

Effluent Quality Assessment of the

Cedar Key Water Reclaiming Facility

Levy County

NPDES #FL0031216

Sampled June 25, 2007

November 2007

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

Cedar Key Water Reclaiming Facility, 510 Third Street, Cedar Key, Levy County, Florida, NPDES #FL0031216. Effluent samples for this facility were collected on June 25, 2007.

Introduction

Cedar Key Water Reclaiming Facility uses the cyclical nitrogen-removal extended-aeration process to treat domestic wastewater to advanced standards. The facility has a design flow of 0.180 million gallons per day (MGD) annual average daily flow (AADF). The AADF for the facility from June 1, 2006, through May 31, 2007, was 0.008 MGD to surface waters, 0.104 MGD to Reuse System R-001 and 0.014 MGD to Reuse System R-002. The facility consists of an influent bar screen, a grit chamber, two aeration tanks, two secondary clarifiers, two tertiary filters, two chlorine contact chambers, an aerobic digester, and a scrubber unit for odor control. Liquid chlorine is used for disinfection. Liquid sulfur dioxide is used for dechlorination. Residuals are treated to meet class B requirements and are disposed by land application.

The facility is permitted to discharge 0.166 MGD AADF to the Class III marine waters of Back Bayou at discharge location D-001. Outfall D-001 is approximately 24.4 m (80 feet) in length and discharges at a depth of approximately 0.91 m (3 feet). The point of discharge is located approximately at latitude 29º 08' 12" N, longitude 83º 02' 00" W. The discharge of effluent to Back Bayou is permitted during emergency situations only.

Reuse System R-001 is an absorption field system with a permitted AADF of 0.166 MGD. The system consists of a 4645.15 m^2 (50,000 ft^2) non-public access drip irrigation system. The absorption field is located approximately at latitude 29º 08' 12" N, longitude 83º 02' 00" W.

Reuse System R-002 is a 0.035 MGD AADF permitted capacity slow-rate public access irrigation system. The system irrigates 1.78 hectares (4.389 acres). This system is not permitted to discharge on Saturdays or Sundays.

There are no Administrative Orders or Consent Orders for this facility. The facility has no mixing zones. The facility has no toxicity testing requirements. A review of Discharge Monitoring Report data from August 2005 through February 2007 revealed violations for total suspended solids (29 mg/L maximum value; 5 mg/L limit) from August 2005 through November 2005 and June 2006 through February 2007 in Reuse Systems R-001 and R-002. (Facility information provided by Michael Bogin of FDEP Northeast District.)

Methods

Samples were collected from the EFA-1 NPDES sampling point (immediately after disinfection, prior to dechlorination) for Outfall D-001 by Joseph Emery and Michael Bogin (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 48-hour acute 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. While the 48-hour acute screening toxicity test does not reflect the permit required conditions, the Department uses it to provide reasonable assurance that the facility does not adversely affect waters of the state.

Total residual chlorine was detected in the bioassay sample in the laboratory. An aliquot of this sample was dechlorinated by the addition of sodium thiosulfate (0.025 N) at a rate of 1.35 mL per liter of sample to neutralize the chlorine. Bioassays were performed on the dechlorinated aliquot

in addition to the bioassays performed on the original sample. The same concentration of sodium thiosulfate was added to the dechlorinated test controls. The purpose of the dechlorinated test controls was to confirm that there was no adverse effect of adding sodium thiosulfate to the sample. There was no mortality in the dechlorinated controls of either test species.

The AGP sample was salinity adjusted to meet the minimum salinity requirements of the marine test species. An aliquot of the salinity-adjusted AGP sample was dechlorinated by the addition of sodium thiosulfate (0.025 N) at a rate of 1.35 mL per liter of sample. Both the salinity-adjusted AGP sample and the dechlorinated AGP sample were tested.

Toxicity Test Results

Tests were performed June 26 - 28, 2007.

Ceriodaphnia dubia 48-hour acute screening bioassay –	LC_{50} < 100%, 100% mortality* in 100% sample within 3 hours of test initiation
Ceriodaphnia dubia 48-hour acute screening bioassay –	LC_{50} > 100%, 5% mortality* in dechlorinated100% sample at 48 hours
Cyprinella leedsi 48-hour acute screening bioassay –	LC_{50} < 100%, 100% mortality* in 100% sample within 40 minutes of test initiation
Cyprinella leedsi 48-hour acute screening bioassay –	LC_{50} > 100%, 0% mortality* in dechlorinated100% sample at 48 hours

The original bioassay sample was acutely toxic to both test species. The dechlorinated sample did not show acute toxicity to the test organisms.

The observed toxicity was primarily attributed to the total residual chlorine (TRC) in the sample. TRC concentrations as low as 0.028 mg/L have been found to be acutely toxic to some freshwater fish and invertebrates (EPA *Quality Criteria for Water* 1986, EPA 44015-86-001, 1986).

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

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

Algal Growth Potential

The salinity-adjusted effluent Algal Growth Potential (AGP) was less than the method detection limit of 3 mg dry wt/L of the saltwater species *Dunaliella tertiolecta.* The Algal Growth Potential (AGP) of the dechlorinated salinity adjusted sample was 4.83 mg dry wt/L. 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 (Maloney et al, 1974).

Due to the apparent salinity of the sample, an AGP test with the freshwater species, *Pseudokirchneriella subcapitata*, was not performed. However, an inference can be made that the freshwater problem threshold of 5 mg dry wt/L (Raschke and Schultz, 1987) would also not have been exceeded.

See Table 1 for AGP results.

Chemistry Results

Total residual chlorine (TRC) was detected in the bioassay sample in the field (1.98 mg/L) and in the laboratory (1.28 mg/L). These concentrations were in compliance with the permit requirement for TRC (≥ 1 mg/L) at the EFA-1 NPDES sampling point. Total ammonia was not detected in the bioassay sample in the laboratory. The total ammonia concentration in the sample collected and preserved for chemical analysis was 0.029 mg/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was < 0.02 mg/L.

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

Conclusion

The effluent sample collected from EFA-1 NPDES sampling point for Outfall D-001 for this facility on June 25, 2007, was acutely toxic to both test species during the 48-hour acute screening bioassays. The toxicity was primarily attributed to the effluent total residual chlorine. The dechlorinated effluent sample did not show acute toxicity to either test species during the 48-hour acute screening bioassays. The effluent AGP result was less than the "problem" threshold for marine receiving waters. Effluent water quality samples did not violate any 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.

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 algal growth potential (AGP; mg dry weight/L) of the saltwater species *Dunaliella tertiolecta* and ratios of nitrogen to phosphorus for samples collected from Cedar Key Water Reclaiming Facility on June 25, 2007.

Ceder Key Water Reclaiming Facility			
Location	**AGP (measured)**	**Inorganic N:P ratio**	**Total N:P ratio**
Effluent*	3.0 U	0.2	0.5
Effluent*[D]	4.8	0.2	0.5

* - sample salinity adjusted to 7ppth by the addition of artficial seasalts

D - sample dechlorinated by the addition of sodium thiosulfate

U - Material was analyzed for but not detected. The value reported is the laboratory method detection limit.

Table 2. Effluent limits, Class III Criteria for predominantly marine waters and chemical and microbiological data for samples collected at the Ceder Key Water Reclaiming Facility on June 25, 2007.

Ceder Key Water Reclaiming Facility NPDES # FL0031216	Class III Stds	Effluent Limits	Effluent	
Organic Constituents (µg/L)				
Atrazine	-	-	0.062	I
Metals (µg/L unless otherwise noted)				
Aluminum	≤ 1500	-	7.2	I
Arsenic	≤ 50	-	1.6	I
Cadmium	≤ 8.8	-	0.02	U
Calcium (mg/L)	-	-	60.6	
Chromium-III	-	-	1	U
Copper	≤ 3.7	-	1.51	V
Iron	≤ 300	-	15	I
Lead	≤ 8.5	-	0.61	I
Magnesium (mg/L)	-	-	40.4	
Nickel	≤ 8.3	-	0.65	I
Selenium	≤ 71	-	0.5	U
Silver	≤ 2.3	-	0.025	U
Zinc	≤ 86	-	40	
Nutrients (mg/L)				
Ortho-phosphate	-	-	2.9	V
Total Phosphorus	-	-	3.2	
Total Ammonia	-	-	0.029	
Un-ionized Ammonia	-	-	≤ 0.02	c
Nitrate and Nitrite	-	-	0.48	
Total Kjeldahl Nitrogen	-	≤ 12 a	0.98	
Organic Nitrogen	-	-	0.951	c
Total Nitrogen	-	-	1.46	c
General Physical and Chemical Parameters				
Dissolved Oxygen (mg/L)	≥ 4.0 s	-	6.0	
pH (SU)	6.5 - 8.5 s	6.5-8.5 s	7.1	
Conductivity (µmhos/cm)	-	-	2,620	
Temperature °C	-	-	29.6	
Salinity	-	-	1.39	
Total Residual Chlorine (mg/L)	≤ 0.01	≥ 1.0 s	1.98	
Chlorophyll a (µg/L)	-	-	0.55	U
Phaeophytin (µg/L)	-	-	0.48	I
Total Suspended Solids (mg/L)	-	≤ 5.0 s	4	U
CBOD, 5 day (mg/L), N - inhibited	-	≤ 60 s	6.8	
Flow (MGD)	-	0.180 a	0.008	a
Hardness (mg $CaCO_3$)	-	-	317.69	c
Microbiology (Number of counts/100ml)				
Fecal Coliforms	≤800 s	≤ 25 s	2	U

Value exceeds the Class III Water Quality Criteria or permit limits

a - Annual average

c - Value is calculated

s - Single sample

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

V - Analyte was detected in both sample and method blank

Appendix A. Chain of Custody Form

NEDFS-01-06
1/19/07

Department of Environmental Protection Northeast District Field Sheet

Sample Source: Cedar Key WWTF RQ#: 2007-06-25-13 Date 6-25-07 Page ___ of ___

Meter # 2 Acid Kit# 2 Ortho Kit # 3 Sampling Team Joseph Emry/Michael Bayles

LAB ID #	Site Name:	Field/Storet #:	Measured By:	Matrix***:
	Cedar Key WWTF Effluent			

Time	Temp °C	Cond µohm cm^{-1}	Sal %	pH s.u.	DO mg/L	DO Sat %	Secchi m	WTR V ft/sec	Tide Ebb/Fld,LS/ HS	Total Depth	Sample Depth
10:10											
10:27	29.9	2620	1.34	7.05	6.03	79.7					

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	A	
Filtered Nutrients: ☐ N/A ☐ oP ☐ Other: _____	☐ Ice ☐ 0.45µm flt	A	
BOD: ☐ N/A ☐ CBOD-Inhb ☐ BOD-Unin	☐ Ice	A	
Chlorophyll: ☐ N/A ☐ CHL-PPTN-W	☐ Ice	A	
Physical/Aggregate Properties: ☐ N/A ☐ All ☐ TSS ☐ Turbidity ☐ W-Cl-IC ☐ W-F ☐ W-SO_4-IC ☐ Color ☐ TDS ☐ Alk	☐ Ice	A	
Metals: ☐ N/A ☐ W-ICP ☐ W-FIAS ☐ W-ICPMS ☐ W-ICP-Tr	☐ Ice ☐ HNO_3 ☐ pH <2	A	
AGP/Other: ☐ N/A ☐ AA-AGP ☐ AA-Lim-Nut ☐ Other	☐ Ice	A	
Micro: ☐ N/A ☐ All ☐ T Coli ☐ E Coli	☐ Ice	B	

Comments and conditions: Chlorine Reading 0.8 1.8 mg/L

LAB ID #	Site Name:	Field/Storet #:	Measured By:	Matrix***:
	Field Blank			

Time	Temp °C	Cond µohm cm^{-1}	Sal %	pH s.u.	DO mg/L	DO Sat %	Secchi m	WTR V ft/sec	Tide Ebb/Fld,LS/ HS	Total Depth	Sample Depth
1040											

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	B	
Filtered Nutrients: ☐ N/A ☑ oP ☐ Other: _____	☑ Ice ☑ 0.45µm flt	D	
BOD: ☐ N/A ☐ CBOD-Inhb ☐ BOD-Unin	☐ 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	H	
AGP/Other: ☐ N/A ☐ AA-AGP ☐ AA-Lim-Nut ☐ Other	☐ Ice		
Micro: ☐ N/A ☐ All ☐ T Coli ☒ F Coli	☒ Ice		

Comments and conditions:

LAB ID #	Site Name:	Field/Storet #:	Measured By:	Matrix***:

Time	Temp °C	Cond µohm cm^{-1}	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-Unin	☐ 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 ** J: samples run in Jacksonville Lab
***Matrix: SWF=Surface Water, Fresh SWS=Surface Water, Salt GW=Ground Water Sed=Sediment Other=Write In

Relinquished:	Date: 6-26-07	Time: 8:50	Received: Tom B 06/26/07 8:50	☐ < 6°C ☐ on ice ☐ < 2 pH
Relinquished:	Date:	Time:	Received:	Shipping:

PPL 6/26/07
2 BOTTLES.

FDEP Biology Laboratory - Acute Screen Bioassay Bench Sheets

Facility: CEDAR KEY WATER RECLAIMING FACILITY

Address: 510 THIRD STREET

City: CEDAR KEY County: LEVY

Contact/District: JOSEPH EMERY / Northeast

NPDES Permit #: FL 0031216

LIMS Job #: TLH-2007-06-26-24-01 LIMS Sample #: 1021336

Lims Data Entry: 6-29-07 MF Data Entry Verification: JD 6-29-07 2930

Sample Collection: Date: 6-25-07 7 MF Time: 1010

Hold Time Start: Date: 6-25-07 Time: 1010

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 2.70 mL of 0.025N Sodium Thiosulfate per liter of sample. Final TRC: ~~0.06~~ 0.05 JD

Sample Validation:

Temperature: Shipped ≤6°C (Yes) No Hand Delivered: Cooling (received °C < collected °C) Yes No

Holding Time: ≤36 Hours (Yes) No (Composite-end of collection; grab-when collected; 4 in 24 - time last sample collected)

Comments: aliquot of sample dechlorinated by the addition of 1.35mL of 0.025N Sodium thiosulfate per liter of sample, Dechlorinated ~~DI~~ control prepared by adding 1.35mL of 0.025N Sodium thiosulfate per liter of appropriate control media. MF 6-26-07

Original Chlorinated sample fish test terminated at ~~0~~ hour plus 40 minutes due to 100% mortality in the 100% sample concentration. MF 6-26-07 243-07

Chlorinated sample C. dubia test terminated at 0 hour plus 3 hours due to 100% mortality in the 100% sample concentration, MF 6-26-07

Light Intensity : 50 - 100 ft. candles

Photoperiod : 16 light 8 dark

Temperature Range °C:

Incubator # 2 min 26.2 max 26.7 mean 26.5

Incubator # ____ min ____ max ____ mean ____

Room B246 min 25.9 max 26.7 mean 25.7

Investigators' Signatures

Patsy Vichaikul

James Beasley

Michael Faircloth

Mazili Wellendorf

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		1.98	Hach kit	Jam/Joey	MF
Lab Total Residual Cl_2 (mg/L):	<0.03	<0.03				1.28	HACH	PAV/BA	MF
Alkalinity (mg/L as $CaCO_3$):	84	145				73	HACH	BA/PAV	PA
Hardness (mg/L as $CaCO_3$):	89	145				103	HACH	BA/PAV	PAV
Total Ammonia (mg/L as N):	<0.017	<0.017				<0.017	DENVER	MF	PAV
Salinity (ppth):	<1	<1				1.27	YSI / (Mettler)	BA/JD	MF

V 1.4 9/12/05

Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 102136 Test #: 1/2 SOP#:TA 07 01 Test Started: Date 6/26/07 Time: 11:30

Organism/Batch/Age: C. DUBIA/26 07 / <24 HR. Test Ended: Date 6.28.07 Time: 1035

Chamber/Test Volume: 30 / 20 ml Diluent/ Batch: DHW / 6-20-07

Food/Batch: YCT 1-7-07 P.sub 1-07 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
Dechlor. CTRL	A	A	5	5	5			
	B	B	5	5	5			
	C	C	5	5	5			
	D	D	5	5	5			
Dechlor 100%	A	A	5	5	5			
	B	B	5	5	4, D			
	C	C	5	5	5			
	D	D	5	5	5			
~~dechlor~~ BA Ctrl	A	A	5	5 A				
	B	B	5	5 A				
	C	C	5	5 A				
	D	D	5	5 A				
~~dechlor~~ BA 100%	A	A	5	0 5D A				
	B	B	5	0 5D A				
	C	C	5	0 5D A				
	D	D	5	0 5D A				
Loaded/Verified by: BA / SD		Checked by:	SD	CM	SA			

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% MF

If Calculated: 95% CI________ Method________

Comments: 16 (A) all dead = 100% within 3 hours of test initiation MF-6-26-07 100% sample test terminated

% mortality in dechlorinated sample = 15%
LC50 of dechlorinated sample = >100% MF 6.28-07

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

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000002

Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 1021336 Test #: 2/2 SOP#:TA 07_02 Test Started: Date 6/26/07 Time: 1120
Organism/Batch/Age: C. LEEDSII/6-26-07/13DAYS Test Ended: Date 6.29.07 Time: 1030
Chamber/Test Volume: 1000 / 500 ml Diluent/ Batch: WELL / 6-26-07
Food/Batch: YCT — P.sub — Artemia 0hr 95-07 24hr — 48hr — 72hr — Artemia Lot# GSL-536-906
Feeding: Prior to Test Prior to Renewal Daily

Concentration	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
CTRL	A	C1	5	5				
	B	C2	5	5				
	C	C3	5	5				
	D	C4	5	5				
100 %	A	C5	5	0 SD (A)				
	B	C6	5	0 SD (A)				
	C	C7	5	0 SD (A)				
	D	C8	5	0 SD (A)				
dechlor Ctrl	A	C9	5	5	5			
	B	C10	5	5	5			
	C	C11	5	5	5			
	D	C12	5	5	5			
dechlor 100%	A	C13	5	5	5			
	B	C14	5	5	5			
	C	C15	5	5	5			
	D	C16	5	5	5			
			SD	SD	SD			

Loaded/Verified by: BH BH SD Checked by:
m = missing d = dead BR/AR = Before/After Renewal
Comments: (A) All dead in 100% sample within 40 minutes of loading. mf 6-26-07 100% sample test terminated

Test Results:
Screening Tests: Report LC50 as >100%, =100%, or <100%.
% mortality in 100% sample: 100 % LC50: < 100%
If Calculated: 95% CI_____ Method_____
Mortality in Dechlorinated 100% sample = 0%
LC50 of Dechlorinated sample = >100% mf 6/29/07
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 # : 1021336 **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					
pH (S.U.)	8.2					
Temperature °C	24.7					
Dissolved Oxygen mg/L	7.9					
Conductivity (µmhos) mmhos	175					
(initials) Measured by:	JD					
(initials) Recorded by:	JD					

Comments: Test terminated within 3 hours of initiation additional parameters not necessary. MF 7-13-07

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M					
pH (S.U.)	7.6					
Temperature °C	25.4					
Dissolved Oxygen mg/L	6.9					
Conductivity µmhos (mmhos)	2.51					
(initials) Measured by:	JD					
(initials) Recorded by:	JD					

Comments:

Concentration Dechlor (tr)	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		A			
pH (S.U.)	8.2		8.1			
Temperature °C	25.0		25.6			
Dissolved Oxygen mg/L	8.0		7.5			
Conductivity (µmhos) mmhos	211		212			
(initials) Measured by:	JD		BA			
(initials) Recorded by:	JD		BA			

Comments:

Concentration Dechlor 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		A			
pH (S.U.)	7.6		8.5			
Temperature °C	25.3		25.4			
Dissolved Oxygen mg/L	7.1		7.4			
Conductivity µmhos (mmhos)	2.47		2.70			
(initials) Measured by:	JD		BA			
(initials) Recorded by:	JD		BA			

Comments:

V 2.0 2/24/04

FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1021336 **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				
pH (S.U.)	7.8					
Temperature °C	25.1					
Dissolved Oxygen mg/L	7.9					
Conductivity (µmhos) mmhos	268					
(initials) Measured by:	JD					
(initials) Recorded by:	JD					

Comments: Test terminated within 40 minutes of initiation, additional parameters not necessary - MF 7-13-07

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B				
pH (S.U.)	7.5					
Temperature °C	25.9					
Dissolved Oxygen mg/L	7.0					
Conductivity µmhos (mmhos)	2.51					
(initials) Measured by:	JD					
(initials) Recorded by:	JD					

Comments:

Concentration dechlor ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C			
pH (S.U.)	7.8	8.2	8.3			
Temperature °C	25.4	24.0	24.4			
Dissolved Oxygen mg/L	7.8	6.9	7.2			
Conductivity (µmhos) mmhos	310	285	283			
(initials) Measured by:	JD	JD	JD			
(initials) Recorded by:	JD	JD	JD			

Comments:

Concentration dechlor 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C			
pH (S.U.)	7.6	8.0	8.2			
Temperature °C	25.4	24.0	24.3			
Dissolved Oxygen mg/L	7.0	6.5	7.3			
Conductivity µmhos (mmhos)	2.50	2.49	2.60			
(initials) Measured by:	JD	JD	JD			
(initials) Recorded by:	JD	JD	JD			

Comments:

Appendix C. SRT Bench Sheets and Statistical Analysis

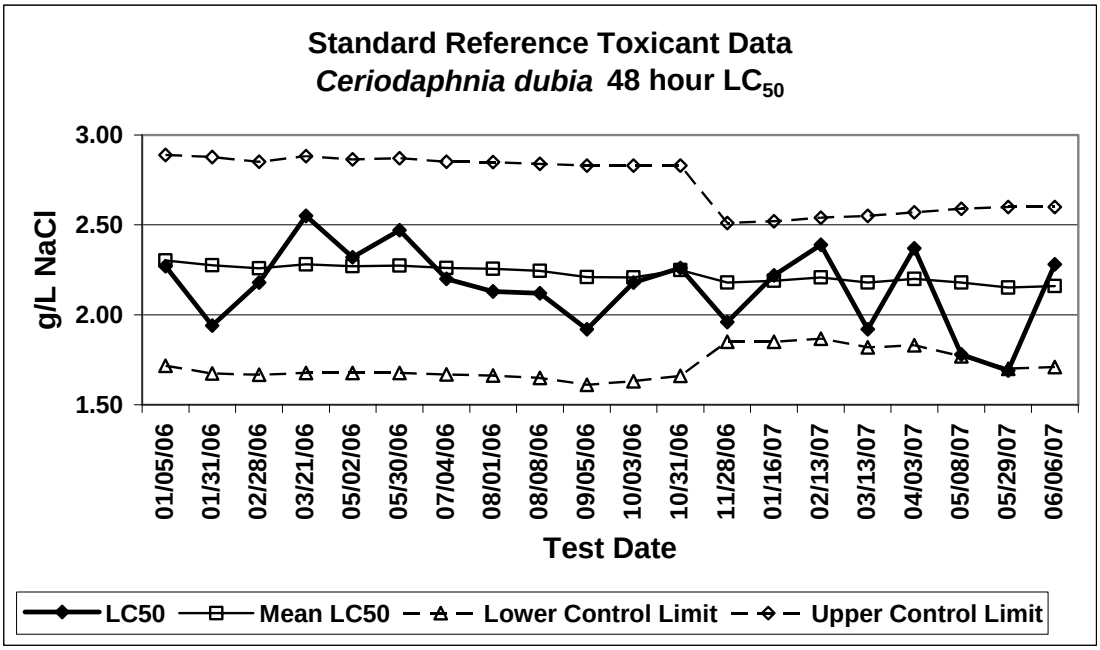
Florida Department of Environmental Protection
Bureau of Laboratories

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
01/05/06	2.27	2.30	0.29	1.72	2.89
01/31/06	1.94	2.28	0.30	1.67	2.88
02/28/06	2.18	2.26	0.30	1.67	2.85
03/21/06	2.55	2.28	0.30	1.68	2.88
05/02/06	2.32	2.27	0.30	1.68	2.87
05/30/06	2.47	2.27	0.30	1.68	2.87
07/04/06	2.20	2.26	0.30	1.67	2.85
08/01/06	2.13	2.26	0.30	1.66	2.85
08/08/06	2.12	2.24	0.30	1.65	2.84
09/05/06	1.92	2.21	0.30	1.61	2.83
10/03/06	2.18	2.21	0.30	1.63	2.83
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	2.15	0.23	1.70	2.60
06/06/07	2.28	2.16	0.22	1.71	2.60

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

CV = 10.20
EPA reference 75th quartile CV = 29%



Appendix C. (continued)

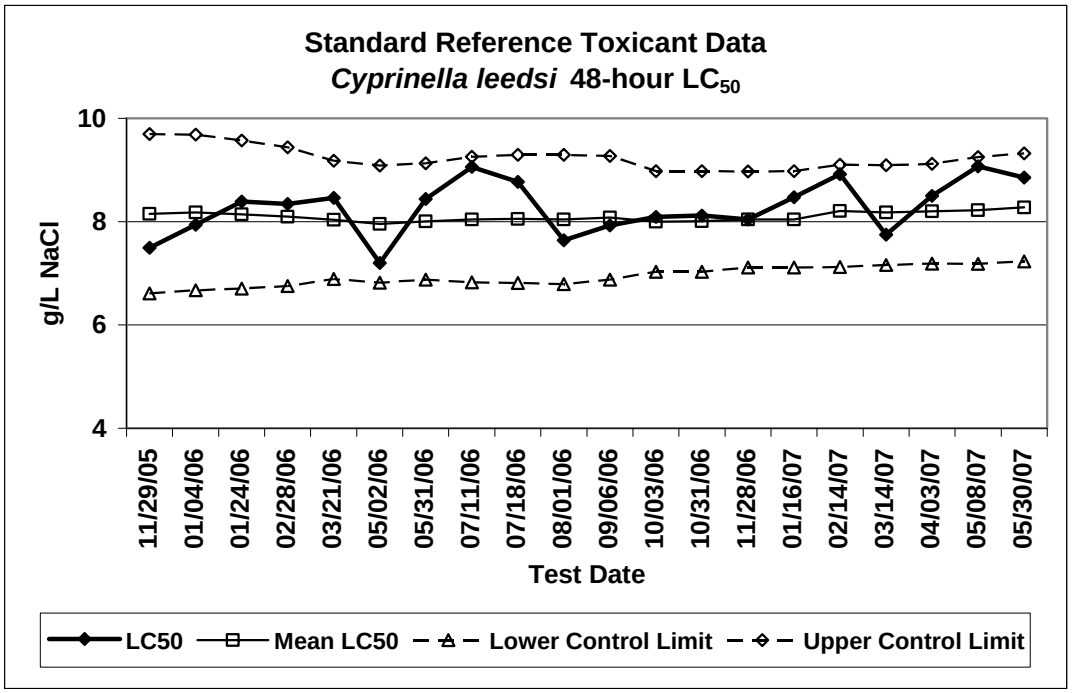
Florida Department of Environmental Protection
Bureau of Laboratories

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
11/29/05	7.49	8.15	0.77	6.61	9.69
01/04/06	7.94	8.18	0.75	6.67	9.68
01/24/06	8.39	8.14	0.72	6.71	9.57
02/28/06	8.34	8.09	0.67	6.75	9.44
03/21/06	8.46	8.04	0.57	6.89	9.18
05/02/06	7.2	7.95	0.57	6.82	9.09
05/31/06	8.44	8.00	0.56	6.88	9.13
07/11/06	9.06	8.04	0.61	6.82	9.26
07/18/06	8.77	8.05	0.62	6.81	9.29
08/01/06	7.64	8.04	0.63	6.79	9.29
09/06/06	7.93	8.08	0.60	6.88	9.27
10/03/06	8.09	8.00	0.49	7.03	8.98
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	0.49	7.11	8.98
02/14/07	8.92	8.21	0.51	7.12	9.10
03/14/07	7.75	8.18	0.50	7.16	9.09
04/03/07	8.50	8.20	0.49	7.19	9.12
05/08/07	9.07	8.22	0.52	7.18	9.25
05/30/07	8.85	8.27	0.52	7.23	9.32

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

CV = 6.29
EPA reference 75th quartile CV = 19%



Appendix C. (continued)

FDEP Biology Laboratory - Acute SRT Bench Sheet

t 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 1.5-29.07
Toxicant/ Batch#: NaCl 1.6-6-07

Test Beginning: Date: 6-6-07 Time: 1420
Test Ending: Date: 6-10-07 Time: 1345

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	0.03	Hach	~~MF~~
Alkalinity (mg/L as $CaCO_3$):	88	Hach	~~MF~~
Hardness (mg.L as $CaCO_3$):	100	Hach	~~MF~~
Total Ammonia (mg/L as N):	Low	Denver	MF
Salinity (ppth):	<1	Mettler	MF

Organism Batch #/ Age: <24h 1.23.07
Feeding: (Prior to test) (Prior to renewal) Daily
Food: (YCT) (P.subcapitata) Artemia: Lot # —
Food Batch: 1-7-07 ↔ 1-07 MF revised 0hr — 24hr — 48hr — 72hr —
Chamber size: 30 mL
Test volume: 20 mL per replicate

Conc. ~~mg/L~~ g/L	Rep.	Chamber #	Number Live 0 hr / ~~48 hr~~	Number Live 24 hr / ~~72 hr~~	Number Live 48 hr / ~~96 hr~~	pH (SU) 0 hr / ~~48 hr~~	pH (SU) 24 hr / ~~72 hr~~	pH (SU) 48 hr / ~~96 hr~~	Temperature (°C) 0 hr / ~~48 hr~~	Temperature (°C) 24 hr / ~~72 hr~~	Temperature (°C) 48 hr / ~~96 hr~~	D.O. (mg/L) 0 hr / ~~48 hr~~	D.O. (mg/L) 24 hr / ~~72 hr~~	D.O. (mg/L) 48 hr / ~~96 hr~~	Uncorrected Conductivity µmhom/cm (mmhos/cm) 0 hr / ~~48 hr~~	24 hr / ~~72 hr~~	48 hr / ~~96 hr~~
Control	A	A	5	5	5	8.2		7.9	25.0		25.1	7.6		7.2	0.176		0.193
	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	25.4		24.7	7.4		7.2	2.91		2.89
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
2.0	A	A	5	5	5	8.1		8.0	25.4		24.6	7.5		7.3	3.86		4.01
	B	B	5	5	4 1D												
	C	C	5	5	5												
	D	D	5	5	5												
2.5	A	A	5	5	1 4D	8.1		8.0	25.4		24.7	7.5		7.3	4.78		4.99
	B	B	5	5	1 4D												
	C	C	5	4 1D	1 3D												
	D	D	5	4 1D	0 4D												
3.0	A	A	5	3 2D	0 3D	8.1		8.0	25.4		24.7	7.3		7.2	5.58		5.73
	B	B	5	2 3D	0 2D												
	C	C	5	1 4D	0 1D												
	D	D	5	1 4D	0 1D												
4.0	A	A	5	0 5D		8.1	8.0		25.1	24.9		7.4	7.5		7.26	7.33	
	B	B	5	0 5D													
	C	C	5	0 5D													
	D	D	5	0 5D													
	A																
	B																
	C																
	D																
Loaded / measured by:			MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF
Recorded by:			MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF

Investigators' Signatures
Marshall Fairchild
Bruce Richardson
Tasia P. Vicharelo
Nicole Wellenkamp
REVIEWER

Concentrations prepared by: MF
Loading verified by: MF
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min 25.3 max 26.3 mean 26.0
Incubator # ___ min ___ max ___ mean ___
Room B246 min 24.9 max 26.2 mean 25.7

Comments: this test is make up test for C. dubia test of 5-29-07 the 48 hr LC 50 of which was below-25TOX by 0.01. MF 6-6-07

Statistics: Method: Spearman-Karber
(48) 96 hour LC_{50}: 2.28
95% Confidence Interval: lower 2.18 upper 2.37

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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 2 of 2

Diluent/ Batch #: SMW / 5-24-07
Toxicant/ Batch#: NaCl / 6-6-07

Test Beginning: Date: 6-6-07 Time: 1420
Test Ending: Date: 6-10-07 Time: 1345

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	40.03	Hach	~~MP~~
Alkalinity (mg/L as $CaCO_3$):	88	Hach	~~MP~~
Hardness (mg/L as $CaCO_3$):	100	Hach	~~MP~~
Total Ammonia (mg/L as N):	40.017	Denver	MF
Salinity (ppth):	21	Mettler	MF

Organism Batch #/ Age: 23-07 / <24 hours
Feeding: ~~Prior to test~~ / Prior to renewal / Daily
Food: YCT *P.subcapitata* Artemia: Lot #_____
Food Batch: 1-07 / 1-07-07 0hr — 24hr — 48hr — 72hr —
Chamber size: 30 mL
Test volume: 20 mL per replicate

g/L mf

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 µmhom/cm (mmhos/cm) ~~0 hr~~ 48 hr	~~24 hr~~ 72 hr	~~48 hr~~ 96 hr
Control	A	A	5	5	5	8.2		8.6	25.1		24.6	7.7		7.4	0.185		0.185
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
1.5	A	A	5	5	5	8.1		8.4	25.1		24.6	7.7		7.5	2.95		3.16
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
2.0	A	A	5	5	5	8.1		8.4	25.2		24.6	7.6		7.4	3.87		3.98
	B	B	4	3 10	3												
	C	C	5	5	5												
	D	D	5	5	5												
2.5	A	A	1	1	1	8.1		8.3	25.4		24.6	7.4		7.3	4.82		5.04
	B	B	1	1	0 10												
	C	C	1	1	0 10												
	D	D	—	—	—												
	A																
	B																
	C																
	D																
	A																
	B																
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			MF	MF	BA	MF	—	BA	MF	—	BA	MF	—	BA	MF	—	BA
Recorded by:			MF	MF	BA	MF	—	BA	MF	—	BA	MF	—	BA	MF	—	BA

Investigators' Signatures
Marshall Faircloth III
Buck Collins
Patsy P. Vicraft
REVIEWER

Concentrations prepared by: MF
Loading verified by: —
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min 25.8 max 26.3 mean 26.0
Incubator # ___ min ___ max ___ mean ___
Room B246 min 24.9 max 26.3 mean 25.7

Comments:

Statistics: Method: Spearman-Karber
48 / 96 hour LC_{50}: 2.23
95% Confidence Interval: lower 2.16 upper 2.30

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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 #: well 1.5-29-07

Toxicant/ Batch#: NaCl 1.5-29-07

Test Beginning: Date: 5.30.07 Time: 12:15

Test Ending: Date: 6-3-07 Time: 1000

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	0.03	Hach	PPV
Alkalinity (mg/L as $CaCO_3$):	142	Hach	PPV
Hardness (mg.L as $CaCO_3$):	148	Hach	PPV
Total Ammonia (mg/L as N):	0.017	Denver	MF
Salinity (ppth):	21	Mettler	MF

Organism Batch #/ Age: S-3007/13 0-48

Feeding: (Prior to test) (Prior to renewal) Daily

Food: YCT *P.subcapitata* Artemia: Lot # GSL-S36 4 DF

Food Batch: — — 0hr 76-07 24hr — 48hr 78-07 72hr —

Chamber size: 1000 mL

Test volume: 500 mL per replicate

g/L MF

Conc. µg/L mg/L	Rep.	Chamber #	Number Live 0 hr / ~~48 hr~~	Number Live 24 hr / ~~72 hr~~	Number Live 48 hr / ~~96 hr~~	pH (SU) 0 hr / ~~48 hr~~	pH (SU) 24 hr / ~~72 hr~~	pH (SU) 48 hr / ~~96 hr~~	Temperature (°C) 0 hr / ~~48 hr~~	Temperature (°C) 24 hr / ~~72 hr~~	Temperature (°C) 48 hr / ~~96 hr~~	D.O. (mg/L) 0 hr / ~~48 hr~~	D.O. (mg/L) 24 hr / ~~72 hr~~	D.O. (mg/L) 48 hr / ~~96 hr~~	Uncorrected Conductivity µmhom/cm (mmhos/cm) 0 hr / ~~48 hr~~	Uncorrected Conductivity 24 hr / ~~72 hr~~	Uncorrected Conductivity 48 hr / ~~96 hr~~
Control	A	A1	10	10	10	8.0		8.2	24.6		24.8	7.7		6.6	0.263		0.297
	B	A2	10	10	10		8.1			24.5			6.9			0.274	
	C	~~A3~~ JD															
	D	~~A4~~ JD															
6.0	A	A3	10	10	10	7.9		8.1	24.6		24.8	7.3		6.5	10.6		10.7
	B	A4	10	10	10		8.0			24.6			6.6			10.6	
	C																
	D																
7.0	A	A5	10	10	9 10	7.9		8.1	24.6		24.9	7.4		6.5	12.3		12.3
	B	A6	10	10	10		8.1			24.5			6.7			12.1	
	C																
	D																
8.0	A	A7	10	9 10	9	7.9		8.1	24.6		24.8	7.4		6.6	13.9		13.9
	B	A8	10	10	9 10		8.0			24.5			6.6			13.7	
	C																
	D																
9.0	A	A9	10	9 10	7 10	7.9		8.1	24.6		24.7	7.4		6.6	15.1		15.3
	B	A10	10	5 10	4 10		8.0			24.6			6.2			14.9	
	C																
	D																
10.0	A	A11	10	0 10	—	7.8		—	24.5		—	7.2		—	13.1		—
	B	A12	10	0 10	—		7.9			24.6			6.3			16.9	
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			BA	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

Patsy Lemaire

Janis Davis

Eric Phillips

Marshall Faircloth

Nicole Wellendorf

REVIEWER

Concentrations prepared by: JD

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 26.4 mean 26.1

Incubator # ___ min ___ max ___ mean ___

Room B246 min 24.7 max 25.9 mean 25.3

Comments:

Statistics: Method: Spearman-Karber

(48) 96 hour LC_{50}: 8.85

95% Confidence Interval: lower 8.56 upper 9.14

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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 2 of 2

Diluent/ Batch #: HSEL / 5-29-07
Toxicant/ Batch#: NaCl / 5-29-07

Test Beginning: Date: 5.30.07 Time: 12:15
Test Ending: Date: 6-3-07 Time: 1000

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	20.02	Hach	PDV
Alkalinity (mg/L as $CaCO_3$):	142	Hach	PDV
Hardness (mg.L as $CaCO_3$):	148	Hach	PDV
Total Ammonia (mg/L as N):	20.01	Denver	MF
Salinity (ppth):	21	Mettler	MF

Organism Batch #/ Age: 5-30-07/ 13 DAYS
Feeding: Prior to test/ Prior to renewal/ Daily
Food: YCT *P.subcapitata* Artemia: Lot # CSL 5516-50F
Food Batch: — — 0hr 7607 24hr — 48hr 78-07 72hr —
Chamber size: 1000 mL
Test volume: 500 mL per replicate

g/L MF

Conc. ppt (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 µmhom/cm (mmhos/cm) 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr
Control	A	A1	10	10	10	8.2		8.2	24.3		24.6	7.1		6.6	0.282		0.282
	B	A2	10	10	10		8.1			25.1			6.6			0.320	
	C																
	D																
6.0	A	A3	10	10	9 1D	8.1		8.1	24.3		24.8	7.0		6.6	10.6		10.9
	B	A4	10	9 1D	9		8.0			24.9			6.0			10.4	
	C																
	D																
7.0	A	A5	9	9	9	8.0		8.0	24.2		24.4	7.1		6.5	12.2		12.3
	B	A6	10	10	10		8.0			24.7			6.0			12.2	
	C																
	D																
8.0	A	A7	9	8 1D	8	8.0		8.0	24.1		25.4	7.1		6.4	13.8		14.1
	B	A8	9	2 1D	1 1D		8.0			24.6			6.1			13.8	
	C																
	D																
9.0	A	A9	7	7	6 1D	8.0		8.0	24.1		25.3	7.0		6.4	15.1		15.3
	B	A10	4	3 1D	3		8.0			24.7			6.3			15.1	
	C																
	D																
10.0	A	A11	—	—	—												
	B	A12	—	—	—												
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	MF	MF	JD	MF	MF	JD	MF	MF	JD	MF	MF	JD	MF	MF
Recorded by:			JD	MF	MF	JD	MF	MF	JD	MF	MF	JD	MF	MF	JD	MF	MF

Investigators' Signatures
Patty LaChance
James Pardi
David Almeter
Marshall Faircloth
Nigel Willenday
REVIEWER

Concentrations prepared by: JD
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 26.1 mean 26.1
Incubator # ___ min ___ max ___ mean ___
Room B246 min 24.7 max 25.8 mean 25.3

Comments:

Statistics: Method: Spearman-Karber
48 (96) hour LC_{50}: 8.28
95% Confidence Interval: lower 7.92 upper 8.66

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revised 08/24/06 SP

Appendix C. (continued)

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

DATE: 06/06/07 DURATION: 48 hr TOXICANT: NaCl
SPECIES: *Ceriodaphnia dubia*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
0.00	20	0
1.50	20	0
2.00	20	1
2.50	20	17
3.00	20	20
4.00	20	20

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: LC50: 2.28
95% LOWER CONFIDENCE: 2.18
95% UPPER CONFIDENCE: 2.37

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

DATE: 05/30/07 DURATION: 48 hr TOXICANT: NaCl
SPECIES: *Cyprinella leedsi*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
0.00	20	0
6.00	20	0
7.00	20	1
8.00	20	2
9.00	20	9
10.00	20	20

SPEARMAN-KARBER TRIM: 0.00%

SPEARMAN-KARBER ESTIMATES: LC50: 8.85
95% LOWER CONFIDENCE: 8.56
95% UPPER CONFIDENCE: 9.14

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: 5/29/07

Shipped to: FL DEP

P.O. No: N/A

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia	150	4 DAYS	MS070525	25°C	20‰
Menidia beryllina	150	10 DAYS	SS070519	25°C	20‰
Cyprinella leedsi	150	12days	CL070517	25°C	
Pimephales promelas	150	6days	FM070523	25°C	

Packed by:

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: 6/6/07

Shipped to: FL DEP

P.O. No: N/A

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia	150	4 DAYS	MS070602	25°C	20‰
Menidia beryllina					
Cyprinella leedsi					
Pimephales promelas					

Packed by:

Shipped Via: Fed Ex.

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: 6/25/07

Shipped to: Marshall @ FDEP

P.O. No: N/A

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia					
Menidia beryllina					
Cyprinella leedsi	150	12 DAYS	CL070613	25°C	
Pimephales promelas					

Packed by: [signature]

Shipped Via: FEDEX

Notes: _____

Thank you for your order.

Appendix E. Chemical Analyses performed on the effluent from the Cedar Key Water Reclaiming Facility Outfall D-001, sampled on June 25, 2007.

Date Sampled	Field ID	Analysis Group	Components	Result	Remark	Units	M
6/25/2007 10:10	Cedar Key WRF Effluent	AGP/LN	Algal Growth Potential-Dechlorinated	4.83		mg DryWt/L	3
6/25/2007 10:10	Cedar Key WRF Effluent	AGP/LN	Algal Growth Potential - Saltwater	0.15	U	mg DryWt/L	3
6/25/2007 10:10	Cedar Key WRF Effluent	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	6.8		mg/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	0.55	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.48	I	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Toxicology	Bioassay-Acute-Screen-FW-C.dubia, LC50	100	K	LC50	
6/25/2007 10:10	Cedar Key WRF Effluent	Toxicology	Bioassy-Acute-Scrn-FW-Cdubia,LC50-dechlr	100	L	LC50	
6/25/2007 10:10	Cedar Key WRF Effluent	Toxicology	Bioassay-Acute-Screen-FW-Fish, LC50	100	K	LC50	
6/25/2007 10:10	Cedar Key WRF Effluent	Toxicology	Bioassay-Acute-Scrn-FW-Fish,LC50-dechlr	100	L	LC50	
6/25/2007 10:10	Cedar Key WRF Effluent	Metals	Aluminum	7.2	I	ug/L	5
6/25/2007 10:10	Cedar Key WRF Effluent	Metals	Calcium	60.6		mg/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Metals	Iron	15	I	ug/L	5
6/25/2007 10:10	Cedar Key WRF Effluent	Metals	Magnesium	40.4		mg/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Metals	Arsenic	1.6	I	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Metals	Cadmium	0.02	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Metals	Chromium	1	U	ug/L	1
6/25/2007 10:10	Cedar Key WRF Effluent	Metals	Copper	1.51	V	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Metals	Lead	0.61	I	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Metals	Nickel	0.65	I	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Metals	Selenium	0.5	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Metals	Silver	0.025	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Metals	Zinc	40		ug/L	5
6/25/2007 10:10	Cedar Key WRF Effluent	Nutrients	Ammonia-N	0.029		mg N/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Nutrients	NO2NO3-N	0.48		mg N/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Nutrients	O-Phosphate-P	2.9		mg P/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Nutrients	Kjeldahl Nitrogen	0.98		mg N/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Nutrients	Total-P	3.2		mg P/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Nutrients	TSS	4	U	mg/L	4
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Alachlor	0.6	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Ametryn	0.05	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Atrazine	0.062	I	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Azinphos Methyl	0.2	U	ug/L	0

Appendix E. (Continued)

Date Sampled	Field ID	Analysis Group	Components	Result	Remark	Units	M
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Bromacil	0.2	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Butylate	0.2	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Chlorpyrifos Ethyl	0.05	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Chlorpyrifos Methyl	0.1	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Diazinon	0.05	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Ethion	0.05	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Ethoprop	0.1	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Fenamiphos	0.2	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Fonofos	0.1	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Hexazinone	0.1	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Malathion	0.15	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Metalaxyl	0.25	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Metolachlor	0.5	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Metribuzin	0.1	UJ	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Mevinphos	0.2	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Naled	0.8	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Norflurazon	0.15	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Parathion Ethyl	0.15	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Parathion Methyl	0.1	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Phorate	0.05	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Prometryn	0.15	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Pesticides	Simazine	0.05	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	1,2-Dichlorobenzene	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	1,3-Dichlorobenzene	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	1,4-Dichlorobenzene	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	2,4-Dichlorophenol	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	2,4-Dimethylphenol	9.6	U	ug/L	9
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	2,4-Dinitrophenol	14	U	ug/L	1
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	2,4-Dinitrotoluene	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	2,6-Dinitrotoluene	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	2-Chloronaphthalene	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	2-Chlorophenol	0.96	U	ug/L	0

Appendix E. (Continued)

Date Sampled	Field ID	Analysis Group	Components	Result	Remark	Units	M
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	2-Nitrophenol	0.96	UJ	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38	U	ug/L	3
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	4,4'-DDD	1.4	U	ug/L	1
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	4,4'-DDE	1.4	U	ug/L	1
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	4,4'-DDT	1.4	U	ug/L	1
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	1
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Acenaphthene	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Acenaphthylene	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Aldrin	1.4	U	ug/L	1
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Anthracene	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Benzidine	96	U	ug/L	9
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Benzo(a)anthracene	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Benzo(a)pyrene	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Benzo(b)fluoranthene	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Benzo(k)fluoranthene	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	14	U	ug/L	1
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Butyl benzyl phthalate	4.8	U	ug/L	4
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Chrysene	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Di-n-butyl phthalate	4.8	U	ug/L	4
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Di-n-octyl phthalate	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Dieldrin	1.4	U	ug/L	1
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Diethyl phthalate	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Dimethyl phthalate	48	U	ug/L	4
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Endosulfan I	3.8	U	ug/L	3
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Endosulfan II	3.8	U	ug/L	3

Appendix E. (Continued)

Date Sampled	Field ID	Analysis Group	Components	Result	Remark	Units	M
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Endosulfan sulfate	1.4	U	ug/L	1
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Endrin	1.4	U	ug/L	1
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Endrin aldehyde	3.8	U	ug/L	3
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Fluoranthene	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Fluorene	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Heptachlor	1.4	U	ug/L	1
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Heptachlor epoxide	1.4	U	ug/L	1
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Hexachlorobenzene	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	U	ug/L	2
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Isophorone	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	UJ	ug/L	2
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Naphthalene	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Phenanthrene	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Phenol	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	Pyrene	0.96	U	ug/L	0
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	alpha-BHC	1.4	U	ug/L	1
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	beta-BHC	1.4	U	ug/L	1
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	delta-BHC	1.4	U	ug/L	1
6/25/2007 10:10	Cedar Key WRF Effluent	Priority Organic Pollutants	gamma-BHC	1.4	U	ug/L	1
6/25/2007 10:10	Cedar Key WRF Effluent	Nutrients	Dissolved Oxygen	6.03		mg/L	
6/25/2007 10:10	Cedar Key WRF Effluent	Nutrients	Specific Conductance	2620		umhos/cm	
6/25/2007 10:10	Cedar Key WRF Effluent	Nutrients	Temperature	29.59		C	
6/25/2007 10:10	Cedar Key WRF Effluent	Nutrients	pH	7.05			
6/25/2007 10:40	Field Blank	Metals	Aluminum	5	U	ug/L	5
6/25/2007 10:40	Field Blank	Metals	Calcium	0.02	U	mg/L	0
6/25/2007 10:40	Field Blank	Metals	Iron	5	U	ug/L	5
6/25/2007 10:40	Field Blank	Metals	Magnesium	0.005	U	mg/L	0

Appendix E. (Continued)

Date Sampled	Field ID	Analysis Group	Components	Result	Remark	Units	M
6/25/2007 10:40	Field Blank	Metals	Arsenic	0.5	U	ug/L	0
6/25/2007 10:40	Field Blank	Metals	Cadmium	0.02	U	ug/L	0
6/25/2007 10:40	Field Blank	Metals	Chromium	1	U	ug/L	1
6/25/2007 10:40	Field Blank	Metals	Copper	0.25	U	ug/L	0
6/25/2007 10:40	Field Blank	Metals	Lead	0.2	U	ug/L	0
6/25/2007 10:40	Field Blank	Metals	Nickel	0.25	U	ug/L	0
6/25/2007 10:40	Field Blank	Metals	Selenium	0.5	U	ug/L	0
6/25/2007 10:40	Field Blank	Metals	Silver	0.025	U	ug/L	0
6/25/2007 10:40	Field Blank	Metals	Zinc	5	U	ug/L	5
6/25/2007 10:40	Field Blank	Nutrients	Ammonia-N	0.01	U	mg N/L	0
6/25/2007 10:40	Field Blank	Nutrients	NO2NO3-N	0.004	U	mg N/L	0
6/25/2007 10:40	Field Blank	Nutrients	O-Phosphate-P	0.004	I	mg P/L	0
6/25/2007 10:40	Field Blank	Nutrients	Kjeldahl Nitrogen	0.08	U	mg N/L	0
6/25/2007 10:40	Field Blank	Nutrients	Total-P	0.02	U	mg P/L	0
6/25/2007 10:40	Field Blank	Pesticides	Alachlor	0.57	U	ug/L	0
6/25/2007 10:40	Field Blank	Pesticides	Ametryn	0.048	U	ug/L	0
6/25/2007 10:40	Field Blank	Pesticides	Atrazine	0.048	U	ug/L	0
6/25/2007 10:40	Field Blank	Pesticides	Azinphos Methyl	0.19	U	ug/L	0
6/25/2007 10:40	Field Blank	Pesticides	Bromacil	0.19	U	ug/L	0
6/25/2007 10:40	Field Blank	Pesticides	Butylate	0.19	U	ug/L	0
6/25/2007 10:40	Field Blank	Pesticides	Chlorpyrifos Ethyl	0.048	U	ug/L	0
6/25/2007 10:40	Field Blank	Pesticides	Chlorpyrifos Methyl	0.095	U	ug/L	0
6/25/2007 10:40	Field Blank	Pesticides	Diazinon	0.048	U	ug/L	0
6/25/2007 10:40	Field Blank	Pesticides	Ethion	0.048	U	ug/L	0
6/25/2007 10:40	Field Blank	Pesticides	Ethoprop	0.095	U	ug/L	0
6/25/2007 10:40	Field Blank	Pesticides	Fenamiphos	0.19	U	ug/L	0
6/25/2007 10:40	Field Blank	Pesticides	Fonofos	0.095	U	ug/L	0
6/25/2007 10:40	Field Blank	Pesticides	Hexazinone	0.095	U	ug/L	0
6/25/2007 10:40	Field Blank	Pesticides	Malathion	0.14	U	ug/L	0
6/25/2007 10:40	Field Blank	Pesticides	Metalaxyl	0.24	U	ug/L	0
6/25/2007 10:40	Field Blank	Pesticides	Metolachlor	0.48	U	ug/L	0
6/25/2007 10:40	Field Blank	Pesticides	Metribuzin	0.095	UJ	ug/L	0
6/25/2007 10:40	Field Blank	Pesticides	Mevinphos	0.19	U	ug/L	0
6/25/2007 10:40	Field Blank	Pesticides	Naled	0.76	U	ug/L	0

Appendix E. (Continued)

Date Sampled	Field ID	Analysis Group	Components	Result	Remark	Units	M
6/25/2007 10:40	Field Blank	Pesticides	Norflurazon	0.14	U	ug/L	0
6/25/2007 10:40	Field Blank	Pesticides	Parathion Ethyl	0.14	U	ug/L	0
6/25/2007 10:40	Field Blank	Pesticides	Parathion Methyl	0.095	U	ug/L	0
6/25/2007 10:40	Field Blank	Pesticides	Phorate	0.048	U	ug/L	0
6/25/2007 10:40	Field Blank	Pesticides	Prometryn	0.14	U	ug/L	0
6/25/2007 10:40	Field Blank	Pesticides	Simazine	0.048	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	1,2-Dichlorobenzene	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	1,3-Dichlorobenzene	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	1,4-Dichlorobenzene	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	2,4-Dimethylphenol	9.7	U	ug/L	9
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	2,4-Dinitrophenol	15	U	ug/L	1
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	2-Chlorophenol	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	2-Nitrophenol	0.97	UJ	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	39	U	ug/L	3
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	4,4'-DDD	1.5	U	ug/L	1
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	4,4'-DDE	1.5	U	ug/L	1
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	4,4'-DDT	1.5	U	ug/L	1
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	4-Nitrophenol	15	U	ug/L	1
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Acenaphthene	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Acenaphthylene	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Aldrin	1.5	U	ug/L	1
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Anthracene	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Benzidine	97	U	ug/L	9
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.97	U	ug/L	0

Appendix E. (Continued)

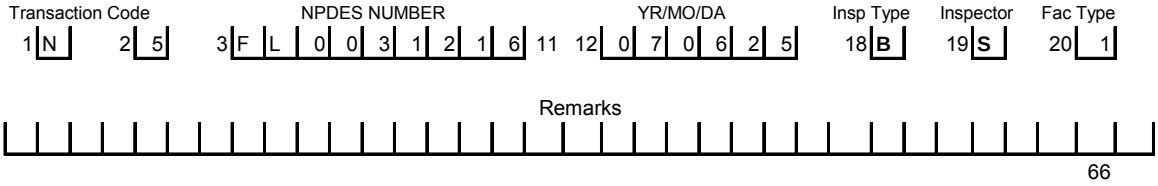
Date Sampled	Field ID	Analysis Group	Components	Result	Remark	Units	M
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	15	U	ug/L	1
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Butyl benzyl phthalate	4.9	U	ug/L	4
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Chrysene	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Di-n-butyl phthalate	4.9	U	ug/L	4
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Dieldrin	1.5	U	ug/L	1
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Diethyl phthalate	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Dimethyl phthalate	49	U	ug/L	4
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Endosulfan I	3.9	U	ug/L	3
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Endosulfan II	3.9	U	ug/L	3
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Endosulfan sulfate	1.5	U	ug/L	1
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Endrin	1.5	U	ug/L	1
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Endrin aldehyde	3.9	U	ug/L	3
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Fluoranthene	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Fluorene	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Heptachlor	1.5	U	ug/L	1
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Heptachlor epoxide	1.5	U	ug/L	1
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Hexachlorobenzene	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	U	ug/L	2
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Isophorone	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	UJ	ug/L	2

Appendix E. (Continued)

Date Sampled	Field ID	Analysis Group	Components	Result	Remark	Units	M
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Naphthalene	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Phenanthrene	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Phenol	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	Pyrene	0.97	U	ug/L	0
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	alpha-BHC	1.5	U	ug/L	1
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	beta-BHC	1.5	U	ug/L	1
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	delta-BHC	1.5	U	ug/L	1
6/25/2007 10:40	Field Blank	Priority Organic Pollutants	gamma-BHC	1.5	U	ug/L	1

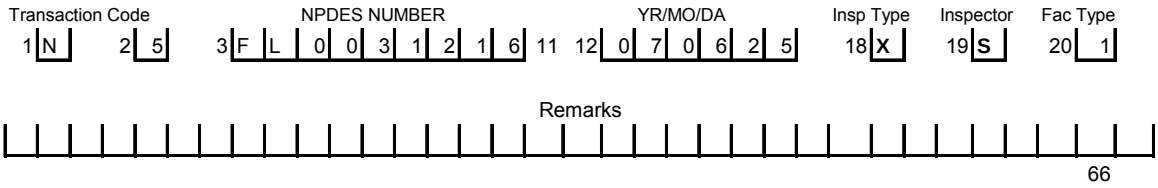
The Bioassay of Cedar Key Water Reclaiming Facility effluent sampled on June 25, 2007. NPDES #FL0031216.

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



The Priority Pollutants Analysis of Cedar Key Water Reclaiming Facility effluent sampled on June 25, 2007. NPDES #FL0031216.

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



Biological Analyses of Cedar Key Water Reclaiming Facility effluent sampled on June 25, 2007. NPDES #FL0031216.

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

