

Effluent Quality Assessment of the

Paradise Point WWTF

Putnam County

NPDES #FL0043176

Sampled June 4, 2007

August 2007

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

Paradise Point WWTF, 341 Paradise Point Circle, Satsuma, Putnam County, Florida, 32188, NPDES #FL0043176. Effluent samples for this facility were collected on June 4, 2007.

Introduction

Paradise Point WWTF uses the extended aeration process to treat domestic wastewater. The facility has a design flow of 0.005 million gallons per day (MGD) annual average daily flow (AADF). The AADF from June 1, 2006, through May 31, 2007, was 0.0015 MGD. The facility consists of an aeration basin, a secondary clarifier, a chlorine contact chamber, a dechlorination tank, a post aeration/effluent pumping tank and an aerobic digester. Chlorine tablets are used for chlorination. Sodium bisulfite tablets are used for dechlorination. Treated effluent is discharged through Outfall D-001 to the Class III freshwaters of Dunn's Creek. Outfall D-001 is approximately 8.64 m (20 feet) in length and discharges at a depth of 1.22 m (4 feet). D-001 is located approximately at latitude 29º 34' 33"N, longitude 81º 37' 07" W. Wastewater residuals are hauled to the Ormond Septic Systems (OSS) facility for further treatment and final disposal.

This facility has no Administrative Orders or Consent Orders; however, a warning letter was issued on September 6, 2006, addressing effluent quality violations and additional Compliance Evaluation Inspection (CEI) concerns at the facility. A review of Discharge Monitoring Report (DMR) data for the past year revealed permit violations for fecal coliforms in June and July 2006. The last CEI, performed on January 24, 2006, rated the facility as Significant Out of Compliance, due to effluent violations (fecal coliforms, CBOD, unionized ammonia) and additional CEI concerns found on-site. A file review conducted on June 1, 2007, rated the facility as Significant Out of Compliance. The review indicated that no response had been received addressing the operational problems and the effluent quality violations noted in the previous inspection, nor had the facility responded to the warning letter of September 6, 2006. However, the facility's DMR trends do appear to be improving. The facility has no mixing zones and has no toxicity testing requirements. (Facility information provided by Jennifer Paris of FDEP Northeast District.)

Methods

Samples were collected from the EFD-1 NPDES sampling point (immediately after dechlorination and before discharge) for Outfall D-001 by Jennifer Paris and Beth Murphy (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. The Department uses the 48-hour acute screening toxicity test to provide reasonable assurance that the facility does not adversely affect waters of the state.

Toxicity Test Results

Tests were performed June 5 - 7, 2007.

Ceriodaphnia dubia 48-hour acute screening bioassay –	LC_{50} > 100%, 0% mortality* in 100% sample at 48 hours
Cyprinella leedsi 48-hour acute screening bioassay –	LC_{50} > 100%, 10% mortality* in 100% sample at 48 hours

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

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

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

Algal Growth Potential

The effluent Algal Growth Potential (AGP) was 615 mg dry wt/L of the unicellular green alga, *Pseudokirchneriella subcapitata*, formerly known as *Selenastrum capricornutum*. Raschke and Shultz (1987) found that AGP values above 5.0 mg dry weight/L represent a "problem" threshold for fresh receiving waters, implying nutrient enrichment. The analytical chemistry suggests that the effluent is nitrogen-limited. The predicted AGP based on inorganic nitrogen concentrations was 836 (±20%) mg dry wt/L (Table 1; Miller et al. 1978).

See Table 1 for AGP results.

Chemistry Results

Total residual chlorine was not detected in the bioassay sample in the laboratory. The total ammonia concentration in the bioassay sample in the laboratory was 9.92 mg/L. Based on the pH, salinity, and temperature of the sample, the unionized ammonia concentration was 0.18 mg/L. The total ammonia concentration in the sample collected and preserved for chemical analysis was 11 mg/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was 0.09 mg/L. The effluent total ammonia exceeded the facility's permit limit of ≤1.0 mg/L. The effluent unionized ammonia concentration exceeded both the Class III freshwater criterion and the permit limit for unionized ammonia of ≤ 0.02 mg/L (62-302.530(3), F.A.C.).

The effluent copper concentration (24.2 µg/l) exceeded the Class III fresh water quality standard for copper (13.7 µg/L; 62-302.530(23), F.A.C.). Iron, nickel, and zinc were detected in the effluent at levels that comply with Class III fresh water quality criteria (62-302.530, F.A.C.). Arsenic, cadmium, chromium, lead, and silver were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL). Aluminum and atrazine were also detected in the effluent.

Effluent total phosphorus (4.1 mg/L) and total nitrogen (25 mg/L) violated the facility's permitted limits of ≤ 3.0 and ≤ 18.0 mg/L, respectively. Effluent dissolved oxygen (4.6 mg/L) did not meet the Class III fresh water quality criterion (≥ 5.0 mg/L; 62-302.530(30), F.A.C.). The effluent fecal coliforms sample analysis yielded a result of "too numerous to count". Given the analysis sample volume of 1 ml, an estimate of the actual number of colony forming units (CFU) would be >2,000/ml (Standard Methods 20th edition, 9215A, p. 8b), a violation of the Class III fresh water quality criterion and facility permit limit of ≤800 CFU/100 ml (62-302.530(6), F.A.C.).

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 the EFD-1 NPDES sampling point for Outfall D-001 for this facility on June 4, 2007, was not acutely toxic to either test species during the 48-hour acute screening bioassays. The effluent AGP result greatly exceeded the "problem" threshold for fresh receiving waters, indicating nutrient enrichment. Copper, un-ionized ammonia, dissolved oxygen, and fecal coliforms violated Class III freshwater criteria (62-302.530, F.A.C.). Total phosphorus, total ammonia, un-ionized ammonia, total nitrogen, and fecal coliforms violated the facility's permit limits.

Literature Cited

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

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

Table 1. Measured and predicted algal growth potential (AGP; mg dry weight/L) for total soluble inorganic nitrogin (TSIN) and total nitrogen (TN) limitation of the freshwater species *Pseudokirchneriella subcapitata* and ratios of nitrogen to phosphorus for samples collected from Paradise Point Wastewater Treatment Facility on June 4, 2007.

Location	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (TN) ± 20%	Inorganic N:P ratio	Total N:P ratio
Effluent	615.0	836.0 ± 167.2	950.0 ± 190.0	6.7	6.1

Table 2. Effluent limits, Class III fresh water criteria, and chemical and microbiological data for samples collected from Paradise Point Wastewater Treatment Facility on June 4, 2007.

Paradise Point Wastewater Treatment Facility NPDES# FL0043176	Class III Fresh Stds	Effluent Limits	Effluent	
Organic Constituents (µg/L)				
Atrazine	-	-	18	
Metals (µg/L unless otherwise noted)				
Aluminum	-	-	210	
Arsenic	≤ 50	-	1.8	I
Cadmium	≤ 0.38 b	-	0.077	I
Calcium (mg/L)	-	-	43.5	
Chromium-III	≤ 126.4 b	-	1.2	I
Copper	≤ 13.9 b	-	24.2	
Iron	≤ 1,000	-	267	
Lead	≤ 5.8 b	-	0.7	I
Magnesium (mg/L)	-	-	12.4	
Nickel	≤ 77.5 b	-	2.16	
Selenium	≤ 5.0	-	0.5	U
Silver	≤ 0.07	-	0.029	I
Zinc	≤ 178.1 b	-	64	
Nutrients (mg/L)				
Ortho-phosphate	-	-	3.3	
Total Phosphorus	-	≤ 3.0 s	4.1	
Total Ammonia	-	≤ 1.0 s	11	
Un-ionized Ammonia	≤ 0.02	≤ 0.02 s	0.09	c
Nitrate and Nitrite	-	-	11	
Total Kjeldahl Nitrogen	-	-	14	
Organic Nitrogen	-	-	3.0	c
Total Nitrogen	-	≤ 18.0 s	25	c
General Physical and Chemical Parameters				
Dissolved Oxygen (mg/L)	≥ 5.0	-	4.6	
pH (SU)	6.0 - 8.5	6.0 - 8.5 s	7.1	
Conductivity (µmhos/cm)	≤ 1,275	-	705	
Temperature °C	-	-	24.3	
Sample Depth	-	-	0.172	
Total Residual Chlorine (mg/L)	≤ 0.01	≤ 0.01 s	<0.03	U£
Chlorophyll a (µg/L)	-	-	2.3	
Phaeophytin (µg/L)	-	-	0.93	
Total Suspended Solids (mg/L)	-	≤ 60 s	24	
CBOD, 5 day (mg/L), N - inhibited	-	≤ 60 s	11	
Flow (MGD)	-	0.005 a	0.0015	a
Hardness (mg $CaCO_3$)	-	-	159.68	c
Microbiology (Number of counts/100ml)				
Fecal Coliforms	≤ 800	≤ 800 s	1	Z*

Value exceeds the Class III Water Quality Criteria or permit limits

a - annual average
b - Value is calculated based on hardness
c - Value is calculated
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
Z - Colonies were too numerous to count (TNTC).The # represents the volume filtered in mL.
£ - Measured in bioassay laboratory at FDEP Central Lab
* - Analysis conducted at the DEP Northeast District Laboratory

Appendix A. Chain of Custody Form

NEDFS-01-06
1/19/07

Department of Environmental Protection Northeast District Field Sheet

Sample Source: PARADISE POINT RQ#: _____ Date _____ Page ___ of ___

Meter #_____ Acid Kit#_____ Ortho Kit #_____ Sampling Team BM/JP

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
12:05	24.31	705	0.33	7.12	4.03	55.1				6.8"	

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

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

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
1220											

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:	Time:	Received:	☐ < 6°C ☐ on Ice ☐ < 2 pH
Relinquished:	Date:	Time:	Received: 6-5-07/8:50a	Shipping:

FDEP Biology Laboratory - Acute Screen Bioassay Bench Sheets

Facility: PARADISE POINT WWTF

Address: 341 Paradise Point Circle

City: SATSUMA County: PUTNAM

Contact/District: Jennifer Parris / NORTHEAST

NPDES Permit #: FL 0043176

LIMS Job #: TLH-2007-06-05-S2-01 LIMS Sample #: 1015802

Lims Data Entry: MF 6-14-07 Data Entry Verification: JD 6.14.07

Sample Collection: Date: 6/4/07 Time: 1205

Hold Time Start: Date: 6/4/07 Time: 1205

Comments:

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

Test Type: Screen

(Static) / Static Renewal / Flow-through

Test Duration: (48) 96 Hours.

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

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 25.9 max 26.2 mean 26.1

Incubator # ____ min ____ max ____ mean ____

Room B246 min 24.7 max 26.2 mean 25.5

Investigators' Signatures

Betsy Vichaikul

James Daniels

Marshall Faircloth

Bruce Hilliker

Nicole 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		—	ant Mill	Sared	MF
Lab Total Residual Cl_2 (mg/L):	<0.03	<0.03				<0.03	HACH	PPV	MF
Alkalinity (mg/L as $CaCO_3$):	88	143				117	HACH	BA/PA	MF
Hardness (mg/L as $CaCO_3$):	100	152				166	HACH	BA/PA	MF
Total Ammonia (mg/L as N):	<0.017	<0.017				9.92	DENVER	MF	BA
Salinity (ppth):	<1	<1				<1	YSI (Mettler)	BA/JD	MF

V 1.4 9/12/05

Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 1015002 Test #: 1/2 SOP#:TA 07 01 Test Started: Date 6/5/07 Time: 12:45
Organism/Batch/Age: C. DUBIA/22-07/ < 24 HR. Test Ended: Date 6/7/07 Time: 1100
Chamber/Test Volume: 30 / 20 ml Diluent/ Batch: 20% DHW / 5-29-07
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
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	5			
	B	B	5	5	5			
	C	C	5	5	5			
	D	D	5	5	5			
Loaded/Verified by SA / JD		Checked by:	MF	JD	MF			

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

Comments:

Test Results:
Screening Tests: Report LC50 as >100%, =100%, or <100%.
% mortality in 100% sample: Ø LC50: >100%
If Calculated: 95% CI_________ Method_________

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

PAGE V 2.1 11/01/2005

000017

Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 1615002 Test #: 2/2 SOP#:TA 07 02 Test Started: Date 6/5/07 Time: 1215
Organism/Batch/Age: C. LEEDSI / 6-5-07 / 12 DAYS Test Ended: Date 6/7.07 Time: 1130
Chamber/Test Volume: 1000 / 500 ml Diluent/ Batch: WELL / 6-5-07
Food/Batch: YCT — P.sub — Artemia 0hr 6/6 JD 24hr — 48hr — 72hr — Artemia Lot# GSL-536 90F
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	F17	5	5	5			
	B	F18	5	5	5			
	C	F19	5	5	5			
	D	F20	5	5	5			
100%	A	F21	5	5	4JD			
	B	F22	5	5	5			
	C	F23	5	4JD	4			
	D	F24	5	5	5			
			JD	JD	JD			

Loaded/Verified by: JD/ AAV Checked by:
m = missing d = dead BR/AR = Before/After Renewal
Test Results:
Screening Tests: Report LC50 as >100%, =100%, or <100%.
% mortality in 100% sample: 10 LC50: >100%
If Calculated: 95% CI_____ Method_____
Substitue highest test concentration used if other than 100% (example: Ocean outfall tested at 30% concentration).

Comments:

PAGE V 2.1 11/01/2005

FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 101SC02 **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		8.2			
Temperature °C	25.1		24.9			
Dissolved Oxygen mg/L	7.1		7.6			
Conductivity (µmhos) mmhos	174.9		199			
(initials) Measured by:	BA		MF			
(initials) Recorded by:	BA		MF			

Comments:

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		A			
pH (S.U.)	7.4		8.1			
Temperature °C	25.1		24.7			
Dissolved Oxygen mg/L	7.5		7.3			
Conductivity (µmhos) mmhos	704		737			
(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

V 2.0 2/24/04

FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1015002 **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			
pH (S.U.)	7.8	8.2	8.3			
Temperature °C	24.9	24.3	24.1			
Dissolved Oxygen mg/L	7.7	6.8	5.6			
Conductivity ~~µmhos~~ mmhos	339	295	278			
(initials) Measured by:	JD	JD	JD			
(initials) Recorded by:	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			
pH (S.U.)	7.4	7.8	7.8			
Temperature °C	25.7	24.1	24.5			
Dissolved Oxygen mg/L	7.1	6.0	4.3			
Conductivity ~~µmhos~~ mmhos	900	895	717			
(initials) Measured by:	JD	JD	JD			
(initials) Recorded by:	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:



V 2.0 2/24/04

Appendix C. SRT Bench Sheets and Statistical Analysis

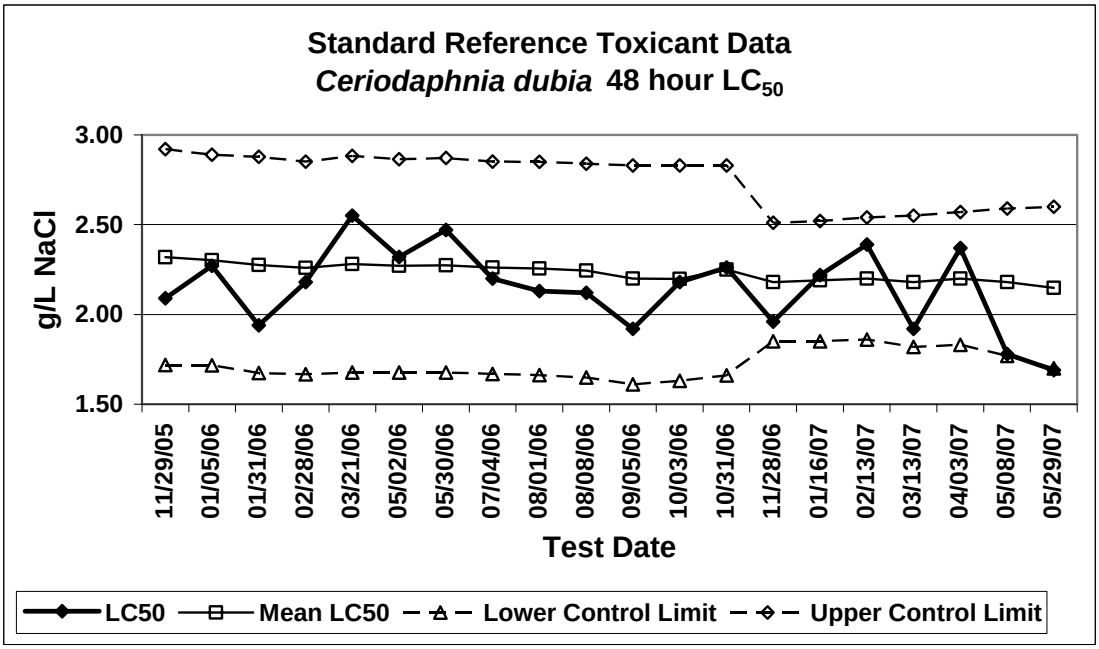
Florida Department of Environmental Protection
Bureau of Laboratories

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

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
11/29/05	2.09	2.32	0.30	1.72	2.92
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	2.20	0.30	1.61	2.83
10/03/06	2.18	2.20	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	2.20	0.17	1.86	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

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

CV = 10.70
EPA reference 75th quartile CV = 29%



Appendix C. (continued)

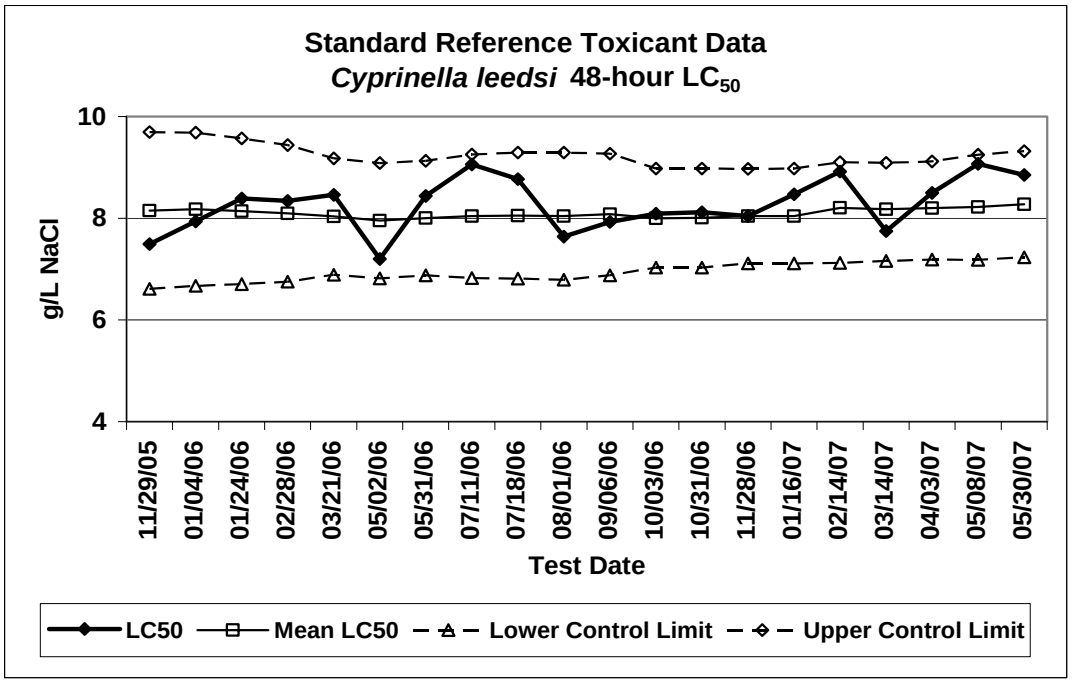
Florida Department of Environmental Protection
Bureau of Laboratories

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

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 #: DHW / 5-29-07
Toxicant/ Batch#: NaCl / 5-29-07

Test Beginning: Date: 5/29/07 Time: 14.00
Test Ending: Date: 6.2.07 Time: 1020

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	PDV
Alkalinity (mg/L as $CaCO_3$):	88	Hach	PDV
Hardness (mg.L as $CaCO_3$):	100	Hach	PDV
Total Ammonia (mg/L as N):	<0.07	Denver	MF
Salinity (ppth):	21	Mettler	MF

Organism Batch #/ Age: 21-07 / <24HR.
Feeding: (Prior to test) / (Prior to renewal) Daily
Food: YCT *P.subcapitata* Artemia: Lot #_____
Food Batch: 1-07 1-7-07 0hr — 24hr — 48hr — 72hr —
Chamber size: 30 mL
Test volume: 20 mL per replicate

S/LMF

Conc. ug/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	8.1		7.9	24.0		24.0	7.5		7.0	0.189		0231
	B	B	5	5	5										BA		
	C	C	5	4 1D	4												
	D	D	5	5	5												
1.5	A	A	5	5	5	8.1		8.2	24.0		24.1	7.5		7.0	2.89		3.41
	B	B	5	5	3 2D												
	C	C	5	5	3 2D												
	D	D	5	5	4 1D												
2.0	A	A	5	2 3D	0 2D	8.1		8.2	24.1		24.1	7.7		7.2	3.84		4.73
	B	B	5	4 1D	1 3D												
	C	C	5	2 3D	1 1D												
	D	D	5	4 1D	0 4D												
2.5	A	A	5	2 3D	0 2D	8.1		8.2	24.1		24.2	7.7		7.4	4.67		5.49
	B	B	5	1 4D	0 1D												
	C	C	5	0 5D	—												
	D	D	5	0 5D	—												
3.0	A	A	5	0 5D	—	8.1	8.1	—	24.1	24.5	—	7.6	7.5	—	5.54	6.84	—
	B	B	5	0 5D	—												
	C	C	5	0 5D	—												
	D	D	5	0 5D	—												
4.0	A	A	5	0 5D	—	8.1	8.1	—	24.0	24.3	—	7.4	7.4	—	7.28	7.69	—
	B	B	5	0 5D	—												
	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	BA	BA	BA	BA
Recorded by:			BA	BA	BA	BA	BA	BA	BA	BA	BA	BA	BA	BA	BA	BA	BA

Investigators' Signatures
Patel Vickie Q
Brent Burton
Marshall Faircloth
Nicki Wellenkamp
REVIEWER

Concentrations prepared by: BA
Loading verified by: MF
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 24.5 max 25.8 mean 24.9

Comments:

Statistics: Method: Spearman-Karber
(AB) 96 hour LC_{50}: 1.69
95% Confidence Interval: lower 1.61 upper 1.76

PAGE 000013

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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 #: DNW / 5-29-07
Toxicant/ Batch#: NaCl / 5-29-07

Test Beginning: Date: 5-29-07 Time: 14:00
Test Ending: Date: 6-2-07 Time: 1020

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	0.03	Hach	~~PPV~~
Alkalinity (mg/L as $CaCO_3$):	88	Hach	~~PPV~~
Hardness (mg.L as $CaCO_3$):	100	Hach	~~PPV~~
Total Ammonia (mg/L as N):	0.017	Denver	MF
Salinity (ppth):	21	Mettler	MF

Organism Batch #/ Age: 21-07 / 24 HR.
Feeding: (Prior to test) (Prior to renewal) Daily
Food: YCT *P.subcapitata* Artemia: Lot #—
Food Batch: 1-07 1-7-07 0hr — 24hr — 48hr — 72hr —
Chamber size: 30 mL
Test volume: 20 mL per replicate

9/L MF

Conc. (mg/L as Cl)	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	A	5		5	8.1		8.1	24.4		24.2	7.7		7.2	0.178		0.206
	B	B	5		5												
	C	C	4		4												
	D	D	5		5												
1.5	A	A	5		4	8.1		8.1	25.2		24.2	7.8		7.5	2.94		3.41
	B	B	3		2												
	C	C	3		2												
	D	D	4		4						MF w/ DO probe						wrong probe
2.0	A	A	0		—	8.1			25.3		~~24.3~~	7.7			3.92		~~4.51~~ MF
	B	B	1		0			8.1			24.3			7.6			4.51
	C	C	1		0												
	D	D	0		—												
2.5	A	A	—		—	8.1		—	25.3		—	7.6		—	4.76		—
	B	B	—		—												
	C	C	—		—												
	D	D	—		—												
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		MF	BA		MF	BA		MF	BA		MF	BA		MF
Recorded by:			BA		MF	BA		MF	BA		MF	BA		MF	BA		MF

Investigators' Signatures
Kelly Michael
Grace Hanlon
Marshall Faircloth
Nikki Willenoff
REVIEWER

Concentrations prepared by: BA
Loading verified by: MF
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. 24.5 max. 25.8 mean 24.9

Comments: TSK PROGRAM SAID 95% CONFIDENCE LEVELS NOT RELIABLE; MORTALITY NOT MONOTONICALLY INCREASING. SP 6/6/07.

Statistics: Method: Spearman-Karber
48 / (96) hour LC_{50}: 1.59
95% Confidence Interval: lower — upper —

PAGE 000001

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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

PAGE 000045

revised 08/24/06 SP

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

PAGE 000046

revised 08/24/06 SP

Appendix C. (continued)

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

DATE: 05/29/07 DURATION: 48hr TOXICANT: NaCl
SPECIES: *Ceriodaphnia dubia*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
0.00	20	1
1.50	20	5
2.00	20	18
2.50	20	20
3.00	20	20
4.00	20	20

SPEARMAN-KARBER TRIM: 21.05%

SPEARMAN-KARBER ESTIMATES: LC50: 1.69
95% LOWER CONFIDENCE: 1.61
95% UPPER CONFIDENCE: 1.78

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

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

DATE: 05/30/07 DURATION: 48 hr TOXICANT: NaCl
SPECIES: C.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
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Sarasota, Florida 34233
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NELAC Accredited

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 6/4/07

Shipped to: FL. DEP

P.O. No: N/A

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia	100	4 DAYS	MS 070531	25°C	20‰
Menidia beryllina	100	11 Days	SS070524	25°C	20‰
Cyprinella leedsi	100	11 DAYS	CL070524	25°C	
Pimephales promelas	150	6 DAYS	FM070529	25°C	

Packed by:

Shipped Via: Fed Ex.

Notes:

Thank you for your order.

Appendix E. Chemical Analyses performed on the effluent from the Paradise Point Wastewater Treatment Facility Outfall D-001, sampled on June 4, 2007.

Date Sampled	Field ID	Analysis Group	Component	Result	Remark	Units	MDL	PQL
6/4/2007 12:05	Effluent	AGP/LN	Algal Growth Potential	615		mg DryWt/L		
6/4/2007 12:05	Effluent	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	11		mg/L	0.2	2
6/4/2007 12:05	Effluent	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	2.3		ug/L	0.55	1.7
6/4/2007 12:05	Effluent	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.93		ug/L	0.24	0.71
6/4/2007 12:05	Effluent	Metals	Aluminum	210		ug/L	5	20
6/4/2007 12:05	Effluent	Metals	Calcium	43.5		mg/L	0.02	0.08
6/4/2007 12:05	Effluent	Metals	Iron	267		ug/L	5	20
6/4/2007 12:05	Effluent	Metals	Magnesium	12.4		mg/L	0.005	0.02
6/4/2007 12:05	Effluent	Metals	Arsenic	1.8	I	ug/L	0.5	2
6/4/2007 12:05	Effluent	Metals	Cadmium	0.077	I	ug/L	0.02	0.08
6/4/2007 12:05	Effluent	Metals	Chromium	1.2	I	ug/L	1	4
6/4/2007 12:05	Effluent	Metals	Copper	24.2		ug/L	0.25	1
6/4/2007 12:05	Effluent	Metals	Lead	0.7	I	ug/L	0.2	0.8
6/4/2007 12:05	Effluent	Metals	Nickel	2.16		ug/L	0.25	1
6/4/2007 12:05	Effluent	Metals	Selenium	0.5	U	ug/L	0.5	2
6/4/2007 12:05	Effluent	Metals	Silver	0.029	I	ug/L	0.025	0.1
6/4/2007 12:05	Effluent	Metals	Zinc	64		ug/L	5	20
6/4/2007 12:05	Effluent	Nutrients	Ammonia-N	11		mg N/L	0.2	0.4
6/4/2007 12:05	Effluent	Nutrients	NO2NO3-N	11		mg N/L	0.08	0.2
6/4/2007 12:05	Effluent	Nutrients	O-Phosphate-P	3.3		mg P/L	0.16	0.4
6/4/2007 12:05	Effluent	Nutrients	Kjeldahl Nitrogen	14		mg N/L	0.4	1
6/4/2007 12:05	Effluent	Nutrients	Total-P	4.1		mg P/L	0.1	0.3
6/4/2007 12:05	Effluent	Nutrients	TSS	24		mg/L	4	16
6/4/2007 12:05	Effluent	Pesticides	Alachlor	0.6	U	ug/L	0.6	2.4
6/4/2007 12:05	Effluent	Pesticides	Ametryn	0.05	U	ug/L	0.05	0.2
6/4/2007 12:05	Effluent	Pesticides	Atrazine	18		ug/L	0.5	2
6/4/2007 12:05	Effluent	Pesticides	Azinphos Methyl	0.2	U	ug/L	0.2	0.8
6/4/2007 12:05	Effluent	Pesticides	Bromacil	0.2	U	ug/L	0.2	0.8
6/4/2007 12:05	Effluent	Pesticides	Butylate	0.2	U	ug/L	0.2	0.8
6/4/2007 12:05	Effluent	Pesticides	Chlorpyrifos Ethyl	0.05	U	ug/L	0.05	0.2
6/4/2007 12:05	Effluent	Pesticides	Chlorpyrifos Methyl	0.1	U	ug/L	0.1	0.4
6/4/2007 12:05	Effluent	Pesticides	Diazinon	0.05	U	ug/L	0.05	0.2
6/4/2007 12:05	Effluent	Pesticides	Ethion	0.05	U	ug/L	0.05	0.2
6/4/2007 12:05	Effluent	Pesticides	Ethoprop	0.1	U	ug/L	0.1	0.4
6/4/2007 12:05	Effluent	Pesticides	Fenamiphos	0.2	U	ug/L	0.2	0.8
6/4/2007 12:05	Effluent	Pesticides	Fonofos	0.1	U	ug/L	0.1	0.4

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Remark	Units	MDL	PQL
6/4/2007 12:05	Effluent	Pesticides	Hexazinone	0.1	U	ug/L	0.1	0.4
6/4/2007 12:05	Effluent	Pesticides	Malathion	0.15	U	ug/L	0.15	0.6
6/4/2007 12:05	Effluent	Pesticides	Metalaxyl	0.25	U	ug/L	0.25	1
6/4/2007 12:05	Effluent	Pesticides	Metolachlor	0.5	U	ug/L	0.5	2
6/4/2007 12:05	Effluent	Pesticides	Metribuzin	0.1	U	ug/L	0.1	0.4
6/4/2007 12:05	Effluent	Pesticides	Mevinphos	0.2	U	ug/L	0.2	0.8
6/4/2007 12:05	Effluent	Pesticides	Naled	0.8	UJ	ug/L	0.8	3.2
6/4/2007 12:05	Effluent	Pesticides	Norflurazon	0.15	U	ug/L	0.15	0.6
6/4/2007 12:05	Effluent	Pesticides	Parathion Ethyl	0.15	U	ug/L	0.15	0.6
6/4/2007 12:05	Effluent	Pesticides	Parathion Methyl	0.1	U	ug/L	0.1	0.4
6/4/2007 12:05	Effluent	Pesticides	Phorate	0.05	U	ug/L	0.05	0.2
6/4/2007 12:05	Effluent	Pesticides	Prometryn	0.15	U	ug/L	0.15	0.6
6/4/2007 12:05	Effluent	Pesticides	Simazine	0.065	U	ug/L	0.065	0.26
6/4/2007 12:05	Effluent	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	1,2-Dichlorobenzene	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	1,3-Dichlorobenzene	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	1,4-Dichlorobenzene	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.96	UJ	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	2,4-Dichlorophenol	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	2,4-Dimethylphenol	9.6	U	ug/L	9.6	38
6/4/2007 12:05	Effluent	Priority Organic Pollutants	2,4-Dinitrophenol	14	U	ug/L	14	58
6/4/2007 12:05	Effluent	Priority Organic Pollutants	2,4-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	2,6-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	2-Chloronaphthalene	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	2-Chlorophenol	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	12
6/4/2007 12:05	Effluent	Priority Organic Pollutants	2-Nitrophenol	0.96	UJ	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38	UJ	ug/L	38	150
6/4/2007 12:05	Effluent	Priority Organic Pollutants	4,4'-DDD	1.4	U	ug/L	1.4	5.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	4,4'-DDE	1.4	U	ug/L	1.4	5.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	4,4'-DDT	1.4	U	ug/L	1.4	5.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.7
6/4/2007 12:05	Effluent	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	58
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Acenaphthene	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Acenaphthylene	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Aldrin	1.4	U	ug/L	1.4	5.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Remark	Units	MDL	PQL
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Anthracene	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Benzidine	96	U	ug/L	96	380
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Benzo(a)anthracene	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Benzo(a)pyrene	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Benzo(b)fluoranthene	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Benzo(k)fluoranthene	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	12
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	14	U	ug/L	14	58
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Butyl benzyl phthalate	4.8	U	ug/L	4.8	19
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Chrysene	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Di-n-butyl phthalate	4.8	U	ug/L	4.8	19
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Di-n-octyl phthalate	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Dieldrin	1.4	U	ug/L	1.4	5.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Diethyl phthalate	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Dimethyl phthalate	48	U	ug/L	48	190
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Endosulfan I	3.8	U	ug/L	3.8	15
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Endosulfan II	3.8	U	ug/L	3.8	15
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Endosulfan sulfate	1.4	U	ug/L	1.4	5.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Endrin	1.4	U	ug/L	1.4	5.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Endrin aldehyde	3.8	U	ug/L	3.8	15
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Fluoranthene	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Fluorene	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Heptachlor	1.4	U	ug/L	1.4	5.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Heptachlor epoxide	1.4	U	ug/L	1.4	5.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Hexachlorobenzene	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	12
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	UJ	ug/L	2.9	12
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	12
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Isophorone	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.7
6/4/2007 12:05	Effluent	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.7
6/4/2007 12:05	Effluent	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	12
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Naphthalene	0.96	U	ug/L	0.96	3.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Remark	Units	MDL	PQL
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.7
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2.9	12
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Phenanthrene	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Phenol	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	Pyrene	0.96	U	ug/L	0.96	3.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	alpha-BHC	1.4	U	ug/L	1.4	5.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	beta-BHC	1.4	U	ug/L	1.4	5.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	delta-BHC	1.4	U	ug/L	1.4	5.8
6/4/2007 12:05	Effluent	Priority Organic Pollutants	gamma-BHC	1.4	U	ug/L	1.4	5.8
6/4/2007 12:05	Effluent	Field Parameters	Dissolved Oxygen	4.63		mg/L		
6/4/2007 12:05	Effluent	Field Parameters	Sample Depth	0.172		m		
6/4/2007 12:05	Effluent	Field Parameters	Specific Conductance	705		umhos/cm		
6/4/2007 12:05	Effluent	Field Parameters	Temperature	24.31		C		
6/4/2007 12:05	Effluent	Field Parameters	pH	7.12				
6/4/2007 12:20	Blank	Metals	Aluminum	5	U	ug/L	5	20
6/4/2007 12:20	Blank	Metals	Calcium	0.02	U	mg/L	0.02	0.08
6/4/2007 12:20	Blank	Metals	Iron	5	U	ug/L	5	20
6/4/2007 12:20	Blank	Metals	Magnesium	0.005	U	mg/L	0.005	0.02
6/4/2007 12:20	Blank	Metals	Arsenic	0.5	U	ug/L	0.5	2
6/4/2007 12:20	Blank	Metals	Cadmium	0.02	U	ug/L	0.02	0.08
6/4/2007 12:20	Blank	Metals	Chromium	1	U	ug/L	1	4
6/4/2007 12:20	Blank	Metals	Copper	0.25	U	ug/L	0.25	1
6/4/2007 12:20	Blank	Metals	Lead	0.2	U	ug/L	0.2	0.8
6/4/2007 12:20	Blank	Metals	Nickel	0.25	U	ug/L	0.25	1
6/4/2007 12:20	Blank	Metals	Selenium	0.5	U	ug/L	0.5	2
6/4/2007 12:20	Blank	Metals	Silver	0.025	U	ug/L	0.025	0.1
6/4/2007 12:20	Blank	Metals	Zinc	5	U	ug/L	5	20
6/4/2007 12:20	Blank	Nutrients	Ammonia-N	0.01	U	mg N/L	0.01	0.02
6/4/2007 12:20	Blank	Nutrients	NO2NO3-N	0.004	U	mg N/L	0.004	0.01
6/4/2007 12:20	Blank	Nutrients	O-Phosphate-P	0.004	U	mg P/L	0.004	0.01
6/4/2007 12:20	Blank	Nutrients	Kjeldahl Nitrogen	0.08	U	mg N/L	0.08	0.2
6/4/2007 12:20	Blank	Nutrients	Total-P	0.02	U	mg P/L	0.02	0.06
6/4/2007 12:20	Blank	Pesticides	Alachlor	0.58	U	ug/L	0.58	2.3
6/4/2007 12:20	Blank	Pesticides	Ametryn	0.049	U	ug/L	0.049	0.2
6/4/2007 12:20	Blank	Pesticides	Atrazine	0.049	U	ug/L	0.049	0.2
6/4/2007 12:20	Blank	Pesticides	Azinphos Methyl	0.19	U	ug/L	0.19	0.76
6/4/2007 12:20	Blank	Pesticides	Bromacil	0.19	U	ug/L	0.19	0.76
6/4/2007 12:20	Blank	Pesticides	Butylate	0.19	U	ug/L	0.19	0.76

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Remark	Units	MDL	PQL
6/4/2007 12:20	Blank	Pesticides	Chlorpyrifos Ethyl	0.049	U	ug/L	0.049	0.2
6/4/2007 12:20	Blank	Pesticides	Chlorpyrifos Methyl	0.097	U	ug/L	0.097	0.39
6/4/2007 12:20	Blank	Pesticides	Diazinon	0.049	U	ug/L	0.049	0.2
6/4/2007 12:20	Blank	Pesticides	Ethion	0.049	U	ug/L	0.049	0.2
6/4/2007 12:20	Blank	Pesticides	Ethoprop	0.097	U	ug/L	0.097	0.39
6/4/2007 12:20	Blank	Pesticides	Fenamiphos	0.19	U	ug/L	0.19	0.76
6/4/2007 12:20	Blank	Pesticides	Fonofos	0.097	U	ug/L	0.097	0.39
6/4/2007 12:20	Blank	Pesticides	Hexazinone	0.097	U	ug/L	0.097	0.39
6/4/2007 12:20	Blank	Pesticides	Malathion	0.15	U	ug/L	0.15	0.6
6/4/2007 12:20	Blank	Pesticides	Metalaxyl	0.24	U	ug/L	0.24	0.96
6/4/2007 12:20	Blank	Pesticides	Metolachlor	0.49	U	ug/L	0.49	2
6/4/2007 12:20	Blank	Pesticides	Metribuzin	0.097	U	ug/L	0.097	0.39
6/4/2007 12:20	Blank	Pesticides	Mevinphos	0.19	U	ug/L	0.19	0.76
6/4/2007 12:20	Blank	Pesticides	Naled	0.78	UJ	ug/L	0.78	3.1
6/4/2007 12:20	Blank	Pesticides	Norflurazon	0.15	U	ug/L	0.15	0.6
6/4/2007 12:20	Blank	Pesticides	Parathion Ethyl	0.15	U	ug/L	0.15	0.6
6/4/2007 12:20	Blank	Pesticides	Parathion Methyl	0.097	U	ug/L	0.097	0.39
6/4/2007 12:20	Blank	Pesticides	Phorate	0.049	U	ug/L	0.049	0.2
6/4/2007 12:20	Blank	Pesticides	Prometryn	0.15	U	ug/L	0.15	0.6
6/4/2007 12:20	Blank	Pesticides	Simazine	0.049	U	ug/L	0.049	0.2
6/4/2007 12:20	Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	1,2-Dichlorobenzene	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	1,3-Dichlorobenzene	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	1,4-Dichlorobenzene	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.99	UJ	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	2,4-Dimethylphenol	9.9	U	ug/L	9.9	40
6/4/2007 12:20	Blank	Priority Organic Pollutants	2,4-Dinitrophenol	15	U	ug/L	15	59
6/4/2007 12:20	Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	2-Chlorophenol	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3	U	ug/L	3	12
6/4/2007 12:20	Blank	Priority Organic Pollutants	2-Nitrophenol	0.99	UJ	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	40	UJ	ug/L	40	160
6/4/2007 12:20	Blank	Priority Organic Pollutants	4,4'-DDD	1.5	U	ug/L	1.5	5.9
6/4/2007 12:20	Blank	Priority Organic Pollutants	4,4'-DDE	1.5	U	ug/L	1.5	5.9
6/4/2007 12:20	Blank	Priority Organic Pollutants	4,4'-DDT	1.5	U	ug/L	1.5	5.9

Appendix E. (continued)

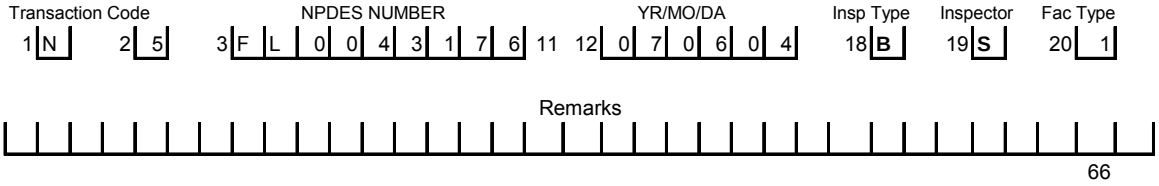
Date Sampled	Field ID	Analysis Group	Component	Result	Remark	Units	MDL	PQL
6/4/2007 12:20	Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2	U	ug/L	2	7.9
6/4/2007 12:20	Blank	Priority Organic Pollutants	4-Nitrophenol	15	U	ug/L	15	59
6/4/2007 12:20	Blank	Priority Organic Pollutants	Acenaphthene	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	Acenaphthylene	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	Aldrin	1.5	U	ug/L	1.5	5.9
6/4/2007 12:20	Blank	Priority Organic Pollutants	Anthracene	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	Benzidine	99	U	ug/L	99	400
6/4/2007 12:20	Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	3	U	ug/L	3	12
6/4/2007 12:20	Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	15	U	ug/L	15	59
6/4/2007 12:20	Blank	Priority Organic Pollutants	Butyl benzyl phthalate	5	U	ug/L	5	20
6/4/2007 12:20	Blank	Priority Organic Pollutants	Chrysene	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	Di-n-butyl phthalate	5	U	ug/L	5	20
6/4/2007 12:20	Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	Dieldrin	1.5	U	ug/L	1.5	5.9
6/4/2007 12:20	Blank	Priority Organic Pollutants	Diethyl phthalate	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	Dimethyl phthalate	50	U	ug/L	50	200
6/4/2007 12:20	Blank	Priority Organic Pollutants	Endosulfan I	4	U	ug/L	4	16
6/4/2007 12:20	Blank	Priority Organic Pollutants	Endosulfan II	4	U	ug/L	4	16
6/4/2007 12:20	Blank	Priority Organic Pollutants	Endosulfan sulfate	1.5	U	ug/L	1.5	5.9
6/4/2007 12:20	Blank	Priority Organic Pollutants	Endrin	1.5	U	ug/L	1.5	5.9
6/4/2007 12:20	Blank	Priority Organic Pollutants	Endrin aldehyde	4	U	ug/L	4	16
6/4/2007 12:20	Blank	Priority Organic Pollutants	Fluoranthene	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	Fluorene	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	Heptachlor	1.5	U	ug/L	1.5	5.9
6/4/2007 12:20	Blank	Priority Organic Pollutants	Heptachlor epoxide	1.5	U	ug/L	1.5	5.9
6/4/2007 12:20	Blank	Priority Organic Pollutants	Hexachlorobenzene	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	Hexachlorobutadiene	3	U	ug/L	3	12
6/4/2007 12:20	Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	3	U	ug/L	3	12

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Remark	Units	MDL	PQL
6/4/2007 12:20	Blank	Priority Organic Pollutants	Hexachloroethane	3	U	ug/L	3	12
6/4/2007 12:20	Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	Isophorone	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2	U	ug/L	2	7.9
6/4/2007 12:20	Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	2	U	ug/L	2	7.9
6/4/2007 12:20	Blank	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	3	U	ug/L	3	12
6/4/2007 12:20	Blank	Priority Organic Pollutants	Naphthalene	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	Nitrobenzene	2	U	ug/L	2	7.9
6/4/2007 12:20	Blank	Priority Organic Pollutants	Pentachlorophenol	3	U	ug/L	3	12
6/4/2007 12:20	Blank	Priority Organic Pollutants	Phenanthrene	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	Phenol	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	Pyrene	0.99	U	ug/L	0.99	4
6/4/2007 12:20	Blank	Priority Organic Pollutants	alpha-BHC	1.5	U	ug/L	1.5	5.9
6/4/2007 12:20	Blank	Priority Organic Pollutants	beta-BHC	1.5	U	ug/L	1.5	5.9
6/4/2007 12:20	Blank	Priority Organic Pollutants	delta-BHC	1.5	U	ug/L	1.5	5.9
6/4/2007 12:20	Blank	Priority Organic Pollutants	gamma-BHC	1.5	U	ug/L	1.5	5.9

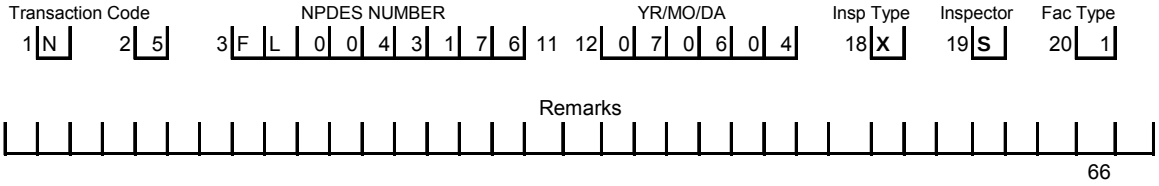
The Bioassay of Paradise Point Wastewater Treatment Plant effluent sampled on June 4, 2007. NPDES #FL0043176.

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



The Priority Pollutants Analysis of Paradise Point Wastewater Treatment Plant effluent sampled on June 4, 2007. NPDES #FL0043176.

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



Biological Analyses of Paradise Point Wastewater Treatment Plant effluent sampled on June 4, 2007. NPDES #FL0043176.

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

