

Effluent Quality Assessment

Palatka WWTF

Putnam County

NPDES #FL0040061

Sampled September 14 -15, 2008

February 2009

Biology Section
Bureau of Laboratories
Division of Environmental Assessment and Restoration

Quality Manual No. 870346G
NELAC Certification No. E31780

Palatka Wastewater Treatment Facility, 3010 Browns Landing, Palatka, Putnam County, Florida, 32177. NPDES #FL0040061. Effluent samples for this facility were collected on September 14-15, 2008.

Introduction

Palatka Wastewater Treatment Facility is domestic wastewater treatment plant which uses a conventional activated-sludge process to treat domestic wastewater for the City of Palatka. The wastewater treatment plant consists of:

- a preliminary treatment (headworks) structure which includes:
  - a mechanically cleaned bar screen;
  - a forced vortex grit collector;
  - two 250 gallon per minute grit pumps; and,
  - a grit cyclone washer/separator;
- a primary clarifier;
- two aeration basins;
- two surface mechanical aerators;
- two secondary clarifiers;
- a chlorine contact basin;
- a chlorination/dechlorination system;
- an effluent flow meter (Parshall flume);
- a circular gravity sludge thickener;
- two circular anaerobic digesters; and,
- a sludge dewatering unit consisting of:
  - a polymer feed system;
  - a continuous belt filter press; and,
  - for emergency use only, five sludge drying beds (total surface area 20,000 square feet).

Dewatered residuals are transported to the Putnam County Landfill, a Class I landfill, for disposal.

Effluent disposal is continuous and consists of a surface water discharge and two land application systems.

The surface water discharge consists of a permitted 3.0 MGD annual average daily flow (AADF) discharge to the St. Johns River, a Class III fresh water body at Outfall D-001. The outfall pipe is approximately 2804 m (9,200 feet) long, with approximately 76.2 m (250 feet) in the St. Johns River. Outfall D-001, discharging at a depth of about 3.35 m (11 feet) near Browns Landing, is located approximately at latitude 29° 35’ 48” N, longitude 81° 38’ 20” W. The AADF to Outfall D-001 from August 2007 to August 2008 was 1.64 MGD.

Land Application consists of Reuse Systems R-001 and R-002. R-001 is a 0.854 MGD AADF permitted capacity discharge to ground water through a Part III public access reuse system providing reclaimed water for irrigation of the Palatka Golf Course which has an area of approximately 44.52 hectares (110 acres). The point of discharge for R-001 to the holding pond is near Browns Landing and is located approximately at latitude 29° 38’ 00” N, longitude 81° 38’ 30” W. The AADF through reuse system R-001 from January 2008 to August 2008 was 0.31 MGD.

R-002 is a 0.080 MGD AADF permitted capacity discharge to ground water through a Part IV restricted public access reuse system consisting of four rapid infiltration basins (RIBS) located on approximately 16.59 hectares (41 acres) of a site encompassing approximately 109.27 hectares (270 acres) designated as R-002. The RIBS system is located approximately at latitude 29° 36’ 30” N, longitude 81° 39’ 00” W. There was no discharge for Outfall R-002 during the past year.

The facility has no Administrative Orders or mixing zones. A review of Discharge Monitoring Report (DMR) data for the past year, revealed two permit violations (10/2007 – unionized ammonia value 0.065 mg/L; permitted value ≤0.02 mg/L, and, in 3/2008, total cyanide value 11 µg/L; permitted value ≤10 µg/L). A Consent Order (CO #06-2155) regarding excess silver and cyanide is still open. The CO provides

interim limits for cyanide (10 µg/L) and silver (0.5 µg/L) from a 16 hour flow proportioned composite sample. These limits will remain in effect until the completion of the compliance project. The CO also requires the facility to abide by the rules of the Department of Environmental Protection (DEP) regarding domestic wastewater facilities, submit a compliance plan within 90 days of the CO's issuance, and to give quarterly progress reports to the DEP for the duration of the project. (Facility information provided by Brian Kirts of DEP Northeast District.)

Methods

Samples were collected from the EFD-1 NPDES sampling point for Outfall D-001 by Eesa Ali and Steve Nye (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 screen toxicity tests and algal growth potential test were performed following internal DEP SOPs TA07_01, TA07_02, 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 which were collected over a 24-hour period (one sample every six hours). The bioassays were performed in accordance with permit conditions.

Prior to test initiation, bioassay sample #1 was aerated for 30 minutes at approximately 100 bubbles per minute, to decrease the dissolved oxygen concentration from 9.3 mg/L to 7.4 mg/L.

Toxicity Test Results

Tests were performed September 16 - 20, 2008. Samples are arranged in order of collection.

Sample # 1

Ceriodaphnia dubia 96-hour acute screening bioassay – LC_{50} > 100%, 0% mortality in 100% sample at 96 hours

Cyprinella leedsi 96-hour acute screening bioassay – LC_{50} > 100%, 5% mortality in 100% sample at 96 hours

Sample # 2

Ceriodaphnia dubia 96-hour acute screening bioassay – LC_{50} > 100%, 0% mortality in 100% sample at 96 hours

Cyprinella leedsi 96-hour acute screening bioassay – LC_{50} > 100%, 10% mortality in 100% sample at 96 hours

Sample # 3

Ceriodaphnia dubia 96-hour acute screening bioassay – LC_{50} > 100%, 0% mortality in 100% sample at 96 hours

Cyprinella leedsi 96-hour acute screening bioassay – LC_{50} > 100%, 0% mortality in 100% sample at 96 hours

Sample # 4

Ceriodaphnia dubia 96-hour acute screening bioassay – LC_{50} > 100%, 5% mortality in 100% sample at 96 hours

Cyprinella leedsi 96-hour acute screening bioassay – LC_{50} > 100%, 5% mortality in 100% sample at 96 hours

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 172 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 and total nitrogen concentrations were 97.3 (±20%) mg dry wt/L and 140.6 (±20%) mg dry wt/L, respectively (Table 1; Miller et al. 1978).

See Table 1 for AGP results.

Chemistry Results

Total residual chlorine was not detected in any of the bioassay samples in the laboratory nor in the effluent in the field. Total ammonia was detected in the bioassay samples in the laboratory at concentrations of 0.6 mg/L, 1.91 mg/L, 1.945 mg/L and 0.408 mg/L, respectively, in Sample 1, Sample 2, Sample 3 and Sample 4. The total ammonia concentration in the sample collected and preserved for chemical analysis was 0.46 mg/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration in the preserved sample was ≤ 0.02 mg/L.

No constituents were detected in the effluent at levels that were not in compliance with Class III fresh water quality criteria (62-302.530, F.A.C.) or permitted conditions. Aluminum, arsenic, chromium III, copper, iron, lead, nickel, silver, and zinc were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL). Silver was also detected (0.049 ug/L I; between the MDL and PQL) in the field blank.

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. See Appendix F for bioassay lab equipment.

Conclusion

The effluent samples collected from D-001 for this facility on September 14 - 15, 2008, were not acutely toxic to either test species during the 96-hour acute screening bioassays. The effluent AGP result exceeded the "problem” threshold for fresh receiving waters, suggesting nutrient enrichment may be an issue. Effluent water quality samples did not exceed any applicable water quality standards or 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) for total soluble inorganic nitrogen (TSIN) and total nitrogen (TN) limitation of the freshwater species *Pseudokirchneriella subcapitata* for samples collected from Palatka WWTF on September 15, 2008.

Palatka Wastewater Treatment Facility **NPDES# FL0040061**					
Location	**AGP (measured)**	**Predicted AGP (TSIN) ± 20%**	**Predicted AGP (TN) ± 20%**	**Inorganic N:P ratio**	**Total N:P ratio**
Effluent	172.0	97.3 ± 19.5	140.6 ± 28.1	4.6	5.0

Table 2. Effluent limits, Class III Freshwater Criteria and chemical and microbiological data for samples collected from the Palatka WWTF on September 15, 2008.

Palatka Wastewater Treatment Facility NPDES# FL0040061	Class III Criteria	Effluent Limits	Effluent	
Metals (µg/L unless otherwise noted)				
Aluminum	-	-	120	I
Arsenic	≤ 50	-	0.78	I
Cadmium	≤ 0.403 b	-	0.02	U
Calcium (mg/L)	-	-	46.5	A
Chromium-III	≤ 134 b	-	0.62	I
Copper	≤ 14.8 b	-	0.76	I
Iron	≤ 1,000	-	74	I
Lead	≤ 6.31 b	-	0.21	I
Magnesium (mg/L)	-	-	13.4	A
Nickel	≤ 82.2 b	-	0.87	I
Selenium	≤ 5.0	-	0.5	U
Silver	≤ 0.07	≤ 0.5 * f	0.029	I F
Zinc	≤ 189 b	-	14	I
Nutrients (mg/L)				
Ortho-phosphate	-	Report	0.56	
Total Phosphorus	-	Report	0.74	
Total Ammonia	-	Report	0.46	
Un-ionized Ammonia	≤ 0.02 s	Report	≤ 0.02	c
Nitrate and Nitrite	-	-	2.1	F
Total Kjeldahl Nitrogen	-	-	1.6	
Organic Nitrogen	-	8.0 f	1.14	c
Total Nitrogen	-	Report	3.7	c
General Physical and Chemical Parameters				
Dissolved Oxygen (mg/L)	≥ 5.0	≥ 5.0 s	4.7	
pH (SU)	6.0 - 8.5	6.0 - 8.5	7.1	
Conductivity (µmhos/cm)	≤ 1,275	-	685	
Temperature °C	-	Report	28.6	
Salinity	-	-	< 1.0	c
Total Residual Chlorine (mg/L)	≤ 0.01	≤ 0.01	< 0.0012	
Total Suspended Solids (mg/L)	-	60.0 s	4	U
CBOD, 5 day (mg/L), N - inhibited	-	60.0 f	3	
Cyanide (µg/L)	≤ 5.2	≤ 10 * f	0.005	U
Flow (MGD)	-	3.0 a	1.64	a
Hardness (mg $CaCO_3$)	-	Report	171.29	c
Microbiology (Number of colony forming units/100ml)				
Fecal Coliforms	≤ 400 s #	≤ 800 s	26	B

Value exceeds the Class III Water Quality Criteria or permit limits

a - Annual average
b - Value is calculated based on hardness
c - Value is calculated
f - Samples obtained through a 16- hr flow- proportioned composite sample
s - Single sample
A - Value reported is the mean of two or more determinations
B - Results based on colony counts outside the acceptance range
F - Analyte was detected in both sample and field blank
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
U - Material analyzed for but not detected; value reported is the method detection limit
- If 10 or fewer samples are taken within a month, the single sample limit is 400 CFU (62-302.530(6), F.A.C.)
* - Parameters changed from Class III due to interim CO limit

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Request Number: RQ-2008-09-15-19
Palatka WWTP

Event ID *

Requester: Jennifer Paris
Field Report Prepared By:

Customer: NE-DIST
Collected By: SN/EA
Send Final Report To: Tom Kallemeyn

Project ID: FYI3
Sampling Agency: DEP/NED

PMAS: 1143

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	Palatka EFD-1	☐ Comp ☒ Grab Date 9/14/08 Time 1600 (Eastern) Central	Date Time Eastern Central	
	Field ID: 2008-09-15-19	Tot Res Chlorine (mg/L): <0.0012	Diss Oxygen (mg/L): 5.37	Storet Station Number
	Matrix (Include type e.g. Salt, Fresh, etc): SWF	Temp (C): 28.95	pH: 7.05	Sample Depth: ☒ m ☐ ft: 0.3
	Latitude o ' "	Longitude o ' "	Comments	Salinity (PPTh): 0.33 ☒ Sp Conductance (umho/cm): 686 NPDES Number: A

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	Palatka EFD-1	☐ Comp ☒ Grab Date 9/14/08 Time 1600 (Eastern) Central	Date Time Eastern Central	
	Field ID	Tot Res Chlorine (mg/L): <0.0012	Diss Oxygen (mg/L): 4.66	Storet Station Number
	Matrix (Include type e.g. Salt, Fresh, etc): SWF	Temp (C): 28.59	pH: 7.07	Sample Depth: ☒ m ☐ ft: 0.3
	Latitude o ' "	Longitude o ' "	Comments	Salinity (PPTh): 0.34 ☒ Sp Conductance (umho/cm): 685 NPDES Number: A

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	Palatka EFD-1	☐ Comp ☒ Grab Date 9/15/08 Time 0600 (Eastern) Central	Date Time Eastern Central	
	Field ID	Tot Res Chlorine (mg/L): <0.0012	Diss Oxygen (mg/L): 8.65	Storet Station Number
	Matrix (Include type e.g. Salt, Fresh, etc): SWF	Temp (C): 28.30	pH: 7.05	Sample Depth: ☒ m ☐ ft: 0.3
	Latitude o ' "	Longitude o ' "	Comments	Salinity (PPTh): 0.34 ☒ Sp Conductance (umho/cm): 697 NPDES Number: A

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	Palatka LeCOTF EFD-1	☐ Comp ☒ Grab Date 9/5/08 Time 1150 (Eastern) Central	Date Time Eastern Central	
	Field ID	Tot Res Chlorine (mg/L): <0.0012	Diss Oxygen (mg/L): 5.11	Storet Station Number
	Matrix (Include type e.g. Salt, Fresh, etc): SWF	Temp (C):	pH:	Sample Depth: ☒ m ☐ ft: 0.3
	Latitude o ' "	Longitude o ' "	Comments	Salinity (PPTh): 0.33 ☒ Sp Conductance (umho/cm): 675 NPDES Number: A

Relinquished By	Date/Time	Shipping Method	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time
	9/15/08	OHZ					SK	9-16-08 8:55

* Shaded Areas for Lab use only

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

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

Facility: Palatka MF Wastewater Treatment Facility
Address: Route 3 Box 129 Lundy Road
City: Palatka County: Putnam 32177
Contact/District: Eesa Ali / Northeast
NPDES Permit #: FL0040061
LIMS Job #: TLH-2008-09-16-86 LIMS Sample #: 1133153
Lims Data Entry: MF 9-29-08 Data Entry Verification: 9.29.08 JD.

Sample Collection: Date: 9-14-08 Time: 1800
Hold Time Start: Date: 9-15-08 Time: 1150
Sample: 1 of 4

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_01
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No

Test 2 validation: Test 2: SOP TA 07_02
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No

(√one)
Test 1 incubated in: ☑ Incubator #: 2 ☐ Waterbath #:
Test 2 incubated in: ☑ Incubator #: 2 ☐ Waterbath #:

Initial sample handling:
PH adjustment : yes (no) Initial pH: ____ NaOH N HCl N ____ Drops mL Final pH: ____
Aeration : (yes) no MF 9-17-08 Initial DO: 9.3 mg/L Final DO: 7.4 mg/L Duration: 30 minutes Rate: ~100 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 ---- If 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)

Light Intensity : 50 - 100 ft. candles
Photoperiod : 16 light 8 dark
Temperature Range °C: (If used) 9.29.08 - Incubator Malfunction error.
Incubator # 2 min 25.8 max 26.6 26.4 JD mean 26.2
Incubator # ____ min.____ max.____ mean____
Waterbath # ____ min.____ max.____ mean____
Room B246 min 25.2 max 25.8 mean 25.5

Investigators' Signatures
James Dench
Bruce Stubbs
Marshall Faircloth

REVIEWER

Water Quality Parameters	Batch # 9-5-08 20% DMW	9-15-08 Well Water	Moderately Hard Water	Salt Water ASW NSW Test 1	Salt Water ASW NSW Test 2	Other:	Original Sample	Measured by	Verified by
Field Total Residual Cl_2 (mg/L):	N/A	N/A	N/A	N/A	N/A		<0.0012	E. Ali	MF
Lab Total Residual Cl_2 (mg/L):	<0.03	<0.03					<0.03	JD	MF
Alkalinity (mg/L as $CaCO_3$):	82	155					123	BA	MF
Hardness (mg/L as $CaCO_3$):	82	181					174	BA	MF
Total Ammonia (mg/L as N):	<0.017	<0.017					0.600	MF	BA
Conductivity: (umhos) mmhos	174	275					726	BA JD	MF
Salinity (ppth):	—	—					0.30	JD	MF

Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 1133153 Test #: 1 SOP#:TA 07 01 Test Started: Date 9-16-08 Time: 12:30
Organism/Batch/Age: C. dubia / 34-08 / <24 hours Test Ended: Date 9-20-08 Time: 1130
Chamber/Test Volume: 30 / 20 ml Diluent/ Batch: DMW / 9-4-08 Test Duration: 48 hr / (96 hr)
Food/Batch: [✓] YCT 6-18-08 [✓] P.sub 7-18-08
[ ] Artemia: 0hr____ 24hr____ 48hr____ 72hr____ Artemia Lot#____
Feeding: [✓] Prior to Test [✓] Prior to Renewal [ ] 0 hr [ ] 24 hr [ ] 48 hr [ ] 72 hr

Concentration	Replicate	Chamber #	0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Ctrl	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
100%	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
Loaded/Verified by: BA / mF		Checked by:	BA mF	BA	BA	BA	BA	mF

m = missing d = dead BR/AR = Before/After Renewal
Comments:

Test Results:
Screening Tests: Report LC50 as >100%, =100%, or <100%.
% mortality in 100% sample: Ø LC50: >100%
If Calculated: 95% CI________ Method________
V 2.3 7/15/2008
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 Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 1133153 Test #: 2 SOP#:TA 07 02 Test Started: Date 9-16-08 Time: 1220

Organism/Batch/Age: Sheeds/9.16.08/13days Test Ended: Date 9-20-08 Time: 1135

Chamber/Test Volume: 1000 / 500 ml Diluent/ Batch: Well / 9.15.08 Test Duration: 48 hr / (96) hr

Food/Batch: [ ] YCT____ [ ] P.sub____ mF corrected batch #9-20-08 mF

[X] Artemia: 0hr 1347 24hr____ 48hr 138 72hr____ Artemia Lot# 36438

Feeding: [ ] Prior to Test [ ] Prior to Renewal [ ] 0 hr [ ] 24 hr [ ] 48 hr [ ] 72 hr

Concentration	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Ctrl	A	B9	5	5	5	5	5	5
	B	B10	5	4 1D	4	4	4	4
	C	B11	5	5	5	5	5	5
	D	B12	5	4/D	4	4	4	4
100%	A	B13	5	5	4 1D	4	4	4
	B	B14	5	5	5	5	5	5
	C	B15	5	5	5	5	5	5
	D	B16	5	5	5	5	5	5
Loaded/Verified by: JB / BA		Checked by:	BA	JB	JD	JD	JB	MF

m = missing d = dead BR/AR = Before/After Renewal

Comments:

Test Results:

Screening Tests: Report LC50 as >100%, =100%, or <100%.

% mortality in 100% sample: 5 LC50: > 100 %

If Calculated: 95% CI______ Method______

V 2.3 7/15/2008

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

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FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1133153 Test #: 1 of 2

TEST SOP #: TA07 01 Test Species: [X] *Ceriodaphnia dubia* [ ] *Cyprinella leedsi* [ ] *Pimephales promelas*

Test aerated: yes (no) (circle one) Check 1: [ ] *Americamysis bahia* [ ] *Menidia beryllina* [ ] Other:

Concentration Ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		A	M		A
pH (S.U.)	8.0		8.0	8.0		8.1
Temperature °C	24.1		24.0	24.4		24.8
Dissolved Oxygen mg/L aerate if < 4	7.4 ~~7.4~~ (A)		7.0	7.7		7.6
Conductivity (µmhos) mmhos	174		193	173		188
Salinity ppth	—		—	—		—
(initials) Measured by:	BA		BA	BA		MF
(initials) Recorded by:	BA		BA	BA		MF

Comments: (A) DO recording illegible @100% ans control, both read at 7.4 mg/L BA 9.30.20

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		A	M		A
pH (S.U.)	8.0		8.3	7.8		8.2
Temperature °C	24.4		24.0	24.6		24.8
Dissolved Oxygen mg/L aerate if < 4	~~7.4~~ (A)		7.0	7.8		7.6
Conductivity (µmhos) mmhos	722		744	715		730
Salinity ppth	—		—	—		—
(initials) Measured by:	BA		BA	BA		MF
(initials) Recorded by:	BA		BA	BA		MF

Comments:

Salinity only needs measuring if saltwater.

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 aerate if < 4						
Conductivity µmhos mmhos						
Salinity ppth						
(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 aerate if < 4						
Conductivity µmhos mmhos						
Salinity ppth						
(initials) Measured by:						
(initials) Recorded by:						

Comments:

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FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1133153 Test #: 2 of 2

TEST SOP #: TA07_02 Test Species: ☐ *Ceriodaphnia dubia* ☒ *Cyprinella leedsi* ☐ *Pimephales promelas*

Test aerated: yes (no) (circle one) Check 1: ☐ *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.)	7.9	8.2	8.2	8.1	8.1	8.2
Temperature °C	24.2	24.7	24.4	24.0	24.5	25.2
Dissolved Oxygen mg/L aerate if < 4	7.6	7.1	6.4	7.2	6.9	6.5
Conductivity (µmhos) mmhos	275	281	285	284	276	288
Salinity ppth	—	—				
(initials) Measured by:	JD	JD	JD	JD	JD	MF
(initials) Recorded by:	JD	JD	JD	JD	JD	MF

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.)	8.1	8.2	8.1	7.8	8.0	8.0
Temperature °C	25.6	24.5	24.5	24.2	24.5	25.5
Dissolved Oxygen mg/L aerate if < 4	7.4	6.9	7.1	7.4	6.8	6.4
Conductivity (µmhos) mmhos	721	733	730	721	713	739
Salinity ppth	—	—				
(initials) Measured by:	JD	JD	JD	JD	JD	MF
(initials) Recorded by:	JD	JD	JD	JD	JD	MF

Comments:

Salinity only needs measuring if saltwater.

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 aerate if < 4						
Conductivity µmhos mmhos						
Salinity ppth						
(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 aerate if < 4						
Conductivity µmhos mmhos						
Salinity ppth						
(initials) Measured by:						
(initials) Recorded by:						

Comments:

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

Facility: Palatka Wastewater Treatment Facility
Address: Route 3 Box 129 Lundy Road
City: Palatka County: Putnam 32177
Contact/District: Eesa Ali / Northeast
NPDES Permit #: FL 0040061
LIMS Job #: TLH-2008-09-16-86 LIMS Sample #: 113154
Lims Data Entry: 9-29-08 MF Data Entry Verification: 9,2908 JD.

Sample Collection: Date: 9-14-08 Time: 2400 (midnight)
Hold Time Start: Date: 9-15-08 Time: 1150
Sample: 2 of 4

Comments:

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_01

Test 2 validation:
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No
Test 2: SOP TA 07_02

(√one)
Test 1 incubated in: ☑ Incubator #: 2 ☐ Waterbath #:_____
Test 2 incubated in: ☑ Incubator #: 2 ☐ Waterbath #:_____

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 — If 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)

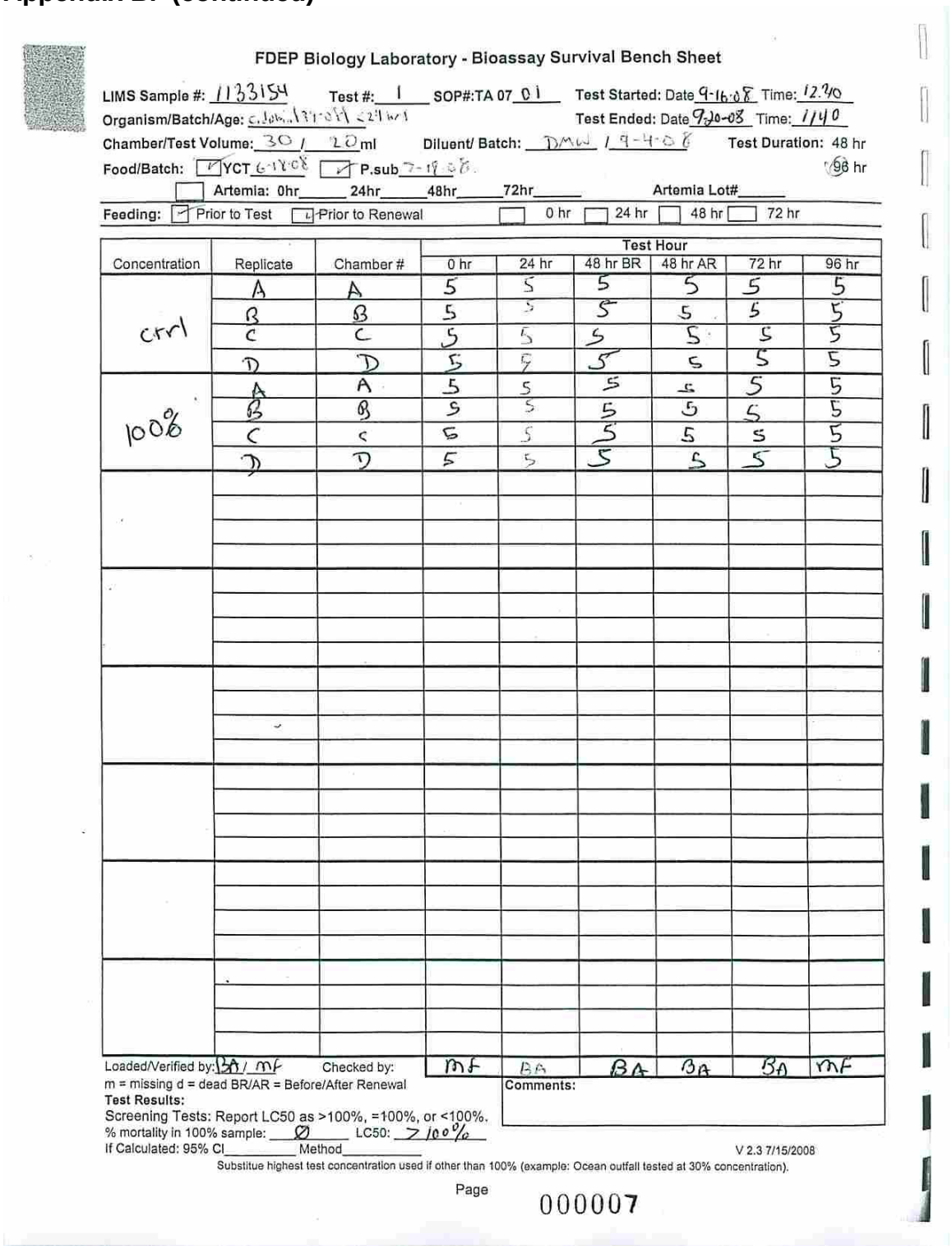
Investigators' Signatures
James Daniels
Eesa Ali
Marshall Faircloth

Ollette C. Wolfe
REVIEWER

Water Quality Parameters	Original Sample	Other	Measured by	Verified by
Field Total Residual Cl_2 (mg/L):	<0.0012		Ali	MF
Lab Total Residual Cl_2 (mg/L):	<0.03		JD	MF
Alkalinity (mg/L as $CaCO_3$):	172		DA	MF
Hardness (mg/L as $CaCO_3$):	174		DA	MF
Total Ammonia (mg/L as N):	~~<0.04~~	(A) 1.91	MF	BD
Conductivity: (umhos) mmhos	749		JD	MF
Salinity (ppth):	0.31		JD	MF

(A) Recorded United with then ~~Composite~~ sample MF 9-16-08

Appendix B. (continued)



FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 113154 Test #: 1 SOP#:TA 07 01 Test Started: Date 9-16-08 Time: 1230
Organism/Batch/Age: C.dub. 131-08A <24 hr Test Ended: Date 9-20-08 Time: 1140
Chamber/Test Volume: 30 / 20 ml Diluent/ Batch: DMW / 9-4-08 Test Duration: 48 hr 96 hr
Food/Batch: ☑ YCT 6-18-08 ☑ P.sub 7-18-08
☐ Artemia: 0hr____ 24hr____ 48hr____ 72hr____ Artemia Lot#____
Feeding: ☑ Prior to Test ☑ Prior to Renewal ☐ 0 hr ☐ 24 hr ☐ 48 hr ☐ 72 hr

Concentration	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
ctrl	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
100%	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
Loaded/Verified by: BA / MF	Checked by:		MF	BA	BA	BA	BA	MF

m = missing d = dead BR/AR = Before/After Renewal
Test Results:
Screening Tests: Report LC50 as >100%, =100%, or <100%.
% mortality in 100% sample: Ø LC50: > 100%
If Calculated: 95% CI_____ Method_____

Comments:

V 2.3 7/15/2008

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 Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 1133154 Test #: 2/2 SOP#:TA 07 02 Test Started: Date 9.16.08 Time: 1230

Organism/Batch/Age: C.leeds/9.16.08/13days Test Ended: Date 9-20-08 Time: 1145

Chamber/Test Volume: 1000 / 500 ml Diluent/ Batch: Vell / 9.15.08 Test Duration: 48 hr / 96 hr (circled)

Food/Batch: [ ] YCT____ [ ] P.sub (corrected Batch # MF 9-20-08)

[X] Artemia: 0hr 136 24hr____ 48hr 138 72hr____ Artemia Lot# 35438

Feeding: [✓] Prior to Test [✓] Prior to Renewal [ ] 0 hr [ ] 24 hr [ ] 48 hr [ ] 72 hr

Concentration	Replicate	Chamber #	Test Hour: 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Ctrl	A	D1	5	5	5	5	5	5
	B	D2	5	5	5	5	5	5
	C	D3	5	5	5	5	5	5
	D	D4	5	5	5	5	5	5
100%	A	D5	5	5	5	5	5	5
	B	D6	5	4 JD	4	4	4	4
	C	D7	5	5	5	5	5	5
	D	D8	5	4 JD	4	~~5~~ JD 4 ⓐ	4	4
Loaded/Verified by: JD / BA		Checked by:	BA	JD	JD	JD	JD	MF

m = missing d = dead BR/AR = Before/After Renewal

Comments: ⓐ 9.18.08 – transcription error

Test Results:

Screening Tests: Report LC50 as >100%, =100%, or <100%.

% mortality in 100% sample: 10 LC50: >100%

If Calculated: 95% CI________ Method________

V 2.3 7/15/2008

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

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FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1133154 Test #: 1 of 2

TEST SOP #: TA07 01 Test Species: ☑ *Ceriodaphnia dubia* ☐ *Cyprinella leedsi* ☐ *Pimephales promelas*

Test aerated: yes (no) (circle one) Check 1: ☐ *Americamysis bahia* ☐ *Menidia beryllina* ☐ Other:

Concentration: Ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		A	M		A
pH (S.U.)	8.2		8.2	8.1		8.1
Temperature °C	24.0		24.0	24.5		24.8
Dissolved Oxygen mg/L aerate if < 4	7.4		7.3	7.2		7.6
Conductivity (µmhos) mmhos	176		191	176		185
Salinity ppth	—		—	—		—
(initials) Measured by:	BA		BA	BA		MF
(initials) Recorded by:	BA		BA	BA		MF

Comments:

Concentration: 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		A	M		A
pH (S.U.)	7.4		8.3	7.4		8.3
Temperature °C	25.4		24.0	24.8		24.8
Dissolved Oxygen mg/L aerate if < 4	7.4		7.4	5.3		7.7
Conductivity (µmhos) mmhos	753		775	741		759
Salinity ppth	—		—	—		—
(initials) Measured by:	BA		BA	BA		MF
(initials) Recorded by:	BA		BA	BA		MF

Comments:

Salinity only needs measuring if saltwater.

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 aerate if < 4						
Conductivity µmhos mmhos						
Salinity ppth						
(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 aerate if < 4						
Conductivity µmhos mmhos						
Salinity ppth						
(initials) Measured by:						
(initials) Recorded by:						

Comments:

FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1133154 Test #: 2 of 2

TEST SOP #: TA07_02 Test Species: ☐ *Ceriodaphnia dubia* ☒ *Cyprinella leedsi* ☐ *Pimephales promelas*

Test aerated: yes (no) (circle one) Check 1: ☐ *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.)	8.0	8.2	8.3	8.1	8.1	8.1
Temperature °C	24.0	24.4	24.6	24.1	24.5	24.9
Dissolved Oxygen mg/L aerate if < 4	7.1	6.7	6.4	7.4	6.9	6.4
Conductivity µmhos mmhos	281	285	285	282	282	287
Salinity ppth	—	—	—	—	—	—
(initials) Measured by:	JD	JD	JD	JD	JD	MF
(initials) Recorded by:	JD	JD	JD	JD	JD	MF

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.)	7.2	8.2	8.2	7.4	7.9	7.9
Temperature °C	25.1	24.7	24.6	24.1	24.6	24.8
Dissolved Oxygen mg/L aerate if < 4	7.5	6.7	7.0	7.8	7.0	6.4
Conductivity µmhos mmhos	760	775	750	750	747	757
Salinity ppth	—	—	—	—	—	—
(initials) Measured by:	JD	JD	JD	JD	JD	MF
(initials) Recorded by:	JD	JD	JD	JD	JD	MF

Comments:

Salinity only needs measuring if saltwater.

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 aerate if < 4						
Conductivity µmhos mmhos						
Salinity ppth						
(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 aerate if < 4						
Conductivity µmhos mmhos						
Salinity ppth						
(initials) Measured by:						
(initials) Recorded by:						

Comments:

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

Facility: Palatka Wastewater Treatment Facility
Address: Route 3 Box 129 Lundy Road
City: Palatka **County:** Putnam
Contact/District: ~~Eesa~~ Eesa Ali / Northeast
NPDES Permit #: FL 0040061
LIMS Job # TLH-2008-09-16-86 **LIMS Sample #:** 1133155
Lims Data Entry: 9-29-08 MF Data Entry Verification: 9,29,08 JD

Sample Collection: Date: 9-15-08 Time: 0600
Hold Time Start: Date: 9-15-08 Time: 1150
Sample: 3 of 4

Comments:

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_01

Test 2 validation:
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No
Test 2: SOP TA 07_02

(√one)
Test 1 incubated in: ☑ Incubator #: 2 ☐ Waterbath #:_____
Test 2 incubated in: ☑ Incubator #: 2 ☐ Waterbath #:_____

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 — If 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
James Daniels
Brent Mesh
Marshall Faircloth

Loretta C. Wolfe
REVIEWER

Water Quality Parameters	Original Sample	Other	Measured by	Verified by
Field Total Residual Cl_2 (mg/L):	<0.0012		Eab	MF
Lab Total Residual Cl_2 (mg/L):	<0.03		JD	MF
Alkalinity (mg/L as $CaCO_3$):	135		BM	MF
Hardness (mg/L as $CaCO_3$):	175 MF	(A)	SA	MF
Total Ammonia (mg/L as N):	<0.019	1.945	MF	
Conductivity: (µmhos) mmhos	745		JD	MF
Salinity (ppth):	0.31		JD	MF

(A) recorded control rather than sample. MF 9-16-08

V 2.2 7/1/08

Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 1133155   Test #: 1   SOP#:TA 07 01   Test Started: Date 9-16-08 Time: 12:50

Organism/Batch/Age: C. dub./34-08/<24h   Test Ended: Date 9-20-08 Time: 1150

Chamber/Test Volume: 30 / 20 ml   Diluent/ Batch: DMW / 9-4-08   Test Duration: 48 hr / (96 hr circled)

Food/Batch: [✓] YCT 6-18-08 [✓] P.sub 7-18-08

[ ] Artemia: 0hr____ 24hr____ 48hr____ 72hr____   Artemia Lot#____

Feeding: [✓] Prior to Test [✓] Prior to Renewal [ ] 0 hr [ ] 24 hr [ ] 48 hr [ ] 72 hr

Concentration	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
ctrl	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
100%	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
Loaded/Verified by: BA/MF		Checked by:	MF-BA	BA	BA	BA	BA	MF

m = missing d = dead BR/AR = Before/After Renewal   wrong place MF for BA 9-16-08   Comments:

Test Results:

Screening Tests: Report LC50 as >100%, =100%, or <100%.

% mortality in 100% sample: Ø   LC50: >100%

If Calculated: 95% CI________ Method________   V 2.3 7/15/2008

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 Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 1133155 Test #: 2/2 SOP#:TA 07 02 Test Started: Date 9/16 08 Time: 1235

Organism/Batch/Age: Glaucus/9.16.08/13days Test Ended: Date 9-20-08 Time: 1155

Chamber/Test Volume: 1000 / 500 ml Diluent/ Batch: Well / 9.15.08 Test Duration: 48 hr (96) hr

Food/Batch: [ ] YCT____ [ ] P.sub____

[X] Artemia: 0hr 136 24hr ____ 48hr 138 72hr____ (mF wrote incorrect batch # 9-20-08 mF) Artemia Lot# 38433

Feeding: [✓] Prior to Test [✓] Prior to Renewal [137] 0 hr [ ] 24 hr [138] 48 hr [ ] 72 hr (mF wrote batch #'s in feeding place)

Concentration	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Ctrl	A	D1	5	5	5	5	5	5
	B	D10	5	5	5	5	5	5
	C	D11	5	5	5	5	5	5
	D	D12	5	5	5	5	5	5
100%	A	D13	5	5	5	5	5	5
	B	D14	5	5	5	5	5	5
	C	D15	5	5	5	5	5	5
	D	D16	5	5	5	5	5	5
Loaded/Verified by: JS / BA		Checked by:	BA	JS	JD	JD	JD	mF

m = missing d = dead BR/AR = Before/After Renewal

Comments:

Test Results:

Screening Tests: Report LC50 as >100%, =100%, or <100%.

% mortality in 100% sample: Ø LC50: >100%

If Calculated: 95% CI________ Method________

V 2.3 7/15/2008

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 Laboratory - Bioassay Parameter Bench Sheet

IMS Sample #: 1133155 Test #: 1 of 2

EST SOP #: TA07_01 Test Species: ☒ *Ceriodaphnia dubia* ☐ *Cyprinella leedsi* ☐ *Pimephales promelas*

est aerated: yes (no) (circle one) Check 1: ☐ *Americamysis bahia* ☐ *Menidia beryllina* ☐ Other:

Concentration CTRL	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		A	M		A
pH (S.U.)	8.0		8.1	8.2		8.1
Temperature °C	24.0		24.0	24.4		24.8
Dissolved Oxygen mg/L aerate if < 4	7.3		7.0	7.3		7.6
Conductivity (µmhos) mmhos	177		190	177		188
Salinity ppth	—		—	—		—
(initials) Measured by:	BA		BA	BA		ME
(initials) Recorded by:	BA		BA	BA		ME

Comments:

Concentration 100 %	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		A	M		A
pH (S.U.)	7.3		8.3	7.3		8.3
Temperature °C	25.1		24.0	24.8		24.8
Dissolved Oxygen mg/L aerate if < 4	7.3		7.2	7.9		7.6
Conductivity (µmhos) mmhos	745		826	717		769
Salinity ppth	—		—	—		—
(initials) Measured by:	BA		BA	BA		ME
(initials) Recorded by:	BA		BA	BA		ME

Comments:

Salinity only needs measuring if saltwater.

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 aerate if < 4						
Conductivity µmhos mmhos						
Salinity ppth						
(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 aerate if < 4						
Conductivity µmhos mmhos						
Salinity ppth						
(initials) Measured by:						
(initials) Recorded by:						

Comments:

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Page

FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1133155 Test #: 2 of 2

TEST SOP #: TA07_02 Test Species: ☐ *Ceriodaphnia dubia* ☒ *Cyprinella leedsi* ☐ *Pimephales promelas*

Test aerated: yes (no) (circle one) Check 1: ☐ *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.)	7.9	8.3	8.2	7.9	8.1	8.1
Temperature °C	24.5	24.5	24.8	24.2	24.6	25.1
Dissolved Oxygen mg/L aerate if < 4	7.5	6.6	6.9	7.6	6.8	6.1
Conductivity (µmhos) mmhos	295	289	301	285	295	289
Salinity ppth	—	—	—	—	—	—
(initials) Measured by:	JD	JD	JD	JD	JD	MF
(initials) Recorded by:	JD	JD	JD	JD	JD	MF

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.)	7.3	8.0	8.1	7.5	7.8	7.9
Temperature °C	25.1	24.5	24.6	24.3	24.4	25.0
Dissolved Oxygen mg/L aerate if < 4	7.6	6.7	6.9	7.9	7.0	6.0
Conductivity (µmhos) mmhos	751	757	753	748	775	769
Salinity ppth	—	—	—	—	—	—
(initials) Measured by:	JD	JD	JD	JD	JD	MF
(initials) Recorded by:	JD	JD	JD	JD	JD	MF

Comments:

Salinity only needs measuring if saltwater.

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 aerate if < 4						
Conductivity µmhos mmhos						
Salinity ppth						
(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 aerate if < 4						
Conductivity µmhos mmhos						
Salinity ppth						
(initials) Measured by:						
(initials) Recorded by:						

Comments:

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

Facility: Palatka Wastewater Treatment Facility
Address: Route 3 Box 129 Lundy Road
City: Palatka County: Putnam 32177
Contact/District: Evan Ali / Northeast
NPDES Permit #: FL 0040061
LIMS Job #: TLH-2008-09-16-86 LIMS Sample #: 1133156
Lims Data Entry: 9-29-08 MF Data Entry Verification: 9/29/08 JD

Sample Collection: Date: 9-15-08 Time: 1150
Hold Time Start: Date: 9-15-08 Time: 1150
Sample: 4 of 4

Comments:

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_01

Test 2 validation:
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No
Test 2: SOP TA 07_02

(√one)
Test 1 incubated in: ☑ Incubator #: 2 ☐ Waterbath #:_____
Test 2 incubated in: ☑ Incubator #: 2 ☐ Waterbath #:_____

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 — If 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
James Daniels
Marshall Faircloth

Loretta C Wolfe
REVIEWER

Water Quality Parameters	Original Sample	Other	Measured by	Verified by
Field Total Residual Cl_2 (mg/L):	<0.0012		E. Ali	MF
Lab Total Residual Cl_2 (mg/L):	<0.03		JD	MF
Alkalinity (mg/L as $CaCO_3$):	135		SD	MF
Hardness (mg/L as $CaCO_3$):	180		GB	MF
Total Ammonia (mg/L as N):	0.408		MF	
Conductivity: (umhos) mmhos	718		JD	MF
Salinity (ppth):	0.29		JD	MF

V 2.2 7/8/08

Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 1133156 Test #: 1 SOP#:TA 07 01 Test Started: Date 9-16-08 Time: 13:00

Organism/Batch/Age: C.dubia/34-08/<24 hrs Test Ended: Date 9-20-08 Time: 1200

Chamber/Test Volume: 30 / 20 ml Diluent/ Batch: DMW / 9-4-08 Test Duration: 48 hr / 96 hr

Food/Batch: [✓] YCT 6-18-08 [✓] P.sub 7-18-08

[ ] Artemia: 0hr____ 24hr____ 48hr____ 72hr____ Artemia Lot#____

Feeding: [✓] Prior to Test [✓] Prior to Renewal [ ] 0 hr [ ] 24 hr [ ] 48 hr [ ] 72 hr

Concentration	Replicate	Chamber #	0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
ctrl	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
100%	A	A	5	5	4 1D	4	4	4
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
Loaded/Verified by: BA/MF		Checked by:	MF	BA	BA	BA	BA	MF

m = missing d = dead BR/AR = Before/After Renewal

Comments:

Test Results:

Screening Tests: Report LC50 as >100%, =100%, or <100%.

% mortality in 100% sample: 5 LC50: >100%

If Calculated: 95% CI____ Method____

V 2.3 7/15/2008

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 Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 1133156 Test #: 2/2 SOP#:TA 07 02 Test Started: Date 9/16/08 Time: 1240

Organism/Batch/Age: Cleads/9.16.08/13 days Test Ended: Date 9-20-08 Time: 1205

Chamber/Test Volume: 1000 / 500 ml Diluent/ Batch: Well / 9/15/08 Test Duration: 48 hr (96 hr)

Food/Batch: [ ] YCT____ [ ] P.sub____ mf corrected Batch # 9-10-08 mF

[X] Artemia: 0hr 1367 24hr____ 48hr 138 72hr____ Artemia Lot# 384833 JD

Feeding: [✓] Prior to Test [✓] Prior to Renewal mf 137 0 hr [ ] 24 hr mf 138 48 hr [ ] 72 hr

error writing Batch # in feeding box mf 9-20-08

Concentration	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
ctrl	A	D17	5	5	5	5	5	5
	B	D18	5	5	5	5	5	5
	C	D19	5	5	5	5	5	5
	D	D20	5	4 1D	4	4	4	4
100%	A	D21	5	5	5	5	5	5
	B	D22	5	5	5	5	5	4 1D
	C	D23	5	5	5	5	5	5
	D	D24	5	5	5	5	5	5
Loaded/Verified by: JD / BA		Checked by:	BA	JD	JD	JD	JD	MF

m = missing d = dead BR/AR = Before/After Renewal

Comments:

Test Results:

Screening Tests: Report LC50 as >100%, =100%, or <100%.

% mortality in 100% sample: 5 LC50: >100%

If Calculated: 95% CI________ Method________

V 2.3 7/15/2008

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

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FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1133156 Test #: 1 of 2

TEST SOP #: TA07 01 Test Species: ☒ *Ceriodaphnia dubia* ☐ *Cyprinella leedsi* ☐ *Pimephales promelas*

Test aerated: yes (no) (circle one) Check 1: ☐ *Americamysis bahia* ☐ *Menidia beryllina* ☐ Other:

Concentration: Ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		A	M		A
pH (S.U.)	8.1		8.2	8.2		8.1
Temperature °C	24.0		24.0	24.4		24.9
Dissolved Oxygen mg/L aerate if < 4	7.3		7.2	7.2		7.7
Conductivity (µmhos) mmhos	176		201	177		188
Salinity ppth	—		—	—		—
(initials) Measured by:	BA		BA	BA		MF
(initials) Recorded by:	BA		BA	BA		MF

Comments:

Concentration: 100 %	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		A	M		A
pH (S.U.)	7H		8.3	7.3		8.3
Temperature °C	25.4		24.0	24.7		25.0
Dissolved Oxygen mg/L aerate if < 4	6.2		7.3	7.5		7.6
Conductivity (µmhos) mmhos	724		714	720		734
Salinity ppth	—		—	—		—
(initials) Measured by:	BA		BA	BA		MF
(initials) Recorded by:	BA		BA	BA		MF

Comments:

Salinity only needs measuring if saltwater.

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 aerate if < 4						
Conductivity µmhos mmhos						
Salinity ppth						
(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 aerate if < 4						
Conductivity µmhos mmhos						
Salinity ppth						
(initials) Measured by:						
(initials) Recorded by:						

Comments:

019

mf one to close to 3

FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : ~~H3356~~ 1133156 **Test #:** 2 of 2

TEST SOP #: TA07_52 **Test Species:** ☐ *Ceriodaphnia dubia* ☒ *Cyprinella leedsi* ☐ *Pimephales promelas*

Test aerated: yes (no) (circle one) Check 1: ☐ *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.)	8.0	8.3	8.2	8.1	8.1	8.2
Temperature °C	24.1	24.8	24.9	24.4	24.4	25.0
Dissolved Oxygen mg/L aerate if < 4	7.5	6.8	6.9	7.7	7.2	6.4
Conductivity (µmhos) mmhos	330	300	300	279	291	283
Salinity ppth	—	—	—	—	—	—
(initials) Measured by:	JD	JD	JD	JD	JD	MF
(initials) Recorded by:	JD	JD	JD	JD	JD	MF

Comments:

Concentration 1000% C	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.)	7.3	8.0	8.2	7.5	7.8	7.9
Temperature °C	25.0	24.8	24.8	24.4	24.2	24.9
Dissolved Oxygen mg/L aerate if < 4	6.9	6.7	6.9	7.6	7.2	6.0
Conductivity (µmhos) mmhos	723	723	739	720	714	745
Salinity ppth	—	—	—	—	—	—
(initials) Measured by:	JD	JD	JD	JD	JD	MF
(initials) Recorded by:	JD	JD	JD	JD	JD	MF

Comments:

Salinity only needs measuring if saltwater.

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 aerate if < 4						
Conductivity µmhos mmhos						
Salinity ppth						
(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 aerate if < 4						
Conductivity µmhos mmhos						
Salinity ppth						
(initials) Measured by:						
(initials) Recorded by:						

Comments:

Appendix B. (continued)

Bioassay Instrument ID

Test ID: Palatka wastewater treatment facility Dates: September 16-20, 2008

METER / DEVICE	ID	SOP	Parameter	Method	√used
YSI Model 58 Dissolved Oxygen Meter	90H018262	TA06_04	Dissolved Oxygen	SM 4500 O G	✓
Accumet AR-10 pH Meter	93312105	TA06_23	pH	SM 4500 H+	✓
Metller-Toledo SevenMulti Conductivity Meter	SN 1225117049 Probe H04257	TA06_25	Conductivity	SM 2510 B	✓
			Salinity	SM 2520 B	✓
Denver Model 225 ISE with ammonia probe	SN K01377	TA06_17	Ammonia	SM 4500 NH3 F	✓
Thermometer (DO probe)	YSI 5750 SN 05J1720	TA06_05	Temperature	SM-2530B modified DEP SOP-001/01 FT1400	✓
Hach Pocket Colorimeter II	05050C026378	TA06_22	Total Residual Chlorine	EPA 330.5 SM 4500 CL G	✓
Alkalinity (Hach Kit)	No SN	TA06_08	Alkalinity	SM 2320 B	✓
Hardness (Hach Kit)	No SN	TA06_09	Hardness	SM 2340 C	✓
OHAUS Balance 250D	1125481084	TA06_21 TA06_27	Weight	-	
S-Weights	BIO-S-WEIGHTS-01	NA	Balance check	-	

SM-2530B modified to allow use of electronic and non-mercury filled thermometers.
Insert other device information in blank spaces(if used). Test ID = Facility or SRTs (acute SRT–Chronic SRT)

V 1.1 6/12/08 MF

PAGE

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Appendix C. SRT Bench Sheets and Statistical Analysis

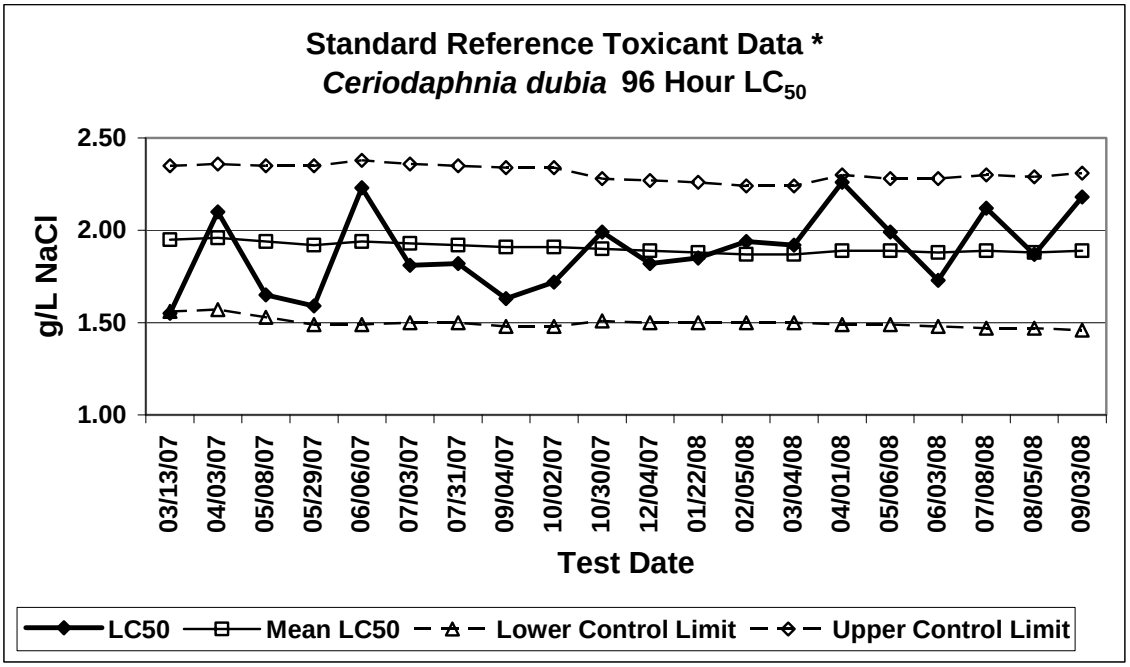
Florida Department of Environmental Protection
Bureau of Laboratories

Standard Reference Toxicant (SRT) Test Data - 96-hour Acute Toxicity
Ceriodaphnia dubia (water flea) - Sodium Chloride (NaCl)

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
03/13/07	1.55	1.95	0.20	1.56	2.35
04/03/07	2.10	1.96	0.19	1.57	2.36
05/08/07	1.65	1.94	0.20	1.53	2.35
05/29/07	1.59	1.92	0.22	1.49	2.35
06/06/07	2.23	1.94	0.22	1.49	2.38
07/03/07	1.81	1.93	0.22	1.50	2.36
07/31/07	1.82	1.92	0.21	1.50	2.35
09/04/07	1.63	1.91	0.22	1.48	2.34
10/02/07	1.72	1.91	0.21	1.48	2.34
10/30/07	1.99	1.90	0.19	1.51	2.28
12/04/07	1.82	1.89	0.19	1.50	2.27
01/22/08	1.85	1.88	0.19	1.50	2.26
02/05/08	1.94	1.87	0.18	1.50	2.24
03/04/08	1.92	1.87	0.18	1.50	2.24
04/01/08	2.26	1.89	0.20	1.49	2.30
05/06/08	1.99	1.89	0.20	1.49	2.28
06/03/08	1.73	1.88	0.20	1.48	2.28
07/08/08	2.12	1.89	0.21	1.47	2.30
08/05/08	1.87	1.88	0.20	1.47	2.29
09/03/08	2.18	1.89	0.21	1.46	2.31

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

CV = 11.27
EPA reference 75th quartile CV = 29%



Appendix C. (continued)

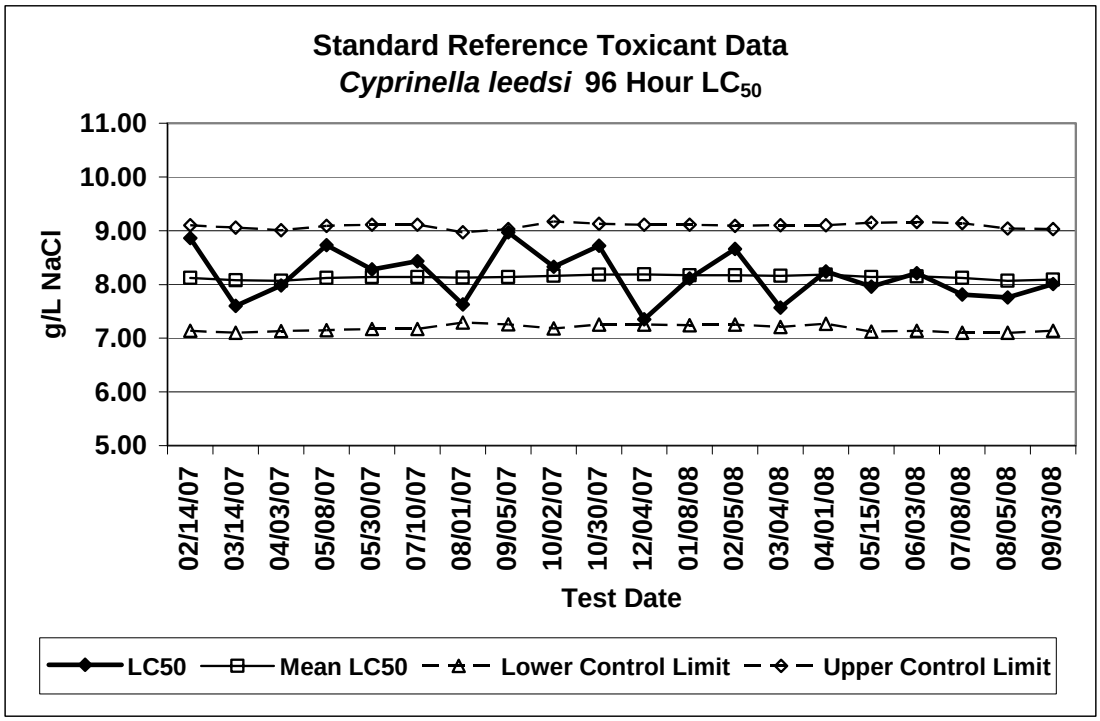
Florida Department of Environmental Protection
Bureau of Laboratories

Standard Reference Toxicant (SRT) Test Data - 96-hour Acute Toxicity
Cyprinella leedsi (bannerfin shiner) - Sodium Chloride (NaCl)

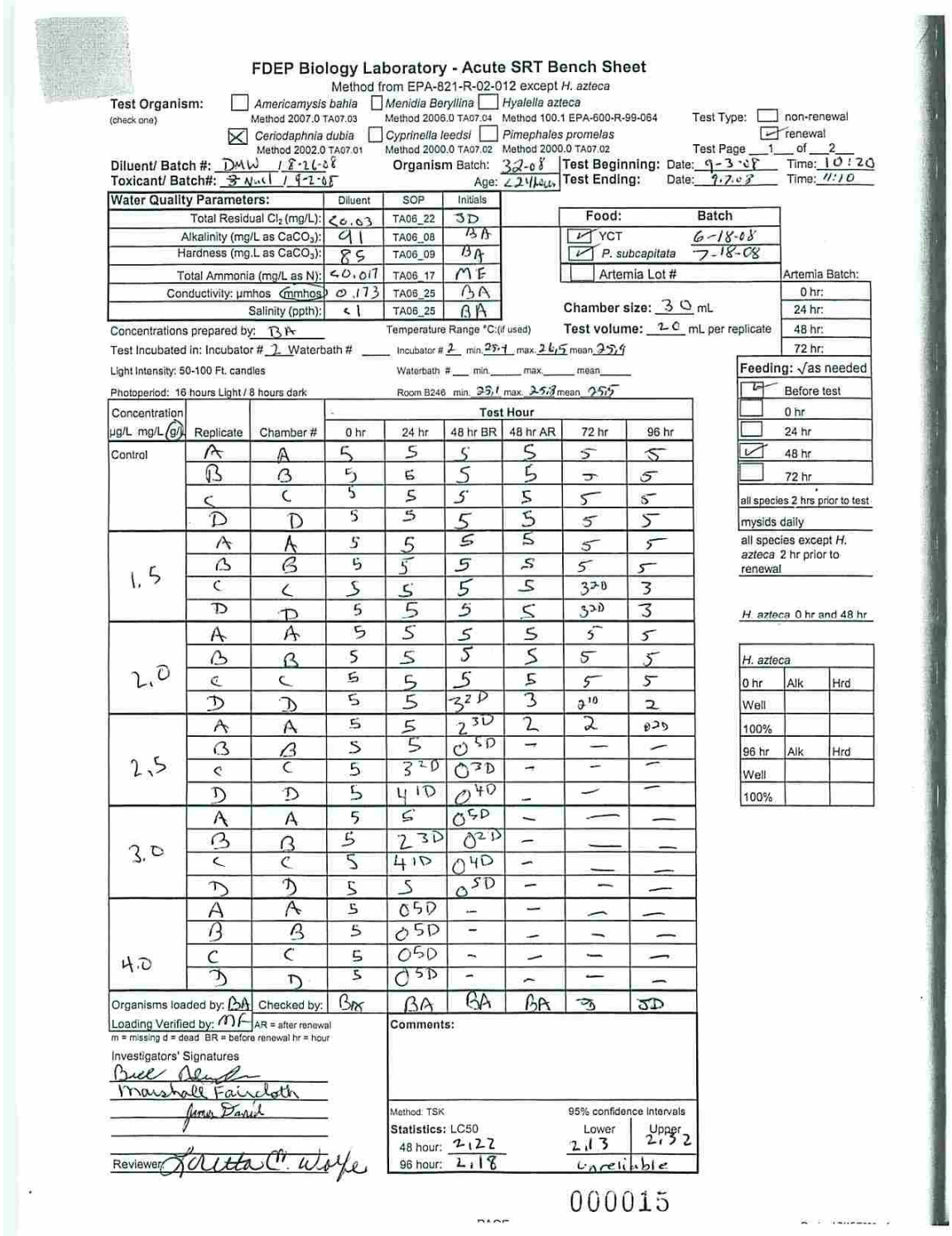
Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
02/14/07	8.86	8.12	0.49	7.14	9.10
03/14/07	7.60	8.08	0.49	7.10	9.06
04/03/07	7.98	8.07	0.47	7.13	9.01
05/08/07	8.73	8.12	0.48	7.15	9.09
05/30/07	8.28	8.14	0.48	7.17	9.11
07/10/07	8.43	8.14	0.48	7.17	9.11
08/01/07	7.63	8.13	0.42	7.29	8.97
09/05/07	8.97	8.14	0.44	7.26	9.03
10/02/07	8.33	8.16	0.50	7.18	9.17
10/30/07	8.72	8.18	0.47	7.25	9.13
12/04/07	7.35	8.19	0.47	7.25	9.11
01/08/08	8.11	8.17	0.47	7.24	9.11
02/05/08	8.66	8.17	0.47	7.25	9.09
03/04/08	7.57	8.16	0.47	7.21	9.10
04/01/08	8.24	8.18	0.46	7.27	9.10
05/15/08	7.96	8.14	0.51	7.12	9.15
06/03/08	8.21	8.15	0.51	7.14	9.16
07/08/08	7.81	8.12	0.51	7.10	9.14
08/05/08	7.76	8.07	0.48	7.10	9.04
09/03/08	8.01	8.09	0.47	7.14	9.03

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

CV = 5.84
EPA reference 75th quartile CV = 19%



Appendix C. (continued)



FDEP Biology Laboratory - Acute SRT Bench Sheet

Method from EPA-821-R-02-012 except *H. azteca*

Test Organism: (check one)
- ☐ *Americamysis bahia* Method 2007.0 TA07.03
- ☐ *Menidia Beryllina* Method 2006.0 TA07.04
- ☐ *Hyalella azteca* Method 100.1 EPA-600-R-99-064
- ☒ *Ceriodaphnia dubia* Method 2002.0 TA07.01
- ☐ *Cyprinella leedsi* Method 2000.0 TA07.02
- ☐ *Pimephales promelas* Method 2000.0 TA07.02

Test Type: ☐ non-renewal ☑ renewal

Test Page 1 of 2

Diluent/ Batch #: DMW 1.8-26-08
Toxicant/ Batch#: 3 NaCl 1.9-2-08
Organism Batch: 32-08
Age: 24/24hr
Test Beginning: Date: 9-3-08 Time: 10:20
Test Ending: Date: 9.7.08 Time: 11:10

Water Quality Parameters:	Diluent	SOP	Initials
Total Residual Cl_2 (mg/L):	<0.03	TA06_22	JD
Alkalinity (mg/L as $CaCO_3$):	91	TA06_08	BA
Hardness (mg.L as $CaCO_3$):	85	TA06_09	BA
Total Ammonia (mg/L as N):	<0.017	TA06_17	ME
Conductivity: µmhos (mmhos)	0.173	TA06_25	BA
Salinity (ppth):	<1	TA06_25	BA

Food:	Batch
☑ YCT	6-18-08
☑ *P. subcapitata*	7-18-08
☐ Artemia Lot #	

Artemia Batch:
0 hr:
24 hr:
48 hr:
72 hr:

Chamber size: 30 mL
Test volume: 20 mL per replicate

Concentrations prepared by: BA
Temperature Range °C:(if used)
Test Incubated in: Incubator # 2 Waterbath # ____ Incubator # 2 min. 25.4 max. 26.5 mean 25.9
Light Intensity: 50-100 Ft. candles Waterbath # ___ min.____ max.____ mean____
Photoperiod: 16 hours Light / 8 hours dark Room B246 min. 25.1 max. 25.8 mean 25.5

Feeding: √as needed
- ☑ Before test
- ☐ 0 hr
- ☐ 24 hr
- ☑ 48 hr
- ☐ 72 hr

all species 2 hrs prior to test
mysids daily
all species except *H. azteca* 2 hr prior to renewal
H. azteca 0 hr and 48 hr

Concentration µg/L mg/L g/L	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Control	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
1.5	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	3 2D	3
	D	D	5	5	5	5	3 2D	3
2.0	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	3 2D	3	0 1D	2
2.5	A	A	5	5	2 3D	2	2	0 2D
	B	B	5	5	0 5D	–	–	–
	C	C	5	3 2D	0 3D	–	–	–
	D	D	5	4 1D	0 4D	–	–	–
3.0	A	A	5	5	0 5D	–	–	–
	B	B	5	2 3D	0 2D	–	–	–
	C	C	5	4 1D	0 4D	–	–	–
	D	D	5	5	0 5D	–	–	–
4.0	A	A	5	0 5D	–	–	–	–
	B	B	5	0 5D	–	–	–	–
	C	C	5	0 5D	–	–	–	–
	D	D	5	0 5D	–	–	–	–

Organisms loaded by: BA Checked by: BA BA BA BA JD JD
Loading Verified by: MF
AR = after renewal
m = missing d = dead BR = before renewal hr = hour

Investigators' Signatures
Bill Shaw
Marshall Faircloth
James David

Reviewer: Loretta C. Wolfe

Comments:

H. azteca		
0 hr	Alk	Hrd
Well		
100%		
96 hr	Alk	Hrd
Well		
100%		

Method: TSK
Statistics: LC50
48 hour: 2.122
96 hour: 2.118

95% confidence intervals

Lower	Upper
2.13	2.32
Unreliable	

000015

Appendix C. (continued)

FDEP Biology Laboratory - Acute SRT Bench Sheet
0-96 hour parameters

Methods from EPA-821-R-02-012 except *H. azteca*

Test Page 2 of 2

Test Organism: (check one)
- ☐ *Americamysis bahia* Method 2007.0 TA07.03
- ☐ *Menidia Beryllina* Method 2006.0 TA07.04
- ☐ *Hyalella azteca* Method 100.1 EPA-600-R-99-064
- ☒ *Ceriodaphnia dubia* Method 2002.0 TA07.01
- ☐ *Cyprinella leedsi* Method 2000.0 TA07.02
- ☐ *Pimephales promelas* Method 2000.0 TA07.02

Test Beginning: Date: 9-3-08 Time: 10:20
Test Ending: Date: 9.7.08 Time: 11:10

Test Type: ☐ non-renewal ☑ renewal

hr = hour AR = after renewal BR = before renewal

Concentration µg/L mg/L g/L	Replicate	Test Hour	pH (SU)	Temperature (°C)	Dissolved Oxygen (mg/L)	Conductivity ☐µmhos ☑µmhos	Salinity (ppth)
Control	M	0 hr	7.9	24.0	7.3	0.173	0.0
	—	24 hr	—	~~24.3~~	—	~~2.44~~	~~1.5~~
	M	48 hr BR/AR	8.1	24.3	7.7	0.174	—
	A	48 hr ~~AR~~/BR	8.0	24.0	6.4	0.181	—
		72 hr					
	M	96 hr	7.8	24.7	7.2	0.192	
1.5	M	0 hr	7.9	24.3	7.3	2.94	1.50
	—	24 hr	—	—	—	—	—
	M	48 hr ~~BR~~/AR	8.1	24.7	7.7	2.95	—
	A	48 hr ~~AR~~/BR	8.0	24.0	6.4	3.16	—
		72 hr					
	M	96 hr	7.9	24.8	7.4	3.13	
2.0	M	0 hr	8.0	24.6	7.1	3.87	2.02
	—	24 hr	—	—	—	—	—
	M	48 hr ~~BR~~/AR	8.1	24.7	7.5	3.87	—
	A	48 hr ~~AR~~/BR	8.0	24.0	6.5	4.2	—
		72 hr					
	M	96 hr	8.0	24.8	7.5	4.3	
2.5	M	0 hr	8.1	24.6	7.2	4.79	2.54
	—	24 hr	—	—	—	—	—
	M	48 hr ~~BR~~/AR	8.1	24.7	7.4	4.66	—
	A	48 hr ~~AR~~/BR	8.0	24.0	6.7	5.25	—
		72 hr					
	M	96 hr	8.1	24.7	7.5	4.74	
3.0	M	0 hr	8.1	24.6	7.3	5.62	3.01
	—	24 hr	—	—	—	—	—
	A	48 hr BR	8.0	24.0	6.6	5.24	—
		48 hr AR					
		72 hr					
		96 hr					
4.0	M	0 hr	8.1	24.6	7.3	7.36	4.03
	A	24 hr	7.9	24.0	7.2	7.48	—
		48 hr BR					
		48 hr AR					
		72 hr					
		96 hr					

Investigators Signatures
Brad Alstott
James Davis
Marshall Faircloth
Reviewed By: Loretta Culpepper

Measured by:
0 hr: BA
24 hr: BA
48 hr BR: BA
48 hr AR: BA
72 hr: JD
96 hr: JD

Measure/record salinity for marine tests

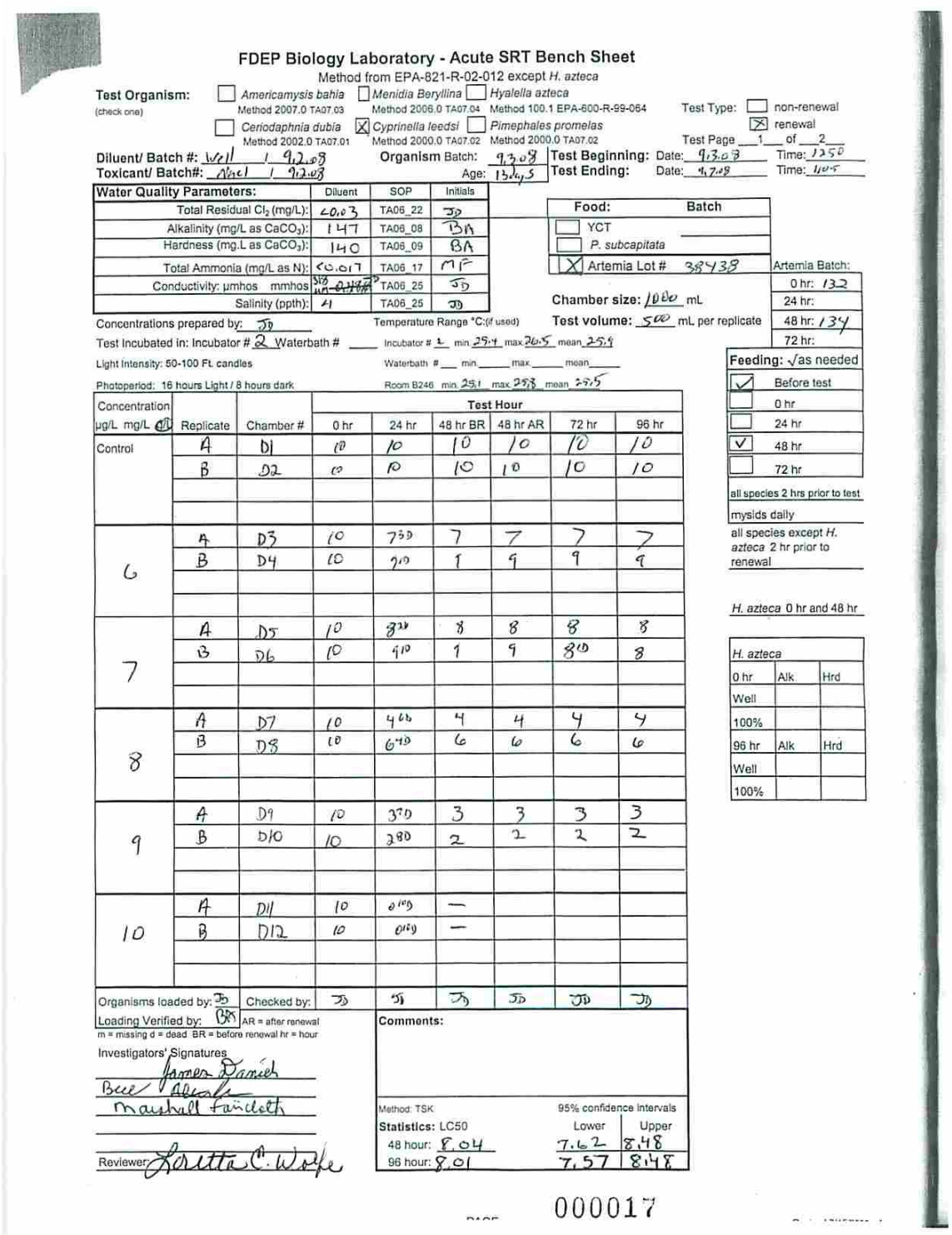
Comments: M = Meter Vial

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PAGE

Revised 07/15/2008 MF

Appendix C. (continued)



FDEP Biology Laboratory - Acute SRT Bench Sheet

Method from EPA-821-R-02-012 except *H. azteca*

Test Organism: (check one)
☐ *Americamysis bahia* Method 2007.0 TA07.03 ☐ *Menidia Beryllina* Method 2006.0 TA07.04 ☐ *Hyalella azteca* Method 100.1 EPA-600-R-99-064
☐ *Ceriodaphnia dubia* Method 2002.0 TA07.01 ☒ *Cyprinella leedsi* Method 2000.0 TA07.02 ☐ *Pimephales promelas* Method 2000.0 TA07.02

Test Type: ☐ non-renewal ☒ renewal
Test Page 1 of 2

Diluent/ Batch #: well / 9.2.08
Toxicant/ Batch#: NaCl / 9.2.08
Organism Batch: 9.3.08 Age: 13 d 4.5 h
Test Beginning: Date: 9.3.08 Time: 1250
Test Ending: Date: 9.7.08 Time: 1105

Water Quality Parameters:	Diluent	SOP	Initials
Total Residual Cl_2 (mg/L):	<0.03	TA06_22	JD
Alkalinity (mg/L as $CaCO_3$):	147	TA06_08	BA
Hardness (mg/L as $CaCO_3$):	140	TA06_09	BA
Total Ammonia (mg/L as N):	<0.017	TA06_17	MF
Conductivity: µmhos mmhos	313	TA06_25	JD
Salinity (ppth):	1	TA06_25	JD

Food:	Batch
☐ YCT	
☐ *P. subcapitata*	
☒ Artemia Lot #	38438

Artemia Batch:
0 hr: 132
24 hr:
48 hr: 134
72 hr:

Chamber size: 1000 mL
Test volume: 500 mL per replicate

Concentrations prepared by: JD
Test Incubated in: Incubator # 2 Waterbath # ____ Incubator # 2 min 25.4 max 26.5 mean 25.9
Light Intensity: 50-100 FL candles Waterbath # ___ min.____ max.____ mean____
Photoperiod: 16 hours Light / 8 hours dark Temperature Range °C:(if used) Room B246 min 25.1 max 25.8 mean 25.5

Feeding: √as needed
☑ Before test
☐ 0 hr
☐ 24 hr
☑ 48 hr
☐ 72 hr

all species 2 hrs prior to test
mysids daily
all species except *H. azteca* 2 hr prior to renewal
H. azteca 0 hr and 48 hr

Concentration µg/L mg/L (d)	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Control	A	D1	10	10	10	10	10	10
	B	D2	10	10	10	10	10	10
6	A	D3	10	7	7	7	7	7
	B	D4	10	9	9	9	9	9
7	A	D5	10	8	8	8	8	8
	B	D6	10	9	9	8	8	8
8	A	D7	10	4	4	4	4	4
	B	D8	10	6	6	6	6	6
9	A	D9	10	3	3	3	3	3
	B	D10	10	2	2	2	2	2
10	A	D11	10	0	—			
	B	D12	10	0	—			
Organisms loaded by: JD		Checked by:	JD	JD	JD	JD	JD	JD
Loading Verified by: BR								

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

H. azteca		
0 hr	Alk	Hrd
Well		
100%		
96 hr	Alk	Hrd
Well		
100%		

Comments:

Investigators' Signatures
James Daniels
Bree Abels
Marshall Faircloth

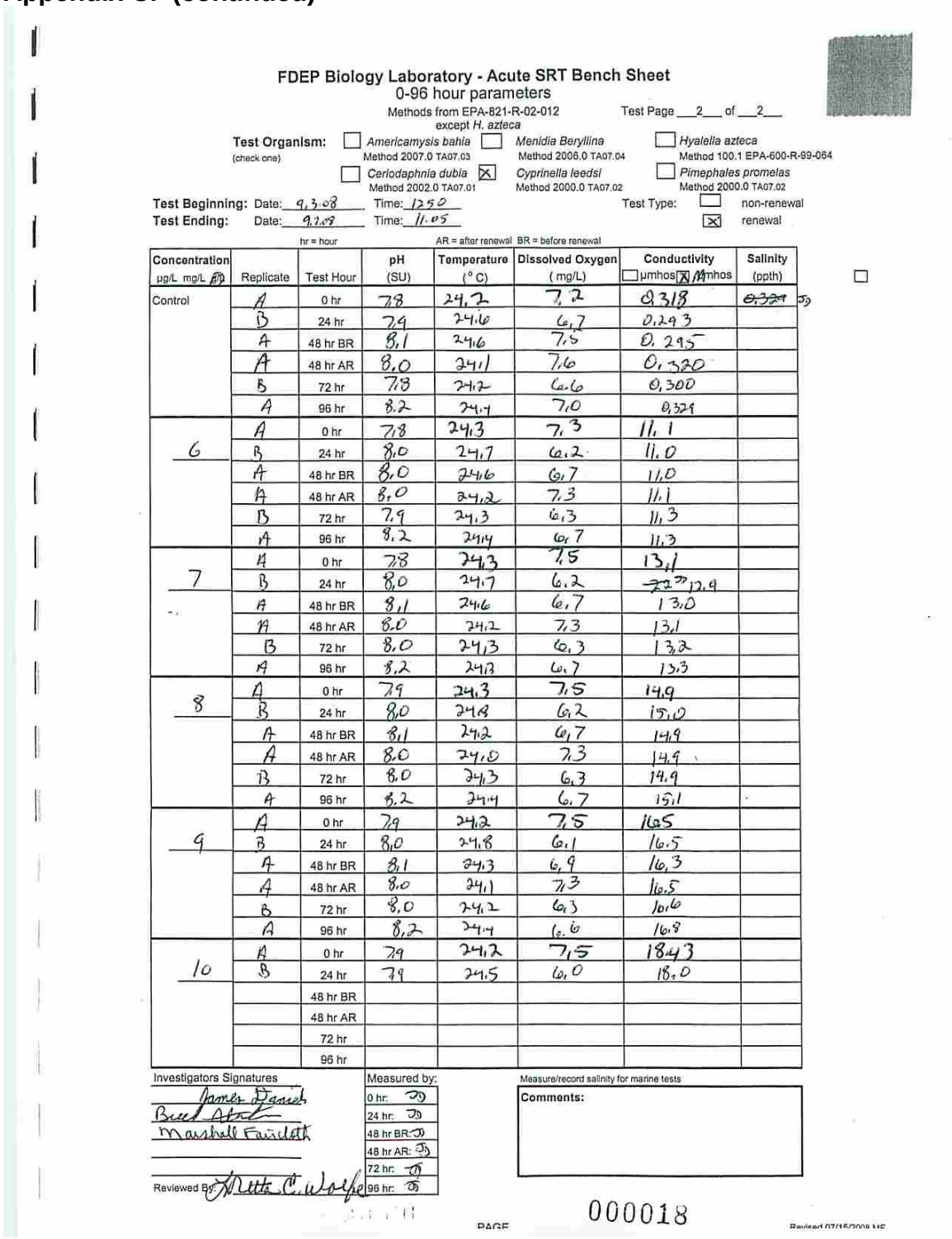
Reviewer: Loretta C. Wolfe

Method: TSK

Statistics: LC50	95% confidence Intervals Lower	Upper
48 hour: 8.04	7.62	8.48
96 hour: 8.01	7.57	8.48

000017

Appendix C. (continued)



FDEP Biology Laboratory - Acute SRT Bench Sheet
0-96 hour parameters
Methods from EPA-821-R-02-012 except *H. azteca*
Test Page 2 of 2

Test Organism: (check one)
- ☐ *Americamysis bahia* Method 2007.0 TA07.03
- ☐ *Menidia Beryllina* Method 2006.0 TA07.04
- ☐ *Hyalella azteca* Method 100.1 EPA-600-R-99-064
- ☐ *Ceriodaphnia dubia* Method 2002.0 TA07.01
- ☒ *Cyprinella leedsi* Method 2000.0 TA07.02
- ☐ *Pimephales promelas* Method 2000.0 TA07.02

Test Beginning: Date: 9.3.08 Time: 1250
Test Ending: Date: 9.7.08 Time: 11.05
Test Type: ☐ non-renewal ☒ renewal

hr = hour AR = after renewal BR = before renewal

Concentration µg/L mg/L ☐	Replicate	Test Hour	pH (SU)	Temperature (° C)	Dissolved Oxygen (mg/L)	Conductivity ☐ µmhos ☒ mmhos	Salinity (ppth)
Control	A	0 hr	7.8	24.2	7.2	0.318	~~0.324~~ JD
	B	24 hr	7.9	24.6	6.7	0.293	
	A	48 hr BR	8.1	24.6	7.5	0.295	
	A	48 hr AR	8.0	24.1	7.6	0.320	
	B	72 hr	7.8	24.2	6.6	0.300	
	A	96 hr	8.2	24.4	7.0	0.329	
6	A	0 hr	7.8	24.3	7.3	11.1	
	B	24 hr	8.0	24.7	6.2	11.0	
	A	48 hr BR	8.0	24.6	6.7	11.0	
	A	48 hr AR	8.0	24.2	7.3	11.1	
	B	72 hr	7.9	24.3	6.3	11.3	
	A	96 hr	8.2	24.4	6.7	11.3	
7	A	0 hr	7.8	24.3	7.5	13.1	
	B	24 hr	8.0	24.7	6.2	~~12.~~ 12.9	
	A	48 hr BR	8.1	24.6	6.7	13.0	
	A	48 hr AR	8.0	24.2	7.3	13.1	
	B	72 hr	8.0	24.3	6.3	13.2	
	A	96 hr	8.2	24.3	6.7	13.3	
8	A	0 hr	7.9	24.3	7.5	14.9	
	B	24 hr	8.0	24.8	6.2	15.0	
	A	48 hr BR	8.1	24.2	6.7	14.9	
	A	48 hr AR	8.0	24.0	7.3	14.9	
	B	72 hr	8.0	24.3	6.3	14.9	
	A	96 hr	8.2	24.4	6.7	15.1	
9	A	0 hr	7.9	24.2	7.5	16.5	
	B	24 hr	8.0	24.8	6.1	16.5	
	A	48 hr BR	8.1	24.3	6.9	16.3	
	A	48 hr AR	8.0	24.1	7.3	16.5	
	B	72 hr	8.0	24.2	6.3	16.6	
	A	96 hr	8.2	24.4	6.6	16.8	
10	A	0 hr	7.9	24.2	7.5	18.43	
	B	24 hr	7.9	24.5	6.0	18.0	
		48 hr BR					
		48 hr AR					
		72 hr					
		96 hr					

Investigators Signatures
James Daniel
Brad Abel
Marshall Faircloth

Reviewed By: Mitte C. Wolfe

Measured by:
0 hr: JD
24 hr: JD
48 hr BR: JD
48 hr AR: JD
72 hr: JD
96 hr: JD

Measure/record salinity for marine tests

Comments:

PAGE 000018

Revised 07/15/2008 HS

Appendix C. (continued)

***Ceriodaphnia dubia* Acute Standard Reference Toxicant Test**

DATE: 9-3-08 DURATION: 96 hr TOXICANT: NaCl
SPECIES: *Ceriodaphnia dubia*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
.00	20	0
1.50	20	4
2.00	20	3
2.50	20	20
3.00	20	20
4.00	20	20

SPEARMAN-KARBER TRIM: 17.50%

SPEARMAN-KARBER ESTIMATES: LC50: **2.18**
95% CONFIDENCE LIMITS
ARE NOT RELIABLE.

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

***Cyprinella leedsi* Acute Standard Reference Toxicant Test**

DATE: 9-3-08 DURATION: 96 hr TOXICANT: NaCl
SPECIES: *Cyprinella leedsi*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
.00	20	0
6.00	20	4
7.00	20	4
8.00	20	10
9.00	20	15
10.00	20	20

SPEARMAN-KARBER TRIM: 20.00%

SPEARMAN-KARBER ESTIMATES: LC50: **8.01**
95% LOWER CONFIDENCE: 7.57
95% UPPER CONFIDENCE: 8.48

Appendix D. Test Organism Receipts

MARINCO BIOASSAY LABORATORY
The Aquatic Toxicology Specialists

NELAP Certification # E84191

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 9/2/08

Shipped to: FDEP

P.O. No: N/A

Species	Quantity	Age	Brood Number	Temp.	pH	Salinity
Mysidopsis bahia	150	4 DAYS	M30808 29	25°C	7.9 s.u.	20‰
Menidia beryllina	150	12 DAYS	SS080821	25°C	7.9 s.u.	20‰
						Hardness
Cyprinella leedsi	150	12 DAYS	CL080821	25°C	7.8 s.u	80mg/L
Pimephales promelas	150	9 DAYS	FM080824	25°C	7.8 s.u	80mg/L

Packed by: MP

Shipped Via: FedEx

Notes: _____

Thank you for your order.

4569 Samuel Street · Sarasota, FL 34233 · Tel: 941-925-3594 · Fax: 941-922-3874 · Web: www.biologylab.com

Appendix D. (continued)

MARINCO BIOASSAY LABORATORY
The Aquatic Toxicology Specialists

NELAP Certification # E84191

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 9/15/08

Shipped to: FDEP

P.O. No: N/A

Species	Quantity	Age	Brood Number	Temp.	pH	Salinity
Mysidopsis bahia						
Menidia beryllina						
						Hardness
Cyprinella leedsi	250	12 DAYS	CL080903	25°C	7.7 s.u.	78 mg/L
Pimephales promelas						

Packed by:

Shipped Via: FedEx

Notes:

Thank you for your order.

4569 Samuel Street · Sarasota, FL 34233 · Tel: 941-925-3594 · Fax: 941-922-3874 · Web: www.biologylab.com

Appendix E. Chemical Analyses performed on the effluent from the Palatka Wastewater Treatment Facility Outfall D-001, sampled on September 14 - 15, 2008.

Date Sampled	Field ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
9/15/2008 12:00	Effluent	AGP/LN	Algal Growth Potential	172		mg DryWt/L	0.3	0.9
9/15/2008 12:00	Effluent	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	1.3	I	ug/L	0.55	1.7
9/15/2008 12:00	Effluent	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.24	U	ug/L	0.24	0.71
9/15/2008 12:00	Effluent	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	3		mg/L	0.2	2
9/15/2008 12:00	Effluent	Overflow	Fecal Coliforms-Membrane Filter	26	B	#/100 mL	2	
9/14/2008 24:00	Effluent	Toxicology	Bioassay-Acute-Screen-FW-Fish, LC50	100	L	LC50		
9/15/2008 12:00	Effluent	Toxicology	Bioassay-Acute-Screen-FW-C.dubia, LC50	100	L	LC50		
9/14/2008 18:00	Effluent	Toxicology	Bioassay-Acute-Screen-FW-C.dubia, LC50	100	L	LC50		
9/14/2008 18:00	Effluent	Toxicology	Bioassay-Acute-Screen-FW-Fish, LC50	100	L	LC50		
9/14/2008 24:00	Effluent	Toxicology	Bioassay-Acute-Screen-FW-C.dubia, LC50	100	L	LC50		
9/15/2008 6:00	Effluent	Toxicology	Bioassay-Acute-Screen-FW-C.dubia, LC50	100	L	LC50		
9/15/2008 6:00	Effluent	Toxicology	Bioassay-Acute-Screen-FW-Fish, LC50	100	L	LC50		
9/15/2008 12:00	Effluent	Toxicology	Bioassay-Acute-Screen-FW-Fish, LC50	100	L	LC50		
9/15/2008 12:00	Effluent	Metals	Magnesium	13.4	A	mg/L	0.04	0.16
9/15/2008 12:00	Effluent	Metals	Lead	0.21	I	ug/L	0.2	0.8
9/15/2008 12:00	Effluent	Metals	Selenium	0.5	U	ug/L	0.5	2
9/15/2008 12:00	Effluent	Metals	Copper	0.76	I	ug/L	0.5	2
9/15/2008 12:00	Effluent	Metals	Aluminum	120	I	ug/L	60	240
9/15/2008 12:00	Effluent	Metals	Silver	0.029	I	ug/L	0.025	0.1
9/15/2008 12:00	Effluent	Metals	Cadmium	0.02	U	ug/L	0.02	0.08
9/15/2008 12:00	Effluent	Metals	Calcium	46.5	A	mg/L	0.075	0.3
9/15/2008 12:00	Effluent	Metals	Iron	74	I	ug/L	30	120
9/15/2008 12:00	Effluent	Metals	Arsenic	0.78	I	ug/L	0.5	2
9/15/2008 12:00	Effluent	Metals	Chromium	0.62	I	ug/L	0.5	2
9/15/2008 12:00	Effluent	Metals	Nickel	0.87	I	ug/L	0.25	1
9/15/2008 12:00	Effluent	Metals	Zinc	14	I	ug/L	5	20
9/15/2008 12:00	Effluent	Nutrients	Total-P	0.74		mg P/L	0.02	0.06
9/15/2008 12:00	Effluent	Nutrients	Ammonia-N	0.46		mg N/L	0.01	0.02
9/15/2008 12:00	Effluent	Nutrients	NO2NO3-N	2.1		mg N/L	0.04	0.1
9/15/2008 12:00	Effluent	Nutrients	Kjeldahl Nitrogen	1.6		mg N/L	0.08	0.2
9/15/2008 12:00	Effluent	Nutrients	Cyanide	0.005	U	mg CN/L	0.005	0.02
9/15/2008 12:00	Effluent	Nutrients	O-Phosphate-P	0.56		mg P/L	0.012	0.03
9/15/2008 12:00	Effluent	Nutrients	TSS	4	U	mg/L	4	16

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
9/15/2008 12:00	Effluent	Field Parameter	Sample Depth	0.3		m		
9/14/2008 24:00	Effluent	Field Parameter	Dissolved Oxygen	4.66		mg/L		
9/14/2008 24:00	Effluent	Field Parameter	Total Residual Chlorine	0.0012		mg/L		
9/15/2008 6:00	Effluent	Field Parameter	Sample Depth	0.3		m		
9/15/2008 18:00	Effluent	Field Parameter	Specific Conductance	680		umhos/cm		
9/14/2008 24:00	Effluent	Field Parameter	Sample Depth	0.3		m		
9/15/2008 6:00	Effluent	Field Parameter	Dissolved Oxygen	8.65		mg/L		
9/15/2008 6:00	Effluent	Field Parameter	Specific Conductance	697		umhos/cm		
9/15/2008 12:00	Effluent	Field Parameter	pH	7.07				
9/15/2008 18:00	Effluent	Field Parameter	Sample Depth	0.3		m		
9/14/2008 24:00	Effluent	Field Parameter	Specific Conductance	685		umhos/cm		
9/15/2008 12:00	Effluent	Field Parameter	Dissolved Oxygen	4.66		mg/L		
9/15/2008 18:00	Effluent	Field Parameter	Dissolved Oxygen	5.37		mg/L		
9/14/2008 24:00	Effluent	Field Parameter	Temperature	28.59		C		
9/15/2008 6:00	Effluent	Field Parameter	Temperature	28.3		C		
9/14/2008 24:00	Effluent	Field Parameter	pH	7.07				
9/15/2008 18:00	Effluent	Field Parameter	Total Residual Chlorine	0.0012		mg/L		
9/15/2008 12:00	Effluent	Field Parameter	Total Residual Chlorine	0.0012		mg/L		
9/15/2008 12:00	Effluent	Field Parameter	Temperature	28.59		C		
9/15/2008 12:00	Effluent	Field Parameter	Specific Conductance	685		umhos/cm		
9/15/2008 6:00	Effluent	Field Parameter	pH	7.05				
9/15/2008 18:00	Effluent	Field Parameter	pH	7.05				
9/15/2008 6:00	Effluent	Field Parameter	Total Residual Chlorine	0.0012		mg/L		
9/15/2008 18:00	Effluent	Field Parameter	Temperature	28.95		C		
9/15/2008 11:50	Blanks	Metals	Aluminum	60	U	ug/L	60	240
9/15/2008 11:50	Blanks	Metals	Arsenic	0.5	U	ug/L	0.5	2
9/15/2008 11:50	Blanks	Metals	Lead	0.2	U	ug/L	0.2	0.8
9/15/2008 11:50	Blanks	Metals	Selenium	0.5	U	ug/L	0.5	2
9/15/2008 11:50	Blanks	Metals	Zinc	5	U	ug/L	5	20
9/15/2008 11:50	Blanks	Metals	Copper	0.5	U	ug/L	0.5	2
9/15/2008 11:50	Blanks	Metals	Magnesium	0.04	U	mg/L	0.04	0.16
9/15/2008 11:50	Blanks	Metals	Iron	30	U	ug/L	30	120
9/15/2008 11:50	Blanks	Metals	Chromium	0.5	U	ug/L	0.5	2
9/15/2008 11:50	Blanks	Metals	Nickel	0.25	U	ug/L	0.25	1
9/15/2008 11:50	Blanks	Metals	Silver	0.049	I	ug/L	0.025	0.1

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
9/15/2008 11:50	Blanks	Metals	Calcium	0.075	U	mg/L	0.075	0.3
9/15/2008 11:50	Blanks	Metals	Cadmium	0.02	U	ug/L	0.02	0.08
9/15/2008 11:50	Blanks	Nutrients	Ammonia-N	0.01	U	mg N/L	0.01	0.02
9/15/2008 11:50	Blanks	Nutrients	Kjeldahl Nitrogen	0.08	U	mg N/L	0.08	0.2
9/15/2008 11:50	Blanks	Nutrients	Cyanide	0.005	U	mg CN/L	0.005	0.02
9/15/2008 11:50	Blanks	Nutrients	O-Phosphate-P	0.004	U	mg P/L	0.004	0.01
9/15/2008 11:50	Blanks	Nutrients	Total-P	0.02	U	mg P/L	0.02	0.06
9/15/2008 11:50	Blanks	Nutrients	NO2NO3-N	0.006	I	mg N/L	0.004	0.01
9/15/2008 11:50	Blanks	Field Parameter	Specific Conductance	675		umhos/cm		
9/15/2008 11:50	Blanks	Field Parameter	Total Residual Chlorine	0.0012		mg/L		
9/15/2008 11:50	Blanks	Field Parameter	Dissolved Oxygen	5.11		mg/L		
9/15/2008 11:50	Blanks	Field Parameter	Sample Depth	0.3		m		

APPENDIX F

FDEP Biology Laboratory - Bioassay Instrument Identification

Test Dates: September 16- 20, 2008

Test ID: Palatka WWTF SRT Dates: September 3 - 7, 2008

METER / DEVICE	ID	SOP	Parameter	Method	√ used
YSI Model 58 Dissolved Oxygen Meter	90H018262	TA06_04	Dissolved Oxygen	SM 4500 O G	√
Accumet AR-10 pH Meter	93312105	TA06_23	pH	SM 4500 H^+	√
Mettler-Toledo SevenMulti Conductivity Meter	SN 1225117049 Probe H04257	TA06_25	Conductivity	SM 2510 B	√
			Salinity	SM 2520 B	√
Denver Model 225 ISE with ammonia probe	SN K01377	TA06_17	Ammonia	SM 4500 NH3 F	√
Thermometer (DO probe)	YSI 5750 SN 05J1720	TA06_05	Temperature	SM-2530B modified DEP SOP-001/01 FT1400	√
Hach Pocket Colorimeter II	05050C026378	TA06_22	Total Residual Chlorine	EPA 330.5 SM 4500 CL G	√
Alkalinity (Hach Kit)	No SN	TA06_08	Alkalinity	SM 2320 B	√
Hardness (Hach Kit)	No SN	TA06_09	Hardness	SM 2340 C	√
OHAUS Balance 250D	1125481084	TA06_21 TA06_27	Weight	-	√
S-Weights	BIO-S-WEIGHTS-01	NA	Balance check	-	√

SM-2530B modified to allow use electronic and non-mercury filled thermometers.
Insert other device information in blank spaces(if used). Test ID = Facility or SRTs (acute SRT--Chronic SRT)

Comments:

V 1.4 8/21/08 BA

The Bioassay of Palatka Wastewater Treatment Facility effluent sampled on September 15, 2008. NPDES #FL0040061.

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 0 0 6 1 11	12 0 8 0 9 1 5	18 **B**	19 **S**	20 1

Remarks

66

The Priority Pollutants Analysis of Palatka Wastewater Treatment Facility effluent sampled on September 15, 2008. NPDES #FL0040061.

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 0 0 6 1 11	12 0 8 0 9 1 5	18 **X**	19 **S**	20 11

Remarks

66

Biological Analyses of Palatka Wastewater Treatment Facility effluent sampled on September 15, 2008. NPDES #FL0040061.

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 0 0 6 1 11	12 0 8 0 9 1 5	18 **S**	19 **S**	20 1

Remarks

66