

TestAmerica Denver

Standards Preparation Logbook Record

Dec-19-2008

Logbook: \\Densvr06\StdsLog\metals.std

STD1683-08, 1000 mg/L Hg Calibration Stock Standard (Ultra)

Analyst: grisdalec

Vendor: Ultra Scientific (Metals) Lot No.: H00091 Vendor's Expiration Date: 05-01-2009
Solvent: 2% HN03
Date Prep./Opened: 04-03-2008 Date Received: 03-31-2008
Date Expires(1): 04-03-2009 (1 Year)
Date Expires(2): 05-01-2009 (None)
Date Verified: 12-31--4714 by 0 (Verification ID: -)

<u>Component</u>	<u>Initial Conc (%)</u>	<u>Final Conc (%)</u>
Mercuric Nitrate	100.00	100.00

STD2364-08, Hg Inorganic Ventures ICV 100ppm Std

Analyst: grisdalec

Vendor: Inorganic Ventures Lot No.: A2-HG02056 Vendor's Expiration Date: 06-01-2009
Solvent: 3.3%HCl
Date Prep./Opened: 05-01-2008 Date Received: 05-02-2007
Date Expires(1): 05-01-2009 (1 Year)
Date Expires(2): 06-01-2009 (None)
Date Verified: 12-31--4714 by 0 (Verification ID: -)

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Hg	100.00	100.00

STD6679-08, 10 mg/L Hg Calibration Std

Analyst: grisdalec

Solvent: 1% HN03 Lot No.: G02058 Volume (ml): 100.00
Date Prep./Opened: 11-26-2008
Date Expires(1): 12-26-2008 (1 Month)
Date Expires(2): 05-01-2009 (1 Month)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD1683-08, 1000 mg/L Hg Calibration Stock Standard (Ultra) Aliquot Amount (ml): 1.0000
Parent Date Expires(1): 04-03-2009 Parent Date Expires(2): 05-01-2009

<u>Component</u>	<u>Initial Conc (%)</u>	<u>Final Conc (mg/L)</u>
Mercuric Nitrate	100.00	10,000

STD6988-08, Hg Inorganic Ventures ICV 700ppb

Analyst: GRISDALEC

Solvent: 1% HNO3 Lot No.: G02058
 Date Prep./Opened: 12-09-2008
 Date Expires(1): 12-23-2008 (2 Weeks)
 Date Expires(2): 06-01-2009 (None)
 Date Verified: 12-31--4714 by - (Verification ID: 0)

Volume (ml): 100.00

Parent Std No.: STD2364-08, Hg Inorganic Ventures ICV 100ppm Std
 Parent Date Expires(1): 05-01-2009 Parent Date Expires(2): 06-01-2009

Aliquot Amount (ml): 0.7000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Hg	100.00	700.00

STD7209-08, 100 ppb Hg Calibration Std

Analyst: GRISDALEC

Solvent: 1% HN03 Lot No.: G17027
 Date Prep./Opened: 12-18-2008
 Date Expires(1): 12-19-2008 (1 Day)
 Date Expires(2): 05-01-2009 (None)
 Date Verified: 12-31--4714 by - (Verification ID: 0)

Volume (ml): 100.00

Parent Std No.: STD6679-08, 10 mg/L Hg Calibration Std
 Parent Date Expires(1): 12-26-2008 Parent Date Expires(2): 05-01-2009

Aliquot Amount (ml): 1.0000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/ml)</u>
Mercuric Nitrate	10,000	100.00

STD7210-08, Blank Daily Hg Calibration Std

Analyst: GRISDALEC

Vendor: Baker Lot No.: G17027
 Solvent: 1% HN03
 Date Prep./Opened: 12-18-2008
 Date Expires(1): 06-18-2009 (6 Months)
 Date Expires(2): 12-18-2009 (1 Year)
 Date Verified: 12-31--4714 by 0 (Verification ID: -)

<u>Component</u>	<u>Initial Conc (%)</u>	<u>Final Conc (%)</u>
Nitric Acid	1.0000	1.0000

STD7211-08, 0.2 ppb Daily Hg Calibration Std

Analyst: GRISDALEC

Solvent: 1% HN03 Lot No.: G17027
 Date Prep./Opened: 12-18-2008
 Date Expires(1): 12-19-2008 (1 Day)
 Date Expires(2): 05-01-2009 (None)
 Date Verified: 12-31--4714 by - (Verification ID: 0)

Volume (ml): 100.00

Parent Std No.: STD7209-08, 100 ppb Hg Calibration Std Aliquot Amount (ml): 0.2000
 Parent Date Expires(1): 12-19-2008 Parent Date Expires(2): 05-01-2009

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/ml)</u>
Mercuric Nitrate	100.00	0.2000

STD7212-08, 0.5 ppb Daily Hg Calibration Std Analyst: GRISDALEC
 Solvent: 1% HN03 Lot No.: G17027 Volume (ml): 100.00
 Date Prep./Opened: 12-18-2008
 Date Expires(1): 12-19-2008 (1 Day)
 Date Expires(2): 05-01-2009 (None)
 Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD7209-08, 100 ppb Hg Calibration Std Aliquot Amount (ml): 0.5000
 Parent Date Expires(1): 12-19-2008 Parent Date Expires(2): 05-01-2009

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/ml)</u>
Mercuric Nitrate	100.00	0.5000

STD7213-08, 1.0 ppb Daily Hg Calibration Std Analyst: GRISDALEC
 Solvent: 1% HN03 Lot No.: G17027 Volume (ml): 100.00
 Date Prep./Opened: 12-18-2008
 Date Expires(1): 12-19-2008 (1 Day)
 Date Expires(2): 05-01-2009 (None)
 Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD7209-08, 100 ppb Hg Calibration Std Aliquot Amount (ml): 1.0000
 Parent Date Expires(1): 12-19-2008 Parent Date Expires(2): 05-01-2009

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/ml)</u>
Mercuric Nitrate	100.00	1.0000

STD7214-08, 2.0 ppb Daily Hg Calibration Std Analyst: GRISDALEC
 Solvent: 1% HN03 Lot No.: G17027 Volume (ml): 100.00
 Date Prep./Opened: 12-18-2008
 Date Expires(1): 12-19-2008 (1 Day)
 Date Expires(2): 05-01-2009 (None)
 Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD7209-08, 100 ppb Hg Calibration Std Aliquot Amount (ml): 2.0000
 Parent Date Expires(1): 12-19-2008 Parent Date Expires(2): 05-01-2009

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/ml)</u>
Mercuric Nitrate	100.00	2.0000

STD7215-08, 5.0 ppb Daily Hg Calibration Std

Analyst: GRISDALEC

Solvent: 1% HN03 Lot No.: G17027
Date Prep./Opened: 12-18-2008
Date Expires(1): 12-19-2008 (1 Day)
Date Expires(2): 05-01-2009 (None)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Volume (ml): 100.00

Parent Std No.: STD7209-08, 100 ppb Hg Calibration Std
Parent Date Expires(1): 12-19-2008 Parent Date Expires(2): 05-01-2009

Aliquot Amount (ml): 5.0000

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/ml)</u>
Mercuric Nitrate	100.00	5.0000

STD7216-08, 10.0 ppb Daily Hg Calibration Std

Analyst: GRISDALEC

Solvent: 1% HN03 Lot No.: G17027
Date Prep./Opened: 12-18-2008
Date Expires(1): 12-19-2008 (1 Day)
Date Expires(2): 05-01-2009 (None)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Volume (ml): 100.00
Date Consumed: 12-06-2006

Parent Std No.: STD7209-08, 100 ppb Hg Calibration Std
Parent Date Expires(1): 12-19-2008 Parent Date Expires(2): 05-01-2009

Aliquot Amount (ml): 10.000

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/ml)</u>
Mercuric Nitrate	100.00	10.000

STD7217-08, Hg Daily ICV 7ppb Calibration Std

Analyst: GRISDALEC

Solvent: 1% HNO3 Lot No.: G17027
Date Prep./Opened: 12-18-2008
Date Expires(1): 12-19-2008 (1 Day)
Date Expires(2): 06-01-2009 (None)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Volume (ml): 100.00

Parent Std No.: STD6988-08, Hg Inorganic Ventures ICV 700ppb
Parent Date Expires(1): 12-23-2008 Parent Date Expires(2): 06-01-2009

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (ug/L)</u>	<u>Final Conc (ug/L)</u>
Hg	700.00	3.5000

Reviewed By: Christopher Grisdale 12/19/08

Denver

RUN SUMMARY

Method: CVHG - Mercury (Cold Vapor Mercury)

Instrument: A (023)

Reported: 12/19/08 15:05:58

Sequence: 081218AB

Date: 12/18/08 20:29

Analyst: cgg

ICV: _____

CALCCV: _____

#	Sample ID	Lot No.	Batch	Matrix	Raw	DF	Result	Units	%R	Analyzed Date	Comment	Q
1	Cal Blank				0.00	1.0	0.00	ppb		12/18/08 20:29		
2	Std1	= 0.200			0.20	1.0	0.20	ppb	100.0%	12/18/08 20:32		
3	Std2	= 0.500			0.50	1.0	0.50	ppb	100.0%	12/18/08 20:34		
4	Std3	= 1.00			1.00	1.0	1.00	ppb	100.0%	12/18/08 20:36		
5	Std4	= 2.00			2.00	1.0	2.00	ppb	100.0%	12/18/08 20:38		
6	Std5	= 5.00			5.00	1.0	5.00	ppb	100.0%	12/18/08 20:41		
7	Std6	= 10.0			10.00	1.0	10.00	ppb	100.0%	12/18/08 20:43		
8	ICB				-0.03	1.0	-0.03	ppb		12/18/08 20:46		
9	ICV	= 7.00			6.73	1.0	6.73	ppb	96.2%	12/18/08 20:48		
10	RL	= 0.200			0.17	1.0	0.17	ppb		12/18/08 20:50		
11	CCV	= 5.00			5.03	1.0	5.03	ppb	100.7%	12/18/08 20:52		
12	CCB				-0.02	1.0	-0.02	ppb		12/18/08 20:55		
13	K40M2B	D8L180000	8353477		-0.02	1.0	-0.02	ppb		12/18/08 20:57		
14	K40M2C	D8L180000 = 5.00	8353477		4.90	1.0	4.90	ppb	98.0%	12/18/08 20:59		
15	K4R90	D8L160241-1	8353477	AQUEOUS	-0.02	1.0	-0.02	ppb		12/18/08 21:02		
16	K4R90S	D8L160241-1 = 5.00	8353477	AQUEOUS	4.67	1.0	4.67	ppb		12/18/08 21:04		
17	K4R90D	D8L160241-1 = 5.00	8353477	AQUEOUS	4.66	1.0	4.66	ppb		12/18/08 21:06		
18	K4W0V	D8L170345-3	8353477	AQUEOUS	0.17	1.0	0.17	ppb		12/18/08 21:08		
19	K4VR8	D8L170199-1	8353477	AQUEOUS	0.01	1.0	0.01	ppb		12/18/08 21:11		
20	K40NCB	D8L180000	8353495		-0.02	1.0	-0.02	ppb		12/18/08 21:13		
21	K40NQC	D8L180000 = 5.00	8353495		4.59	1.0	4.59	ppb	91.8%	12/18/08 21:15		
22	K4VTJ	D8L170200-1	8353495	AQUEOUS	-0.01	1.0	-0.01	ppb		12/18/08 21:18		
23	CCV	= 5.00			4.76	1.0	4.76	ppb	95.3%	12/18/08 21:20		
24	CCB				-0.02	1.0	-0.02	ppb		12/18/08 21:22		
25	K4VTJS	D8L170200-1 = 5.00	8353495	AQUEOUS	4.24	1.0	4.24	ppb		12/18/08 21:25		
26	K4VTJD	D8L170200-1 = 5.00	8353495	AQUEOUS	4.64	1.0	4.64	ppb		12/18/08 21:27		
27	K4VTJG	D8L170200-1 = 5.00	8353495	AQUEOUS	4.96	1.0	4.96	ppb		12/18/08 21:29	NA verifies above	
28	K4VTJD	D8L170200-1 = 5.00	8353495	AQUEOUS	3.80	1.0	3.80	ppb		12/18/08 21:32		
29	K4VW3	D8L170208-1	8353495	AQUEOUS	0.07	1.0	0.07	ppb		12/18/08 21:34		
30	K4VXA	D8L170212-1	8353495	AQUEOUS	0.00	1.0	0.00	ppb		12/18/08 21:36		
31	K4V1A	D8L170218-1	8353495	AQUEOUS	-0.01	1.0	-0.01	ppb		12/18/08 21:38		
32	K4V63	D8L170248-1	8353495	AQUEOUS	0.01	1.0	0.01	ppb		12/18/08 21:41		
33	K4V7T	D8L170253-1	8353495	AQUEOUS	0.01	1.0	0.01	ppb		12/18/08 21:43		
34	K40QJBF	D8L180000	8353517		-0.02	1.0	-0.02	ppb		12/18/08 21:45		

NA verifies above

CS 12/19/08

105 12/19/08

Denver

RUN SUMMARY

Method: CVHG - Mercury (Cold Vapor Mercury)

Instrument: A (023)

Reported: 12/19/08 13:05:58

Sequence: 081218AB

Date: 12/18/08 20:29

Analyst: cgg

ICV: _____

CAL/CCV: _____

#	Sample ID	Lot No.	Batch	Matrix	Raw	DF	Result	Units	%R	Analyzed Date	Comment	Q
35	CCV	= 5.00			5.07	1.0	5.07	ppb	101.4%	12/18/08 21:48		<input type="checkbox"/>
36	CCB				-0.01	1.0	-0.01	ppb		12/18/08 21:50		<input type="checkbox"/>
37	K40QJCF	D8L180000 = 5.00	8353517		4.63	1.0	4.63	ppb	92.6%	12/18/08 21:52		<input type="checkbox"/>
38	K4VTJF	D8L170200-1	8353517	AQUEOUS	-0.02	1.0	-0.02	ppb		12/18/08 21:55		<input type="checkbox"/>
39	K4VTJSF	D8L170200-1 = 5.00	8353517	AQUEOUS	4.80	1.0	4.80	ppb		12/18/08 21:57		<input type="checkbox"/>
40	K4VTJDF	D8L170200-1 = 5.00	8353517	AQUEOUS	4.37	1.0	4.37	ppb		12/18/08 21:59		<input type="checkbox"/>
41	K4VTJSF	D8L170200-1 = 5.00	8353517	AQUEOUS	5.01	1.0	5.01	ppb		12/18/08 22:02		<input type="checkbox"/>
42	K4VTJDF	D8L170200-1 = 5.00	8353517	AQUEOUS	3.79	1.0	3.79	ppb		12/18/08 22:04		<input type="checkbox"/>
43	K4VW3F	D8L170208-1	8353517	AQUEOUS	-0.01	1.0	-0.01	ppb		12/18/08 22:06		<input type="checkbox"/>
44	K4VXAF	D8L170212-1	8353517	AQUEOUS	-0.01	1.0	-0.01	ppb		12/18/08 22:09		<input type="checkbox"/>
45	K4V1AF	D8L170218-1	8353517	AQUEOUS	-0.01	1.0	-0.01	ppb		12/18/08 22:11		<input type="checkbox"/>
46	K4V63F	D8L170248-1	8353517	AQUEOUS	-0.01	1.0	-0.01	ppb		12/18/08 22:13		<input type="checkbox"/>
47	CCV	= 5.00			5.14	1.0	5.14	ppb	102.9%	12/18/08 22:15		<input type="checkbox"/>
48	CCB				-0.01	1.0	-0.01	ppb		12/18/08 22:18		<input type="checkbox"/>
49	K4V7TF	D8L170253-1	8353517	AQUEOUS	-0.01	1.0	-0.01	ppb		12/18/08 22:20		<input type="checkbox"/>
50	K40QWBF	D8L180000	8353519		-0.02	1.0	-0.02	ppb		12/18/08 22:22		<input type="checkbox"/>
51	K40QWCF	D8L180000 = 5.00	8353519		4.91	1.0	4.91	ppb	98.3%	12/18/08 22:25		<input type="checkbox"/>
52	K35NQF	D8L050176-2	8353519	AQUEOUS	0.10	1.0	0.10	ppb		12/18/08 22:27		<input type="checkbox"/>
53	K35NQS F	D8L050176-2 = 5.00	8353519	AQUEOUS	4.89	1.0	4.89	ppb		12/18/08 22:29		<input type="checkbox"/>
54	K35NQDF	D8L050176-2 = 5.00	8353519	AQUEOUS	4.92	1.0	4.92	ppb		12/18/08 22:32		<input type="checkbox"/>
55	K4P1JBF	D8L150000	8350288		-0.02	1.0	-0.02	ppb		12/18/08 22:34		<input type="checkbox"/>
56	K4P1JCF	D8L150000 = 5.00	8350288		4.84	1.0	4.84	ppb	96.7%	12/18/08 22:36		<input type="checkbox"/>
57	K38MGF	D8L060214-1	8350288	AQUEOUS	-0.02	1.0	-0.02	ppb		12/18/08 22:39		<input type="checkbox"/>
58	K38MGPF	D8L060214	8350288	AQUEOUS	-0.02	5.0	-0.02	ppb		12/18/08 22:41		<input type="checkbox"/>
59	CCV	= 5.00			4.96	1.0	4.96	ppb	99.1%	12/18/08 22:43		<input type="checkbox"/>
60	CCB				-0.01	1.0	-0.01	ppb		12/18/08 22:45		<input type="checkbox"/>
61	K38MGSF	D8L060214-1 = 5.00	8350288	AQUEOUS	4.60	1.0	4.60	ppb		12/18/08 22:48		<input type="checkbox"/>
62	K38MGDF	D8L060214-1 = 5.00	8350288	AQUEOUS	4.83	1.0	4.83	ppb		12/18/08 22:50		<input type="checkbox"/>
63	K38M1F	D8L060214-2	8350288	AQUEOUS	-0.02	1.0	-0.02	ppb		12/18/08 22:52		<input type="checkbox"/>
64	K38M8F	D8L060214-3	8350288	AQUEOUS	-0.02	1.0	-0.02	ppb		12/18/08 22:55		<input type="checkbox"/>
65	K38NH F	D8L060214-4	8350288	AQUEOUS	-0.02	1.0	-0.02	ppb		12/18/08 22:57		<input type="checkbox"/>
66	K4FPNF	D8L100299-1	8350288	AQUEOUS	-0.02	1.0	-0.02	ppb		12/18/08 22:59		<input type="checkbox"/>
67	K4FPNSF	D8L100299-1 = 5.00	8350288	AQUEOUS	3.83	1.0	3.83	ppb		12/18/08 23:02		<input type="checkbox"/>
68	K4FPNDF	D8L100299-1 = 5.00	8350288	AQUEOUS	3.99	1.0	3.99	ppb		12/18/08 23:04		<input type="checkbox"/>

N/A Verifies above

12/19/08

105 12/19/08

Denver

RUN SUMMARY

Method: CVHG - Mercury (Cold Vapor Mercury)

Instrument: A (023)

Reported: 12/19/08 13:05:58

Sequence: 081218AB

Date: 12/18/08 20:29

Analyst: cgg

ICV: _____

CAL/CCV: _____

#	Sample ID	Lot No.	Batch	Matrix	Raw	DF	Result	Units	%R	Analyzed Date	Comment	Q
69	K4FPRF	D8L100299-2	8350288	AQUEOUS	-0.02	1.0	-0.02	ppb		12/18/08 23:06		<input type="checkbox"/>
70	K4FPVF	D8L100299-4	8350288	AQUEOUS	-0.01	1.0	-0.01	ppb		12/18/08 23:09		<input type="checkbox"/>
71	CCV	= 5.00			5.04	1.0	5.04	ppb	100.8%	12/18/08 23:11		<input type="checkbox"/>
72	CCB				-0.01	1.0	-0.01	ppb		12/18/08 23:13		<input type="checkbox"/>
73	K4FPXF	D8L100299-5	8350288	AQUEOUS	-0.01	1.0	-0.01	ppb		12/18/08 23:16		<input type="checkbox"/>
74	K4FP1F	D8L100299-6	8350288	AQUEOUS	-0.02	1.0	-0.02	ppb		12/18/08 23:18		<input type="checkbox"/>
75	K4FP2F	D8L100299-7	8350288	AQUEOUS	-0.02	1.0	-0.02	ppb		12/18/08 23:20		<input type="checkbox"/>
76	K4FP4F	D8L100299-8	8350288	AQUEOUS	-0.02	1.0	-0.02	ppb		12/18/08 23:22		<input type="checkbox"/>
77	K4FP6F	D8L100299-9	8350288	AQUEOUS	-0.02	1.0	-0.02	ppb		12/18/08 23:25		<input type="checkbox"/>
78	K40PLB	D8L180000	8353504		-0.02	1.0	-0.02	ppb		12/18/08 23:27		<input type="checkbox"/>
79	K40PLC	D8L180000 = 5.00	8353504		4.90	1.0	4.90	ppb	98.0%	12/18/08 23:29		<input type="checkbox"/>
80	K4VLJ	D8L170174-1	8353504	AQUEOUS	-0.02	1.0	-0.02	ppb		12/18/08 23:32		<input type="checkbox"/>
81	K4VLS	D8L170174-1 = 5.00	8353504	AQUEOUS	4.84	1.0	4.84	ppb		12/18/08 23:34		<input type="checkbox"/>
82	K4VLJD	D8L170174-1 = 5.00	8353504	AQUEOUS	4.78	1.0	4.78	ppb		12/18/08 23:36		<input type="checkbox"/>
83	CCV	= 5.00			5.06	1.0	5.06	ppb	101.1%	12/18/08 23:39		<input type="checkbox"/>
84	CCB				-0.02	1.0	-0.02	ppb		12/18/08 23:41		<input type="checkbox"/>
85	K4VL1	D8L170174-2	8353504	AQUEOUS	-0.02	1.0	-0.02	ppb		12/18/08 23:43		<input type="checkbox"/>
86	K4VL2	D8L170174-3	8353504	AQUEOUS	-0.01	1.0	-0.01	ppb		12/18/08 23:46		<input type="checkbox"/>
87	K4VL4	D8L170174-4	8353504	AQUEOUS	-0.02	1.0	-0.02	ppb		12/18/08 23:48		<input type="checkbox"/>
88	K4VL8	D8L170174-5	8353504	AQUEOUS	-0.02	1.0	-0.02	ppb		12/18/08 23:50		<input type="checkbox"/>
89	K4VMA	D8L170174-6	8353504	AQUEOUS	-0.02	1.0	-0.02	ppb		12/18/08 23:53		<input type="checkbox"/>
90	K4VMC	D8L170174-7	8353504	AQUEOUS	-0.00	1.0	-0.00	ppb		12/18/08 23:55		<input type="checkbox"/>
91	K4VMD	D8L170174-8	8353504	AQUEOUS	-0.02	1.0	-0.02	ppb		12/18/08 23:57		<input type="checkbox"/>
92	K4VMF	D8L170174-9	8353504	AQUEOUS	-0.02	1.0	-0.02	ppb		12/19/08 00:00		<input type="checkbox"/>
93	K4VMG	D8L170174-10	8353504	AQUEOUS	-0.01	1.0	-0.01	ppb		12/19/08 00:02		<input type="checkbox"/>
94	K4VMH	D8L170174-11	8353504	AQUEOUS	-0.02	1.0	-0.02	ppb		12/19/08 00:04		<input type="checkbox"/>
95	CCV	= 5.00			5.08	1.0	5.08	ppb	101.6%	12/19/08 00:07		<input type="checkbox"/>
96	CCB				-0.01	1.0	-0.01	ppb		12/19/08 00:09		<input type="checkbox"/>
97	K4VMJ	D8L170174-12	8353504	AQUEOUS	-0.01	1.0	-0.01	ppb		12/19/08 00:11		<input type="checkbox"/>
98	K4VMK	D8L170174-13	8353504	AQUEOUS	-0.02	1.0	-0.02	ppb		12/19/08 00:14		<input type="checkbox"/>
99	K4XW7	D8L180170-1	8353504	AQUEOUS	-0.01	1.0	-0.01	ppb		12/19/08 00:16		<input type="checkbox"/>
100	K40P1B	D8L180000	8353506		-0.01	1.0	-0.01	ppb		12/19/08 00:18		<input type="checkbox"/>
101	K40P1C	D8L180000 = 5.00	8353506		4.83	1.0	4.83	ppb	96.6%	12/19/08 00:21		<input type="checkbox"/>
102	K4XMQ	D8L180146-1	8353506	AQUEOUS	-0.01	1.0	-0.01	ppb		12/19/08 00:23		<input type="checkbox"/>

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Denver

RUN SUMMARY

Method: CVHG - Mercury (Cold Vapor Mercury)

Instrument: A (023)

Reported: 12/19/08 13:05:58

Sequence: 081218AB Date: 12/18/08 20:29

Analyst: cgg

ICV:

CAL/CCV:

#	Sample ID	Lot No.	Batch	Matrix	Raw	DF	Result	Units	%R	Analyzed Date	Comment
103	K4XNH	D8L180146-2	8353506	AQUEOUS	-0.01	1.0	-0.01	ppb		12/19/08 00:25	
104	K4XNK	D8L180146-3	8353506	AQUEOUS	-0.01	1.0	-0.01	ppb		12/19/08 00:28	
105	K4XNL	D8L180146-4	8353506	AQUEOUS	-0.01	1.0	-0.01	ppb		12/19/08 00:30	
106	K4XPD	D8L180154-1	8353506	AQUEOUS	-0.01	1.0	-0.01	ppb		12/19/08 00:32	
107	CCV	= 5.00			4.92	1.0	4.92	ppb	98.5%	12/19/08 00:35	
108	CCB				-0.01	1.0	-0.01	ppb		12/19/08 00:37	
109	K4XQG	D8L180154-2	8353506	AQUEOUS	-0.01	1.0	-0.01	ppb		12/19/08 00:39	
110	K4XQJ	D8L180154-3	8353506	AQUEOUS	-0.01	1.0	-0.01	ppb		12/19/08 00:42	
111	K4XQM	D8L180154-4	8353506	AQUEOUS	-0.01	1.0	-0.01	ppb		12/19/08 00:44	
112	K4XQP	D8L180154-5	8353506	AQUEOUS	0.64	1.0	0.64	ppb		12/19/08 00:46	
113	K4XQT	D8L180154-6	8353506	AQUEOUS	-0.01	1.0	-0.01	ppb		12/19/08 00:49	
114	K4XQV	D8L180154-7	8353506	AQUEOUS	-0.01	1.0	-0.01	ppb		12/19/08 00:51	
115	K4XQD	D8L180155-1	8353506	AQUEOUS	-0.01	1.0	-0.01	ppb		12/19/08 00:53	
116	K4TKT	D8L160277-3	8353506	AQUEOUS	-0.01	1.0	-0.01	ppb		12/19/08 00:56	
117	K4TKS	D8L160277-3 = 5.00	8353506	AQUEOUS	4.50	1.0	4.50	ppb		12/19/08 00:58	
118	K4TKTD	D8L160277-3 = 5.00	8353506	AQUEOUS	3.86	1.0	3.86	ppb		12/19/08 01:00	
119	CCV	= 5.00			4.55	1.0	4.55	ppb	91.1%	12/19/08 01:03	
120	CCB				-0.02	1.0	-0.02	ppb		12/19/08 01:05	
121	K4TKW	D8L160277-4	8353506	AQUEOUS	-0.01	1.0	-0.01	ppb		12/19/08 01:07	
122	K4TKO	D8L160277-5	8353506	AQUEOUS	-0.01	1.0	-0.01	ppb		12/19/08 01:10	
123	K4P07B	D8L150000	8350284		-0.02	1.0	-0.02	ppb		12/19/08 01:12	
124	K4P07C	D8L150000 = 5.00	8350284		4.59	1.0	4.59	ppb	91.8%	12/19/08 01:14	
125	K39HD	D8L080144-1	8350284	AQUEOUS	-0.00	1.0	-0.00	ppb		12/19/08 01:17	
126	K39HDP5	D8L080144	8350284	AQUEOUS	-0.01	5.0	-0.01	ppb		12/19/08 01:19	
127	K39HDS	D8L080144-1 = 5.00	8350284	AQUEOUS	4.66	1.0	4.66	ppb		12/19/08 01:21	
128	K39HDD	D8L080144-1 = 5.00	8350284	AQUEOUS	4.55	1.0	4.55	ppb		12/19/08 01:24	
129	K39HO	D8L080144-2	8350284	AQUEOUS	0.00	1.0	0.00	ppb		12/19/08 01:26	
130	K39JG	D8L080147-4	8350284	AQUEOUS	-0.00	1.0	-0.00	ppb		12/19/08 01:28	
131	CCV	= 5.00			4.93	1.0	4.93	ppb	98.6%	12/19/08 01:31	
132	CCB				-0.02	1.0	-0.02	ppb		12/19/08 01:33	
133	K4C8Q	D8L090241-14	8350284	AQUEOUS	-0.01	1.0	-0.01	ppb		12/19/08 01:35	
134	K4C8QS	D8L090241-14 = 5.00	8350284	AQUEOUS	5.01	1.0	5.01	ppb		12/19/08 01:38	
135	K4C8QD	D8L090241-14 = 5.00	8350284	AQUEOUS	4.94	1.0	4.94	ppb		12/19/08 01:40	
136	K4C8W	D8L090241-15	8350284	AQUEOUS	-0.01	1.0	-0.01	ppb		12/19/08 01:42	

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Denver

RUN SUMMARY

Method: CVHG - Mercury (Cold Vapor Mercury)

Instrument: A (023)

Reported: 12/19/08 13:05:58

Sequence: 081218AB Date: 12/18/08 20:29

Analyst: cgg

ICV:

CAL/CCV:

#	Sample ID	Lot No.	Batch	Matrix	Raw	DF	Result	Units	%R	Analyzed Date	Comment
137	K4C8X	D8L090241-16	8350284	AQUEOUS	-0.01	1.0	-0.01	ppb		12/19/08 01:45	
138	K4C8XS	D8L090241-16 = 5.00	8350284	AQUEOUS	3.94	1.0	3.94	ppb		12/19/08 01:47	
139	K4C8XD	D8L090241-16 = 5.00	8350284	AQUEOUS	4.54	1.0	4.54	ppb		12/19/08 01:49	
140	K4J1W	D8L110319-1	8350284	AQUEOUS	-0.01	1.0	-0.01	ppb		12/19/08 01:52	
141	K4J1WS	D8L110319-1 = 5.00	8350284	AQUEOUS	4.80	1.0	4.80	ppb		12/19/08 01:54	
142	K4J1WD	D8L110319-1 = 5.00	8350284	AQUEOUS	4.93	1.0	4.93	ppb		12/19/08 01:56	
143	CCV	= 5.00			4.61	1.0	4.61	ppb	92.2%	12/19/08 01:59	
144	CCB				-0.02	1.0	-0.02	ppb		12/19/08 02:01	
145	K4J1K2	D8L110319-4	8350284	AQUEOUS	-0.01	1.0	-0.01	ppb		12/19/08 02:03	
146	K4J1D	D8L110319-5	8350284	AQUEOUS	0.01	1.0	0.01	ppb		12/19/08 02:06	
147	K4J1J	D8L110319-6	8350284	AQUEOUS	-0.01	1.0	-0.01	ppb		12/19/08 02:08	
148	K4P1AB	D8L150000	8350285		-0.02	1.0	-0.02	ppb		12/19/08 02:10	
149	K4P1AC	D8L150000 = 5.00	8350285		4.63	1.0	4.63	ppb	92.7%	12/19/08 02:13	
150	K39K1C	D8L080142-16	8350285	AQUEOUS	-0.02	1.0	-0.02	ppb		12/19/08 02:15	
151	K39K1CP5	D8L080142	8350285	AQUEOUS	-0.02	5.0	-0.02	ppb		12/19/08 02:17	
152	K39K1CS	D8L080142-16 = 5.00	8350285	AQUEOUS	4.89	1.0	4.89	ppb		12/19/08 02:20	
153	K39K1CD	D8L080142-16 = 5.00	8350285	AQUEOUS	4.39	1.0	4.39	ppb		12/19/08 02:22	
154	K39K8	D8L080148-15	8350285	AQUEOUS	0.01	1.0	0.01	ppb		12/19/08 02:25	
155	CCV	= 5.00			4.86	1.0	4.86	ppb	97.1%	12/19/08 02:27	
156	CCB				-0.02	1.0	-0.02	ppb		12/19/08 02:29	
157	K39LA	D8L080148-16	8350285	AQUEOUS	0.96	1.0	0.96	ppb		12/19/08 02:32	
158	K40NB8	D8L180000	8353498		-0.02	1.0	-0.02	ppb		12/19/08 02:34	
159	K40NB8C	D8L180000 = 5.00	8353498		4.55	1.0	4.55	ppb	91.1%	12/19/08 02:36	
160	K4HAV	D8L110194-6	8353498	AQUEOUS	0.00	1.0	0.00	ppb		12/19/08 02:39	
161	K4HA8	D8L110194-7	8353498	AQUEOUS	-0.02	1.0	-0.02	ppb		12/19/08 02:41	
162	K4P1K	D8L150120-1	8353498	AQUEOUS	124.00	1.0	124.00	ppb		12/19/08 02:45	NA sample 7LR
163	K4P1KS	D8L150120-1 = 5.00	8353498	AQUEOUS	129.10	1.0	129.10	ppb		12/19/08 02:55	see 100x dil.
164	K4P1KD	D8L150120-1 = 5.00	8353498	AQUEOUS	122.45	1.0	122.45	ppb		12/19/08 03:04	see 100x dil.
165	K4P1L	D8L150120-2	8353498	AQUEOUS	57.20	1.0	57.20	ppb		12/19/08 03:11	NA sample 7LR
166	K4P1M	D8L150120-3	8353498	AQUEOUS	3.90	1.0	3.90	ppb		12/19/08 03:16	see 10x dil.
167	CCV	= 5.00			4.51	1.0	4.51	ppb	90.1%	12/19/08 03:18	see 10x dil.
168	CCB				-0.07	1.0	-0.07	ppb		12/19/08 03:21	
169	K4P1N	D8L150120-4	8353498	AQUEOUS	6.53	1.0	6.53	ppb		12/19/08 03:23	
170	K4P1P	D8L150120-5	8353498	AQUEOUS	3.13	1.0	3.13	ppb		12/19/08 03:25	

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Denver

RUN SUMMARY

Method: CVHG - Mercury (Cold Vapor Mercury)

Instrument: A (023)

Reported: 12/19/08 13:05:58

Sequence: 081218AB Date: 12/18/08 20:29

Analyst: cgg

ICV: _____

CAL/CCV: _____

#	Sample ID	Lot No.	Batch	Matrix	Raw	DF	Result	Units	%R	Analyzed Date	Comment	Q
171	KAP1Q	D8L150120-6	8353498	AQUEOUS	4.09	1.0	4.09	ppb		12/19/08 03:28		<input type="checkbox"/>
172	KAP1R	D8L150120-7	8353498	AQUEOUS	0.39	1.0	0.39	ppb		12/19/08 03:30		<input type="checkbox"/>
173	KAP1T	D8L150120-8	8353498	AQUEOUS	0.99	1.0	0.99	ppb		12/19/08 03:33		<input type="checkbox"/>
174	CCV	= 5.00			4.87	1.0	4.87	ppb	97.3%	12/19/08 03:35		<input type="checkbox"/>
175	CCB				-0.12	1.0	-0.12	ppb		12/19/08 03:37		<input type="checkbox"/>
176	KAP1E	D8L160155-1	8353498	AQUEOUS	0.09	1.0	0.09	ppb		12/19/08 03:40		<input type="checkbox"/>
177	KAVQV	D8L170192-1	8353498	AQUEOUS	-0.08	1.0	-0.08	ppb		12/19/08 03:42		<input type="checkbox"/>
178	KAVQW	D8L170192-2	8353498	AQUEOUS	0.35	1.0	0.35	ppb		12/19/08 03:44		<input type="checkbox"/>
179	KAVQ0	D8L170192-3	8353498	AQUEOUS	-0.05	1.0	-0.05	ppb		12/19/08 03:47		<input type="checkbox"/>
180	KAVQ1	D8L170192-4	8353498	AQUEOUS	-0.07	1.0	-0.07	ppb		12/19/08 03:49		<input type="checkbox"/>
181	KAVQ2	D8L170192-5	8353498	AQUEOUS	-0.06	1.0	-0.06	ppb		12/19/08 03:51		<input type="checkbox"/>
182	CCV	= 5.00			4.73	1.0	4.73	ppb	94.7%	12/19/08 03:54		<input type="checkbox"/>
183	CCB				-0.10	1.0	-0.10	ppb		12/19/08 03:56		<input type="checkbox"/>
184	CCV	= 5.00			5.07	1.0	5.07	ppb	101.3%	12/19/08 08:46		<input type="checkbox"/>
185	CCB				-0.13	1.0	-0.13	ppb		12/19/08 08:48		<input type="checkbox"/>
186	KAP1K 100X	D8L150120-1	8353498	AQUEOUS	6.81	100	681.10	ppb		12/19/08 08:51		<input type="checkbox"/>
187	KAP1KS 100X	D8L150120-1 = 5.00	8353498	AQUEOUS	6.46	100	645.70	ppb		12/19/08 08:55		<input type="checkbox"/>
188	KAP1KD 100X	D8L150120-1 = 5.00	8353498	AQUEOUS	8.37	100	836.80	ppb		12/19/08 08:57		<input type="checkbox"/>
189	KAP1L 10X	D8L150120-2	8353498	AQUEOUS	4.85	10.0	48.51	ppb		12/19/08 08:59		<input type="checkbox"/>
190	CCV	= 5.00			4.94	1.0	4.94	ppb	98.9%	12/19/08 09:02		<input type="checkbox"/>
191	CCB				-0.11	1.0	-0.11	ppb		12/19/08 09:04		<input type="checkbox"/>

12/19/08

CETAC Hg Analysis Report

Analyst: grisdalec

Worksheet file: C:\Program Files\QuickTrace\Worksheets\081218AB.wsz

Date Started: 12/18/2008 7:54:43 PM

Comment:

Results

Sample Name	Type	Date/Time	Conc (ppb)	μAbs	%RSD	Flags	Wt.	Vol.
							ODF	
Cal Blank	STD	12/18/08 08:29:44 pm	0.000	8	63.65		1.00	1.00
							1.00	
Std1	STD	12/18/08 08:32:01 pm	0.200	1723	2.59		1.00	1.00
							1.00	
Std2	STD	12/18/08 08:34:18 pm	0.500	4372	1.94		1.00	1.00
							1.00	
Std3	STD	12/18/08 08:36:37 pm	1.000	8676	2.06		1.00	1.00
							1.00	
Std4	STD	12/18/08 08:38:56 pm	2.000	16226	1.65		1.00	1.00
							1.00	
Std5	STD	12/18/08 08:41:15 pm	5.000	43563	2.11		1.00	1.00
							1.00	
Std6	STD	12/18/08 08:43:35 pm	10.000	84200	3.33		1.00	1.00
							1.00	

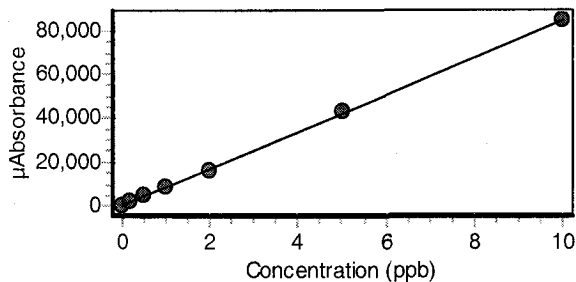
Calibration

Equation: $A = 90.569 + 8456.344C$

R2: 0.99961

SEE: 672.1287

Flags:



ICB	ICB	12/18/08 08:46:01 pm	-0.030	-164	1.63		1.00	1.00
							1.00	
ICV	ICV	12/18/08 08:48:22 pm	6.732	57020	2.83		1.00	1.00
% Recovery	96.17						1.00	
RL	CRDL	12/18/08 08:50:39 pm	0.168	1512	3.66		1.00	1.00
% Recovery	84.06						1.00	

1211

Sample Name	Type	Date/Time	Conc (ppb)	μAbs	%RSD	Flags	Wt.	Vol.
							ODF	
CCV	CCV	12/18/08 08:52:59 pm	5.033 ✓	42649	2.95		1.00	1.00
% Recovery							1.00	
								100.66 ✓
CCB	CCB	12/18/08 08:55:15 pm	-0.019 ✓	-68	5.20		1.00	1.00
							1.00	
K40M2B	UNK	12/18/08 08:57:31 pm	-0.017 ✓	-54	5.20		1.00	1.00
							1.00	
K40M2C	UNK	12/18/08 08:59:47 pm	4.901 ✓	41534	2.98		1.00	1.00
							1.00	
K4R90	UNK	12/18/08 09:02:04 pm	-0.018	-60	9.30		1.00	1.00
							1.00	
K4R90S	UNK	12/18/08 09:04:21 pm	4.666 ✓	39549	2.68		1.00	1.00
							1.00	
K4R90D	UNK	12/18/08 09:06:38 pm	4.658 ✓	39477	0.67		1.00	1.00
							1.00	
K4W0V	UNK	12/18/08 09:08:56 pm	0.172	1542	0.86		1.00	1.00
							1.00	
K4VR8	UNK	12/18/08 09:11:14 pm	0.010	173	7.16 s		1.00	1.00
							1.00	
K40NQB	UNK	12/18/08 09:13:33 pm	-0.016 ✓	-46	14.93		1.00	1.00
							1.00	
K40NQC	UNK	12/18/08 09:15:51 pm	4.587 ✓	38884	5.56 s		1.00	1.00
							1.00	
K4VTJ	UNK	12/18/08 09:18:11 pm	-0.011	1	450.10		1.00	1.00
							1.00	
CCV	CCV	12/18/08 09:20:30 pm	4.765 ✓	40385	5.27 s		1.00	1.00
% Recovery							1.00	
								95.30 ✓
CCB	CCB	12/18/08 09:22:46 pm	-0.016 ✓	-47	17.27		1.00	1.00
							1.00	
K4VTJS	UNK	12/18/08 09:25:06 pm	4.243 ✓	35969	2.61		1.00	1.00
							1.00	
K4VTJD	UNK	12/18/08 09:27:26 pm	4.643 ✓	39352	1.35		1.00	1.00
							1.00	

MA confirms above

12/19/08

K4VTJS	UNK	12/18/08 09:29:45 pm	4.364	36996	1.96		1.00	1.00
							1.00	1.00

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.
							ODF	
K4VTJD	UNK	12/18/08 09:32:05 pm	3.595	99488	14.41	s	1.00	1.00
<i>NA Confirms above</i>								<i>1.00</i>
<i>as 12/19/08</i>								
K4VW3	UNK	12/18/08 09:34:22 pm	0.073	710	3.14		1.00	1.00
K4VXA	UNK	12/18/08 09:36:39 pm	0.002	111	17.73	s	1.00	1.00
K4V1A	UNK	12/18/08 09:38:56 pm	-0.009	18	33.09		1.00	1.00
K4V63	UNK	12/18/08 09:41:14 pm	0.015	218	3.37		1.00	1.00
K4V7T	UNK	12/18/08 09:43:32 pm	0.011	183	12.20	s	1.00	1.00
K40QJB	UNK	12/18/08 09:45:50 pm	-0.018	-63	14.62		1.00	1.00
CCV	CCV	12/18/08 09:48:10 pm	5.070	42966	2.03		1.00	1.00
% Recovery		101.40					1.00	
CCB	CCB	12/18/08 09:50:26 pm	-0.015	-40	4.12		1.00	1.00
K40QJC	UNK	12/18/08 09:52:44 pm	4.630	39242	1.34		1.00	1.00
K4VTJ	UNK	12/18/08 09:55:03 pm	-0.017	-51	4.35		1.00	1.00
K4VTJS	UNK	12/18/08 09:57:23 pm	4.796	40644	0.91		1.00	1.00
K4VTJD	UNK	12/18/08 09:59:42 pm	4.370	37045	2.41		1.00	1.00
K4VTJS	UNK	12/18/08 10:02:02 pm	5.009	42447	3.10		1.00	1.00
<i>NA Confirms above. as 12/19/08</i>								
K4VTJB	UNK	12/18/08 10:04:21 pm	3.788	32123	7.95	s	1.00	1.00
K4VW3	UNK	12/18/08 10:06:41 pm	-0.012	-7	19.13		1.00	1.00
TestAmerica							1213	1.00
							1.00	2

Sample Name	Type	Date/Time	Conc (ppb)	μ Abs	%RSD	Flags	Wt.	Vol.	ODF
K4V1A	UNK	12/18/08 10:11:19 pm	-0.012	-9	114.47		1.00	1.00	1.00
K4V63	UNK	12/18/08 10:13:36 pm	-0.012	-7	28.51		1.00	1.00	1.00
CCV % Recovery 102.89 ✓	CCV	12/18/08 10:15:55 pm	5.145 ✓	43596	2.55		1.00	1.00	1.00
CCB	CCB	12/18/08 10:18:11 pm	-0.014 ✓	-31	11.97		1.00	1.00	1.00
K4V7T	UNK	12/18/08 10:20:29 pm	-0.013	-20	13.51		1.00	1.00	1.00
K40QWB	UNK	12/18/08 10:22:47 pm	-0.019 ✓	-70	4.68		1.00	1.00	1.00
K40QWC	UNK	12/18/08 10:25:05 pm	4.913 ✓	41641	2.59		1.00	1.00	1.00
K35NQ	UNK	12/18/08 10:27:24 pm	0.105	978	3.48		1.00	1.00	1.00
K35NQS	UNK	12/18/08 10:29:43 pm	4.891 ✓	41454	1.48		1.00	1.00	1.00
K35NQD	UNK	12/18/08 10:32:02 pm	4.916 ✓	41661	4.31		1.00	1.00	1.00
K4P1JB	UNK	12/18/08 10:34:21 pm	-0.018 ✓	-65	32.35		1.00	1.00	1.00
K4P1JC	UNK	12/18/08 10:36:41 pm	4.836 ✓	40985	3.45		1.00	1.00	1.00
K38MG	UNK	12/18/08 10:39:02 pm	-0.023 ✓	-101	1.70		1.00	1.00	1.00
K38MGP5	UNK	12/18/08 10:41:22 pm	-0.018 ✓	-59	4.45		1.00	1.00	1.00
CCV % Recovery 99.14 ✓	CCV	12/18/08 10:43:42 pm	4.957 ✓	42008	3.44		1.00	1.00	1.00
CCB	CCB	12/18/08 10:45:58 pm	-0.015	-37	7.79		1.00	1.00	1.00
K38MGS	UNK	12/18/08 10:48:15 pm	4.600 ✓	38991	2.51		1.00	1.00	1.00
TestAmerica							1214		1.003

Sample Name

Type Date/Time Conc μ Abs %RSD Flags Wt. Vol.
(ppb) ODF

K38MGD	UNK	12/18/08 10:50:33 pm	4.830 /	40932	2.68	1.00	1.00
						1.00	
K38M1	UNK	12/18/08 10:52:51 pm	-0.023	-102	4.51	1.00	1.00
						1.00	
K38M8	UNK	12/18/08 10:55:09 pm	-0.018	-64	8.57	1.00	1.00
						1.00	
K38NH	UNK	12/18/08 10:57:28 pm	-0.017	-55	10.40	1.00	1.00
						1.00	
K4FPN	UNK	12/18/08 10:59:47 pm	-0.018	-60	10.96	1.00	1.00
						1.00	
K4FPNS	UNK	12/18/08 11:02:06 pm	3.830 /	32476	1.75	1.00	1.00
						1.00	
K4FPND	UNK	12/18/08 11:04:26 pm	3.989 /	33826	2.75	1.00	1.00
						1.00	
K4FPR	UNK	12/18/08 11:06:46 pm	-0.019	-71	10.86	1.00	1.00
						1.00	
K4FPV	UNK	12/18/08 11:09:06 pm	-0.014	-25	18.51	1.00	1.00
						1.00	
CCV	CCV	12/18/08 11:11:26 pm	5.041 /	42720	2.28	1.00	1.00
% Recovery	100.82 /					1.00	
CCB	CCB	12/18/08 11:13:42 pm	-0.014 /	-28	18.59	1.00	1.00
						1.00	
K4FPX	UNK	12/18/08 11:16:03 pm	-0.014	-30	15.77	1.00	1.00
						1.00	
K4FP1	UNK	12/18/08 11:18:24 pm	-0.016	-49	10.18	1.00	1.00
						1.00	
K4FP2	UNK	12/18/08 11:20:41 pm	-0.017	-52	6.30	1.00	1.00
						1.00	
K4FP4	UNK	12/18/08 11:22:59 pm	-0.018	-61	3.10	1.00	1.00
						1.00	
K4FP6	UNK	12/18/08 11:25:17 pm	-0.018	-62	4.50	1.00	1.00
						1215	1.00

Sample Name	Type	Date/Time	Conc (ppb)	μ Abs	%RSD	Flags	Wt.	Vol. ODF
K40PLC	UNK	12/18/08 11:29:55 pm	4.901 /	41532	3.10		1.00	1.00 1.00
K4VLJ	UNK	12/18/08 11:32:14 pm	-0.021	-88	2.30		1.00	1.00 1.00
K4VLJS	UNK	12/18/08 11:34:34 pm	4.841 /	41028	3.22		1.00	1.00 1.00
K4VLJD	UNK	12/18/08 11:36:54 pm	4.778 /	40497	3.03		1.00	1.00 1.00
CCV % Recovery 101.12 /	CCV	12/18/08 11:39:14 pm	5.056 /	42844	2.97		1.00	1.00 1.00
CCB	CCB	12/18/08 11:41:30 pm	-0.016 /	-47	16.89		1.00	1.00 1.00
K4VL1	UNK	12/18/08 11:43:50 pm	-0.017	-53	5.84		1.00	1.00 1.00
K4VL2	UNK	12/18/08 11:46:11 pm	-0.014	-27	10.01		1.00	1.00 1.00
K4VL4	UNK	12/18/08 11:48:32 pm	-0.016	-43	10.32		1.00	1.00 1.00
K4VL8	UNK	12/18/08 11:50:53 pm	-0.018	-61	6.84		1.00	1.00 1.00
K4VMA	UNK	12/18/08 11:53:12 pm	-0.020	-79	1.33		1.00	1.00 1.00
K4VMC	UNK	12/18/08 11:55:30 pm	-0.004	61	7.84		1.00	1.00 1.00
K4VMD	UNK	12/18/08 11:57:49 pm	-0.018	-63	4.14		1.00	1.00 1.00
K4VMF	UNK	12/19/08 12:00:08 am	-0.018	-59	7.93		1.00	1.00 1.00
K4VMG	UNK	12/19/08 12:02:28 am	-0.009	12	105.85		1.00	1.00 1.00
K4VMH	UNK	12/19/08 12:04:48 am	-0.016	-43	8.04		1.00	1.00 1.00
CCV % Recovery 101.63 /	CCV	12/19/08 12:07:07 am	5.081 /	43061	2.84		1216 1.00	1.00 1.00

Sample Name	Type	Date/Time	Conc (ppb)	μAbs	%RSD	Flags	Wt.	Vol. ODF
CCB	CCB	12/19/08 12:09:23 am	-0.014 ✓	-31	13.74		1.00	1.00 1.00
K4VMJ	UNK	12/19/08 12:11:44 am	-0.007	33	16.74		1.00	1.00 1.00
K4VMK	UNK	12/19/08 12:14:04 am	-0.017	-50	5.71		1.00	1.00 1.00
K4XW7	UNK	12/19/08 12:16:25 am	-0.014	-29	20.12		1.00	1.00 1.00
K40P1B	UNK	12/19/08 12:18:46 am	-0.013 ✓	-23	16.51		1.00	1.00 1.00
K40P1C	UNK	12/19/08 12:21:08 am	4.831 ✓	40946	6.36 s		1.00	1.00 1.00
K4XMQ	UNK	12/19/08 12:23:30 am	-0.015	-36	9.06		1.00	1.00 1.00
K4XNH	UNK	12/19/08 12:25:48 am	-0.012	-8	65.28		1.00	1.00 1.00
K4XNK	UNK	12/19/08 12:28:07 am	-0.015	-40	8.52		1.00	1.00 1.00
K4XNL	UNK	12/19/08 12:30:26 am	-0.011	1	200.45		1.00	1.00 1.00
K4XPD	UNK	12/19/08 12:32:46 am	-0.011	-2	310.05		1.00	1.00 1.00
CCV	CCV	12/19/08 12:35:05 am	4.923 ✓	41721	2.85		1.00	1.00 1.00
% Recovery		98.46 ✓						
CCB	CCB	12/19/08 12:37:22 am	-0.015 ✓	-34	13.71		1.00	1.00 1.00
K4XQG	UNK	12/19/08 12:39:41 am	-0.014	-24	9.55		1.00	1.00 1.00
K4XQJ	UNK	12/19/08 12:42:02 am	-0.014	-24	8.39		1.00	1.00 1.00
K4XQM	UNK	12/19/08 12:44:22 am	-0.015	-36	6.17		1.00	1.00 1.00
K4XQP	UNK	12/19/08 12:46:43 am	0.645	5543	3.10		1.00	1.00 1.00

1217 1.00

Sample Name	Type	Date/Time	Conc (ppb)	μAbs	%RSD	Flags	Wt.	Vol.	ODF
K4XQT	UNK	12/19/08 12:49:04 am	-0.013	-23	12.59		1.00	1.00	1.00
K4XQV	UNK	12/19/08 12:51:26 am	-0.014	-30	20.66		1.00	1.00	1.00
K4XQD	UNK	12/19/08 12:53:48 am	-0.013	-17	21.48		1.00	1.00	1.00
K4TKT	UNK	12/19/08 12:56:10 am	-0.010	7	61.39		1.00	1.00	1.00
K4TKTS	UNK	12/19/08 12:58:29 am	4.497 ✓	38118	2.79		1.00	1.00	1.00
K4TKTD	UNK	12/19/08 01:00:48 am	3.858 ✓	32717	0.90		1.00	1.00	1.00
CCV	CCV	12/19/08 01:03:07 am	4.554 ✓	38603	2.52		1.00	1.00	1.00
% Recovery 91.08 ✓									
CCB	CCB	12/19/08 01:05:24 am	-0.017 ✓	-50	3.34		1.00	1.00	1.00
K4TKW	UNK	12/19/08 01:07:43 am	-0.008	25	36.42		1.00	1.00	1.00
K4TK0	UNK	12/19/08 01:10:03 am	-0.008	22	21.51		1.00	1.00	1.00
K4P07B	UNK	12/19/08 01:12:23 am	-0.018 ✓	-60	2.34		1.00	1.00	1.00
K4P07C	UNK	12/19/08 01:14:44 am	4.589 ✓	38895	3.43		1.00	1.00	1.00
K39HD	UNK	12/19/08 01:17:04 am	-0.002	76	8.38		1.00	1.00	1.00
K39HDP5	UNK	12/19/08 01:19:26 am	-0.012	-13	40.08		1.00	1.00	1.00
K39HDS	UNK	12/19/08 01:21:47 am	4.661 ✓	39509	3.93		1.00	1.00	1.00
K39HDD	UNK	12/19/08 01:24:09 am	4.550 ✓	38566	2.71		1.00	1.00	1.00
K39H0	UNK	12/19/08 01:26:31 am	0.005	131	7.07 s		1.00	1.00	1.00
TestAmerica							1218		1.007

Sample Name	Type	Date/Time	Conc (ppb)	μAbs	%RSD	Flags	Wt.	Vol. ODF
K39JG	UNK	12/19/08 01:28:54 am	-0.005	48	16.70		1.00	1.00
							1.00	
CCV	CCV	12/19/08 01:31:13 am	4.932 ✓	41795	3.38		1.00	1.00
% Recovery		98.64 ✓					1.00	
CCB	CCB	12/19/08 01:33:30 am	-0.016 ✓	-49	2.71		1.00	1.00
							1.00	
K4C8Q	UNK	12/19/08 01:35:49 am	-0.008	21	21.34		1.00	1.00
							1.00	
K4C8QS	UNK	12/19/08 01:38:08 am	5.008 ✓	42442	2.67		1.00	1.00
							1.00	
K4C8QD	UNK	12/19/08 01:40:28 am	4.942 ✓	41885	2.84		1.00	1.00
							1.00	
K4C8W	UNK	12/19/08 01:42:48 am	-0.006	40	14.99		1.00	1.00
							1.00	
K4C8X	UNK	12/19/08 01:45:09 am	-0.010	9	57.51		1.00	1.00
							1.00	
K4C8XS	UNK	12/19/08 01:47:30 am	3.945 ✓	33452	3.10		1.00	1.00
							1.00	
K4C8XD	UNK	12/19/08 01:49:51 am	4.542 ✓	38503	3.72		1.00	1.00
							1.00	
K4JJW	UNK	12/19/08 01:52:12 am	-0.012	-11	33.88		1.00	1.00
							1.00	
K4JJWS	UNK	12/19/08 01:54:34 am	4.795 ✓	40643	4.39		1.00	1.00
							1.00	
K4JJWD	UNK	12/19/08 01:56:57 am	4.934 ✓	41816	3.16		1.00	1.00
							1.00	
CCV	CCV	12/19/08 01:59:15 am	4.608 ✓	39057	2.60		1.00	1.00
% Recovery		92.16 ✓					1.00	
CCB	CCB	12/19/08 02:01:32 am	-0.016 ✓	-45	6.86		1.00	1.00
							1.00	
K4JK2	UNK	12/19/08 02:03:55 am	-0.008	24	8.01		1.00	1.00
							1.00	
K4JLD	UNK	12/19/08 02:06:18 am	0.011	187	6.84 s		1.00	1.00
TestAmerica							1.00	1.00

1219

1.068

Sample Name	Type	Date/Time	Conc (ppb)	μAbs	%RSD	Flags	Wt.	Vol.	ODF
K4JLJ	UNK	12/19/08 02:08:37 am	-0.011	-1	195.39		1.00	1.00	1.00
K4P1AB	UNK	12/19/08 02:10:57 am	-0.018 ✓	-58	8.06		1.00	1.00	1.00
K4P1AC	UNK	12/19/08 02:13:17 am	4.633 ✓	39265	3.14		1.00	1.00	1.00
K39KC	UNK	12/19/08 02:15:38 am	-0.021	-84	4.79		1.00	1.00	1.00
K39KCP5	UNK	12/19/08 02:17:59 am	-0.016 ✓	-45	13.87		1.00	1.00	1.00
K39KCS	UNK	12/19/08 02:20:20 am	4.890 ✓	41442	3.16		1.00	1.00	1.00
K39KCD	UNK	12/19/08 02:22:41 am	4.391 ✓	37224	3.42		1.00	1.00	1.00
K39K8	UNK	12/19/08 02:25:03 am	0.010	179	4.70		1.00	1.00	1.00
CCV	CCV	12/19/08 02:27:22 am	4.857 ✓	41165	3.40		1.00	1.00	1.00
% Recovery 97.14 ✓									
CCB	CCB	12/19/08 02:29:39 am	-0.016 ✓	-48	3.87		1.00	1.00	1.00
K39LA	UNK	12/19/08 02:32:01 am	0.956	8178	5.46 s		1.00	1.00	1.00
K40N8B	UNK	12/19/08 02:34:24 am	-0.018 ✓	-59	7.04		1.00	1.00	1.00
K40N8C	UNK	12/19/08 02:36:47 am	4.555 ✓	38610	3.38		1.00	1.00	1.00
K4HAV	UNK	12/19/08 02:39:10 am	0.001	95	9.97		1.00	1.00	1.00
K4HA8	UNK	12/19/08 02:41:30 am	-0.018	-63	5.50		1.00	1.00	1.00
K4P1K	UNK	12/19/08 02:43:50 am	124.000	1048705	0.00	S	1.00	1.00	1.00
<p>MA ↑ samples > LR see 100x at end.</p>									
K4P1K8	UNK	12/19/08 02:55:23 am	123.180	1041756	0.00	S	1.00	1.00	1.00
TestAmerica		CS 12/19/08							1220 1.00 ⁶⁹

Sample Name	Type	Date/Time	Conc (ppb)	μAbs	%RSD	Flags	Wt.	Vol.	ODF
K4P1KD	UNK	12/19/08 03:04:33 am	122.450	1035585	0.00	S	1.00	1.00	1.00
<i>NA see 100x at end. 12/19/08</i>									
K4P1L	UNK	12/19/08 03:11:17 am	57.258	484286	2.60	O	1.00	1.00	1.00
<i>Sample > LR see 10x at end. 12/19/08</i>									
K4P1M	UNK	12/19/08 03:16:36 am	3.899	33064	2.83		1.00	1.00	1.00
CCV	CCV	12/19/08 03:18:55 am	4.506 ✓	38198	2.61		1.00	1.00	1.00
% Recovery		90.13 ✓							
CCB	CCB	12/19/08 03:21:12 am	-0.066 ✓	-471	4.10		1.00	1.00	1.00
K4P1N	UNK	12/19/08 03:23:34 am	6.530	55315	6.92	s	1.00	1.00	1.00
K4P1P	UNK	12/19/08 03:25:56 am	3.129	26548	3.00		1.00	1.00	1.00
K4P1Q	UNK	12/19/08 03:28:19 am	4.092	34694	4.28		1.00	1.00	1.00
K4P1R	UNK	12/19/08 03:30:42 am	0.389	3381	2.73		1.00	1.00	1.00
K4P1T	UNK	12/19/08 03:33:06 am	0.985	8420	3.83		1.00	1.00	1.00
CCV	CCV	12/19/08 03:35:24 am	4.866 ✓	41238	2.32		1.00	1.00	1.00
% Recovery		97.32 ✓							
CCB	CCB	12/19/08 03:37:41 am	-0.121 ✓	-934	2.63		1.00	1.00	1.00
K4RED	UNK	12/19/08 03:40:05 am	0.087	827	20.02	s	1.00	1.00	1.00
K4VQV	UNK	12/19/08 03:42:26 am	-0.076	-550	18.01		1.00	1.00	1.00
K4VQW	UNK	12/19/08 03:44:46 am	0.346	3018	5.99	s	1.00	1.00	1.00
K4VQ0	UNK	12/19/08 03:47:07 am	-0.048	-318	7.17		1.00	1.00	1.00
K4VQ1	UNK	12/19/08 03:49:29 am	-0.069	-490	6.65		1.00	1.00	1.00

1221

Sample Name	Type	Date/Time	Conc (ppb)	μ Abs	%RSD	Flags	Wt.	Vol.	ODF
K4VQ2	UNK	12/19/08 03:51:50 am	-0.064	-448	32.17		1.00	1.00	1.00
CCV % Recovery 94.68 ✓	CCV	12/19/08 03:54:09 am	4.734 ✓	40124	2.38		1.00	1.00	1.00
CCB	CCB	12/19/08 03:56:26 am	-0.100 ✓	-754	2.70		1.00	1.00	1.00
CCV % Recovery 101.31 ✓	CCV	12/19/08 08:46:34 am	5.065 ✓	42924	2.57		1.00	1.00	1.00
CCB	CCB	12/19/08 08:48:51 am	-0.129 ✓	-999	0.69		1.00	1.00	1.00
K4P1K 100X	UNK	12/19/08 08:51:12 am	6.811 ✓	57690	4.36		1.00	1.00	1.00
K4P1KS 100X	UNK	12/19/08 08:55:03 am	6.457 ✓	54692	4.55		1.00	1.00	1.00
K4P1KD 100X	UNK	12/19/08 08:57:24 am	8.368 ✓	70857	1.92		1.00	1.00	1.00
K4P1L 10X	UNK	12/19/08 08:59:46 am	4.851 ✓	41113	2.84		1.00	1.00	1.00
CCV % Recovery 98.88 ✓	CCV	12/19/08 09:02:05 am	4.944 ✓	41897	3.63		1.00	1.00	1.00
CCB	CCB	12/19/08 09:04:22 am	-0.114 ✓	-875	1.61		1.00	1.00	1.00

Analysis Parameters

Instrument

Conditions

Gas flow (mL/min)	Sample Uptake (s)	Rinse (s)	Read delay (s)	Replicates (#)	Replicate time (s)	Pump speed (%)	Wavelength (nm)
100	40.00	90.00	53.00	4	1.50	50	253.65

Instrumental Zero

Zero before first sample: No

Zero periodically: Yes

Before each calibration.

Baseline Correction

#1 Start time (s)	#1 End time (s)	#2 Start time (s)	#2 End time (s)
25.00	29.00		

Standby Mode

Enabled: Yes

Standby Options: pump slow

Autodilution

Enabled: No

Condition:

Tube # range:

If no autodilution tubes remaining

Calibration

Settings

Algorithm	Through blank	Weighted fit	Cal. Type	Racalibration rate	Reslope rate	Reslope standard
Linear	No	No	Normal	0	0	N/A

Limits

Calibration slope		Reslope		Coeff. of Determination
Lower (%)	Upper (%)	Lower (%)	Upper (%)	
20	150	75	125	0.99500

Error action: Flag and continue

QC

GLP Override: Yes

QC Tests

CCB

Concentration
(ppb)
0.2000

Failure flag: Q

Error action for manually inserted QC: Stop analysis

ICB

Concentration
(ppb)
0.2000

Failure flag: Z

Error action for manually inserted QC: Stop analysis

CCV

Concentration (ppb)	Low Limit %	High Limit %
5.0000	80.0000	120.0000

Failure flag: Q

Error action for manually inserted QC: Stop analysis

ICV

Concentration (ppb)	Low Limit %	High Limit %
7.0000	90.0000	110.0000

Failure flag: Q

Error action for manually inserted QC: Stop analysis

CRDL

Concentration (ppb)	Low Limit %	High Limit %
0.2000	70.0000	130.0000

Failure flag: Y

Error action for manually inserted QC: Stop analysis

LABORATORY REPORT



"dedicated to providing quality aquatic toxicity testing"

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

Date: December 24, 2008

Client: TestAmerica, Irvine
17461 Derian Ave., Suite 100
Irvine, CA 92614
Attn: Joseph Doak

Laboratory No.: A-08121609
Sample I.D.: IRL1710-01 (Outfall 010)

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

Date Sampled: 12/15/08
Date Received: 12/16/08
Temp. Received: 0.5°C
Chlorine (TRC): 0.0 mg/l
Date Tested: 12/16/08 to 12/23/08

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

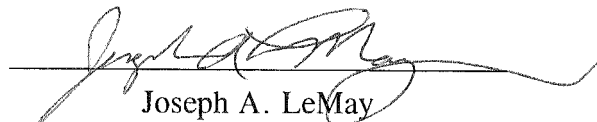
Ceriodaphnia dubia Survival and Reproduction Test (EPA Method 1002).

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

Result Summary:

	<u>NOEC</u>	<u>TUc</u>
<i>Ceriodaphnia</i> Survival:	100%	1.0
<i>Ceriodaphnia</i> Reproduction:	100%	1.0

Quality Control: Reviewed and approved by:


Joseph A. LeMay
Laboratory Director

**CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0**



Lab No.: A-08121609-001
Client/ID: Test America - Outfall 010

Date Tested: 12/16/08 to 12/23/08

TEST SUMMARY

Test type: Daily static-renewal.	Endpoints: Survival and Reproduction.
Species: <i>Ceriodaphnia dubia</i> .	Source: In-laboratory culture.
Age: < 24 hrs; all released within 8 hrs.	Food: .1 ml YTC, algae per day.
Test vessel size: 30 ml.	Test solution volume: 15 ml.
Number of test organisms per vessel: 1.	Number of replicates: 10.
Temperature: 25 +/- 1°C.	Photoperiod: 16/8 hrs. light/dark cycle.
Dilution water: Mod. hard reconstituted (MHRW).	Test duration: 7 days.
QA/QC Batch No.: RT-081204.	Statistics: ToxCalc computer program.

RESULTS SUMMARY

Sample Concentration	Percent Survival	Mean Number of Young Per Female
Control	100%	23.1
100% Sample	100%	24.5
* Sample not statistically significantly less than Control.		

CHRONIC TOXICITY

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

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥80 %	Pass (100% survival)
≥15 young per surviving control female	Pass (23.1 young)
≥60% surviving controls had 3 broods	Pass (100% with 3 broods)
PMSD <47% for reproduction; if >47% and no toxicity at IWC, the test must be repeated	Pass (PMSD = 8.1%)
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-7 Day Survival

Start Date: 12/16/2008 14:00 Test ID: 8121609c Sample ID: IRL1710-01 Outfall 010
 End Date: 12/23/2008 15:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: EFF2-Industrial
 Sample Date: 12/15/2008 10:50 Protocol: FWCH 4TH-EPA-821-R-02-0 Test Species: CD-Ceriodaphnia dubia
 Comments:

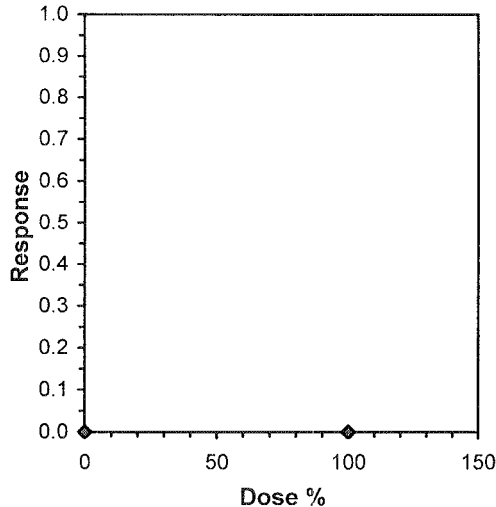
Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Conc-%	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Isotonic Mean	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

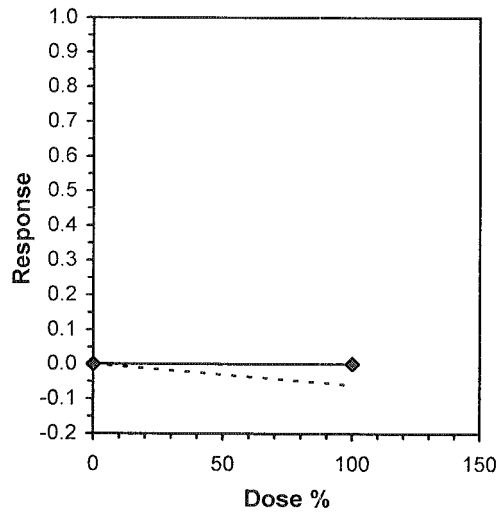
Start Date: 12/16/2008 14:00 Test ID: 8121609c Sample ID: IRL1710-01 Outfall 010
 End Date: 12/23/2008 15:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: EFF2-Industrial
 Sample Date: 12/15/2008 10:50 Protocol: FWCH 4TH-EPA-821-R-02-0 Test Species: CD-Ceriodaphnia dubia
 Comments:

Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	23.000	24.000	21.000	22.000	25.000	24.000	21.000	22.000	23.000	26.000
100	26.000	22.000	24.000	20.000	23.000	29.000	26.000	26.000	28.000	21.000

Conc-%	Mean	N-Mean	Transform: Untransformed					N	t-Stat	1-Tailed Critical	MSD	Isotonic	
			Mean	Min	Max	CV%	Mean					N-Mean	
D-Control	23.100	1.0000	23.100	21.000	26.000	7.201	10				23.800	1.0000	
100	24.500	1.0606	24.500	20.000	29.000	12.207	10	-1.294	1.734	1.877	23.800	1.0000	

Auxiliary Tests	Statistic	Critical	Skew	Kurt		
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.98695	0.905	0.01128	-0.4722		
F-Test indicates equal variances (p = 0.10)	3.23293	6.54109				
Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences Treatments vs D-Control	1.87657	0.08124	9.8	5.85556	0.21213	1, 18

Point	%	SD	Linear Interpolation (200 Resamples)	
			95% CL	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



**CERIODAPHNIA DUBIA CHRONIC BIOASSAY
EPA METHOD 1002.0 Raw Data Sheet**



Lab No.: A-08121609-001

Client ID: TestAmerica - IRL1710-01 Outfall 010

Start Date: 12/16/2008

		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:		R	R	R	R	R	R	R	R	R	g	R	R	R	R	
Time of Readings:		1400	1400	1400	1400	1400	1400	1400	1300	1300	1400	1400	1400	1400	1400	1500
Control	DO	10.2	9.5	8.7	9.0	8.6	8.9	9.0	9.2	9.6	8.5	7.9	8.0	8.8	8.4	
	pH	7.7	8.0	7.7	7.7	7.7	7.9	7.8	7.8	7.7	7.7	7.7	7.7	7.6	7.7	
	Temp	25.9	24.2	25.2	24.6	25.5	24.2	25.0	24.0	24.8	24.2	24.4	24.1	25.2	24.7	
100%	DO	11.1	9.2	10.9	9.5	11.5	7.6	9.3	9.5	10.3	8.8	8.3	8.4	8.5	8.5	
	pH	6.0	7.9	6.1	7.8	8.2	7.7	7.5	7.6	7.2	7.6	7.3	7.6	7.4	7.7	
	Temp	25.0	24.2	24.5	24.2	25.1	24.1	25.3	24.0	24.5	24.2	25.7	24.4	24.9	24.8	

Additional Parameters	Control	100% Sample
Conductivity (umohms)	305	260
Alkalinity (mg/l CaCO ₃)	63	51
Hardness (mg/l CaCO ₃)	93	66
Ammonia (mg/l NH ₃ -N)	<0.1	0.4

Source of Neonates											
Replicate:	A	B	C	D	E	F	G	H	I	J	
Brood ID:	A2	B3	C1	D3	E2	F3	G1	H3	I2	J1	

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	R
	2	0	0	0	0	0	0	0	0	0	0	0	10	R
	3	0	4	4	4	4	0	0	4	0	0	20	10	R
	4	3	0	0	0	0	4	3	0	4	3	17	10	R
	5	0	8	7	6	7	0	0	8	7	0	43	10	R
	6	6	0	0	12	14	6	8	0	0	7	53	10	R
	7	14	12	10	0	15	14	10	10	12	16	98	10	R
	Total	23	24	21	22	25	24	21	22	23	26	231	10	R
100%	1	0	0	0	0	0	0	0	0	0	0	0	10	R
	2	0	0	0	0	0	0	0	0	0	0	0	10	R
	3	0	0	0	0	0	0	0	0	4	0	4	10	R
	4	4	3	4	3	3	4	3	4	0	4	32	10	R
	5	6	7	0	7	6	7	9	7	8	7	64	10	R
	6	0	12	8	0	0	0	14	0	0	0	34	10	R
	7	16	14	12	10	14	18	0	15	16	10	111	10	R
	Total	26	22	24	20	23	29	26	26	28	21	245	10	R

Circled fourth brood not used in statistical analysis.

7th day only used if <60% of the surviving control females have produced their third brood.

SUBCONTRACT ORDER

TestAmerica Irvine

IRL1710

SENDING LABORATORY:

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

RECEIVING LABORATORY:

Aquatic Testing Laboratories-SUB
4350 Transport Street, Unit 107
Ventura, CA 93003
Phone : (805) 650-0546
Fax: (805) 650-0756
Project Location: CA - CALIFORNIA
Receipt Temperature: 5 °C Ice: Y / N

Analysis	Units	Due	Expires	Comments
Sample ID: IRL1710-01	Water		Sampled: 12/15/08 10:50	Instant Nofication
Bioassay-7 dy Chrmic	N/A	12/22/08	12/16/08 22:50	Cerio, EPA/821-R02-013, Sub to Aquatic testing
Containers Supplied: 1 gal Poly (L)				

Released By [Signature] Date/Time 12/16/08 1140
Released By [Signature] Date/Time 12/16/08 1140

Received By [Signature] Date/Time 12/16/08 7500
Received By [Signature] Date/Time 12-16-08 1140



***REFERENCE
TOXICANT
DATA***

CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0
REFERENCE TOXICANT - NaCl



QA/QC Batch No.: RT-081204

Date Tested: 12/04/08 to 12/11/08

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: 7 days.

Statistics: ToxCalc computer program.

RESULTS SUMMARY

Sample Concentration	Percent Survival		Mean Number of Young Per Female	
Control	100%		24.3	
0.25 g/l	100%		23.5	
0.5 g/l	100%		24.5	
1.0 g/l	100%		14.5	*
2.0 g/l	80%		4.3	*
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	2.5 g/l
Reproduction IC25	0.80 g/l

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥ 80%	Pass (100% Survival)
≥ 15 young per surviving control female	Pass (24.3 young)
≥ 60% surviving controls had 3 broods	Pass (100% with 3 broods)
PMSD < 47% for reproduction	Pass (PMSD = 11.7%)
Stat. sig. diff. conc. relative difference > 13%	Pass (Stat. sig. diff. conc. relative difference = 40.3%)
Concentration response relationship acceptable	Pass (Response curve normal)

Ceriodaphnia Survival and Reproduction Test-7 Day Survival

Start Date: 12/4/2008 13:30 Test ID: RT-081204c Sample ID: REF-Ref Toxicant
 End Date: 12/11/2008 14:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: NACL-Sodium chloride
 Sample Date: 12/4/2008 Protocol: FWCH 4TH-EPA-821-R-02-0 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	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	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	0.8000	0.8000	2	8	10	10	0.2368	0.0500	2	10
4	0.0000	0.0000	10	0	10	10			10	10

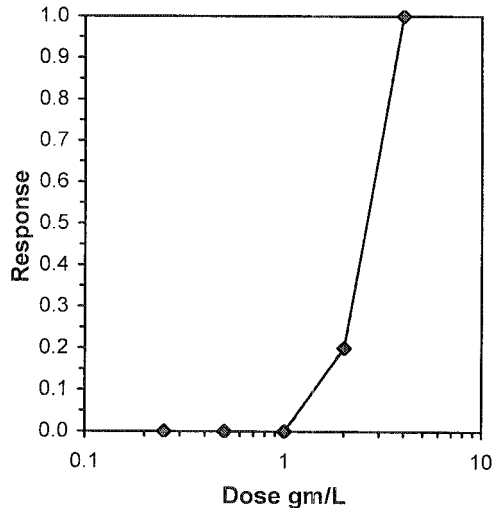
Hypothesis Test (1-tail, 0.05) NOEC LOEC ChV TU

Fisher's Exact Test 2 4 2.82843

Treatments vs D-Control

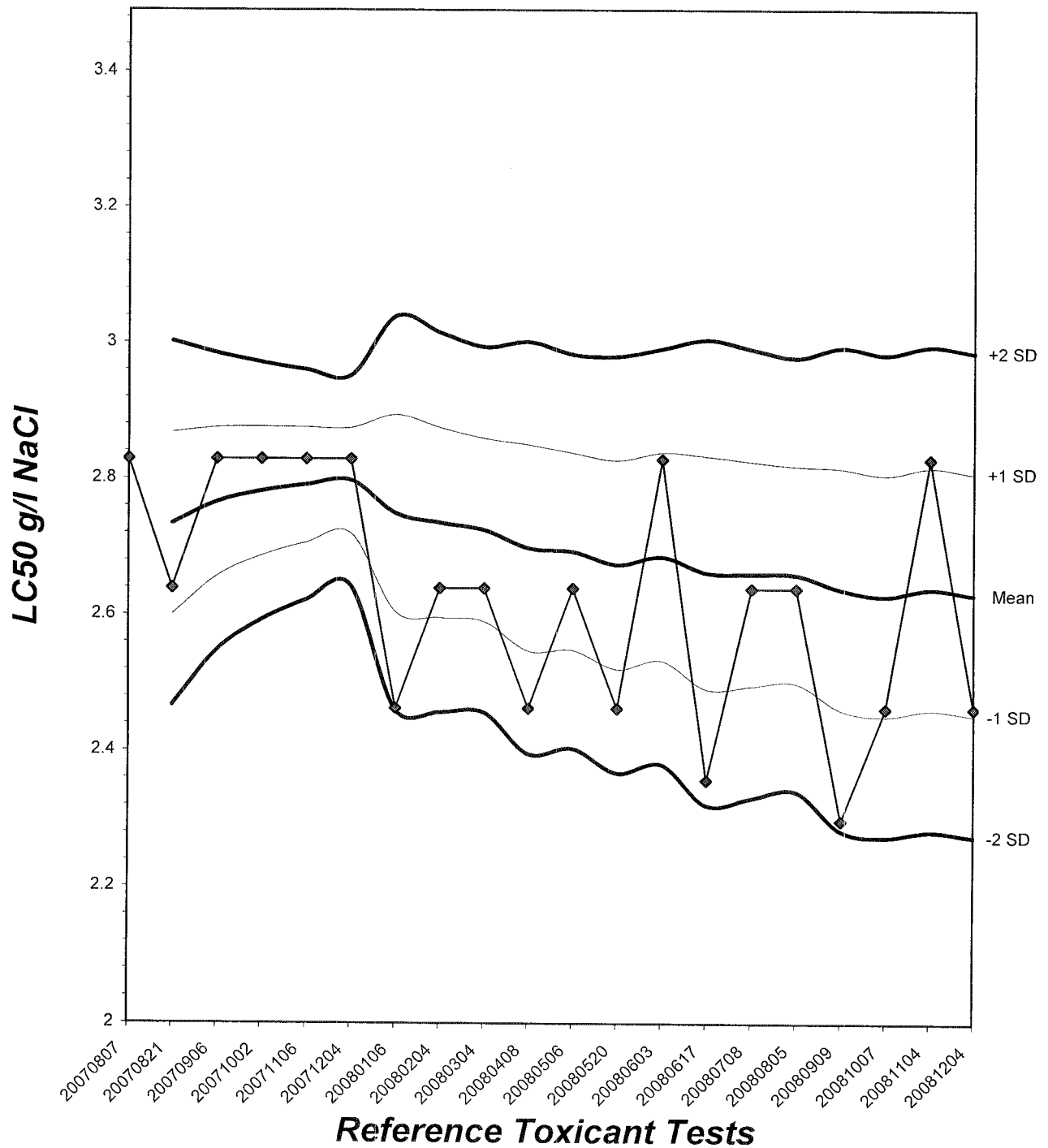
Trimmed Spearman-Kärber

Trim Level	EC50	95% CL	
0.0%	2.4623	2.0663	2.9342
5.0%	2.5108	2.0545	3.0683
10.0%	2.5519	1.9976	3.2599
20.0%	2.5937	2.2616	2.9745
Auto-0.0%	2.4623	2.0663	2.9342



Ceriodaphnia Chronic Survival Laboratory Control Chart

CV% = 6.77



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date: 12/4/2008 13:30 Test ID: RT-081204c Sample ID: REF-Ref Toxicant
 End Date: 12/11/2008 14:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: NACL-Sodium chloride
 Sample Date: 12/4/2008 Protocol: FWCH 4TH-EPA-821-R-02-0 Test Species: CD-Ceriodaphnia dubia

Comments:

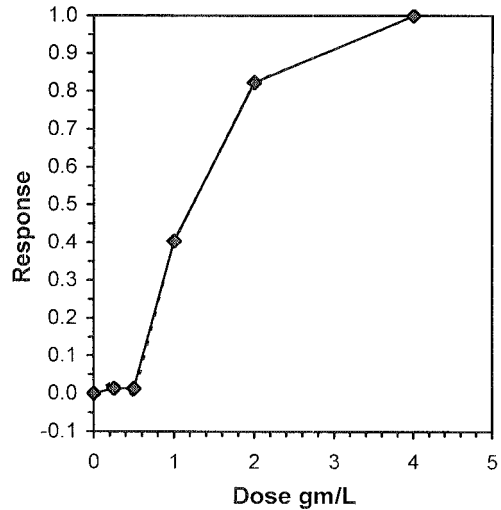
Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	22.000	26.000	24.000	25.000	21.000	29.000	24.000	26.000	25.000	21.000
0.25	16.000	25.000	26.000	21.000	25.000	24.000	26.000	22.000	26.000	24.000
0.5	22.000	27.000	25.000	27.000	22.000	24.000	25.000	24.000	25.000	24.000
1	18.000	17.000	9.000	18.000	11.000	16.000	16.000	12.000	19.000	9.000
2	5.000	5.000	0.000	2.000	6.000	6.000	7.000	0.000	6.000	6.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Conc-gm/L	Mean	N-Mean	Transform: Untransformed					Rank Sum	1-Tailed Critical	Isotonic	
			Mean	Min	Max	CV%	N			Mean	N-Mean
D-Control	24.300	1.0000	24.300	21.000	29.000	10.274	10			24.300	1.0000
0.25	23.500	0.9671	23.500	16.000	26.000	13.344	10	102.50	76.00	24.000	0.9877
0.5	24.500	1.0082	24.500	22.000	27.000	7.004	10	108.00	76.00	24.000	0.9877
*1	14.500	0.5967	14.500	9.000	19.000	26.661	10	55.00	76.00	14.500	0.5967
*2	4.300	0.1770	4.300	0.000	7.000	61.088	10	55.00	76.00	4.300	0.1770
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)	0.94067	0.947	-0.7031	0.01881
Bartlett's Test indicates equal variances (p = 0.22)	5.7868	13.2767		
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				

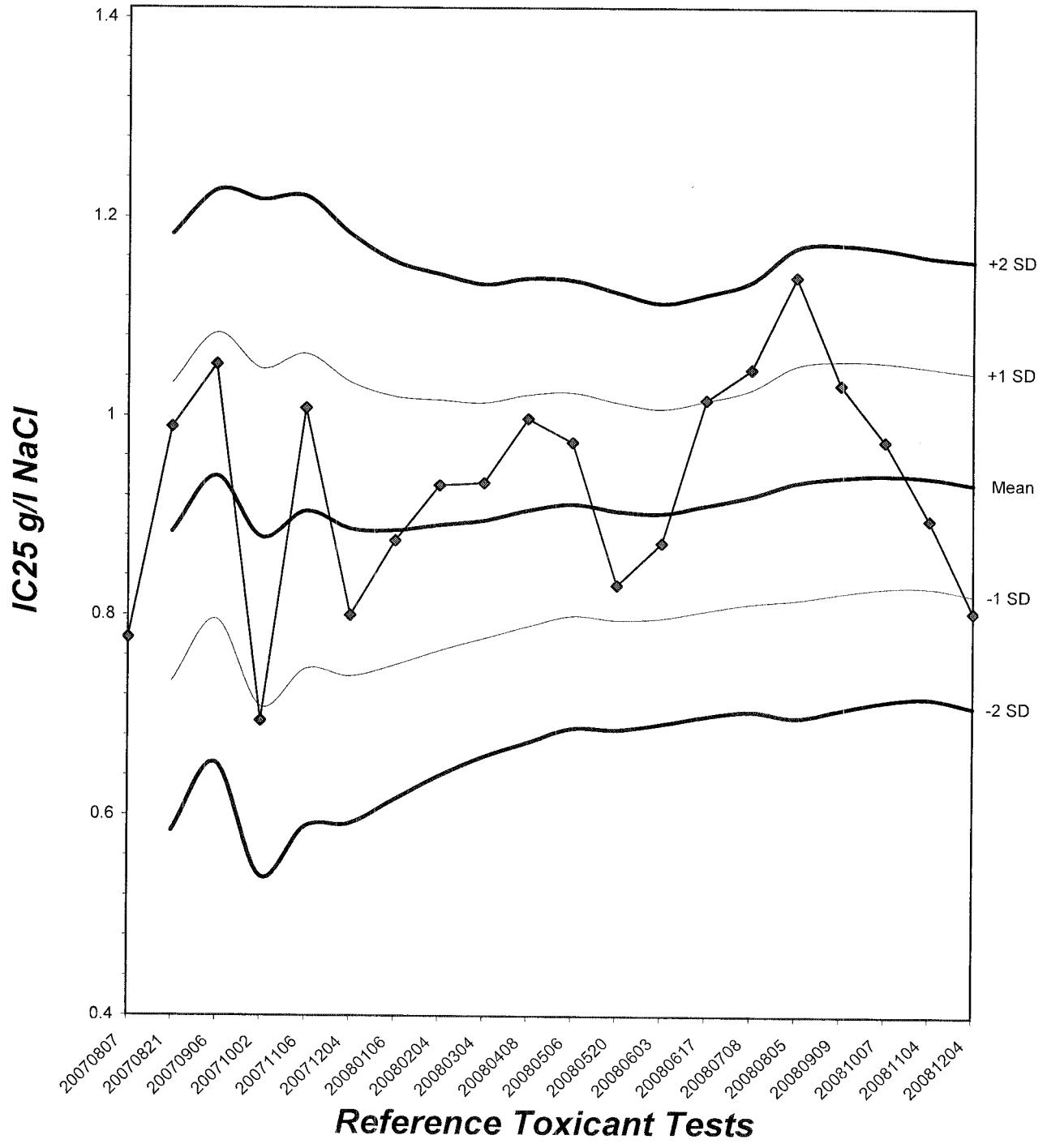
Point	gm/L	SD	95% CL		Skew
			Lower	Upper	
IC05	0.5482	0.1404	0.1438	0.5754	-1.6078
IC10	0.6121	0.0484	0.5162	0.6509	-4.0272
IC15	0.6761	0.0355	0.5782	0.7263	-0.3203
IC20	0.7400	0.0382	0.6442	0.8017	-0.0538
IC25	0.8039	0.0422	0.7039	0.8772	0.1260
IC40	0.9958	0.0696	0.8810	1.1397	0.5233
IC50	1.2304	0.0941	0.9932	1.3494	-0.3779

Linear Interpolation (200 Resamples)



Ceriodaphnia Chronic Reproduction Laboratory Control Chart

CV% = 12



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



QA/QC No.: RT-081204

Start Date: 12/04/2008

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	R
	2	0	0	0	0	0	0	0	0	0	0	0	10	R
	3	0	3	4	0	0	0	4	4	0	0	15	10	R
	4	4	0	0	3	3	4	0	0	4	3	21	10	R
	5	0	7	6	0	0	10	7	9	7	6	52	10	R
	6	8	0	14	12	8	15	0	0	0	12	69	10	R
	7	10	16	12	10	10	0	13	13	14	0	86	10	R
	Total	22	26	24	25	21	29	24	26	25	21	243	10	R
0.25 g/l	1	0	0	0	0	0	0	0	0	0	0	10	R	
	2	0	0	0	0	0	0	0	0	0	0	10	R	
	3	0	0	4	4	0	0	0	3	0	4	15	10	R
	4	4	3	0	0	3	4	4	0	3	0	21	10	R
	5	0	0	6	7	8	0	0	7	0	6	34	10	R
	6	12	7	0	0	14	8	7	12	10	14	84	10	R
	7	0	15	16	10	0	12	15	0	13	0	81	10	R
	Total	14	25	26	21	25	24	26	22	26	24	235	10	R
0.5 g/l	1	0	0	0	0	0	0	0	0	0	0	10	R	
	2	0	0	0	0	0	0	0	0	0	0	10	R	
	3	4	0	3	4	0	0	0	4	0	0	15	10	R
	4	0	4	0	0	4	3	3	0	4	4	22	10	R
	5	6	0	10	8	6	7	0	7	0	0	44	10	R
	6	12	8	0	0	0	14	7	0	7	8	56	10	R
	7	0	15	12	15	12	0	15	13	14	12	108	10	R
	Total	22	27	25	27	22	24	25	24	25	24	245	10	R

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



QA/QC No.: RT-081204

Start Date: 12/04/2008

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	RM
	2	0	0	0	0	0	0	0	0	0	0	0	10	RM
	3	0	2	0	0	0	3	0	0	3	0	8	10	JH
	4	4	0	3	4	4	0	3	2	0	3	23	10	JH
	5	0	5	0	6	0	7	6	0	8	0	32	10	JH
	6	6	0	6	8	0	0	0	10	0	6	36	10	JH
	7	8	10	0	0	7	6	7	0	8	0	46	10	JH
	Total	18	17	9	18	11	16	16	12	19	9	145	10	JH
2.0 g/l	1	0	0	0	0	0	0	0	0	0	0	10	RM	
	2	0	0	0	0	0	0	0	0	0	0	10	RM	
	3	0	0	X	0	0	0	0	0	0	0	9	JH	
	4	0	2	-	0	0	2	0	X	2	0	6	8	JH
	5	3	0	-	2	3	0	3	-	2	3	16	8	JH
	6	0	3	-	0	0	4	0	-	0	0	7	8	JH
	7	2	0	-	0	3	0	4	-	2	3	14	8	JH
	Total	5	5	0	2	6	6	7	0	6	6	43	8	JH
4.0 g/l	1	X	X	X	X	X	X	X	X	X	0	0	RM	
	2	-	-	-	-	-	-	-	-	-	0	0	JH	
	3	-	-	-	-	-	-	-	-	-	0	0	JH	
	4	-	-	-	-	-	-	-	-	-	0	0	JH	
	5	-	-	-	-	-	-	-	-	-	0	0	JH	
	6	-	-	-	-	-	-	-	-	-	0	0	JH	
	7	-	-	-	-	-	-	-	-	-	0	0	JH	
	Total	0	0	0	0	0	0	0	0	0	0	0	0	JH

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



QA/QC No.: RT-081204

Start Date: 12/04/2008

		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:		Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm
Time of Readings:		1330	1400	1400	1500	1500	134	1300	1400	1400	1600	1600	1430	1430	1400
Control	DO	8.0	9.3	8.3	8.9	8.1	8.3	9.1	8.6	8.8	8.7	8.4	8.4	8.1	8.2
	pH	8.2	8.1	7.8	8.1	7.8	7.8	7.6	7.7	7.8	7.9	7.8	7.9	8.0	8.3
	Temp	24.7	24.2	26.0	24.9	24.1	25.4	25.3	25.1	24.3	24.3	24.4	24.5	24.7	24.2
0.25 g/l	DO	8.1	9.4	8.3	9.0	8.1	8.4	8.8	8.7	8.7	8.8	8.4	8.4	8.1	8.3
	pH	8.2	8.1	7.8	8.1	7.8	7.7	7.6	7.7	7.9	7.9	7.9	7.9	8.1	8.3
	Temp	24.7	24.4	26.0	25.0	24.1	25.3	25.4	25.2	24.4	24.3	24.4	24.5	24.7	24.3
0.5 g/l	DO	8.1	9.5	8.3	9.2	8.1	8.2	8.8	8.6	8.4	8.8	8.5	8.3	8.1	8.2
	pH	8.2	8.1	7.8	8.1	7.8	7.7	7.7	7.7	7.9	8.0	7.9	7.9	8.1	8.4
	Temp	24.6	24.5	26.0	25.2	24.1	25.2	25.6	25.0	24.3	24.2	24.3	24.4	24.6	24.1
1.0 g/l	DO	8.1	9.4	8.3	8.9	8.1	8.8	8.8	8.7	8.7	8.9	8.5	8.2	8.1	8.3
	pH	8.2	8.1	7.8	8.1	7.8	7.7	7.7	7.7	7.9	8.0	8.0	7.9	8.1	8.2
	Temp	24.5	24.7	26.0	24.9	24.1	24.4	25.4	24.8	24.3	24.2	24.3	24.3	24.5	24.2
2.0 g/l	DO	8.2	9.3	8.3	9.0	8.1	8.7	8.8	8.8	8.7	9.0	8.5	8.4	8.1	8.1
	pH	8.2	8.2	7.9	8.1	7.9	7.8	7.9	7.8	7.9	8.1	8.0	7.9	8.2	8.3
	Temp	24.4	24.6	25.9	24.7	24.2	24.2	25.4	25.5	24.2	24.1	24.2	24.3	24.3	24.3
4.0 g/l	DO	8.3	9.6	8.2	-	-	-	-	-	-	-	-	-	-	-
	pH	8.1	8.2	7.9	-	-	-	-	-	-	-	-	-	-	-
	Temp	24.2	24.7	25.8	-	-	-	-	-	-	-	-	-	-	-

Dissolved Oxygen (DO) readings are in mg/l O₂; 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)	320	310	305	6240	3440	3310
Alkalinity (mg/l CaCO ₃)	67	65	63	66	66	64
Hardness (mg/l CaCO ₃)	97	96	96	95	96	96

Source of Neonates

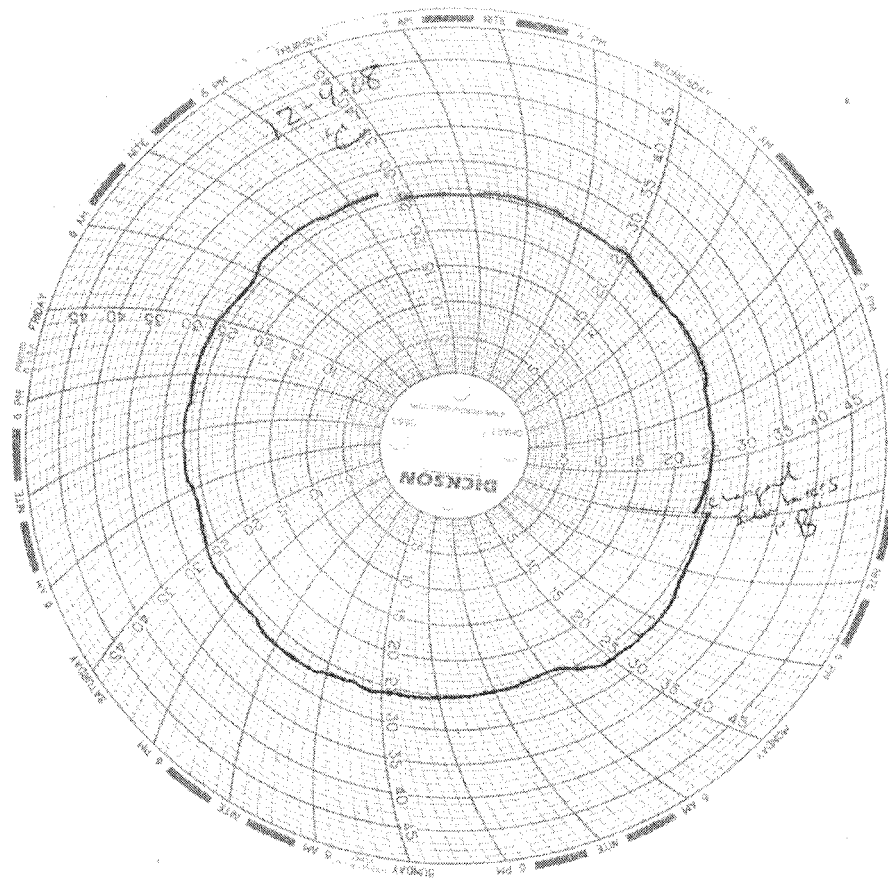
Replicate:	A	B	C	D	E	F	G	H	I	J
Brood ID:	A2	B2	C3	D1	F2	F3	G2	H3	I3	J3

Test Temperature Chart

Test No: RT-081204

Date Tested: 12/04/08 to 12/11/08

Acceptable Range: 25 \pm 1 $^{\circ}$ C





TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

REVISED

PROJECT NO. BOEING NPDES

SSFL MWH-Pasadena/Boeing

Lot #: F8L170170

Joseph Doak

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817

TESTAMERICA LABORATORIES, INC.

A handwritten signature in black ink, appearing to read "Sherryl Adam", is written in a cursive style.

Sherryl Adam
Project Manager

January 28, 2009

1241

Case Narrative
LOT NUMBER: F8L170170
REVISED

This report has been revised to include Uranium results to be reported in pCi/L per client request.

This report contains the analytical results for the sample received under chain of custody by TestAmerica St. Louis on December 17, 2008. This sample is associated with your SSFL MWH-Pasadena/Boeing project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted on the following page.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by TestAmerica St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of this report.

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

Radium 228 by GFPC

Radium 228 was observed in the method blank above the reporting limit. Associated samples are either non-detect for the contaminant or exhibit concentrations greater than five (5) times the concentrations observed in the method blank and therefore do not require re-analysis. Original results are reported.

Affected Samples:

F8L170170 (1): IRL1710-01

Radium 226 by GFPC

Radium 226 was observed in the method blank above the reporting limit. Associated samples are either non-detect for the contaminant or exhibit concentrations greater than five (5) times the concentrations observed in the method blank and therefore do not require re-analysis. Original results are reported.

The LCS/LCSD RPD is not within method acceptance criteria. LCS/LCSD recoveries are within QC limits demonstrating good extraction performance in the sample matrix.

Affected Samples:

F8L170170 (1): IRL1710-01

Total Uranium by Laser Phosphorimetry

The sample results were converted from ug/L to pCi/L per client request. The conversion assumes that all of the uranium is naturally occurring.

Affected Samples:

F8L170170 (1): IRL1710-01

METHODS SUMMARY

F8L170170

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
Gamma Spectroscopy - Cesium-137 & Hits	EPA 901.1 MOD	
Gross Alpha/Beta EPA 900	EPA 900.0 MOD	EPA 900.0
H-3 by Distillation & LSC	EPA 906.0 MOD	
Radium-226 by GFPC	EPA 903.0 MOD	EPA 903.0
Radium-228 by GFPC	EPA 904 MOD	EPA 904
Strontium 90 by GFPC	EPA 905 MOD	
Total Uranium By Laser Phosphorimetry	ASTM 5174-91	

References:

ASTM Annual Book Of ASTM Standards.

EPA "EASTERN ENVIRONMENTAL RADIATION FACILITY RADIOCHEMISTRY
PROCEDURES MANUAL" US EPA EPA 520/5-84-006 AUGUST 1984

SAMPLE SUMMARY

F8L170170

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
K4VKX	001	IRL1710-01	12/15/08	10:50

NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

TestAmerica Irvine

Client Sample ID: IRL1710-01

Radiochemistry

Lab Sample ID: F8L170170-001
 Work Order: K4VKX
 Matrix: WATER

Date Collected: 12/15/08 1050
 Date Received: 12/17/08 0930

Parameter	Result	Qual	Total Uncert. (2 σ +/-)	RL	mdc	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD							
Cesium 137	-1.1	U	8.5	20.0	16	12/24/08	01/10/09
Potassium 40	-90	U	590		250	12/24/08	01/10/09
Gross Alpha/Beta EPA 900							
Gross Alpha	0.39	U	0.91	3.00	1.6	12/18/08	12/21/08
Gross Beta	4.51		0.96	4.00	0.94	12/18/08	12/21/08
Radium 226 by EPA 903.0 MOD							
Radium (226)	0.048	U	0.046	1.00	0.070	12/17/08	01/12/09
Radium 228 by GFPC EPA 904 MOD							
Radium 228	-0.07	U	0.26	1.00	0.48	12/17/08	01/09/09
TRITIUM (Distill) by EPA 906.0 MOD							
Tritium	10	U	190	500	340	01/12/09	01/13/09
SR-90 BY GFPC EPA-905 MOD							
Strontium 90	0.22	U	0.45	3.00	0.76	12/17/08	01/10/09
Total Uranium by KPA ASTM 5174-91							
Total Uranium	0.156	U	0.016	0.693	0.21	12/19/08	12/21/08

NOTE (S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC.

U Result is less than the sample detection limit.

1245

METHOD BLANK REPORT

Radiochemistry

Client Lot ID: F8L170170
 Matrix: WATER

Parameter	Result	Qual	Total Uncert. (2 σ +/-)	RL	MDC	Prep Date	Lab Sample ID Analysis Date
Total Uranium by KPA ASTM 5174-91							
Total Uranium	0.0364	U	0.0047	0.693	0.21	12/19/08	F8L190000-127B 12/21/08
Gamma Cs-137 & Hits by EPA 901.1 MOD							
Cesium 137	-0.2	U	7.7	20.0	14	12/24/08	F8L240000-107B 01/11/09
Potassium 40	-90	U	3400		200	12/24/08	01/11/09
Radium 226 by EPA 903.0 MOD							
Radium (226)	4.72		0.47	1.00	0.06	12/17/08	F8L170000-386B 01/12/09
Radium 228 by GFPC EPA 904 MOD							
Radium 228	2.87		0.53	1.00	0.53	12/17/08	F8L170000-387B 01/09/09
SR-90 BY GFPC EPA-905 MOD							
Strontium 90	0.18	U	0.37	3.00	0.62	12/17/08	F8L170000-461B 01/10/09
Gross Alpha/Beta EPA 900							
Gross Alpha	-0.28	U	0.37	3.00	0.93	12/18/08	F8L180000-165B 12/21/08
Gross Beta	0.62	U	0.65	4.00	1.0	12/18/08	12/21/08
TRITIUM (Distill) by EPA 906.0 MOD							
Tritium	-30	U	190	500	340	01/12/09	F9A120000-073B 01/13/09

NOTE (S)

Data are incomplete without the case narrative.

MDC is determined using instrument performance only
 Bold results are greater than the MDC.

U Result is less than the sample detection limit.

1246

Laboratory Control Sample Report

Radiochemistry

Client Lot ID: F8L170170
 Matrix: WATER

Parameter	Spike Amount	Result	Total Uncert. (2 σ +/-)	MDC	% Yld	% Rec	Lab Sample ID QC Control Limits
Gross Alpha/Beta EPA 900							
			pCi/L	900.0 MOD			F8L180000-165C
Gross Beta	67.8	72.6	6.2	1.2		107	(73 - 122)
	Batch #:	8353165		Analysis Date:	12/21/08		
Gross Alpha/Beta EPA 900							
			pCi/L	900.0 MOD			F8L180000-165C
Gross Alpha	49.4	56.9	6.3	1.1		115	(73 - 136)
	Batch #:	8353165		Analysis Date:	12/21/08		
Total Uranium by KPA ASTM 5174-91							
			pCi/L	5174-91			F8L190000-127C
Total Uranium	27.7	29.2	3.5	0.2		105	(90 - 118)
	Batch #:	8354127		Analysis Date:	12/21/08		
Total Uranium by KPA ASTM 5174-91							
			pCi/L	5174-91			F8L190000-127C
Total Uranium	5.54	5.80	0.60	0.21		105	(90 - 118)
	Batch #:	8354127		Analysis Date:	12/21/08		
Gamma Cs-137 & Hits by EPA 901.1 MOD							
			pCi/L	901.1 MOD			F8L240000-107C
Americium 241	141000	138000	11000	600		98	(90 - 110)
Cesium 137	53100	51500	3000	200		97	(90 - 110)
Cobalt 60	87900	84300	4700	200		96	(90 - 110)
	Batch #:	8359107		Analysis Date:	01/11/09		
TRITIUM (Distill) by EPA 906.0 MOD							
			pCi/L	906.0 MOD			F9A120000-073C
Tritium	4820	3960	470	340		82	(77 - 110)
	Batch #:	9012073		Analysis Date:	01/13/09		

NOTE(S)

MDC is determined by instrument performance only

1247

Laboratory Control Sample/LCS Duplicate Report

Radiochemistry

Client Lot ID: F8L170170
 Matrix: WATER

Parameter	Spike Amount	Result	Total Uncert. (2 σ +/-)	% Yld	% Rec	Lab Sample ID	
						QC Control Limits	Precision
Radium 226 by EPA	903.0 MOD	pCi/L	903.0 MOD			F8L170000-386C	
Radium (226)	11.3	5.86	0.57	86	52	(52 - 150)	
Spk 2	11.3	10.1	0.90	97	90	(52 - 150) 53 %RPD	
	Batch #:	8352386		Analysis Date: 01/12/09			
Radium 228 by GFPC EPA	904 MOD	pCi/L	904 MOD			F8L170000-387C	
Radium 228	7.35	5.52	0.82	56	75	(64 - 140)	
Spk 2	7.35	8.11	0.95	72	110	(64 - 140) 38 %RPD	
	Batch #:	8352387		Analysis Date: 01/09/09			
SR-90 BY GFPC EPA-905	MOD	pCi/L	905 MOD			F8L170000-461C	
Strontium 90	6.99	7.81	0.93	64	112	(78 - 146)	
Spk 2	6.99	8.38	0.97	66	120	(78 - 146) 7 %RPD	
	Batch #:	8352461		Analysis Date: 01/10/09			

NOTE(S)

1248

DUPLICATE EVALUATION REPORT

Radiochemistry

Client Lot ID: F8L170170
 Matrix: WATER

Date Sampled: 12/15/08

Date Received: 12/17/08

Parameter	SAMPLE Result		Total Uncert. (2σ +/-)	% Yld	DUPLICATE Result		Total Uncert. (2σ +/-)	% Yld	QC Sample ID Precision
Gross Alpha/Beta EPA 900									
									F8L170169-001
Gross Alpha	2.3	J	1.1		2.4	J	1.2		5 %RPD
Gross Beta	4.10		0.95		3.64	J	0.94		12 %RPD
	Batch #:		8353165 (Sample)		8353165 (Duplicate)				
Gamma Cs-137 & Hits by EPA 901.1 MOD									
									F8L170169-001
Cesium 137	2.1	U	8.2		0.3	U	7.0		154 %RPD
Potassium 40	-50	U	480		-100	U	4800		74 %RPD
	Batch #:		8359107 (Sample)		8359107 (Duplicate)				
TRITIUM (Distill) by EPA 906.0 MOD									
									F8L170169-001
Tritium	80	U	200		120	U	200		38 %RPD
	Batch #:		9012073 (Sample)		9012073 (Duplicate)				

NOTE (S)

Data are incomplete without the case narrative.
 Calculations are performed before rounding to avoid round-off error in calculated results

J Result is greater than sample detection limit but less than stated reporting limit.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE REPORT

Radiochemistry

Client Lot ID: F8L120277
 Matrix: WATER

Date Sampled: 12/07/08 1315
 Date Received: 12/12/08 0830

Parameter	Spike Amount	SPIKE Result	Total Uncert. (2 σ +/-)	Spike Yld	SAMPLE Result	Total Uncert. (2 σ +/-)	QC Sample ID		QC Control Limits
							% Yld	%Rec	
Total Uranium by KPA ASTM 5			ug/L	5174-91			F8L120277-001		
Total Uranium	40.0	43.3	5.1		1.45	0.15		105	(90 - 121)
Spk2	40.0	43.5	5.2		1.45	0.15		105	(90 - 121)
						Precision:		0.3	%RPD
Batch #:		8354127	Analysis date:		12/21/08				

NOTE (S)

Data are incomplete without the case narrative.

Calculations are performed before rounding to avoid round-off error in calculated results