0040	ug/L		04/15/12 14:34	04/16/12 12:21	1
Chlordane (technical)	ND		0.10	0.0080	ug/L		04/15/12 14:34	04/16/12 12:21	1
delta-BHC	ND		0.0050	0.0035	ug/L		04/15/12 14:34	04/16/12 12:21	1
Dieldrin	ND		0.0050	0.0020	ug/L		04/15/12 14:34	04/16/12 12:21	1
Endosulfan I	ND		0.0050	0.0030	ug/L		04/15/12 14:34	04/16/12 12:21	1
Endosulfan II	ND		0.0050	0.0020	ug/L		04/15/12 14:34	04/16/12 12:21	1
Endosulfan sulfate	ND		0.010	0.0030	ug/L		04/15/12 14:34	04/16/12 12:21	1
Endrin	ND		0.0050	0.0020	ug/L		04/15/12 14:34	04/16/12 12:21	1
Endrin aldehyde	ND		0.010	0.0020	ug/L		04/15/12 14:34	04/16/12 12:21	1
gamma-BHC (Lindane)	ND		0.010	0.0030	ug/L		04/15/12 14:34	04/16/12 12:21	1
Heptachlor	ND		0.010	0.0030	ug/L		04/15/12 14:34	04/16/12 12:21	1
Heptachlor epoxide	ND		0.0050	0.0025	ug/L		04/15/12 14:34	04/16/12 12:21	1
Toxaphene	ND		0.50	0.25	ug/L		04/15/12 14:34	04/16/12 12:21	1
4,4'-DDD	ND		0.0050	0.0040	ug/L		04/15/12 14:34	04/16/12 12:21	1
4,4'-DDE	ND		0.0050	0.0030	ug/L		04/15/12 14:34	04/16/12 12:21	1
4,4'-DDT	ND		0.010	0.0040	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
Matrix: Water
Analysis Batch: 19946

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19875

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.500	0.467		ug/L		93	40 - 115
alpha-BHC	0.500	0.489		ug/L		98	45 - 115
beta-BHC	0.500	0.480		ug/L		96	55 - 115
delta-BHC	0.500	0.497		ug/L		99	55 - 115
Dieldrin	0.500	0.497		ug/L		99	55 - 115
Endosulfan I	0.500	0.482		ug/L		96	55 - 115
Endosulfan II	0.500	0.463		ug/L		93	55 - 120
Endosulfan sulfate	0.500	0.469		ug/L		94	60 - 120
Endrin	0.500	0.504		ug/L		101	55 - 115
Endrin aldehyde	0.500	0.514		ug/L		103	50 - 120
gamma-BHC (Lindane)	0.500	0.488		ug/L		98	45 - 115
Heptachlor	0.500	0.481		ug/L		96	45 - 115
Heptachlor epoxide	0.500	0.486		ug/L		97	55 - 115
4,4'-DDD	0.500	0.538		ug/L		108	55 - 120
4,4'-DDE	0.500	0.508		ug/L		102	50 - 120
4,4'-DDT	0.500	0.549		ug/L		110	55 - 120

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

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

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
Aldrin			0.500	0.439		ug/L		88	40 - 115	6.10	30
alpha-BHC			0.500	0.460		ug/L		92	45 - 115	6.11	30
beta-BHC			0.500	0.461		ug/L		92	55 - 115	4.04	30
delta-BHC			0.500	0.471		ug/L		94	55 - 115	5.41	30
Dieldrin			0.500	0.470		ug/L		94	55 - 115	5.63	30
Endosulfan I			0.500	0.456		ug/L		91	55 - 115	5.54	30
Endosulfan II			0.500	0.438		ug/L		88	55 - 120	5.68	30
Endosulfan sulfate			0.500	0.449		ug/L		90	60 - 120	4.31	30
Endrin			0.500	0.479		ug/L		96	55 - 115	5.05	30
Endrin aldehyde			0.500	0.502		ug/L		100	50 - 120	2.28	30
gamma-BHC (Lindane)			0.500	0.461		ug/L		92	45 - 115	5.77	30
Heptachlor			0.500	0.454		ug/L		91	45 - 115	5.65	30
Heptachlor epoxide			0.500	0.461		ug/L		92	55 - 115	5.41	30
4,4'-DDD			0.500	0.508		ug/L		102	55 - 120	5.62	30
4,4'-DDE			0.500	0.481		ug/L		96	50 - 120	5.46	30
4,4'-DDT			0.500	0.520		ug/L		104	55 - 120	5.28	30

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

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 440-19972/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19895 — **Prep Batch: 19972**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C28	ND		0.50	0.10	mg/L		04/16/12 11:19	04/16/12 23:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*77*		*45 - 120*	*04/16/12 11:19*	*04/16/12 23:52*	*1*

Lab Sample ID: LCS 440-19972/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19895 — **Prep Batch: 19972**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C10-C28			1.00	0.745		mg/L		75	40 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane	*77*		*45 - 120*

Lab Sample ID: LCSD 440-19972/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19895 — **Prep Batch: 19972**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28			1.00	0.772		mg/L		77	40 - 115	3.44	25

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCSD 440-19972/3-A
Matrix: Water
Analysis Batch: 19895

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 19972

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane	*81*		*45 - 120*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 440-19011/3
Matrix: Water
Analysis Batch: 19011

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			04/11/12 13:08	1

Lab Sample ID: LCS 440-19011/2
Matrix: Water
Analysis Batch: 19011

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	50.0	49.8		ug/L		100	90 - 110

Lab Sample ID: 440-8238-I-2 MS
Matrix: Water
Analysis Batch: 19011

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
Chromium, hexavalent	2.8		50.0	54.8		ug/L		104	90 - 110

Lab Sample ID: 440-8238-I-2 MSD
Matrix: Water
Analysis Batch: 19011

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
Chromium, hexavalent	2.8		50.0	54.1		ug/L		103	90 - 110	1.29	10

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-18918/2
Matrix: Water
Analysis Batch: 18918

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			04/11/12 09:40	1
Nitrate Nitrite as N	ND		0.26	0.19	mg/L			04/11/12 09:40	1
Nitrite as N	ND		0.15	0.11	mg/L			04/11/12 09:40	1

Lab Sample ID: LCS 440-18918/3
Matrix: Water
Analysis Batch: 18918

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	1.13		mg/L		100	90 - 110
Nitrate Nitrite as N	2.65	2.64		mg/L		100	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 440-18918/3
Matrix: Water
Analysis Batch: 18918

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N			1.52	1.51		mg/L		99	90 - 110		

Lab Sample ID: 440-6335-C-1 MS
Matrix: Water
Analysis Batch: 18918

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	0.087	J,DX	1.13	1.13		mg/L		92	80 - 120		
Nitrate Nitrite as N	ND		2.65	2.89		mg/L		109	80 - 120		
Nitrite as N	ND		1.52	1.76		mg/L		116	80 - 120		

Lab Sample ID: 440-6335-C-1 MSD
Matrix: Water
Analysis Batch: 18918

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	0.087	J,DX	1.13	1.09		mg/L		89	80 - 120	4	20
Nitrate Nitrite as N	ND		2.65	2.79		mg/L		105	80 - 120	4	20
Nitrite as N	ND		1.52	1.70		mg/L		112	80 - 120	3	20

Lab Sample ID: MB 440-18919/2
Matrix: Water
Analysis Batch: 18919

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			04/11/12 09:40	1
Sulfate	ND		0.50	0.40	mg/L			04/11/12 09:40	1

Lab Sample ID: LCS 440-18919/3
Matrix: Water
Analysis Batch: 18919

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	4.81		mg/L		96	90 - 110		
Sulfate			10.0	10.1		mg/L		101	90 - 110		

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-20654/5
Matrix: Water
Analysis Batch: 20654

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			04/19/12 07:57	1

Lab Sample ID: LCS 440-20654/4
Matrix: Water
Analysis Batch: 20654

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	25.5		ug/L		102	85 - 115		

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: 440-8128-C-1 MS
Matrix: Water
Analysis Batch: 20654

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	27.1		ug/L		108	80 - 120

Lab Sample ID: 440-8128-C-1 MSD
Matrix: Water
Analysis Batch: 20654

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	26.2		ug/L		105	80 - 120	3.38	20

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

Lab Sample ID: G2D170000092B
Matrix: Water
Analysis Batch: 2108092

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 2108092_P

Analyte	MB Result	MB Qualifier	ML	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000070	ug/L		04/17/12 09:00	04/19/12 14:25	1
Total TCDD	ND		0.000010	0.0000070	ug/L		04/17/12 09:00	04/19/12 14:25	1
1,2,3,7,8-PeCDD	ND		0.000050	0.0000052	ug/L		04/17/12 09:00	04/19/12 14:25	1
Total PeCDD	ND		0.000050	0.0000052	ug/L		04/17/12 09:00	04/19/12 14:25	1
1,2,3,4,7,8-HxCDD	ND		0.000050	0.0000060	ug/L		04/17/12 09:00	04/19/12 14:25	1
1,2,3,6,7,8-HxCDD	ND		0.000050	0.0000055	ug/L		04/17/12 09:00	04/19/12 14:25	1
1,2,3,7,8,9-HxCDD	ND		0.000050	0.0000051	ug/L		04/17/12 09:00	04/19/12 14:25	1
Total HxCDD	ND		0.000050	0.0000051	ug/L		04/17/12 09:00	04/19/12 14:25	1
1,2,3,4,6,7,8-HpCDD	ND		0.000050	0.0000021	ug/L		04/17/12 09:00	04/19/12 14:25	1
Total HpCDD	0.0000015	J Q	0.000050	0.0000021	ug/L		04/17/12 09:00	04/19/12 14:25	1
OCDD	ND		0.00010	0.000016	ug/L		04/17/12 09:00	04/19/12 14:25	1
2,3,7,8-TCDF	ND		0.000010	0.0000028	ug/L		04/17/12 09:00	04/19/12 14:25	1
Total TCDF	ND		0.000010	0.0000028	ug/L		04/17/12 09:00	04/19/12 14:25	1
1,2,3,7,8-PeCDF	ND		0.000050	0.000010	ug/L		04/17/12 09:00	04/19/12 14:25	1
2,3,4,7,8-PeCDF	ND		0.000050	0.0000097	ug/L		04/17/12 09:00	04/19/12 14:25	1
Total PeCDF	ND		0.000050	0.0000097	ug/L		04/17/12 09:00	04/19/12 14:25	1
1,2,3,4,7,8-HxCDF	ND		0.000050	0.0000070	ug/L		04/17/12 09:00	04/19/12 14:25	1
1,2,3,6,7,8-HxCDF	ND		0.000050	0.0000068	ug/L		04/17/12 09:00	04/19/12 14:25	1
2,3,4,6,7,8-HxCDF	ND		0.000050	0.0000069	ug/L		04/17/12 09:00	04/19/12 14:25	1
1,2,3,7,8,9-HxCDF	ND		0.000050	0.0000096	ug/L		04/17/12 09:00	04/19/12 14:25	1
Total HxCDF	ND		0.000050	0.0000068	ug/L		04/17/12 09:00	04/19/12 14:25	1
1,2,3,4,6,7,8-HpCDF	0.0000047	J Q	0.000050	0.0000049	ug/L		04/17/12 09:00	04/19/12 14:25	1
1,2,3,4,7,8,9-HpCDF	ND		0.000050	0.0000065	ug/L		04/17/12 09:00	04/19/12 14:25	1
Total HpCDF	0.0000097	J Q	0.000050	0.0000056	ug/L		04/17/12 09:00	04/19/12 14:25	1
OCDF	0.0000058	J Q	0.00010	0.0000081	ug/L		04/17/12 09:00	04/19/12 14:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*91*		*35 - 197*	*04/17/12 09:00*	*04/19/12 14:25*	*1*

Internal Standard	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*39*		*25 - 164*	*04/17/12 09:00*	*04/19/12 14:25*	*1*
13C-1,2,3,7,8-PeCDD	*37*		*25 - 181*	*04/17/12 09:00*	*04/19/12 14:25*	*1*
13C-1,2,3,4,7,8-HxCDD	*38*		*32 - 141*	*04/17/12 09:00*	*04/19/12 14:25*	*1*

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

Lab Sample ID: G2D170000092B
Matrix: Water
Analysis Batch: 2108092

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 2108092_P

Internal Standard	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDD	51		28 - 130	04/17/12 09:00	04/19/12 14:25	1
13C-1,2,3,4,6,7,8-HpCDD	50		23 - 140	04/17/12 09:00	04/19/12 14:25	1
13C-OCDD	46		17 - 157	04/17/12 09:00	04/19/12 14:25	1
13C-2,3,7,8-TCDF	43		24 - 169	04/17/12 09:00	04/19/12 14:25	1
13C-1,2,3,7,8-PeCDF	37		24 - 185	04/17/12 09:00	04/19/12 14:25	1
13C-2,3,4,7,8-PeCDF	43		21 - 178	04/17/12 09:00	04/19/12 14:25	1
13C-1,2,3,6,7,8-HxCDF	58		26 - 123	04/17/12 09:00	04/19/12 14:25	1
13C-2,3,4,6,7,8-HxCDF	55		28 - 136	04/17/12 09:00	04/19/12 14:25	1
13C-1,2,3,7,8,9-HxCDF	48		29 - 147	04/17/12 09:00	04/19/12 14:25	1
13C-1,2,3,4,6,7,8-HpCDF	54		28 - 143	04/17/12 09:00	04/19/12 14:25	1
13C-1,2,3,4,7,8,9-HpCDF	56		26 - 138	04/17/12 09:00	04/19/12 14:25	1
13C-1,2,3,4,7,8-HxCDF	49		26 - 152	04/17/12 09:00	04/19/12 14:25	1

Lab Sample ID: G2D170000092C
Matrix: Water
Analysis Batch: 2108092

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 2108092_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDD			0.000200	0.000212		ug/L		106	67 - 158		
1,2,3,7,8-PeCDD			0.00100	0.00111		ug/L		111	70 - 142		
1,2,3,4,7,8-HxCDD			0.00100	0.00107		ug/L		107	70 - 164		
1,2,3,6,7,8-HxCDD			0.00100	0.00106		ug/L		106	76 - 134		
1,2,3,7,8,9-HxCDD			0.00100	0.00119		ug/L		119	64 - 162		
1,2,3,4,6,7,8-HpCDD			0.00100	0.00120		ug/L		120	70 - 140		
OCDD			0.00200	0.00215		ug/L		107	78 - 144		
2,3,7,8-TCDF			0.000200	0.000221		ug/L		111	75 - 158		
1,2,3,7,8-PeCDF			0.00100	0.00102		ug/L		102	80 - 134		
2,3,4,7,8-PeCDF			0.00100	0.000966		ug/L		97	68 - 160		
1,2,3,4,7,8-HxCDF			0.00100	0.000922		ug/L		92	72 - 134		
1,2,3,6,7,8-HxCDF			0.00100	0.00100		ug/L		100	84 - 130		
2,3,4,6,7,8-HxCDF			0.00100	0.000907		ug/L		91	70 - 156		
1,2,3,7,8,9-HxCDF			0.00100	0.000964		ug/L		96	78 - 130		
1,2,3,4,6,7,8-HpCDF			0.00100	0.00104	B	ug/L		104	82 - 122		
1,2,3,4,7,8,9-HpCDF			0.00100	0.000987		ug/L		99	78 - 138		
OCDF			0.00200	0.00235	B	ug/L		117	63 - 170		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	84		31 - 191

Internal Standard	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	40		20 - 175
13C-1,2,3,7,8-PeCDD	35		21 - 227
13C-1,2,3,4,7,8-HxCDD	39		21 - 193
13C-1,2,3,6,7,8-HxCDD	54		25 - 163
13C-1,2,3,4,6,7,8-HpCDD	48		26 - 166
13C-OCDD	45		13 - 199
13C-2,3,7,8-TCDF	43		22 - 152
13C-1,2,3,7,8-PeCDF	38		21 - 192

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

Lab Sample ID: G2D170000092C
Matrix: Water
Analysis Batch: 2108092

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 2108092_P

Internal Standard	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,4,7,8-PeCDF	42		13 - 328
13C-1,2,3,6,7,8-HxCDF	61		21 - 159
13C-2,3,4,6,7,8-HxCDF	61		22 - 176
13C-1,2,3,7,8,9-HxCDF	53		17 - 205
13C-1,2,3,4,6,7,8-HpCDF	57		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	58		20 - 186
13C-1,2,3,4,7,8-HxCDF	53		19 - 202

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-20594/1-A
Matrix: Water
Analysis Batch: 20926

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 20594

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		10	7.0	ug/L		04/18/12 17:48	04/20/12 02:30	1
Boron	0.0487	J,DX	0.050	0.020	mg/L		04/18/12 17:48	04/20/12 02:30	1
Beryllium	ND		2.0	0.90	ug/L		04/18/12 17:48	04/20/12 02:30	1
Chromium	ND		5.0	2.0	ug/L		04/18/12 17:48	04/20/12 02:30	1
Magnesium	ND		0.020	0.012	mg/L		04/18/12 17:48	04/20/12 02:30	1
Nickel	ND		10	2.0	ug/L		04/18/12 17:48	04/20/12 02:30	1
Vanadium	ND		10	3.0	ug/L		04/18/12 17:48	04/20/12 02:30	1
Zinc	ND		20	6.0	ug/L		04/18/12 17:48	04/20/12 02:30	1
Silver	ND		10	6.0	ug/L		04/18/12 17:48	04/20/12 02:30	1
Barium	ND		10	6.0	ug/L		04/18/12 17:48	04/20/12 02:30	1
Manganese	ND		20	7.0	ug/L		04/18/12 17:48	04/20/12 02:30	1

Lab Sample ID: MB 440-20594/1-A
Matrix: Water
Analysis Batch: 21033

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 20594

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	0.0501	J,DX	0.10	0.050	mg/L		04/18/12 17:48	04/20/12 12:22	1
Iron	ND		0.040	0.015	mg/L		04/18/12 17:48	04/20/12 12:22	1

Lab Sample ID: LCS 440-20594/2-A
Matrix: Water
Analysis Batch: 20926

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 20594

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	514		ug/L		103	85 - 115
Boron	0.500	0.564		mg/L		113	85 - 115
Beryllium	500	507		ug/L		101	85 - 115
Chromium	500	529		ug/L		106	85 - 115
Magnesium	2.50	2.62		mg/L		105	85 - 115
Nickel	500	515		ug/L		103	85 - 115
Vanadium	500	512		ug/L		102	85 - 115
Zinc	500	500		ug/L		100	85 - 115
Silver	250	232		ug/L		93	85 - 115
Barium	500	520		ug/L		104	85 - 115

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

Lab Sample ID: LCS 440-20594/2-A
Matrix: Water
Analysis Batch: 20926

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 20594

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	500	571		ug/L		114	85 - 115

Lab Sample ID: LCS 440-20594/2-A
Matrix: Water
Analysis Batch: 21033

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 20594

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	2.50	2.47		mg/L		99	85 - 115
Iron	0.500	0.487		mg/L		97	85 - 115

Lab Sample ID: 440-8290-F-3-C MS
Matrix: Water
Analysis Batch: 20926

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 20594

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		500	493		ug/L		99	70 - 130
Boron	ND		0.500	0.516		mg/L		103	70 - 130
Beryllium	ND		500	488		ug/L		98	70 - 130
Chromium	ND		500	508		ug/L		102	70 - 130
Magnesium	0.38		2.50	2.93		mg/L		102	70 - 130
Nickel	2.3	J,DX	500	497		ug/L		99	70 - 130
Vanadium	ND		500	497		ug/L		99	70 - 130
Zinc	13	J,DX	500	494		ug/L		96	70 - 130
Silver	ND		250	241		ug/L		96	70 - 130
Barium	7.8	J,DX	500	498		ug/L		98	70 - 130
Manganese	8.3	J,DX	500	551		ug/L		109	70 - 130

Lab Sample ID: 440-8290-F-3-C MS
Matrix: Water
Analysis Batch: 21033

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 20594

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	2.7	MB	2.50	5.10		mg/L		97	70 - 130
Iron	0.20		0.500	0.708		mg/L		102	70 - 130

Lab Sample ID: 440-8290-F-3-D MSD
Matrix: Water
Analysis Batch: 20926

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 20594

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	511		ug/L		102	70 - 130	3.64	20
Boron	ND		0.500	0.528		mg/L		106	70 - 130	2.37	20
Beryllium	ND		500	499		ug/L		100	70 - 130	2.12	20
Chromium	ND		500	517		ug/L		103	70 - 130	1.89	20
Magnesium	0.38		2.50	2.99		mg/L		104	70 - 130	2.20	20
Nickel	2.3	J,DX	500	500		ug/L		100	70 - 130	1.00	20
Vanadium	ND		500	504		ug/L		101	70 - 130	1.32	20
Zinc	13	J,DX	500	503		ug/L		98	70 - 130	1.69	20
Silver	ND		250	249		ug/L		100	70 - 130	3.35	20
Barium	7.8	J,DX	500	512		ug/L		101	70 - 130	2.79	20
Manganese	8.3	J,DX	500	562		ug/L		111	70 - 130	1.96	20

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

Lab Sample ID: 440-8290-F-3-D MSD
Matrix: Water
Analysis Batch: 21033

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 20594

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	2.7	MB	2.50	5.25		mg/L		103	70 - 130	2.82	20
Iron	0.20		0.500	0.751		mg/L		110	70 - 130	5.91	20

Lab Sample ID: MB 440-19452/1-D
Matrix: Water
Analysis Batch: 21093

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 20964

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		10	7.0	ug/L		04/20/12 09:32	04/20/12 17:21	1
Boron	0.0382	J,DX	0.050	0.020	mg/L		04/20/12 09:32	04/20/12 17:21	1
Beryllium	ND		2.0	0.90	ug/L		04/20/12 09:32	04/20/12 17:21	1
Calcium	0.766		0.10	0.050	mg/L		04/20/12 09:32	04/20/12 17:21	1
Chromium	ND		5.0	2.0	ug/L		04/20/12 09:32	04/20/12 17:21	1
Iron	ND		0.040	0.015	mg/L		04/20/12 09:32	04/20/12 17:21	1
Magnesium	ND		0.020	0.012	mg/L		04/20/12 09:32	04/20/12 17:21	1
Nickel	ND		10	2.0	ug/L		04/20/12 09:32	04/20/12 17:21	1
Vanadium	ND		10	3.0	ug/L		04/20/12 09:32	04/20/12 17:21	1
Zinc	ND		20	6.0	ug/L		04/20/12 09:32	04/20/12 17:21	1
Silver	ND		10	6.0	ug/L		04/20/12 09:32	04/20/12 17:21	1
Barium	ND		10	6.0	ug/L		04/20/12 09:32	04/20/12 17:21	1
Manganese	ND		20	7.0	ug/L		04/20/12 09:32	04/20/12 17:21	1

Lab Sample ID: LCS 440-19452/2-D
Matrix: Water
Analysis Batch: 21093

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 20964

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	486		ug/L		97	85 - 115
Boron	0.500	0.532		mg/L		106	85 - 115
Beryllium	500	479		ug/L		96	85 - 115
Calcium	2.50	2.47		mg/L		99	85 - 115
Chromium	500	517		ug/L		103	85 - 115
Iron	0.500	0.491		mg/L		98	85 - 115
Magnesium	2.50	2.46		mg/L		99	85 - 115
Nickel	500	481		ug/L		96	85 - 115
Vanadium	500	502		ug/L		100	85 - 115
Zinc	500	484		ug/L		97	85 - 115
Silver	250	248		ug/L		99	85 - 115
Barium	500	492		ug/L		98	85 - 115
Manganese	500	496		ug/L		99	85 - 115

Lab Sample ID: 440-8290-G-1-F MS
Matrix: Water
Analysis Batch: 21093

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 20964

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		500	496		ug/L		99	70 - 130
Boron	0.078	MB	0.500	0.592		mg/L		103	70 - 130
Beryllium	ND		500	492		ug/L		98	70 - 130
Calcium	35	MB	2.50	37.2	BB	mg/L		91	70 - 130

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

Lab Sample ID: 440-8290-G-1-F MS
Matrix: Water
Analysis Batch: 21093

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 20964

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	ND		500	521		ug/L		104	70 - 130
Iron	0.040		0.500	0.508		mg/L		94	70 - 130
Magnesium	5.3		2.50	7.80		mg/L		99	70 - 130
Nickel	2.8	J,DX	500	478		ug/L		95	70 - 130
Vanadium	ND		500	514		ug/L		103	70 - 130
Zinc	ND		500	495		ug/L		99	70 - 130
Silver	ND		250	247		ug/L		99	70 - 130
Barium	29		500	518		ug/L		98	70 - 130
Manganese	ND		500	502		ug/L		100	70 - 130

Lab Sample ID: 440-8290-G-1-G MSD
Matrix: Water
Analysis Batch: 21093

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 20964

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		500	516		ug/L		103	70 - 130	3.94	20
Boron	0.078	MB	0.500	0.602		mg/L		105	70 - 130	1.68	20
Beryllium	ND		500	502		ug/L		100	70 - 130	1.96	20
Calcium	35	MB	2.50	38.4	BB	mg/L		141	70 - 130	3.29	20
Chromium	ND		500	535		ug/L		107	70 - 130	2.66	20
Iron	0.040		0.500	0.529		mg/L		98	70 - 130	3.90	20
Magnesium	5.3		2.50	7.90		mg/L		103	70 - 130	1.28	20
Nickel	2.8	J,DX	500	488		ug/L		97	70 - 130	2.18	20
Vanadium	ND		500	523		ug/L		105	70 - 130	1.68	20
Zinc	ND		500	504		ug/L		101	70 - 130	1.84	20
Silver	ND		250	250		ug/L		100	70 - 130	1.22	20
Barium	29		500	528		ug/L		100	70 - 130	1.98	20
Manganese	ND		500	512		ug/L		102	70 - 130	2.03	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-20735/1-A
Matrix: Water
Analysis Batch: 21222

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 20735

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.10	ug/L		04/19/12 10:41	04/21/12 20:36	1
Copper	ND		2.0	0.50	ug/L		04/19/12 10:41	04/21/12 20:36	1
Antimony	ND		2.0	0.30	ug/L		04/19/12 10:41	04/21/12 20:36	1
Selenium	ND		2.0	0.50	ug/L		04/19/12 10:41	04/21/12 20:36	1
Cobalt	ND		1.0	0.10	ug/L		04/19/12 10:41	04/21/12 20:36	1

Lab Sample ID: MB 440-20735/1-A
Matrix: Water
Analysis Batch: 21383

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 20735

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		1.0	0.20	ug/L		04/19/12 10:41	04/23/12 14:46	1
Thallium	ND		1.0	0.20	ug/L		04/19/12 10:41	04/23/12 14:46	1

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

Lab Sample ID: LCS 440-20735/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 21222 — **Prep Batch: 20735**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	84.4		ug/L		105	85 - 115
Copper	80.0	85.3		ug/L		107	85 - 115
Antimony	80.0	84.6		ug/L		106	85 - 115
Selenium	80.0	80.1		ug/L		100	85 - 115
Cobalt	80.0	81.2		ug/L		102	85 - 115

Lab Sample ID: LCS 440-20735/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 21383 — **Prep Batch: 20735**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	80.0	83.9		ug/L		105	85 - 115
Thallium	80.0	84.4		ug/L		105	85 - 115

Lab Sample ID: 440-8282-1 MS — **Client Sample ID: Outfall 018 Composite**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 21222 — **Prep Batch: 20735**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	82.6		ug/L		103	70 - 130
Copper	0.85	J,DX	80.0	80.7		ug/L		100	70 - 130
Antimony	ND		80.0	87.9		ug/L		110	70 - 130
Selenium	ND		80.0	77.9		ug/L		97	70 - 130
Cobalt	0.10	J,DX	80.0	80.2		ug/L		100	70 - 130

Lab Sample ID: 440-8282-1 MS — **Client Sample ID: Outfall 018 Composite**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 21383 — **Prep Batch: 20735**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	ND		80.0	78.3		ug/L		98	70 - 130
Thallium	ND		80.0	83.2		ug/L		104	70 - 130

Lab Sample ID: 440-8282-1 MSD — **Client Sample ID: Outfall 018 Composite**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 21222 — **Prep Batch: 20735**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	83.6		ug/L		104	70 - 130	1.21	20
Copper	0.85	J,DX	80.0	80.8		ug/L		100	70 - 130	0.000	20
Antimony	ND		80.0	87.9		ug/L		110	70 - 130	0.000	20
Selenium	ND		80.0	77.4		ug/L		97	70 - 130	1.00	20
Cobalt	0.10	J,DX	80.0	80.0		ug/L		100	70 - 130	0.000	20

Lab Sample ID: 440-8282-1 MSD — **Client Sample ID: Outfall 018 Composite**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 21383 — **Prep Batch: 20735**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	ND		80.0	77.1		ug/L		96	70 - 130	2	20
Thallium	ND		80.0	82.6		ug/L		103	70 - 130	1	20

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

Lab Sample ID: MB 440-20965/1-A
Matrix: Water
Analysis Batch: 22049

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 20965

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.10	ug/L		04/20/12 09:35	04/25/12 17:06	1
Lead	ND		1.0	0.20	ug/L		04/20/12 09:35	04/25/12 17:06	1
Antimony	ND		2.0	0.30	ug/L		04/20/12 09:35	04/25/12 17:06	1
Selenium	ND		2.0	0.50	ug/L		04/20/12 09:35	04/25/12 17:06	1
Thallium	ND		1.0	0.20	ug/L		04/20/12 09:35	04/25/12 17:06	1

Lab Sample ID: MB 440-20965/1-A
Matrix: Water
Analysis Batch: 22325

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 20965

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	ND		2.0	0.50	ug/L		04/20/12 09:35	04/26/12 18:44	1
Cobalt	ND		1.0	0.10	ug/L		04/20/12 09:35	04/26/12 18:44	1

Lab Sample ID: LCS 440-20965/2-A
Matrix: Water
Analysis Batch: 22049

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 20965

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	86.7		ug/L		108	85 - 115
Lead	80.0	79.4		ug/L		99	85 - 115
Antimony	80.0	86.5		ug/L		108	85 - 115
Selenium	80.0	89.0		ug/L		111	85 - 115
Thallium	80.0	79.7		ug/L		100	85 - 115

Lab Sample ID: LCS 440-20965/2-A
Matrix: Water
Analysis Batch: 22325

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 20965

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Copper	80.0	91.5		ug/L		114	85 - 115
Cobalt	80.0	87.2		ug/L		109	85 - 115

Lab Sample ID: 440-8282-1 MS
Matrix: Water
Analysis Batch: 22049

Client Sample ID: Outfall 018 Composite
Prep Type: Dissolved
Prep Batch: 20965

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	85.5		ug/L		107	70 - 130
Lead	ND		80.0	76.9		ug/L		96	70 - 130
Antimony	0.43	J,DX	80.0	87.3		ug/L		109	70 - 130
Selenium	ND		80.0	89.8		ug/L		112	70 - 130
Thallium	0.24	J,DX	80.0	76.8		ug/L		96	70 - 130

Lab Sample ID: 440-8282-1 MS
Matrix: Water
Analysis Batch: 22325

Client Sample ID: Outfall 018 Composite
Prep Type: Dissolved
Prep Batch: 20965

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Copper	0.81	J,DX	80.0	90.7		ug/L		112	70 - 130
Cobalt	0.16	J,DX	80.0	84.9		ug/L		106	70 - 130

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

Lab Sample ID: 440-8282-1 MSD — **Client Sample ID: Outfall 018 Composite**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 22049 — **Prep Batch: 20965**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	86.1		ug/L		108	70 - 130	1	20
Lead	ND		80.0	76.5		ug/L		96	70 - 130	0	20
Antimony	0.43	J,DX	80.0	87.9		ug/L		109	70 - 130	1	20
Selenium	ND		80.0	89.7		ug/L		112	70 - 130	0	20
Thallium	0.24	J,DX	80.0	77.7		ug/L		97	70 - 130	1	20

Lab Sample ID: 440-8282-1 MSD — **Client Sample ID: Outfall 018 Composite**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 22325 — **Prep Batch: 20965**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Copper	0.81	J,DX	80.0	87.9		ug/L		109	70 - 130	3	20
Cobalt	0.16	J,DX	80.0	83.3		ug/L		104	70 - 130	2	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-19442/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19759 — **Prep Batch: 19442**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		04/12/12 18:47	04/13/12 20:43	1

Lab Sample ID: LCS 440-19442/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19759 — **Prep Batch: 19442**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	8.00	8.07		ug/L		101	85 - 115

Lab Sample ID: 440-7955-C-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19759 — **Prep Batch: 19442**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		8.00	5.96		ug/L		74	70 - 130

Lab Sample ID: 440-7955-C-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19759 — **Prep Batch: 19442**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		8.00	5.91		ug/L		74	70 - 130	1	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

Method: 245.1 - Mercury (CVAA) (Continued)

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 440-19950/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19950

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 10:04	1

Lab Sample ID: LCS 440-19950/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19950

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	501	541		umhos/cm		108	90 - 110

Lab Sample ID: 440-8593-C-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19950

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	150		149		umhos/cm		1	5

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 440-21239/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 21254 — **Prep Batch: 21239**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		5.0	1.4	mg/L		04/23/12 06:18	04/23/12 06:54	1

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

Lab Sample ID: LCS 440-21239/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 21254 — **Prep Batch: 21239**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	20.0	18.0		mg/L		90	78 - 114

Lab Sample ID: LCSD 440-21239/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 21254 — **Prep Batch: 21239**

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	3	11

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 440-19334/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19334

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	ND		0.10	0.040	NTU			04/12/12 12:47	1

Lab Sample ID: MRL 440-19334/4 MRL — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19334

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Turbidity	1.00	1.08		NTU		108	

Lab Sample ID: 440-8282-1 DU — **Client Sample ID: Outfall 018 Composite**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19334

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Turbidity	1.8		1.65		NTU		8	20

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

Lab Sample ID: MB 440-19559/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19559

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	10	mg/L			04/13/12 09:21	1

Lab Sample ID: LCS 440-19559/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19559

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	944		mg/L		94	90 - 110

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

Lab Sample ID: 440-8288-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19559

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1800		1690		mg/L		4	10

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

Lab Sample ID: MB 440-20344/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 20344

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		10	10	mg/L			04/17/12 22:29	1

Lab Sample ID: LCS 440-20344/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 20344

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	1000	999		mg/L		100	85 - 115

Lab Sample ID: 440-8289-A-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 20344

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	27		27.0		mg/L		0.000	10

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

Lab Sample ID: MB 440-21913/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 21973 — **Prep Batch: 21913**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0050	0.0030	mg/L		04/25/12 15:36	04/25/12 19:45	1

Lab Sample ID: LCS 440-21913/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 21973 — **Prep Batch: 21913**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.106		mg/L		106	90 - 110

Lab Sample ID: 440-8515-A-3-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 21973 — **Prep Batch: 21913**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0077		0.100	0.112		mg/L		104	70 - 115

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

Lab Sample ID: 440-8515-A-3-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 21973 — **Prep Batch: 21913**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.0077		0.100	0.112		mg/L		104	70 - 115	0	15

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 440-19968/10 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19968

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.020	mg/L			04/16/12 06:01	1

Lab Sample ID: LCS 440-19968/9 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19968

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: 440-8444-A-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19968

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.32		1.00	1.32		mg/L		99	80 - 120

Lab Sample ID: 440-8444-A-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19968

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.32		1.00	1.33		mg/L		100	80 - 120	1	20

Method: SM 4500 NH3 C - Ammonia

Lab Sample ID: MB 440-19411/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19480 — **Prep Batch: 19411**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.400	0.157	mg/L		04/12/12 16:52	04/12/12 21:16	1

Lab Sample ID: LCS 440-19411/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19480 — **Prep Batch: 19411**

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

Method: SM 4500 NH3 C - Ammonia (Continued)

Lab Sample ID: 440-8181-D-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19480 — **Prep Batch: 19411**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.840		10.0	10.08		mg/L		92	70 - 120

Lab Sample ID: 440-8181-D-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19480 — **Prep Batch: 19411**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.840		10.0	10.08		mg/L		92	70 - 120	0	15

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

Lab Sample ID: MB 440-19604/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19604

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.75	mg/L			04/13/12 05:23	1

Lab Sample ID: LCS 440-19604/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19604

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	10.0	9.93		mg/L		99	90 - 110

Lab Sample ID: 440-7927-B-2 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19604

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	8.2		5.00	13.7		mg/L		110	80 - 120

Lab Sample ID: 440-7927-B-2 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19604

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	8.2		5.00	13.7		mg/L		110	80 - 120	0	20

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

Lab Sample ID: MB 440-19455/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 19455

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Blue Active Substances	ND		0.10	0.050	mg/L			04/12/12 19:39	1

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

Lab Sample ID: LCS 440-19455/4
Matrix: Water
Analysis Batch: 19455

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Blue Active Substances	0.250	0.244		mg/L		97	90 - 110

Lab Sample ID: 440-8282-1 MS
Matrix: Water
Analysis Batch: 19455

Client Sample ID: Outfall 018 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	0.230		mg/L		92	50 - 125

Lab Sample ID: 440-8282-1 MSD
Matrix: Water
Analysis Batch: 19455

Client Sample ID: Outfall 018 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	0.286	RA	mg/L		115	50 - 125	22	20

Method: SM5210B - BOD, 5 Day

Lab Sample ID: USB 440-19553/1 USB
Matrix: Water
Analysis Batch: 19553

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			04/13/12 09:06	1

Lab Sample ID: LCS 440-19553/4
Matrix: Water
Analysis Batch: 19553

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	200		mg/L		101	85 - 115

Lab Sample ID: LCSD 440-19553/5
Matrix: Water
Analysis Batch: 19553

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	205		mg/L		103	85 - 115	2.48	20

Method: Gross Alpha and Beta - Gross Alpha/Beta

Lab Sample ID: S204062-05
Matrix: WATER
Analysis Batch: 8607

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 8607_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tritium	12.2	U	500		pCi/L		04/19/12 00:00	04/19/12 20:20	1

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

Lab Sample ID: S204062-05 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8607 — **Prep Batch: 8607_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cesium-137	1.25	U	20		pCi/L		04/19/12 00:00	04/20/12 00:00	1
Potassium-40	20.2	U	25		pCi/L		04/19/12 00:00	04/20/12 00:00	1

Lab Sample ID: S204062-05 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8607 — **Prep Batch: 8607_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Strontium-90	0.127	U	2		pCi/L		04/24/12 00:00	04/24/12 08:20	1

Lab Sample ID: S204062-05 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8607 — **Prep Batch: 8607_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium, Total	0	U	1		pCi/L		04/25/12 00:00	04/25/12 01:53	1

Lab Sample ID: S204062-05 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8607 — **Prep Batch: 8607_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-228	0.006	U	1		pCi/L		04/25/12 00:00	04/25/12 14:21	1

Lab Sample ID: S204062-05 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8607 — **Prep Batch: 8607_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.105	U	3		pCi/L		04/24/12 00:00	04/25/12 16:16	1
Gross Beta	-0.378	U	4		pCi/L		04/24/12 00:00	04/25/12 16:16	1

Lab Sample ID: S204062-05 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8607 — **Prep Batch: 8607_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-226	-0.07	U	1		pCi/L		05/02/12 00:00	05/02/12 13:19	1

Lab Sample ID: S204062-04 — **Client Sample ID: Lab Control Sample**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8607 — **Prep Batch: 8607_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tritium	2440	2200		pCi/L		90	80 - 120

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

Lab Sample ID: S204062-04
Matrix: WATER
Analysis Batch: 8607

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8607_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cesium-137	122	120		pCi/L		98	80 - 120
Cobalt-60	108	101		pCi/L		94	80 - 120

Lab Sample ID: S204062-04
Matrix: WATER
Analysis Batch: 8607

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8607_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Strontium-90	8.49	8.52		pCi/L		100	80 - 120

Lab Sample ID: S204062-04
Matrix: WATER
Analysis Batch: 8607

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8607_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Uranium, Total	56.5	59.4		pCi/L		105	80 - 120

Lab Sample ID: S204062-04
Matrix: WATER
Analysis Batch: 8607

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8607_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Radium-228	4.42	4.94		pCi/L		112	60 - 140

Lab Sample ID: S204062-04
Matrix: WATER
Analysis Batch: 8607

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8607_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gross Alpha	37	43.3		pCi/L		117	70 - 130
Gross Beta	34	33.6		pCi/L		99	70 - 130

Lab Sample ID: S204062-04
Matrix: WATER
Analysis Batch: 8607

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8607_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Radium-226	50.1	55		pCi/L		110	80 - 120

Lab Sample ID: S204062-06
Matrix: WATER
Analysis Batch: 8607

Client Sample ID: OUTFALL 018 (440-8282-1) DU
Prep Type: Total/NA
Prep Batch: 8607_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Tritium	47.2	U	10.8	U	pCi/L		0	

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

Lab Sample ID: S204062-06 — **Client Sample ID: OUTFALL 018 (440-8282-1) DU**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8607 — **Prep Batch: 8607_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Cesium-137	0.048	U		-0.679	U	pCi/L				0	
Potassium-40	12.9	U		0.265	U	pCi/L				0	

Lab Sample ID: S204062-06 — **Client Sample ID: OUTFALL 018 (440-8282-1) DU**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8607 — **Prep Batch: 8607_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Strontium-90	-0.277	U		0.002	U	pCi/L				0	

Lab Sample ID: S204062-06 — **Client Sample ID: OUTFALL 018 (440-8282-1) DU**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8607 — **Prep Batch: 8607_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Uranium, Total	0.047	J		0.052	J	pCi/L				10	

Lab Sample ID: S204062-06 — **Client Sample ID: OUTFALL 018 (440-8282-1) DU**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8607 — **Prep Batch: 8607_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Radium-228	-0.12	U		-0.052	U	pCi/L				0	

Lab Sample ID: S204062-06 — **Client Sample ID: OUTFALL 018 (440-8282-1) DU**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8607 — **Prep Batch: 8607_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Gross Alpha	0.114	U		0.008	U	pCi/L				0	
Gross Beta	4.32			3.59	J	pCi/L				18	

Lab Sample ID: S204062-06 — **Client Sample ID: OUTFALL 018 (440-8282-1) DU**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8607 — **Prep Batch: 8607_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Radium-226	0.118	U		-0.012	U	pCi/L				0	

GC/MS VOA

Analysis Batch: 19096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7823-A-10 MS	Matrix Spike	Total/NA	Water	624	
440-7823-A-10 MSD	Matrix Spike Duplicate	Total/NA	Water	624	
440-8129-1	Outfall 018 Grab	Total/NA	Water	624	
440-8129-2	Trip Blanks	Total/NA	Water	624	
LCS 440-19096/5	Lab Control Sample	Total/NA	Water	624	
MB 440-19096/4	Method Blank	Total/NA	Water	624	

Analysis Batch: 19220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8129-1	Outfall 018 Grab	Total/NA	Water	624	
440-8129-2	Trip Blanks	Total/NA	Water	624	
440-8172-F-1 MS	Matrix Spike	Total/NA	Water	624	
440-8172-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	624	
LCS 440-19220/5	Lab Control Sample	Total/NA	Water	624	
MB 440-19220/4	Method Blank	Total/NA	Water	624	

Analysis Batch: 20473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Total/NA	Water	8260B SIM	
440-8769-A-2 MS	Matrix Spike	Total/NA	Water	8260B SIM	
440-8769-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	
LCS 440-20473/3	Lab Control Sample	Total/NA	Water	8260B SIM	
MB 440-20473/2	Method Blank	Total/NA	Water	8260B SIM	

GC/MS Semi VOA

Prep Batch: 20598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	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
440-8282-1	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 VOA

Analysis Batch: 20433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8129-1	Outfall 018 Grab	Total/NA	Water	8015B	
440-8149-B-5 MS	Matrix Spike	Total/NA	Water	8015B	
440-8149-B-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8015B	
LCS 440-20433/2	Lab Control Sample	Total/NA	Water	8015B	
MB 440-20433/3	Method Blank	Total/NA	Water	8015B	

GC Semi VOA

Prep Batch: 19875

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Total/NA	Water	608	
LCS 440-19875/2-A	Lab Control Sample	Total/NA	Water	608	
LCS 440-19875/4-A	Lab Control Sample	Total/NA	Water	608	
LCSD 440-19875/3-A	Lab Control Sample Dup	Total/NA	Water	608	
LCSD 440-19875/5-A	Lab Control Sample Dup	Total/NA	Water	608	
MB 440-19875/1-A	Method Blank	Total/NA	Water	608	

Analysis Batch: 19895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8129-1	Outfall 018 Grab	Total/NA	Water	8015B	19972
LCS 440-19972/2-A	Lab Control Sample	Total/NA	Water	8015B	19972
LCSD 440-19972/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	19972
MB 440-19972/1-A	Method Blank	Total/NA	Water	8015B	19972

Analysis Batch: 19946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	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

Prep Batch: 19972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8129-1	Outfall 018 Grab	Total/NA	Water	3510C	
LCS 440-19972/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 440-19972/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MB 440-19972/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 20064

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Total/NA	Water	608 PCB LL	19875
LCS 440-19875/4-A	Lab Control Sample	Total/NA	Water	608 PCB LL	19875
LCSD 440-19875/5-A	Lab Control Sample Dup	Total/NA	Water	608 PCB LL	19875
MB 440-19875/1-A	Method Blank	Total/NA	Water	608 PCB LL	19875

HPLC/IC

Analysis Batch: 18918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-6335-C-1 MS	Matrix Spike	Total/NA	Water	300.0	
440-6335-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
440-8282-1	Outfall 018 Composite	Total/NA	Water	300.0	
LCS 440-18918/3	Lab Control Sample	Total/NA	Water	300.0	
MB 440-18918/2	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 18919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Total/NA	Water	300.0	
LCS 440-18919/3	Lab Control Sample	Total/NA	Water	300.0	
MB 440-18919/2	Method Blank	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 19011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8238-I-2 MS	Matrix Spike	Total/NA	Water	218.6	
440-8238-I-2 MSD	Matrix Spike Duplicate	Total/NA	Water	218.6	
440-8282-1	Outfall 018 Composite	Total/NA	Water	218.6	
LCS 440-19011/2	Lab Control Sample	Total/NA	Water	218.6	
MB 440-19011/3	Method Blank	Total/NA	Water	218.6	

Analysis Batch: 20654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8128-C-1 MS	Matrix Spike	Total/NA	Water	314.0	
440-8128-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	
440-8282-1	Outfall 018 Composite	Total/NA	Water	314.0	
LCS 440-20654/4	Lab Control Sample	Total/NA	Water	314.0	
MB 440-20654/5	Method Blank	Total/NA	Water	314.0	

Specialty Organics

Analysis Batch: 2108092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Total	Water	1613B	
G2D170000092B	Method Blank	Total	Water	1613B	
G2D170000092C	Lab Control Sample	Total	Water	1613B	

Prep Batch: 2108092_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Total	Water	3542	
G2D170000092B	Method Blank	Total	Water	3542	
G2D170000092C	Lab Control Sample	Total	Water	3542	

Metals

Prep Batch: 19442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7955-C-1-B MS	Matrix Spike	Total/NA	Water	245.1	
440-7955-C-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	
440-8282-1	Outfall 018 Composite	Total/NA	Water	245.1	
LCS 440-19442/2-A	Lab Control Sample	Total/NA	Water	245.1	
MB 440-19442/1-A	Method Blank	Total/NA	Water	245.1	

Prep Batch: 19467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8277-M-1-C MS	Matrix Spike	Dissolved	Water	245.1	
440-8277-M-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	
440-8282-1	Outfall 018 Composite	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: 19759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7955-C-1-B MS	Matrix Spike	Total/NA	Water	245.1	19442
440-7955-C-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	19442
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

Metals (Continued)

Analysis Batch: 19759 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Total/NA	Water	245.1	19442
440-8282-1	Outfall 018 Composite	Dissolved	Water	245.1	19467
LCS 440-19442/2-A	Lab Control Sample	Total/NA	Water	245.1	19442
LCS 440-19452/2-C	Lab Control Sample	Dissolved	Water	245.1	19467
MB 440-19442/1-A	Method Blank	Total/NA	Water	245.1	19442
MB 440-19452/1-C	Method Blank	Dissolved	Water	245.1	19467

Analysis Batch: 20492

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Total/NA	Water	SM 2340B	

Prep Batch: 20594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Total Recoverable	Water	200.2	
440-8290-F-3-C MS	Matrix Spike	Total Recoverable	Water	200.2	
440-8290-F-3-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	
LCS 440-20594/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
MB 440-20594/1-A	Method Blank	Total Recoverable	Water	200.2	

Prep Batch: 20735

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Total Recoverable	Water	200.2	
440-8282-1 MS	Outfall 018 Composite	Total Recoverable	Water	200.2	
440-8282-1 MSD	Outfall 018 Composite	Total Recoverable	Water	200.2	
LCS 440-20735/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
MB 440-20735/1-A	Method Blank	Total Recoverable	Water	200.2	

Analysis Batch: 20926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Total Recoverable	Water	200.7 Rev 4.4	20594
440-8290-F-3-C MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	20594
440-8290-F-3-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	20594
LCS 440-20594/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	20594
MB 440-20594/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	20594

Prep Batch: 20964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Dissolved	Water	200.2	
440-8290-G-1-F MS	Matrix Spike	Dissolved	Water	200.2	
440-8290-G-1-G MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	
LCS 440-19452/2-D	Lab Control Sample	Dissolved	Water	200.2	
MB 440-19452/1-D	Method Blank	Dissolved	Water	200.2	

Prep Batch: 20965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Dissolved	Water	200.2	
440-8282-1 MS	Outfall 018 Composite	Dissolved	Water	200.2	
440-8282-1 MSD	Outfall 018 Composite	Dissolved	Water	200.2	
LCS 440-20965/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
MB 440-20965/1-A	Method Blank	Total Recoverable	Water	200.2	

Metals (Continued)

Analysis Batch: 21033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Total Recoverable	Water	200.7 Rev 4.4	20594
440-8290-F-3-C MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	20594
440-8290-F-3-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	20594
LCS 440-20594/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	20594
MB 440-20594/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	20594

Analysis Batch: 21093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Dissolved	Water	200.7 Rev 4.4	20964
440-8290-G-1-F MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	20964
440-8290-G-1-G MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	20964
LCS 440-19452/2-D	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	20964
MB 440-19452/1-D	Method Blank	Dissolved	Water	200.7 Rev 4.4	20964

Analysis Batch: 21222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Total Recoverable	Water	200.8	20735
440-8282-1 MS	Outfall 018 Composite	Total Recoverable	Water	200.8	20735
440-8282-1 MSD	Outfall 018 Composite	Total Recoverable	Water	200.8	20735
LCS 440-20735/2-A	Lab Control Sample	Total Recoverable	Water	200.8	20735
MB 440-20735/1-A	Method Blank	Total Recoverable	Water	200.8	20735

Analysis Batch: 21322

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Dissolved	Water	SM 2340B	

Analysis Batch: 21383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Total Recoverable	Water	200.8	20735
440-8282-1 MS	Outfall 018 Composite	Total Recoverable	Water	200.8	20735
440-8282-1 MSD	Outfall 018 Composite	Total Recoverable	Water	200.8	20735
LCS 440-20735/2-A	Lab Control Sample	Total Recoverable	Water	200.8	20735
MB 440-20735/1-A	Method Blank	Total Recoverable	Water	200.8	20735

Analysis Batch: 22049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Dissolved	Water	200.8	20965
440-8282-1 MS	Outfall 018 Composite	Dissolved	Water	200.8	20965
440-8282-1 MSD	Outfall 018 Composite	Dissolved	Water	200.8	20965
LCS 440-20965/2-A	Lab Control Sample	Total Recoverable	Water	200.8	20965
MB 440-20965/1-A	Method Blank	Total Recoverable	Water	200.8	20965

Analysis Batch: 22325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Dissolved	Water	200.8	20965
440-8282-1 MS	Outfall 018 Composite	Dissolved	Water	200.8	20965
440-8282-1 MSD	Outfall 018 Composite	Dissolved	Water	200.8	20965
LCS 440-20965/2-A	Lab Control Sample	Total Recoverable	Water	200.8	20965
MB 440-20965/1-A	Method Blank	Total Recoverable	Water	200.8	20965

General Chemistry

Analysis Batch: 18926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8129-1	Outfall 018 Grab	Total/NA	Water	SM 2540F	

Analysis Batch: 19334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Total/NA	Water	180.1	
440-8282-1 DU	Outfall 018 Composite	Total/NA	Water	180.1	
MB 440-19334/6	Method Blank	Total/NA	Water	180.1	
MRL 440-19334/4 MRL	Lab Control Sample	Total/NA	Water	180.1	

Prep Batch: 19411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8181-D-1-B MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 B	
440-8181-D-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 B	
440-8282-1	Outfall 018 Composite	Total/NA	Water	SM 4500 NH3 B	
LCS 440-19411/2-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 B	
MB 440-19411/1-A	Method Blank	Total/NA	Water	SM 4500 NH3 B	

Analysis Batch: 19455

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Total/NA	Water	SM 5540C	
440-8282-1 MS	Outfall 018 Composite	Total/NA	Water	SM 5540C	
440-8282-1 MSD	Outfall 018 Composite	Total/NA	Water	SM 5540C	
LCS 440-19455/4	Lab Control Sample	Total/NA	Water	SM 5540C	
MB 440-19455/3	Method Blank	Total/NA	Water	SM 5540C	

Analysis Batch: 19480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8181-D-1-B MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 C	19411
440-8181-D-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 C	19411
440-8282-1	Outfall 018 Composite	Total/NA	Water	SM 4500 NH3 C	19411
LCS 440-19411/2-A	Lab Control Sample	Total/NA	Water	SM 4500 NH3 C	19411
MB 440-19411/1-A	Method Blank	Total/NA	Water	SM 4500 NH3 C	19411

Analysis Batch: 19553

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Total/NA	Water	SM5210B	
LCS 440-19553/4	Lab Control Sample	Total/NA	Water	SM5210B	
LCSD 440-19553/5	Lab Control Sample Dup	Total/NA	Water	SM5210B	
USB 440-19553/1 USB	Method Blank	Total/NA	Water	SM5210B	

Analysis Batch: 19559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Total/NA	Water	SM 2540C	
440-8288-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	
LCS 440-19559/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 440-19559/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 19604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-7927-B-2 MS	Matrix Spike	Total/NA	Water	SM 5310B	
440-7927-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	
440-8282-1	Outfall 018 Composite	Total/NA	Water	SM 5310B	

General Chemistry (Continued)

Analysis Batch: 19604 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-19604/6	Lab Control Sample	Total/NA	Water	SM 5310B	
MB 440-19604/5	Method Blank	Total/NA	Water	SM 5310B	

Analysis Batch: 19950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8129-1	Outfall 018 Grab	Total/NA	Water	120.1	
440-8593-C-1 DU	Duplicate	Total/NA	Water	120.1	
LCS 440-19950/2	Lab Control Sample	Total/NA	Water	120.1	
MB 440-19950/1	Method Blank	Total/NA	Water	120.1	

Analysis Batch: 19968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Total/NA	Water	SM 4500 F C	
440-8444-A-4 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
440-8444-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
LCS 440-19968/9	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 440-19968/10	Method Blank	Total/NA	Water	SM 4500 F C	

Analysis Batch: 20344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Total/NA	Water	SM 2540D	
440-8289-A-3 DU	Duplicate	Total/NA	Water	SM 2540D	
LCS 440-20344/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 440-20344/1	Method Blank	Total/NA	Water	SM 2540D	

Prep Batch: 21239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8129-1	Outfall 018 Grab	Total/NA	Water	1664A	
LCS 440-21239/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 440-21239/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	
MB 440-21239/1-A	Method Blank	Total/NA	Water	1664A	

Analysis Batch: 21254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8129-1	Outfall 018 Grab	Total/NA	Water	1664A	21239
LCS 440-21239/2-A	Lab Control Sample	Total/NA	Water	1664A	21239
LCSD 440-21239/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	21239
MB 440-21239/1-A	Method Blank	Total/NA	Water	1664A	21239

Prep Batch: 21913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Total/NA	Water	Distill/CN	
440-8515-A-3-B MS	Matrix Spike	Total/NA	Water	Distill/CN	
440-8515-A-3-D MSD	Matrix Spike Duplicate	Total/NA	Water	Distill/CN	
LCS 440-21913/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
MB 440-21913/1-A	Method Blank	Total/NA	Water	Distill/CN	

Analysis Batch: 21973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Total/NA	Water	SM 4500 CN E	21913
440-8515-A-3-B MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	21913
440-8515-A-3-D MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	21913

General Chemistry (Continued)

Analysis Batch: 21973 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-21913/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	21913
MB 440-21913/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	21913

Biology

Analysis Batch: 19610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8129-1	Outfall 018 Grab	Total/NA	Water	SM 9221E	

Analysis Batch: 19611

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8129-1	Outfall 018 Grab	Total/NA	Water	SM 9221F	

Subcontract

Analysis Batch: 8607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Total/NA	Water	Gamma Spec	8607_P
440-8282-1	Outfall 018 Composite	Total/NA	Water	K-40 CS-137 Gross Alpha and Beta	8607_P
440-8282-1	Outfall 018 Composite	Total/NA	Water	Radium 226	8607_P
440-8282-1	Outfall 018 Composite	Total/NA	Water	Radium 228	8607_P
440-8282-1	Outfall 018 Composite	Total/NA	Water	Strontium 90	8607_P
440-8282-1	Outfall 018 Composite	Total/NA	Water	Tritium	8607_P
440-8282-1	Outfall 018 Composite	Total/NA	Water	Uranium, Combined	8607_P
S204062-04	Lab Control Sample	Total/NA	WATER	Gross Alpha and Beta	8607_P
S204062-05	Method Blank	Total/NA	WATER	Gross Alpha and Beta	8607_P
S204062-06	OUTFALL 018 (440-8282-1) DU	Total/NA	WATER	Gross Alpha and Beta	8607_P

Prep Batch: 8607_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-8282-1	Outfall 018 Composite	Total/NA	Water	General Prep	
S204062-04	Lab Control Sample	Total/NA	WATER	General Prep	
S204062-05	Method Blank	Total/NA	WATER	General Prep	
S204062-06	OUTFALL 018 (440-8282-1) DU	Total/NA	WATER	General Prep	

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
LN	MS and/or MSD below acceptance limits. See Blank Spike (LCS)
AY	Matrix Interference suspected

GC/MS Semi VOA

Qualifier	Qualifier Description
LQ	LCS/LCSD recovery above method control limits
LR	LCS/LCSD recovery below method control limits
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
BA	Relative percent difference out of control
AY	Matrix Interference suspected

GC VOA

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

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.
*	Surrogate recovery is outside stated control limits.

Metals

Qualifier	Qualifier Description
MB	Analyte present in the method blank
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
BB	Sample > 4X spike concentration

General Chemistry

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
RA	RPD exceeds limits due to matrix interference. % recoveries were within limits

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

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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 Annual Outfall 018

TestAmerica Job ID: 440-8129-1

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.

EMSL Analytical, Inc.

200 Route 130 North, Cinnaminson, NJ 08077

Phone/Fax: (800) 220-3675/ 786-0262

http://www.emsl.com E-mail: MicrobiologyLab@emsl.com

Client:	TestAmerica Irvine	**EMSL Order ID:**	371205759
	17461 Derian Avenue Suite 100	**Date Received:**	4/13/2012
	Irvine , CA 92614	**Date Analyzed:**	4/13/2012
Attn.	Debby Wilson	**Date Reported:**	4/18/2012
Project:	**Boeing SSFL Outfalls : 44002624**	**Date Amended:**	

Real-Time PCR Analysis for Human *Bacteroides*

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

Lab Sample Number	Client Sample ID	Sample Date and Time	Amount Received	Amount Sampled	CEs /100 mL
5759-1	Outfall 018(440-8129-1)	4/10/12, 14:45 Pacific	Water 250 ml	Water 250 ml	None Detected

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

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

USEPA License No: 0240-02

Quanyi "Charlie" Li, Ph.D.

Director, PCR and DNA Analysis Lab

EBERLINE SERVICES

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May 8, 2012

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

Reference: **Test America-Irvine 44002624**
Eberline Analytical Report S204062-8607
Sample Delivery Group 8607

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for three water samples received under Test America Project No. 44002624. The samples were received on April 13, 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 8607 consists of the analytical results and supporting documentation for three 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."

5/8/12

Joseph Verville
Client Services Manager

Date

SDG 8607	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	05/08/12

SDG 8607
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 05/08/12

SDG 8607
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 8607

LAB SAMPLE SUMMARY

SDG 8607
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S204062-01	OUTFALL 018 (440-8282-1)	Boeing-SSFL	WATER			440-3828.1	04/11/12 13:45
S204062-02	OUTFALL 002 (440-8277-1)	Boeing-SSFL	WATER			440-3828.1	04/11/12 14:50
S204062-03	TRIP BLANK (440-8277-2)	Boeing-SSFL	WATER			440-3828.1	04/12/12 14:13
S204062-04	Lab Control Sample		WATER				
S204062-05	Method Blank		WATER				
S204062-06	Duplicate (S204062-01)	Boeing-SSFL	WATER				04/11/12 13:45

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LS
Version 3.06
Report date 05/08/12

EBERLINE ANALYTICAL

SDG 8607

QC SUMMARY

SDG 8607
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
8607	440-3828.1	OUTFALL 002 (440-8277-1)	WATER		10.0 L		04/13/12	2	S204062-02	8607-002
		OUTFALL 018 (440-8282-1)	WATER		10.0 L		04/13/12	2	S204062-01	8607-001
		TRIP BLANK (440-8277-2)	WATER		10.0 L		04/13/12	1	S204062-03	8607-003
		Method Blank	WATER						S204062-05	8607-005
		Lab Control Sample	WATER						S204062-04	8607-004
		Duplicate (S204062-01)	WATER		10.0 L		04/13/12	2	S204062-06	8607-006

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 05/08/12

EBERLINE ANALYTICAL

SDG 8607

PREP BATCH SUMMARY

SDG 8607
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	7726-059	10.4	3		1	1	1/1		
SR	WATER	Strontium-90 in Water	7726-059	10.4	3		1	1	1/1		
Gas Proportional Counting											
80A	WATER	Gross Alpha in Water	7726-059	20.6	3		1	1	1/1		
80B	WATER	Gross Beta in Water	7726-059	11.0	3		1	1	1/1		
Gamma Spectroscopy											
GAM	WATER	Gamma Emitters in Water	7726-059	7.0	3		1	1	1/1		
Kinetic Phosphorimetry											
U_T	WATER	Uranium, Total	7726-059		3		1	1	1/1		
Liquid Scintillation Counting											
H	WATER	Tritium in Water	7726-059	10.0	2		1	1	1/1		
Radon Counting											
RA	WATER	Radium-226 in Water	7726-059	16.4	3		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 05/08/12

EBERLINE ANALYTICAL

SDG 8607

SDG 8607
Contact Joseph Verville

LAB WORK SUMMARY

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
S204062-01	OUTFALL 018 (440-8282-1)		8607-001	80A/80		04/25/12	04/27/12	MWT	Gross Alpha in Water
04/11/12	Boeing-SSFL	WATER	8607-001	80B/80		04/25/12	04/27/12	MWT	Gross Beta in Water
04/13/12	440-3828.1		8607-001	AC		04/25/12	05/04/12	MWT	Radium-228 in Water
			8607-001	GAM		04/19/12	04/23/12	MWT	Gamma Emitters in Water
			8607-001	H		04/19/12	05/04/12	MWT	Tritium in Water
			8607-001	RA		05/02/12	05/02/12	BW	Radium-226 in Water
			8607-001	SR		04/24/12	04/30/12	BW	Strontium-90 in Water
			8607-001	U_T		04/25/12	04/26/12	CSS	Uranium, Total
S204062-02	OUTFALL 002 (440-8277-1)		8607-002	80A/80		04/25/12	04/27/12	MWT	Gross Alpha in Water
04/11/12	Boeing-SSFL	WATER	8607-002	80B/80		04/25/12	04/27/12	MWT	Gross Beta in Water
04/13/12	440-3828.1		8607-002	AC		04/25/12	05/04/12	MWT	Radium-228 in Water
			8607-002	GAM		04/19/12	04/23/12	MWT	Gamma Emitters in Water
			8607-002	H		04/19/12	05/04/12	MWT	Tritium in Water
			8607-002	RA		05/02/12	05/02/12	BW	Radium-226 in Water
			8607-002	SR		04/24/12	04/30/12	BW	Strontium-90 in Water
			8607-002	U_T		04/25/12	04/26/12	CSS	Uranium, Total
S204062-03	TRIP BLANK (440-8277-2)		8607-003	80A/80		04/25/12	04/27/12	MWT	Gross Alpha in Water
04/12/12	Boeing-SSFL	WATER	8607-003	80B/80		04/25/12	04/27/12	MWT	Gross Beta in Water
04/13/12	440-3828.1		8607-003	AC		04/25/12	05/04/12	MWT	Radium-228 in Water
			8607-003	GAM		04/20/12	04/23/12	MWT	Gamma Emitters in Water
			8607-003	RA		05/02/12	05/02/12	BW	Radium-226 in Water
			8607-003	SR		04/24/12	04/30/12	BW	Strontium-90 in Water
			8607-003	U_T		04/25/12	04/26/12	CSS	Uranium, Total
S204062-04	Lab Control Sample		8607-004	80A/80		04/25/12	04/27/12	MWT	Gross Alpha in Water
		WATER	8607-004	80B/80		04/25/12	04/27/12	MWT	Gross Beta in Water
			8607-004	AC		04/25/12	05/04/12	MWT	Radium-228 in Water
			8607-004	GAM		04/20/12	04/23/12	MWT	Gamma Emitters in Water
			8607-004	H		04/19/12	05/04/12	MWT	Tritium in Water
			8607-004	RA		05/02/12	05/02/12	BW	Radium-226 in Water
			8607-004	SR		04/24/12	04/30/12	BW	Strontium-90 in Water
			8607-004	U_T		04/25/12	04/26/12	CSS	Uranium, Total

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 05/08/12

SDG 8607
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
S204062-05	Method Blank			8607-005	80A/80		04/25/12	04/27/12	MWT	Gross Alpha in Water
			WATER	8607-005	80B/80		04/25/12	04/27/12	MWT	Gross Beta in Water
				8607-005	AC		04/25/12	05/04/12	MWT	Radium-228 in Water
				8607-005	GAM		04/20/12	04/23/12	MWT	Gamma Emitters in Water
				8607-005	H		04/19/12	05/04/12	MWT	Tritium in Water
				8607-005	RA		05/02/12	05/02/12	BW	Radium-226 in Water
				8607-005	SR		04/24/12	04/30/12	BW	Strontium-90 in Water
				8607-005	U_T		04/25/12	04/26/12	CSS	Uranium, Total
S204062-06	Duplicate (S204062-01)			8607-006	80A/80		04/26/12	04/27/12	MWT	Gross Alpha in Water
04/11/12	Boeing-SSFL		WATER	8607-006	80B/80		04/26/12	04/27/12	MWT	Gross Beta in Water
04/13/12				8607-006	AC		04/25/12	05/04/12	MWT	Radium-228 in Water
				8607-006	GAM		04/20/12	04/23/12	MWT	Gamma Emitters in Water
				8607-006	H		04/19/12	05/04/12	MWT	Tritium in Water
				8607-006	RA		05/02/12	05/02/12	BW	Radium-226 in Water
				8607-006	SR		04/24/12	04/30/12	BW	Strontium-90 in Water
				8607-006	U_T		04/25/12	04/26/12	CSS	Uranium, Total

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAS no	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP SPIKE	TOTAL
80A/80		Gross Alpha in Water	900.0	3			1	1	1	6
80B/80		Gross Beta in Water	900.0	3			1	1	1	6
AC		Radium-228 in Water	904.0	3			1	1	1	6
GAM		Gamma Emitters in Water	901.1	3			1	1	1	6
H		Tritium in Water	906.0	2			1	1	1	5
RA		Radium-226 in Water	903.1	3			1	1	1	6
SR		Strontium-90 in Water	905.0	3			1	1	1	6
U_T		Uranium, Total	D5174	3			1	1	1	6
TOTALS				23			8	8	8	47

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 05/08/12

EBERLINE ANALYTICAL

SDG 8607

8607-005 Method Blank

METHOD BLANK

SDG	8607	Client	Test America, Inc.
Contact	Joseph Verville	Contract	44002624
Lab sample id	S204062-05	Client sample id	Method Blank
Dept sample id	8607-005	Material/Matrix	WATER

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	-0.105	0.29	0.571	3.00	U	80A
Gross Beta	12587472	-0.378	0.68	1.12	4.00	U	80B
Tritium	10028178	12.2	100	171	500	U	H
Radium-226	13982633	-0.070	0.27	0.518	1.00	U	RA
Radium-228	15262201	0.006	0.16	0.417	1.00	U	AC
Strontium-90	10098972	0.127	0.25	0.518	2.00	U	SR
Uranium, Total		0	0.008	0.019	1.00	U	U_T
Potassium-40	13966002	20.2	38	65.0	25.0	U	GAM
Cesium-137	10045973	1.25	3.0	5.18	20.0	U	GAM

QC-BLANK #81577

EBERLINE ANALYTICAL

SDG 8607

8607-004 Lab Control Sample

LAB CONTROL SAMPLE

SDG 8607 Client Test America, Inc.
Contact Joseph Verville Contract 44002624

Lab sample id S204062-04 Client sample id Lab Control Sample
Dept sample id 8607-004 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	43.3	2.3	0.592	3.00		80A	37.0	1.5	117	75-125	70-130
Gross Beta	33.6	1.3	0.925	4.00		80B	34.0	1.4	99	88-112	70-130
Tritium	2200	160	172	500		H	2440	98	90	88-112	80-120
Radium-226	55.0	2.1	0.621	1.00		RA	50.1	2.0	110	81-119	80-120
Radium-228	4.94	0.50	0.415	1.00		AC	4.42	0.18	112	83-117	60-140
Strontium-90	8.52	0.59	0.309	2.00		SR	8.49	0.34	100	87-113	80-120
Uranium, Total	59.4	6.9	0.193	1.00		U_T	56.5	2.3	105	87-113	80-120
Cobalt-60	101	5.6	4.64	10.0		GAM	108	4.3	94	91-109	80-120
Cesium-137	120	0.48	2.82	20.0		GAM	122	4.9	98	92-108	80-120

QC-LCS #81576

LAB CONTROL SAMPLES
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Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LCS
Version 3.06
Report date 05/08/12

EBERLINE ANALYTICAL

SDG 8607

8607-006 OUTFALL 018 (440-8282-1)

DUPLICATE

SDG 8607 Client Test America, Inc.

Contact Joseph Verville Contract 44002624

DUPLICATE	ORIGINAL	
Lab sample id S204062-06	Lab sample id S204062-01	Client sample id OUTFALL 018 (440-8282-1)
Dept sample id 8607-006	Dept sample id 8607-001	Location/Matrix Boeing-SSFL WATER
	Received 04/13/12	Collected/Volume 04/11/12 13:45 10.0 L
		Chain of custody id 440-3828.1

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	0.008	0.51	0.908	3.00	U	80A	0.114	0.49	0.835	U	-		0.3
Gross Beta	3.59	0.68	0.957	4.00	J	80B	4.32	0.65	0.853		18	43	1.3
Tritium	10.8	110	178	500	U	H	47.2	100	172	U	-		0.5
Radium-226	-0.012	0.29	0.543	1.00	U	RA	0.118	0.27	0.477	U	-		0.7
Radium-228	-0.052	0.15	0.412	1.00	U	AC	-0.120	0.14	0.396	U	-		0.7
Strontium-90	0.002	0.28	0.579	2.00	U	SR	-0.277	0.36	0.981	U	-		1.2
Uranium, Total	0.052	0.010	0.019	1.00	J	U_T	0.047	0.010	0.019	J	10	43	0.7
Potassium-40	0.265	14	25.2	25.0	U	GAM	12.9	14	23.3	U	-		1.3
Cesium-137	-0.679	1.7	2.97	20.0	U	GAM	0.048	0.89	1.76	U	-		0.8

QC-DUP#1 81578

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-DUP
Version 3.06
Report date 05/08/12

EBERLINE ANALYTICAL

SDG 8607

8607-001 OUTFALL 018 (440-8282-1)

DATA SHEET

SDG	8607	Client	Test America, Inc.
Contact	Joseph Verville	Contract	44002624
Lab sample id	S204062-01	Client sample id	OUTFALL 018 (440-8282-1)
Dept sample id	8607-001	Location/Matrix	Boeing-SSFL WATER
Received	04/13/12	Collected/Volume	04/11/12 13:45 10.0 L
		Chain of custody id	440-3828.1

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	0.114	0.49	0.835	3.00	U	80A
Gross Beta	12587472	4.32	0.65	0.853	4.00		80B
Tritium	10028178	47.2	100	172	500	U	H
Radium-226	13982633	0.118	0.27	0.477	1.00	U	RA
Radium-228	15262201	-0.120	0.14	0.396	1.00	U	AC
Strontium-90	10098972	-0.277	0.36	0.981	2.00	U	SR
Uranium, Total		0.047	0.010	0.019	1.00	J	U_T
Potassium-40	13966002	12.9	14	23.3	25.0	U	GAM
Cesium-137	10045973	0.048	0.89	1.76	20.0	U	GAM

DATA SHEETS
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SUMMARY DATA SECTION
Page 11

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	05/08/12

8607-002 OUTFALL 002 (440-8277-1)

DATA SHEET

SDG 8607 Client Test America, Inc.
Contact Joseph Verville Contract 44002624

Lab sample id S204062-02 Client sample id OUTFALL 002 (440-8277-1)
Dept sample id 8607-002 Location/Matrix Boeing-SSFL WATER
Received 04/13/12 Collected/Volume 04/11/12 14:50 10.0 L
Chain of custody id 440-3828.1

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	0.226	0.51	0.872	3.00	U	80A
Gross Beta	12587472	4.16	0.89	1.26	4.00		80B
Tritium	10028178	5.22	100	172	500	U	H
Radium-226	13982633	0.354	0.31	0.497	1.00	U	RA
Radium-228	15262201	-0.025	0.13	0.381	1.00	U	AC
Strontium-90	10098972	0.378	0.45	0.901	2.00	U	SR
Uranium, Total		0.147	0.018	0.019	1.00	J	U_T
Potassium-40	13966002	-7.20	18	31.8	25.0	U	GAM
Cesium-137	10045973	-0.824	1.8	3.23	20.0	U	GAM

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-DS
Version 3.06
Report date 05/08/12

DATA SHEETS
Page 2
SUMMARY DATA SECTION
Page 12

EBERLINE ANALYTICAL

SDG 8607

8607-003 TRIP BLANK (440-8277-2)

DATA SHEET

SDG	8607	Client	Test America, Inc.
Contact	Joseph Verville	Contract	44002624
Lab sample id	S204062-03	Client sample id	TRIP BLANK (440-8277-2)
Dept sample id	8607-003	Location/Matrix	Boeing-SSFL WATER
Received	04/13/12	Collected/Volume	04/12/12 14:13 10.0 L
		Chain of custody id	440-3828.1

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	-0.051	0.17	0.332	3.00	U	80A
Gross Beta	12587472	-0.209	0.48	0.821	4.00	U	80B
Radium-226	13982633	0.250	0.32	0.526	1.00	U	RA
Radium-228	15262201	-0.032	0.13	0.371	1.00	U	AC
Strontium-90	10098972	0.079	0.44	0.988	2.00	U	SR
Uranium, Total		0	0.008	0.019	1.00	U	U_T
Potassium-40	13966002	4.50	17	30.0	25.0	U	GAM
Cesium-137	10045973	0.219	0.61	1.86	20.0	U	GAM

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	05/08/12

EBERLINE ANALYTICAL

SDG 8607

LAB METHOD SUMMARY

RADIUM-228 IN WATER

BETA COUNTING

Test AC Matrix WATER
SDG 8607
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 7726-059						
S204062-01			8607-001	OUTFALL 018 (440-8282-1)	U	
S204062-02			8607-002	OUTFALL 002 (440-8277-1)	U	
S204062-03			8607-003	TRIP BLANK (440-8277-2)	U	
S204062-04			8607-004	Lab Control Sample	ok	
S204062-05			8607-005	Method Blank	U	
S204062-06			8607-006	Duplicate (S204062-01)	-	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 7726-059			2σ prep error 10.4 % Reference Lab Notebook 7724 pg. 119													
S204062-01			OUTFALL 018 (440-8282-1)	0.396	1.80			85		150			14	04/25/12	04/25	GRB-221
S204062-02			OUTFALL 002 (440-8277-1)	0.381	1.80			85		150			14	04/25/12	04/25	GRB-222
S204062-03			TRIP BLANK (440-8277-2)	0.371	1.80			91		150			13	04/25/12	04/25	GRB-223
S204062-04			Lab Control Sample	0.415	1.80			87		150				04/25/12	04/25	GRB-224
S204062-05			Method Blank	0.417	1.80			84		150				04/25/12	04/25	GRB-225
S204062-06			Duplicate (S204062-01)	0.412	1.80			83		150			14	04/25/12	04/25	GRB-227
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 6 SAMPLES
MDA 0.399 ± 0.039
YIELD 86 ± 6

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 05/08/12

EBERLINE ANALYTICAL

SDG 8607

LAB METHOD SUMMARY

STRONTIUM-90 IN WATER

BETA COUNTING

Test SR Matrix WATER
SDG 8607
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 7726-059						
S204062-01			8607-001	OUTFALL 018 (440-8282-1)	U	
S204062-02			8607-002	OUTFALL 002 (440-8277-1)	U	
S204062-03			8607-003	TRIP BLANK (440-8277-2)	U	
S204062-04			8607-004	Lab Control Sample	ok	
S204062-05			8607-005	Method Blank	U	
S204062-06			8607-006	Duplicate (S204062-01)	-	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 7726-059			2σ prep error 10.4 %	Reference Lab Notebook 7724 pg. 119												
S204062-01			OUTFALL 018 (440-8282-1)	0.981	0.500			80		50			13	04/24/12	04/24	GRB-221
S204062-02			OUTFALL 002 (440-8277-1)	0.901	0.500			84		50			13	04/24/12	04/24	GRB-222
S204062-03			TRIP BLANK (440-8277-2)	0.988	0.500			77		50			12	04/24/12	04/24	GRB-223
S204062-04			Lab Control Sample	0.309	1.00			75		100				04/24/12	04/24	GRB-229
S204062-05			Method Blank	0.518	1.00			79		50				04/24/12	04/24	GRB-225
S204062-06			Duplicate (S204062-01)	0.579	0.500			76		100			13	04/24/12	04/24	GRB-230
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 6 SAMPLES
MDA 0.713 ± 0.567
YIELD 78 ± 7

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 05/08/12

EBERLINE ANALYTICAL

SDG 8607

LAB METHOD SUMMARY

GROSS ALPHA IN WATER

GAS PROPORTIONAL COUNTING

Test 80A Matrix WATER
SDG 8607
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 7726-059						
S204062-01	80		8607-001	OUTFALL 018 (440-8282-1)	U	
S204062-02	80		8607-002	OUTFALL 002 (440-8277-1)	U	
S204062-03	80		8607-003	TRIP BLANK (440-8277-2)	U	
S204062-04	80		8607-004	Lab Control Sample	ok	
S204062-05	80		8607-005	Method Blank	U	
S204062-06	80		8607-006	Duplicate (S204062-01)	-	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 7726-059			2σ prep error 20.6 %	Reference Lab Notebook 7724 pg. 119												
S204062-01	80		OUTFALL 018 (440-8282-1)	0.835	0.300			104		400			14	04/24/12	04/25	GRB-109
S204062-02	80		OUTFALL 002 (440-8277-1)	0.872	0.200			67		400			14	04/24/12	04/25	GRB-111
S204062-03	80		TRIP BLANK (440-8277-2)	0.332	0.300			0		400			13	04/24/12	04/25	GRB-112
S204062-04	80		Lab Control Sample	0.592	0.300			60		400				04/24/12	04/25	GRB-105
S204062-05	80		Method Blank	0.571	0.300			62		400				04/24/12	04/25	GRB-107
S204062-06	80		Duplicate (S204062-01)	0.908	0.300			105		400			15	04/24/12	04/26	GRB-105
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 6 SAMPLES
MDA 0.685 ± 0.450
RESIDUE 66 ± 77

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 05/08/12

EBERLINE ANALYTICAL

SDG 8607

LAB METHOD SUMMARY

GROSS BETA IN WATER

GAS PROPORTIONAL COUNTING

Test 80B Matrix WATER
SDG 8607
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 7726-059						
S204062-01	80		8607-001	OUTFALL 018 (440-8282-1)	4.32	
S204062-02	80		8607-002	OUTFALL 002 (440-8277-1)	4.16	
S204062-03	80		8607-003	TRIP BLANK (440-8277-2)	U	
S204062-04	80		8607-004	Lab Control Sample	ok	
S204062-05	80		8607-005	Method Blank	U	
S204062-06	80		8607-006	Duplicate (S204062-01)	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 7726-059			2σ prep error 11.0 %	Reference Lab Notebook 7724 pg. 119												
S204062-01	80		OUTFALL 018 (440-8282-1)	0.853	0.300			104		400			14	04/24/12	04/25	GRB-109
S204062-02	80		OUTFALL 002 (440-8277-1)	1.26	0.200			67		400			14	04/24/12	04/25	GRB-111
S204062-03	80		TRIP BLANK (440-8277-2)	0.821	0.300			0		400			13	04/24/12	04/25	GRB-112
S204062-04	80		Lab Control Sample	0.925	0.300			60		400				04/24/12	04/25	GRB-105
S204062-05	80		Method Blank	1.12	0.300			62		400				04/24/12	04/25	GRB-107
S204062-06	80		Duplicate (S204062-01)	0.957	0.300			105		400			15	04/24/12	04/26	GRB-105
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 6 SAMPLES
MDA 0.989 ± 0.338
RESIDUE 66 ± 77

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 05/08/12

EBERLINE ANALYTICAL

SDG 8607

Test GAM Matrix WATER
SDG 8607
Contact Joseph Verville

LAB METHOD SUMMARY

GAMMA EMITTERS IN WATER

GAMMA SPECTROSCOPY

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt-60	Cesium-137	
Preparation batch 7726-059							
S204062-01			8607-001	OUTFALL 018 (440-8282-1)		U	
S204062-02			8607-002	OUTFALL 002 (440-8277-1)		U	
S204062-03			8607-003	TRIP BLANK (440-8277-2)		U	
S204062-04			8607-004	Lab Control Sample	ok	ok	
S204062-05			8607-005	Method Blank		U	
S204062-06			8607-006	Duplicate (S204062-01)		-	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 7726-059			2σ prep error 7.0 %		Reference Lab Notebook 7724 pg. 119											
S204062-01			OUTFALL 018 (440-8282-1)		2.00					400			8	04/19/12	04/19	MB,G8,0
S204062-02			OUTFALL 002 (440-8277-1)		2.00					400			8	04/19/12	04/19	MB,G3,0
S204062-03			TRIP BLANK (440-8277-2)		2.00					400			8	04/19/12	04/20	MB,G3,0
S204062-04			Lab Control Sample		2.00					400				04/19/12	04/20	MB,G4,0
S204062-05			Method Blank		2.00					400				04/19/12	04/20	MB,G5,0
S204062-06			Duplicate (S204062-01)		2.00					400			9	04/19/12	04/20	MB,G8,0
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 05/08/12

EBERLINE ANALYTICAL

SDG 8607

LAB METHOD SUMMARY

URANIUM, TOTAL

KINETIC PHOSPHORIMETRY

Test U_T Matrix WATER
SDG 8607
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 7726-059					
S204062-01			8607-001	OUTFALL 018 (440-8282-1)	0.047 J
S204062-02			8607-002	OUTFALL 002 (440-8277-1)	0.147 J
S204062-03			8607-003	TRIP BLANK (440-8277-2)	U
S204062-04			8607-004	Lab Control Sample	ok
S204062-05			8607-005	Method Blank	U
S204062-06			8607-006	Duplicate (S204062-01)	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 7726-059			2σ prep error		Reference Lab Notebook 7724 pg. 119											
S204062-01			OUTFALL 018 (440-8282-1)	0.019	0.0200								14	04/25/12	04/25	KPA-001
S204062-02			OUTFALL 002 (440-8277-1)	0.019	0.0200								14	04/25/12	04/25	KPA-001
S204062-03			TRIP BLANK (440-8277-2)	0.019	0.0200								13	04/25/12	04/25	KPA-001
S204062-04			Lab Control Sample	0.193	0.0200									04/25/12	04/25	KPA-001
S204062-05			Method Blank	0.019	0.0200									04/25/12	04/25	KPA-001
S204062-06			Duplicate (S204062-01)	0.019	0.0200								14	04/25/12	04/25	KPA-001
Nominal values and limits from method				1.00	0.0200								180			

PROCEDURES REFERENCE D5174

AVERAGES ± 2 SD FOR 6 SAMPLES
MDA 0.048 ± 0.142
YIELD _____ ± _____

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 05/08/12

EBERLINE ANALYTICAL

SDG 8607

LAB METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Test H Matrix WATER
SDG 8607
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Tritium	
Preparation batch 7726-059						
S204062-01			8607-001	OUTFALL 018 (440-8282-1)	U	
S204062-02			8607-002	OUTFALL 002 (440-8277-1)	U	
S204062-04			8607-004	Lab Control Sample	ok	
S204062-05			8607-005	Method Blank	U	
S204062-06			8607-006	Duplicate (S204062-01)	-	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 7726-059			2σ prep error 10.0 %	Reference Lab Notebook 7724 pg. 119												
S204062-01			OUTFALL 018 (440-8282-1)	172	0.0100			100		150			8	04/19/12	04/19	LSC-006
S204062-02			OUTFALL 002 (440-8277-1)	172	0.0100			100		150			8	04/19/12	04/19	LSC-006
S204062-04			Lab Control Sample	172	0.100			10		150				04/19/12	04/19	LSC-006
S204062-05			Method Blank	171	0.100			10		150				04/19/12	04/19	LSC-006
S204062-06			Duplicate (S204062-01)	178	0.0100			100		150			8	04/19/12	04/19	LSC-006
Nominal values and limits from method				500	0.0100					100			180			

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

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 173 ± 5.66
YIELD 64 ± 99

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 05/08/12

EBERLINE ANALYTICAL

SDG 8607

LAB METHOD SUMMARY

RADIUM-226 IN WATER

RADON COUNTING

Test RA Matrix WATER
SDG 8607
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 7726-059						
S204062-01			8607-001	OUTFALL 018 (440-8282-1)	U	
S204062-02			8607-002	OUTFALL 002 (440-8277-1)	U	
S204062-03			8607-003	TRIP BLANK (440-8277-2)	U	
S204062-04			8607-004	Lab Control Sample	ok	
S204062-05			8607-005	Method Blank	U	
S204062-06			8607-006	Duplicate (S204062-01)	-	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 7726-059			2σ prep error 16.4 %	Reference Lab Notebook 7724 pg. 119												
S204062-01			OUTFALL 018 (440-8282-1)	0.477	0.100			100		120			21	05/02/12	05/02	RN-012
S204062-02			OUTFALL 002 (440-8277-1)	0.497	0.100			100		120			21	05/02/12	05/02	RN-010
S204062-03			TRIP BLANK (440-8277-2)	0.526	0.100			100		120			20	05/02/12	05/02	RN-011
S204062-04			Lab Control Sample	0.621	0.100			100		120				05/02/12	05/02	RN-009
S204062-05			Method Blank	0.518	0.100			100		120				05/02/12	05/02	RN-013
S204062-06			Duplicate (S204062-01)	0.543	0.100			100		120			21	05/02/12	05/02	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 6 SAMPLES
MDA 0.530 ± 0.100
YIELD 100 ± 0

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 05/08/12

SDG 8607
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 8607
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract 44002624

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.

SDG 8607
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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.

SDG 8607
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REPORT GUIDE

Client Test America, Inc.
Contract 44002624

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.

SDG 8607
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GUIDE, cont.

Client Test America, Inc.
Contract 44002624

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

SDG 8607
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GUIDE, cont.

Client Test America, Inc.
Contract 44002624

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.

SDG 8607
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REPORT GUIDE

Client Test America, Inc.
Contract 44002624

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

Client Test America, Inc.
Contract 44002624

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.

SDG 8607
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GUIDE, cont.

Client Test America, Inc.
Contract 44002624

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

Client Test America, Inc.
Contract 44002624

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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GUIDE, cont.

Client Test America, Inc.
Contract 44002624

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

Client Test America, Inc.
Contract 44002624

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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GUIDE, cont.

Client Test America, Inc.
Contract 44002624

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

SDG 8607
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GUIDE, cont.

Client Test America, Inc.
Contract 44002624

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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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

S2041062 - 8607

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: 440-3828.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: debby.wilson@testamericainc.com		Page: Page 1 of 1
Company: Eberline Services		Analysis Requested		Job #: 440-8282-1
Address: 2030 Wright Avenue,	Due Date Requested: 4/25/2012			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 Dodacahydrate, 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:																	No	
Outfall 018 (440-8282-1)	4/11/12	13:45 Pacific		Water			X	X	X	X	X	X	X								

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ 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
1	Sue Barnes	4/12/12 17:00	TAI	FedEx	4/12/12 17:00	
2	FEDEX			Alex Leland	4/13/12 10:00	EBERLI
3						

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

5/17/2012

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

5204062-8607

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: 440-3828.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: debby.wilson@testamericainc.com		Page: Page 1 of 1
Company: Eberline Services				Job #: 440-8277-1

Address: 2030 Wright Avenue,	Due Date Requested: 4/25/2012
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

Preservation Codes:

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)

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/ 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 002 (440-8277-1)	4/11/12	14:50 Pacific		Water			X	X	X	X	X	X	X	2	
Trip Blank (440-8277-2)	4/12/12	14:13 Pacific		Water			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:	Company	Received by:	Date/Time:	Company
Jim Barnett	4/12/12 17:00	TAI	FedEx	4/12/12 17:00	
Relinquished by: FEDEX	Date/Time:	Company	Received by: Alex Kelemen	Date/Time: 4/13/12 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:

5/17/2012

EBERLINE SERVICES

RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA

Date/Time received 4/13/12 10:00 CoC No. 440-3828.1

Container I.D. No. 2 ice chests 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: 3	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: 4/13/12	Time: 12:40		

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

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REPORT

Client: **TestAmerica Analytical - Irvine**
17461 Derian Avenue, Suite 100
Irvine, CA 92614
Attention: Debby Wilson
Project Name: Boeing SSFL outfalls
Project Number: 44002624
P.O. Number: 440-8282-1
Release Number: 440-8282-1

Laboratory No. 801024

Printed 4/23/2012

Samples Received on 4/13/2012

Field ID	Lab ID	Collected	Matrix
Outfall 018 (440-8282 Outfall 018 (440-8282-1)	801024-001	04/11/2012 13:45	Water

EPA 8315 M-Hydrazines (water) Batch 709867

Parameter		Unit	Analyzed	DF	MDL	RL	Result
801024-001	Hydrazine	ug/L	04/14/2012 19:14	1	0.439	1.00	ND
	Monomethyl Hydrazine	ug/L	04/14/2012 19:14	1	1.77	5.00	ND
	Unsymmetrical Dimethyl Hydrazine	ug/L	04/14/2012 19:14	1	1.13	5.00	ND

Method Blank

Parameter	Unit	DF	Result
Hydrazine	ug/L	1	ND
Monomethyl Hydrazine	ug/L	1	ND
Unsymmetrical Dimethyl Hydr	ug/L	1	ND

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Hydrazine	ug/L	1	9.38	10.0	93.8	50 - 150
Monomethyl Hydrazine	ug/L	1	34.7	50.0	69.4	50 - 150
Unsymmetrical Dimethyl Hydr	ug/L	1	34.2	50.0	68.4	50 - 150

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Hydrazine	ug/L	1	8.65	10.0	86.5	50 - 150
Monomethyl Hydrazine	ug/L	1	39.9	50.0	79.8	50 - 150
Unsymmetrical Dimethyl Hydr	ug/L	1	40.7	50.0	81.4	50 - 150

Client: TestAmerica Analytical - Irvine Project Name: Boeing SSFL outfalls Page 2 of 2
Project Number: 44002624 Printed 4/23/2012

Matrix Spike Lab ID = 801024-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Hydrazine	ug/L	1	6.43	10.0(10.0)	64.3	45 - 146
Monomethyl Hydrazine	ug/L	1	35.2	50.0(50.0)	70.4	7 - 149
Unsymmetrical Dimethyl Hydr	ug/L	1	33.8	50.0(50.0)	67.6	45 - 137

Matrix Spike Duplicate Lab ID = 801024-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Hydrazine	ug/L	1	6.39	10.0(10.0)	63.9	45 - 146
Monomethyl Hydrazine	ug/L	1	38.5	50.0(50.0)	77.0	7 - 149
Unsymmetrical Dimethyl Hydr	ug/L	1	36.1	50.0(50.0)	72.2	45 - 137

MRCCS - Secondary

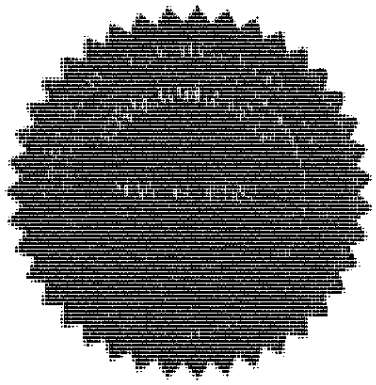
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Hydrazine	ug/L	1	10.4	10.0	104	85 - 115
Monomethyl Hydrazine	ug/L	1	48.8	50.0	97.6	85 - 115
Unsymmetrical Dimethyl Hydr	ug/L	1	52.3	50.0	105.	85 - 115

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Hydrazine	ug/L	1	5.44	5.00	109.	85 - 115
Monomethyl Hydrazine	ug/L	1	24.6	25.0	98.4	85 - 115
Unsymmetrical Dimethyl Hydr	ug/L	1	25.7	25.0	103.	85 - 115

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Jeff Lee
Assistant Project Manager



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 18, 2012

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

Laboratory No.: A-12041207-001
Job No.: 440-8282-1
Sample I.D.: Outfall 018 (440-8282-1)

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:	04/11/12
Date Received:	04/12/12
Temp. Received:	5.8°C
Chlorine (TRC):	0.0 mg/l
Date Tested:	04/12/12 to 04/18/12

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-12041207-001
Client/ID: TestAmerica - Outfall 018 (440-8282-1)

Date Tested: 04/12/12 to 04/18/12

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%	20.5
100% Sample	100%	22.7
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 (20.5 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:	4/12/2012 14:30	Test ID:	12041207c	Sample ID:	Outfall 018
End Date:	4/18/2012 15:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	SRW2-Industrial stormwater
Sample Date:	4/11/2012 13:45	Protocol:	FWCH-EPA-821-R-02-013	Test Species:	CD-Ceriodaphnia dubia
Comments:					

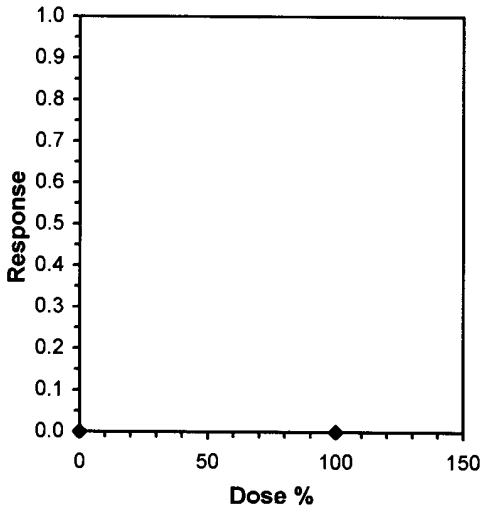
Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

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:	4/12/2012 14:30	Test ID:	12041207c	Sample ID:	Outfall 018
End Date:	4/18/2012 15:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	SRW2-Industrial stormwater
Sample Date:	4/11/2012 13:45	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	21.000	21.000	22.000	16.000	21.000	24.000	12.000	21.000	23.000	24.000
100	25.000	17.000	23.000	24.000	28.000	22.000	26.000	24.000	12.000	26.000

			Transform: Untransformed					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
D-Control	20.500	1.0000	20.500	12.000	24.000	18.288	10			21.600	1.0000
100	22.700	1.1073	22.700	12.000	28.000	21.081	10	129.50	82.00	21.600	1.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.83651	0.905	-1.4159	1.45813
F-Test indicates equal variances (p = 0.48)	1.62925	6.54109		

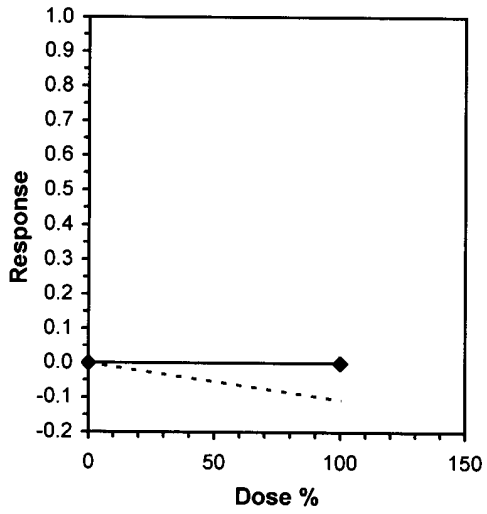
Hypothesis Test (1-tail, 0.05)

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:	4/12/2012 14:30	Test ID:	12041207c	Sample ID:	Outfall 018
End Date:	4/18/2012 15:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	SRW2-Industrial stormwater
Sample Date:	4/11/2012 13:45	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	21.000	21.000	22.000	16.000	21.000	24.000	12.000	21.000	23.000	24.000
100	25.000	17.000	23.000	24.000	28.000	22.000	26.000	24.000	12.000	26.000

			Transform: Untransformed					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
D-Control	20.500	1.0000	20.500	12.000	24.000	18.288	10			
100	22.700	1.1073	22.700	12.000	28.000	21.081	10	-1.144	1.730	3.326

Auxiliary Tests					Statistic		Critical		Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)					0.83651		0.905		-1.4159	1.45813
F-Test indicates equal variances (p = 0.48)					1.62925		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	3.32572	0.16223	24.2	18.4778	0.26744	1, 18

CERIODAPHNIA DUBIA CHRONIC BIOASSAY
EPA METHOD 1002.0 Raw Data Sheet

Aquatic Testing Laboratories

Lab No.: A-12041207-001
Client ID: TestAmerica - Outfall 018 (440-8282-1)
Start Date: 04/12/2012

		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:		1430	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1500	—	—
Control	DO	8.1	8.5	8.5	8.3	9.4	8.3	8.4	8.1	8.2	7.5	8.3	7.9	—	—
	pH	8.2	8.2	8.2	8.1	8.1	8.1	8.2	8.1	8.2	8.0	8.2	8.1	—	—
	Temp	24.1	24.2	24.6	24.4	24.3	24.3	24.5	24.3	24.2	24.3	24.3	24.4	—	—
100%	DO	8.7	8.5	9.3	8.7	9.4	8.1	9.2	8.1	9.6	7.7	9.7	7.7	—	—
	pH	7.5	8.1	7.4	8.0	7.7	8.1	8.1	8.0	7.6	8.0	7.6	8.0	—	—
	Temp	24.2	24.3	24.3	24.4	24.3	24.5	24.3	24.3	24.3	24.3	24.3	24.3	—	—

Additional Parameters	Control	100% Sample
Conductivity (umohms)	320	473
Alkalinity (mg/l $CaCO_3$)	69	60
Hardness (mg/l $CaCO_3$)	94	120
Ammonia (mg/l NH_3-N)	0	0.4

Source of Neonates

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

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	4	3	0	0	0	0	7	10	
	4	3	4	2	4	0	0	4	3	3	4	27	10	
	5	6	7	7	0	7	8	0	6	7	8	56	10	
	6	12	10	13	12	10	13	8	12	13	12	115	10	
	7	—	—	—	—	—	—	—	—	—	—	—	—	
	Total	21	21	22	16	21	24	12	21	23	24	205	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	4	4	0	0	0	0	0	8	10	
	4	4	5	5	0	0	3	5	3	4	5	34	10	
	5	7	0	8	9	9	8	7	6	8	9	71	10	
	6	14	12	10	11	15	11	14	15	0	12	114	10	
	7	—	—	—	—	—	—	—	—	—	—	—	—	
	Total	25	17	23	24	28	22	26	24	12	26	227	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

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

5/17/2012

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Wilson, Debby	Carrier Tracking No(s):	COC No: 440-3785.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: debby.wilson@testamericainc.com		Page: Page 1 of 1
Company: Aquatic Testing Laboratories		**Analysis Requested**		Job #: 440-8282-1
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=waste/oil, 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 (440-8282-1)	4/11/12	13:45 Pacific		Water		X		

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: 4-12-12 13:35	Company	Received by:	Date/Time: 4-12-12 13:35	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°

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:					

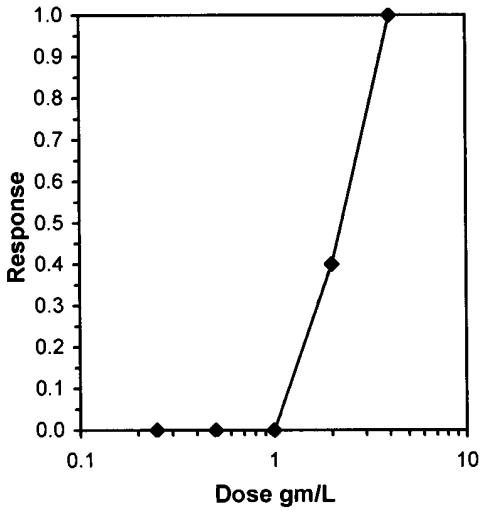
Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.25	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000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

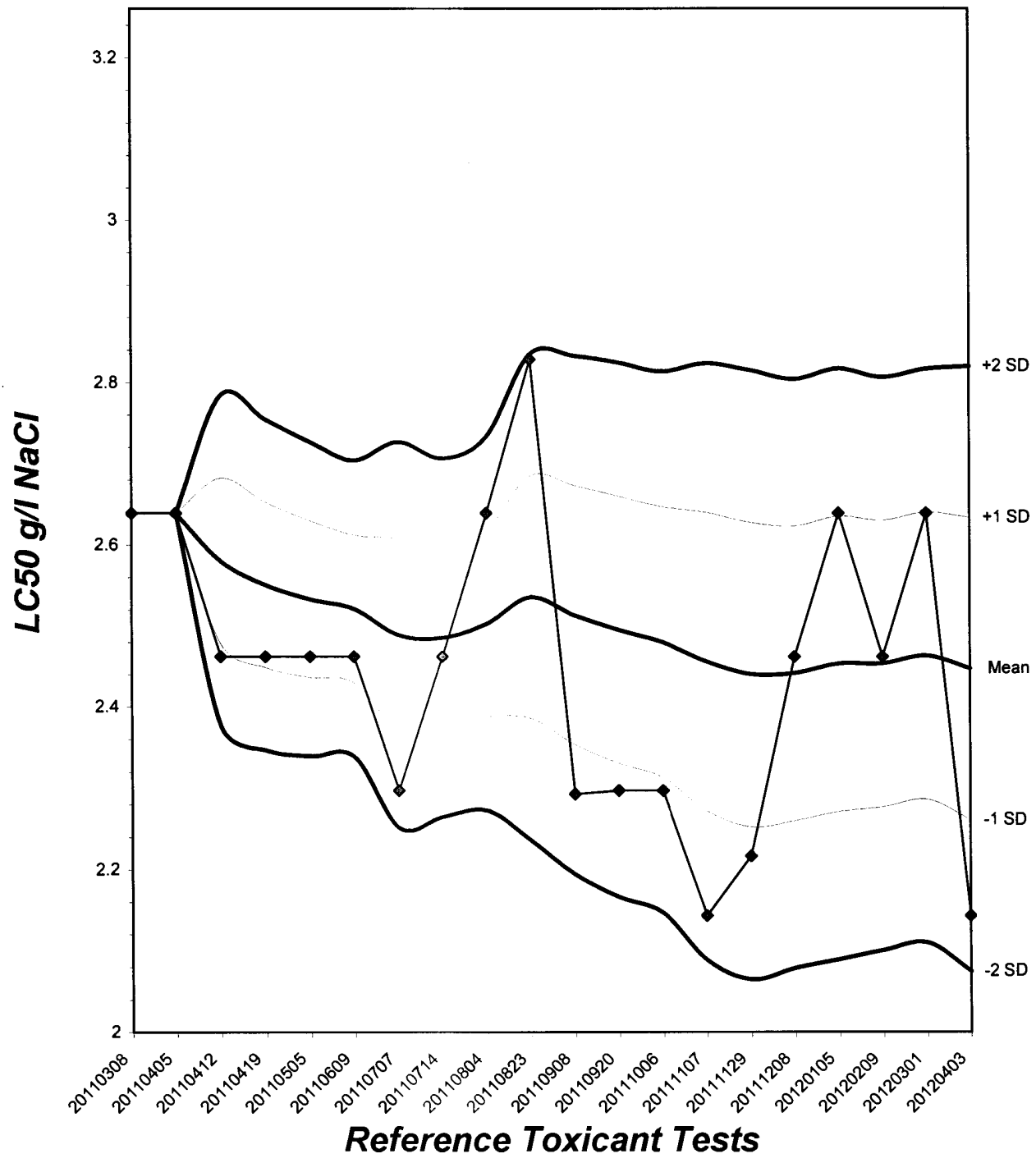
Trimmed Spearman-Karber

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

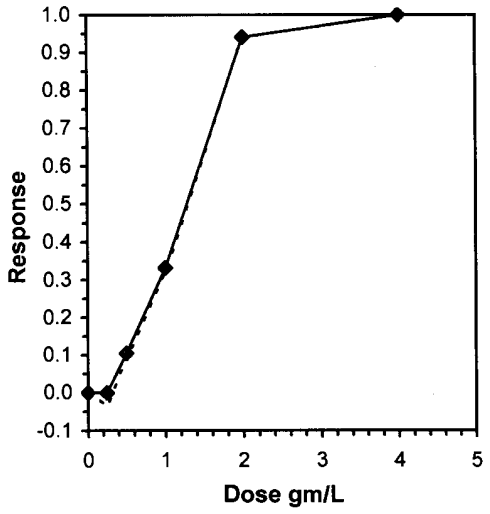
			Transform: Untransformed					Rank	1-Tailed	Isotonic	
Conc-gm/L	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
D-Control	23.500	1.0000	23.500	17.000	28.000	15.441	10			23.900	1.0000
0.25	24.300	1.0340	24.300	17.000	29.000	14.262	10	111.50	77.00	23.900	1.0000
0.5	21.400	0.9106	21.400	14.000	24.000	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				

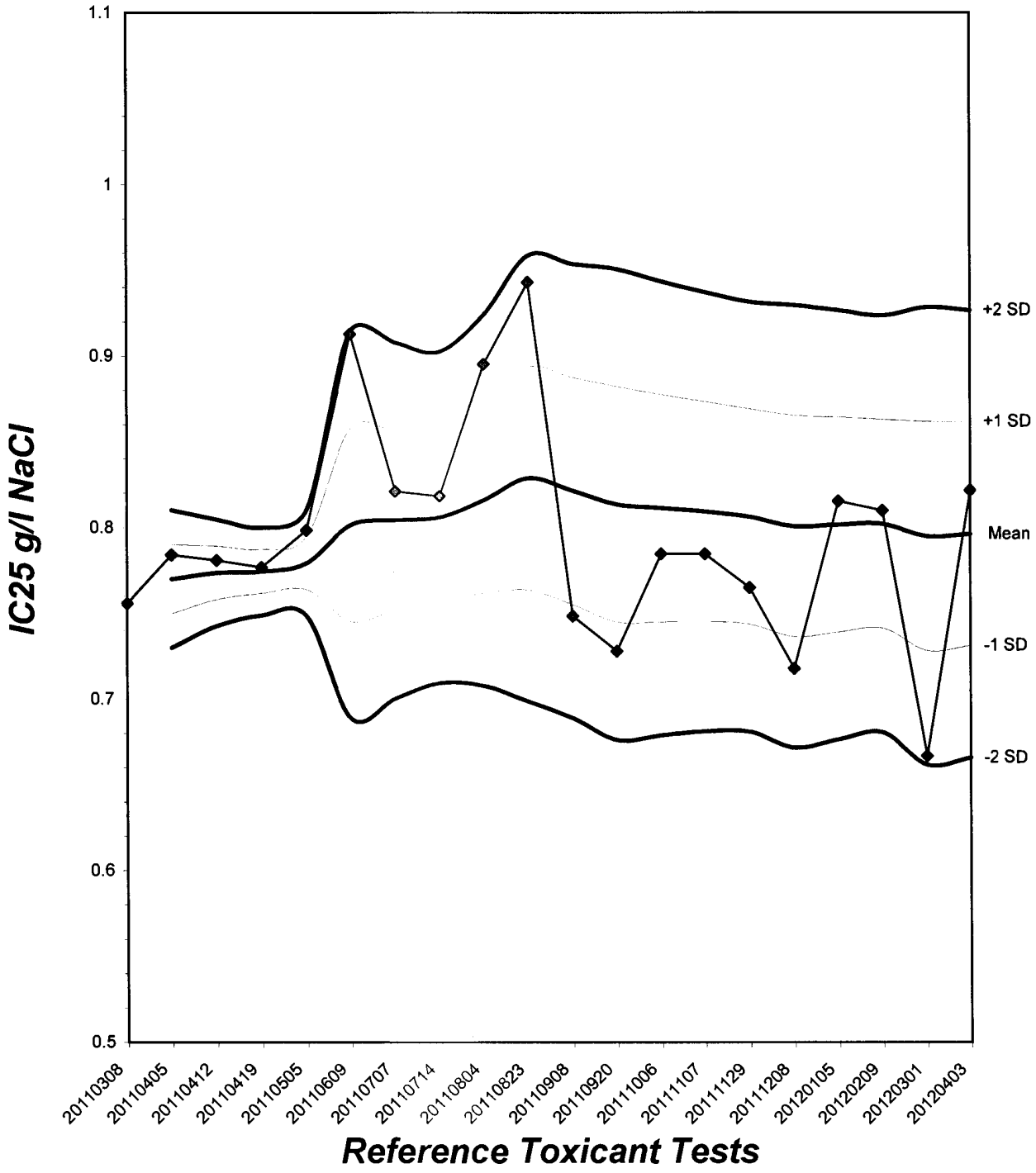
Linear Interpolation (200 Resamples)

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 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	8.6	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	8.6	8.0	8.4	8.1	8.6	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

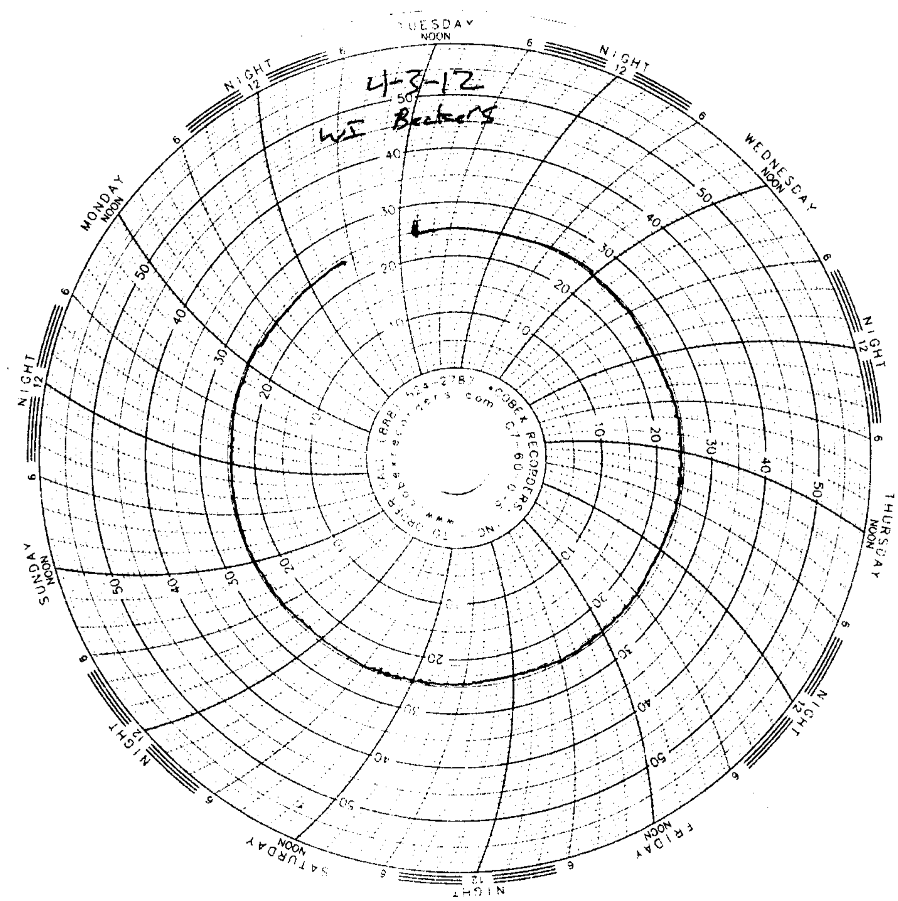
Aquatic Testing Laboratories

Test Temperature Chart

Test No: RT-120403

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

Acceptable Range: 25+/- 1^{o}C



Test America Version 4/01/2012

CHAIN OF CUSTODY FORM

Grab of 3

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson	Boeing-SSFL NPDES **Annual Outfall 018** **GRAB** Time Waited
Project Manager: Bronwyn Kelly Sampler: Rick Banuelos	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 + xylenes + Freon 113, Freon 123A, Cyclohexane + PP	VOCs 624 +A+A+2CVE	Settleable Solids	Conductivity	Oil & Grease (1664-HEM)	8015 - gas	8015 - diesel/jet fuel	Fecal coliform (SM9221)	E. coli (SM9221)	Acute Toxicity	MST-Bacteriodales, Human				Comments
							ANALYSIS REQUIRED														
Outfall 018	W	VOAs	5	4-10-2012 14:45	HCl	1A, 1B, 1C, 1D, 1E	X														
Outfall 018	W	VOAs	3		None	2A, 2B, 2C		X													
Outfall 018	W	1L Poly	1		None	3			X												
Outfall 018	W	500 mL Poly	2		None	4A, 4B				X											
Outfall 018	W	1L Amber	2		HCl	5A, 5B					X										
Trip Blanks	W	VOAs	3		HCl	6A, 6B, 6C	X														
Trip Blanks	W	VOAs	3		None	7A, 7B, 7C		X													
Outfall 018	W	VOAs	1		HCl	8A						X									
Outfall 018 Dup	W	VOAs	2		HCl	8B, 8C						X									
Outfall 018	W	1L Amber	1		None	9A							X								
Outfall 018 Dup	W	1L Amber	1		None	9B							X								
Outfall 018	W	125mL Poly	1		Na2S2O3	10								X							
Outfall 018	W	125mL Poly	1		Na2S2O3	11									X						
Outfall 018	W	1 Gal Cube	1		None	12										X					
Outfall 018	W	125mL Poly	1	4-10-2012 14:45	None	13											X				Deliver to lab ASAP

Field readings:
(Log in and include in report Temp and pH)

Temp °F = 68
pH = 7.2
DO = 9.35 mG/L
Total Residual Chlorine = Ø

Time of readings = 14:45

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:
	4-10-2012 15:10		4-10-12 15:10
Relinquished By	Date/Time:	Received By	Date/Time:
	4-10-12 15:05		4-10-12 18:05
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: ✓

7.2°C

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

Test America Version 4/01/2012

CHAIN OF CUSTODY FORM

440-8782
Comp1 of 3

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

ANALYSIS REQUIRED

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Cu, Pb, Hg, B, Ba, Fe, Mn, Sb, As, Be, Cd, Cr, Ni, Se, Ag, Tl, Zn, Co, V, Hardness as $CaCO_3$	TCDD (and all congeners)	BOD_5 (20 degrees C)	Surfactants (MBAS)	Cl^-, SO_4, NO_3+NO_2-N, F, Perchlorate	Nitrate-N, Nitrite-N	Turbidity, TDS, TSS	Ammonia-N (350.2)	Alpha BHC (608) + Pesticides + PP	2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs 625) + PP					Comments
Outfall 018	W	1L Poly	1	4-11-2012 13:45	HNO_3	14A	X														
Outfall 018 Dup	W	1L Poly	1		HNO_3	14B	X														
Outfall 018	W	1L Amber	2		None	15A, 15B		X													
Outfall 018	W	1L Poly	1		None	16			X												
Outfall 018	W	500 mL Poly	2		None	17A, 17B				X											
Outfall 018	W	500 mL Poly	2		None	18A, 18B					X										
Outfall 018	W	500 mL Poly	1		None	19						X									
Outfall 018	W	500 mL Poly	2		None	20A, 20B							X								
Outfall 018	W	500 mL Poly	1		H_2SO_4	21								X							
Outfall 018	W	1L Amber	2		None	22A, 22B									X						
Outfall 018	W	1L Amber	2	4-11-2012 13:45	None	23A, 23B										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:
[signature]	4-11-2011	[signature] (CS)	04/11/12 15:20
[signature]	4/11/12 18:30	[signature]	4/11/12 18:30

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

Sample Integrity: (Check)
Intact: ____ On Ice: ____
5.8 °C

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

CHAIN OF CUSTODY FORM

Client Name/Address:
MWH-Arcadia
618 Michillinda Ave, Suite 200
Arcadia, CA 91007

Test America Contact: Debby Wilson

Project:
Boeing-SSFL NPDES
Annual Outfall 018
COMPOSITE
TIME WEIGHTED

Project Manager: Bronwyn Kelly

Sampler: Rick Bramlett

Phone Number:
(626) 568-6691
Fax Number:
(626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	1,4-Dioxane	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)	PCBs	Monomethyl Hydrazine	Chronic Toxicity	Total Dissolved Metals: Cu, Pb, Hg, B, Ba, Fe, Mn, Sb, As, Be, Cd, Cr, Ni, Se, Ag, Ti, Zn, Co, V, Hardness as $CaCO_3$	Cr (VI) (218.6)	Cyanide							Comments
Outfall 018	W	VOAs	3	4-11-2012 13:45	HCl	24A, 24B, 24C	X														
Outfall 018	W	250 mL Glass	1		HCl	25		X													
Outfall 018	W	2.5 Gal Cube	1		None	26A			X												Unfiltered and unpreserved analysis
		500 mL Amber	1		None	26B															
Outfall 018	W	1L Amber	2		None	27A, 27B				X											
Outfall 018	W	1L Amber	2		None	28A, 28B					X										
Outfall 018	W	1 Gal Cube	1		None	29						X									Only test if first or second rain events of the year
Outfall 018	W	1L Poly	1		None	30							X								Filter w/in 24hrs of receipt at lab
Outfall 018	W	500 mL Poly	1		None	31								X							
Outfall 018	W	500 mL Poly	1	4-11-2012 13:45	NaOH	32									X						

ANALYSIS REQUIRED

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:
[signature]	4-11-2012	[signature]	4/11/12 15:20
[signature]	4/11/12 18:30	[signature]	4/11/12 18:30

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

Sample Integrity: (Check)
Intact: ____ On ice: ____ 5.8°C

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

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 440-8129-1

Login Number: 8129

List Source: TestAmerica Irvine

List Number: 1

Creator: Perez, Angel

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

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 440-8129-1

Login Number: 8282

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.	N/A	
Residual Chlorine Checked.	N/A	

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 15, 2012

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

Laboratory No.: A-12041102-001
Job No.: 440-8129-1
Sample ID.: Outfall 018 (440-8129-1)

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

Date Sampled:	04/10/12
Date Received:	04/11/12
Temp. Received:	2.4°C
Chlorine (TRC):	0.0 mg/l
Date Tested:	04/11/12 to 04/15/12

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

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

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

Sample ID.	Results
Outfall 018 (404-8129-1)	100% Survival (TUa = 0.0)

Quality Control: Reviewed and approved by:

Joseph A. LeMay
Laboratory Director

FATHEAD MINNOW PERCENT SURVIVAL TEST
EPA Method 2000.0

Aquatic Testing Laboratories

Lab No.: A-12041102-001
Client/ID: TestAmerica Outfall 018 (440-8129-1) **Start Date: 04/11/2012**

TEST SUMMARY

Species: *Pimephales promelas*.
Age: 13 (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	20.6	8.6	7.9	0	0	1230
	100%	20.6	8.9	7.5	0	0	
24 Hr	Control	19.8	7.9	7.9	0	0	1200
	100%	19.8	8.2	8.0	0	0	
48 Hr	Control	19.9	8.2	8.0	0	0	1200
	100%	19.9	8.1	7.9	0	0	
Renewal	Control	19.8	7.8	8.1	0	0	1200
	100%	19.8	8.5	7.7	0	0	
72 Hr	Control	19.7	8.7	8.0	0	0	1200
	100%	19.5	8.6	8.0	0	0	
96 Hr	Control	19.7	8.2	8.0	0	0	1200
	100%	19.5	8.4	7.9	0	0	

Comments:
Sample as received: Chlorine: 0.0 mg/l; pH: 7.5; Conductivity: 593 umho; Temp: 2.4°C;
DO: 8.9 mg/l; Alkalinity: 90 mg/l; Hardness: 125 mg/l; NH_3-N: 0.1 mg/l.
Sample aerated moderately (approx. 500 ml/min) to raise or lower DO? Yes / (No)
Control: Alkalinity: 66 mg/l; Hardness: 92 mg/l; Conductivity: 380 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 %

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: 440-3741.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: debby.wilson@testamericainc.com		Page: Page 1 of 1
Company: Aquatic Testing Laboratories		Analysis Requested		Job #: 440-8129-1
Address: 4350 Transport #107, ,	Due Date Requested: 4/24/2012			Preservation Codes:
City: Ventura	TAT Requested (days):			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)
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=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	SUBCONTRACT/ Acute FH minnow, EPA/821-R02-012	Total Number of Containers	Special Instructions/Note:
			# Preservation Code					
Outfall 018 (440-8129-1)	4/10/12	14:45 Pacific		Water		X		

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: 4-11-12 12:05	Company TL	Received by:	Date/Time: 4-11-12 12:05	Company TL
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: 2-4°

Aquatic
Testing
Laboratories

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:	J			J					J				
	°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:	J			J					J				
	°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: 92 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:					

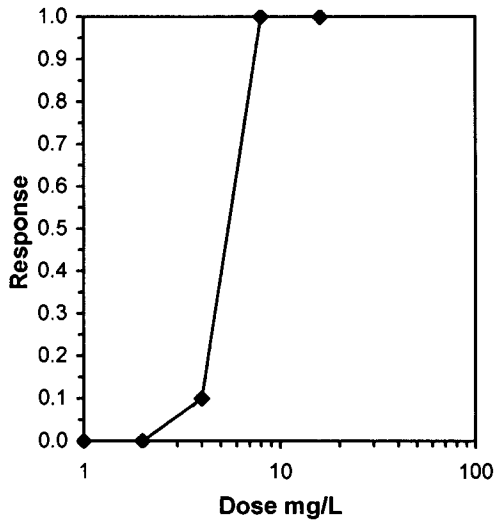
Conc-mg/L	1	2
D-Control	1.0000	1.0000
1	1.0000	1.0000
2	1.0000	1.0000
4	0.9000	0.9000
8	0.0000	0.0000
16	0.0000	0.0000

			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				

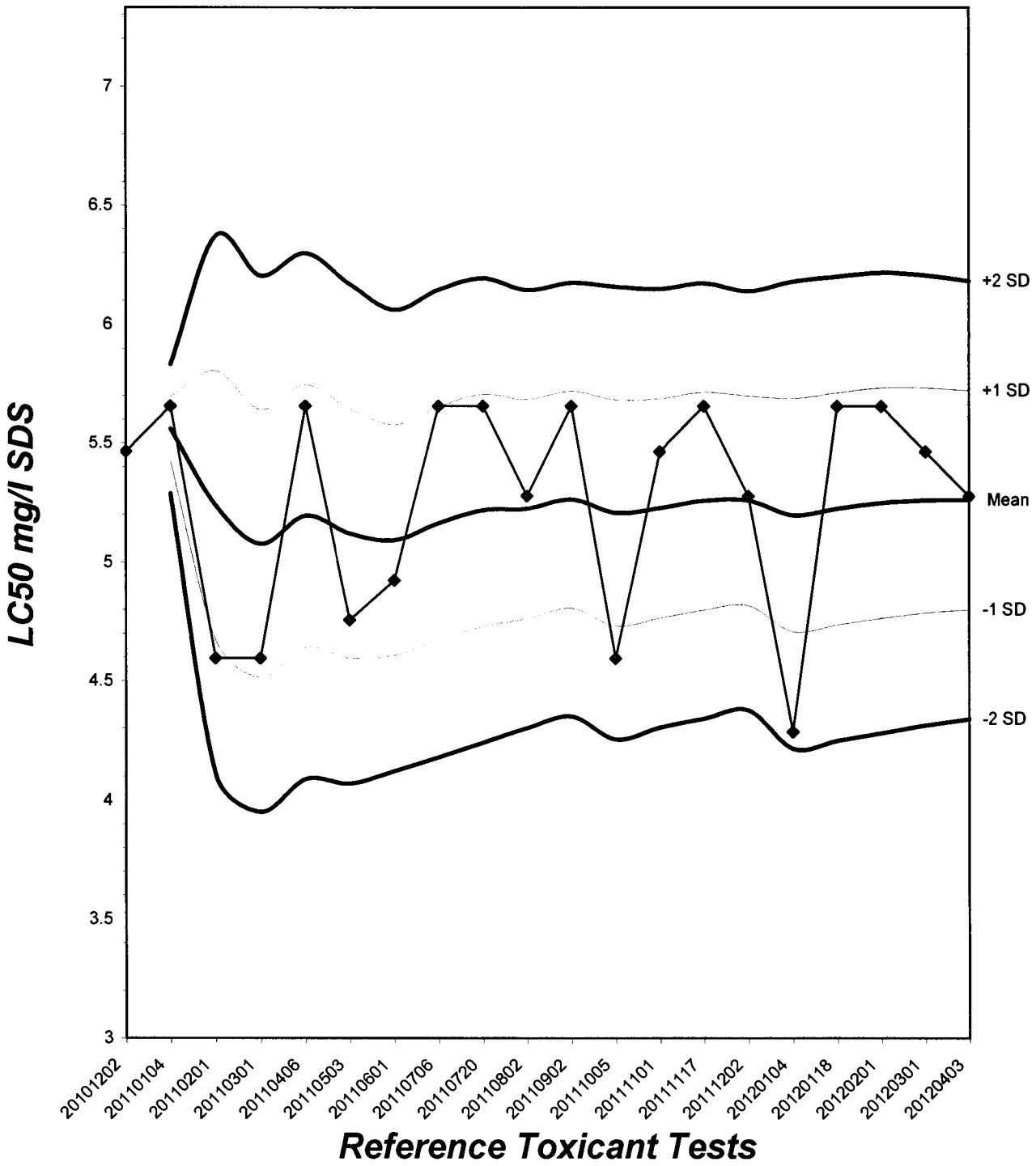
Trimmed Spearman-Karber

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: _____ **DATE:** 4-4-12

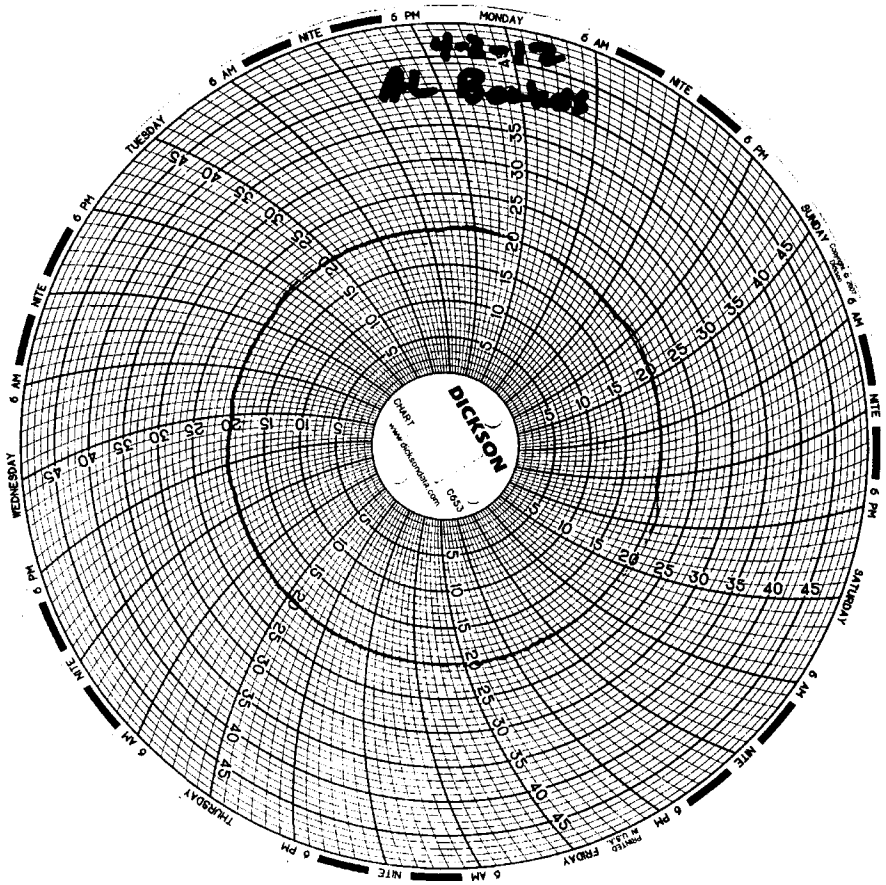
Aquatic
Testing
Laboratories

Test Temperature Chart

Test No: RT-120403

Date Tested: 04/03/12 to 04/07/06

Acceptable Range: 20+/- 1°C



APPENDIX G

Section 13

Outfall 018 – April 13, 2012

MECX Data Validation Report

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-8616-1

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:	440-8616-1
Project Manager:	B. Kelly
Matrix:	Water
QC Level:	IV
No. of Samples:	3
No. of Reanalyses/Dilutions:	0
Laboratory:	TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 018 Composite	440-8616-1	G2D170473-001, S204067-01	Water	4/13/2012 12:18:00 PM	1613B, 180.1, 200.7, 245.1, 314.0, 900. 901.1, 903.1, 904, 905, 906, ASTM D-5174
Outfall 018 Grab	440-8623-1	N/A	Water	4/13/2012 12:45:00 PM	120.1, 624
Trip Blanks	440-8623-2	N/A	Water	4/13/2012 12:45:00 PM	624

II. Sample Management

No anomalies were observed regarding sample management. Eberline did not note the temperature upon receipt; however, due to the nonvolatile nature of the analytes, no qualifications were required. The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. One cross-out on one of the COCs was not initialed or dated. Custody seals were intact upon receipt at Eberline and TestAmerica-West Sacramento. As the samples were delivered to TestAmerica-Irvine by courier, 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 22, 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 ≤20% for the 15 native compounds (calibration by isotope dilution) and ≤35% for the two native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the Method 1613 QC limits for all standards.

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

- Blanks: The method blank had detects reported above the EDL for all target compounds and totals except 2,3,7,8-TCDD, 1,2,3,7,8-PeCDD, total PeCDD, 2,3,7,8-TCDF, and total TCDF. Some 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. Sample results for the individual isomer blank contaminants were qualified

as nondetected "U," at the level of contamination. Total HpCDF and total HxCDF were qualified as estimated, "J," as only a portion of the total was considered method blank contamination. Totals HpCDD, HxCDD, PeCDF, and TCDD were qualified as nondetected, "U," as all peaks comprising the totals were also present in the method blank at comparable concentrations.

- 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 by recalculating any reportable sample concentrations. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J." Any detects reported between the 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.

  Results reported as EMPCs for 1,2,3,7,8-PeCDD and total PeCDD were qualified as estimated nondetects, "UJ." Totals for HpCDF and HxCDF containing one or more isomers originally reported as EMPCs were qualified as estimated, "J."

B. EPA METHODS 200.7 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, 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 the method-established control limits. There were no target compounds present in the ICSA solution at concentrations indicative of matrix interference.

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

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

- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

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

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

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

C. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks
Date Reviewed: 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: No laboratory duplicate analyses were performed on the sample in this SDG for all analytes.

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

- Sample Result Verification: An EPA Level IV review was performed for the sample in this data package. The sample results and MDAs reported on the sample result form were verified against the raw data and no calculation or transcription errors were noted. Any

detects between the MDA and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDA. Total uranium, normally reported in aqueous units, was converted to pCi/L using the conversion factor of 0.67 for naturally occurring uranium.

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

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

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

D. 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 was recovered within 75-125%.

- Blanks: Method blanks and CCBs had no detects.

- Blank Spikes and Laboratory Control Samples: The recovery was 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 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. 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.

E. EPA METHOD 624—Volatile Organic Compounds (VOCs)

Reviewed By: L. Calvin
Date Reviewed: May 23, 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 was 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 target compounds. The initial calibration %RSDs were ≤35%, or r^2 values ≥0.995, with the exception of the r^2 value for bromoform in the initial calibration associated with sample Trip Blanks. The nondetected result for bromoform was qualified as estimated, "UJ," in sample Trip Blanks. 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 Blanks 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.

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

- Holding Times: Analytical holding times, 28 days for conductivity and 48 hours for turbidity, were met.

- Calibration: Calibration criteria were met. Hexavalent chromium initial calibration r^2 values

were ≥0.995. The turbidity ICV was recovered at 80%; therefore, turbidity detected in the sample was qualified as estimated, "J." The remaining ICV and CCV recoveries were within 90-110%.

- Blanks: Method blanks and CCBs had no detects.

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.
- Laboratory Duplicates: A laboratory duplicate analysis was performed for turbidity. The RPD was within the laboratory-established 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 440-8616-1

Analysis Method 120.1

Sample Name Outfall 018 Grab **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8623-1 **Sample Date:** 4/13/2012 12:45:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Specific Conductance	STL00244	680	1.0	1.0	umhos/c			

Analysis Method 1613B

Sample Name Outfall 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8616-1 **Sample Date:** 4/13/2012 12:18:00 PM

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	0.000048	0.0000000	ug/L	J Q B	U	B
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.000048	0.0000000	ug/L	J Q B	U	B
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.000048	0.0000000	ug/L	J Q B	U	B
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.000048	0.0000000	ug/L	J Q B	U	B
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.000048	0.0000000	ug/L	J B	U	B
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.000048	0.0000000	ug/L	J Q B	U	B
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.000048	0.0000000	ug/L	J B	U	B
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.000048	0.0000000	ug/L	J B	U	B
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.000048	0.0000000	ug/L	J Q B	U	B
1,2,3,7,8-PeCDD	40321-76-4	ND	0.000048	0.0000001	ug/L	J Q	UJ	*III
1,2,3,7,8-PeCDF	57117-41-6	ND	0.000048	0.0000003	ug/L	J B	U	B
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.000048	0.0000000	ug/L	J Q B	U	B
2,3,4,7,8-PeCDF	57117-31-4	ND	0.000048	0.0000004	ug/L	J Q B	U	B
2,3,7,8-TCDD	1746-01-6	ND	0.0000096	0.0000004	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.0000096	0.0000019	ug/L		U	
2,3,7,8-TCDF	51207-31-9	0.000001	0.0000096	0.0000003	ug/L	J	R	D
OCDD	3268-87-9	ND	0.000096	0.0000000	ug/L	J B	U	B
OCDF	39001-02-0	ND	0.000096	0.0000001	ug/L	J B	U	B
Total HpCDD	37871-00-4	ND	0.000048	0.0000000	ug/L	J Q B	U	B
Total HpCDF	38998-75-3	0.000015	0.000048	0.0000000	ug/L	J Q B	J	B, DNQ, *III
Total HxCDD	34465-46-8	ND	0.000048	0.0000000	ug/L	J Q B	U	B
Total HxCDF	55684-94-1	0.000025	0.000048	0.0000000	ug/L	J Q B	J	B, DNQ, *III
Total PeCDD	36088-22-9	ND	0.000048	0.0000001	ug/L	J Q	UJ	*III
Total PeCDF	30402-15-4	ND	0.000048	0.0000004	ug/L	J Q B	U	B
Total TCDD	41903-57-5	ND	0.0000096	0.0000000	ug/L	J Q B	U	B
Total TCDF	55722-27-5	0.000001	0.0000096	0.0000003	ug/L	J	J	DNQ

Analysis Method 180.1

Sample Name Outfall 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8616-1 **Sample Date:** 4/13/2012 12:18:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Turbidity	STL00189	0.27	0.10	0.040	NTU		J	R

Analysis Method 200.7 Rev 4.4

Sample Name Outfall 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8616-1 **Sample Date:** 4/13/2012 12:18:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Iron	7439-89-6	ND	0.040	0.015	mg/L		U	
Iron, Dissolved	7439-89-6	ND	0.040	0.015	mg/L		U	
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 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8616-1 **Sample Date:** 4/13/2012 12:18:00 PM

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 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8616-1 **Sample Date:** 4/13/2012 12:18:00 PM

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 624

Sample Name Outfall 018 Grab **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8623-1 **Sample Date:** 4/13/2012 12:45:00 PM

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	
1,1,2,2-Tetrachloroethane	79-34-5	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	
1,2,3-Trichloropropane	96-18-4	ND	0.50	0.40	ug/L		U	
1,2-Dibromoethane (EDB)	106-93-4	ND	0.50	0.40	ug/L		U	
1,2-Dichlorobenzene	95-50-1	ND	0.50	0.32	ug/L		U	
1,2-Dichloroethane	107-06-2	ND	0.50	0.28	ug/L		U	
1,2-Dichloropropane	78-87-5	ND	0.50	0.35	ug/L		U	
1,3-Dichlorobenzene	541-73-1	ND	0.50	0.35	ug/L		U	
1,4-Dichlorobenzene	106-46-7	ND	0.50	0.37	ug/L		U	
Benzene	71-43-2	ND	0.50	0.28	ug/L		U	
Bromodichloromethane	75-27-4	ND	0.50	0.30	ug/L		U	
Bromoform	75-25-2	ND	0.50	0.40	ug/L		U	
Bromomethane	74-83-9	ND	0.50	0.42	ug/L		U	
Carbon tetrachloride	56-23-5	ND	0.50	0.28	ug/L		U	
Chlorobenzene	108-90-7	ND	0.50	0.36	ug/L		U	
Chloroethane	75-00-3	ND	0.50	0.40	ug/L		U	
Chloroform	67-66-3	ND	0.50	0.33	ug/L		U	
Chloromethane	74-87-3	ND	0.50	0.40	ug/L		U	
cis-1,2-Dichloroethene	156-59-2	ND	0.50	0.32	ug/L		U	
cis-1,3-Dichloropropene	10061-01-5	ND	0.50	0.22	ug/L		U	
Dibromochloromethane	124-48-1	ND	0.50	0.40	ug/L		U	
Diisopropyl ether	108-20-3	ND	0.50	0.25	ug/L		U	
Ethyl tert-butyl ether	637-92-3	ND	0.50	0.28	ug/L		U	
Ethylbenzene	100-41-4	ND	0.50	0.25	ug/L		U	
Methyl tert-butyl ether	1634-04-4	ND	0.50	0.32	ug/L		U	
Methylene Chloride	75-09-2	0.97	1.0	0.95	ug/L	J,DX	J	DNQ
Naphthalene	91-20-3	ND	0.50	0.41	ug/L		U	
Tert-amyl methyl ether	994-05-8	ND	0.50	0.33	ug/L		U	
tert-Butanol	75-65-0	ND	10	6.5	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	
trans-1,2-Dichloroethene	156-60-5	ND	0.50	0.30	ug/L		U	
trans-1,3-Dichloropropene	10061-02-6	ND	0.50	0.32	ug/L		U	

Analysis Method 624

Trichloroethene	79-01-6	ND	0.50	0.26	ug/L	**U**
Trichlorofluoromethane	75-69-4	ND	0.50	0.34	ug/L	**U**
Vinyl chloride	75-01-4	ND	0.50	0.40	ug/L	**U**
Xylenes, Total	1330-20-7	ND	1.0	0.90	ug/L	**U**

Analysis Method 624

Sample Name Trip Blanks **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8623-2 **Sample Date:** 4/13/2012 12:45:00 PM

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	
1,1,2,2-Tetrachloroethane	79-34-5	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	
1,2,3-Trichloropropane	96-18-4	ND	0.50	0.40	ug/L		U	
1,2-Dibromoethane (EDB)	106-93-4	ND	0.50	0.40	ug/L		U	
1,2-Dichlorobenzene	95-50-1	ND	0.50	0.32	ug/L		U	
1,2-Dichloroethane	107-06-2	ND	0.50	0.28	ug/L		U	
1,2-Dichloropropane	78-87-5	ND	0.50	0.35	ug/L		U	
1,3-Dichlorobenzene	541-73-1	ND	0.50	0.35	ug/L		U	
1,4-Dichlorobenzene	106-46-7	ND	0.50	0.37	ug/L		U	
Benzene	71-43-2	ND	0.50	0.28	ug/L		U	
Bromodichloromethane	75-27-4	ND	0.50	0.30	ug/L		U	
Bromoform	75-25-2	ND	0.50	0.40	ug/L		UJ	C
Bromomethane	74-83-9	ND	0.50	0.42	ug/L		U	
Carbon tetrachloride	56-23-5	ND	0.50	0.28	ug/L		U	
Chlorobenzene	108-90-7	ND	0.50	0.36	ug/L		U	
Chloroethane	75-00-3	ND	0.50	0.40	ug/L		U	
Chloroform	67-66-3	ND	0.50	0.33	ug/L		U	
Chloromethane	74-87-3	ND	0.50	0.40	ug/L		U	
cis-1,2-Dichloroethene	156-59-2	ND	0.50	0.32	ug/L		U	
cis-1,3-Dichloropropene	10061-01-5	ND	0.50	0.22	ug/L		U	
Dibromochloromethane	124-48-1	ND	0.50	0.40	ug/L		U	
Diisopropyl ether	108-20-3	ND	0.50	0.25	ug/L		U	
Ethyl tert-butyl ether	637-92-3	ND	0.50	0.28	ug/L		U	
Ethylbenzene	100-41-4	ND	0.50	0.25	ug/L		U	
Methyl tert-butyl ether	1634-04-4	ND	0.50	0.32	ug/L		U	
Methylene Chloride	75-09-2	ND	1.0	0.95	ug/L		U	
Naphthalene	91-20-3	ND	0.50	0.41	ug/L		U	
Tert-amyl methyl ether	994-05-8	ND	0.50	0.33	ug/L		U	
tert-Butanol	75-65-0	ND	10	6.5	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	
trans-1,2-Dichloroethene	156-60-5	ND	0.50	0.30	ug/L		U	
trans-1,3-Dichloropropene	10061-02-6	ND	0.50	0.32	ug/L		U	

Analysis Method 624

Trichloroethene	79-01-6	ND	0.50	0.26	ug/L		U
Trichlorofluoromethane	75-69-4	ND	0.50	0.34	ug/L		U
Vinyl chloride	75-01-4	ND	0.50	0.40	ug/L		U
Xylenes, Total	1330-20-7	ND	1.0	0.90	ug/L		U

Analysis Method Gamma Spec K-40 CS-137

Sample Name Outfall 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8616-1 **Sample Date:** 4/13/2012 12:18:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	-2.11	20	6.06	pCi/L	U	U	
Potassium-40	13966002	19	25	65.8	pCi/L	U	U	

Analysis Method Gross Alpha and Beta

Sample Name Outfall 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8616-1 **Sample Date:** 4/13/2012 12:18:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	-0.184	3	1.12	pCi/L	U	UJ	C
Gross Beta	12587472	3.3	4	1.58	pCi/L	J	J	DNQ

Analysis Method Radium 228

Sample Name Outfall 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8616-1 **Sample Date:** 4/13/2012 12:18:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	0.141	1	0.564	pCi/L	U	U	
Radium-228	15262201	0.034	1	0.394	pCi/L	U	U	

Analysis Method Strontium 90

Sample Name Outfall 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8616-1 **Sample Date:** 4/13/2012 12:18:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	0.061	2	0.781	pCi/L	U	U	

Analysis Method Tritium

Sample Name Outfall 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8616-1 **Sample Date:** 4/13/2012 12:18:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	32.2	500	152	pCi/L	U	U	

Analysis Method Uranium, Combined

Sample Name Outfall 018 Composite **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-8616-1 **Sample Date:** 4/13/2012 12:18:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total		0.022	1	0.018	pCi/L	J	J	DNQ