

Bioassays of

Atlantic Beach Wastewater Treatment Plant

Duval County

NPDES #FL0038776

Sampled July 16 and 17, 2006

October 2006

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

Atlantic Beach Wastewater Treatment Facility, 1100 Sandpiper Lane, Atlantic Beach, Duval County, Florida, NPDES #FL0038776. Effluent samples for this facility were collected on July 16 and 17, 2006.

Introduction

The Atlantic Beach Wastewater Treatment Facility is an extended-aeration activated-sludge wastewater treatment facility. The facility has a design flow of 3.0 million gallons per day (MGD). The annual average daily flow (AADF) from July 2005 through May 2006 was 1.732 MGD. The flow during this sampling event was 1.37 MGD. The treatment process consists of six static influent screens, an aerated grit chamber, four aeration basins, two secondary clarifiers, two chlorine contact chambers, two dechlorination chambers, and an effluent holding pond. Chlorine gas is used for disinfection and sulfur dioxide gas is used for dechlorination. Sludge produced at the facility and sludge produced by the Buccaneer WWTP are combined and treated on site (Atlantic Beach facility) by gravity thickening, dewatering, and drying on sludge drying beds prior to disposal at a landfill. Treated effluent is discharged through Outfall D-001 to the Class III marine waters of the St. Johns River at Sherman Point. Outfall D-001 is 76.2 m (250 feet) in length and discharges at a depth of 2.4 m (8 feet). D-001 is located approximately at latitude 30º 22' 58" N and longitude 81º 26'20" W.

The facility has an emergency alternative 3.0 MGD AADF permitted discharge to the Class III marine waters of the Intracoastal Waterway (Pablo Creek) at Outfall D-002. This outfall, 76.2 m (250 feet) in length and discharging at a depth of 2.4 m (8 feet), is located approximately at latitude 30º 20' 07" N and longitude 81º 24" 00" W.

There are currently no Administrative Orders (AO) or Consent Orders (CO) for this facility. The facility has a mixing zone for total recoverable copper (limit of 15 µg/L) that spans 91,570 square meters and is permitted for a discharge of 3.0 MGD. The facility has passed all toxicity tests since January 2004. There are no current enforcement issues. (Facility information provided by Chet McGhee of FDEP Northeast District.)

Methods

Samples were collected from the EFD-1 NPDES sampling point for Outfall D-001 by Chet McGhee, Tom Kallemeyn, Esa Ali, Will Fletcher, Joe Emery, and Jennifer Paris (FDEP Northeast 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 96-hour acute screening toxicity tests and algal growth potential tests 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. Bioassays were performed on each of four samples collected over an 18-hour period (one sample every six hours beginning at 1800 hours on July 16, 2006, and ending at 1200 hours on July 17, 2006).

The bioassay samples were salinity-adjusted from an apparent salinity of approximately 0.5 parts per thousand (ppth) to approximately 20 ppth using artificial sea salts (40 Fathoms® Bioassay Laboratory Grade Marine Mix) per permit requirements. The salt control used for this test was prepared by salting well water with artificial sea salts to an approximate salinity of 20 ppth. The purpose of the salt control was to confirm that there was no effect of adding artificial sea salts to the sample. There was 20% mortality in the salt control of the *Menidia beryllina* bioassay for sample 1, thereby invalidating the test. There were no additional issues with the salted controls or the salted samples.

The salinity of an aliquot of the AGP sample was increased from approximately 0.5 ppth to 7 ppth to meet the minimum salinity requirements of the marine test species.

Toxicity Test Results

Tests were performed July 18 - 22, 2006.

Americamysis bahia 96-hour acute screening bioassay 1 –	LC_{50} > 100%, 15% mortality in 100% sample at 96 hours
Menidia beryllina 96-hour acute screening bioassay 1 –	No Result (Control failure)*
Americamysis bahia 96-hour acute screening bioassay 2 –	LC_{50} > 100%, 10% mortality in 100% sample at 96 hours
Menidia beryllina 96-hour acute screening bioassay 2 –	LC_{50} > 100%, 10% mortality in 100% sample at 96 hours
Americamysis bahia 96-hour acute screening bioassay 3 –	LC_{50} > 100%, 5% mortality in 100% sample at 96 hours
Menidia beryllina 96-hour acute screening bioassay 3 –	LC_{50} > 100%, 5% mortality in 100% sample at 96 hours
Americamysis bahia 96-hour acute screening bioassay 4 –	LC_{50} > 100%, 0% mortality in 100% sample at 96 hours
Menidia beryllina 96-hour acute screening bioassay 4 –	LC_{50} > 100%, 10% mortality in 100% sample at 96 hours

*The *M. beryllina* bioassay for sample one (1) was invalidated due to excess control mortality in the salted control.

The bioassay samples were not acutely toxic to the test organisms.

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.

Algal Growth Potential

The effluent Algal Growth Potential (AGP) was 45 mg dry wt/L of the unicellular green alga, *Pseudokirchneriella subcapitata*, formerly known as *Selenastrum capricornutum*. Raschke and Shultz (1987) found that AGP values above 5.0 mg dry weight/L represent a “problem” threshold for fresh receiving waters, implying nutrient enrichment. The analytical chemistry suggests that the effluent is nitrogen-limited. The predicted AGP based on inorganic nitrogen concentrations was 762 (±20%) mg dry wt/L (Table 1; Miller et al. 1978). Differences greater than an order of magnitude between actual and predicted AGP values are considered sufficient evidence to warrant follow up testing with the algal growth inhibition bioassay. True algal growth inhibition can only be determined by performing an actual algal growth inhibition test. Should algal growth inhibition be suspected, the district should request that the algal growth inhibition test be performed as a follow-up to the inspection. The potential inhibition noted in the freshwater AGP test can partially be attributed to the copper and zinc concentrations in the effluent (see Table 2). Individual concentrations of copper and zinc as low as 5 µg/L and 15 µg/L, respectively, have

significantly reduced growth of *P. subcapitata* (USEPA-Ecotox Database 2006). A synergistic effect cannot be ruled out in this test.

The effluent salinity-adjusted Algal Growth Potential (AGP) was 627 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 greater dry weight obtained in the saltwater AGP test can likely be attributed to the fact that effluent copper and zinc concentrations are lower than those shown to reduce growth in *D. tertiolecta* (USEPA-Ecotox Data Base 2006). There is also greater weight production per unit of nutrient in the saltwater test species (Maloney et al, 1974) when compared to the freshwater test species.

See Table 1 for AGP results.

Chemistry Results

Total residual chlorine and total ammonia were not detected in the any of the four bioassay samples in the laboratory. The total ammonia concentration in the sample collected and preserved for chemical analysis was 0.064 mg/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was <0.02 mg/L.

Aluminum, iron, and zinc were detected in the effluent at levels that comply with Class III Marine water quality criteria. Lead and nickel were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL). The effluent copper concentration (6.7 µg/L) exceeded the Class III Marine quality criterion for copper (≤3.7 µg/L; 62-302.530(24), F.A.C.), but did not exceed the permit limit of 15 µg/L.

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 samples collected from Outfall D-001 for this facility on July 16 and 17, 2006, were not acutely toxic to either test species during the 96-hour acute screen bioassays. The *M. beryllina* test for bioassay sample # 1 was invalidated due to excessive control mortality. The effluent AGP result exceeded the "problem” threshold for marine receiving waters. The freshwater AGP test results were much lower than predicted based on limiting nutrient concentrations, suggesting that algal growth was likely inhibited. The lower growth in the freshwater AGP test was attributed to the effluent’s copper and zinc concentrations. A reduction in growth was not noted in the saltwater AGP test. The effluent copper concentration exceeded the Class III Marine water quality standard for copper but did not violate any permit conditions.

Literature Cited

Miller, W. E., T. E. Maloney, and J. C. Greene. 1978. The *Selenastrum capricornutum* Printz algal assay bottle test. EPA-600/9-78-018. U. S. EPA, Cincinnati, Ohio. 126 p.

Raschke, R. L. and D. A. Schultz. 1987. The use of the algal growth potential test for data assessment. J. Wat. Poll. Cont. Fed. 59(4): 222-227.

Table 1. Measured and predicted algal growth potential (AGP; mg dry weight/L) of the freshwater species Psuedokirchneriella subcapitata *for total soluble nitrogen (TSIN) and total nitrogen (TN) limitation, the salt adjusted AGP for the saltwater species* Dunaliella tertiolecta*, and ratios of nitrogen to phosphorus for samples collected from Atlantic Beach Wastewater Treatment Plant on July 17, 2006.*

Location	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (TN) ± 20%	AGP (salt adjusted)	Inorganic N:P ratio	Total N:P ratio
Effluent Samples	45.0	762.43 ± 152.486	805.6 ± 161.12	627	5.42	4.93

Table 2. Effluent limits, Class III Marine Criteria, and chemical data for samples collected from Atlantic Beach Wastewater Treatment Plant on July 17, 2006.

Atlantic Beach Wastewater Treatment Plant NPDES #FL0020427	Class III Marine Stds	Effluent Limits	Effluent Samples
Organic Constituents (µg/L)			
None Detected	-	-	-
Metals (µg/L unless otherwise noted)			
Aluminum	≤ 1,500	-	28
Arsenic	≤ 50	-	1 U
Cadmium	≤ 9.3	-	0.1 U
Calcium (mg/L)	-	-	73.1
Chromium-III	-	-	0.3 U
Copper	≤ 3.7	≤ 15	6.7
Iron	≤ 300	-	38
Lead	≤ 8.5	-	0.47 I
Magnesium (mg/L)	-	-	34.2
Nickel	≤ 8.3	-	2.5 I
Selenium	≤ 5	-	1 U
Silver	-	-	0.05 U
Zinc	≤ 86	-	61
Nutrients (mg/L)			
Ortho-phosphate	-	Report	3.7
Total Phosphorus	-	Report	4.3 A
Ammonia	-	Report	0.064 A
Unionized Ammonia	-	-	≤ 0.02 c
Nitrate+Nitrite	-	Report	20 A
Total Kjeldahl Nitrogen	-	Report	1.2 JA
Organic Nitrogen	-	Report	1.14 c
Total Nitrogen	-	Report	21.2 c
General Physical and Chemical Parameters			
Dissolved Oxygen (mg/L)	≥ 4	≥ 4	8.2
pH (S.U.)	6.5 - 8.5	6.0 - 8.5	6.5
Conductivity (umhos/cm)	-	-	1,056
Temperature (C)	-	Report	29.8
TSS (mg/L)	-	≤ 60 s	4 U
BOD (mg/L)	-	≤ 60 s	1.3 I
Flow (MGD)	-	≤ 3.0	1.732 a
Hardness (mg/L)	-	-	323.4 c
Total Residual Chlorine (mg/L)	≤ 0.01	≤ 0.01 s	< 0.01
Microbiology (# counts/100ml)			
Fecal Coliforms-Membrane Filter	≤ 800	≤ 800	42
Total Coliforms	≤ 2400	-	240

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

a - Annual average daily flow

c - Calculated value

s - single sample

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

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

J - Estimated value

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

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2006-07-17-46
Atlantic Beach WWTF

Requester: Shannan Bogdanov
Field Report Prepared By:

Customer: NE-DIST
Collected By: Chet M'Gee, Tom Kallemeyn/Ema Ali; Will Fletcher/Joe Emery/Jennifer Paris
Send Final Report To: Melissa Long

Project ID: FYI3
Sampling Agency: FDEP

PMAS: 1143

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	Atlantic Beach WWTF	☐ Comp ☒ Grab Date 7/16/06 Time 1800 Eastern Central	Date 7/16/06 Time 1810 Eastern Central	C
	Field ID: Effluent (Tox. Samples)	Tot Res Chlorine (mg/L): 0.00	Diss Oxygen (mg/L): 9.75	Storet Station Number:
	Matrix (Include type e.g. Salt, Fresh, etc):	Temp (C): 30.46 pH: 6.82	Sample Depth: ☒ m ☐ ft	☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm): 1079 NPDES Number:
	Latitude: o ' "	Longitude: o ' "	Comments: 2 tox bottles	

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	Atlantic Beach WWTF	☐ Comp ☒ Grab Date 7/17/06 Time 0000 Eastern Central	Date 7/16/06 Time 0010 Eastern Central	C
	Field ID: Effluent (Tox. Samples)	Tot Res Chlorine (mg/L): 0.00	Diss Oxygen (mg/L): 9.15	Storet Station Number:
	Matrix (Include type e.g. Salt, Fresh, etc):	Temp (C): 30.17 pH: 6.83	Sample Depth: ☒ m ☐ ft	☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm): 1067 NPDES Number:
	Latitude: o ' "	Longitude: o ' "	Comments: 2 tox. bottles	

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	Atlantic Beach WWTF	☐ Comp ☒ Grab Date 7/17/06 Time 654 Eastern Central	Date 7/17/06 Time 717 Eastern Central	A & C
	Field ID: Effluent	Tot Res Chlorine (mg/L): 0.00	Diss Oxygen (mg/L): 7.15	Storet Station Number:
	Matrix (Include type e.g. Salt, Fresh, etc):	Temp (C): 29.84 pH: 6.51	Sample Depth: ☒ m ☐ ft .019	☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm): 1056 NPDES Number:
	Latitude: o ' "	Longitude: o ' "	Comments: (all group A samples / 2 tox bottles)	

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	Atlantic Beach WWTF	☐ Comp ☐ Grab Date 7/17/06 Time 718 Eastern Central	Date 7/17/06 Time 733 Eastern Central	B
	Field ID: field blank	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: 8 bioassay 7/18/06 Received James Daniels FD	

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
	7/17/06	DHL	ABA	7-18-06 0857				

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Request Number: RQ-2006-07-17-46
Atlantic Beach WWTF

Event ID *

Requester: Shannan Bogdanov
Field Report Prepared By:

Customer: NE-DIST
Collected By:
Send Final Report To Melissa Long

Project ID: FYI3
Sampling Agency: FDEP

PMAS: 1143

Lab ID *	Location: Atlantic Beach WWTF		☐ Comp ☒ Grab	Collection (begin) Date 7/17/06 Time 1200 (Eastern) Central	Collection (end) Date 7/17/06 Time 1215 (Eastern) Central		Bottle Group(s)**
	Field ID: Effluent (tox. Samples)		Tot Res Chlorine (mg/L): 0.00	Diss Oxygen (mg/L): 8.74	Storet Station Number		C
	Matrix (Include type e.g. Salt, Fresh, etc)	Temp (C): 30.60 / pH: 6.93	Sample Depth: .3 ☒ m ☐ ft	1057	☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm)	NPDES Number	
	Latitude o ' "	Longitude o ' "	Comments: 2 tox bottles				
Lab ID *	Location		☐ Comp ☐ Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central		Bottle Group(s)**
	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)**
	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)**
	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
			ABP	7-18-06 0850				

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

FDEP Biology Section - Acute Screen 4/24 Bioassay Bench Sheets

Facility: Atlantic Beach Wastewater Treatment Facility Plant
Address: 1100 Sandpiper Lane
City: Atlantic Beach County: Duval
Contact/District: Chet McGhee / Northeast District
NPDES Permit #: FL 0038776
LIMS Job #: TLH-2006-07-18-38 LIMS Sample #: 936257
Lims Data Entry: 7-25-06 SS Data Entry Verification: JD 72506

Sample Collection: Date: 7-16-06 Time: 1800
Hold Time Start: Date: 7-17-06 Time: 1200
Sample: 1 of 4

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

Test Type: Definitive
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: 0.48 Final Salinity: ~20 (Salts) Hypersaline brine
Salinity adjusted (Test 2): (yes) no Initial Salinity: 0.48 Final Salinity: ~20 (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)

Comments:
Sample salinity adjusted to 20 parts per thousand per permit requirements. Salt control prepared by salting well water with artificial sea salts to match approximate salinity of test sample. SP
A. bahia test aerated at 24 hrs due to low D.O. SP
M. beryllina test invalidated at 24 hrs due to excess control mortality. SP (Sample 1 only)
(A) melted - filtration by facility staff as documented by Chet McGhee

Temperature Range °C
Incubator # 2 Range 23.8 - 26.1 M. beryllina only
Room B246 25.0 - 25.8
Waterbath A. bahia only - 25.9 - 26.8

Investigators' Signatures
Brad Sharpe
Tracy Fanara
Jason Trichard
Erin Lacy
Nicole Wellenhofer
REVIEWER

Water Quality Parameters	20% DMW	Moderately Hard Water/ Well Water	Salt Water (ASW) NSW Test 1	Salt Water (ASW) NSW Test 2	Other: Salt Control	Original	Method	Measured by	Verified by
Field Total Residual Cl2 (mg/L):	N/A	N/A	N/A	N/A	N/A	<0.001	~~colorimetric~~ (A)	Chet McGhee	SP
Lab Total Residual Cl2 (mg/L):			<0.03	<0.03	<0.03	<0.03	HACH	BA / EW	SP
Alkalinity (mg/L as $CaCO_3$):			180	180	207	94	HACH	EW	SP
Hardness (mg/L as $CaCO_3$):			—	—	—	305	HACH	EW	SP
Total Ammonia (mg/L as N):			<0.034	<0.034	<0.034	<0.017	DENVER	BA/SP	EW
Salinity (ppt):			~20	~20	~20	6.46	YSI / Mettler	SP/ BA	SP/EW

V 2.0 4/12/05

Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

[redacted]

LIMS Sample #: 9362257 Test #: 1 Test Started: Date 7-18-06 Time: 1330
Organism: A. bahia SOP #: TA 07_03 Test Ended: Date 7.22.06 Time: 1300
Organism Batch: 22-06 Diluent/ Batch: ASW 113-06
Organism Age: 5days 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	C1	5	5	5	5	5	5
	B	C2	5	5	5	5	5	5
	C	C3	5	5	5	5	5	5
	D	C4	5	5	4m	4	4	4
Salt CTRL	A	C5	5	5	5	4m	4	4
	B	C6	5	5	5	5	5	5
	C	C7	5	5	4d	4	4	4
	D	C8	5	5	5	5	5	5
100%	A	C9	5	5	5	5	5	5
	B	C10	5	5	4d	3d	3	3
	C	C11	5	5	5	5	5	4d
	D	C12	5	5	5	5	5	5
Organisms loaded by: BP	Checked by: [redacted]		JB	JD	JD	JD	JD	
Loading Verified by: BA								

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

Comments:

Test Results:
% mortality in 100% sample: 15%
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

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Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 936257 Test #: 2 Test Started: Date 7-18-06 Time: 1310
Organism: M. beryllina SOP #: TA 07_04 Test Ended: Date ~~7-27-06~~ 7-22-06 Time: 1360
Organism Batch: 22-06 Diluent/ Batch: ASW 113-06
Organism Age: 10 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	C 13	5	5	5	5	5	5
	B	C 14	5	5	5	5	5	5
	C	C 15	5	5	5	5	5	5
	D	C 16	5	5	5	5	5	5
Salt CTRL	A	C17	5	3 2D	3	3	3	3
	B	C18	5	4 1D	4	4	4	3 1D
	C	C19	5	5	5	5	5	5
	D	C20	5	5	5	5	5	5
100%	A	C21	5	5	5	5	5	5
	B	C22	5	5	5	5	5	5
	C	C23	5	5	5	5	5	5
	D	C24	5	5	5	5	5	5
Organisms loaded by: JD	Checked by: [redacted]		BA	BA	JD	JD	JD	
Loading Verified by: BA								

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

Comments: Test invalid at 24 hours because of excess control mortality (10% allowed). NCR 2132. BP

Test Results:
% mortality in 100% sample: Ø
LC_{50}: No Result 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

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FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 9362257 Test #: 1 of 2

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

[redacted]

Concentration Ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.3	8.2	8.1	8.2	8.2	8.2
Temperature °C	25.1	25.5	24.3	24.5	24.5	24.2
Dissolved Oxygen mg/L	7.1	5.6	6.1	6.4	6.4	6.4
Conductivity µmhos mmhos	31.0	31.3	32.1	31.6	31.6	31.0
(initials) Measured by:	BA	JD/BA	BA	BA	BA	JD
(initials) Recorded by:	BA	JD/BA	BA	BA	BA	JD

Comments:

Concentration Salt ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.6	8.3	8.2	8.4	8.2	8.2
Temperature °C	24.4	24.4	24.4	24.6	24.4	24.2
Dissolved Oxygen mg/L	7.2	3.9	6.4	6.3	6.4	6.5
Conductivity µmhos mmhos	32.3	32.3	33.6 BA 33.0	33.0	32.8	32.2
(initials) Measured by:	BA	JD/BA	JD/BA	BA	BA	JD
(initials) Recorded by:	BA	JD/BA	JD/BA	BA	BA	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	D	A
pH (S.U.)	8.4	8.1	8.0	8.4	8.2	8.2
Temperature °C	24.9	25.9	24.2	25.0	24.3	24.3
Dissolved Oxygen mg/L	7.2	4.3	6.4	6.3	6.4	6.5
Conductivity µmhos mmhos	32.3	33.5	33.9	33.0	32.5	32.1
(initials) Measured by:	BA	JD/BA	BA	BA	BA	JD
(initials) Recorded by:	BA	JD/BA	BA	BA	BA	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:

000004

V 2.0 2/24/04

FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 936257 **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	D	A
pH (S.U.)	8.3	8.3	8.2	8.3	8.3	8.3
Temperature °C	25.0	24.3	24.5	24.8	24.4	24.9
Dissolved Oxygen mg/L	7.0	6.0	6.0	6.4	6.4	6.3
Conductivity µmhos ~~mmhos~~	31.1	30.8	31.7	31.5	31.7	32.2
(initials) Measured by:	BA	~~JD/BP~~	BA/BP	BA	BA	JD
(initials) Recorded by:	BA	~~JD/BP~~	BA/BP	BA	BA	JD

Comments:

Concentration Salt Ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.6	8.5	8.3	8.5	8.3	8.3
Temperature °C	24.5	24.2	24.4	24.8	24.9	24.9
Dissolved Oxygen mg/L	7.0	6.1	5.9	6.2	6.9	6.4
Conductivity µmhos ~~mmhos~~	32.3	31.8	31.~~8~~0 BA	32.9	32.6	33.0
(initials) Measured by:	BA	~~JD/BP~~	BA/BP	BA	BA	JD
(initials) Recorded by:	BA	~~JD/BP~~	BA/BP	BA	BA	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	D	A
pH (S.U.)	8.4	8.3	8.2	8.4	8.2	8.2
Temperature °C	24.8	24.3	24.1	23.1	24.5	24.4
Dissolved Oxygen mg/L	7.2	6.2	5.9	6.2	6.5	6.9
Conductivity µmhos mmhos	32.2	32.4	34.1	32.9	32.7	32.7
(initials) Measured by:	BA	~~JD/BP~~	BA/BP	BA	BA	JD
(initials) Recorded by:	BA	~~JD/BP~~	BA/BP	BA	BA	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:

V 2.0 2/24/04

FDEP Biology Section - Acute Screen 4/24 Bioassay Bench Sheets

Facility: Atlantic Beach Wastewater Treatment ~~Facility~~ Plant (Sr)
Address: 1100 Sandpiper Lane
City: Atlantic Beach County: Duval
Contact/District: Chet McGhee / Northeast District
NPDES Permit #: FL 0038776
LIMS Job #: TLH-2006-07-18-38 LIMS Sample #: 936258
Lims Data Entry: 7-25-06 SP Data Entry Verification: JP 7.25.06

Sample Collection: Date: 7-17-06 Time: 0000
Hold Time Start: Date: 7-17-06 Time: 1200
Sample: 2 of 4

Comments:
Sample salinity adjusted to 20 parts per thousand per permit requirements. Salt control prepared by salting well water with artificial sea salt to match approximate salinity of test sample. SP
Alburnia test aerated at 24 hrs due to low D.O. SP

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

Test 1 validation:
Control survival ≥80%: (Yes) No
Temperature Range ≤3°C: (Yes) No
Test 1: SOP TA 07_03

Test 2 validation:
Control survival ≥80%: (Yes) No
Temperature Range ≤3°C: (Yes) No
Test 2: SOP TA 07_04

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: 0.48 Final Salinity: ~20 (Salts) Hypersaline brine
Salinity adjusted (Test 2): (yes) no Initial Salinity: 0.48 Final Salinity: ~20 (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)

Investigators' Signatures
Bud Abraham
Jaya Daniels
Sarah Pritchard
Jim Lange
Nikki Wetherington
REVIEWER

Water Quality Parameters	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl2 (mg/L):	~~<0.03~~ (A)	~~colorimetric~~ (A)	C. McGhee	SP
Lab Total Residual Cl2 (mg/L):	<0.03	HACH	CW	SP
Alkalinity (mg/L as $CaCO_3$):	103	HACH	CW	SP
Hardness (mg/L as $CaCO_3$):	315	HACH	CW	SP
Total Ammonia (mg/L as N):	<0.017	DENVER	BA	SP
Salinity (ppt):	0.48	YSI / Mettler	SP	CW

(A) ~~0.00~~ SP
TRC not measured SP

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Appendix B. (continued)



FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 936258 Test #: 1 Test Started: Date 7-18-06 Time: 1340
Organism: A. bahia SOP #: TA 07_03 Test Ended: Date 7.22.06 Time: 1300
Organism Batch: 22-06 Diluent/ Batch: ASW / 13-06
Organism Age: 5days 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	A1	5	5	5	5	5	5
	B	A2	5	5	5	5	5	5
	C	A3	5	5	5	5	5	5
	D	A4	5	5	5	5	5	5
Salt CTRL	A	A5	5	5	5	5	5	5
	B	A6	5	5	5	5	5	5
	C	A7	5	5	5	5	5	5
	D	A8	5	5	5	5	5	5
100%	A	A9	5	5	5	5	5	5
	B	A10	5	5	5	5	4m	4
	C	A11	5	5	5	5	5	5
	D	A12	5	4d	4d	4	4	4
Organisms loaded by: BR		Checked by: [redacted]	JD	JD	JD	JD	JD	
Loading Verified by: BA								

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

Comments:

Test Results:
% mortality in 100% sample: 10%
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).

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FDEP Biology Section - Bioassay Survival Sheet

[redacted]

LIMS Sample #: 936258
Organism: M. beryllina
Organism Batch: 32-06
Organism Age: 10 days
Chamber Size: 1000 mL
Test Volume: 500 mL

Test #: 2
SOP #: TA 07_ 04
Diluent/ Batch: ASW / 13-06
Food: YCT P. subcapitata Artemia
Batch: – – GSL-536-90
Feeding: Prior to test (circled) - Prior to renewal (circled) - Daily

Test Started: Date 7-18-06 Time: 1320
Test Ended: Date 7-22-06 Time: 1300

Concentration	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
CTRL	A	A 13	5	5	5	5	5	4 1D
	B	A 14	5	4 1D	4	4	4	4
	C	A 15	5	5	5	5	5	5
	D	A 16	5	5	5	5	5	5
Salt CTRL	A	A 17	5	5	5	5	5	5
	B	A 18	5	5	4 1D	4	4	4
	C	A 19	5	5	5	5	4 1D	4
	D	A 20	5	5	5	5	5	5
100%	A	A 21	5	5	5	5	4 1D	4
	B	A 22	5	5	5	5	5	5
	C	A 23	5	5	5	5	4 1D	4
	D	A 24	5	5	5	5	5	5
Organisms loaded by: JD		Checked by:	[redacted]	BA	BA	JD	JD	JD

Loading Verified by: BA

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

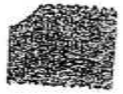
Comments:

Test Results:
% mortality in 100% sample: 10%
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).

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FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 930258 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	D	A
pH (S.U.)	8.3	8.3	8.2	8.3	8.2	8.3
Temperature °C	25.0	24.1	24.1	24.0	24.2	24.3
Dissolved Oxygen mg/L	7.1	7.4	6.5	6.7	6.7	6.4
Conductivity µmhos (mmhos)	30.9	31.0	31.9	31.6	31.4	31.7
(initials) Measured by:	DA	~~JT/DB~~	DB	BA	BA	JT
(initials) Recorded by:	DA	~~JT/DB~~	DB	BA	BA	JT

Comments:

Concentration Salt ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.6	8.4	8.2	8.4	8.2	8.2
Temperature °C	24.1	25.0	24.2	24.3	24.4	24.3
Dissolved Oxygen mg/L	7.1	7.7	6.5	6.5	6.4	6.4
Conductivity µmhos (mmhos)	32.2	33.4	33.4	33.0	32.7	32.2
(initials) Measured by:	DA	~~JT/DB~~	DB	DA	DA	JT
(initials) Recorded by:	DA	~~JT/DB~~	DB	DA	DA	JT

Comments:

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.4	8.1	8.1	8.3	8.1	8.1
Temperature °C	24.5	25.9	24.3	24.7	24.3	24.3
Dissolved Oxygen mg/L	7.0	4.3	6.1	6.5	6.3	6.4
Conductivity µmhos (mmhos)	32.2	33.7	33.2	32.8	32.6	32.9
(initials) Measured by:	DA	~~JT/DB~~	DB	BA	BA	JT
(initials) Recorded by:	DA	~~JT/DB~~	DB	BA	BA	JT

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:

000009

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FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 936258 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	D	A
pH (S.U.)	8.3	8.3	8.3	8.4	8.3	8.3
Temperature °C	25.1	25.6	24.6	24.5	24.5	24.3
Dissolved Oxygen mg/L	7.0	6.0	6.3	6.6	6.3	6.4
Conductivity µmhos (mmhos)	31.0	30.6	31.6	31.4	31.6	32.5
(initials) Measured by:	BA	JD/BP	BA/BP	BA	BA	JD
(initials) Recorded by:	BA	JD/BP	BA/BP	BA	BA	JD

Comments:

Concentration Salt ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.6	8.5	8.9	8.5	8.4	8.3
Temperature °C	24.3	25.1	25.0	24.5	24.3	24.2
Dissolved Oxygen mg/L	7.1	6.1	6.8	6.7	6.4	6.4
Conductivity µmhos (mmhos)	32.3	32.2	32.8	32.6	32.2	32.6
(initials) Measured by:	BA	JD/BP	BA/BP	BA	BA	JD
(initials) Recorded by:	BA	JD/BP	BA/BP	BA	BA	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	D	A
pH (S.U.)	8.4	8.3	8.2	8.4	8.2	8.2
Temperature °C	24.5	25.1	24.9	24.7	24.4	24.2
Dissolved Oxygen mg/L	7.0	6.0	6.4	6.7	6.2	6.5
Conductivity µmhos (mmhos)	32.3	32.0	33.8	32.9	32.8	32.9
(initials) Measured by:	BA	JD/BP	BA/BP	BA	BA	JD
(initials) Recorded by:	BA	JD/BP	BA/BP	BA	BA	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:

V 2.0 2/24/04

FDEP Biology Section - Acute Screen 4/24 Bioassay Bench Sheets

Facility: Atlantic Beach Wastewater Treatment Facility Plant
Address: 1100 Sandpiper Lane
City: Atlantic Beach County: Duval
Contact/District: Chet McGhee
NPDES Permit #: FL 0038776
LIMS Job #: TLH-2006-07-18-38 LIMS Sample #: 936259
Lims Data Entry: 7-25-06 SP Data Entry Verification: JD 7/25/06

Sample Collection: Date: 7-17-06 Time: 0654
Hold Time Start: Date: 7-17-06 Time: 1200
Sample: 3 of 4

Comments:
Sample salinity adjusted to 20 parts per thousand per permit requirements. Salt control prepared by salting well water with artificial sea salts to match approximate salinity of test sample. SP
A. bahia test aerated at 24 hrs due to low D.O. SP

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

Test 1 validation:
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No
Test 1: SOP TA 07_ 03

Test 2 validation:
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No
Test 2: SOP TA 07_ 04

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: 0.47 Final Salinity: ~20 (Salts) Hypersaline brine
Salinity adjusted (Test 2): (yes) no Initial Salinity: 0.47 Final Salinity: ~20 (Salts) Hypersaline brine
Dechlorination: yes (no) ____mL of 0.025N Sodium Thiosulfate per liter of sample. Final TRC: ____

Sample Validation:

Temperature: Shipped ≤8°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)

Investigators' Signatures
Bill Allsbrook
Angela Daniel
Daniel Pritchard
Lisa Lapp
Krista Wellendorf
REVIEWER

Water Quality Parameters	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl2 (mg/L):	~~<0.03~~ (A)	~~colorimetric~~ (B)	C. McGhee	SP
Lab Total Residual Cl2 (mg/L):	<0.03	HACH	"	SP
Alkalinity (mg/L as $CaCO_3$):	95	HACH	"	SP
Hardness (mg/L as $CaCO_3$):	312	HACH	"	SP
Total Ammonia (mg/L as N):	<0.017	DENVER	BA	SP
Salinity (ppt):	0.47	YSI / Mettler	SP	"

(A) <0.001 SP
(B) titration by facility staff as documented by Chet McGhee

v 2.04 1205

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Appendix B. (continued)

[redacted]

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 936259 Test #: 1 Test Started: Date 7-18-06 Time: 1350
Organism: A. bahia SOP #: TA 07_03 Test Ended: Date 72206 Time: 1300
Organism Batch: 22-06 Diluent/ Batch: ASW / 13-06
Organism Age: 5days 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	E13	5	5	5	5	5	5
	B	E14	5	5	5	5	5	5
	C	E15	5	5	5	5	5	5
	D	E16	5	5	5	5	5	5
Salt CTRL	A	E17	5	5	5	5	5	5
	B	E18	5	5	5	5	5	5
	C	E19	5	5	5	5	5	5
	D	E20	5	5	5	5	5	5
100%	A	E21	5	5	5	5	5	5
	B	E22	5	4D	4	4	4	4
	C	E23	5	5	5	5	5	5
	D	E24	5	5	5	5	5	5
Organisms loaded by: SP		Checked by: [redacted]		JD	JD	JD	JD	JD
Loading Verified by: [redacted]								

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

Comments:

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).

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Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet



LIMS Sample #: 936259 Test #: 2 Test Started: Date 7-18-06 Time: 1330
Organism: M. beryllina SOP #: TA 07_04 Test Ended: Date 7-22-06 Time: 1300
Organism Batch: 7-7-06 Diluent/ Batch: ASW / 13-06
Organism Age: 10 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
S_{SP} CTRL	A	B1	5	4 ID	4	4	4	4
	B	B2	5	5	5	5	5	5
	C	B3	5	4 ID	4	4	4	4
	D	B4	5	5	5	5	5	5
Salt CTRL	A	B5	5	5	5	5	5	5
	B	B6	5	4 ID	4	4	4	4
	C	B7	5	5	5	5	4 ID	4
	D	B8	5	5	5	5	5	5
100%	A	B9	5	5	5	5	4 ID	4
	B	B10	5	5	5	5	5	5
	C	B11	5	5	5	5	5	5
	D	B12	5	5	5	5	5	5
Organisms loaded by: JD	Checked by:	[redacted]	BA	BA	JD	JD	JD	
Loading Verified by: BA								

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

Comments:

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).

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FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 936259 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	D	A
pH (S.U.)	8.3	8.1	8.0	8.3	8.1	8.2
Temperature °C	24.9	24.2	24.2	24.0	24.2	24.2
Dissolved Oxygen mg/L	7.0	4.4	6.2	6.8	6.3	6.5
Conductivity µmhos (mmhos)	31.1	32.3	31.9	31.6	31.4	32.5
(initials) Measured by:	BA	JD/BB	SP	BA	BA	JD
(initials) Recorded by:	BA	JD/BB	SP	BA	BA	JD

Comments:

Concentration Salt ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.6	8.3	8.2	8.4	8.2	8.2
Temperature °C	24.2	24.8	24.2	24.1	24.3	24.2
Dissolved Oxygen mg/L	6.9	4.5	5.0	6.6	6.3	6.5
Conductivity µmhos (mmhos)	32.3	32.5	33.4	32.9	32.6	32.9
(initials) Measured by:	BA	JD/BB	SP	BA	BA	JD
(initials) Recorded by:	BA	JD/BB	SP	BA	BA	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	D	A
pH (S.U.)	~~8.5~~ 8.4	7.9	8.1	8.3	8.1	8.1
Temperature °C	24.4	25.9	24.2	24.4	24.3	24.2
Dissolved Oxygen mg/L	6.8	4.5	6.0	6.4	6.4	6.5
Conductivity µmhos (mmhos)	32.1	33.5	33.0	32.5	32.1	32.5
(initials) Measured by:	BA	JD/BB	SP	BA	BA	JD
(initials) Recorded by:	BA	JD/BB	SP	BA	BA	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:

000014

V 2.0 2/24/04

FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 9360259 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	D	A
pH (S.U.)	8.3	8.3	8.2	8.4	8.3	8.2
Temperature °C	24.9	24.9	24.3	24.5	24.4	24.2
Dissolved Oxygen mg/L	7.2	5.7	6.2	6.4	6.5	6.6
Conductivity µmhos (mmhos)	31.0	31.0	32.5	31.7	31.8	32.7
(initials) Measured by:	BA	~~JD~~	BA/BA	BA	BA	JD
(initials) Recorded by:	BA	~~JD~~	BA/BA	BA	BA	JD

Comments:

Concentration Salt ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.6	8.5	8.4	8.5	8.3	8.3
Temperature °C	24.2	24.6	24.3	24.5	24.5	24.1
Dissolved Oxygen mg/L	7.1	5.8	6.3	6.4	6.4	6.5
Conductivity µmhos (mmhos)	32.3	32.4	33.4	32.8	32.7	33.9
(initials) Measured by:	BA	~~JD~~	BA/BA	BA	BA	JD
(initials) Recorded by:	BA	~~JD~~	BA/BA	BA	BA	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	D	A
pH (S.U.)	8.4	8.2	8.2	8.4	8.2	8.2
Temperature °C	24.4	24.5	24.2	24.4	24.3	24.1
Dissolved Oxygen mg/L	7.1	5.8	6.1	6.5	6.3	6.5
Conductivity µmhos (mmhos)	32.2	32.4	33	32.8	32.7	33.3
(initials) Measured by:	BA	~~JD~~	BA/BA	BA	BA	JD
(initials) Recorded by:	BA	~~JD~~	BA/BA	BA	BA	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:

V 2.0 2/24/04

FDEP Biology Section - Acute Screen 4/24 Bioassay Bench Sheets

Facility: Atlantic Beach Wastewater Treatment Facility Plant
Address: 1100 Sandpiper Lane
City: Atlantic Beach County: Duval
Contact/District: Chet McGhee / Northeast District
NPDES Permit #: FL 0038776
LIMS Job #: TLH-2006-07-18-36 LIMS Sample #: 9362260
Lims Data Entry: 7-25-06 SP Data Entry Verification: JJ 7.25.06

Sample Collection: Date: 7-17-06 Time: 1200
Hold Time Start: Date: 7-17-06 Time: 1200
Sample: 4 of 4

Comments:
Sample salinity adjusted to 20 parts per thousand per permit requirements. Salt control prepared by adding well water with artificial sea salts to match approximate salinity of test sample. SP
A.bahia test aerated at 24 hrs due to low D.O. SP

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

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

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

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: 0.47 Final Salinity: ~20 (Salts) Hypersaline brine
Salinity adjusted (Test 2): (yes) no Initial Salinity: 0.47 Final Salinity: ~20 (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)

Investigators' Signatures
Reviewer

Water Quality Parameters	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl2 (mg/L):	~~<0.03~~	~~unknown~~ (A)	C. McGhee	SP
Lab Total Residual Cl2 (mg/L):	<0.03	HACH	"	SP
Alkalinity (mg/L as $CaCO_3$):	107	HACH	"	SP
Hardness (mg/L as $CaCO_3$):	317	HACH	"	SP
Total Ammonia (mg/L as N):	<0.017	DENVER	DA	SP
Salinity (ppt):	0.47	YSI / Mettler	SP	"

(A) TRC not measured SP

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Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 936260 Test #: 1 Test Started: Date 7-18-06 Time: 1405
Organism: A. bahia SOP #: TA 07_03 Test Ended: Date 7.22.06 Time: 1300
Organism Batch: 22-06 Diluent/ Batch: ASW 1.13-06
Organism Age: 5 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	4[1D]	4	4	4	4
	B	E2	5	5	5	5	5	5
	C	E3	5	5	5	5	5	5
	D	E4	5	4[1D]	4	4	4	4
Salt CTRL	A	E5	5	5	5	5	5	5
	B	E6	5	5	5	5	5	5
	C	E7	5	5	5	5	5	5
	D	E8	5	5	5	5	5	5
100%	A	E9	5	5	5	5	5	5
	B	E10	5	5	5	5	5	5
	C	E11	5	5	5	5	5	5
	D	E12	5	5	5	5	5	5
Organisms loaded by: BB		Checked by:	[redacted]	3D	3D	3D	3D	3D
Loading Verified by: BA								

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

Comments:

Test Results:
% mortality in 100% sample: 0
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).

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Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet



LIMS Sample #: 936260 Test #: 2 Test Started: Date 7-18-06 Time: 1340
Organism: M. beryllina SOP #: TA 07_ 04 Test Ended: Date 7.22.06 Time: 13:00
Organism Batch: 22-06 Diluent/ Batch: ASW / 13-06
Organism Age: 10 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	B13	5	5	5	5	5	5
	B	B14	5	5	5	5	5	5
	C	B15	5	5	5	5	5	5
	D	B16	5	5	5	5	5	5
Salt CTRL	A	B17	5	5	5	5	5	5
	B	B18	5	5	5	5	5	4[1]
	C	B19	5	5	5	5	5	5
	D	B20	5	5	5	5	5	5
100%	A	B21	5	5	5	5	5	5
	B	B22	5	5	5	5	5	5
	C	B23	5	5	5	5	5	5
	D	B24	5	5	5	5	3[2]	3
Organisms loaded by: JD		Checked by: [redacted]	BA	BA	JD	JD	JD	
Loading Verified by: BA								

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

Comments:

Test Results:
% mortality in 100% sample: 10%
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).

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FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample #: 9360200 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	D	A
pH (S.U.)	8.3	8.1	8.1	8.3	8.3	8.2
Temperature °C	24.9	25.3	24.3	24.0	24.2	24.1
Dissolved Oxygen mg/L	6.9	3.8	6.4	6.3	6.6	6.6
Conductivity µmhos mmhos	31.0	31.7	32.1	31.6	31.7	32.2
(Initials) Measured by:	DA	JMB	SB/JD	BA	BA	JD
(Initials) Recorded by:	BA	JMB	SB/JD	BA	BA	JD

Comments:

Concentration Salt Ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.6	8.3	8.2	8.4	8.3	8.2
Temperature °C	24.1	25.3	24.3	24.2	24.9	24.2
Dissolved Oxygen mg/L	6.8	4.3	6.2	6.4	6.6	6.7
Conductivity µmhos mmhos	32.3	32.7	33.6	33.1	32.7	33.1
(Initials) Measured by:	BA	JMB	SB/JD	BA	BA	JD
(Initials) Recorded by:	BA	JMB	SB/JD	BA	BA	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	D	A
pH (S.U.)	8.5	8.1	8.0	8.4	8.1	8.2
Temperature °C	24.3	25.0	24.2	24.5	24.4	24.2
Dissolved Oxygen mg/L	6.9	4.1	5.9	6.4	6.6	6.6
Conductivity µmhos mmhos	32.0	32.6	33.0	32.6	32.5	33.2
(Initials) Measured by:	DA	JMB	SB/JD	DA	DA	JD
(Initials) Recorded by:	DA	JMB	SB/JD	DA	DA	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:

000019

V 2.0 22404

Page

FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 9302600 **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	D	A
pH (S.U.)	8.3	~~8.4~~ 8.3	8.3	8.4	8.2	8.3
Temperature °C	24.8	24.8	24.0	24.2	24.6	24.2
Dissolved Oxygen mg/L	7.2	5.5	6.1	6.2	6.4	6.5
Conductivity µmhos (mmhos)	31.1	31.3	31.9	31.4	31.7	32.7
(initials) Measured by:	BA	~~JJ~~/BS	BA/BS	BA	BA	JJ
(initials) Recorded by:	BA	~~JJ~~/BS	BA/BS	BA	BA	JJ

Comments: Transcription error BS

Concentration Salt Ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.6	8.5	8.3	8.5	8.3	8.3
Temperature °C	24.1	24.6	24.7	24.3	24.6	24.2
Dissolved Oxygen mg/L	7.1	5.5	6.3	6.2	6.3	6.1
Conductivity µmhos (mmhos)	32.3	32.2	33.7	32.9	32.1	33.9
(initials) Measured by:	BA	~~JJ~~/BS	BA/BS	BA	BA	JJ
(initials) Recorded by:	BA	~~JJ~~/BS	BA/BS	BA	BA	JJ

Comments:

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.5	8.3	8.3	8.4	8.3	8.2
Temperature °C	24.4	24.3	24.6	24.4	24.6	24.2
Dissolved Oxygen mg/L	7.0	5.5	6.2	6.4	6.2	6.1
Conductivity µmhos (mmhos)	32.1	32.5	33.7	32.8	32.4	32.5
(initials) Measured by:	BA	~~JJ~~/BS	BA/BS	BA	BA	JJ
(initials) Recorded by:	BA	~~JJ~~/BS	BA/BS	BA	BA	JJ

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

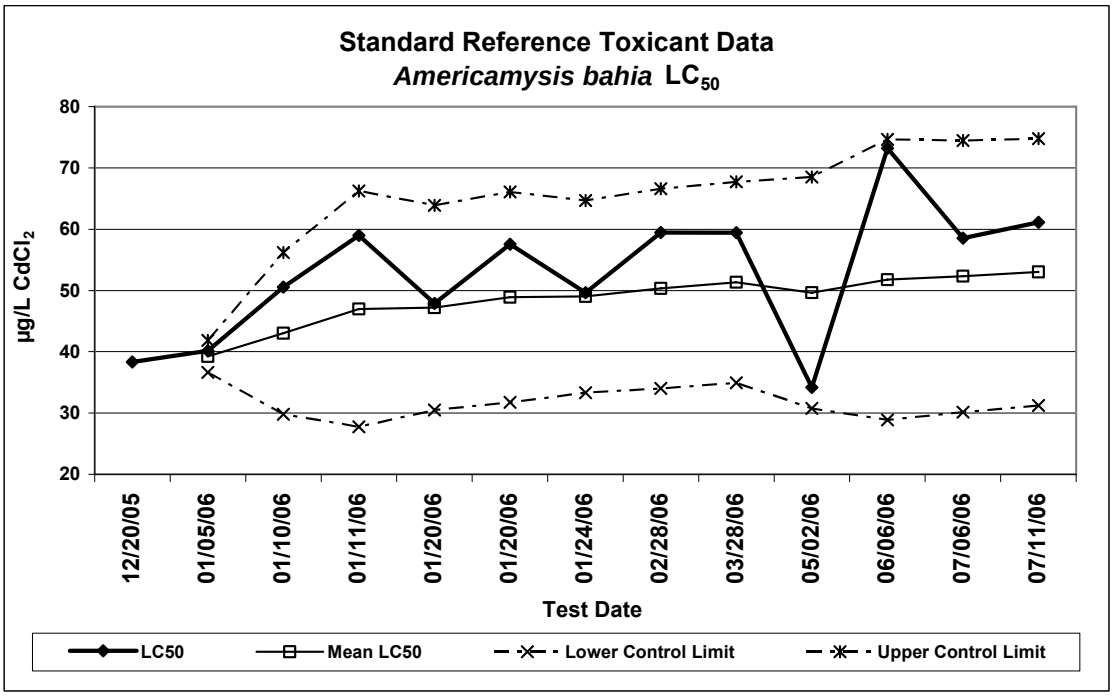
Florida Department of Environmental Protection
Bureau of Laboratories

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
07/06/06	58.53	52.33	11.08	30.16	74.49
07/11/06	61.12	53.00	10.89	31.22	74.78

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

CV = 20.54
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)

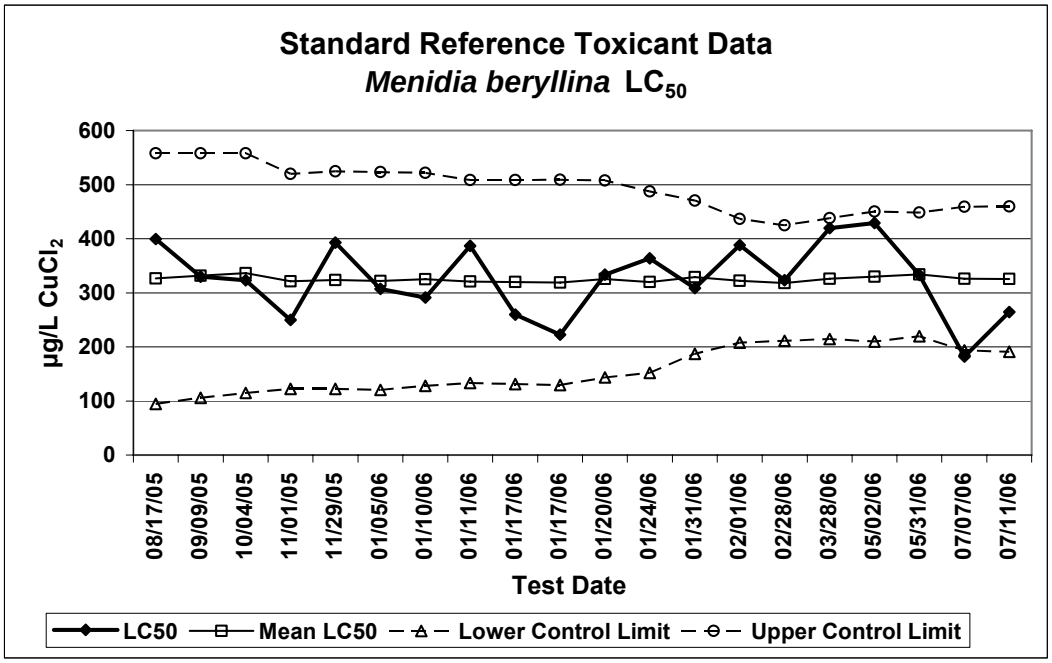
Florida Department of Environmental Protection
Bureau of Laboratories

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
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	207.96	436.83
02/28/06	323.38	318.11	53.47	211.18	425.04
03/28/06	419.55	326.32	55.87	214.58	438.07
05/02/06	429.19	330.10	60.20	209.69	450.51
05/31/06	333.13	334.26	57.18	219.91	448.61
07/07/06	181.98	326.28	66.48	193.32	459.25
07/11/06	264.59	325.48	67.16	191.17	459.79

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

CV = 20.63
EPA reference 75th quartile CV = 21%



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 13-060
Toxicant/ Batch# CdCl2 / 9-06

Test Beginning: Date: 7-11-06 Time: 1315
Test Ending: Date: 7-15-06 Time: 1210

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	SR
Alkalinity (mg/L as $CaCO_3$):	184	Hach	BA
Hardness (mg/L as CaCO3):	—	Hach	—
Total Ammonia (mg/L as N):	<0.03	Denver	MF
Salinity (ppth):	21.1	Mettler	SR

Organism Batch #/ Age: 21-060 5 days
Feeding: (Prior to test) Prior to renewal Daily
Food: YCT — P.subcapitata — Artemia GSL 536-90
Food Batch:
Chamber size: 400 mL
Test volume: 250 mL per replicate

Conc. µg/L 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
Control	A	25	5 / 5 / 5	8.3 / — / 8.0	24.1 / — / —	6.7 / — / —	33.9 / — / 35.4
	B	26	5 / 4[10] / 4	— / 8.1 / [illegible]	— / 24.2 / —	— / 5.4 / —	— / 35.0 / —
	C	27	5 / 5 / 4[10]	— / — / 8.0	— / — / 35.3	— / — / 5.7	— / — / 35.4
	D	28	5 / 5 / 5				
20	A	29	5 / 5 / 4[10]	8.3 / — / —	24.5 / — / —	6.6 / — / —	34.2 / — / —
	B	30	5 / 5 / 5	— / 8.1 / —	— / 24.5 / —	— / 5.5 / —	— / 34.5 / —
	C	31	5 / 5 / 5	— / — / 7.9	— / — / 24.2	— / — / 5.6	— / — / 36.5
	D	32	5 / 5 / 5				
30	A	33	5 / 5 / 4[10]	8.3 / — / —	24.7 / — / —	6.6 / — / —	34.1 / — / —
	B	34	5 / 5 / 4[10]	— / 8.2 / —	— / 24.5 / —	— / 5.6 / —	— / 34.4 / —
	C	35	5 / 5 / 4[10]	— / — / 7.9	— / — / 24.3	— / — / 5.5	— / — / 36.9
	D	36	5 / 5 / 5				
45	A	37	5 / 5 / 4[10]	8.3 / — / —	24.8 / — / —	6.6 / — / —	34.0 / — / —
	B	38	5 / 5 / 5	— / 8.2 / —	— / 24.4 / —	— / 5.7 / —	— / 34.3 / —
	C	39	5 / 4[10] / 4	— / — / 8.0	— / — / 24.1	— / — / 5.5	— / — / 37.3
	D	40	5 / 5 / 4[10]				
60	A	41	5 / 3[20] / 3	8.4 / — / —	24.8 / — / —	6.6 / — / —	33.9 / — / —
	B	42	5 / 5 / 0[20]	— / 8.2 / —	— / 24.4 / —	— / 5.9 / —	— / 34.6 / —
	C	43	5 / 5 / 1[40]	— / — / 8.0	— / — / 24.1	— / — / 5.7	— / — / 36.8
	D	44	5 / 5 / 4[10]				
100	A	45	5 / 0[20] / —	8.4 / — / —	25.0 / — / —	6.6 / — / —	33.9 / — / —
	B	46	5 / 3[20] / 0[20]	— / 8.2 / —	— / 24.2 / —	— / 6.0 / —	— / 34.7 / —
	C	47	5 / 2[30] / 0[20]	— / — / 8.1	— / — / 24.1	— / — / 5.8	— / — / 36.4
	D	48	5 / 3[20] / 0[30]				
	A						
	B						
	C						
	D						
Loaded / measured by:			JD / JD / JD	BA / BA / BA	BA / BA / JD/SP	BA / BA / BA	BA / BA / BA
Recorded by:			BA / JD / JD	BA / BA / BA	BA / JD / JD/SP	BA / BA / BA	BA / BA / BA

Investigators' Signatures
Marshall Faircloth
Sarah Pritchard
Bruce Anderson
Jamie Daniel
Nicole Wetterhof
REVIEWER

Concentrations prepared by: JD
Loading verified by: BA
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 23.9 max. 25.6 mean 24.5
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 23.6 max. 24.2 mean 23.9

Remarks:

Statistical Results: Method: Spearman-Karber
48 / 96 hour LC50: 61.12
95% Confidence Interval: lower 54.61 upper 68.91

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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 1

Diluent/ Batch#: ASW 113-06
Toxicant/ Batch# CdCl2 19-06

Test Beginning: Date: 7-11-06 Time: 1315
Test Ending: Date: 7-15-06 Time: 1210

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	SP
Alkalinity (mg/L as $CaCO_3$):	184	Hach	BA
Hardness (mg/L as CaCO3):	—	Hach	—
Total Ammonia (mg/L as N):	<0.034	Denver	MF
Salinity (ppth):	31.1	Mettler	SP

Organism Batch #/ Age: 21-06 15 days
Feeding: Prior to test / Prior to renewal / Daily
Food: YCT — P.subcapitata — Artemia GSL536 90
Food Batch: — —
Chamber size: 400 mL
Test volume: 250 mL per replicate

Conc. (PPT) g/L	Rep.	Chamber#	Number Live 0 hr	Number Live 24 hr	Number Live 48 hr	pH (SU) 0 hr	pH (SU) 24 hr	pH (SU) 48 hr	Temperature (°C) 0 hr	Temperature (°C) 24 hr	Temperature (°C) 48 hr	D.O. (mg/l) 0 hr	D.O. (mg/l) 24 hr	D.O. (mg/l) 48 hr	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhos/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	25	5	5	5	8.3			24.1			7.4			33.8		
	B	26	4	4	4												
	C	27	4	4	4			8.1			25.0			5.8			36.0
	D	28	5	5	5		8.2			24.6			6.6			35.2	
20	A	29	4	4	4	8.3			24.8			7.2			34.1		
	B	30	5	5	5												
	C	31	5	5	5			8.1		24.5	25.1			5.2			36.2
	D	32	5	5	5		8.2			24.5			6.3			35.2	
30	A	33	4	3 1D	3	8.3			24.8			6.9			34.2		
	B	34	4	4	4												
	C	35	4	4	4			8.1			25.0			5.2			35.9
	D	36	5	4 1D	4		8.2			24.5			6.3			34.8	
45	A	37	4	2 2D	2	8.3			24.7			6.8			34.0		
	B	38	5	4 1D	3 1D												
	C	39	4	3 1D	2 1D			8.1			24.9			5.3			35.4
	D	40	4	3 1D	3		8.2			24.4			6.1			34.7	
60	A	41	3	1 2D	0 1D	8.3			24.6			6.8			33.8		
	B	42	—	—	—												
	C	43	1	1	0 1D			8.2			24.7			5.9			37.9
	D	44	4	3 1D	0 3D		8.2			24.6			6.7			34.4	
100	A	45	—	—	—	—			—			—			—		
	B	46	—	—	—												
	C	47	—	—	—			—			—			—			—
	D	48	—	—	—		—			—			—			—	
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	BA	SP	BA	BA	SP	BA	BA	SP	BA	BA	SP	BA	BA	SP
Recorded by:			JD	DA	SP	BA	BA	SP	BA	BA	SP	BA	BA	SP	BA	BA	SP

Investigators' Signatures
Marshall Faircloth
Jack Pritchard
Barry Nettles
James Farrell
Nicole Wellenhof
REVIEWER

Concentrations prepared by: SP
Loading verified by: JD
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 23.9 max. 25.6 mean 24.5
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 23.6 max. 24.2 mean 23.9

Remarks:

Statistical Results: Method: Spearman-Karber
48 (96) hour LC50: 41.04
95% Confidence Interval: lower 36.95 upper 45.58

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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 / 13-06
Toxicant/ Batch# $CuCl_2$ / 8-06

Test Beginning: Date: 7-11-06 Time: 1330
Test Ending: Date: 7-15-06 Time: 1200

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	SP
Alkalinity (mg/L as $CaCO_3$):	184	Hach	BA
Hardness (mg/L as CaCO3):	–	Hach	–
Total Ammonia (mg/L as N):	<0.034	Denver	MF
Salinity (ppth):	21.1	Mettler	BA

Organism Batch #/ Age: 21-06 / 14 days
Feeding: (Prior to test) (Prior to renewal) / Daily
Food: YCT P.*subcapitata* Artemia
Food Batch: – – GSL 530-90
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc. µg/L 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) 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	C13	10	9/10	9	8.3		8.1	24.4		24.4	6.6		6.9	34.3		35.6
	B	C19	10	9/10	9		8.1			24.7			5.4			33.8	
	C										~~24~~						
	D																
31.25	A	C15	10	8/10	8	8.3		8.1	24.4		25.2	6.5		6.1	34.1		35.2
	B	C16	10	10	10		8.1			25.1			5.4			34.3	
	C																
	D																
62.5	A	C17	10	9/10	9	8.3		8.1	24.5		25.2	6.5		6.0	34.1		34.9
	B	C18	10	10	10		8.1			25.1			5.4			34.1	
	C																
	D																
125	A	C19	10	8/10	8	8.3		8.1	24.5		25.0	6.5		6.1	34.1		35.2
	B	C20	10	10	10		8.1			25.1			5.4			34.1	
	C																
	D																
250	A	C21	10	9/10	8/10	8.3		8.1	24.5		25.6	6.5		6.1	33.8		35.0
	B	C22	10	3/10	3		8.2			25.0			5.4			33.8	
	C																
	D																
500	A	C23	10	0/10	–	8.4		–	24.7		–	6.5		–	33.9		–
	B	C24	10	0/10	–		8.2			25.4			5.5			34.3	
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	JD	JD	BA	BA	BA	BA	BA	JD/SP	BA	BA	BA	BA	BA	BA
Recorded by:			JD	JD	JD	BA	BA	BA	BA	BA	JD/SP	BA	BA	BA	BA	BA	BA

Investigators' Signatures
Sarah Predmore
Marshall Tunstall
Bruce Hendrix
James Dand
Nicole Wellendorf
REVIEWER

Concentrations prepared by: JD
Loading verified by: BA
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 23.4 max. 25.6 mean 24.5
Incubator # ____ min. ____ max. ____ mean ____
Room B246 min. 23.6 max. 24.2 mean 23.9

Remarks:

Statistical Results: Method: Spearman-Karber
(48) / 96 hour LC50: 264.59
95% Confidence Interval: lower 226.05 upper 309.69

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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 113-06
Toxicant/ Batch#: $CuCl_2$ 18-06

Test Beginning: Date: 7-11-06 Time: 1330
Test Ending: Date: 7-15-06 Time: 1200

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	SP
Alkalinity (mg/L as $CaCO_3$):	184	Hach	BA
Hardness (mg/L as CaCO3):	—	Hach	—
Total Ammonia (mg/L as N):	<0.034	Denver	MF
Salinity (ppth):	27.1	Mettler	BA

Organism Batch #/ Age: 21-06 / 14 days
Feeding: Prior to test / Prior to renewal / Daily
Food: YCT — *P.subcapitata* — Artemia
Food Batch: — — GSL536-90
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc. (ug/L) 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. (µmhos/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	C13	9	9	9	8.2			24.5			6.7			34.4		
	B	C14	9	9	9		8.1	8.1			24.8		5.3	5.8			34.7
	C										~~24.8~~ SP			~~5.8~~ SP			~~34.7~~ SP
	D									(A) 24.7						(A) 34.5	
31.25	A	C15	8	8	8	8.3			24.3			6.6			34.6		
	B	C16	10	10	10		8.1	8.1			24.8		5.2	5.9			35.4
	C										~~24.8~~ SP			~~5.9~~ SP			~~35.4~~ SP
	D									(A) 24.6						(A) 34.6	
62.5	A	C17	9	9	9	8.3			24.3			6.6			34.6		
	B	C18	10	10	10		8.1	8.1			24.9		5.3	5.9			35.4
	C										~~24.9~~ SP			~~5.8~~ SP			~~35.4~~ SP
	D									(A) 24.6						(A) 34.8	
125	A	C19	8	8	7/10	8.3			24.3			6.6			34.7		
	B	C20	10	10	10		8.1	8.2			24.7		5.4	5.9			35.4
	C										~~24.7~~ SP						~~35.4~~ SP
	D									(A) 24.7						(A) 34.8	
250	A	C21	8	8	8	8.3			24.4			6.6			34.4		
	B	C22	3	3	3		8.1	8.2			24.5		5.5	6.1			35.2
	C										~~24.5~~ SP						~~35.2~~ SP
	D									(A) 24.6						(A) 34.6	
500	A	C23	—	—	—	—			—			—			—		
	B	C24	—	—	—		—	—		—	—		—	—		—	—
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	SP	SP	BA	BA	SP	BA	BA	SP	BA	BA	SP	BA	BA	SP
Recorded by:			JD	SP	SP	BA	BA	SP	BA	BA	SP	BA	BA	SP	BA	BA	SP

Investigators' Signatures
Marshall Faircloth
Sarah Pritchard
Bruce Alexander
James Daniel
Nicole Wellenkamp
REVIEWER

Concentrations prepared by: BA/SP
Loading verified by: N/A
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 23.9 max. 25.6 mean 24.5
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 23.6 max. 24.2 mean 23.9

Remarks: (A) Parameters DO, Cond & temp @ 72h taken from rep "B" - BA -

Statistical Results: Method: Spearman-Karber
48 / 96 hour LC50: 254.77
95% Confidence Interval: lower 214.54 upper 302.55

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Appendix C. (continued)

***Americamysis bahia* Acute Standard Reference Toxicant Test**

DATE: 7-15-06 DURATION: 96 h TOXICANT : $CdCl_2$
SPECIES: *A. bahia*

RAW DATA: --- ----	Concentration (ug/L)	Number Exposed	Mortalities
	.00	20	2
	20.00	20	1
	30.00	20	5
	45.00	20	10
	60.00	20	20
	100.00	20	20

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: LC_{50}: 41.04
95% LOWER CONFIDENCE: 36.95
95% UPPER CONFIDENCE: 45.58

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

***Menidia beryllina* Acute Standard Reference Toxicant Test**

DATE: 7-15-06 DURATION: 96 h TOXICANT : $CuCl_2$
SPECIES: *M. beryllina*

RAW DATA: --- ----	Concentration (ug/L)	Number Exposed	Mortalities
	.00	20	2
	31.25	20	2
	62.50	20	1
	125.00	20	3
	250.00	20	9
	500.00	20	20

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: LC_{50}: 254.77
95% LOWER CONFIDENCE: 214.54
95% UPPER CONFIDENCE: 302.55

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

Appendix D. Test Organism Receipts

MBL Aquaculture
4569 Samuel Street
Sarasota, Florida 34233
TEL: (800) 889-0384
FAX: (941) 922-3874
EMAIL: sales@mblaquaculture.com
WEB: www.MBLAquaculture.com

NELAC Accredited

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 7/17/06

Shipped to: FSEP

P.O. No: _____

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia	300+	4 Days	MSC0715	25°C	~30‰
Menidia beryllina	300+	9 Days	SSC0708	25°C	~30‰
Cyprinella leedsi	200+	11 Days	CH0C0705	25°C	
Pimephales promelas					

Packed by: Frank Gauyi

Shipped Via: FedEx

Notes: _____

Thank you for your order.

Appendix D. (continued)

MBL Aquaculture
4569 Samuel Street
Sarasota, Florida 34233
TEL: (800) 889-0384
FAX: (941) 922-3874
EMAIL: sales@mblaquaculture.com
WEB: www.MBLAquaculture.com

NELAC Accredited

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 7/10/06

Shipped to: FDEP

P.O. No: _____

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia	400+	4 Days	MS060706	25°C	19.5‰
Menidia beryllina	400+	13 Days	SS060617	25°C	19.0‰
Cyprinella leedsi	400+	11 Days	CL060629	25°C	
Pimephales promelas	400+	10 Days	FM060630-1050	25°C	

Packed by: Frank Gonzi

Shipped Via: FedEx

Notes: _____

Thank you for your order.

Gonzi

Appendix E. Chemical Analyses performed on the effluent from the Atlantic Beach Wastewater Treatment Plant Outfall D-001, sampled on July 16 and 17, 2006.

Date Sampled	Field ID	Analysis Group	Component	Results	Units	Remark	MDL	PQL
7/17/2006 6:54	EFFLUENT	Bio-AGP/LimNut	Algal Growth Potential	45	mg DryWt/L		0.3	0.9
7/17/2006 6:54	EFFLUENT	Bio-AGP/LimNut	Algal Growth Potential-Salinity Adjusted	627	mg DryWt/L		3	3
7/17/2006 6:54	EFFLUENT	Bio-CBOD	Biochemical Oxygen Demand-5 Day,N-Inhib	1.3	mg/L	I	0.2	2.0
7/17/2006 6:54	EFFLUENT	Bio-Chl-a	Chlorophyll-A, Monochromatic, Water	0.85	ug/L	U	0.85	2.6
7/17/2006 6:54	EFFLUENT	Bio-Chl-a	Phaeophytin-A, Monochromatic, Water	1.5	ug/L	U	1.5	4.5
7/16/2006 18:00	EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	No Result	LC50			
7/16/2006 18:00	EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	100	LC50	L		
7/17/06 0:00	EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	100	LC50	L		
7/17/06 0:00	EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	100	LC50	L		
7/17/2006 6:54	EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	100	LC50	L		
7/17/2006 6:54	EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	100	LC50	L		
7/17/2006 12:00	EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	100	LC50	L		
7/17/2006 12:00	EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	100	LC50	L		
7/17/2006 6:54	EFFLUENT	BNA-Water	1,2,4-Trichlorobenzene	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	1,2-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	1,3-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	1,4-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	2,4,6-Trichlorophenol	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	2,4-Dichlorophenol	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	2,4-Dimethylphenol	48	ug/L	U	48	190
7/17/2006 6:54	EFFLUENT	BNA-Water	2,4-Dinitrophenol	14	ug/L	U	14	58
7/17/2006 6:54	EFFLUENT	BNA-Water	2,4-Dinitrotoluene	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	2,6-Dinitrotoluene	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	2-Chloronaphthalene	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	2-Chlorophenol	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	2-Methyl-4,6-dinitrophenol	2.9	ug/L	U	2.9	12
7/17/2006 6:54	EFFLUENT	BNA-Water	2-Nitrophenol	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	3,3'-Dichlorobenzidine	38	ug/L	UJ	38	150
7/17/2006 6:54	EFFLUENT	BNA-Water	4,4'-DDD	1.4	ug/L	U	1.4	5.8
7/17/2006 6:54	EFFLUENT	BNA-Water	4,4'-DDE	1.4	ug/L	U	1.4	5.8
7/17/2006 6:54	EFFLUENT	BNA-Water	4,4'-DDT	1.4	ug/L	UJ	1.4	5.8
7/17/2006 6:54	EFFLUENT	BNA-Water	4-Bromophenyl phenyl ether	0.96	ug/L	U	0.96	3.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Results	Units	Remark	MDL	PQL
7/17/2006 6:54	EFFLUENT	BNA-Water	4-Chloro-3-methylphenol	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	4-Chlorophenyl phenyl ether	1.9	ug/L	U	1.9	7.7
7/17/2006 6:54	EFFLUENT	BNA-Water	4-Nitrophenol	14	ug/L	U	14	58
7/17/2006 6:54	EFFLUENT	BNA-Water	Acenaphthene	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Acenaphthylene	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Aldrin	1.4	ug/L	U	1.4	5.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Anthracene	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Benzidine	96	ug/L	U	96	380
7/17/2006 6:54	EFFLUENT	BNA-Water	Benzo(a)anthracene	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Benzo(a)pyrene	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Benzo(b)fluoranthene	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Benzo(g,h,i)perylene	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Benzo(k)fluoranthene	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Bis(2-chloroethoxy)methane	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Bis(2-chloroethyl)ether	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Bis(2-chloroisopropyl)ether	2.9	ug/L	U	2.9	12
7/17/2006 6:54	EFFLUENT	BNA-Water	Bis(2-ethylhexyl)phthalate	14	ug/L	U	14	58
7/17/2006 6:54	EFFLUENT	BNA-Water	Butyl benzyl phthalate	4.8	ug/L	U	4.8	19
7/17/2006 6:54	EFFLUENT	BNA-Water	Chrysene	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Di-n-butyl phthalate	4.8	ug/L	U	4.8	19
7/17/2006 6:54	EFFLUENT	BNA-Water	Di-n-octyl phthalate	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Dibenzo(a,h)anthracene	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Dieldrin	1.4	ug/L	U	1.4	5.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Diethyl phthalate	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Dimethyl phthalate	48	ug/L	U	48	190
7/17/2006 6:54	EFFLUENT	BNA-Water	Endosulfan I	3.8	ug/L	U	3.8	15
7/17/2006 6:54	EFFLUENT	BNA-Water	Endosulfan II	3.8	ug/L	U	3.8	15
7/17/2006 6:54	EFFLUENT	BNA-Water	Endosulfan sulfate	1.4	ug/L	UJ	1.4	5.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Endrin	1.4	ug/L	UJ	1.4	5.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Endrin aldehyde	3.8	ug/L	U	3.8	15
7/17/2006 6:54	EFFLUENT	BNA-Water	Fluoranthene	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Fluorene	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Heptachlor	1.4	ug/L	U	1.4	5.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Heptachlor epoxide	1.4	ug/L	U	1.4	5.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Hexachlorobenzene	0.96	ug/L	U	0.96	3.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Results	Units	Remark	MDL	PQL
7/17/2006 6:54	EFFLUENT	BNA-Water	Hexachlorobutadiene	2.9	ug/L	UJ	2.9	12
7/17/2006 6:54	EFFLUENT	BNA-Water	Hexachlorocyclopentadiene	2.9	ug/L	UJ	2.9	12
7/17/2006 6:54	EFFLUENT	BNA-Water	Hexachloroethane	2.9	ug/L	U	2.9	12
7/17/2006 6:54	EFFLUENT	BNA-Water	Indeno(1,2,3-cd)pyrene	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Isophorone	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	N-Nitrosodi-n-propylamine	1.9	ug/L	U	1.9	7.7
7/17/2006 6:54	EFFLUENT	BNA-Water	N-Nitrosodimethylamine	1.9	ug/L	U	1.9	7.7
7/17/2006 6:54	EFFLUENT	BNA-Water	N-Nitrosodiphenylamine	2.9	ug/L	UJ	2.9	12
7/17/2006 6:54	EFFLUENT	BNA-Water	Naphthalene	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Nitrobenzene	1.9	ug/L	U	1.9	7.7
7/17/2006 6:54	EFFLUENT	BNA-Water	Pentachlorophenol	2.9	ug/L	U	2.9	12
7/17/2006 6:54	EFFLUENT	BNA-Water	Phenanthrene	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Phenol	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	Pyrene	0.96	ug/L	U	0.96	3.8
7/17/2006 6:54	EFFLUENT	BNA-Water	alpha-BHC	1.4	ug/L	U	1.4	5.8
7/17/2006 6:54	EFFLUENT	BNA-Water	beta-BHC	1.4	ug/L	U	1.4	5.8
7/17/2006 6:54	EFFLUENT	BNA-Water	delta-BHC	1.4	ug/L	U	1.4	5.8
7/17/2006 6:54	EFFLUENT	BNA-Water	gamma-BHC	1.4	ug/L	U	1.4	5.8
7/17/2006 7:18	FIELD BLANK	BNA-Water	1,2,4-Trichlorobenzene	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	1,2-Dichlorobenzene	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	1,3-Dichlorobenzene	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	1,4-Dichlorobenzene	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	2,4,6-Trichlorophenol	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	2,4-Dichlorophenol	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	2,4-Dimethylphenol	49	ug/L	U	49	190
7/17/2006 7:18	FIELD BLANK	BNA-Water	2,4-Dinitrophenol	15	ug/L	U	15	58
7/17/2006 7:18	FIELD BLANK	BNA-Water	2,4-Dinitrotoluene	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	2,6-Dinitrotoluene	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	2-Chloronaphthalene	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	2-Chlorophenol	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	2-Methyl-4,6-dinitrophenol	2.9	ug/L	U	2.9	12
7/17/2006 7:18	FIELD BLANK	BNA-Water	2-Nitrophenol	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	3,3'-Dichlorobenzidine	39	ug/L	UJ	39	160
7/17/2006 7:18	FIELD BLANK	BNA-Water	4,4'-DDD	1.5	ug/L	U	1.5	5.8
7/17/2006 7:18	FIELD BLANK	BNA-Water	4,4'-DDE	1.5	ug/L	U	1.5	5.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Results	Units	Remark	MDL	PQL
7/17/2006 7:18	FIELD BLANK	BNA-Water	4,4'-DDT	1.5	ug/L	UJ	1.5	5.8
7/17/2006 7:18	FIELD BLANK	BNA-Water	4-Bromophenyl phenyl ether	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	4-Chloro-3-methylphenol	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	4-Chlorophenyl phenyl ether	1.9	ug/L	U	1.9	7.8
7/17/2006 7:18	FIELD BLANK	BNA-Water	4-Nitrophenol	15	ug/L	U	15	58
7/17/2006 7:18	FIELD BLANK	BNA-Water	Acenaphthene	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	Acenaphthylene	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	Aldrin	1.5	ug/L	U	1.5	5.8
7/17/2006 7:18	FIELD BLANK	BNA-Water	Anthracene	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	Benzidine	97	ug/L	U	97	390
7/17/2006 7:18	FIELD BLANK	BNA-Water	Benzo(a)anthracene	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	Benzo(a)pyrene	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	Benzo(b)fluoranthene	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	Benzo(g,h,i)perylene	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	Benzo(k)fluoranthene	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	Bis(2-chloroethoxy)methane	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	Bis(2-chloroethyl)ether	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	Bis(2-chloroisopropyl)ether	2.9	ug/L	U	2.9	12
7/17/2006 7:18	FIELD BLANK	BNA-Water	Bis(2-ethylhexyl)phthalate	15	ug/L	U	15	58
7/17/2006 7:18	FIELD BLANK	BNA-Water	Butyl benzyl phthalate	4.9	ug/L	U	4.9	19
7/17/2006 7:18	FIELD BLANK	BNA-Water	Chrysene	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	Di-n-butyl phthalate	4.9	ug/L	U	4.9	19
7/17/2006 7:18	FIELD BLANK	BNA-Water	Di-n-octyl phthalate	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	Dibenzo(a,h)anthracene	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	Dieldrin	1.5	ug/L	U	1.5	5.8
7/17/2006 7:18	FIELD BLANK	BNA-Water	Diethyl phthalate	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	Dimethyl phthalate	49	ug/L	U	49	190
7/17/2006 7:18	FIELD BLANK	BNA-Water	Endosulfan I	3.9	ug/L	U	3.9	16
7/17/2006 7:18	FIELD BLANK	BNA-Water	Endosulfan II	3.9	ug/L	U	3.9	16
7/17/2006 7:18	FIELD BLANK	BNA-Water	Endosulfan sulfate	1.5	ug/L	UJ	1.5	5.8
7/17/2006 7:18	FIELD BLANK	BNA-Water	Endrin	1.5	ug/L	UJ	1.5	5.8
7/17/2006 7:18	FIELD BLANK	BNA-Water	Endrin aldehyde	3.9	ug/L	U	3.9	16
7/17/2006 7:18	FIELD BLANK	BNA-Water	Fluoranthene	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	Fluorene	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	Heptachlor	1.5	ug/L	U	1.5	5.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Results	Units	Remark	MDL	PQL
7/17/2006 7:18	FIELD BLANK	BNA-Water	Heptachlor epoxide	1.5	ug/L	U	1.5	5.8
7/17/2006 7:18	FIELD BLANK	BNA-Water	Hexachlorobenzene	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	Hexachlorobutadiene	2.9	ug/L	UJ	2.9	12
7/17/2006 7:18	FIELD BLANK	BNA-Water	Hexachlorocyclopentadiene	2.9	ug/L	UJ	2.9	12
7/17/2006 7:18	FIELD BLANK	BNA-Water	Hexachloroethane	2.9	ug/L	U	2.9	12
7/17/2006 7:18	FIELD BLANK	BNA-Water	Indeno(1,2,3-cd)pyrene	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	Isophorone	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	N-Nitrosodi-n-propylamine	1.9	ug/L	U	1.9	7.8
7/17/2006 7:18	FIELD BLANK	BNA-Water	N-Nitrosodimethylamine	1.9	ug/L	U	1.9	7.8
7/17/2006 7:18	FIELD BLANK	BNA-Water	N-Nitrosodiphenylamine	2.9	ug/L	UJ	2.9	12
7/17/2006 7:18	FIELD BLANK	BNA-Water	Naphthalene	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	Nitrobenzene	1.9	ug/L	U	1.9	7.8
7/17/2006 7:18	FIELD BLANK	BNA-Water	Pentachlorophenol	2.9	ug/L	U	2.9	12
7/17/2006 7:18	FIELD BLANK	BNA-Water	Phenanthrene	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	Phenol	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	Pyrene	0.97	ug/L	U	0.97	3.9
7/17/2006 7:18	FIELD BLANK	BNA-Water	alpha-BHC	1.5	ug/L	U	1.5	5.8
7/17/2006 7:18	FIELD BLANK	BNA-Water	beta-BHC	1.5	ug/L	U	1.5	5.8
7/17/2006 7:18	FIELD BLANK	BNA-Water	delta-BHC	1.5	ug/L	U	1.5	5.8
7/17/2006 7:18	FIELD BLANK	BNA-Water	gamma-BHC	1.5	ug/L	U	1.5	5.8
7/17/2006 6:54	EFFLUENT	GC-Water	Alachlor	0.6	ug/L	UJ	0.6	2.4
7/17/2006 6:54	EFFLUENT	GC-Water	Ametryn	0.05	ug/L	U	0.05	0.2
7/17/2006 6:54	EFFLUENT	GC-Water	Atrazine	0.05	ug/L	U	0.05	0.2
7/17/2006 6:54	EFFLUENT	GC-Water	Azinphos Methyl	0.2	ug/L	U	0.2	0.8
7/17/2006 6:54	EFFLUENT	GC-Water	Bromacil	0.2	ug/L	U	0.2	0.8
7/17/2006 6:54	EFFLUENT	GC-Water	Butylate	0.2	ug/L	UJ	0.2	0.8
7/17/2006 6:54	EFFLUENT	GC-Water	Chlorpyrifos Ethyl	0.05	ug/L	U	0.05	0.2
7/17/2006 6:54	EFFLUENT	GC-Water	Chlorpyrifos Methyl	0.1	ug/L	U	0.1	0.4
7/17/2006 6:54	EFFLUENT	GC-Water	Diazinon	0.05	ug/L	U	0.05	0.2
7/17/2006 6:54	EFFLUENT	GC-Water	Ethion	0.05	ug/L	U	0.05	0.2
7/17/2006 6:54	EFFLUENT	GC-Water	Ethoprop	0.1	ug/L	U	0.1	0.4
7/17/2006 6:54	EFFLUENT	GC-Water	Fenamiphos	0.2	ug/L	U	0.2	0.8
7/17/2006 6:54	EFFLUENT	GC-Water	Fonofos	0.1	ug/L	U	0.1	0.4
7/17/2006 6:54	EFFLUENT	GC-Water	Hexazinone	0.1	ug/L	U	0.1	0.4
7/17/2006 6:54	EFFLUENT	GC-Water	Malathion	0.15	ug/L	U	0.15	0.6

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Results	Units	Remark	MDL	PQL
7/17/2006 6:54	EFFLUENT	GC-Water	Metalaxyl	0.25	ug/L	U	0.25	1
7/17/2006 6:54	EFFLUENT	GC-Water	Metolachlor	0.5	ug/L	U	0.5	2
7/17/2006 6:54	EFFLUENT	GC-Water	Metribuzin	0.1	ug/L	U	0.1	0.4
7/17/2006 6:54	EFFLUENT	GC-Water	Mevinphos	0.2	ug/L	U	0.2	0.8
7/17/2006 6:54	EFFLUENT	GC-Water	Naled	0.8	ug/L	U	0.8	3.2
7/17/2006 6:54	EFFLUENT	GC-Water	Norflurazon	0.15	ug/L	U	0.15	0.6
7/17/2006 6:54	EFFLUENT	GC-Water	Parathion Ethyl	0.15	ug/L	U	0.15	0.6
7/17/2006 6:54	EFFLUENT	GC-Water	Parathion Methyl	0.1	ug/L	U	0.1	0.4
7/17/2006 6:54	EFFLUENT	GC-Water	Phorate	0.05	ug/L	U	0.05	0.2
7/17/2006 6:54	EFFLUENT	GC-Water	Prometryn	0.15	ug/L	UJ	0.15	0.6
7/17/2006 6:54	EFFLUENT	GC-Water	Simazine	0.05	ug/L	U	0.05	0.2
7/17/2006 7:18	FIELD BLANK	GC-Water	Alachlor	0.57	ug/L	UJ	0.57	2.3
7/17/2006 7:18	FIELD BLANK	GC-Water	Ametryn	0.048	ug/L	U	0.048	0.19
7/17/2006 7:18	FIELD BLANK	GC-Water	Atrazine	0.048	ug/L	U	0.048	0.19
7/17/2006 7:18	FIELD BLANK	GC-Water	Azinphos Methyl	0.19	ug/L	U	0.19	0.76
7/17/2006 7:18	FIELD BLANK	GC-Water	Bromacil	0.19	ug/L	U	0.19	0.76
7/17/2006 7:18	FIELD BLANK	GC-Water	Butylate	0.19	ug/L	UJ	0.19	0.76
7/17/2006 7:18	FIELD BLANK	GC-Water	Chlorpyrifos Ethyl	0.048	ug/L	U	0.048	0.19
7/17/2006 7:18	FIELD BLANK	GC-Water	Chlorpyrifos Methyl	0.095	ug/L	U	0.095	0.38
7/17/2006 7:18	FIELD BLANK	GC-Water	Diazinon	0.048	ug/L	U	0.048	0.19
7/17/2006 7:18	FIELD BLANK	GC-Water	Ethion	0.048	ug/L	U	0.048	0.19
7/17/2006 7:18	FIELD BLANK	GC-Water	Ethoprop	0.095	ug/L	U	0.095	0.38
7/17/2006 7:18	FIELD BLANK	GC-Water	Fenamiphos	0.19	ug/L	U	0.19	0.76
7/17/2006 7:18	FIELD BLANK	GC-Water	Fonofos	0.095	ug/L	U	0.095	0.38
7/17/2006 7:18	FIELD BLANK	GC-Water	Hexazinone	0.095	ug/L	U	0.095	0.38
7/17/2006 7:18	FIELD BLANK	GC-Water	Malathion	0.14	ug/L	U	0.14	0.56
7/17/2006 7:18	FIELD BLANK	GC-Water	Metalaxyl	0.24	ug/L	U	0.24	0.96
7/17/2006 7:18	FIELD BLANK	GC-Water	Metolachlor	0.48	ug/L	U	0.48	1.9
7/17/2006 7:18	FIELD BLANK	GC-Water	Metribuzin	0.095	ug/L	U	0.095	0.38
7/17/2006 7:18	FIELD BLANK	GC-Water	Mevinphos	0.19	ug/L	U	0.19	0.76
7/17/2006 7:18	FIELD BLANK	GC-Water	Naled	0.76	ug/L	U	0.76	3
7/17/2006 7:18	FIELD BLANK	GC-Water	Norflurazon	0.14	ug/L	U	0.14	0.56
7/17/2006 7:18	FIELD BLANK	GC-Water	Parathion Ethyl	0.14	ug/L	U	0.14	0.56
7/17/2006 7:18	FIELD BLANK	GC-Water	Parathion Methyl	0.095	ug/L	U	0.095	0.38
7/17/2006 7:18	FIELD BLANK	GC-Water	Phorate	0.048	ug/L	U	0.048	0.19

Appendix E. (continued)

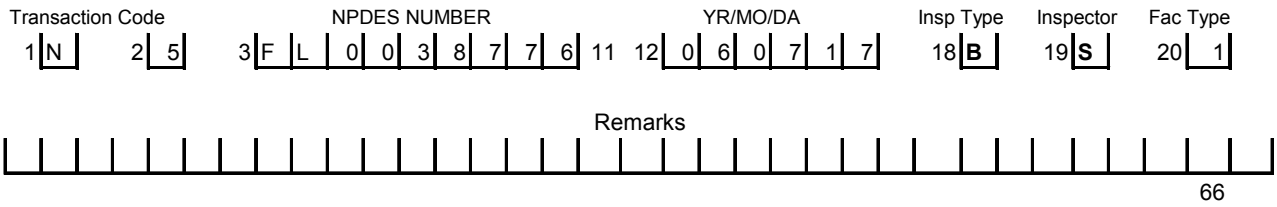
Date Sampled	Field ID	Analysis Group	Component	Results	Units	Remark	MDL	PQL
7/17/2006 7:18	FIELD BLANK	GC-Water	Prometryn	0.14	ug/L	UJ	0.14	0.56
7/17/2006 7:18	FIELD BLANK	GC-Water	Simazine	0.048	ug/L	U	0.048	0.19
7/17/2006 6:54	EFFLUENT	Metals-Water	Aluminum	28	ug/L		4	16
7/17/2006 6:54	EFFLUENT	Metals-Water	Arsenic	1	ug/L	U	1	4
7/17/2006 6:54	EFFLUENT	Metals-Water	Cadmium	0.1	ug/L	U	0.1	0.4
7/17/2006 6:54	EFFLUENT	Metals-Water	Calcium	73.1	mg/L		0.02	0.08
7/17/2006 6:54	EFFLUENT	Metals-Water	Chromium	0.3	ug/L	U	0.3	1.2
7/17/2006 6:54	EFFLUENT	Metals-Water	Copper	6.7	ug/L		0.4	1.6
7/17/2006 6:54	EFFLUENT	Metals-Water	Iron	38	ug/L		5	20
7/17/2006 6:54	EFFLUENT	Metals-Water	Lead	0.47	ug/L	I	0.4	1.6
7/17/2006 6:54	EFFLUENT	Metals-Water	Magnesium	34.2	mg/L		0.005	0.02
7/17/2006 6:54	EFFLUENT	Metals-Water	Nickel	2.5	ug/L	I	1	4
7/17/2006 6:54	EFFLUENT	Metals-Water	Selenium	1	ug/L	U	1	4
7/17/2006 6:54	EFFLUENT	Metals-Water	Silver	0.05	ug/L	U	0.05	0.2
7/17/2006 6:54	EFFLUENT	Metals-Water	Zinc	61	ug/L		3	12
7/17/2006 7:18	FIELD BLANK	Metals-Water	Aluminum	4	ug/L	U	4	16
7/17/2006 7:18	FIELD BLANK	Metals-Water	Arsenic	0.5	ug/L	U	0.5	2
7/17/2006 7:18	FIELD BLANK	Metals-Water	Cadmium	0.05	ug/L	U	0.05	0.2
7/17/2006 7:18	FIELD BLANK	Metals-Water	Calcium	0.02	mg/L	U	0.02	0.08
7/17/2006 7:18	FIELD BLANK	Metals-Water	Chromium	0.3	ug/L	U	0.3	1.2
7/17/2006 7:18	FIELD BLANK	Metals-Water	Copper	0.2	ug/L	U	0.2	0.8
7/17/2006 7:18	FIELD BLANK	Metals-Water	Iron	5	ug/L	U	5	20
7/17/2006 7:18	FIELD BLANK	Metals-Water	Lead	0.2	ug/L	U	0.2	0.8
7/17/2006 7:18	FIELD BLANK	Metals-Water	Magnesium	0.005	mg/L	U	0.005	0.02
7/17/2006 7:18	FIELD BLANK	Metals-Water	Nickel	1	ug/L	U	1	4
7/17/2006 7:18	FIELD BLANK	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
7/17/2006 7:18	FIELD BLANK	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
7/17/2006 7:18	FIELD BLANK	Metals-Water	Zinc	3	ug/L	U	3	12
7/17/2006 6:54	EFFLUENT	Nutrients-Liquid	Ammonia-N	0.064	mg N/L	A	0.01	0.02
7/17/2006 6:54	EFFLUENT	Nutrients-Liquid	Kjeldahl Nitrogen	1.2	mg N/L	JA	0.08	0.2
7/17/2006 6:54	EFFLUENT	Nutrients-Liquid	NO2NO3-N	20	mg N/L	A	0.4	1
7/17/2006 6:54	EFFLUENT	Nutrients-Liquid	O-Phosphate-P	3.7	mg P/L		0.4	1
7/17/2006 6:54	EFFLUENT	Nutrients-Liquid	TSS	4	mg/L	U	4	16
7/17/2006 6:54	EFFLUENT	Nutrients-Liquid	Total-P	4.3	mg P/L	A	0.2	0.6
7/17/2006 7:18	FIELD BLANK	Nutrients-Liquid	Ammonia-N	0.01	mg N/L	U	0.01	0.02

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Results	Units	Remark	MDL	PQL
7/17/2006 7:18	FIELD BLANK	Nutrients-Liquid	Kjeldahl Nitrogen	0.08	mg N/L	U	0.08	0.2
7/17/2006 7:18	FIELD BLANK	Nutrients-Liquid	NO2NO3-N	0.004	mg N/L	U	0.004	0.01
7/17/2006 7:18	FIELD BLANK	Nutrients-Liquid	O-Phosphate-P	0.004	mg P/L	U	0.004	0.01
7/17/2006 7:18	FIELD BLANK	Nutrients-Liquid	Total-P	0.02	mg P/L	U	0.02	0.06

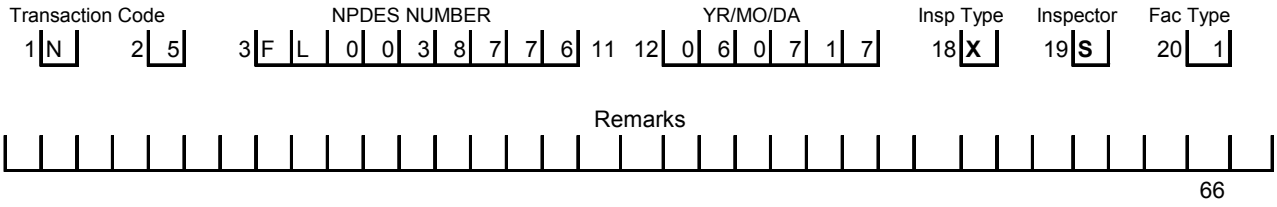
The Bioassays of Atlantic Beach Wastewater Treatment Plant effluent sampled on July 16 and 17, 2006. NPDES #FL0038776.

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



The Priority Pollutants Analysis of Atlantic Beach Wastewater Treatment Plant effluent sampled on July 17, 2006. NPDES #FL0038776.

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



Biological Analyses of Atlantic Beach Wastewater Treatment Plant effluent sampled on July 17, 2006. NPDES #FL0038776.

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

