

Bioassays of

US EPA Laboratory Sabine Island

Escambia County

NPDES #FL0044377

Sampled June 5, 2006

August 2006

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

US EPA Laboratory Sabine Island, 1 Sabine Island Drive, Gulf Breeze, Escambia County, Florida, NPDES #FL0044377. Effluent samples for this facility were collected on June 5, 2006.

Introduction

US EPA Laboratory Sabine Island cultures marine organisms and vegetation for use in scientific research projects. The facility has four outfalls (D-001, D-002, D-003, and D-004); each has a design flow of 0.144 million gallons per day (MGD). The only flow reported on the facility's DMR for the past year (June 1, 2005 – May 31, 2006) was the quarterly daily maximum flow from Outfall D-002 of 0.0864 MGD January-March 2006. Seawater is supplied by an automated delivery system consisting of three 9,000 gallon and three 6,000 gallon seawater storage tanks; high capacity water pumps; sand, carbon and cartridge filters; aeration blowers; heaters and chillers, and associated sensors, valves and plumbing. The facility pumps seawater from the Class III marine waters of Santa Rosa Sound (referred to hereafter as the Sound) into culture tanks located in Building 20 of the Wet Lab. The seawater is circulated through the indoor and outdoor culture tanks and then is routed back into the Sound at approximately 30° 20' 20.41"N latitude, 87° 09' 30.23"W longitude. The seawater is filtered and the salinity and temperature are adjusted and controlled as needed. Fresh municipal water is used for salinity adjustments.

There are no administrative orders (AO) or consent orders (CO) for this facility. The facility has no toxicity testing requirements or mixing zones. During the sample collection event, the facility was only discharging from Outfall D-001. (Facility information provided by Glenn Butts of FDEP Northwest District).

Methods

Samples were collected from the EFF-1 NPDES sampling point for Outfall D-001 by Glen Butts and Christopher Stoll (FDEP Northwest District) following DEP-SOP-001/01 FS 2400 Wastewater Sampling. All DEP SOPs are available on the web at: http://www.floridadep.org/labs/qa/sops.htm.

See Appendix A for the completed chain of custody form.

The acute screening 48-hour toxicity tests and algal growth potential test were performed following internal DEP SOPs TA07_03, TA07_04, and TA08_01 through TA08_09. All internal DEP SOPs are available on the web at: http://www.floridadep.org/labs/cgi-bin/sop/biosop.asp. The Department uses the 48-hour acute screening toxicity test to provide reasonable assurance that the facility does not adversely affect waters of the state.

Toxicity Test Results

Tests were performed June 6 - 8, 2006.

Americamysis bahia 48-hour acute screening bioassay –	LC_{50} > 100%, 5% mortality* in 100% sample at 48 hours
Menidia beryllina 48-hour acute screening bioassay –	LC_{50} > 100%, 20% mortality* in 100% sample at 48 hours

The bioassay sample was not acutely toxic to the *A. bahia* test organisms, but was slightly toxic to the *M. beryllina* test organisms. There was 10% mortality in the *M. beryllina* control treatment, indicating that a portion of the observed mortality may not be related to the effluent toxicity.

See Appendix B for bioassay bench sheets. See Appendix C for results of the last 20 standard reference toxicant (SRT) tests and the bench sheets and statistical analyses of the SRT tests that correspond to these facility tests. See Appendix D for test organism receipts.

*NOTE: In a 48-hour acute screening test of 100% effluent, mortality of < 20% provides reasonable assurance that the effluent meets the acute toxicity criterion of Florida's Surface Water Quality Standards (Rule 62-302.500 (1)(a)4, F.A.C.). Mortality between 20-50% indicates low to moderate levels of toxicity, and further action may be required. Mortality of > 50% provides reasonable assurance that the effluent fails to meet the minimum requirement to discharge to waters of the state (Rule 62-4.244(3)(a), F.A.C.).

Algal Growth Potential

The effluent Algal Growth Potential (AGP) was 16.2 mg dry wt/L of the saltwater species *Dunaliella tertiolecta.* Raschke and Shultz found that AGP values above 10.0 mg dry weight/L represent a "problem" threshold for marine receiving waters, implying nutrient enrichment (personal communication with Ron Raschke USEPA Region 4, 1987). The analytical chemistry suggests that the effluent is nitrogen-limited.

See Table 1 for AGP results.

Chemistry Results

Total residual chlorine and total ammonia were not detected in the bioassay sample in the laboratory. The total ammonia concentration in the sample collected and preserved for chemical analysis was 0.079 mg/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was < 0.02 mg/L.

Copper was detected in the effluent at levels that comply with Class III Marine water quality criteria (62-302.530, F.A.C.). Aluminum, iron, and zinc were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL).

See Table 2 for results of analytes detected in the effluent, and corresponding limits. See Appendix E for a complete list of chemical analyses performed.

Conclusion

The effluent sample collected from Outfall D-001 for this facility on June 5, 2006, was not acutely toxic to *A. bahia,* but was slightly toxic to the *M. beryllina* test organism during the 48-hour acute screen bioassays. The effluent AGP result exceeded the "problem" threshold for marine receiving waters. Effluent water quality samples did not exceed any applicable water quality standards or violate any permit conditions.

Table 1. Algal growth potential (AGP; mg dry weight/L) of the saltwater species Dunaliella tertiolecta *and ratios of nitrogen to phosphorus for samples collected from US EPA Laboratory Sabine Island on June 5, 2006.*

Location	AGP (measured)	Inorganic N:P ratio	Total N:P ratio
Effluent Samples	16.2 A	5.21	8.8

A - Value reported is the mean of two or more determinations

Table 2. Effluent limits, Class III Marine Criteria, and chemical data for samples collected from US EPA Laboratory Sabine Island on June 5, 2006.

US EPA Laboratory Sabine Island NPDES# FL0044377	Class III Marine Stds	Effluent Limits	Effluent Samples
Organic Constituents (µg/L)			
None Detected	-	-	-
Metals (µg/L unless otherwise noted)			
Aluminum	≤ 1,500	-	36 If
Arsenic	≤ 50	-	5 U
Cadmium	≤ 9.3	-	0.5 U
Calcium (mg/L)	-	-	258 f
Chromium-III	-	-	2.8 U
Copper	≤ 3.7	-	1.76
Iron	≤ 300	-	17 I
Lead	≤ 8.5	-	2 U
Magnesium (mg/L)	-	-	747
Nickel	≤ 8.3	-	2.5 U
Selenium	≤ 71	-	5 U
Silver	≤ 2.3	-	0.25 U
Zinc	≤ 86	-	9.2 I
Nutrients (mg/L)			
Ortho-phosphate	-	-	0.092 Y
Total Phosphorus	-	-	0.1 Y
Ammonia	-	-	0.079 IYf
Unionized Ammonia	-	-	< 0.02 c
Nitrate+Nitrite	-	-	0.4 Y
Total Kjeldahl Nitrogen	-	-	0.48 Y
Organic Nitrogen	-	-	0.4 c
Total Nitrogen	-	-	0.88 c
General Physical and Chemical Parameters			
Dissolved Oxygen (mg/L)	≥ 4	-	9.3
pH (S.U.)	6.5-8.5	6.5-8.5	8
Conductivity (umhos/cm)	-	-	32,126
Temperature (C)	-	Report	24.5
Chlorophyll-A (µg/L)	-	-	0.85 U
Phaeophytin-A (µg/L)	-	-	1.5 U
Sulfate	-	-	1,600 Y
Quarterly Flow (MGD)	-	Report	0.0864 d
Hardness (mg/L)	-	-	3,720.4 c

Value exceeds the Class III Fresh/Marine Water Quality Criteria (62-302, F.A.C.) and/or Effluent Limits

c - Calculated value

d - Daily maximum

f - Ammonia, aluminum, and calcium were detected in the field blank between the laboratory MDL and PQL

I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation lir

U - Material analyzed for but not detected; value reported is the minimum detection limit

Y - The analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2006-06-05-31
US EPA Laboratory-Sabine Island

Requester: Shannan Bogdanov
Field Report Prepared By: Glenn Butts

Customer: NW-DIST
Collected By: BUTTS / STOLL
Send Final Report To Greg Smith

Project ID: FYI3
Sampling Agency: FDEP NW DISTRICT

PMAS: 1163

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	EPA SABINE ISLAND	☐ Comp ☒ Grab	06-05-06 1000		
	Field ID: #1	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L): 9.32	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc): SALT	Temp (C): 24.46	pH: 8.04	Sample Depth ☐ m ☐ ft	20004 32126 ☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm) NPDES Number
	Latitude o ' "	Longitude o ' "	Comments: AIR 26° C		

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	NW DISTRICT CHEM LAB PENSACOLA	☐ Comp ☒ Grab	06-05-06 0645		
	Field ID: BLANKS	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc): FRESH	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) NPDES Number
	Latitude o ' "	Longitude o ' "	Comments		

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
		☐ Comp ☐ Grab			
	Field ID	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc)	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) NPDES Number
	Latitude o ' "	Longitude o ' "	Comments		

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
		☐ Comp ☐ Grab			
	Field ID	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc)	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) NPDES Number
	Latitude o ' "	Longitude o ' "	Comments		

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
Glenn Butts			RKW	6-6-06/830A				

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

(2) Biooassay containers PA 6-6-06 1100A

Page 1 of 3

Appendix A. Chain of Custody form

FDEP Biology Section - Acute Screen Bioassay Bench Sheets

Facility: US EPA Laboratory Sabine Island
Address: 1 Sabine Island Drive
City: Gulf Breeze County: Escambia
Contact/District: Glen Butts / Northwest District
NPDES Permit #: FL 0044377
LIMS Job # TLH-2006-06-06-26 LIMS Sample #: 927217
Lims Data Entry: 6-8-06 SP Data Entry Verification: 6-8-06 EW

Sample Collection: Date: 6-5-06 Time: 1000
Hold Time Start: Date: 6-5-06 Time: 1000

Comments:

Instructions (for below): Circle appropriate wording. If yes is circled, complete blanks.

Test Type: Screen
(Static) Static Renewal / Flow-through
Test Duration: (48) 96 Hours.
Light Intensity : 50 - 100 ft. candles.
Photoperiod : 16 hours light 8 hours dark.

Test 1 validation: **Test 1:** SOP TA 07_03
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No

Test 2 validation: **Test 2:** SOP TA 07_04
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No

Initial sample handling:
PH adjustment : yes (no) Initial pH: ____ NaOH N HCl N ____ Drops mL Final pH: ____
Aeration : yes (no) Initial DO: ____mg/L Final DO: ____mg/L Duration: ____minutes Rate: ~____bubbles/min
Salinity adjusted (Test 1): yes (no) Initial Salinity: ____ Final Salinity: ____ Salts Hypersaline brine
Salinity adjusted (Test 2): yes (no) Initial Salinity: ____ Final Salinity: ____ Salts Hypersaline brine
Dechlorination: yes (no) ____mL of 0.025N Sodium Thiosulfate per liter of sample. Final TRC: ____

Sample Validation:
Temperature: Shipped ≤6°C (Yes) No Hand Delivered: Cooling (received °C < collected °C) Yes No
Holding Time: ≤36 Hours (Yes) No (Composite-end of collection; grab-when collected; 4 in 24 - time last sample collected)

Temperature Range °C
Incubator # 2 Range 25.7-26.3
Room B246: 24.3 - 25.0
Waterbath: ~~SP~~ JP
WB: 25.3-25.6

Investigators' Signatures
Sarah Pickard
Eric Cliff
Marshall Faircloth
Bruce Munden
James Reid
Nicole Wellenstein
REVIEWER

Water Quality Parameters	20% DMW	Moderately Hard Water/ Well Water	Salt Water (ASW) NSW Test 1	Salt Water (ASW) NSW Test 2	Other:	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl2 (mg/L)	N/A	N/A	N/A	N/A		not measured		—	SP
Lab Total Residual Cl2 (mg/L)			<0.03	<0.03		<0.03	HACH	GW	SP
Alkalinity (mg/L as $CaCO_3$)			160	160		108	HACH	SP	BA
Hardness (mg/L as $CaCO_3$)			-	-		-	HACH	-	SP
Total Ammonia (mg/L as N)			<0.034	<0.034		<0.034	DENVER	MF	BA
Salinity (ppth)			20.32	20.32		20.4	YSI (Mettler)	BA / SP	MF

V 1.4 9/12/05

Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 927217	Test #: 1	Test Started: Date 6.6.06 Time: 12:15
Organism: A. bahia	SOP #: TA 07_03	Test Ended: Date 6-8-06 Time: 11:25
Organism Batch: 18-06	Diluent/ Batch: ASW / 11-06	
Organism Age: 4 days	Food: YCT *P. subcapitata* *Artemia*	
Chamber Size: 400 mL	Batch: – – GSL-536-90	
Test Volume: 250 mL	Feeding: (Prior to test) - Prior to renewal - (Daily)	

Concentration	Replicate	Chamber #	Test Hour: 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
CTRL	A	Tox 104	5	5	5			
	B	Tox 105	5	5	5			
	C	Tox 106	5	5	5			
	D	Tox 107	5	5	5			
100%	A	Tox 100	5	4 [1D]	4			
	B	Tox 101	5	5	5			
	C	Tox 102	5	5	5			
	D	Tox 103	5	5	5			
Organisms loaded by: JD		Checked by:	[redacted]	BP	BA			
Loading Verified by: BA				Comments:				

m = missing d = dead BR = before renewal AR = after renewal

Test Results:
% mortality in 100% sample: 5%
LC_{50}: >100% If Calculated: 95% CI______ Method:______

Screening Tests:
Report LC50 as >100%, =100%, or <100%.
Substitue highest test concentration used if other than 100% (example: Ocean outfall tested at 30% concentration).

V 2.1 11/01/2005

Page 000037

Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 927217 | Test #: 2 | Test Started: Date 6-6-06 Time: 1205

Organism: M.beryllina | SOP #: TA 07_04 | Test Ended: Date 6-8-06 Time: 11:35

Organism Batch: 19-06 | Diluent/ Batch: ASW / 11-06

Organism Age: 13 days | Food: YCT P. subcapitata Artemia

Chamber Size: 1000 mL | Batch: - - GSL-536-90

Test Volume: 500 mL | Feeding: (Prior to test) - Prior to renewal - Daily

Concentration	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
CTRL	A	E1	5	5	5			
	B	E2	5	5	5			
	C	E3	5	5	4 1D			
	D	E4	5	5	4 1D			
100%	A	E5	5	5	4 1D			
	B	E6	5	5	4 1D			
	C	E7	5	5	4 1D			
	D	E8	5	4 1D	4			
Organisms loaded by: 8P		Checked by:	[redacted]	8P	JD			

Loading Verified by: EW

Comments:

m = missing d = dead BR = before renewal AR = after renewal

Test Results:

% mortality in 100% sample: 20%

LC_{50}: >100% If Calculated: 95% CI______ Method:______

Screening Tests:

Report LC50 as >100%, =100%, or <100%.

Substitue highest test concentration used if other than 100% (example: Ocean outfall tested at 30% concentration).

V 2.1 11/01/2005

Page 000038

FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 927217 Test #: 1 of 2

TEST SOP #: TA07_03 Test Species: *Ceriodaphnia dubia* *Cyprinella leedsi* *Pimephales promelas* (*Americamysis bahia*) *Menidia beryllina* Other:_____

Concentration CTRL	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	~~C~~		
pH (S.U.)	8.3	8.0	8.2			
Temperature °C	24.6	24.0	24.8			
Dissolved Oxygen mg/L	6.6	4.5	4.7			
Conductivity µmhos (mmhos)	33.2	33.1	31.5			
(initials) Measured by:	BA	[illegible]	JD			
(initials) Recorded by:	BA	[illegible]	JD			

Comments:

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	~~C~~		
pH (S.U.)	8.2	7.7	8.0			
Temperature °C	24.3	24.1	24.6			
Dissolved Oxygen mg/L	7.1	5.2	4.8			
Conductivity µmhos (mmhos)	33.1	33.4	32.8			
(initials) Measured by:	BA	[illegible]	JD			
(initials) Recorded by:	BA	[illegible]	JD			

Comments:

Concentration	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	~~72 Hr.~~	96 Hr.
Replicate						
pH (S.U.)						
Temperature °C						
Dissolved Oxygen mg/L						
Conductivity µmhos ~~mmhos~~						
~~(initials)~~ Measured by:						
~~(initials)~~ Recorded by:						

Comments:

Concentration	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	~~72 Hr.~~	96 Hr.
Replicate						
pH (S.U.)						
Temperature °C						
Dissolved Oxygen mg/L						
Conductivity µmhos ~~mmhos~~						
~~(initials)~~ Measured by:						
~~(initials)~~ Recorded by:						

Comments:

V 2.0 2/24/04

FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 927217 Test #: 2 of 2

TEST SOP #: TA07_ 04 Test Species: *Ceriodaphnia dubia* *Cyprinella leedsi* *Pimephales promelas* *Americamysis bahia* (*Menidia beryllina*) Other:_____

Concentration CTRL	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C		
pH (S.U.)	8.2	8.3	8.2			
Temperature °C	24.5	24.3	24.7			
Dissolved Oxygen mg/L	6.7	6.5	6.2			
Conductivity µmhos ~~mmhos~~	32.9	32.7	32.8			
(initials) Measured by:	BA	[illegible]	JD			
(initials) Recorded by:	BA	[illegible]	JD			

Comments:

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C		
pH (S.U.)	8.2	8.2	8.0			
Temperature °C	25.7	24.5	24.7			
Dissolved Oxygen mg/L	7.3	6.7	6.3			
Conductivity µmhos ~~mmhos~~	33.0	33.2	33.4			
(initials) Measured by:	BA	[illegible]	JD			
(initials) Recorded by:	BA	[illegible]	JD			

Comments:

Concentration	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate						
pH (S.U.)						
Temperature °C						
Dissolved Oxygen mg/L						
Conductivity µmhos ~~mmhos~~						
(initials) Measured by:						
(initials) Recorded by:						

Comments:

Concentration	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate						
pH (S.U.)						
Temperature °C						
Dissolved Oxygen mg/L						
Conductivity µmhos ~~mmhos~~						
(initials) Measured by:						
(initials) Recorded by:						

Comments:

V 2.0 2/24/04

Appendix C. SRT Bench Sheets and Statistical Analysis

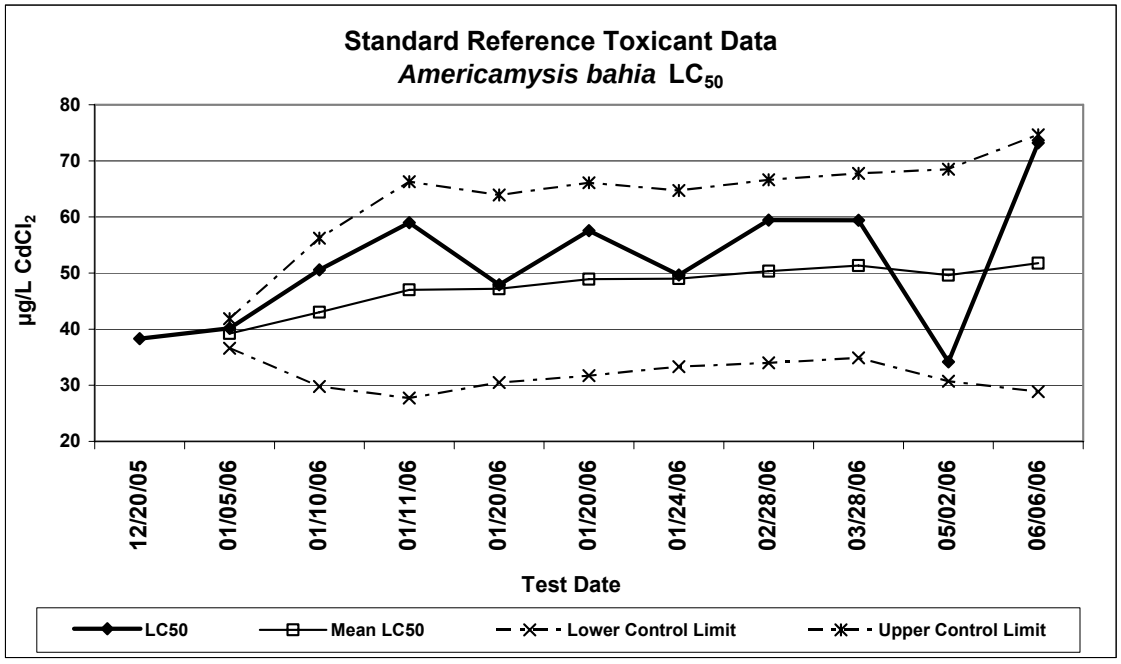
Florida Department of Environmental Protection
Bureau of Laboratories

Standard Reference Toxicant (SRT) Test Data - 48-hour Acute Toxicity
Americamysis bahia (mysid shrimp) - Cadmium Chloride ($CdCl_2$)

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
12/20/05	38.30				
01/05/06	40.16	39.23	1.32	36.60	41.86
01/10/06	50.55	43.00	6.60	29.80	56.21
01/11/06	58.98	47.00	9.64	27.72	66.27
01/20/06	47.91	47.18	8.36	30.47	63.89
01/20/06	57.54	48.91	8.59	31.73	66.08
01/24/06	49.65	49.01	7.84	33.32	64.70
02/28/06	59.45	50.32	8.15	34.03	66.61
03/28/06	59.42	51.33	8.20	34.93	67.73
05/02/06	34.19	49.62	9.44	30.73	68.50
06/06/06	73.23	51.76	11.44	28.88	74.65

Lower Confidence Limit = mean - 2 * Std Dev
Upper Confidence Limit = mean + 2 * Std Dev

CV = 22.11
EPA reference 75th quartile CV = 26%



*Fewer than 20 points are charted due to recent initiation of SRT testing using $CdCl_2$.

Appendix C. (continued)

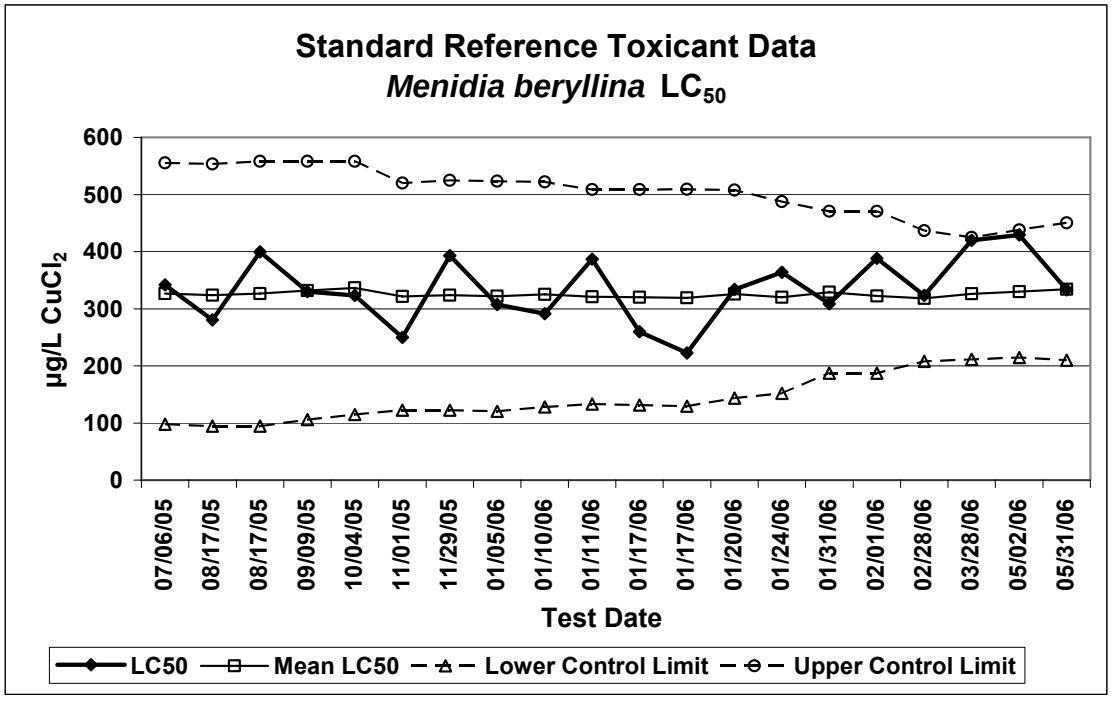
Florida Department of Environmental Protection
Bureau of Laboratories

Standard Reference Toxicant (SRT) Test Data - 48-hour Acute Toxicity
Menidia beryllina (inland silverside) - Copper Chloride ($CuCl_2$)

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
07/06/05	341.51	326.46	114.33	97.80	555.12
08/17/05	280.62	324.00	114.78	94.43	553.56
08/17/05	399.46	326.40	115.88	94.63	558.16
09/09/05	329.88	331.94	113.09	105.75	558.13
10/04/05	323.49	336.45	110.73	115.00	557.90
11/01/05	250.00	321.21	99.50	122.21	520.21
11/29/05	392.98	323.59	100.67	122.25	524.94
01/05/06	307.20	321.88	100.64	120.60	523.16
01/10/06	291.06	325.02	98.52	127.97	522.07
01/11/06	386.84	320.92	93.81	133.29	508.54
01/17/06	259.80	319.91	94.38	131.15	508.67
01/17/06	222.49	319.27	95.03	129.21	509.32
01/20/06	333.67	325.74	91.10	143.54	507.95
01/24/06	363.93	319.79	83.89	152.01	487.58
01/31/06	308.77	328.86	70.76	187.34	470.39
02/01/06	388.25	322.40	57.22	187.34	470.39
02/28/06	323.38	318.11	53.47	207.96	436.83
03/28/06	419.55	326.32	55.87	211.18	425.04
05/02/06	429.19	330.10	58.74	214.58	438.07
05/31/06	333.13	334.26	57.18	209.69	450.51

Means are of the last 20 SRT tests.
Lower Confidence Limit = mean - 2 * Std Dev
Upper Confidence Limit = mean + 2 * Std Dev

CV = 17.11
EPA reference 75th quartile CV = 21%



Appendix C. (continued)

[redacted]

FDEP Biology Section - Acute SRT Bench Sheet

Test Organism: (Americamysis bahia) Menidia beryllina Hyalella azteca
Method 2007.0 Method 2006.0 Method 100.1 EPA-600-R-99-064
Ceriodaphnia dubia Cyprinella leedsi Pimephales promelas Other:
Method 2002.0 Method 2000.0 Method 2000.0

Method from EPA-821-R-02-012
Test Type: Definitive
Static / (Static Renewal)
Test Page 1 of 2

Diluent/ Batch#: ASW / 11-06
Toxicant/ Batch# Cu-Lain / 7-06 ($CdCl_2$)

Test Beginning: Date: 6-6-06 Time: 1210
Test Ending: Date: 6-10-06 Time: 1110

Organism Batch #/ Age: 18-06 / 4 days
Feeding: (Prior to test / Prior to renewal / Daily)
Food: YCT P.subcapitata Artemia
Food Batch: — — GSL-536-90
Chamber size: 400 mL
Test volume: 250 mL per replicate

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	EW
Alkalinity (mg/L as $CaCO_3$):	1600	Hach	SR
Hardness (mg/L as CaCO3):	–	Hach	–
Total Ammonia (mg/L as N):	<0.034	Denver	MF
Salinity (ppth):	20.32	Mettler	BA

Conc. µg/L g/L	Rep.	Chamber#	Number Live 0 hr / 48 hr	Number Live 24 hr / 72 hr	Number Live 48 hr / 96 hr	pH (SU) 0 hr / 48 hr	pH (SU) 24 hr / 72 hr	pH (SU) 48 hr / 96 hr	Temperature (°C) 0 hr / 48 hr	Temperature (°C) 24 hr / 72 hr	Temperature (°C) 48 hr / 96 hr	D.O. (mg/l) 0 hr / 48 hr	D.O. (mg/l) 24 hr / 72 hr	D.O. (mg/l) 48 hr / 96 hr	UNCORRECTED Cond. (mmhos/cm) 0 hr / 48 hr	UNCORRECTED Cond. (mmhos/cm) 24 hr / 72 hr	UNCORRECTED Cond. (mmhos/cm) 48 hr / 96 hr
Control	A	Tox 108	5	5	5	8.3			24.4		2	7.0			32.9		
	B	Tox 109	5	5	5		8.1			24.3			5.8			33.3	
	C	Tox 110	5	5	5			7.9			24.0			4.7			33.7
	D	Tox 111	5	5	4D												
20	A	Tox 112	5	5	5	8.3			24.5			7.0			32.9		
	B	Tox 113	5	5	5		8.1			24.2			5.2			33.2	
	C	Tox 114	5	5	5			7.9			24.0			4.5			33.6
	D	Tox 116	5	5	5												
30	A	Tox 117	5	5	5	8.3			24.5			6.9			32.9		
	B	Tox 118	5	5	5		8.1			24.2			5.2			33.2	
	C	Tox 119	5	5	5			8.0			24.0			4.3			33.6
	D	Tox 120	5	5	5												
45	A	Tox 121	5	5	5	8.3			24.5			7.0			32.9		
	B	Tox 122	5	5	5		7.9			24.2			4.4			33.2	
	C	Tox 123	5	5	5			8.0			24.0			4.5			33.5
	D	Tox 124	5	5	5												
60	A	Tox 127	5	5	3 2D	8.3			24.5			7.0			32.9		
	B	Tox 128	5	5	2 3D		7.9			24.2			4.7			33.5	
	C	Tox 130	5	5	4D			8.0			24.0			4.7			~~33.5~~ 33.7
	D	Tox 132	5	5	3 2D												BA
100	A	Tox 135	5	4D	0 4D	8.3			24.5			7.0			32.9		
	B	Tox 136	5	5	1 4D		8.1			24.3			5.3			33.3	
	C	Tox 137	5	5	2 3D			8.0			24.0			4.8			33.7
	D	Tox 138	5	5	0 5D												
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	JD	BA	MF	SR	BA	MF	JD	BA	MF	SR	BA	MF	SR	BA
Recorded by:			SR	JD	BA	MF	SR	BA	MF	JD	BA	MF	SR	BA	MF	SR	BA

Investigators' Signatures
Sarah Richard
Marshall Faircloth
James Daniel
Basil Alexander
Nicole Wellendt
REVIEWER

Concentrations prepared by: MF
Loading verified by: SR
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 25.7 max. 27.3 mean 26.5
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 24.3 max. 25.1 mean 24.7

Remarks:

Statistical Results: Method: Spearman-Karber
(48) 96 hour LC50: 73.23
95% Confidence Interval: lower 63.52 upper 84.43

Revised 02/21/06

Page 000068

Appendix C. (continued)

FDEP Biology Section - Acute SRT Bench Sheet

Test Organism: *Americamysis bahia* (Method 2007.0) *Menidia beryllina* (Method 2006.0) *Hyalella azteca* (Method 100.1 EPA-600-R-99-064)
Ceriodaphnia dubia (Method 2002.0) *Cyprinella leedsi* (Method 2000.0) *Pimephales promelas* (Method 2000.0) Other:

Method from EPA-821-R-02-012
Test Type: Definitive
Static / Static Renewal
Test Page 2 of 2

Diluent/ Batch#: ASW / 11-06
Toxicant/ Batch# Cadmium / 7-06 $CdCl_2$

Test Beginning: Date: 6-6-06 Time: 1210
Test Ending: Date: 6-10-06 Time: 1110

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	EW
Alkalinity (mg/L as $CaCO_3$):	160	Hach	BA
Hardness (mg/L as CaCO3):	–	Hach	–
Total Ammonia (mg/L as N):	<0.074	Denver	MF
Salinity (ppth):	20.32	Mettler	BA

Organism Batch #/ Age: 18-06 / 4 days
Feeding: Prior to test / Prior to renewal / Daily
Food: YCT P.subcapitata Artemia
Food Batch: – – GSL-53690
Chamber size: 400 mL
Test volume: 250 mL per replicate

Conc. ug/L g/L	Rep.	Chamber#	Number Live 0 hr / 24 hr / 48 hr (48 hr / 72 hr / 96 hr)	pH (SU) 0 hr / 24 hr / 48 hr (48 hr / 72 hr / 96 hr)	Temperature (° C) 0 hr / 24 hr / 48 hr (48 hr / 72 hr / 96 hr)	D.O. (mg/l) 0 hr / 24 hr / 48 hr (48 hr / 72 hr / 96 hr)	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhom/cm) 0 hr / 24 hr / 48 hr (48 hr / 72 hr / 96 hr)
Control	A	Tox 108	5 / 5 / 5	8.2 / / 7.9	24.1 / / 24.2	5.8 / / 4.9	33.0 / / 337
	B	Tox 109	5 / 5 / 5	/ /	/ 24.8 /	/ /	/ /
	C	Tox 110	5 / 5 / 5	/ /	/ /	/ /	/ /
	D	Tox 111	4 / 4 / 4	/ 8.0 /	/ 24.0 /	/ 5.1 /	/ 345 /
20	A	Tox 112	5 / 5 / 5	8.2 / / 7.9	24.2 / / 24.3	5.8 / / 4.7	32.9 / / 343
	B	Tox 113	5 / 5 / 5	/ /	/ /	/ /	/ /
	C	Tox 114	5 / 5 / 4 1D	/ /	/ /	/ /	/ /
	D	Tox 116	5 / 5 / 5	/ 8.0 /	/ 24.3 /	/ 4.9 /	/ 338 /
30	A	Tox 117 4D	5 / 4 1D / 4	8.2 / / 8.0	24.2 / / 24.0	5.9 / / 5.0	32.8 / / 339
	B	Tox 118	5 / 4 1D / 4	/ /	/ /	/ /	/ /
	C	Tox 119	5 / 4 1D / 3 1D	/ /	/ /	/ /	/ /
	D	Tox 120	5 / 5 / 5	/ 7.9 /	/ 24.2 /	/ 4.8 /	/ 334 /
45	A	Tox 121	5 / 4 1D / 2 2D	8.2 / / 8.0	24.1 / / 24.4	6.1 / / 5.1	33.0 / / 338
	B	Tox 122	5 / 4 1D / 3 1D	/ /	/ /	/ /	/ /
	C	Tox 123	5 / 5 / 3 2D	/ /	/ /	/ /	/ /
	D	Tox 124	5 / 4 1D / 1 3D	/ 8.0 /	/ 24.2 /	/ 4.6 /	/ 33.8 /
67	A	Tox 127	3 / 1 2D / 0 1D	8.2 / / 8.0	24.1 / / 24.3	6.0 / / 5.0	33.1 / / 339
	B	Tox 128	2 / 2 / 1 1D	/ /	/ /	/ /	/ /
	C	Tox 130	4 / 0 4D / –	/ /	/ /	/ /	/ /
	D	Tox 132	3 / 2 1D / 0 2D	/ 8.0 /	/ 24.2 /	– / 4.7 /	/ 339 /
100	A	Tox 135	– / – / –	8.2 / / –	24.0 / / –	5.9 / / –	33.0 / / –
	B	Tox 136	1 / 0 1D / –	/ /	/ /	/ /	/ /
	C	Tox 137	2 / 0 2D / –	/ 8.0 /	/ 24.2 /	/ 5.0 /	/ 34.0 /
	D	Tox 138	– / – / –	/ /	/ /	/ /	/ /
	A						
	B						
	C						
	D						
Loaded / measured by:			BA / MF / MF	BA / BA / MF	BA / BA / MF	BA / BA / MF	BA / BA / MF
Recorded by:			BA / MF / MF	BA / BA / MF	BA / BA / MF	BA / BA / MF	BA / BA / MF

Investigators' Signatures
Sarah Pickard
Bruce Ahrens
Marshall Faircloth
Angela Wellendorf
REVIEWER

Concentrations prepared by: ANE
Loading verified by: WA
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 25.7 max. 27.3 mean 26.5
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min 24.3 max. 25.1 mean 24.7

Remarks:

Statistical Results: Method: Spearman-Karber
48 / 96 hour LC50: 42.57
95% Confidence Interval: lower 37.82 upper 47.92

Revised 02/21/06

Page 000069

Appendix C. (continued)

FDEP Biology Section - Acute SRT Bench Sheet

Test Organism: *Americamysis bahia* (Method 2007.0) (*Menidia beryllina* Method 2006.0) *Hyalella azteca* (Method 100.1 EPA-600/R-99-064) *Ceriodaphnia dubia* (Method 2002.0) *Cyprinella leedsi* (Method 2000.0) *Pimephales promelas* (Method 2000.0) Other:

Method from EPA-821-R-02-012
Test Type: Definitive
Static / (Static Renewal)
Test Page 1 of 2

Diluent/ Batch#: ASW / 11-06
Toxicant/ Batch# $CuCl_2$ / 5-06

Test Beginning: Date: 5-31-06 Time: 13:30
Test Ending: Date: ~~6-7-06~~ 6-6-06 Time: 13:00

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	GB
Alkalinity (mg/L as $CaCO_3$):	2.19	Hach	~~DPSA~~
Hardness (mg/L as CaCO3):	—	Hach	—
Total Ammonia (mg/L as N):	<0.017	Denver	MF
Salinity (ppth):	20.53	Mettler	BA

Organism Batch #/ Age: 18-06 / 10 days
Feeding: (Prior to test) / (Prior to renewal) Daily
Food: YCT P.*subcapitata* Artemia
Food Batch: — — 6SL-536-90
Chamber size: 1000 mL
Test volume: 500 mL per replicate

UNCORRECTED (Cond. (mmhos/cm) / Cond. (µmhom/cm))

Conc. (%) g/L	Rep.	Chamber#	Number Live 0 hr (~~48 hr~~)	Number Live 24 hr (~~72 hr~~)	Number Live 48 hr (~~96 hr~~)	pH (SU) 0 hr (~~48 hr~~)	pH (SU) 24 hr (~~72 hr~~)	pH (SU) 48 hr (~~96 hr~~)	Temperature (° C) 0 hr (~~48 hr~~)	Temperature (° C) 24 hr (~~72 hr~~)	Temperature (° C) 48 hr (~~96 hr~~)	D.O. (mg/l) 0 hr (~~48 hr~~)	D.O. (mg/l) 24 hr (~~72 hr~~)	D.O. (mg/l) 48 hr (~~96 hr~~)	Cond. 0 hr (~~48 hr~~)	Cond. 24 hr (~~72 hr~~)	Cond. 48 hr (~~96 hr~~)
Control	A	D1	10	10	10	8.3		8.3	24.6		24.0	6.8		6.3	31.9		31.1
	B	D2	10	10	10		7.8			24.4			4.2			32.9	
	C																
	D																
100	A	D3	10	10	10	8.3		8.3	24.8		24.0	6.6		6.4	32.3		33.4
	B	D4	10	10	10		8.0			24.9			4.2	6		33.1	
	C																
	D																
200	A	D5	10	10	9/10	8.3		8.3	24.7		24.0	6.8		6.6	32.4		33.5
	B	D6	10	10	9/10		8.1			24.8			4.1			33.0	
	C																
	D																
300	A	D7	10	10	10	8.3		8.3	24.7		24.0	6.8		6.5	32.3		34.0
	B	D8	10	9/10	7/10		8.1			24.6			4.3			32.9	
	C																
	D																
400	A	D9	10	9/10	8/10	8.3		8.3	24.6		24.0	6.8		6.6	32.3		33.9
	B	D10	10	9/10	8/10		8.1			24.4			4.3			32.8	
	C		~~10~~ 9														
	D																
500	A	D11	10	6/10	2/10	8.3		8.3	24.7		24.0	6.8		6.7	32.2		33.8
	B	D12	10	6/10	0/10		8.1			24.3			4.6			32.8	
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	JD	JD	JD	BA	BA	JD	JD	BA	JD	BA	BA	JD	BA	BA
Recorded by:			BA	JD	JD	JD	BA	BA	JD	JD	BA	JD	BA	BA	JD	BA	BA

Investigators' Signatures
Ann Dreher
Jason Branch
Erin Lang
Marsha Frederick
Ann Commens
Nicole Wellendorf
REVIEWER

Concentrations prepared by: MF
Loading verified by: CW
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 24.2 max. 26.6 mean 25.4
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 24.2 max. 24.9 mean 24.6

Remarks: Test aerated at 24 hours. MF 6/1/06

Statistical Results: Method: Spearman-Karber
~~48~~ / 96 hour LC50: 333.13
95% Confidence Interval: lower 305.03 upper 363.82
Revised 02/21/06

Page 000060

Appendix C. (continued)

FDEP Biology Section - Acute SRT Bench Sheet

Test Organism: *Americamysis bahia* (Method 2007.0) / *Menidia beryllina* (Method 2006.0) / *Hyalella azteca* (Method 100.1 EPA-600-R-99-064) / *Ceriodaphnia dubia* (Method 2002.0) / *Cyprinella leedsi* (Method 2000.0) / *Pimephales promelas* (Method 2000.0) / Other: _____

Method from EPA-821-R-02-012
Test Type: Definitive / Static / (Static Renewal)
Test Page 2 of 2

Diluent/ Batch#: ASW / 11-06
Toxicant/ Batch#: CuCl2 / 5-06

Test Beginning: Date: 5-31-06 Time: 13:30
Test Ending: Date: 6-2-06 Time: 13:00

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	BA
Alkalinity (mg/L as $CaCO_3$):	219	Hach	BA/SA
Hardness (mg/L as CaCO3):	—	Hach	—
Total Ammonia (mg/L as N):	<0.017	Denver	MF
Salinity (ppth):	20.53	Mettler	BA

Organism Batch #/ Age: 18-06 / 10 hrs
Feeding: (Prior to test) / Prior to renewal / Daily
Food: YCT P.*subcapitata* Artemia
Food Batch: — — GSL-536-90
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc. (ppt) g/L	Rep.	Chamber#	Number Live: 0 hr / 24 hr / 48 hr			pH (SU): 0 hr / 24 hr / 48 hr			Temperature (° C): 0 hr / 24 hr / 48 hr			D.O. (mg/l): 0 hr / 24 hr / 48 hr			UNCORRECTED Cond. (mmhos/cm) Cond. (µmhom/cm): 0 hr / 24 hr / 48 hr		
			48 hr	72 hr	96 hr	48 hr	72 hr	96 hr	48 hr	72 hr	96 hr	48 hr	72 hr	96 hr	48 hr	72 hr	96 hr
Control	A	D1	10	10(A)	10	8.3	8.4		24.5	24.2		7.0	7.0		33.0	32.5	
	B	D2	10	10	10			8.3			24.1			6.9			33.5
	C	D3 BA															
	D																
100	A	D3	10	10	10	8.3	8.4		24.4	24.1		6.7	6.6		33.0	33.4	
	B	D4	10	10	10			8.3			24.0			6.7			33.3
	C																
	D																
200	A	D5	9	9	9/10	8.3	8.4		33.1	24.0		6.7	7.0		24.9	33.1	
	B	D6	9	9	9			8.3	24.4 BA		24.0			6.6	33.1 BA		33.7
	C																
	D																
300	A	D7	10	10 MF	10	8.3	8.4		24.3	24.2		6.7	7.2		33.2	33.6	
	B	D8	7	6 5 (D)	5 (D)			8.4			24.0			6.7			34.0
	C	D9 BA															
	D																
400	A	D9	1	1 MF	1	8.4	8.4	8.4	24.3	24.2	24.1	6.6	7.2	6.8	33.0	33.4	33.8
	B	D10	0	1 MF	—												
	C																
	D																
500	A	D11	2	1	1	8.4	8.4	8.4	24.3	24.3	24.2	6.6	7.3	6.8	33.1	—	33.9
	B	D12	0	—	—		8.4 (B)			24.3 (B)			7.3 (B)			33.3 (B)	
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			MF	MF	JD	BA	MF	JD	BA	MF	JD	BA	MF	JD	BA	MF	JD
Recorded by:			MF	MF	JD	BA	MF	JD	BA	MF	JD	BA	MF	JD	BA	MF	JD

Investigators' Signatures
Bruce Stanley
Marshall Faircloth
James Arnold
Ann Anderson
Nigel Nettleship
REVIEWER

Concentrations prepared by: JD
Loading verified by: NA
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 24.2 max. 24.6 mean 24.4
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 24.2 max. 24.9 mean 24.6

Remarks: (A) 72 hour number Live-recorded C. leedsi in M. beryllina space. MF 6-3-06
(B) recorded Temp chem parameters in B space, should be in A space. MF 6-3-06

Statistical Results: Method: Spearman-Karber
48 / (96) hour LC50: 305.64
95% Confidence Interval: lower 271.5 upper 344.06

Revised 02/21/06

Page 000061

Appendix C. (continued)

Americamysis bahia Acute Standard Reference Toxicant test

DATE: 6-6-06 DURATION: 48 h TOXICANT: $CdCl_2$
SPECIES: *A. bahia*

RAW DATA:	Concentration (ug/L)	Number Exposed	Mortalities
	0.00	20	1
	20.00	20	0
	30.00	20	0
	45.00	20	0
	67.00	20	8
	100.00	20	17

SPEARMAN-KARBER TRIM: 15.19%

SPEARMAN-KARBER ESTIMATES: LC_{50}: 73.23
95% LOWER CONFIDENCE: 63.52
95% UPPER CONFIDENCE: 84.43

NOTE: MORTALITY PROPORTIONS WERE NOT MONOTONICALLY INCREASING. ADJUSTMENTS WERE MADE PRIOR TO SPEARMAN-KARBER ESTIMATION.

Menidia beryllina Acute Standard Reference Toxicant test

DATE: 5-31-06 DURATION: 48 h TOXICANT : $CuCl_2$
SPECIES: *M. beryllina*

RAW DATA:	Concentration (ug/L)	Number Exposed	Mortalities
	0.00	20	0
	100.00	20	0
	200.00	20	2
	300.00	20	3
	400.00	20	19
	500.00	20	18

SPEARMAN-KARBER TRIM: 7.50%

SPEARMAN-KARBER ESTIMATES: LC_{50}: 333.13
95% LOWER CONFIDENCE: 305.03
95% UPPER CONFIDENCE: 363.82

NOTE: MORTALITY PROPORTIONS WERE NOT MONOTONICALLY INCREASING. ADJUSTMENTS WERE MADE PRIOR TO SPEARMAN-KARBER ESTIMATION.

Appendix D. Test Organism Receipts

Aquatic Indicators, Inc.

P.O. Box 632 • St. Augustine, FL 32085-0632 • (904) 829-2780

Date 5-30-06

Species:

1. M. bahia
2. M. berylling
3.

Total Supplied:

1. 150
2. 150
3.

Brood Description:

1. EBA
2. EBA
3.

Age:

1. 2 days
2. 9 days
3.

Environmental Regime	Feeding:	Zooplankton Artemia NH ✓	Photo:	L 16	D 8
P.H.: 8.1	Temp:	25°C	Salinity:	20‰	

Comments:

Thanks.

Appendix D. (continued)

1300 Blue Spruce Drive, Suite C
Fort Collins, Colorado 80524



Toll Free: 800/331-5916
Tel: 970/484-5091 Fax:970/484-251

ORGANISM HISTORY

DATE:	6/5/06
SPECIES:	Americamysis bahia (formerly Mysidopsis)
AGE:	3 day
LIFE STAGE:	Juvenile
HATCH DATE:	6/2/06
BEGAN FEEDING:	Immediately
FOOD:	Artemia

Water Chemistry Record:	Current	Range
TEMPERATURE:	24°C	23-25°C
SALINITY/CONDUCTIVITY:	30 ppt	21-30 ppt
TOTAL HARDNESS (as $CaCO_3$):	--	--
TOTAL ALKALINITY (as $CaCO_3$):	145 mg/l	95-160 mg/l
pH:	8.18	7.98-8.38

Comments:

Facility Supervisor

Aquatic BioSystems, Inc • Quality Research Organisms

Appendix D. (continued)

1300 Blue Spruce Drive, Suite C
Fort Collins, Colorado 80524

Toll Free: 800/331-5916
Tel: 970/484-5091 Fax:970/484-251

ORGANISM HISTORY

DATE: 6/5/06

SPECIES: Menidia beryllina

AGE: 12 day

LIFE STAGE: Larvae

HATCH DATE: 5/24/06

BEGAN FEEDING: Immediately

FOOD: Rotifers, Artemia

Water Chemistry Record:	Current	Range
TEMPERATURE:	24 °C	23-26 °C
SALINITY/CONDUCTIVITY:	22 ppt	22-28 ppt
TOTAL HARDNESS (as $CaCO_3$):	--	--
TOTAL ALKALINITY (as $CaCO_3$):	135 mg/l	95-180 mg/l
pH:	8.28	7.79-8.36

Comments:

Facility Supervisor

Appendix E. Chemical Analyses performed on the effluent from US EPA Laboratory Sabine Island Outfall D-001, sampled on June 5, 2006.

Date Sampled	Field ID	Analysis	Component	Result	Units	Remark	MDL	PQL
06/05/06 10:00	#1	Bio-AGP/LimNut	Algal Growth Potential - Saltwater	16.2	mg DryWt/L	A	3	3
06/05/06 10:00	#1	Bio-Chl-a	Chlorophyll-A, Monochromatic, Water	0.85	ug/L	U	0.85	2.6
06/05/06 10:00	#1	Bio-Chl-a	Phaeophytin-A, Monochromatic, Water	1.5	ug/L	U	1.5	4.5
06/05/06 10:00	#1	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	100	LC50	L		
06/05/06 10:00	#1	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	100	LC50	L		
06/05/06 10:00	#1	BNA-Water	1,2,4-Trichlorobenzene	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	1,2-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	1,3-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	1,4-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	2,4,6-Trichlorophenol	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	2,4-Dichlorophenol	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	2,4-Dimethylphenol	48	ug/L	U	48	190
06/05/06 10:00	#1	BNA-Water	2,4-Dinitrophenol	14	ug/L	UJ	14	58
06/05/06 10:00	#1	BNA-Water	2,4-Dinitrotoluene	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	2,6-Dinitrotoluene	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	2-Chloronaphthalene	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	2-Chlorophenol	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	2-Methyl-4,6-dinitrophenol	2.9	ug/L	U	2.9	12
06/05/06 10:00	#1	BNA-Water	2-Nitrophenol	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	3,3'-Dichlorobenzidine	38	ug/L	U	38	150
06/05/06 10:00	#1	BNA-Water	4,4'-DDD	1.4	ug/L	U	1.4	5.8
06/05/06 10:00	#1	BNA-Water	4,4'-DDE	1.4	ug/L	U	1.4	5.8
06/05/06 10:00	#1	BNA-Water	4,4'-DDT	1.4	ug/L	U	1.4	5.8
06/05/06 10:00	#1	BNA-Water	4-Bromophenyl phenyl ether	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	4-Chloro-3-methylphenol	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	4-Chlorophenyl phenyl ether	1.9	ug/L	U	1.9	7.7
06/05/06 10:00	#1	BNA-Water	4-Nitrophenol	14	ug/L	U	14	58
06/05/06 10:00	#1	BNA-Water	Acenaphthene	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	Acenaphthylene	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	Aldrin	1.4	ug/L	U	1.4	5.8
06/05/06 10:00	#1	BNA-Water	alpha-BHC	1.4	ug/L	U	1.4	5.8
06/05/06 10:00	#1	BNA-Water	Anthracene	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	Benzidine	96	ug/L	U	96	380
06/05/06 10:00	#1	BNA-Water	Benzo(a)anthracene	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	Benzo(a)pyrene	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	Benzo(b)fluoranthene	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	Benzo(g,h,i)perylene	0.96	ug/L	U	0.96	3.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Units	Remark	MDL	PQL
06/05/06 10:00	#1	BNA-Water	Benzo(k)fluoranthene	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	beta-BHC	1.4	ug/L	U	1.4	5.8
06/05/06 10:00	#1	BNA-Water	Bis(2-chloroethoxy)methane	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	Bis(2-chloroethyl)ether	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	Bis(2-chloroisopropyl)ether	2.9	ug/L	U	2.9	12
06/05/06 10:00	#1	BNA-Water	Bis(2-ethylhexyl)phthalate	14	ug/L	U	14	58
06/05/06 10:00	#1	BNA-Water	Butyl benzyl phthalate	4.8	ug/L	U	4.8	19
06/05/06 10:00	#1	BNA-Water	Chrysene	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	delta-BHC	1.4	ug/L	U	1.4	5.8
06/05/06 10:00	#1	BNA-Water	Dibenzo(a,h)anthracene	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	Dieldrin	1.4	ug/L	U	1.4	5.8
06/05/06 10:00	#1	BNA-Water	Diethyl phthalate	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	Dimethyl phthalate	48	ug/L	U	48	190
06/05/06 10:00	#1	BNA-Water	Di-n-butyl phthalate	4.8	ug/L	U	4.8	19
06/05/06 10:00	#1	BNA-Water	Di-n-octyl phthalate	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	Endosulfan I	3.8	ug/L	U	3.8	15
06/05/06 10:00	#1	BNA-Water	Endosulfan II	3.8	ug/L	U	3.8	15
06/05/06 10:00	#1	BNA-Water	Endosulfan sulfate	1.4	ug/L	U	1.4	5.8
06/05/06 10:00	#1	BNA-Water	Endrin	1.4	ug/L	U	1.4	5.8
06/05/06 10:00	#1	BNA-Water	Endrin aldehyde	3.8	ug/L	U	3.8	15
06/05/06 10:00	#1	BNA-Water	Fluoranthene	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	Fluorene	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	gamma-BHC	1.4	ug/L	U	1.4	5.8
06/05/06 10:00	#1	BNA-Water	Heptachlor	1.4	ug/L	U	1.4	5.8
06/05/06 10:00	#1	BNA-Water	Heptachlor epoxide	1.4	ug/L	U	1.4	5.8
06/05/06 10:00	#1	BNA-Water	Hexachlorobenzene	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	Hexachlorobutadiene	2.9	ug/L	U	2.9	12
06/05/06 10:00	#1	BNA-Water	Hexachlorocyclopentadiene	2.9	ug/L	U	2.9	12
06/05/06 10:00	#1	BNA-Water	Hexachloroethane	2.9	ug/L	U	2.9	12
06/05/06 10:00	#1	BNA-Water	Indeno(1,2,3-cd)pyrene	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	Isophorone	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	Naphthalene	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	Nitrobenzene	1.9	ug/L	U	1.9	7.7
06/05/06 10:00	#1	BNA-Water	N-Nitrosodimethylamine	1.9	ug/L	U	1.9	7.7
06/05/06 10:00	#1	BNA-Water	N-Nitrosodi-n-propylamine	1.9	ug/L	U	1.9	7.7
06/05/06 10:00	#1	BNA-Water	N-Nitrosodiphenylamine	2.9	ug/L	UJ	2.9	12
06/05/06 10:00	#1	BNA-Water	Pentachlorophenol	2.9	ug/L	UJ	2.9	12
06/05/06 10:00	#1	BNA-Water	Phenanthrene	0.96	ug/L	U	0.96	3.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Units	Remark	MDL	PQL
06/05/06 10:00	#1	BNA-Water	Phenol	0.96	ug/L	U	0.96	3.8
06/05/06 10:00	#1	BNA-Water	Pyrene	0.96	ug/L	U	0.96	3.8
06/05/06 06:45	BLANKS	BNA-Water	1,2,4-Trichlorobenzene	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	1,2-Dichlorobenzene	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	1,3-Dichlorobenzene	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	1,4-Dichlorobenzene	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	2,4,6-Trichlorophenol	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	2,4-Dichlorophenol	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	2,4-Dimethylphenol	49	ug/L	U	49	190
06/05/06 06:45	BLANKS	BNA-Water	2,4-Dinitrophenol	15	ug/L	UJ	15	58
06/05/06 06:45	BLANKS	BNA-Water	2,4-Dinitrotoluene	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	2,6-Dinitrotoluene	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	2-Chloronaphthalene	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	2-Chlorophenol	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	2-Methyl-4,6-dinitrophenol	2.9	ug/L	U	2.9	12
06/05/06 06:45	BLANKS	BNA-Water	2-Nitrophenol	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	3,3'-Dichlorobenzidine	39	ug/L	U	39	160
06/05/06 06:45	BLANKS	BNA-Water	4,4'-DDD	1.5	ug/L	U	1.5	5.8
06/05/06 06:45	BLANKS	BNA-Water	4,4'-DDE	1.5	ug/L	U	1.5	5.8
06/05/06 06:45	BLANKS	BNA-Water	4,4'-DDT	1.5	ug/L	U	1.5	5.8
06/05/06 06:45	BLANKS	BNA-Water	4-Bromophenyl phenyl ether	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	4-Chloro-3-methylphenol	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	4-Chlorophenyl phenyl ether	1.9	ug/L	U	1.9	7.8
06/05/06 06:45	BLANKS	BNA-Water	4-Nitrophenol	15	ug/L	U	15	58
06/05/06 06:45	BLANKS	BNA-Water	Acenaphthene	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	Acenaphthylene	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	Aldrin	1.5	ug/L	U	1.5	5.8
06/05/06 06:45	BLANKS	BNA-Water	alpha-BHC	1.5	ug/L	U	1.5	5.8
06/05/06 06:45	BLANKS	BNA-Water	Anthracene	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	Benzidine	97	ug/L	U	97	390
06/05/06 06:45	BLANKS	BNA-Water	Benzo(a)anthracene	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	Benzo(a)pyrene	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	Benzo(b)fluoranthene	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	Benzo(g,h,i)perylene	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	Benzo(k)fluoranthene	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	beta-BHC	1.5	ug/L	U	1.5	5.8
06/05/06 06:45	BLANKS	BNA-Water	Bis(2-chloroethoxy)methane	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	Bis(2-chloroethyl)ether	0.97	ug/L	U	0.97	3.9

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Units	Remark	MDL	PQL
06/05/06 06:45	BLANKS	BNA-Water	Bis(2-chloroisopropyl)ether	2.9	ug/L	U	2.9	12
06/05/06 06:45	BLANKS	BNA-Water	Bis(2-ethylhexyl)phthalate	15	ug/L	U	15	58
06/05/06 06:45	BLANKS	BNA-Water	Butyl benzyl phthalate	4.9	ug/L	U	4.9	19
06/05/06 06:45	BLANKS	BNA-Water	Chrysene	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	delta-BHC	1.5	ug/L	U	1.5	5.8
06/05/06 06:45	BLANKS	BNA-Water	Dibenzo(a,h)anthracene	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	Dieldrin	1.5	ug/L	U	1.5	5.8
06/05/06 06:45	BLANKS	BNA-Water	Diethyl phthalate	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	Dimethyl phthalate	49	ug/L	U	49	190
06/05/06 06:45	BLANKS	BNA-Water	Di-n-butyl phthalate	4.9	ug/L	U	4.9	19
06/05/06 06:45	BLANKS	BNA-Water	Di-n-octyl phthalate	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	Endosulfan I	3.9	ug/L	U	3.9	16
06/05/06 06:45	BLANKS	BNA-Water	Endosulfan II	3.9	ug/L	U	3.9	16
06/05/06 06:45	BLANKS	BNA-Water	Endosulfan sulfate	1.5	ug/L	U	1.5	5.8
06/05/06 06:45	BLANKS	BNA-Water	Endrin	1.5	ug/L	U	1.5	5.8
06/05/06 06:45	BLANKS	BNA-Water	Endrin aldehyde	3.9	ug/L	U	3.9	16
06/05/06 06:45	BLANKS	BNA-Water	Fluoranthene	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	Fluorene	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	gamma-BHC	1.5	ug/L	U	1.5	5.8
06/05/06 06:45	BLANKS	BNA-Water	Heptachlor	1.5	ug/L	U	1.5	5.8
06/05/06 06:45	BLANKS	BNA-Water	Heptachlor epoxide	1.5	ug/L	U	1.5	5.8
06/05/06 06:45	BLANKS	BNA-Water	Hexachlorobenzene	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	Hexachlorobutadiene	2.9	ug/L	U	2.9	12
06/05/06 06:45	BLANKS	BNA-Water	Hexachlorocyclopentadiene	2.9	ug/L	U	2.9	12
06/05/06 06:45	BLANKS	BNA-Water	Hexachloroethane	2.9	ug/L	U	2.9	12
06/05/06 06:45	BLANKS	BNA-Water	Indeno(1,2,3-cd)pyrene	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	Isophorone	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	Naphthalene	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	Nitrobenzene	1.9	ug/L	U	1.9	7.8
06/05/06 06:45	BLANKS	BNA-Water	N-Nitrosodimethylamine	1.9	ug/L	U	1.9	7.8
06/05/06 06:45	BLANKS	BNA-Water	N-Nitrosodi-n-propylamine	1.9	ug/L	U	1.9	7.8
06/05/06 06:45	BLANKS	BNA-Water	N-Nitrosodiphenylamine	2.9	ug/L	UJ	2.9	12
06/05/06 06:45	BLANKS	BNA-Water	Pentachlorophenol	2.9	ug/L	UJ	2.9	12
06/05/06 06:45	BLANKS	BNA-Water	Phenanthrene	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	Phenol	0.97	ug/L	U	0.97	3.9
06/05/06 06:45	BLANKS	BNA-Water	Pyrene	0.97	ug/L	U	0.97	3.9
06/05/06 10:00	#1	GC-Water	Alachlor	0.57	ug/L	UJ	0.57	2.3
06/05/06 10:00	#1	GC-Water	Ametryn	0.047	ug/L	U	0.047	0.19

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Units	Remark	MDL	PQL
06/05/06 10:00	#1	GC-Water	Atrazine	0.047	ug/L	U	0.047	0.19
06/05/06 10:00	#1	GC-Water	Azinphos Methyl	0.19	ug/L	U	0.19	0.76
06/05/06 10:00	#1	GC-Water	Bromacil	0.19	ug/L	U	0.19	0.76
06/05/06 10:00	#1	GC-Water	Butylate	0.19	ug/L	UJ	0.19	0.76
06/05/06 10:00	#1	GC-Water	Chlorpyrifos Ethyl	0.047	ug/L	U	0.047	0.19
06/05/06 10:00	#1	GC-Water	Chlorpyrifos Methyl	0.094	ug/L	UJ	0.094	0.38
06/05/06 10:00	#1	GC-Water	Diazinon	0.047	ug/L	UJ	0.047	0.19
06/05/06 10:00	#1	GC-Water	Ethion	0.047	ug/L	U	0.047	0.19
06/05/06 10:00	#1	GC-Water	Ethoprop	0.094	ug/L	U	0.094	0.38
06/05/06 10:00	#1	GC-Water	Fenamiphos	0.19	ug/L	U	0.19	0.76
06/05/06 10:00	#1	GC-Water	Fonofos	0.094	ug/L	UJ	0.094	0.38
06/05/06 10:00	#1	GC-Water	Hexazinone	0.094	ug/L	U	0.094	0.38
06/05/06 10:00	#1	GC-Water	Malathion	0.14	ug/L	U	0.14	0.56
06/05/06 10:00	#1	GC-Water	Metalaxyl	0.24	ug/L	U	0.24	0.96
06/05/06 10:00	#1	GC-Water	Metolachlor	0.47	ug/L	U	0.47	1.9
06/05/06 10:00	#1	GC-Water	Metribuzin	0.094	ug/L	U	0.094	0.38
06/05/06 10:00	#1	GC-Water	Mevinphos	0.19	ug/L	U	0.19	0.76
06/05/06 10:00	#1	GC-Water	Naled	0.75	ug/L	UJ	0.75	3
06/05/06 10:00	#1	GC-Water	Norflurazon	0.14	ug/L	U	0.14	0.56
06/05/06 10:00	#1	GC-Water	Parathion Ethyl	0.14	ug/L	UJ	0.14	0.56
06/05/06 10:00	#1	GC-Water	Parathion Methyl	0.094	ug/L	U	0.094	0.38
06/05/06 10:00	#1	GC-Water	Phorate	0.047	ug/L	U	0.047	0.19
06/05/06 10:00	#1	GC-Water	Prometryn	0.14	ug/L	UJ	0.14	0.56
06/05/06 10:00	#1	GC-Water	Simazine	0.047	ug/L	U	0.047	0.19
06/05/06 06:45	BLANKS	GC-Water	Alachlor	0.58	ug/L	UJ	0.58	2.3
06/05/06 06:45	BLANKS	GC-Water	Ametryn	0.049	ug/L	U	0.049	0.2
06/05/06 06:45	BLANKS	GC-Water	Atrazine	0.049	ug/L	U	0.049	0.2
06/05/06 06:45	BLANKS	GC-Water	Azinphos Methyl	0.19	ug/L	U	0.19	0.76
06/05/06 06:45	BLANKS	GC-Water	Bromacil	0.19	ug/L	U	0.19	0.76
06/05/06 06:45	BLANKS	GC-Water	Butylate	0.19	ug/L	UJ	0.19	0.76
06/05/06 06:45	BLANKS	GC-Water	Chlorpyrifos Ethyl	0.049	ug/L	U	0.049	0.2
06/05/06 06:45	BLANKS	GC-Water	Chlorpyrifos Methyl	0.097	ug/L	UJ	0.097	0.39
06/05/06 06:45	BLANKS	GC-Water	Diazinon	0.049	ug/L	UJ	0.049	0.2
06/05/06 06:45	BLANKS	GC-Water	Ethion	0.049	ug/L	U	0.049	0.2
06/05/06 06:45	BLANKS	GC-Water	Ethoprop	0.097	ug/L	U	0.097	0.39
06/05/06 06:45	BLANKS	GC-Water	Fenamiphos	0.19	ug/L	U	0.19	0.76
06/05/06 06:45	BLANKS	GC-Water	Fonofos	0.097	ug/L	UJ	0.097	0.39
06/05/06 06:45	BLANKS	GC-Water	Hexazinone	0.097	ug/L	U	0.097	0.39

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Units	Remark	MDL	PQL
06/05/06 06:45	BLANKS	GC-Water	Malathion	0.15	ug/L	U	0.15	0.6
06/05/06 06:45	BLANKS	GC-Water	Metalaxyl	0.24	ug/L	U	0.24	0.96
06/05/06 06:45	BLANKS	GC-Water	Metolachlor	0.49	ug/L	U	0.49	2
06/05/06 06:45	BLANKS	GC-Water	Metribuzin	0.097	ug/L	U	0.097	0.39
06/05/06 06:45	BLANKS	GC-Water	Mevinphos	0.19	ug/L	U	0.19	0.76
06/05/06 06:45	BLANKS	GC-Water	Naled	0.78	ug/L	UJ	0.78	3.1
06/05/06 06:45	BLANKS	GC-Water	Norflurazon	0.15	ug/L	U	0.15	0.6
06/05/06 06:45	BLANKS	GC-Water	Parathion Ethyl	0.15	ug/L	UJ	0.15	0.6
06/05/06 06:45	BLANKS	GC-Water	Parathion Methyl	0.097	ug/L	U	0.097	0.39
06/05/06 06:45	BLANKS	GC-Water	Phorate	0.049	ug/L	U	0.049	0.2
06/05/06 06:45	BLANKS	GC-Water	Prometryn	0.15	ug/L	UJ	0.15	0.6
06/05/06 06:45	BLANKS	GC-Water	Simazine	0.049	ug/L	U	0.049	0.2
06/05/06 10:00	#1	Metals-Water	Aluminum	36	ug/L	I	12	48
06/05/06 10:00	#1	Metals-Water	Arsenic	5	ug/L	U	5	20
06/05/06 10:00	#1	Metals-Water	Cadmium	0.5	ug/L	U	0.5	2
06/05/06 10:00	#1	Metals-Water	Calcium	258	mg/L		0.06	0.24
06/05/06 10:00	#1	Metals-Water	Chromium	2.8	ug/L	U	2.8	11
06/05/06 10:00	#1	Metals-Water	Copper	1.76	ug/L		0.25	1
06/05/06 10:00	#1	Metals-Water	Copper	2.4	ug/L	I	2	8
06/05/06 10:00	#1	Metals-Water	Iron	17	ug/L	I	15	60
06/05/06 10:00	#1	Metals-Water	Lead	2	ug/L	U	2	8
06/05/06 10:00	#1	Metals-Water	Magnesium	747	mg/L		0.1	0.4
06/05/06 10:00	#1	Metals-Water	Nickel	2.5	ug/L	U	2.5	10
06/05/06 10:00	#1	Metals-Water	Selenium	5	ug/L	U	5	20
06/05/06 10:00	#1	Metals-Water	Silver	0.25	ug/L	U	0.25	1
06/05/06 10:00	#1	Metals-Water	Zinc	9.2	ug/L	I	4.5	18
06/05/06 06:45	BLANKS	Metals-Water	Aluminum	13	ug/L	I	4	16
06/05/06 06:45	BLANKS	Metals-Water	Arsenic	0.5	ug/L	U	0.5	2
06/05/06 06:45	BLANKS	Metals-Water	Cadmium	0.05	ug/L	U	0.05	0.2
06/05/06 06:45	BLANKS	Metals-Water	Calcium	0.03	mg/L	I	0.02	0.08
06/05/06 06:45	BLANKS	Metals-Water	Chromium	0.3	ug/L	U	0.3	1.2
06/05/06 06:45	BLANKS	Metals-Water	Copper	0.2	ug/L	U	0.2	0.8
06/05/06 06:45	BLANKS	Metals-Water	Copper	0.25	ug/L	U	0.25	1
06/05/06 06:45	BLANKS	Metals-Water	Iron	5	ug/L	U	5	20
06/05/06 06:45	BLANKS	Metals-Water	Lead	0.2	ug/L	U	0.2	0.8
06/05/06 06:45	BLANKS	Metals-Water	Magnesium	0.005	mg/L	U	0.005	0.02
06/05/06 06:45	BLANKS	Metals-Water	Nickel	0.25	ug/L	U	0.25	1
06/05/06 06:45	BLANKS	Metals-Water	Selenium	0.5	ug/L	U	0.5	2

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Units	Remark	MDL	PQL
06/05/06 06:45	BLANKS	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
06/05/06 06:45	BLANKS	Metals-Water	Zinc	1.5	ug/L	U	1.5	6
06/05/06 10:00	#1	Nutrients-Liquid	Ammonia-N	0.079	mg N/L	IY	0.05	0.1
06/05/06 10:00	#1	Nutrients-Liquid	Kjeldahl Nitrogen	0.48	mg N/L	Y	0.16	0.4
06/05/06 10:00	#1	Nutrients-Liquid	NO2NO3-N	0.4	mg N/L	Y	0.004	0.01
06/05/06 10:00	#1	Nutrients-Liquid	O-Phosphate-P	0.092	mg P/L	Y	0.008	0.02
06/05/06 10:00	#1	Nutrients-Liquid	Sulfate	1.60E+03	mg SO4/L	Y	80	200
06/05/06 10:00	#1	Nutrients-Liquid	Total-P	0.1	mg P/L	Y	0.02	0.06
06/05/06 06:45	BLANKS	Nutrients-Liquid	Ammonia-N	0.016	mg N/L	IY	0.01	0.02
06/05/06 06:45	BLANKS	Nutrients-Liquid	Kjeldahl Nitrogen	0.08	mg N/L	UY	0.08	0.2
06/05/06 06:45	BLANKS	Nutrients-Liquid	NO2NO3-N	0.004	mg N/L	UY	0.004	0.01
06/05/06 06:45	BLANKS	Nutrients-Liquid	O-Phosphate-P	0.004	mg P/L	UY	0.004	0.01
06/05/06 06:45	BLANKS	Nutrients-Liquid	Sulfate	0.2	mg SO4/L	UY	0.2	0.5
06/05/06 06:45	BLANKS	Nutrients-Liquid	Total-P	0.02	mg P/L	UY	0.02	0.06

The Bioassay of US EPA Laboratory Sabine Island effluent sampled on June 5, 2006. NPDES #FL0044377.

Fill Out This Section For All Surface Water Discharger Inspections(CEI, CSI, CBI, PAI, XSI-RI Optional)

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 4 4 3 7 7 11	12 0 6 0 6 0 5	18 **B**	19 **S**	20 2

Remarks

66

The Priority Pollutants Analysis of US EPA Laboratory Sabine Island effluent sampled on June 5, 2006. NPDES #FL0044377.

Fill Out This Section For All Surface Water Discharger Inspections(CEI, CSI, CBI, PAI, XSI-RI Optional)

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 4 4 3 7 7 11	12 0 6 0 6 0 5	18 **X**	19 **S**	20 2

Remarks

66

Biological Analyses of US EPA Laboratory Sabine Island effluent sampled on June 5, 2006. NPDES #FL0044377.

Fill Out This Section For All Surface Water Discharger Inspections(CEI, CSI, CBI, PAI, XSI-RI Optional)

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 4 4 3 7 7 11	12 0 6 0 6 0 5	18 **S**	19 **S**	20 2

Remarks

66