

Effluent Quality Assessment

Jefferson Smurfit Corporation, U. S.

Nassau County

NPDES #FL0001104

Sampled May 12 and May 19, 2008

August 2008

Biology Section
Bureau of Laboratories
Division of Environmental Assessment and Restoration

Quality Manual No. 870346G
NELAC Certification No. E31780

Jefferson Smurfit Corporation, U.S., North 8th Street, Fernandina Beach, Nassau County, Florida, 32035. NPDES #FL0001104. Effluent samples for bioassay and chemical analyses for this facility were collected on May 12, 2008. Effluent samples for a bioassay test were collected on May 19, 2008.

Introduction

Jefferson Smurfit Corporation, U.S., is an industrial facility which manufactures Kraft linerboard using unbleached Kraft paper. The facility has an industrial wastewater treatment system consisting of:

- Grit chamber with mechanical screening;
- Primary clarifier;
- Wastewater cooling tower;
- A UNOX activated sludge system;
- Dual secondary clarifiers;
- A holding pond for influent loading control;
- Dewatering presses for primary and secondary wastewater solids;
- Blending tank systems for primary and secondary solids.

Effluent discharge from the facility is continuous and rainfall dependent. The facility has a design flow of 37.5 million gallons per day (MGD) (30 MGD design wastewater flow and 7.5 MGD stormwater flow) annual average daily flow (AADF). The AADF through the facility from May 2007 through April 2008 was 15.52 MGD.

Treated wastewater is discharged through a Parshall flume (outfall D-001) to the Class III Marine waters of the Amelia River via a multiport diffuser. The diffuser is 76.2 m (250 feet) long and has 20 ports spaced at 3.8 m (12.5 feet) intervals. The point of discharge is located approximately at latitude 30º 41' 09" N, longitude 81º 27' 32" W. Sludge is disposed of at an off-site, company owned landfill located in Callahan, Nassau County, Florida.

The facility has no current active Administrative Orders or Consent Orders. The facility has a mixing zone for dissolved oxygen, temperature, chronic toxicity, copper, nickel, and pH for effluent discharged from Outfall D-001 into the Amelia River. The mixing zone measures 106.22 m in length by 20 m in width and has a surface are of 2,124 m^2. The mixing zone includes the entire water column from the surface to the bottom, and runs parallel to, and is centered on, the diffuser structure. A review of the facility's Discharge Monitoring Report (DMR) data from June 2006 through November 2007 did not reveal any violations of permit conditions. The facility is required to prepare and to follow a Best Management Practices Plan. The facility completed an in-kind project to install five additional conductivity meters (total = 12) in its internal sewer pipelines. The facility submitted the final report of its Pollution Prevention Plan on July 16, 2006. (Facility information provided by Edward Jamro of FDEP Northeast District).

Methods

Samples were collected from the EFF-1 NPDES sampling point for Outfall D-001 by Eesa Ali (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 screening 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.

Due to the apparent salinity (~ 1.5 parts per thousand) of the sample, an AGP test with the freshwater species, *Pseudokirchneriella subcapitata*, was not performed. The AGP sample was salinity adjusted to meet the minimum salinity requirements of the marine test species.

Toxicity Test Results

Tests were performed May 13 - 17, 2008.

Ceriodaphnia dubia 96-hour acute screening bioassay – No Result*

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

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

*Due to excessive mortality in the *Ceriodaphnia dubia* control at 24 hrs, the *C. dubia* test was terminated, and NCR 2846 was created. The *C. dubia* test was repeated the following week with a new sample.

Toxicity test performed May 20 - 22, 2008.

Ceriodaphnia dubia 96-hour acute screening bioassay – LC_{50} < 100%, 100%** mortality in 100% sample at 48 hours

The bioassay sample was acutely toxic to the *C. dubia* test organisms, according to the permit conditions.

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

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 less than the method detection limit (MDL) of 3.0 mg dry wt/L of the saltwater species *Dunaliella tertiolecta.* Raschke and Shultz found that AGP values above 10.0 mg dry weight/L represent a "problem" threshold for marine receiving waters, implying nutrient enrichment (personal communication with Ron Raschke USEPA Region 4, 1987). The analytical chemistry suggests that the effluent is nitrogen-limited (Table 1; Maloney et al. 1974).

See Table 1 for AGP results.

Chemistry Results

Total residual chlorine (TRC) and total ammonia were not detected in the bioassay sample in the laboratory. The total ammonia concentration in the sample collected and preserved for chemical analysis was 0.05 mg/L U (U – Material analyzed for but not detected; value reported is the method detection limit). Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was < 0.02 mg/L.

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

Iron (310 µg/L) and nickel (39.2 µg/L) concentrations in the effluent exceeded Class III marine criteria and/or permit conditions, respectively, for iron (≤ 300 µg/L; 62-302.530(39), F.A.C.) and nickel (≤ 8.3 µg/L; 62-302.530(44), F.A.C.); nickel (NPDES permit FL0001104 limit, ≤ 24.2 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. See Appendix F for bioassay meter identification.

Conclusion

The effluent sample collected from the EFF-1 NPDES sampling point for Outfall D-001 for this facility on May 12, 2008, was not acutely toxic to the *Cyprinella leedsi* test species during the 96-hour acute screening bioassays. The effluent sample collected from the EFF-1 NPDES sampling point for Outfall D-001 for this facility on May 19, 2008, was acutely toxic to the *Ceriodaphnia dubia* test species during the 96-hour acute screening bioassays. The effluent AGP result was less than the "problem" threshold for marine receiving waters. Effluent iron (310 µg/L) and nickel (39.2 µg/L) exceeded Class III marine criteria and/or permit conditions.

Literature Cited

Maloney, T. E., W. E. Miller, and D. T. Specht. 1974. The Marine Algal Assay Procedure: Bottle Test. National Environmental Research Center Office of Research and Development. U. S. EPA, Corvallis, Oregon. 43 p.

Table 1. Measured and predicted algal growth potential (AGP; mg dry weight/L) of the saltwater species *Dunaliella tertiolecta* and ratios of nitrogen to phosphorus for samples collected May 12, 2008.

Jefferson Smurfit Corporation, U.S. NPDES# FL0001104			
Location	**AGP (measured)**	**Inorganic N:P ratio**	**Total N:P ratio**
Effluent	3.0 U	1.5	8.1
U - Material analyzed for but not detected; value reported is the method detection limit			

Table 2. Effluent limits, Class III Criteria for predominantly marine waters and chemical and microbiological data for samples collected on May 12, 2008.

Jefferson Smurfit Corporation, U.S. NPDES# FL0001104	Class III Criteria	Effluent Limits	Effluent	
Metals (µg/L unless otherwise noted)				
Aluminum	≤ 1,500	-	650	
Arsenic	≤ 50	-	0.9	I
Cadmium	≤ 8.8	-	0.084	
Calcium (mg/L)	-	-	81.8	
Chromium-III	-	-	3.4	I
Copper	≤ 3.7	12.8 d	2	I
Iron	≤ 300	-	310	
Lead	≤ 8.5	-	0.44	U
Magnesium (mg/L)	-	-	40.9	
Mercury	≤ 0.025	-	-	
Nickel	≤ 8.3	24.2 d	39.2	
Selenium	≤ 71	-	0.5	U
Silver	≤ 2.3	-	0.04	I
Zinc	≤ 86	-	19	I
Nutrients (mg/L)				
Ortho-phosphate	-	-	0.037	
Total Phosphorus	-	-	0.21	
Total Ammonia	-	-	0.05	U
Un-ionized Ammonia	-	-	< 0.02	c
Nitrate and Nitrite	-	-	0.004	U
Total Kjeldahl Nitrogen	-	-	1.7	
Organic Nitrogen	-	-	1.675	c
Total Nitrogen	-	-	1.702	c
General Physical and Chemical Parameters				
Dissolved Oxygen (mg/L)	≥ 4.0 s	-	6.5	
pH (SU)	6.5 - 8.5 s	6.0 - 9.0 s	6.5	
Conductivity (µmhos/cm)	-	-	2,876	
Temperature °C	-	≤ 40.5 s	35.8	
Total Residual Chlorine (mg/L)	≤ 0.01	-	≤ 0.03	U£
Chlorophyll a (µg/L) - Corrected	-	-	3.3	I
Phaeophytin (µg/L)	-	-	0.53	U
Total Suspended Solids (mg/L)	-	≤ 180.5 d *	18	
CBOD, 5 day (mg/L), N - inhibited	-	≤ 117.9 d *	4.3	
Flow (MGD)	-	≤ 37.5 a	15.52	a
Hardness (mg $CaCO_3$)	-	-	372.68	c
Microbiology (Number of colony forming units/100ml)				
Fecal Coliforms	≤ 400s #	-	160	B

Value exceeds the Class III Water Quality Criteria or permit limits

a - Annual average

c - Value is calculated

d - Daily Maximum

s - Single sample

B - Results based on colony counts outside the acceptance range

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.)

* - lbs/day, coverted to mg/L based on wasterwater maximum flow of 30 MGD

£ - Analysis performed in bioassay laboratory

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2008-05-12-31
Smurfit Stone Container Corporation-Fernandina Beach Mill

Requester: Jennifer Paris
Field Report Prepared By: EA
Collected By: EA/SN/CP
Send Final Report To: Tom Kallemeyn
Sampling Agency: DEP

Customer: NE-DIST
Project ID: FYI3
PMAS: 1143

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	Jefferson Smurfit Final Eff	Grab	5-12-8 1358		A
	Field ID	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	
			6.49		
	Matrix (Include type e.g. Salt, Fresh, etc) / Temp (C) / pH	Sample Depth m / ft	Salinity (PPTh) / Sp Conductance (umho/cm)	NPDES Number	
	35-79 / 6.47	0.8	1147 / 2276		
	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)**
	Jefferson Smurfit Final Eff	Comp	5-11-08 1230	5-12-08 1230	Ax2
	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	Tox samples (only composite)		

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	Blank	Grab	5-12-08 1310		B
	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	2 bottles for log 1005 5/13/08 DO		

Relinquished By	Date/Time	Shipping Method	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time
E. Mc	5-12-08	UPS					SC	5-13-08/9100

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information

last revised October 1, 2003

Appendix A. (continued)

Department of Environmental Protection Northeast District Field Sheet

Sample Source SWIFT Tank 3 RQ#: None Date 5-14-08 Page 1 of 1

Meter # 1 Acid Kit# ✓ Ortho Kit # ✓ Sampling Team CP/SM

AR ID #	Site Name:	Field/Stored #:	Measured By:	Matrix***:
	Bill Sparkman Turnbull		KH	SW

Time	Temp °C	Cond µohm cm*	Sal %	pH s u	DO mg/L	DO Sat %	Secchi m	WTR V ft/sec	Tide Ebb/Fld,LS/HS	Total Depth	Sample Depth
1140	27.19	3.90	1.54	6.46	5.24	79.0	Average		X		1.4

Mode: ☐ Wading ☐ Shore ☐ Gas Motor ☐ Canoe ☐ Bridge ☐ Dock Equipment: ☐ Grab ☐ Horizontal Sampler ☐ Pole Sampler

Parameters / Method	Preserve*	Suite**	Initials
Preserved Nutrients: ☐ N/A ☐ All ☐ TKN ☐ NO_2-NO_3 ☐ NH_3 ☐ TOC ☐ TP	☐ Ice ☐ H_2SO_4 ☐ pH<2		
Filtered Nutrients: ☐ N/A ☐ oP ☐ Other: _____	☐ Ice ☐ 0.45µm flt		
BOD: ☐ N/A ☐ CBOD-Inhb ☐ BOD-Uninh	☐ Ice		
Chlorophyll: ☐ N/A ☐ CHL-PPTN-W	☐ Ice		
Physical/Aggregate Properties: ☐ N/A ☐ All ☐ TSS ☐ Turbidity ☐ W-Cl-IC ☐ W-F ☐ W-SO_4-IC ☐ Color ☐ TDS ☐ Alk	☐ Ice		
Metals: ☐ N/A ☐ W-ICP ☐ W-FIAS ☐ W-ICPMS ☐ W-ICP-Tr	☐ Ice ☐ HNO_3 ☐ pH <2		
AGP/Other: ☐ N/A ☐ AA-AGP ☐ AA-Lim-Nut ☐ Other	☐ Ice		
Micro: ☐ N/A ☐ All ☐ T Coli ☐ F Coli	☐ Ice		

Comments and conditions: Top of ice Start 5-15-08 Stop 5-19-08 548 gal 548 gal 11.53 (MST)

1 bissy Red ink by 5D, 5-20-08

AR ID #	Site Name:	Field/Stored #:	Measured By:	Matrix***:
	Bill			

Time	Temp °C	Cond µohm cm*	Sal %	pH s u	DO mg/L	DO Sat %	Secchi m	WTR V ft/sec	Tide Ebb/Fld,LS/HS	Total Depth	Sample Depth

Mode: ☐ Wading ☐ Shore ☐ Gas Motor ☐ Canoe ☐ Bridge ☐ Dock Equipment: ☐ Grab ☐ Horizontal Sampler ☐ Pole Sampler

Parameters / Method	Preserve*	Suite**	Initials
Preserved Nutrients: ☐ N/A ☐ All ☐ TKN ☐ NO_2-NO_3 ☐ NH_3 ☐ TOC ☐ TP	☐ Ice ☐ H_2SO_4 ☐ pH <2		
Filtered Nutrients: ☐ N/A ☐ oP ☐ Other: _____	☐ Ice ☐ 0.45µm flt		
BOD: ☐ N/A ☐ CBOD-Inhb ☐ BOD-Uninh	☐ Ice		
Chlorophyll: ☐ N/A ☐ CHL-PPTN-W	☐ Ice		
Physical/Aggregate Properties: ☐ N/A ☐ All ☐ TSS ☐ Turbidity ☐ W-Cl-IC ☐ W-F ☐ W-SO_4-IC ☐ Color ☐ TDS ☐ Alk	☐ Ice		
Metals: ☐ N/A ☐ W-ICP ☐ W-FIAS ☐ W-ICPMS ☐ W-ICP-Tr	☐ Ice ☐ HNO_3 ☐ pH <2		
AGP/Other: ☐ N/A ☐ AA-AGP ☐ AA-Lim-Nut ☐ Other	☐ Ice		
Micro: ☐ N/A ☐ All ☐ T Coli ☐ F Coli	☐ Ice		

Comments and conditions:

AR ID #	Site Name:	Field/Stored #:	Measured By:	Matrix***:

Time	Temp °C	Cond µohm cm*	Sal %	pH s u	DO mg/L	DO Sat %	Secchi m	WTR V ft/sec	Tide Ebb/Fld,LS/HS	Total Depth	Sample Depth

Mode: ☐ Wading ☐ Shore ☐ Gas Motor ☐ Canoe ☐ Bridge ☐ Dock Equipment: ☐ Grab ☐ Horizontal Sampler ☐ Pole Sampler

Parameters / Method	Preserve*	Suite**	Initials
Preserved Nutrients: ☐ N/A ☐ All ☐ TKN ☐ NO_2-NO_3 ☐ NH_3 ☐ TOC ☐ TP	☐ Ice ☐ H_2SO_4 ☐ pH<2		
Filtered Nutrients: ☐ N/A ☐ oP ☐ Other: _____	☐ Ice ☐ 0.45µm flt		
BOD: ☐ N/A ☐ CBOD-Inhb ☐ BOD-Uninh	☐ Ice		
Chlorophyll: ☐ N/A ☐ CHL-PPTN-W	☐ Ice		
Physical/Aggregate Properties: ☐ N/A ☐ All ☐ TSS ☐ Turbidity ☐ W-Cl-IC ☐ W-F ☐ W-SO_4-IC ☐ Color ☐ TDS ☐ Alk	☐ Ice		
Metals: ☐ N/A ☐ W-ICP ☐ W-FIAS ☐ W-ICPMS ☐ W-ICP-Tr	☐ Ice ☐ HNO_3 ☐ pH <2		
AGP/Other: ☐ N/A ☐ AA-AGP ☐ AA-Lim-Nut ☐ Other	☐ Ice		
Micro: ☐ N/A ☐ All ☐ T Coli ☐ F Coli	☐ Ice		

Comments and conditions:

*Preservatives: 1mL added per 500 mL sample unless otherwise noted, iced within 15 minutes ** If samples run in Jacksonville Lab
***Matrix: SWF=Surface Water Fresh SWS=Surface Water, Salt GW=Ground Water Sed=Sediment Other=Write In

Relinquished: Ann McKelvey	Date: 5/19/08	Time: 12:00	Received:	☐ < 6°C ☐ on ice ☐ < 2 pH
Relinquished:	Date: 5-19-8	Time:	Received: Tahmeera Ibrahim 05/20/08 8:40	Shipping: DHL

FDEP Biology Laboratory - Acute Screen Bioassay Bench Sheets

Facility: Jefferson Smurfit

Address: North 8th Street

City: Fernandina Beach County: Nassau Zip 32035

Contact/District: J. Pinto / NE

NPDES Permit #: FL 0001104

LIMS Job #: TLH-2008-05-13-39 LIMS Sample #: 1101600

Lims Data Entry: MF 5-22-08 Data Entry Verification: BA 5-22-08

Sample Collection: Date: 5-12-08 Time: 1358

Hold Time Start: Date: 5-12-08 Time: 1358

Comments: Ceriodaphnia test terminated at 24 hours due to excess control mortality. Client notified. NCR 2846 created. MF 5-22-08

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.

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

Initial sample handling:

PH adjustment : yes (no) Initial pH: ____ NaOH N HCl N ____ Drops mL Final pH: ____

Aeration : yes (no) Initial DO: ____mg/L Final DO: ____mg/L Duration: ____minutes Rate: ~____bubbles/min

Salinity adjusted (Test 1): yes (no) Initial Salinity: ____ Final Salinity: ____ Salts Hypersaline brine

Salinity adjusted (Test 2): yes (no) Initial Salinity: ____ Final Salinity: ____ Salts Hypersaline brine

Dechlorination: yes (no) ____mL of 0.025N Sodium Thiosulfate per liter of sample. Final TRC: ____

Sample Validation:

Temperature: Shipped ≤6°C (Yes) No Hand Delivered: Cooling (received °C < collected °C) (Yes) No not applicable MF

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:

Incubator # 2 min 25.1 max 26.7 mean 26.2

Incubator # ____ min ____ max ____ mean ____

Room B246 min 24.6 max 25.6 mean 25.1

Test 1:% mortality in 100% sample: ____ LC50: No Results MF

Test 2:% mortality in 100% sample: 0 LC50: >100%

Investigators' Signatures

James Brandt

Bruce Alexander

Marshall Faircloth

Loretta C Wolfe
REVIEWER

Water Quality Parameters	20% DMW	Moderately Hard Water/ (Well Water)	Salt Water ASW NSW Test 1	Salt Water ASW NSW Test 2	Other:	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl_2 (mg/L):	N/A	N/A	N/A	N/A		Not measured	—		MF
Lab Total Residual Cl_2 (mg/L):	<0.03	<0.03				<0.03	HACH	JD	BA
Alkalinity (mg/L as $CaCO_3$):	89	150				262	HACH	BA	JD
Hardness (mg/L as $CaCO_3$):	97	141				327	HACH	BA	JD
Total Ammonia (mg/L as N):	<0.017	<0.017				<0.017	DENVER	MF	JD
Salinity (ppth):	<1	<1					YSI / Mettler	JD	BA

V 1.4 9/12/05

Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 1101600 **Test #:** 1 of 2 **SOP#:TA 07**-01 **Test Started:** Date 5-13-08 Time: 12:35

Organism/Batch/Age: C.dubia/1808/<24hrs **Test Ended:** Date 5-14-08 Time: 1130

Chamber/Test Volume: 30 / 20 ml **Diluent/ Batch:** DMW / 4-30-08

Food/Batch: YCT 7-16-07 **P.sub**____ **Artemia 0hr** — **24hr** — **48hr** — **72hr** — **Artemia Lot#** —

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	A	5	2 3D				
	B	B	5	~~2 3D~~ 2 3D BA				
	C	C	5	4 1D				
	D	D	5	0 5D				
100%	A	A	5	5				
	B	B	5	5				
	C	C	5	5				
	D	D	5	5				
Loaded/Verified by: BA / JD		Checked by:	JD	BA				

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

Test Results:

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

% mortality in 100% sample: NA LC50: ________

If Calculated: 95% CI________ Method________

Comments: test terminated at 24 hours due to excess control mortality - MF 5-14-08

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

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000007

Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 110/600 Test #: 2/2 SOP#:TA 07 02 Test Started: Date 5.13.08 Time: 1305

Organism/Batch/Age: C.leedsi/5.13.08/12 days Test Ended: Date 5.17.08 Time: 1105

Chamber/Test Volume: 1000 / 500 ml Diluent/ Batch: Well H2O / 5.13.08

Food/Batch: YCT____ P.sub____ Artemia 0hr 31-08 24hr — 48hr 83-08 72hr — Artemia Lot# 3843842590R

Feeding: Prior to Test (circled) Prior to Renewal (circled) Daily

Concentration	Replicate	Chamber #	0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Ctrl	A	F17	5	5	5	5	5	5
	B	F18	5	5	5	5	5	5
	C	F19	5	5	5	5	5	5
	D	F20	5	5	5	5	5	5
100%	A	F21	5	5	5	5	5	5
	B	F22	5	5	5	5	5	5
	C	F23	5	5	5	5	5	5
	D	F24	5	5	5	5	5	5
Loaded/Verified by: JD / BA		Checked by:	JD	JD	JD	JD	JD	JD

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: 0% LC50: >100%

If Calculated: 95% CI________ Method________

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

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000008

FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1101600 Test #: 1 of 2

TEST SOP #: TA07_ 01 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	M	A				
pH (S.U.)	8.1	8.1				
Temperature °C	24.3	24.0				
Dissolved Oxygen mg/L	7.3	7.1				
Conductivity ~~µmhos~~ BA (mmhos)	0.177	0.182				
(initials) Measured by:	BA	BA				
(initials) Recorded by:	BA	BA				

Comments: Terminated at 24 hours. mi-5-14-03

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M	A				
pH (S.U.)	7.2	8.5				
Temperature °C	25.1	24.0				
Dissolved Oxygen mg/L	7.5	6.9				
Conductivity µmhos (mmhos)	2.15	2.96				
(initials) Measured by:	BA	BA				
(initials) Recorded by:	BA	BA				

Comments:

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

Comments:

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

Comments:

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V 2.0 2/24/04

FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 110600 **Test #:** 2 of 2

TEST SOP #: TA07_02 **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.)	7.9	8.2	8.2	7.9	8.0	8.0
Temperature °C	24.0	24.1	24.6	24.5	24.3	24.5
Dissolved Oxygen mg/L	7.5	6.9	7.0	7.3	6.1	6.8
Conductivity (µmhos) mmhos	273	290	293	280	306	325
(initials) Measured by:	JD	JD	JD	JD	JD	JD
(initials) Recorded by:	JD	JD	JD	JD	JD	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.)	7.3	8.0	8.2	7.6	8.0	8.2
Temperature °C	24.5	24.2	24.7	25.0	24.5	24.7
Dissolved Oxygen mg/L	7.5	6.2	5.7	7.4	5.2	5.9
Conductivity µmhos (mmhos)	2.84	2.90	2.94	2.94	2.89	2.95
(initials) Measured by:	JD	JD	JD	JD	JD	JD
(initials) Recorded by:	JD	JD	JD	JD	JD	JD

Comments:

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

Comments:

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

Comments:

FDEP Biology Laboratory - Acute Screen Bioassay Bench Sheets

Facility: Smurfit, Jefferson

Address: North 5th Street

City: Fernandina Beach County: Nassau 32035

Contact/District: Edward Jamro / Northeast

NPDES Permit #: FL 0001104

LIMS Job #: TLH-2008-05-20-19 LIMS Sample #: 1102694

Lims Data Entry: MF 5-22-08 Data Entry Verification: BA 5-22-08

Sample Collection: Date: 5-19-08 Time: 0806

Hold Time Start: Date: 5-19-08 Time: 0806

Comments: test terminated at 48 hours, 100% mortality in the 100% sample test Concentration. MF 5-22-08
this was a repeat of the invalidated C. dubia test from 5-12-08. Per Permit, only ~~the~~ test repeated invalidated

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.

Test 1 validation: Test 1: SOP TA 07_01
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No

Test 2 validation: NA Test 2: SOP TA 07_—
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: 8.5 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: ____

Light Intensity: 50 - 100 ft. candles

Photoperiod: 16 light 8 dark

Temperature Range °C:

Incubator # 2 min 26.2 max 26.3 mean 26.5

Incubator # ___ min. ____ max. ____ mean ____

Room B246 min 24.2 max 25.6 mean 24.9

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)

Test 1:% mortality in 100% sample: 100% LC50: <100%

Test 2:% mortality in 100% sample: ____ LC50: ____

Investigators' Signatures

Bruce Abel

James Daniel

Mitchell Faircloth

Loretta C Wolfe

REVIEWER

Water Quality Parameters	20% DMW	Moderately Hard Water/ Well Water	Salt Water ASW NSW Test 1	Salt Water ASW NSW Test 2	Other:	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl_2 (mg/L):	N/A	N/A	N/A	N/A		Not measured	—		MF
Lab Total Residual Cl_2 (mg/L):	<0.03					<0.03	HACH	JD	BA
Alkalinity (mg/L as $CaCO_3$):	~~358~~ 89					358	HACH	BA	JD
Hardness (mg/L as $CaCO_3$):	97					—	HACH	—	—
Total Ammonia (mg/L as N):	<0.017					<0.017	DENVER	BA	JD
Salinity (ppth):	21					1.63	YSI / Mettler	JD	BA

V 1.4 9/12/05

Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

MS Sample #: 1102694 Test #: 1 SOP#:TA 07 01 Test Started: Date 5-20-08 Time: 1205

Organism/Batch/Age: Ceriodaphnia dubia/-19-08/<24hrs Test Ended: Date 5-22-08 Time: 1000

Chamber/Test Volume: 30mL / 20 ml Diluent/ Batch: DMW 15-15-08

Food/Batch: YCT 2-26-07 P.sub 1-31-08 Artemia 0hr — 24hr — 48hr — 72hr — Artemia Lot# —

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	A	5	5	5			
	B	B	5	5	5			
	C	C	5	5	5			
	D	D	5	5	5			
100%	A	A	5	5	0			
	B	B	5	5	0			
	C	C	5	5	0			
	D	D	5	5	0			
Loaded/Verified by: BA / DD		Checked by:	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: 100% LC50: < 100%

If Calculated: 95% CI_______ Method_______

Comments: Test terminated at 48 hours. ~~100% control mortality~~ MF 5-22-08 100% mortality in 100% effluent at 48 hours BA

Substitue highest test concentration used if other than 100% (example: Ocean outfall tested at 30% concentration). BA 5-23-08

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FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1102694 Test #: 1 of 1

TEST SOP #: TA07_01 Test Species: (Ceriodaphnia dubia) Cyprinella leedsi Pimephales promelas Americamysis bahia Menidia beryllina Other:_____

Concentration	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		M			
pH (S.U.)	8.2		8.3			
Temperature °C	24.0		25.0			
Dissolved Oxygen mg/L	7.0		7.5			
Conductivity (µmhos) mmhos	176		190			
(initials) Measured by:	BA		MF			
(initials) Recorded by:	BA		MF			

Comments:

Concentration	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		M			
pH (S.U.)	8.5		8.6			
Temperature °C	24.3		24.9			
Dissolved Oxygen mg/L	7.0		7.0			
Conductivity µmhos (mmhos)	3.16		3.20			
(initials) Measured by:	BA		MF			
(initials) Recorded by:	BA		MF			

Comments:

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

Comments:

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

Comments:

000019

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Page

Appendix C. SRT Bench Sheets and Statistical Analysis

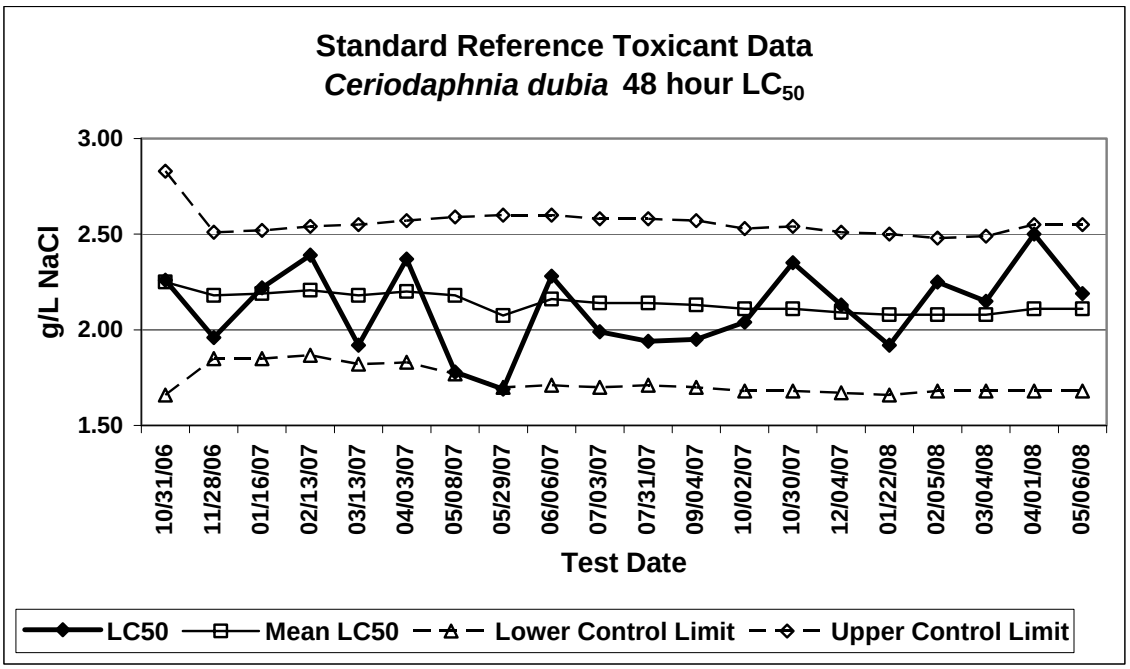
Florida Department of Environmental Protection
Bureau of Laboratories

Standard Reference Toxicant (SRT) Test Data - 48-hour Acute Toxicity
Ceriodaphnia dubia (water flea) - Sodium Chloride (NaCl)

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
10/31/06	2.26	2.25	0.29	1.66	2.83
11/28/06	1.96	2.18	0.17	1.85	2.51
01/16/07	2.22	2.19	0.17	1.85	2.52
02/13/07	2.39	2.21	0.17	1.87	2.54
03/13/07	1.92	2.18	0.18	1.82	2.55
04/03/07	2.37	2.20	0.18	1.83	2.57
05/08/07	1.78	2.18	0.21	1.77	2.59
05/29/07	1.69	2.07	0.23	1.70	2.60
06/06/07	2.28	2.16	0.22	1.71	2.60
07/03/07	1.99	2.14	0.22	1.70	2.58
07/31/07	1.94	2.14	0.22	1.71	2.58
09/04/07	1.95	2.13	0.22	1.70	2.57
10/02/07	2.04	2.11	0.21	1.68	2.53
10/30/07	2.35	2.11	0.21	1.68	2.54
12/04/07	2.13	2.09	0.20	1.67	2.51
01/22/08	1.92	2.08	0.20	1.66	2.50
02/05/08	2.25	2.08	0.20	1.68	2.48
03/04/08	2.15	2.08	0.20	1.68	2.49
04/01/08	2.50	2.11	0.22	1.68	2.55
05/06/08	2.19	2.11	0.22	1.68	2.55

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

CV = 10.30
EPA reference 75th quartile CV = 29%



Appendix C. (continued)

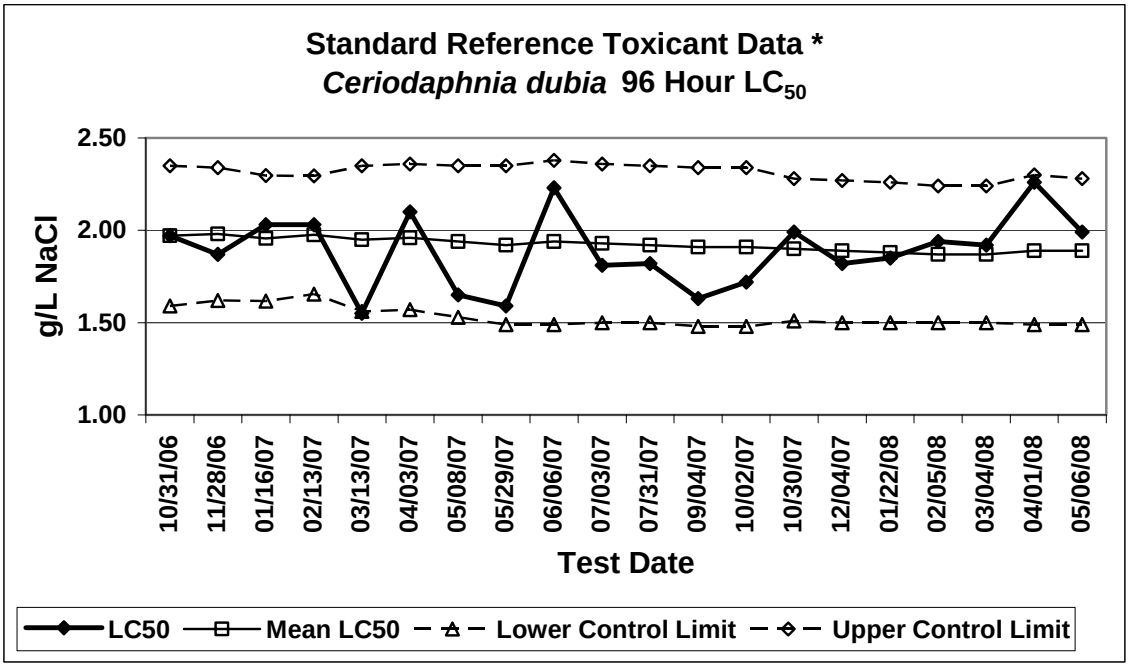
Florida Department of Environmental Protection
Bureau of Laboratories

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

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
10/31/06	1.97	1.97	0.19	1.59	2.35
11/28/06	1.87	1.98	0.18	1.62	2.34
01/16/07	2.03	1.96	0.17	1.62	2.30
02/13/07	2.03	1.98	0.16	1.66	2.30
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

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

CV = 10.47
EPA reference 75th quartile CV = 29%



Appendix C. (continued)

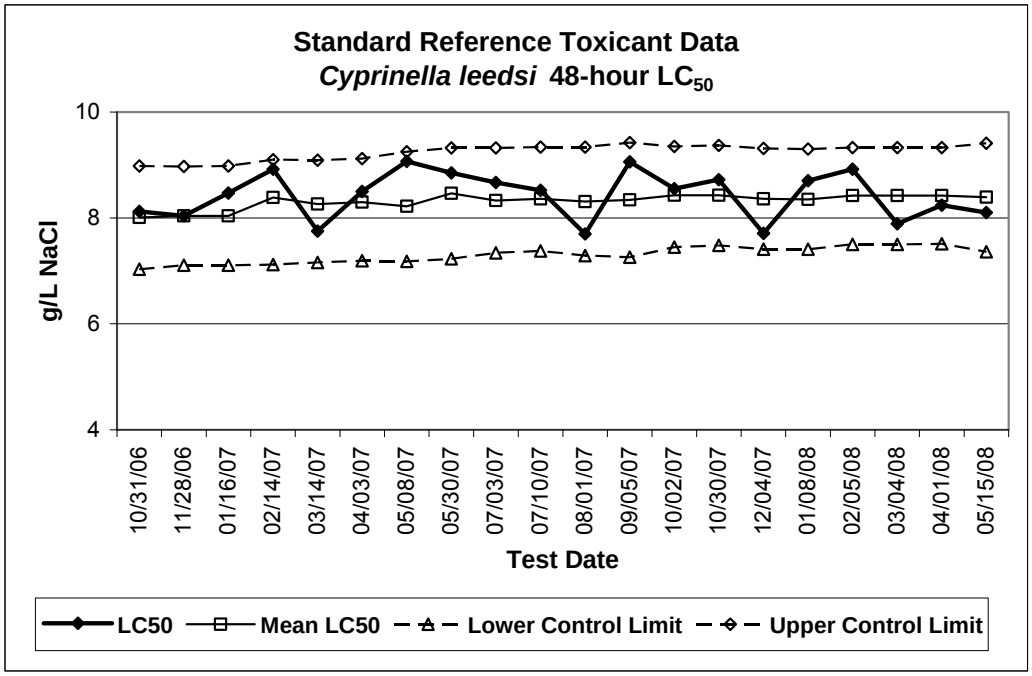
Florida Department of Environmental Protection
Bureau of Laboratories

Standard Reference Toxicant (SRT) Test Data - 48-hour Acute Toxicity
Cyprinella leedsi (bannerfin shiner) - Sodium Chloride (NaCl)

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
10/31/06	8.12	8.01	0.49	7.03	8.98
11/28/06	8.04	8.04	0.46	7.11	8.97
01/16/07	8.47	8.04	0.23	7.11	8.98
02/14/07	8.92	8.39	0.40	7.12	9.10
03/14/07	7.75	8.26	0.45	7.16	9.09
04/03/07	8.50	8.30	0.41	7.19	9.12
05/08/07	9.07	8.22	0.52	7.18	9.25
05/30/07	8.85	8.47	0.47	7.23	9.32
07/03/07	8.67	8.33	0.50	7.34	9.32
07/10/07	8.52	8.36	0.49	7.38	9.34
08/01/07	7.7	8.31	0.51	7.29	9.34
09/05/07	9.06	8.34	0.54	7.26	9.42
10/02/07	8.55	8.43	0.47	7.45	9.35
10/30/07	8.72	8.43	0.47	7.48	9.37
12/04/07	7.71	8.36	0.47	7.41	9.31
01/08/08	8.7	8.35	0.47	7.41	9.30
02/05/08	8.92	8.42	0.46	7.50	9.33
03/04/08	7.89	8.42	0.46	7.50	9.33
04/01/08	8.24	8.42	0.45	7.51	9.33
05/15/08	8.1	8.39	0.51	7.36	9.41

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

CV = 6.12
EPA reference 75th quartile CV = 19%



Appendix C. (continued)

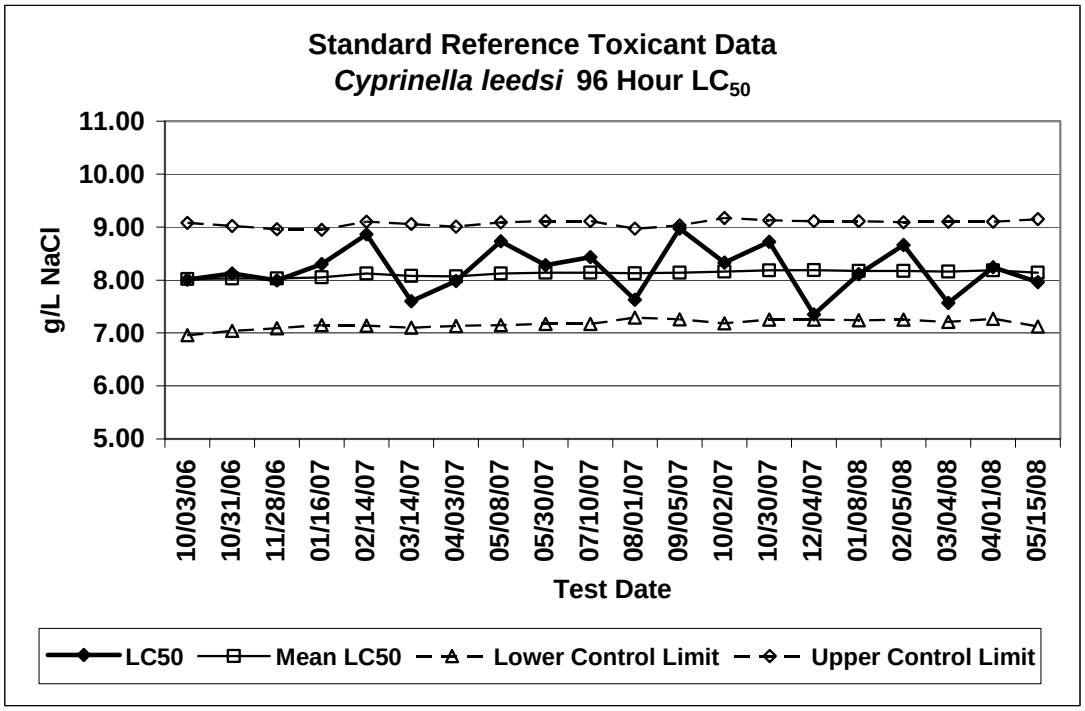
Florida Department of Environmental Protection
Bureau of Laboratories

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
10/03/06	8.01	8.02	0.53	6.96	9.08
10/31/06	8.12	8.03	0.49	7.04	9.02
11/28/06	7.99	8.03	0.47	7.09	8.96
01/16/07	8.30	8.05	0.45	7.15	8.95
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

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

CV = 6.23
EPA reference 75th quartile CV = 19%



Appendix C. (continued)

FDEP Biology Laboratory - 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: 48 hour non-renewal; (96 hour renewal)
Test Page 1 of 2

Diluent/ Batch #: DMW / 4-30-08
Toxicant/ Batch#: NaCl / 5603

Test Beginning: Date: 5-6-08 Time: 13:00
Test Ending: Date: 5-10-08 Time: 1000

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	JD
Alkalinity (mg/L as $CaCO_3$):	89	Hach	BA
Hardness (mg.L as $CaCO_3$):	97	Hach	BA
Total Ammonia (mg/L as N):	<0.07	Denver	MF
Salinity (ppth):	21	Mettler	JD

Organism Batch #/ Age: 17-08 / < 24 hours
Feeding: (Prior to test) (Prior to renewal) / Daily
Food: YCT *P.subcapitata* Artemia: Lot #____
Food Batch: 7-26-07 1-31-08 0hr — 24hr — 48hr — 72hr —
Chamber size: 30 mL
Test volume: 20 mL per replicate

Conc. (%) µg/L mg/L	Rep.	Chamber #	Number Live 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr	pH (SU) 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr	Temperature (°C) 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr	D.O. (mg/L) 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr	Uncorrected Conductivity (µmhos/cm / mmhos/cm) 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr
Control	A	A	5	5	5	8.1		8.1	24.0		24.0	6.2		7.1	0.177		0.182
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
1.5	A	A	5	5	5	8.1		8.0	24.2		24.0	7.0		6.9	2.92		3.26
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
2.0	A	A	5	5	5	8.1		8.1	24.3		24.0	7.1		6.9	3.83		4.23
	B	B	5	5	5												
	C	C	5	5	2 3D												
	D	D	5	5	4 1D												
2.5	A	A	5	5	1 4D	8.2		8.1	24.2		24.0	7.0		6.9	4.74		5.31
	B	B	5	5	1 4D												
	C	C	5	5	0 5D												
	D	D	5	5	1 4D												
3.0	A	A	5	5	0 5D	8.2		8.0	24.1		24.0	7.0		6.88	5.57		6.23
	B	B	5	3 2D	0 3D												
	C	C	5	1 4D	0 1D												
	D	D	5	2 3D	0 2D				24 BA								
4.0	A	A	5	1 4D	0 1D	8.2		8.0	24.0		24.0	7.1		6.4	7.26		7.71
	B	B	5	1 4D	0 1D												
	C	C	5	0 5D	–												
	D	D	5	0 5D	–												
	A																
	B																
	C																
	D																
Loaded / measured by:			BA	BA	BA	BA		BA	BA		BA	BA		BA	BA		BA
Recorded by:			BA	BA	BA	BA		BA	BA		BA	BA		BA	BA		BA

Investigators' Signatures
David Adams
James Davis
Michael Fairchild

Concentrations prepared by: BA
Loading verified by: JD
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min 25.8 max 26.6 mean 26.2
Incubator # ___ min ___ max ___ mean ___
Room B246 min 24.8 max 25.6 mean 25.2

Comments:

Statistics: Method: Spearman-Karber
48/ 96 hour LC_{50}: 2.19
95% Confidence Interval: lower 2.07 upper 2.32

Barbara C. Wolfe
REVIEWER

000001
PAGE

revised 08/24/06 SP

Appendix C. (continued)

000002

FDEP Biology Laboratory - Acute SRT Bench Sheet

Method from EPA-821-R-02-012

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: _____

Test Type: 48 hour non-renewal / (96 hour renewal)

Test Page 2 of 2

Diluent/ Batch #: DMW / 4-30-08
Toxicant/ Batch#: NaCl / 5.6.08

Test Beginning: Date: 5-6-08 Time: 1300
Test Ending: Date: 5-10-08 Time: 1000

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	DD
Alkalinity (mg/L as $CaCO_3$):	89	Hach	BA
Hardness (mg.L as $CaCO_3$):	97	Hach	BA
Total Ammonia (mg/L as N):	<0.07	Denver	MF
Salinity (ppth):	<1	Mettler	DD

Organism Batch #/ Age: 17-08 / <24hours
Feeding: (Prior to test) (Prior to renewal) / Daily
Food: YCT + *P.subcapitata* Artemia: Lot # _____
Food Batch: 226.8 mL / 1-31-08 0hr — 24hr — 48hr — 72hr —
Chamber size: 30 mL
Test volume: 20 mL per replicate

Conc. (g/L) µg/L mg/L	Rep.	Chamber #	Number Live 0 hr 48 hr	24 hr 72 hr	48 hr 96 hr	pH (SU) 0 hr 48 hr	24 hr 72 hr	48 hr 96 hr	Temperature (° C) 0 hr 48 hr	24 hr 72 hr	48 hr 96 hr	D.O. (mg/L) 0 hr 48 hr	24 hr 72 hr	48 hr 96 hr	Uncorrected Conductivity µmhos/cm (mmhos/cm) 0 hr 48 hr	24 hr 72 hr	48 hr 96 hr
Control	A	A	5	5	5	8.0		8.1	24.3		25.0	7.3		7.3	0.180		0.190
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
1.5	A	A	5	5	5	8.0		8.1	24.6		24.9	7.3		7.3	2.93		3.00
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
2.0	A	A	5	4 1D	3 1D	8.1		8.1	24.6		24.9	7.3		7.1	3.82		3.96
	B	B	5	5	4 1D												
	C	C	2	1 1D	1												
	D	D	4	3 1D	3												
2.5	A	A	1	0 1D	—	8.1	8.0	—	24.6	24.4	24.8	7.3	6.9	—	4.63	4.68	—
	B	B	1	0 1D	—												
	C	C	0	—	—												
	D	D	1	0 1D	—												
3.0	A	A	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	B	B	—	—	—												
	C	C	—	—	—												
	D	D	—	—	—												
4.0	A	A	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	B	B	—	—	—												
	C	C	—	—	—												
	D	D	—	—	—												
	A																
	B																
	C																
	D																
Loaded / measured by:			BA	BA	MF	BA	BA	MF	BA	BA	MF	BA	BA	MF	BA	BA	MF
Recorded by:			BA	BA	MF	BA	BA	MF	BA	BA	MF	BA	BA	MF	BA	BA	MF

Investigators' Signatures
Bruce Alan
Marshall Fairfield
James Daniel

Concentrations prepared by: BA
Loading verified by: BA / DD wrong mg
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 25.8 max. 26.6 mean 26.2
Incubator # ___ min. ___ max. ___ mean ___

Comments:
95% Confidence Interval: Low 1.85 High 2.11

Statistics: 1.99 Method: Spearman-Karber

Appendix C. (continued)

000013

FDEP Biology Laboratory - 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: 48 hour non-renewal / (96)hour renewal
Test Page 1 of 2

Diluent/ Batch #: UHW / 5.15.08
Toxicant/ Batch#: NaCl / 5.15.08

Test Beginning: Date: 5.15.08 Time: 1300
Test Ending: Date: 5/19.08 Time: 1100

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	JD
Alkalinity (mg/L as $CaCO_3$):	150	Hach	BA
Hardness (mg.L as $CaCO_3$):	141	Hach	BA
Total Ammonia (mg/L as N):	<0.07	Denver	MF
Salinity (ppth):	<1	Mettler	JD

Organism Batch #/ Age: 5.15.08 / 12dys
Feeding: (Prior to test) (Prior to renewal) / Daily
Food: YCT P.subcapitata Artemia: Lot # 38438
Food Batch: — — 0hr 83-08 24hr — 48hr 85-08 72hr —
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc. (g/L) µg/L mg/L	Rep.	Chamber #	Number Live 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr	pH (SU) 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr	Temperature (°C) 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr	D.O. (mg/L) 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr	Uncorrected Conductivity µmhos/cm (mmhos/cm) 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr
Control	A	B1	10	10	10	7.7		8.2	24.5		24.3	7.3		7.1	0.274		0.300
	B	B2	10	10	9D		8.1			24.3			6.4			0.300	
	C																
	D																
6	A	B3	10	9D	9	7.7		8.2	24.4		24.5	7.3		7.0	10.8		10.9
	B	B4	10	10	10		8.0			24.2			5.9			10.9	
	C																
	D																
7	A	B5	10	9D	9	7.8		8.2	24.3		24.2	7.4		6.9	13.0		13.2
	B	B6	10	10	10		8.0			24.3			6.0			13.0	
	C																
	D																
8	A	B7	10	7D	6D	7.8		8.1	24.2		24.4	7.4		7.0	14.7		14.8
	B	B8	10	6D	5D		8.0			24.0			5.9			14.5	
	C																
	D																
9	A	B9	10	3D	2D	7.8		8.2	24.1		24.2	7.4		6.8	16.5		16.8
	B	B10	10	3D	1D		8.0			24.0			5.9			16.2	
	C																
	D																
10	A	B11	10	0D	—	7.7		—	24.1		—	7.4		—	18.0		—
	B	B12	10	0D	—		8.0			24.0			5.9			17.8	
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD
Recorded by:			JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD

Investigators' Signatures
Jerry Davis
Marshall Faircloth
Bruce Neely
Loretta C. Wolfe
REVIEWER

Concentrations prepared by: JD
Loading verified by: MF
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 25.9 max. 26.9 mean 26.4
Incubator # ___ min. ___ max. ___ mean ___
Room B248 min. 24.8 max. 25.6 mean 25.2

Comments:

Statistics: Method: Spearman-Karber
48 / 96 hour LC_{50}: 8.1
95% Confidence Interval: lower 7.86 upper 8.34

Appendix C. (continued)

000014

FDEP Biology Laboratory - 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: 48 hour non-renewal / 96 hour renewal

Test Page 2 of 3

Diluent/ Batch #: Well H2O / 5.15.08

Toxicant/ Batch#: NaCl / 5.15.08

Test Beginning: Date: 5.15.08 Time: 1300

Test Ending: Date: 5.19.08 Time: 1100

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	JD
Alkalinity (mg/L as $CaCO_3$):	150	Hach	BA
Hardness (mg.L as $CaCO_3$):	141	Hach	BA
Total Ammonia (mg/L as N):	<0.07	Denver	MF
Salinity (ppth):	~1	Mettler	JD

Organism Batch #/ Age: 5.15.08 / 12 days

Feeding: Prior to test / Prior to renewal / Daily

Food: YCT *P.subcapitata* Artemia: Lot # 38438

Food Batch: ___ ___ 0hr 83-8 24hr — 48hr 85-8 72hr —

Chamber size: 1000 mL

Test volume: 500 mL per replicate

Conc. (%) µg/L mg/L	Rep.	Chamber #	Number Live 0 hr / 24 hr / 48 hr / 48 hr (72 hr) / 96 hr	pH (SU) 0 hr / 24 hr / 48 hr / 48 hr (72 hr) / 96 hr	Temperature (°C) 0 hr / 24 hr / 48 hr / 48 hr (72 hr) / 96 hr	D.O. (mg/L) 0 hr / 24 hr / 48 hr / 48 hr (72 hr) / 96 hr	Uncorrected Conductivity µmhos/cm (mmhos/cm) 0 hr / 24 hr / 48 hr / 48 hr (72 hr) / 96 hr
Control	A	B1	10 / 10 / 10	7.8 / / 8.2	24.0 / / 24.3	7.7 / / 6.7	0.298 / / 0.322
	B	B2	9 / 9 / 9	/ 8.2 /	/ 24.9 /	/ 6.9 /	/ 0.302 /
	C						
	D						
6	A	B3	9 / 9 / 8 ID	8.0 / / 8.1	24.2 / / 24.3	7.8 / / 6.5	10.8 / / 10.9
	B	B4	10 / 10 / 10	/ 8.1 /	/ 24.9 /	/ 6.5 /	/ 10.9 /
	C						
	D						
7	A	B5	9 / 8 ID / 7 ID	8.1 / / 8.1	24.2 / / 24.4	7.5 / / 6.4	12.9 / / 13.1
	B	B6	10 / 10 / 10	/ 8.1 /	/ 24.6 /	/ 6.3 /	/ 12.9 /
	C						
	D						
8	A	B7	6 / 6 / 6	8.1 / / 8.1	24.2 / / 24.7	7.5 / / 6.3	14.4 / / 14.7
	B	B8	5 / 5 / 5	/ 8.1 /	/ 24.5 /	/ 6.4 /	/ 14.6 /
	C						
	D						
9	A	B9	— / — / —				
	B	B10	1 / 0 ID / —	8.0 / 8.1 / —	24.0 / 24.8 / —	7.5 / 6.7 / —	15.7 / 15.9 / —
	C				24.8 MF	6 MF	
	D						
10	A	B11	— / — / —	— / — / —	— / — / —	— / — / —	— / — / —
	B	B12	— / — / —				
	C						
	D						
	A						
	B						
	C						
	D						
Loaded / measured by:			JD / MF / JD	JD / MF / JD	JD / MF / JD	JD / MF / JD	JD / MF / JD
Recorded by:			JD / MF / JD	JD / MF / JD	JD / MF / JD	JD / MF / JD	JD / MF / JD

Investigators' Signatures

Marietta C. Wolfe

Concentrations prepared by: JD

Loading verified by: MF

Light Intensity: 50-100 Ft. candles

Photoperiod: 16 hours Light / 8 hours dark

Temperature Range °C:

Incubator # 2 min. 25.9 max. 26.9 mean 26.4

Incubator # ___ min. ___ max. ___ mean ___

Room B246 min. 24.8 max. 25.6 mean 25.2

Comments:

95% confidence lower: 7.66 upper: 8.28

Statistics: Method: Spearman-Karber

48 / 96 hour LC_{50}: 7.96

Appendix C. (continued)

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

DATE: 5-6-08 DURATION: 48 hr TOXICANT: NaCl
SPECIES: *Ceriodaphnia dubia*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
.00	20	0
1.50	20	0
2.00	20	4
2.50	20	17
3.00	20	20
4.00	20	20

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: LC50: 2.19
95% LOWER CONFIDENCE: 2.07
95% UPPER CONFIDENCE: 2.32

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

DATE: 5-15-08 DURATION: 48 hr TOXICANT: NaCl
SPECIES: *Cyprinella leedsi*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
.00	20	1
6.00	20	1
7.00	20	1
8.00	20	9
9.00	20	19
10.00	20	20

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: LC50: 8.10
95% LOWER CONFIDENCE: 7.86
95% UPPER CONFIDENCE: 8.34

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

Appendix C. (continued)

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

DATE: 5-6-08 DURATION: 96 hr TOXICANT: NaCl
SPECIES: *Ceriodaphnia dubia*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
.00	20	0
1.50	20	0
2.00	20	9
2.50	20	20
3.00	20	20
4.00	20	20

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: LC50: 1.99
95% LOWER CONFIDENCE: 1.88
95% UPPER CONFIDENCE: 2.11

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

DATE: 5-15-08 DURATION: 96 hr TOXICANT: NaCl
SPECIES: *Cyprinella leedsi*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
.00	20	1
6.00	20	2
7.00	20	3
8.00	20	9
9.00	20	20
10.00	20	20

SPEARMAN-KARBER TRIM: 5.26%

SPEARMAN-KARBER ESTIMATES: LC50: 7.96
95% LOWER CONFIDENCE: 7.66
95% UPPER CONFIDENCE: 8.28

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: 5/12/08

Shipped to: FDEP

P.O. No: N/A

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia	250 +	6 DAYS	MS080506	25°C	20‰
Menidia beryllina					
Cyprinella leedsi	100+	11 DAYS	CL080501	25°C	
Pimephales promelas					

Packed by: JW

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: 5/14/08

Shipped to: FDEP

P.O. No: N/A

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia					
Menidia beryllina					
Cyprinella leedsi	150 +	11 DA-1S	CL080503	25°C	
Pimephales promelas					

Packed by:

Shipped Via: FedEx

Notes:

Thank you for your order.

Appendix E. Chemical Analyses performed on the effluent from the Jefferson Smurfit Plant Outfall D-001, sampled on May 12, 2008.

Date Sampled	Sample ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
5/12/2008 13:10	BLANK	Metals	Zinc	5	U	ug/L	5	20
5/12/2008 13:10	BLANK	Metals	Arsenic	0.5	U	ug/L	0.5	2
5/12/2008 13:10	BLANK	Metals	Nickel	0.43	U	ug/L	0.43	1.7
5/12/2008 13:10	BLANK	Metals	Silver	0.025	U	ug/L	0.025	0.1
5/12/2008 13:10	BLANK	Metals	Cadmium	0.02	U	ug/L	0.02	0.08
5/12/2008 13:10	BLANK	Metals	Magnesium	0.04	U	mg/L	0.04	0.16
5/12/2008 13:10	BLANK	Metals	Chromium	1	U	ug/L	1	4
5/12/2008 13:10	BLANK	Metals	Selenium	0.5	U	ug/L	0.5	2
5/12/2008 13:10	BLANK	Metals	Iron	30	U	ug/L	30	120
5/12/2008 13:10	BLANK	Metals	Calcium	0.075	U	mg/L	0.075	0.3
5/12/2008 13:10	BLANK	Metals	Lead	0.2	U	ug/L	0.2	0.8
5/12/2008 13:10	BLANK	Metals	Copper	0.5	U	ug/L	0.5	2
5/12/2008 13:10	BLANK	Metals	Aluminum	60	U	ug/L	60	240
5/12/2008 13:10	BLANK	Nutrients	NO2NO3-N	0.004	U	mg N/L	0.004	0.01
5/12/2008 13:10	BLANK	Nutrients	Total-P	0.02	U	mg P/L	0.02	0.06
5/12/2008 13:10	BLANK	Nutrients	Kjeldahl Nitrogen	0.08	U	mg N/L	0.08	0.2
5/12/2008 13:10	BLANK	Nutrients	Ammonia-N	0.01	U	mg N/L	0.01	0.02
5/12/2008 13:10	BLANK	Nutrients	O-Phosphate-P	0.004	U	mg P/L	0.004	0.01
5/12/2008 13:10	BLANK	Nutrients	TSS	4	U	mg/L	4	16
5/12/2008 13:10	BLANK	Pesticides	Diazinon	0.05	U	ug/L	0.05	0.2
5/12/2008 13:10	BLANK	Pesticides	Mevinphos	0.2	U	ug/L	0.2	0.8
5/12/2008 13:10	BLANK	Pesticides	Bromacil	0.2	U	ug/L	0.2	0.8
5/12/2008 13:10	BLANK	Pesticides	Ametryn	0.05	U	ug/L	0.05	0.2
5/12/2008 13:10	BLANK	Pesticides	Azinphos Methyl	0.2	U	ug/L	0.2	0.8
5/12/2008 13:10	BLANK	Pesticides	Chlorpyrifos Methyl	0.099	U	ug/L	0.099	0.4
5/12/2008 13:10	BLANK	Pesticides	Chlorpyrifos Ethyl	0.05	U	ug/L	0.05	0.2
5/12/2008 13:10	BLANK	Pesticides	Butylate	0.2	U	ug/L	0.2	0.8
5/12/2008 13:10	BLANK	Pesticides	Phorate	0.05	U	ug/L	0.05	0.2
5/12/2008 13:10	BLANK	Pesticides	Norflurazon	0.15	U	ug/L	0.15	0.6
5/12/2008 13:10	BLANK	Pesticides	Prometryn	0.15	U	ug/L	0.15	0.6
5/12/2008 13:10	BLANK	Pesticides	Malathion	0.15	U	ug/L	0.15	0.6
5/12/2008 13:10	BLANK	Pesticides	Fenamiphos	0.2	U	ug/L	0.2	0.8
5/12/2008 13:10	BLANK	Pesticides	Ethoprop	0.099	U	ug/L	0.099	0.4
5/12/2008 13:10	BLANK	Pesticides	Parathion Methyl	0.099	U	ug/L	0.099	0.4

Appendix E. (continued)

Date Sampled	Sample ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
5/12/2008 13:10	BLANK	Pesticides	Metribuzin	0.099	U	ug/L	0.099	0.4
5/12/2008 13:10	BLANK	Pesticides	Fonofos	0.099	U	ug/L	0.099	0.4
5/12/2008 13:10	BLANK	Pesticides	Simazine	0.05	U	ug/L	0.05	0.2
5/12/2008 13:10	BLANK	Pesticides	Naled	0.79	U	ug/L	0.79	3.2
5/12/2008 13:10	BLANK	Pesticides	Metolachlor	0.5	U	ug/L	0.5	2
5/12/2008 13:10	BLANK	Pesticides	Metalaxyl	0.25	U	ug/L	0.25	1
5/12/2008 13:10	BLANK	Pesticides	Alachlor	0.59	U	ug/L	0.59	2.4
5/12/2008 13:10	BLANK	Pesticides	Parathion Ethyl	0.15	U	ug/L	0.15	0.6
5/12/2008 13:10	BLANK	Pesticides	Ethion	0.05	U	ug/L	0.05	0.2
5/12/2008 13:10	BLANK	Pesticides	Hexazinone	0.099	U	ug/L	0.099	0.4
5/12/2008 13:10	BLANK	Pesticides	Atrazine	0.05	U	ug/L	0.05	0.2
5/12/2008 13:10	BLANK	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	2,6-Dinitrotoluene	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Endosulfan II	3.9	U	ug/L	3.9	16
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Hexachlorobenzene	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	beta-BHC	1.5	U	ug/L	1.5	5.8
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Acenaphthylene	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Di-n-butyl phthalate	4.9	U	ug/L	4.9	19
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Heptachlor epoxide	1.5	U	ug/L	1.5	5.8
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Isophorone	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.8
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2.9	12
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Phenol	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	2,4-Dichlorophenol	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	2,4-Dinitrophenol	15	U	ug/L	15	58
5/12/2008 13:10	BLANK	Priority Organic Pollutants	2-Chloronaphthalene	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	3,3'-Dichlorobenzidine	39	UJ	ug/L	39	160
5/12/2008 13:10	BLANK	Priority Organic Pollutants	4,4'-DDD	1.5	U	ug/L	1.5	5.8
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	12
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	15	U	ug/L	15	58
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Butyl benzyl phthalate	4.9	U	ug/L	4.9	19
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Di-n-octyl phthalate	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Diethyl phthalate	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.8
5/12/2008 13:10	BLANK	Priority Organic Pollutants	alpha-BHC	1.5	U	ug/L	1.5	5.8

Appendix E. (continued)

Date Sampled	Sample ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
5/12/2008 13:10	BLANK	Priority Organic Pollutants	delta-BHC	1.5	U	ug/L	1.5	5.8
5/12/2008 13:10	BLANK	Priority Organic Pollutants	gamma-BHC	1.5	U	ug/L	1.5	5.8
5/12/2008 13:10	BLANK	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	2,4-Dimethylphenol	9.7	U	ug/L	9.7	39
5/12/2008 13:10	BLANK	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	12
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Benzo(k)fluoranthene	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Chrysene	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Dimethyl phthalate	9.7	U	ug/L	9.7	39
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	12
5/12/2008 13:10	BLANK	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.8
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Pyrene	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	2-Nitrophenol	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	4,4'-DDE	1.5	U	ug/L	1.5	5.8
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Acenaphthene	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Aldrin	1.5	U	ug/L	1.5	5.8
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Endrin	1.5	UJ	ug/L	1.5	5.8
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	12
5/12/2008 13:10	BLANK	Priority Organic Pollutants	2,4-Dinitrotoluene	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	4-Nitrophenol	15	U	ug/L	15	58
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Anthracene	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Benzo(a)anthracene	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Dieldrin	1.5	U	ug/L	1.5	5.8
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Fluoranthene	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Phenanthrene	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	2-Chlorophenol	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	4,4'-DDT	1.5	U	ug/L	1.5	5.8
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Benzo(b)fluoranthene	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Heptachlor	1.5	U	ug/L	1.5	5.8
5/12/2008 13:10	BLANK	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.8
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Benzidine	97	U	ug/L	97	390
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Benzo(a)pyrene	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Endosulfan I	3.9	U	ug/L	3.9	16
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Endosulfan sulfate	1.5	U	ug/L	1.5	5.8
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Endrin aldehyde	3.9	U	ug/L	3.9	16

Appendix E. (continued)

Date Sampled	Sample ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Fluorene	0.97	U	ug/L	0.97	3.9
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	U	ug/L	2.9	12
5/12/2008 13:10	BLANK	Priority Organic Pollutants	Naphthalene	0.97	U	ug/L	0.97	3.9
5/12/2008 13:58	JEFFERSON FINAL EFF	AGP/LN	Algal Growth Potential	3	U	mg DryWt/L	3	3
5/12/2008 13:58	JEFFERSON FINAL EFF	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	3.3	I	ug/L	1.2	3.8
5/12/2008 13:58	JEFFERSON FINAL EFF	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.53	U	ug/L	0.53	1.6
5/12/2008 13:58	JEFFERSON FINAL EFF	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	4.3		mg/L	0.2	2
5/12/2008 13:58	JEFFERSON FINAL EFF	Overflow	Fecal Coliforms-Membrane Filter	160	B	#/100 mL	1	
5/12/2008 12:30	JEFFERSON FINAL EFF	Toxicology	Bioassay-Acute-Screen-FW-Fish, LC50	100	L	LC50		
5/12/2008 13:58	JEFFERSON FINAL EFF	Metals	Silver	0.04	I	ug/L	0.025	0.1
5/12/2008 13:58	JEFFERSON FINAL EFF	Metals	Nickel	39.2		ug/L	0.43	1.7
5/12/2008 13:58	JEFFERSON FINAL EFF	Metals	Cadmium	0.084		ug/L	0.02	0.08
5/12/2008 13:58	JEFFERSON FINAL EFF	Metals	Magnesium	40.9		mg/L	0.04	0.16
5/12/2008 13:58	JEFFERSON FINAL EFF	Metals	Iron	310		ug/L	30	120
5/12/2008 13:58	JEFFERSON FINAL EFF	Metals	Aluminum	650		ug/L	60	240
5/12/2008 13:58	JEFFERSON FINAL EFF	Metals	Selenium	0.5	U	ug/L	0.5	2
5/12/2008 13:58	JEFFERSON FINAL EFF	Metals	Arsenic	0.9	I	ug/L	0.5	2
5/12/2008 13:58	JEFFERSON FINAL EFF	Metals	Chromium	3.4	I	ug/L	1	4
5/12/2008 13:58	JEFFERSON FINAL EFF	Metals	Lead	0.44	U	ug/L	0.44	1.8
5/12/2008 13:58	JEFFERSON FINAL EFF	Metals	Calcium	81.8		mg/L	0.075	0.3
5/12/2008 13:58	JEFFERSON FINAL EFF	Metals	Zinc	19	I	ug/L	5	20
5/12/2008 13:58	JEFFERSON FINAL EFF	Metals	Copper	2	I	ug/L	0.5	2
5/12/2008 13:58	JEFFERSON FINAL EFF	Nutrients	TSS	18		mg/L	4	16
5/12/2008 13:58	JEFFERSON FINAL EFF	Nutrients	O-Phosphate-P	0.037		mg P/L	0.004	0.01
5/12/2008 13:58	JEFFERSON FINAL EFF	Nutrients	Total-P	0.21		mg P/L	0.02	0.06
5/12/2008 13:58	JEFFERSON FINAL EFF	Nutrients	NO2NO3-N	0.004	U	mg N/L	0.004	0.01
5/12/2008 13:58	JEFFERSON FINAL EFF	Nutrients	Kjeldahl Nitrogen	1.7		mg N/L	0.08	0.2
5/12/2008 13:58	JEFFERSON FINAL EFF	Nutrients	Ammonia-N	0.05	U	mg N/L	0.05	0.1
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Prometryn	0.15	U	ug/L	0.15	0.6
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Diazinon	0.05	U	ug/L	0.05	0.2
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Metolachlor	0.5	U	ug/L	0.5	2
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Metribuzin	0.1	U	ug/L	0.1	0.4
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Parathion Methyl	0.1	U	ug/L	0.1	0.4
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Alachlor	0.6	U	ug/L	0.6	2.4
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Simazine	0.05	U	ug/L	0.05	0.2
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Chlorpyrifos Ethyl	0.05	U	ug/L	0.05	0.2
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Chlorpyrifos Methyl	0.1	U	ug/L	0.1	0.4
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Phorate	0.05	U	ug/L	0.05	0.2

Appendix E. (continued)

Date Sampled	Sample ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Parathion Ethyl	0.15	U	ug/L	0.15	0.6
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Atrazine	0.05	U	ug/L	0.05	0.2
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Fonofos	0.1	U	ug/L	0.1	0.4
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Ametryn	0.05	U	ug/L	0.05	0.2
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Norflurazon	0.15	U	ug/L	0.15	0.6
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Mevinphos	0.2	U	ug/L	0.2	0.8
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Fenamiphos	0.2	U	ug/L	0.2	0.8
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Butylate	0.2	U	ug/L	0.2	0.8
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Ethoprop	0.1	U	ug/L	0.1	0.4
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Naled	0.8	U	ug/L	0.8	3.2
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Ethion	0.05	U	ug/L	0.05	0.2
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Metalaxyl	0.25	U	ug/L	0.25	1
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Malathion	0.15	U	ug/L	0.15	0.6
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Bromacil	0.2	U	ug/L	0.2	0.8
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Azinphos Methyl	0.2	U	ug/L	0.2	0.8
5/12/2008 13:58	JEFFERSON FINAL EFF	Pesticides	Hexazinone	0.1	U	ug/L	0.1	0.4
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	4-Chloro-3-methylphenol	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Anthracene	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	17	U	ug/L	17	68
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Heptachlor	1.7	U	ug/L	1.7	6.8
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Heptachlor epoxide	1.7	U	ug/L	1.7	6.8
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Hexachloroethane	3.4	U	ug/L	3.4	14
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	4,4'-DDT	1.7	U	ug/L	1.7	6.8
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Bis(2-chloroethyl)ether	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Dibenzo(a,h)anthracene	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Endosulfan II	4.5	U	ug/L	4.5	18
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Hexachlorobenzene	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	2-Chloronaphthalene	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	2-Nitrophenol	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	3,3'-Dichlorobenzidine	45	UJ	ug/L	45	180
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	4-Bromophenyl phenyl ether	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Acenaphthylene	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Benzo(b)fluoranthene	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Chrysene	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Di-n-octyl phthalate	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Dimethyl phthalate	11	U	ug/L	11	45
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Hexachlorocyclopentadiene	3.4	U	ug/L	3.4	14

Appendix E. (continued)

Date Sampled	Sample ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Phenol	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	4,4'-DDD	1.7	U	ug/L	1.7	6.8
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2.3	U	ug/L	2.3	9.1
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Acenaphthene	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Aldrin	1.7	U	ug/L	1.7	6.8
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Endosulfan I	4.5	U	ug/L	4.5	18
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Nitrobenzene	2.3	U	ug/L	2.3	9.1
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	beta-BHC	1.7	U	ug/L	1.7	6.8
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	2,4-Dichlorophenol	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Benzo(k)fluoranthene	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	3.4	U	ug/L	3.4	14
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Isophorone	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2.3	U	ug/L	2.3	9.1
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	alpha-BHC	1.7	U	ug/L	1.7	6.8
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	1,2,4-Trichlorobenzene	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	2,4-Dinitrophenol	17	U	ug/L	17	68
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	2,6-Dinitrotoluene	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Benzidine	110	U	ug/L	110	450
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Benzo(a)pyrene	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Butyl benzyl phthalate	5.7	U	ug/L	5.7	23
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Di-n-butyl phthalate	5.7	U	ug/L	5.7	23
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Dieldrin	1.7	U	ug/L	1.7	6.8
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Diethyl phthalate	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Endosulfan sulfate	1.7	U	ug/L	1.7	6.8
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	N-Nitrosodimethylamine	2.3	U	ug/L	2.3	9.1
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	2,4,6-Trichlorophenol	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	2,4-Dimethylphenol	11	U	ug/L	11	45
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	2,4-Dinitrotoluene	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	4,4'-DDE	1.7	U	ug/L	1.7	6.8
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	4-Nitrophenol	17	U	ug/L	17	68
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Benzo(a)anthracene	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Endrin aldehyde	4.5	U	ug/L	4.5	18
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Fluoranthene	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Fluorene	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Hexachlorobutadiene	3.4	U	ug/L	3.4	14
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Naphthalene	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Pentachlorophenol	3.4	U	ug/L	3.4	14

Appendix E. (continued)

Date Sampled	Sample ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Phenanthrene	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	gamma-BHC	1.7	U	ug/L	1.7	6.8
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	2-Chlorophenol	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.4	U	ug/L	3.4	14
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Benzo(g,h,i)perylene	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Endrin	1.7	UJ	ug/L	1.7	6.8
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	Pyrene	1.1	U	ug/L	1.1	4.5
5/12/2008 13:58	JEFFERSON FINAL EFF	Priority Organic Pollutants	delta-BHC	1.7	U	ug/L	1.7	6.8
5/12/2008 12:30	JEFFERSON FINAL EFF	Field Parameter	Sample Depth	1		m		
5/12/2008 13:58	JEFFERSON FINAL EFF	Field Parameter	Temperature	35.79		C		
5/12/2008 13:58	JEFFERSON FINAL EFF	Field Parameter	Dissolved Oxygen	6.49		mg/L		
5/12/2008 13:58	JEFFERSON FINAL EFF	Field Parameter	pH	6.47				
5/12/2008 13:58	JEFFERSON FINAL EFF	Field Parameter	Sample Depth	0.8		m		
5/12/2008 13:58	JEFFERSON FINAL EFF	Field Parameter	Specific Conductance	2876		umhos/cm		
5/19/2008 9:40	JEFF- FINAL EFF.	Toxicology	Bioassay-Acute-Screen-FW-C.dubia, LC50	100	K	LC50		
5/19/2008 9:40	JEFF- FINAL EFF.	Field Parameter	Dissolved Oxygen	5.24		mg/L		
5/19/2008 9:40	JEFF- FINAL EFF.	Field Parameter	Temperature	37.27		C		
5/19/2008 9:40	JEFF- FINAL EFF.	Field Parameter	pH	6.46				
5/19/2008 9:40	JEFF- FINAL EFF.	Field Parameter	Specific Conductance	3010		umhos/cm		
5/19/2008 9:40	JEFF- FINAL EFF.	Field Parameter	Sample Depth	0.4		m		

Appendix F. Toxicity Meter IDs

Test ID: Jefferson Smurfit Corporation, U.S. Test Dates: May 13-17, 20-22, 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	-	

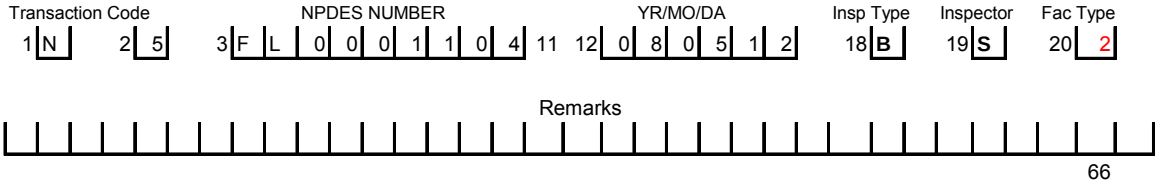
SM-2530B modified to allow use electronic and non-mercury filled thermometers.
Insert other device information in blank spaces(if used). Test ID = Facility or SRTs (acute SRT--Chronic SRT)

Comments:

V 1.3 7/24/08 BA

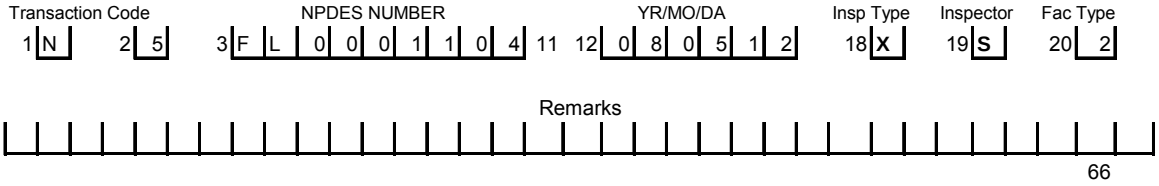
The Bioassay of Jefferson Smurfit Corporation, U.S. effluent sampled on May 12, 2008. NPDES #FL0001104.

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



The Priority Pollutants Analysis of Jefferson Smurfit Corporation, U.S. effluent sampled on May 12, 2008. NPDES #FL0001104.

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



Biological Analyses of Jefferson Smurfit Corporation, U.S. effluent sampled on May 12, 2008. NPDES #FL0001104.

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

