

Effluent Quality Assessment

Cocoa Water Reclamation Facility

Brevard County

NPDES #FL0021521

Sampled September 24, 2007

January 2008

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

Cocoa Water Reclamation Facility, 375 North Cocoa Boulevard, Cocoa, Brevard County, Florida, 32922, NPDES #FL0021521. Effluent samples for this facility were collected on September 24, 2007.

Introduction

Cocoa Water Reclamation Facility is an advanced domestic wastewater treatment plant which uses a modified Bardenpho® process to treat domestic wastewater. The facility has design flows of 4.5 million gallons per day (MGD) annual average daily flow (AADF) through Outfall D-001, 4.5 MGD AADF through Reuse System R-001, and 1.44 MGD AADF from ground water augmentation wells. The AADF from September 2006 through August 2007 was 0.24 MGD through D-001, 2.22 MGD through R-001, and 0.07 MGD from the ground water augmentation wells. The treatment facility and treatment process consists of influent screening and grit removal, odor control, fermentation basins, anoxic basins, aeration basins, second anoxic basins, reaeration basin, secondary clarifiers, chemical feed facilities, filters, flocculation, chlorination basins followed by dechlorination with sodium bisulfite, and aerobic digestion of residuals to Class B standards, followed by belt dewatering prior to land application. The facility also has two reclaimed water ground-storage tanks with a high service pump station for the looped reuse service distribution system.

Surface water discharge is to the Class III marine surface waters of the Indian River Lagoon through Outfall D-001. This is an intermittent wet-weather discharge and is limited to 91 days a year (or the equivalent of 2,184 hours). The outfall is approximately 35.1 m (115 feet) in length and discharges at a depth of approximately 1.5 m (5 feet). Outfall D-001 is located approximately at latitude 28º 21’ 41” N, and longitude 80º 43’ 47” W.

Land application is through reuse system R-001 which is a slow rate public access system. R-001 consists of on-site irrigation and decorative ponds, irrigation of residential lawns, parks, playgrounds, cemeteries, golf driving ranges, highway medians, and other landscape areas. Supplemental water for reuse is provided from the 10 million gallon Bracco stormwater reservoir and can also be obtained from 20 surficial wells (total flow of 1.44 MGD). The facility also has eight on-site shallow wells, which may be used for make up irrigation water with a flow of 0.30 MGD. Reuse System R-001 is located approximately at latitude 28º 21’ 47” N, and longitude 80º 44’ 54” W.

There are no Administrative Orders of Consent Orders for this facility. The facility has no mixing zones. A review of Discharge Monitoring Report data for the past year revealed no permit violations. (Facility information provided by David Smicherko and Steve Kent of FDEP Central District.)

Methods

Samples were collected from the EFD-1 NPDES sampling point (tap on effluent line after dechlorination) for Outfall D-001 by Phil Kane, Steve Kent and Waylon Locklear (FDEP Central District) following DEP-SOP-001/01 FS 2400 Wastewater Sampling. All DEP SOPs are available on the web at: http://www.floridadep.org/labs/qa/sops.htm.

See Appendix A for the completed chain of custody form.

The 96-hour acute definitive and screening toxicity tests were performed following internal DEP SOPs TA07_01, TA07_02. Samples for algal growth potential were collected from this facility but due to a shipping problem were not submitted for analysis. All internal DEP SOPs are available on the web at: http://www.floridadep.org/labs/cgi-bin/sop/biosop.asp.

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 0.6 mL per

liter of sample to neutralize the chlorine. Acute definitive bioassays were performed on the dechlorinated sample aliquot in addition to the screening 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 5% mortality in the dechlorinated controls in the *Ceriodaphnia dubia* test. There was no mortality in the dechlorinated controls of the *Cyprinella leedsi* test.

Toxicity Test Results

Tests were performed September 25 - 29, 2006.

Ceriodaphnia dubia 96-hour acute screening bioassay –	LC_{50} > 100%, 0% mortality in 100% sample at 96 hours
Ceriodaphnia dubia 96-hour acute definitive bioassay – **Dechlorinated sample**	LC_{50} > 100%, 0% mortality in 100% sample at 96 hours
Cyprinella leedsi 96-hour acute screening bioassay –	LC_{50} < 100%, 95% mortality in 100% sample at 96 hours
Cyprinella leedsi 96-hour acute definitive bioassay – **Dechlorinated sample**	LC_{50} > 100%, 0% mortality in 100% sample at 96 hours

The original bioassay sample was acutely toxic to the *Cyprinella leedsi* test organisms, in violation of the permit limit, but did not show toxicity to the *Ceriodaphnia dubia* test organisms. The dechlorinated sample was not acutely toxic to either test species.

The observed toxicity was primarily attributed to the total residual chlorine (TRC) in the sample (0.58 mg/L). 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.

Algal Growth Potential

Samples for AGP tests for this facility were not received in the laboratory due to shipping problems. The analytical chemistry suggests that the effluent is phosphorus-limited.

Chemistry Results

Effluent total residual chlorine (TRC; 2.12 mg/L) reported by the facility for the EFD-1 sampling point during the sampling event exceeded both the surface water criterion for TRC in Class III marine waters (≤ 0.01 mg/L; 62-302.530(18), F.A.C.) and the permitted limit (≤ 0.01 mg/L) for TRC at the EFD-1 sampling point. TRC (0.58 mg/L) was detected in the bioassay sample in the laboratory. It was noted by FDEP personnel at the time of sample collection that the facility's dechlorination unit was not functioning properly. This problem was resolved by the facility within an hour of sample collection. The TRC concentration at the EFD-1 sampling point was 0.009 mg/L approximately one hour after the bioassay sample was collected, which demonstrated that the problem had been resolved and the TRC was within permit limits.

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 0.035 mg/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was < 0.02 mg/L.

Nickel 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, copper, and iron were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL). Copper and nickel were detected between the MDL and PQL in the field blank. Due to a shipping problem, samples for nutrient analyses, including ammonia, Kjeldahl nitrogen, nitrite and nitrate, ortho-phosphate, and total phosphorus were from improperly preserved samples (temperature limit exceeded). The data may not be accurate. The sample for ortho-phosphate was also analyzed after normal holding time had expired.

See Table 1 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 EFD-1 NPDES sampling point for Outfall D-001 for this facility on September 24, 2007, was acutely toxic to the *Cyprinella leedsi* test organisms. The toxicity was primarily attributed to the effluent total residual chlorine (TRC). Effluent did not show acute toxicity to the *Ceriodaphnia dubia* test organisms. Effluent water quality samples did not exceed any applicable water quality standards or violate any permit conditions; however, due to a problem in the facility's dechlorination unit, TRC in the bioassay sample exceeded both the Class III marine water quality standard and the permitted limit. The problem has since been fixed.

Table 1. Effluent limits, Class III Criteria for predominantly marine waters and chemical and microbiological data for effluent samples collected from the Cocoa Water Reclamation Facility on September 24, 2007.

Cocoa Water Reclamation Facility NPDES# FL0021521	Class III Standards	Effluent Limits	Effluent Grab Samples
Organic Constituents (µg/L)			
Dichlorobromomethane	≤ 22 a	≤ 22 ap	-
None Detected	-	-	-
Metals (µg/L unless otherwise noted)			
Aluminum	≤ 1,500	-	110 I
Arsenic	≤ 50	-	1.2 I
Cadmium	≤ 8.8	-	0.02 U
Calcium (mg/L)	-	-	45.6
Chromium-III	-	-	1 U
Copper	≤ 3.7	-	0.71 IF
Iron	≤ 300	-	34 I
Lead	≤ 8.5	-	0.2 U
Magnesium (mg/L)	-	-	6.9
Nickel	≤ 8.3	-	1.52 F
Selenium	≤ 71	-	0.5 U
Silver	≤ 2.3	-	0.025 U
Zinc	≤ 86	-	25
Nutrients (mg/L)			
Ortho-phosphate	-	-	0.27 YQ
Total Phosphorus	-	≤ 8 p	0.37 Y
Total Ammonia	-	-	0.035 Y
Un-ionized Ammonia	-	-	≤ 0.02 c
Nitrate and Nitrite	-	-	8.2 Y
Total Kjeldahl Nitrogen	-	-	1.2 JY
Organic Nitrogen	-	-	1.165 c
Total Nitrogen	-	≤ 24.0 p	9.4 c
General Physical and Chemical Parameters			
Dissolved Oxygen (mg/L)	≥ 4.0	≥ 5.0 s	15.8
pH (SU)	6.5 - 8.5	6.5 - 8.5 s	6.8
Conductivity (µmhos/cm)	-	-	820
Temperature °C	-	-	29.7
Total Residual Chlorine (mg/L)	≤ 0.01	≤ 0.01	2.12
Total Suspended Solids (lbs/year)	-	68,305 p	4 UY
Flow (MGD) surface water	-	≤ 4.5 a	0.24 a
Flow (MGD) reuse system	-	-	2.22 a
Flow (MGD) surficial wells	-	-	0.07 a
Hardness (mg $CaCO_3$)	-	-	142.28 c
Microbiology (Number of colony forming units/100ml)			
Fecal Coliforms	≤ 800 s	≤ 86 s	1 U

Value exceeds the Class III Water Quality Criteria or permit limits

a - Annual average
c - Value is calculated
p - Limit based on 24-hour flow proportioned composite sample
s - Single sample
F - Analyte was detected in both sample and field blank
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
J - Estimated value
Q - Sample held beyond normal holding time
U - Material analyzed for but not detected; value reported is the method detection limit
Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Request Number: RQ-2007-09-24-26
Cocoa WRF

Event ID *

Requester: Shannan Bogdanov
Field Report Prepared By: KANE

Customer: CEN-DIST
Collected By: KANE, KENT, LOCKLEAR
Send Final Report To: Phil Kane

Project ID: FYI3
Sampling Agency: FDEP CENTRAL DISTRICT

PMAS: 1143

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	COCOA WRF 001 DISCHARGE POINT 375 N. COCOA BLVD. COCOA, FL. 32922	☐ Comp ☑ Grab	PK	Date 9/24/07 Time 0910 Central	
	Field ID: COCO	Tot Res Chlorine (mg/L): 2.12 METER	Diss Oxygen (mg/L): 15.8	Storet Station Number:	
	Matrix (Include type e.g. Salt, Fresh, etc): EFFLUENT	Temp (C): 29.71	pH: 6.75	Sample Depth: ☐ m ☐ ft SURFACE	☐ Salinity (PPTh) ☑ Sp Conductance (umho/cm): 820	NPDES Number: FL0021521
	Latitude o ' "	Longitude o ' "	Comments:		

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	COCOA WRF 375 N. COCOA BLVD. COCOA, FL. 32922	☐ Comp ☑ Grab	PK	Date 9/24/07 Time 0932 Central	
	Field ID: COCO	Tot Res Chlorine (mg/L):	Diss Oxygen (mg/L):	Storet Station Number:	
	Matrix (Include type e.g. Salt, Fresh, etc): BLANK	Temp (C):	pH:	Sample Depth: ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm):	NPDES Number: FL0021521
	Latitude o ' "	Longitude o ' "	Comments: ONE VOC BOTTLE LOST DUE TO BREAKAGE.		

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	COCOA WRF 375 N. COCOA BLVD. COCOA, FL. 32922	☐ Comp ☑ Grab	PK	Date 9/24/07 Time 0910 Central	
	Field ID: COCO	Tot Res Chlorine (mg/L): 0.00 METER	Diss Oxygen (mg/L): 15.8	Storet Station Number:	
	Matrix (Include type e.g. Salt, Fresh, etc): EFFLUENT	Temp (C): 29.71	pH: 6.75	Sample Depth: ☐ m ☐ ft SURFACE	☐ Salinity (PPTh) ☑ Sp Conductance (umho/cm): 820	NPDES Number: FL0021521
	Latitude o ' "	Longitude o ' "	Comments: BIOASSAY		

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
		☐ Comp ☐ Grab			
	Field ID	Tot Res Chlorine (mg/L):	Diss Oxygen (mg/L):	Storet Station Number:	
	Matrix (Include type e.g. Salt, Fresh, etc):	Temp (C):	pH:	Sample Depth: ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm):	NPDES Number:
	Latitude o ' "	Longitude o ' "	Comments:		

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time

* Shaded Areas for Lab use only

** Please see reverse side for Bottle Group information

last revised October 1, 2003

FDEP Biology Laboratory - Acute Definitive Bioassay Bench Sheets

Facility: Cocoa Water Reclamation Facility

Address: 375 North Cocoa Blvd

City: Cocoa County: Brevard

Contact/District: Cen-Dist / Phil Kane

NPDES Permit #: FL 0021521

LIMS Job #: TLH-2007-09-2649 LIMS Sample #: 1048645

Lims Data Entry: 10.4.07 MF Data Entry Verification: 10.4.07 BA

Sample Collection: Date: 9.24.07 Time: 9:10

Hold Time Start: Date: 9.24.07 Time: 9:10

Comments: Sample aliquot dechlorinated by the addition of 0.6 mL/L of 0.025N Sodium thiosulfate Original TRC 0.58 mg/L. Dechlorinated aliquot tested as a definitive test. Original sample tested as a screening test. Dechlorinated controls prepared by adding 0.6mL of 0.025N Sodium thiosulfate to 20% Dmw and to well water (0.6ml/L of wtr) MF 9-25-07

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

Test Type: (Definitive)
Static / (Static Renewal) / Flow-through

Test Duration: 48 (96) Hours.

Light Intensity : 50 - 100 ft. candles.

Photoperiod : 16 hours light 8 hours dark.

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 0.6 mL of 0.025N Sodium Thiosulfate per liter of sample Final TRC: 0.04

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

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)

Photoperiod: 16 light 8 dark (Hours)
light Intensity: 50-100 ft candles
Temperature Range(C)
Room B246 24.8 min 26.1 max ~~25.0~~ 25.6 JD mean
Incubator #2 24.3 min 25.4 max 25.4 mean

Investigators' Signatures

Gina Daniels

Brad Alexander

Marshall Faircloth

Loretta C. Wolfe
REVIEWER

Water Quality Parameters	20% DMW	Moderately Hard Water / Well Water (MF)	Salt Water ASW NSW Test 1	Salt Water ASW NSW Test 2	Other: Sample dechlorinated	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl_2 (mg/L):	N/A	N/A	N/A	N/A	—	0.009A	——	Facility	MF
Lab Total Residual Cl_2 (mg/L):	<0.03	<0.03			0.04	0.58	HACH	JO	MF
Alkalinity (mg/L as $CaCO_3$):	85	140			—	71	HACH	BA	MF
Hardness (mg/L as $CaCO_3$):	84	137			—	137	HACH	BA	MF
Total Ammonia (mg/L as N):	<0.017	<0.017			—	<0.017	DENVER	MF	JD
Salinity (ppth):	<1	<1			—	<1	YSI / (Mettler)	BA	MF

A - TRC reported by facility operator V.1.4 9/12/05

To FDEP Sampler. Email verification MF 10-3-07

Second value on field sheet was 2.12 mg/L MF 10/3/07

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Appendix B (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 1048645 Test #: 12 SOP#:TA 07 01 Test Started: Date 9.25.07 Time: 1320
Organism/Batch/Age: Cdubia/ 38-07 /24hrs Test Ended: Date 9-29-07 Time: 1100
Chamber/Test Volume: 30 / 20 ml Diluent/ Batch: DMW / 9.22.07
Food/Batch: YCT 7.26.07 P.sub 4.4.07 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	5	5	5
	B	B	5	5	5	5	5	4D
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
dechlor 6.25%	A	A	5	5	5	5	4D	4
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	4D	4	4	4	4
dechlor 12.5%	A	A	5	5	5	5	5	3D
	B	B	5	5	5	5	4D	4
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
dechlor 25%	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
dechlor 50%	A	AR2D	5	5	5	5	5	5
	B	B	5	5	5	5	5	3D
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	4D
dechlor 100%	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
ctrl	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	4D
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	4D
100%	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
			2D	BA	BA	BA	BA	2D

Loaded/Verified by: BA / SD 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: 0 % LC50: >100%
If Calculated: 95% CI_____ Method_____
Substitue highest test concentration used if other than 100% (example: Ocean outfall tested at 30% concentration).

Comments: LC50 > 100% in both chlorinated and dechlorinated samples. mf 10-3-07
Due to lack of mortality, stats could not be run. mf 10-3-07

Appendix B (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 1048645 Test #: 3/2 SOP#:TA 07 02 Test Started: Date 9.25.07 Time: 1335

Organism/Batch/Age: Cladsi/9.25.07/11hrs Test Ended: Date 9.29.07 Time: 1120

Chamber/Test Volume: 1000 / 500 ml Diluent/ Batch: Well water / 9.24.07

Food/Batch: YCT — P.sub — Artemia 0hr B9-07 24hr — 48hr 10-07 72hr — Artemia Lot# 651-536-90

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	B1	5	5	5	5	5	5
	B	B2	5	5	5	5	5	5
	C	B3	5	5	5	5	5	5
	D	B4	5	5	5	5	5	5
dechlor 6.25%	A	B5	5	5	5	5	5	5
	B	B6	5	5	5	5	5	5
	C	B7	5	5	5	5	5	5
	D	B8	5	5	5	5	5	5
dechlor 12.5%	A	B9	5	5	5	5	5	5
	B	B10	5	5	5	5	5	5
	C	B11	5	5	5	5	5	5
	D	B12	5	5	5	5	5	5
dechlor 25%	A	B13	5	5	5	5	5	5
	B	B14	5	5	5	5	5	5
	C	B15	5	5	5	5	5	5
	D	B16	5	5	5	5	5	5
dechlor 50%	A	B17	5	5	5	5	5	5
	B	B18	5	5	5	5	5	5
	C	B19	5	5	5	5	5	5
	D	B20	5	5	5	5	5	5
dechlor 100%	A	B21	5	5	5	5	5	5
	B	B22	5	5	5	5	5	5
	C	B23	5	5	5	5	5	5
	D	B24	5	5	5	5	5	5
ctrl	A	A19	5	5	5	5	5	5
	B	A20	5	5	5	5	5	5
	C	A21	5	5	5	5	5	5
	D	A22	5	5	5	5	5	5
100%	A	A23	5	0 50	—	—	—	—
	B	A24	5	0 50	—	—	—	—
	C	91	5	1 40	1	1	1	1
	D	92	5	0 50	—	—	—	—
Loaded/Verified by: DD / BA Checked by:			DD	DD	DD	DD	DD	DD

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

Test Results:

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

% mortality in 100% sample: 0 % LC50: 7 100% in dechlorinated test

If Calculated: 95% CI_____ Method_____

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

Comments: MF 10-3-07 LC50 > 100% in dechlorinated test. LC50 < 100% in chlorinated test. 95% Mortality MF 10-3-07

95 % mortality in Chlorinated test MF 10-3-07 LC50 < 100% in chlorinated test, Due to lack of Mortality stats was not run on the definitive MF 10-3-07

FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1048645 Test #: 1 of 2

TEST SOP #: TA07_ 02 Test Species: BA *Ceriodaphnia dubia* *Cyprinella leedsi* *Pimephales promelas*

Americamysis bahia *Menidia beryllina* Other:

Concentration dechlor	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.0	8.3	8.2	8.1	8.1	7.8
Temperature °C	24.0	24.5	24.2	24.2	24.1	24.0
Dissolved Oxygen mg/L	7.4	7.2	6.8	7.5	6.4	6.3
Conductivity (µmhos) mmhos	289	276	289	277	277	285
(initials) Measured by:	BA	JD	JD	JD	JD	JD
(initials) Recorded by:	BA	JD	JD	JD	JD	JD

Comments:

Concentration dchlor 6.25%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.0	8.3	8.4	8.1	8.1	8.1
Temperature °C	24.0	24.1	24.1	24.1	24.1	24.1
Dissolved Oxygen mg/L	7.4	7.2	6.8	7.4	6.4	6.7
Conductivity (µmhos) mmhos	318	311	311	306	311	316
(initials) Measured by:	BA	JD	JD	JD	JD	JD
(initials) Recorded by:	BA	JD	JD	JD	JD	JD

Comments:

Concentration dechlor 12.5 %	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.1	8.3	8.4	8.1	8.0	8.2
Temperature °C	24.0	24.1	24.1	24.0	24.3	24.0
Dissolved Oxygen mg/L	7.4	7.2	6.8	7.5	6.2	6.8
Conductivity (µmhos) mmhos	337	330	339	350	354	329
(initials) Measured by:	BA	JD	JD	JD	JD	JD
(initials) Recorded by:	BA	JD	JD	JD	JD	JD

Comments:

Concentration dchlor 25%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.0	8.2	8.4	8.0	8.0	8.2
Temperature °C	24.0	24.1	24.2	24.0	24.1	24.0
Dissolved Oxygen mg/L	7.3	7.2	7.2	7.5	6.1	6.9
Conductivity (µmhos) mmhos	410	405	409	410	413	400
(initials) Measured by:	BA	JD	JD	JD	JD	JD
(initials) Recorded by:	BA	JD	JD	JD	JD	JD

Comments:

V 2.0 2/24/04

FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1048645 **Test #:** 12 of 2

TEST SOP #: TA07_02 **Test Species:** *Ceriodaphnia dubia* *Cyprinella leedsi* *Pimephales promelas* *Americamysis bahia* *Menidia beryllina* Other:

Concentration dechlor 50%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.0	8.1	8.3	7.9	7.4	8.1
Temperature °C	~~24.0~~ 24.0 ISP	24.0	24.1	24.0	24.2	24.0
Dissolved Oxygen mg/L	7.3	7.1	7.4	7.9	6.3	6.8
Conductivity µmhos mmhos	~~278~~ 552 BA	544	553	512	543	548
(initials) Measured by:	BA	JD	JD	JD	JD	JD
(initials) Recorded by:	BA	JD	JD	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	C	D	A
pH (S.U.)	7.9	7.8	8.0	7.7	7.6	8.0
Temperature °C	24.0	24.1	24.0	24.0	24.2	24.1
Dissolved Oxygen mg/L	7.2	7.0	7.4	7.7	6.5	6.8
Conductivity µmhos mmhos	847	831	841	820	820	841
(initials) Measured by:	BA	JD	JD	JD	JD	JD
(initials) Recorded by:	BA	JD	JD	JD	JD	JD

Comments:

Concentration ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.0	8.3	8.3	8.1	8.1	8.2
Temperature °C	24.3	24.5	25.1	24.2	25.1	24.6
Dissolved Oxygen mg/L	7.1	7.2	7.2	7.6	6.4	6.4
Conductivity µmhos mmhos	278	276	275	280	285	284
(initials) Measured by:	BA	JD	JD	JD	JD	JD
(initials) Recorded by:	BA	JD	JD	JD	JD	JD

Comments:

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	C	A
pH (S.U.)	8.0	7.9	8.0	7.6	7.8	8.1
Temperature °C	24.3	24.7	25.4	25.2	25.3	24.8
Dissolved Oxygen mg/L	7.2	7.0	6.9	7.6	6.7	7.3
Conductivity µmhos mmhos	839	803	820	813	814	820
(initials) Measured by:	BA	JD	JD	JD	JD	JD
(initials) Recorded by:	BA	JD	JD	JD	JD	JD

Comments:

V 2.0 2/24/04

FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1048645 Test #: 12 of 2 BA

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

Concentration dechlor ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		M	M		M
pH (S.U.) (A)	24.0		7.8	7.7		8.1
Temperature °C (A)	7.9		24.0	24.0		24.0
Dissolved Oxygen mg/L	7.4		7.1	7.3		7.8
Conductivity ~~µmhos~~ mmhos	180		189	174		223
(initials) Measured by:	BA		BA	BA		JD
(initials) Recorded by:	BA		BA	BA		JD

Comments: M = meter viral in all concentrations mt 10-5-07

Concentration dechlor 6.25%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		M	M		M
pH (S.U.)	8.0		8.0	8.0		8.1
Temperature °C	24.3		24.0	24.4		24.0
Dissolved Oxygen mg/L	7.6		7.2	7.5		7.7
Conductivity ~~µmhos~~ mmhos	283		244	209		242
(initials) Measured by:	BA		BA	BA		JD
(initials) Recorded by:	BA		BA	BA		JD

Comments:

Concentration dechlor 12.5%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		M	M		M
pH (S.U.)	8.0		8.1	8.0		8.1
Temperature °C	24.5		24.0	24.5		24.0
Dissolved Oxygen mg/L	7.5		7.2	7.5		7.7
Conductivity ~~µmhos~~ mmhos	267		290	250		291
(initials) Measured by:	BA		BA	BA		JD
(initials) Recorded by:	BA		BA	BA		JD

Comments: (A) PH, temp. switched

Concentration dechlor 25%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		M	M		M
pH (S.U.)	8.0		8.1	8.0		8.2
Temperature °C	24.5		24.0	24.2		24.1
Dissolved Oxygen mg/L	7.5		7.3	7.4		7.8
Conductivity ~~µmhos~~ mmhos	363		390	328		340
(initials) Measured by:	BA		BA	BA		JD
(initials) Recorded by:	BA		BA	BA		JD

Comments:

V 2.0 2/24/04

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FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1048645 **Test #:** 1st of 2

TEST SOP #: TA07_01 **Test Species:** *Ceriodaphnia dubia* ~~*Cyprinella leedsi*~~ BA *Pimephales promelas* *Americamysis bahia* *Menidia beryllina* Other:_____

Concentration dechlor 50%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		M	M		M
pH (S.U.)	7.9		8.8 BA	8.0		8.1
Temperature °C	24.4 BA		24.0	24.0		24.0
Dissolved Oxygen mg/L	7.4		7.4	7.5		7.8
Conductivity (µmhos) mmhos	~~180~~ 526 BA		586	477		563
(initials) Measured by:	BA		BA	BA		JD
(initials) Recorded by:	BA		BA	BA		JD

Comments:

Concentration dechlor 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		M	M		M
pH (S.U.)	7.5		8.1	7.9		8.1
Temperature °C	24.3		24.0	24.0		24.0
Dissolved Oxygen mg/L	7.7		7.5	7.5		7.9
Conductivity (µmhos) mmhos	842		889	802		879
(initials) Measured by:	BA		BA	BA		JD
(initials) Recorded by:	BA		BA	BA		JD

Comments:

Concentration Ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		M	M		M
pH (S.U.)	8.0		8.2	7.9		8.2
Temperature °C	24.0		24.0	24.0		24.0
Dissolved Oxygen mg/L	7.4		7.4	7.4		7.7
Conductivity (µmhos) mmhos	180		195	174		207
(initials) Measured by:	BA		BA	BA		JD
(initials) Recorded by:	BA		BA	BA		JD

Comments:

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		M	M		M
pH (S.U.)	7.7		8.0	7.8		8.1
Temperature °C	24.0		24.0	24.6		24.1
Dissolved Oxygen mg/L	7.5		7.5	7.6		7.9
Conductivity (µmhos) mmhos	832	842 BA	~~566~~ BA	810		870
(initials) Measured by:	BA		BA	BA		JD
(initials) Recorded by:	BA		BA	BA		JD

Comments:

V 2.0 2/24/04

Appendix C. SRT Bench Sheets and Statistical Analysis

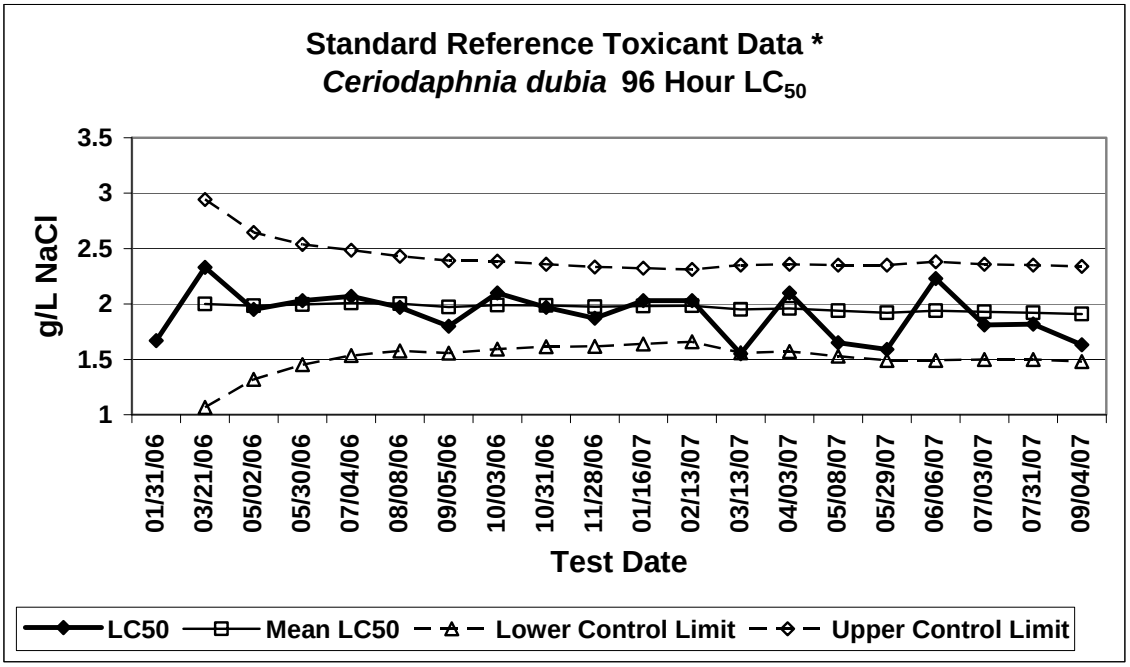
Florida Department of Environmental Protection
Bureau of Laboratories

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

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
01/31/06	1.67				
03/21/06	2.33	2.00	0.47	1.07	2.94
05/02/06	1.95	1.98	0.33	1.32	2.65
05/30/06	2.03	2.00	0.27	1.45	2.54
07/04/06	2.07	2.01	0.24	1.54	2.48
08/08/06	1.97	2.00	0.21	1.58	2.43
09/05/06	1.80	1.97	0.21	1.56	2.39
10/03/06	2.10	1.99	0.20	1.59	2.39
10/31/06	1.97	1.99	0.19	1.62	2.36
11/28/06	1.87	1.98	0.18	1.62	2.33
01/16/07	2.03	1.98	0.17	1.64	2.32
02/13/07	2.03	1.99	0.16	1.66	2.31
03/13/07	1.55	1.95	0.20	1.56	2.35
04/03/07	2.10	1.96	0.19	1.57	2.36
05/08/07	1.65	1.94	0.20	1.53	2.35
05/29/07	1.59	1.92	0.22	1.49	2.35
06/06/07	2.23	1.94	0.22	1.49	2.38
07/03/07	1.81	1.93	0.22	1.50	2.36
07/31/07	1.82	1.92	0.21	1.50	2.35
09/04/07	1.63	1.91	0.22	1.48	2.34

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

CV = 9.69
EPA reference 75th quartile CV = 29%



Appendix C. (continued)

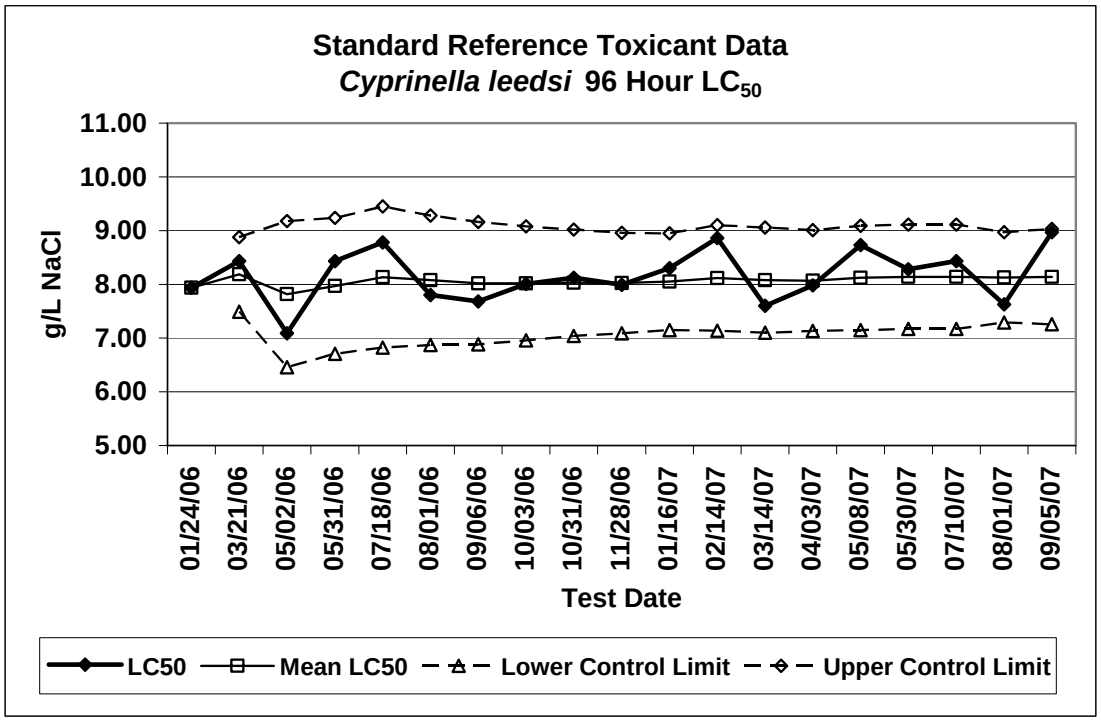
Florida Department of Environmental Protection
Bureau of Laboratories

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

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
01/24/06	7.94	7.94			
03/21/06	8.43	8.19	0.35	7.49	8.88
05/02/06	7.09	7.82	0.68	6.46	9.18
05/31/06	8.43	7.97	0.63	6.71	9.24
07/18/06	8.78	8.13	0.66	6.82	9.45
08/01/06	7.80	8.08	0.60	6.87	9.28
09/06/06	7.68	8.02	0.57	6.88	9.16
10/03/06	8.01	8.02	0.53	6.96	9.08
10/31/06	8.12	8.03	0.49	7.04	9.02
11/28/06	7.99	8.03	0.49	7.09	8.96
01/16/07	8.30	8.05	0.45	7.15	8.95
02/14/07	8.86	8.12	0.49	7.14	9.10
03/14/07	7.60	8.08	0.49	7.10	9.06
04/03/07	7.98	8.07	0.47	7.13	9.01
05/08/07	8.73	8.12	0.48	7.15	9.09
05/30/07	8.28	8.14	0.48	7.17	9.11
07/10/07	8.43	8.14	0.48	7.17	9.11
08/01/07	7.63	8.13	0.42	7.29	8.97
09/05/07	8.97	8.14	0.44	7.26	9.03

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

CV = 5.45
EPA reference 75th quartile CV = 19%



* Fewer than 20 data points due to recent initiation of 96 hour SRT testing.

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* | *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 / 8.24.07
Toxicant/ Batch#: Nacl ppt / 9.4.07

Test Beginning: Date: 9.4.07 Time: 1240
Test Ending: Date: 9.8.07 Time: 1030

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<.03	Hach	KMV
Alkalinity (mg/L as $CaCO_3$):	84	Hach	JD
Hardness (mg.L as $CaCO_3$):	88	Hach	JD
Total Ammonia (mg/L as N):	<.017	Denver	MF
Salinity (ppth):	<1	Mettler	BA

Organism Batch #/ Age: C.dubia / 36-07 / <24 hours
Feeding: ~~Prior to test~~ Prior to renewal / Daily
Food: YCT, ~~S. subcapitata~~ Artemia: Lot # —
Food Batch: 7-23-07 4-4-07 0hr — 24hr — 48hr — 72hr —
Chamber size: 30 mL
Test volume: 20 mL per replicate

Conc. (g/L) µg/L mg/L	Rep.	Chamber #	Number Live 0 hr	24 hr	48 hr	pH (SU) 0 hr	24 hr	48 hr	Temperature (°C) 0 hr	24 hr	48 hr	D.O. (mg/L) 0 hr	24 hr	48 hr	Uncorrected Conductivity µmhom/cm mmhos/cm 0 hr	24 hr	48 hr
~~48 hr~~			~~48 hr~~	~~72 hr~~	~~96 hr~~	~~48 hr~~	~~72 hr~~	~~96 hr~~	~~48 hr~~	~~72 hr~~	~~96 hr~~	~~48 hr~~	~~72 hr~~	~~96 hr~~	~~48 hr~~	~~72 hr~~	~~96 hr~~
Control	A	A	5	5	5	7.6		7.9	24.5		24.6	7.2		7.4	0.179		0.196
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
1.5	A	A	5	5	5	7.7		7.9	24.7		24.1	7.2		7.3	2.87		3.11
	B	B	5	5	5												
	C	C	5	5	3 1D												
	D	D	5	5	5												
2.0	A	A	5	5	2 3D	7.8		8.0	24.8		24.1	7.1		7.2	3.79		4.24
	B	B	5	5	2 3D												
	C	C	5	5	4 1D												
	D	D	5	5	2 3D												
2.5	A	A	5	3 2D	0 ~~3D~~	7.4		8.0	24.8		24.2	7.2		7.3	4.73		5.05
	B	B	5	4 1D	0 4D												
	C	C	5	1 4D	0 1D												
	D	D	5	4 1D	0 4D												
3.0	A	A	5	3 2D	0 3D	8.0		8.0	24.8		24.2	7.2		7.2	5.57		5.76
	B	B	5	4 1D	0 4D												
	C	C	5	5 0D	0 5D												
	D	D	5	2 3D	0 2D												
4.0	A	A	5	1 4D	0 1D	8.0		8.0	24.4		24.2	7.3		7.3	7.21		7.51
	B	B	5	1 4D	0 1D												
	C	C	5	0 5D	—												
	D	D	5	0 5D	—												
	A																
	B																
	C																
	D																
Loaded / measured by:			BA	BA	BA	BA		BA	BA		BA	BA		BA	BA		BA
Recorded by:			BA	BA	BA	BA		BA	BA		BA	BA		BA	BA		JD

Investigators' Signatures
James Daniel
Brent Alston
Mandall Faircloth
Loretta Wolfe
REVIEWER

Concentrations prepared by: BA
Loading verified by: JD
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min 25.4 max 26.1 mean 25.9
Incubator # ___ min ___ max ___ mean ___
Room B246 min 24.5 max 26.7 mean 25.6

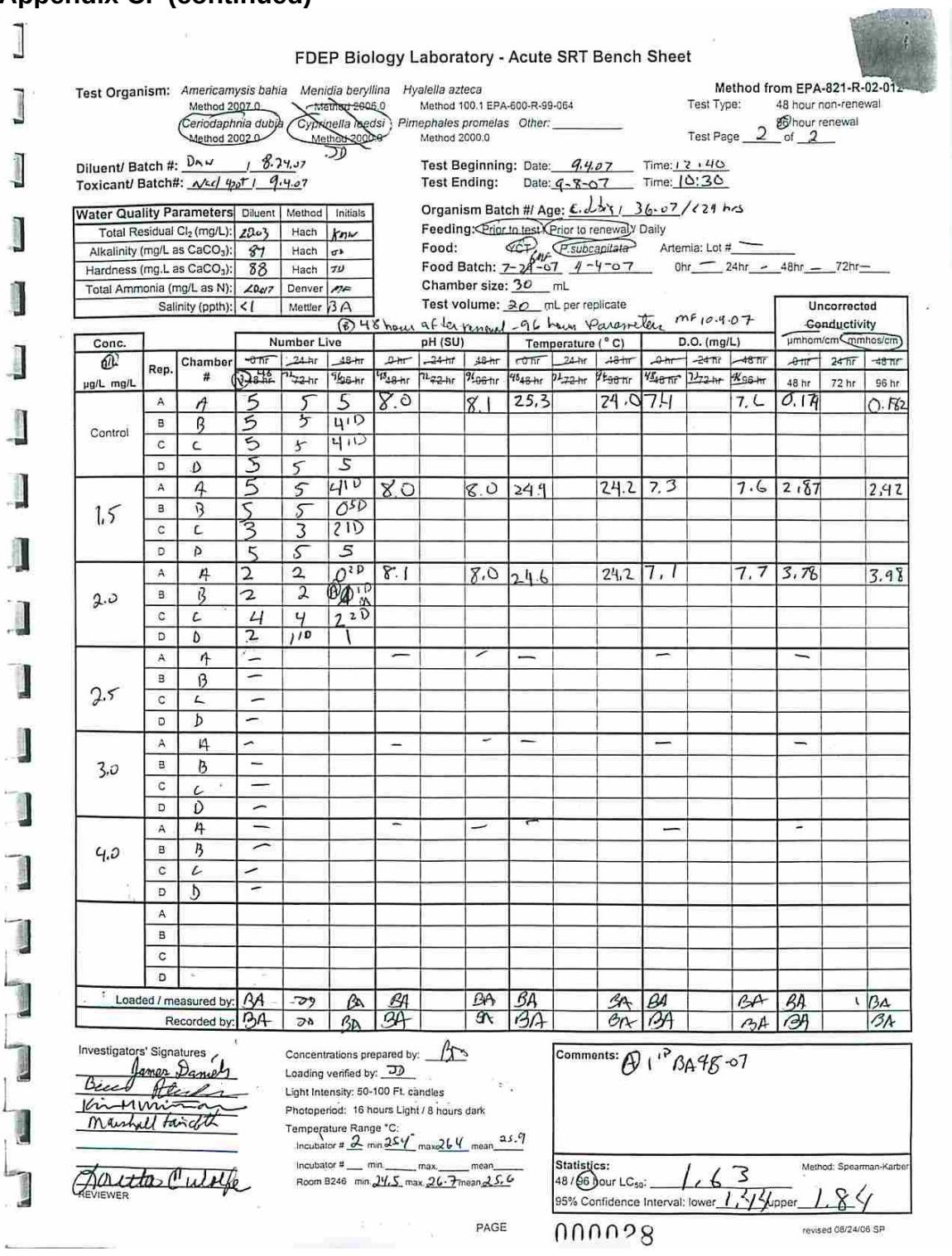
Comments:

Statistics: Method: Spearman-Karber
(48)/ 96 hour LC_{50}: 1.95
95% Confidence Interval: lower 1.81 upper 2.10

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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 #: DAW / 8.24.07

Toxicant/ Batch#: NaCl 4ppt / 9.4.07

Test Beginning: Date: 9.4.07 Time: 12:40

Test Ending: Date: 9-8-07 Time: 10:30

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	ZERO	Hach	KMW
Alkalinity (mg/L as $CaCO_3$):	87	Hach	JD
Hardness (mg.L as $CaCO_3$):	88	Hach	JD
Total Ammonia (mg/L as N):	ZERO	Denver	MF
Salinity (ppth):	<1	Mettler	BA

Organism Batch #/ Age: E.Bx / 36-07 / <24 hrs

Feeding: Prior to test / Prior to renewal / Daily

Food: YCT / *S.capricornutum* / *P.subcapitata* Artemia: Lot # —

Food Batch: 7-24-07 4-4-07 0hr — 24hr — 48hr — 72hr —

Chamber size: 30 mL

Test volume: 30 mL per replicate

(B) 48 hours after renewal - 96 hour Parameters MF 10.4.07

Conc. µg/L mg/L	Rep.	Chamber #	Number Live 0 hr / 24 hr / 48 hr (96 hr)	pH (SU) 0 hr / 24 hr / 48 hr (96 hr)	Temperature (°C) 0 hr / 24 hr / 48 hr (96 hr)	D.O. (mg/L) 0 hr / 24 hr / 48 hr (96 hr)	Uncorrected Conductivity µmhom/cm (mmhos/cm) 0 hr / 24 hr / 48 hr (96 hr)
Control	A	A	5 / 5 / 5	8.0 / / 8.1	25.3 / / 24.0	7.4 / / 7.6	0.174 / / 0.182
	B	B	5 / 5 / 4 1D				
	C	C	5 / 5 / 4 1D				
	D	D	5 / 5 / 5				
1.5	A	A	5 / 5 / 4 1D	8.0 / / 8.0	24.9 / / 24.2	7.3 / / 7.6	2.187 / / 2.92
	B	B	5 / 5 / 0 5D				
	C	C	3 / 3 / 2 1D				
	D	D	5 / 5 / 5				
2.0	A	A	2 / 2 / 0 2D	8.1 / / 8.0	24.6 / / 24.2	7.1 / / 7.7	3.78 / / 3.98
	B	B	2 / 2 / (0) 1D				
	C	C	4 / 4 / 2 2D				
	D	D	2 / 1 1D / 1				
2.5	A	A	—	— / / —	— / / —	— / / —	— / / —
	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 / 09 / BA	BA / / BA	BA / / BA	BA / / BA	BA / / BA
Recorded by:			BA / 20 / BA	BA / / BA	BA / / BA	BA / / BA	BA / / BA

Investigators' Signatures

James Daniels

Brent Fowler

Kim Mirman

Marshall Faircloth

Charles Wolfe REVIEWER

Concentrations prepared by: BA

Loading verified by: JD

Light Intensity: 50-100 Ft. candles

Photoperiod: 16 hours Light / 8 hours dark

Temperature Range °C:

Incubator # 2 min 25.4 max 26.4 mean 25.9

Incubator # ___ min ___ max ___ mean ___

Room B246 min 24.5 max 26.7 mean 25.6

Comments: (A) 1st BA 9-8-07

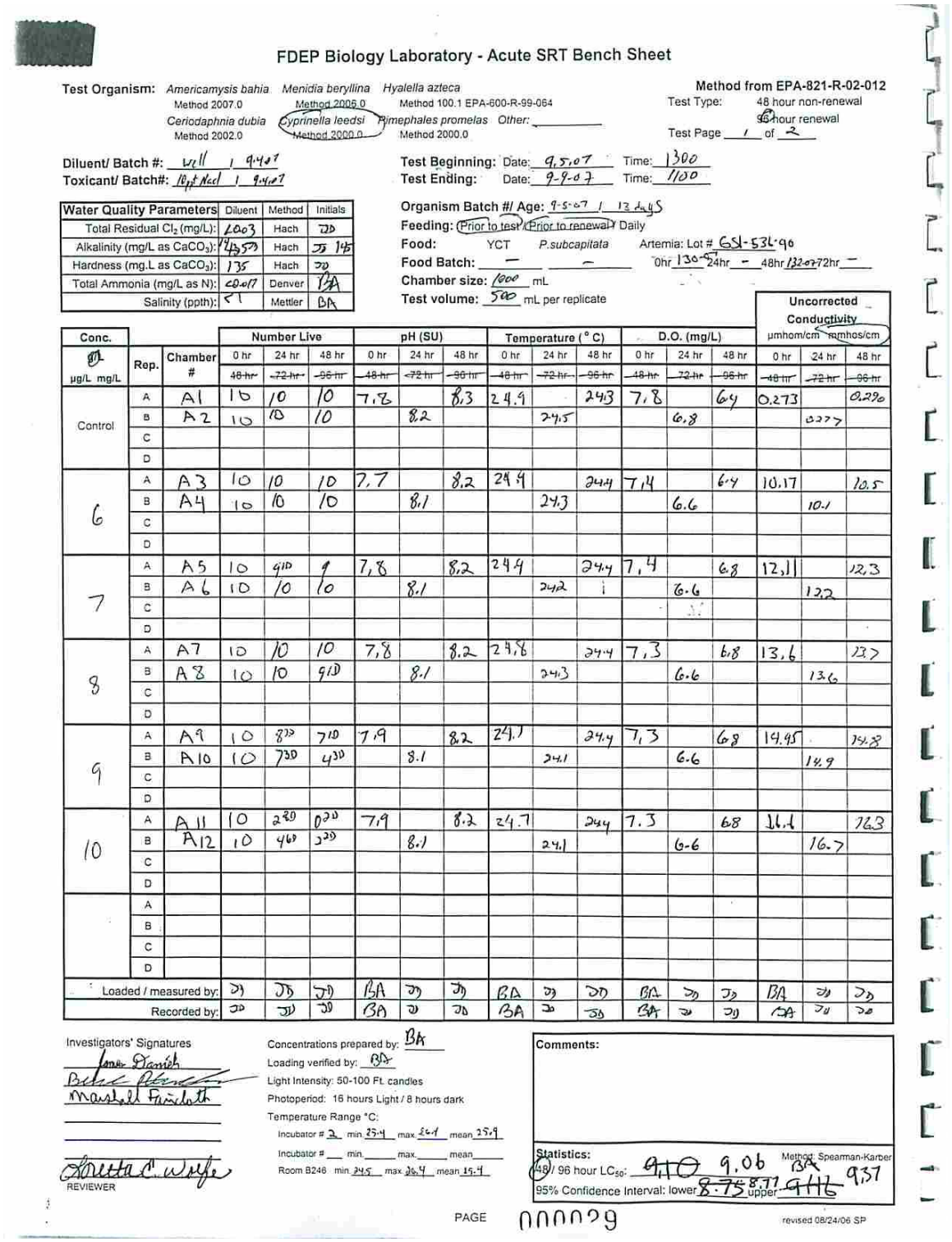
Statistics: 48 / (96) hour LC_{50}: 1.63 Method: Spearman-Karber

95% Confidence Interval: lower 1.44 upper 1.84

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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 / 9.4.07
Toxicant/ Batch#: Rapt Nacl / 9.4.07

Test Beginning: Date: 9.5.07 Time: 1300
Test Ending: Date: 9-9-07 Time: 1100

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	2003	Hach	JD
Alkalinity (mg/L as $CaCO_3$):	74 57	Hach	JS JH
Hardness (mg.L as $CaCO_3$):	135	Hach	JD
Total Ammonia (mg/L as N):	<0.07	Denver	BA
Salinity (ppth):	21	Mettler	BA

Organism Batch #/ Age: 9-5-07 / 13 days
Feeding: (Prior to test) (Prior to renewal) Daily
Food: YCT P.subcapitata Artemia: Lot # GSL-536-90
Food Batch: — — 0hr 130 24hr — 48hr 132 72hr —
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc. µg/L mg/L	Rep.	Chamber #	Number Live 0 hr (48 hr)	24 hr (72 hr)	48 hr (96 hr)	pH (SU) 0 hr (48 hr)	24 hr (72 hr)	48 hr (96 hr)	Temperature (°C) 0 hr (48 hr)	24 hr (72 hr)	48 hr (96 hr)	D.O. (mg/L) 0 hr (48 hr)	24 hr (72 hr)	48 hr (96 hr)	Uncorrected Conductivity µmhom/cm (µmhos/cm) 0 hr (48 hr)	24 hr (72 hr)	48 hr (96 hr)
Control	A	A1	10	10	10	7.8		8.3	24.9		24.3	7.8		6.4	0.273		0.290
	B	A2	10	10	10		8.2			24.5			6.8			0.277	
	C																
	D																
6	A	A3	10	10	10	7.7		8.2	24.4		24.4	7.4		6.4	10.17		10.5
	B	A4	10	10	10		8.1			24.3			6.6			10.1	
	C																
	D																
7	A	A5	10	9 10	9	7.8		8.2	24.4		24.4	7.4		6.8	12.11		12.3
	B	A6	10	10	10		8.1			24.2			6.6			12.2	
	C																
	D																
8	A	A7	10	10	10	7.8		8.2	24.8		24.4	7.3		6.8	13.6		13.7
	B	A8	10	10	9 10		8.1			24.3			6.6			13.6	
	C																
	D																
9	A	A9	10	8 10	7 10	7.9		8.2	24.1		24.4	7.3		6.8	14.45		14.8
	B	A10	10	7 30	4 30		8.1			24.1			6.6			14.9	
	C																
	D																
10	A	A11	10	2 20	0 20	7.9		8.2	24.7		24.4	7.3		6.8	16.1		16.3
	B	A12	10	4 40	3 20		8.1			24.1			6.6			16.7	
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	JD	JD	BA	JD	JD	BA	JD	JD	BA	JD	JD	BA	JD	JD
Recorded by:			JD	JD	JD	BA	JD	JD	BA	JD	JD	BA	JD	JD	BA	JD	JD

Investigators' Signatures
Jamie Daniels
Brian Atencio
Marshall Faircloth
Loretta C. Wolfe
REVIEWER

Concentrations prepared by: BA
Loading verified by: BA
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min 25.4 max 26.1 mean 25.9
Incubator # ___ min. ___ max. ___ mean ___
Room B248 min 24.5 max 26.4 mean 25.4

Comments:

Statistics: (48) / 96 hour LC_{50}: 9.10 9.06 Method: Spearman-Karber BA
95% Confidence Interval: lower 8.75 8.77 upper 9.46 9.37

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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 #: Well / 9.4.07
Toxicant/ Batch#: Dipt Acet / 9.4.07

Test Beginning: Date: 9.5.07 Time: 1300
Test Ending: Date: 9.9.07 Time: 1100

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	JD
Alkalinity (mg/L as $CaCO_3$):	145	Hach	JD
Hardness (mg.L as $CaCO_3$):	135	Hach	JD
Total Ammonia (mg/L as N):	<0.07	Denver	BA
Salinity (ppth):	<1	Mettler	BA

Organism Batch #/ Age: 9.5.07 / 13d 4h
Feeding: Prior to test / Prior to renewal / Daily
Food: YCT P.subcapitata Artemia: Lot # 656-536-610
Food Batch: _____ _____ 0hr 130.07 24hr — 48hr 132.07 72hr —
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc. µg/L mg/L	Rep.	Chamber #	Number Live 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr	pH (SU) 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr	Temperature (°C) 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr	D.O. (mg/L) 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr	Uncorrected Conductivity µmhom/cm (mmhos/cm) 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr
Control	A	A1	10	10	10	8.2		7.8	24.0		24.0	7.0		6.5	0.276		0.292
	B	A2	10	10	10		8.1			24.2			6.8			0.295	
	C																
	D																
6	A	A3	10	10	10	8.1		8.0	24.1		24.0	6.9		6.2	10.7		10.9
	B	A4	10	10	9/10		7.9			24.4			6.0			11.0	
	C																
	D																
7	A	A5	9	7 2P	7	8.1		8.1	24.2		24.1	6.9		6.2	12.0		12.3
	B	A6	10	10	10		7.9			24.4			6.2			12.2	
	C																
	D																
8	A	A7	10	10	10	8.1		8.1	24.2		24.1	6.9		6.2	13.5		13.7
	B	A8	9	9	9		8.0			24.5			6.2			13.6	
	C																
	D																
9	A	A9	7	6 10	6	8.1		8.1	24.2		24.1	6.8		6.4	15.1		15.6
	B	A10	4	4	4		8.0			24.5			6.3			15.4	
	C																
	D																
10	A	A11	—	—	—	8.1		8.1	24.2		24.1	6.9		6.3	16.8		17.3
	B	A12	2	2	2		8.0			24.5			6.2			17.2	
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	BA	JD	JD	BA	JD	JD	BA	JD	JD	BA	JD	JD	BA	JD
Recorded by:			JD	BA	JD	JD	BA	JD	JD	BA	JD	JD	BA	JD	JD	BA	JD

Investigators' Signatures
James Banach
Brenda Rodriguez
Marshall Faircloth
Loretta C. Wolfe
REVIEWER

Concentrations prepared by: BA
Loading verified by: BA
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min 25.4 max 26.4 mean 25.9
Incubator # ___ min ___ max ___ mean ___
Room B246 min 24.5 max 26.4 mean 25.4

Comments:

Statistics: Method: Spearman-Karber
48 (96) hour LC_{50}: 8.97
95% Confidence Interval: lower 8.67 upper 9.28

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Appendix C. (continued)

DATE: 9-4-07 TEST NUMBER: 1 DURATION: 96 h
TOXICANT : NaCl
SPECIES: *Ceriodaphnia dubia*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
.00	20	2
1.50	20	9
2.00	20	16
2.50	20	20
3.00	20	20
4.00	20	20

SPEARMAN-KARBER TRIM: 38.89%

SPEARMAN-KARBER ESTIMATES: LC50: 1.63
95% LOWER CONFIDENCE: 1.44
95% UPPER CONFIDENCE: 1.84

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

DATE: 9-5-07 TEST NUMBER: 1 DURATION: 96 h
TOXICANT : NaCl
SPECIES: *Cyprinella leedsi*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
.00	20	0
6.00	20	1
7.00	20	3
8.00	20	1
9.00	20	10
10.00	20	18

SPEARMAN-KARBER TRIM: 10.00%

SPEARMAN-KARBER ESTIMATES: LC50: 8.97
95% LOWER CONFIDENCE: 8.67
95% UPPER CONFIDENCE: 9.28

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

Appendix D. Test Organism Receipts

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

NELAC Accredited

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 9/4/07

Shipped to: FDEP

P.O. No: N/A

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia	150	4 DAYS	MS070831	25°C	20‰
Menidia beryllina	150	11 DAYS	MS070824	25°C	20‰
Cyprinella leedsi	150	12 DAYS	CL070823	25°C	
Pimephales promelas	150	8 DAYS	FM070827	25°C	

Packed by: RL

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: 9/24/07

Shipped to: FDEP

P.O. No: N/A

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia					
Menidia beryllina					
Cyprinella leedsi	200	10 DAYS	CL070914	25°C	
Pimephales promelas					

Packed by: AJ

Shipped Via: FedEx

Notes: _____

Thank you for your order.

Appendix E. Chemical Analyses performed on the effluent from the Cocoa Water Reclamation Facility Outfall D-001, sampled on September 24, 2007.

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
9/24/2007 9:10	Effluent	Toxicology	Bioassay-Acute-Df-FW-C.dubia,LC50-dechlr	100	L	LC50		
9/24/2007 9:10	Effluent	Toxicology	Bioassay-Acute-Def-FW-Fish, LC50-dechlor	100	L	LC50		
9/24/2007 9:10	Effluent	Toxicology	Bioassay-Acute-Screen-FW-C.dubia, LC50	100	L	LC50		
9/24/2007 9:10	Effluent	Toxicology	Bioassay-Acute-Screen-FW-Fish, LC50	100	K	LC50		
9/24/2007 9:10	Effluent	Metals	Aluminum	110	I	ug/L	60	240
9/24/2007 9:10	Effluent	Metals	Calcium	45.6		mg/L	0.02	0.08
9/24/2007 9:10	Effluent	Metals	Iron	34	I	ug/L	30	120
9/24/2007 9:10	Effluent	Metals	Magnesium	6.9		mg/L	0.04	0.16
9/24/2007 9:10	Effluent	Metals	Arsenic	1.2	I	ug/L	0.5	2
9/24/2007 9:10	Effluent	Metals	Cadmium	0.02	U	ug/L	0.02	0.08
9/24/2007 9:10	Effluent	Metals	Chromium	1	U	ug/L	1	4
9/24/2007 9:10	Effluent	Metals	Copper	0.71	I	ug/L	0.25	1
9/24/2007 9:10	Effluent	Metals	Lead	0.2	U	ug/L	0.2	0.8
9/24/2007 9:10	Effluent	Metals	Nickel	1.52		ug/L	0.25	1
9/24/2007 9:10	Effluent	Metals	Selenium	0.5	U	ug/L	0.5	2
9/24/2007 9:10	Effluent	Metals	Silver	0.025	U	ug/L	0.025	0.1
9/24/2007 9:10	Effluent	Metals	Zinc	25		ug/L	5	20
9/24/2007 9:10	Effluent	Nutrients	Ammonia-N	0.035	Y	mg N/L	0.01	0.02
9/24/2007 9:10	Effluent	Nutrients	NO2NO3-N	8.2	Y	mg N/L	0.4	1
9/24/2007 9:10	Effluent	Nutrients	O-Phosphate-P	0.27	YQ	mg P/L	0.016	0.04
9/24/2007 9:10	Effluent	Nutrients	Kjeldahl Nitrogen	1.2	JY	mg N/L	0.08	0.2
9/24/2007 9:10	Effluent	Nutrients	Total-P	0.37	Y	mg P/L	0.02	0.06
9/24/2007 9:10	Effluent	Nutrients	TSS	4	UY	mg/L	4	16
9/24/2007 9:10	Effluent	Pesticides	Alachlor	0.57	U	ug/L	0.57	2.3
9/24/2007 9:10	Effluent	Pesticides	Ametryn	0.048	U	ug/L	0.048	0.19
9/24/2007 9:10	Effluent	Pesticides	Atrazine	0.048	U	ug/L	0.048	0.19
9/24/2007 9:10	Effluent	Pesticides	Azinphos Methyl	0.19	U	ug/L	0.19	0.76
9/24/2007 9:10	Effluent	Pesticides	Bromacil	0.19	U	ug/L	0.19	0.76
9/24/2007 9:10	Effluent	Pesticides	Butylate	0.19	U	ug/L	0.19	0.76
9/24/2007 9:10	Effluent	Pesticides	Chlorpyrifos Ethyl	0.048	U	ug/L	0.048	0.19
9/24/2007 9:10	Effluent	Pesticides	Chlorpyrifos Methyl	0.095	U	ug/L	0.095	0.38
9/24/2007 9:10	Effluent	Pesticides	Diazinon	0.048	U	ug/L	0.048	0.19

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
9/24/2007 9:10	Effluent	Pesticides	Ethion	0.048	U	ug/L	0.048	0.19
9/24/2007 9:10	Effluent	Pesticides	Ethoprop	0.095	U	ug/L	0.095	0.38
9/24/2007 9:10	Effluent	Pesticides	Fenamiphos	0.19	U	ug/L	0.19	0.76
9/24/2007 9:10	Effluent	Pesticides	Fonofos	0.095	U	ug/L	0.095	0.38
9/24/2007 9:10	Effluent	Pesticides	Hexazinone	0.095	U	ug/L	0.095	0.38
9/24/2007 9:10	Effluent	Pesticides	Malathion	0.14	U	ug/L	0.14	0.56
9/24/2007 9:10	Effluent	Pesticides	Metalaxyl	0.24	U	ug/L	0.24	0.96
9/24/2007 9:10	Effluent	Pesticides	Metolachlor	0.48	U	ug/L	0.48	1.9
9/24/2007 9:10	Effluent	Pesticides	Metribuzin	0.095	U	ug/L	0.095	0.38
9/24/2007 9:10	Effluent	Pesticides	Mevinphos	0.19	U	ug/L	0.19	0.76
9/24/2007 9:10	Effluent	Pesticides	Naled	0.76	U	ug/L	0.76	3
9/24/2007 9:10	Effluent	Pesticides	Norflurazon	0.14	U	ug/L	0.14	0.56
9/24/2007 9:10	Effluent	Pesticides	Parathion Ethyl	0.14	U	ug/L	0.14	0.56
9/24/2007 9:10	Effluent	Pesticides	Parathion Methyl	0.095	U	ug/L	0.095	0.38
9/24/2007 9:10	Effluent	Pesticides	Phorate	0.048	U	ug/L	0.048	0.19
9/24/2007 9:10	Effluent	Pesticides	Prometryn	0.14	U	ug/L	0.14	0.56
9/24/2007 9:10	Effluent	Pesticides	Simazine	0.048	U	ug/L	0.048	0.19
9/24/2007 9:10	Effluent	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	2,4-Dichlorophenol	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	2,4-Dimethylphenol	9.5	U	ug/L	9.5	38
9/24/2007 9:10	Effluent	Priority Organic Pollutants	2,4-Dinitrophenol	14	U	ug/L	14	57
9/24/2007 9:10	Effluent	Priority Organic Pollutants	2,4-Dinitrotoluene	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	2,6-Dinitrotoluene	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	2-Chloronaphthalene	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	2-Chlorophenol	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	11
9/24/2007 9:10	Effluent	Priority Organic Pollutants	2-Nitrophenol	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38	U	ug/L	38	150
9/24/2007 9:10	Effluent	Priority Organic Pollutants	4,4'-DDD	1.4	U	ug/L	1.4	5.7
9/24/2007 9:10	Effluent	Priority Organic Pollutants	4,4'-DDE	1.4	U	ug/L	1.4	5.7
9/24/2007 9:10	Effluent	Priority Organic Pollutants	4,4'-DDT	1.4	U	ug/L	1.4	5.7
9/24/2007 9:10	Effluent	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.95	U	ug/L	0.95	3.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
9/24/2007 9:10	Effluent	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.6
9/24/2007 9:10	Effluent	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	57
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Acenaphthene	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Acenaphthylene	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Aldrin	1.4	U	ug/L	1.4	5.7
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Anthracene	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Benzidine	95	U	ug/L	95	380
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Benzo(a)anthracene	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Benzo(a)pyrene	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Benzo(b)fluoranthene	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Benzo(k)fluoranthene	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	11
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	14	U	ug/L	14	57
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Butyl benzyl phthalate	4.8	U	ug/L	4.8	19
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Chrysene	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Di-n-butyl phthalate	4.8	U	ug/L	4.8	19
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Di-n-octyl phthalate	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Dieldrin	1.4	U	ug/L	1.4	5.7
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Diethyl phthalate	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Dimethyl phthalate	48	U	ug/L	48	190
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Endosulfan I	3.8	U	ug/L	3.8	15
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Endosulfan II	3.8	U	ug/L	3.8	15
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Endosulfan sulfate	1.4	U	ug/L	1.4	5.7
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Endrin	1.4	UJ	ug/L	1.4	5.7
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Endrin aldehyde	3.8	U	ug/L	3.8	15
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Fluoranthene	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Fluorene	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Heptachlor	1.4	U	ug/L	1.4	5.7
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Heptachlor epoxide	1.4	U	ug/L	1.4	5.7
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Hexachlorobenzene	0.95	U	ug/L	0.95	3.8

Appendix E. (continued)

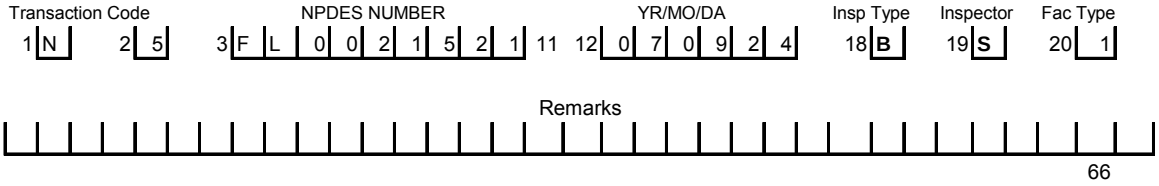
Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	11
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	U	ug/L	2.9	11
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	11
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Isophorone	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.6
9/24/2007 9:10	Effluent	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.6
9/24/2007 9:10	Effluent	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	11
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Naphthalene	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.6
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Pentachlorophenol	2.9	UJ	ug/L	2.9	11
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Phenanthrene	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Phenol	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	Pyrene	0.95	U	ug/L	0.95	3.8
9/24/2007 9:10	Effluent	Priority Organic Pollutants	alpha-BHC	1.4	U	ug/L	1.4	5.7
9/24/2007 9:10	Effluent	Priority Organic Pollutants	beta-BHC	1.4	U	ug/L	1.4	5.7
9/24/2007 9:10	Effluent	Priority Organic Pollutants	delta-BHC	1.4	U	ug/L	1.4	5.7
9/24/2007 9:10	Effluent	Priority Organic Pollutants	gamma-BHC	1.4	U	ug/L	1.4	5.7
9/24/2007 9:10	Effluent	Field Parameters	Dissolved Oxygen	15.8		mg/L		
9/24/2007 9:10	Effluent	Field Parameters	Specific Conductance	820		umhos/cm		
9/24/2007 9:10	Effluent	Field Parameters	Temperature	29.71		C		
9/24/2007 9:10	Effluent	Field Parameters	pH	6.75				
9/24/2007 9:10	Effluent	Field Parameters	Total Residual Chlorine	2.12		mg/L		
9/24/2007 9:32	Blank	Metals	Aluminum	60	U	ug/L	60	240
9/24/2007 9:32	Blank	Metals	Calcium	0.02	U	mg/L	0.02	0.08
9/24/2007 9:32	Blank	Metals	Iron	30	U	ug/L	30	120
9/24/2007 9:32	Blank	Metals	Magnesium	0.04	U	mg/L	0.04	0.16
9/24/2007 9:32	Blank	Metals	Arsenic	0.5	U	ug/L	0.5	2
9/24/2007 9:32	Blank	Metals	Cadmium	0.02	U	ug/L	0.02	0.08
9/24/2007 9:32	Blank	Metals	Chromium	1	U	ug/L	1	4
9/24/2007 9:32	Blank	Metals	Copper	0.36	I	ug/L	0.25	1
9/24/2007 9:32	Blank	Metals	Lead	0.2	U	ug/L	0.2	0.8
9/24/2007 9:32	Blank	Metals	Nickel	0.48	I	ug/L	0.25	1

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
9/24/2007 9:32	Blank	Metals	Selenium	0.5	U	ug/L	0.5	2
9/24/2007 9:32	Blank	Metals	Silver	0.025	U	ug/L	0.025	0.1
9/24/2007 9:32	Blank	Metals	Zinc	5	U	ug/L	5	20
9/24/2007 9:32	Blank	Nutrients	Ammonia-N	0.01	UY	mg N/L	0.01	0.02
9/24/2007 9:32	Blank	Nutrients	NO2NO3-N	0.004	UY	mg N/L	0.004	0.01
9/24/2007 9:32	Blank	Nutrients	O-Phosphate-P	0.004	UYQ	mg P/L	0.004	0.01
9/24/2007 9:32	Blank	Nutrients	Kjeldahl Nitrogen	0.08	UY	mg N/L	0.08	0.2
9/24/2007 9:32	Blank	Nutrients	Total-P	0.02	UY	mg P/L	0.02	0.06
9/24/2007 9:32	Blank	Pesticides	Alachlor	0.57	UY	ug/L	0.57	2.3
9/24/2007 9:32	Blank	Pesticides	Ametryn	0.048	UY	ug/L	0.048	0.19
9/24/2007 9:32	Blank	Pesticides	Atrazine	0.048	UY	ug/L	0.048	0.19
9/24/2007 9:32	Blank	Pesticides	Azinphos Methyl	0.19	UY	ug/L	0.19	0.76
9/24/2007 9:32	Blank	Pesticides	Bromacil	0.19	UY	ug/L	0.19	0.76
9/24/2007 9:32	Blank	Pesticides	Butylate	0.19	UY	ug/L	0.19	0.76
9/24/2007 9:32	Blank	Pesticides	Chlorpyrifos Ethyl	0.048	UY	ug/L	0.048	0.19
9/24/2007 9:32	Blank	Pesticides	Chlorpyrifos Methyl	0.095	UY	ug/L	0.095	0.38
9/24/2007 9:32	Blank	Pesticides	Diazinon	0.048	UY	ug/L	0.048	0.19
9/24/2007 9:32	Blank	Pesticides	Ethion	0.048	UY	ug/L	0.048	0.19
9/24/2007 9:32	Blank	Pesticides	Ethoprop	0.095	UY	ug/L	0.095	0.38
9/24/2007 9:32	Blank	Pesticides	Fenamiphos	0.19	UY	ug/L	0.19	0.76
9/24/2007 9:32	Blank	Pesticides	Fonofos	0.095	UY	ug/L	0.095	0.38
9/24/2007 9:32	Blank	Pesticides	Hexazinone	0.095	UY	ug/L	0.095	0.38
9/24/2007 9:32	Blank	Pesticides	Malathion	0.14	UY	ug/L	0.14	0.56
9/24/2007 9:32	Blank	Pesticides	Metalaxyl	0.24	UY	ug/L	0.24	0.96
9/24/2007 9:32	Blank	Pesticides	Metolachlor	0.48	UY	ug/L	0.48	1.9
9/24/2007 9:32	Blank	Pesticides	Metribuzin	0.095	UY	ug/L	0.095	0.38
9/24/2007 9:32	Blank	Pesticides	Mevinphos	0.19	UY	ug/L	0.19	0.76
9/24/2007 9:32	Blank	Pesticides	Naled	0.76	UY	ug/L	0.76	3
9/24/2007 9:32	Blank	Pesticides	Norflurazon	0.14	UY	ug/L	0.14	0.56
9/24/2007 9:32	Blank	Pesticides	Parathion Ethyl	0.14	UY	ug/L	0.14	0.56
9/24/2007 9:32	Blank	Pesticides	Parathion Methyl	0.095	UY	ug/L	0.095	0.38
9/24/2007 9:32	Blank	Pesticides	Phorate	0.048	UY	ug/L	0.048	0.19
9/24/2007 9:32	Blank	Pesticides	Prometryn	0.14	UY	ug/L	0.14	0.56
9/24/2007 9:32	Blank	Pesticides	Simazine	0.048	UY	ug/L	0.048	0.19

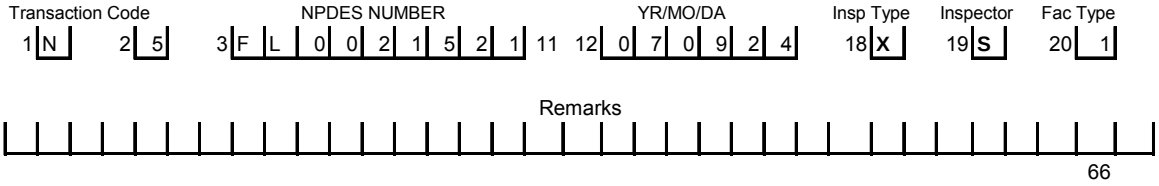
The Bioassay of the Cocoa Water Reclamation Facility effluent sampled on September 24, 2007. NPDES #FL0021521.

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



The Priority Pollutants Analysis of the Cocoa Water Reclamation Facility effluent sampled on September 24, 2007. NPDES #FL0021521.

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Biological Analyses of the Cocoa Water Reclamation Facility effluent sampled on September 24, 2007. NPDES #FL0021521.

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

