

Bioassays of

Town of Baldwin Wastewater Treatment Plant

Duval County

NPDES #FL0027812

Sampled August 20 and 21, 2006

December 2006

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

Town of Baldwin Wastewater Treatment Plant, 800 South Main Street, Baldwin, Duval County, Florida, NPDES #FL0027812. Effluent samples for this facility were collected on August 20 and 21, 2006.

Introduction

The Town of Baldwin Wastewater Treatment Plant is an activated-sludge advanced domestic wastewater treatment facility. The facility has a design flow of 0.4 million gallons per day (MGD). The annual average daily flow (AADF) from August 1, 2005, through July 31, 2006, was 0.251 MGD. The treatment process consists of course screen grit removal, flow equalization, aeration, clarification, sand filtration, UV disinfection, post aeration, and effluent pumping. Treated effluent is discharged into an unnamed ditch which drains into the Class III freshwaters of the Little St. Mary's River at Discharge Location D-001. Outfall D-001 is 1.5 m (5 feet) in length, discharges at a depth of 1.06 m (3.5 feet), and is located approximately at latitude 30º 17' 46" N and longitude 81º 58" 45" W. Domestic residuals are transported to the Eaststar Environmental Residuals Management Facility (RMF), Inc., for further treatment and disposal.

There are no Administrative Orders or Consent Orders for this facility. There are no mixing zones established for this facility. The FDEP Northeast District sent a warning letter to the facility on May 18, 2006, due to permit exceedences for total nitrogen in the effluent. The Department received a letter from the facility on May 30, 2006, stating the exceedences were caused by leachate from the landfill. A review of the discharge monitoring report (DMR) showed exceedences of total nitrogen-ammonia (NH_3 + NH_4) from July 2005 through December 2005 and January 2006 through March 2006. A Carbonaceous Biochemical Oxygen Demand (CBOD) exceedence was noted in April 2006. Toxicity tests are not currently a requirement for this facility. (Facility information provided by Jennifer Paris of FDEP Northeast District.)

Methods

Samples were collected from the EFD-1 NPDES sampling point for Outfall D-001 by Joe Emory, Jennifer Paris, and Chet McGhee (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 acute screening 96-hour toxicity tests and algal growth potential test were performed following internal DEP SOPs TA07_01, TA07_02, and TA08_01 through TA08_09. All internal DEP SOPs are available on the web at: http://www.floridadep.org/labs/cgi-bin/sop/biosop.asp. Bioassays were performed on each of four samples which were collected over a 24-hour period (one sample every six hours).

Toxicity Test Results

Tests were performed August 22 - 26, 2006.

Ceriodaphnia dubia 96-hour acute screening bioassay sample 1 –	LC_{50} > 100%, 0% mortality in 100% sample at 96 hours
Cyprinella leedsi 96-hour acute screening bioassay sample 1 –	LC_{50} > 100%, 5% mortality in 100% sample at 96 hours
Ceriodaphnia dubia 96-hour acute screening bioassay sample 2 –	LC_{50} > 100%, 0% mortality in 100% sample at 96 hours
Cyprinella leedsi 96-hour acute screening bioassay sample 2 –	No Result (Control Failure*)

Ceriodaphnia dubia 96-hour acute screening bioassay sample 3–	LC_{50} > 100%, 0% mortality in 100% sample at 96 hours
Cyprinella leedsi 96-hour acute screening bioassay sample 3 –	LC_{50} > 100%, 0% mortality in 100% sample at 96 hours
Ceriodaphnia dubia 96-hour acute screening bioassay sample 4–	LC_{50} > 100%, 0% mortality in 100% sample at 96 hours
Cyprinella leedsi 96-hour acute screening bioassay sample 4 –	LC_{50} > 100%, 5% mortality in 100% sample at 96 hours

*The *C. leedsi* bioassay for sample two (2) was invalidated due to excess control mortality.

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

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

Algal Growth Potential

The effluent Algal Growth Potential (AGP) was 348 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 723 (±20%) mg dry wt/L (Table 1; Miller et al., 1978).

See Table 1 for AGP results

Chemistry Results

Total residual chlorine and total ammonia were not detected in any of the four bioassay samples in the laboratory. The total ammonia concentration in the sample collected and preserved for chemical analysis was 0.017 mg/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was < 0.02 mg/L.

Cadmium, copper, iron, nickel and zinc were detected in the effluent at levels that comply with Class III fresh water quality criteria. Aluminum and lead were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL).

The field-measured effluent pH of the chemistry sample (7.59 SU) and of Bioassay Samples one (7.56 SU) and three (7.56 SU) exceeded the permitted maximum limit of 7.5 SU; however, these values did not exceed the Class III freshwater quality criterion for pH of 6.0-8.5 SU (62-302.530(52)(c), F.A.C.).

The field-measured effluent dissolved oxygen concentrations in Bioassay Samples one (6.86 mg/L) and two (6.61 mg/L) were less than the permitted limit of ≥ 7.0 mg/L, but were not less than the Class III freshwater quality criterion for dissolved oxygen of ≥ 5.0 mg/L (62-302.530(31), 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 samples collected from the EFD-1 sampling point for Outfall D-001 for this facility on August 20 -21, 2006, were not acutely toxic to either test species during the 96-hour acute screen bioassays. The effluent AGP result exceeded the "problem" threshold for fresh receiving waters. Effluent water quality samples did not exceed any applicable Class III freshwater quality standards but the effluent pH and dissolved oxygen were not in compliance with their respective permitted limits of ≤ 7.5 SU and ≥ 7.0 mg/L in several samples.

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) of the freshwater species Psuedokirchneriella subcapitata *for total nitrogen (TN) and total soluble inorganic nitrogen (TSIN) limitation* , *and ratios of nitrogen to phosphorus for samples collected from Baldwin Wasterwater Treatment Plant on August 21, 2006.*

Location	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (TN) ± 20%	Inorganic N:P ratio	Total N:P ratio
Effluent Samples	348	722.65 ± 144.53	758.86 ± 151.772	4.42	3.99

Table 2. Effluent limits, Class III Freshwater Criteria, and chemical and microbiological data for samples collected from the Town of Baldwin Waste Water Treatment Plant on August 21, 2006.

Town of Baldwin Wastewater Treatment Plant NPDES # FL 0027812	Class III Freshwater Stds	Effluent Limits	Effluent Samples	Bioassay Sample 1	Bioassay Sample 2	Bioassay Sample 3	Bioassay Sample 4
Organic Constituents (µg/L)							
None Detected	-	-	-	-	-	-	-
Metals (µg/L unless otherwise noted)							
Aluminum	-	-	15 l	-	-	-	-
Arsenic	≤ 50 s	-	0.5 U	-	-	-	-
Cadmium	≤ 1.7 b	-	0.3	-	-	-	-
Calcium (mg/L)	-	-	41.8	-	-	-	-
Chromium-III	≤ 133 b	-	0.3 U	-	-	-	-
Copper	≤ 14.7 b	-	6.57	-	-	-	-
Iron	≤ 1000	-	65	-	-	-	-
Lead	≤ 6.2 b	-	0.21 l	-	-	-	-
Magnesium (mg/L)	-	-	15.9	-	-	-	-
Nickel	≤ 81.7 b	-	3.23	-	-	-	-
Selenium	≤ 5	-	0.5 U	-	-	-	-
Silver	≤ 0.07 s	-	0.025 U	-	-	-	-
Zinc	≤ 187.7 b	-	80	-	-	-	-
Nutrients (mg/L)							
Ortho-phosphate	-	Report	4.3	-	-	-	-
Total Phosphorus	-	Report	5 A	-	-	-	-
Ammonia	-	≤ 1.4 s #	0.017 l	-	-	-	-
Unionized Ammonia	≤ 0.02	-	≤ 0.02	≤ 0.02 £	≤ 0.02 £	≤ 0.02 £	≤ 0.02 £
Nitrate+Nitrite	-	Report #	19	-	-	-	-
Total Kjeldahl Nitrogen	-	Report #	0.97 JA	-	-	-	-
Organic Nitrogen	-	Report #	0.95 c	-	-	-	-
Total Nitrogen	-	Report #	19.97 c	-	-	-	-
General Physical and Chemical Parameters							
TSS (mg/L)	-	≤ 60 s #	4 U	-	-	-	-
Dissolved Oxygen (mg/L)	≥ 5	≥ 7.0 s	-	6.9	6.6	7.1	7.5
pH (S.U.)	6.0 - 8.5 s	6.0 - 7.5 s	7.6	7.6	7.0	7.6	7.4
Conductivity (umhos/cm)	≤ 1275	-	620	633	630	626	614
CBOD, 5-day (mg/L)	-	≤ 6.4 s #	-	-	-	-	-
Temperature (°C)	-	≤ 30 s	-	-	-	-	-
Total Residual Chlorine (mg/L)	≤ 0.01	-	-	< 0.03 U £	< 0.03 U £	< 0.03 U £	< 0.03 U £
Flow (MGD)	-	0.4 a	0.25a	-	-	-	-
Hardness (mg/L)	-	-	169.9 c	-	-	-	-
Microbiology (# counts/100ml)							
Fecal Coliforms-Membrane Filter	≤ 800 s	≤ 800 s	580*	-	-	-	-

Value exceeds the Class III Freshwater Quality Criteria (62-302, F.A.C.) and/or Effluent Limits

a - Annual average

b - Value calculated based on water hardness

c - Calculated value

s - Single sample

A - Value reported is the mean of two or more determinations

J - Estimated value

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 minimum detection limit

* - Analysis conducted at the DEP Northeast District Lab

- Permitted limit is for a composite sample

£ - Analyses conducted in Bioassay Lab

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Request Number: RQ-2006-07-31-29
Baldwin WWTF

Event ID *

Requester: Shannan Bogdanov
Field Report Prepared By: JENNIFER PARIS
Collected By: JOE EMERY / JENNIFER PARIS / CHET MCGHEE
Send Final Report To: Melissa Long
Sampling Agency: FDEP

Customer: NE-DIST
Project ID: FYI5
PMAS: 1143

Lab ID *	Location	Comp / Grab	Collection (begin)	Collection (end)	Bottle Group(s)**
	BALDWIN WWTF	☐ Comp ☑ Grab	Date 8/20/06 Time 5:45 PM Eastern Central	Date 8/20/06 Time 5:55 PM Eastern Central	A
	Field ID: EFFLUENT - TOXICITY #1	Tot Res Chlorine (mg/L):	Diss Oxygen (mg/L): 6.86	Storet Station Number:	
	Matrix (Include type e.g. Salt, Fresh, etc):	Temp (C):	pH: 7.56	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☑ Sp Conductance (umho/cm): 6033
	Latitude o ' "	Longitude o ' "		Comments:	NPDES Number:

Lab ID *	Location	Comp / Grab	Collection (begin)	Collection (end)	Bottle Group(s)**
	BALDWIN WWTF	☐ Comp ☑ Grab	Date 8/20/06 Time 11:45 PM Eastern Central	Date 8/21/06 Time 12:00 AM Eastern Central	A
	Field ID: EFFLUENT - TOXICITY #2	Tot Res Chlorine (mg/L):	Diss Oxygen (mg/L): 6.61	Storet Station Number:	
	Matrix (Include type e.g. Salt, Fresh, etc):	Temp (C):	pH: 7.63	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☑ Sp Conductance (umho/cm): 6030
	Latitude o ' "	Longitude o ' "		Comments:	NPDES Number:

Lab ID *	Location	Comp / Grab	Collection (begin)	Collection (end)	Bottle Group(s)**
	BALDWIN-WWTF	☐ Comp ☐ Grab	Date 8/21/06 Time 5:45 AM Eastern Central	Date 8/21/06 Time 6:00 AM Eastern Central	A
	Field ID: EFFLUENT - TOXICITY #3	Tot Res Chlorine (mg/L):	Diss Oxygen (mg/L): 7.06	Storet Station Number:	
	Matrix (Include type e.g. Salt, Fresh, etc):	Temp (C):	pH: 7.56	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☑ Sp Conductance (umho/cm): 6026
	Latitude o ' "	Longitude o ' "		Comments:	NPDES Number:

Lab ID *	Location	Comp / Grab	Collection (begin)	Collection (end)	Bottle Group(s)**
	BALDWIN WWTF	☐ Comp ☑ Grab	Date 8/21/06 Time 10:20 AM Eastern Central	Date 8/21/06 Time 10:42 AM Eastern Central	A
	Field ID: EFFLUENT	Tot Res Chlorine (mg/L):	Diss Oxygen (mg/L):	Storet Station Number:	
	Matrix (Include type e.g. Salt, Fresh, etc):	Temp (C):	pH: 7.59	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☑ Sp Conductance (umho/cm): 6020
	Latitude o ' "	Longitude o ' "		Comments: 14sp 8 Dilutions James Davis 10:02 8.22.06	NPDES Number:

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
			[illegible]	8/22/06 0855				

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Request Number: RQ-2006-07-31-29
Baldwin WWTF

Event ID *

Requester: Shannan Bogdanov
Field Report Prepared By: JENNIFER PARIS

Customer: NE-DIST
Project ID: FYI5
PMAS: 1143

Collected By: JOE EMERY / CHET MCGHEE / JENNIFER PARIS
Send Final Report To: Melissa Long
Sampling Agency: FDEP

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern/Central	Collection (end) Date Time Eastern/Central	Bottle Group(s)**
	BALDWIN WWTF	☐ Comp ☑ Grab	Date 8/24/06 Time 11:30 Eastern Central	Date 8/24/06 Time 11:45 Eastern Central	A
	Field ID	**Tot Res Chlorine (mg/L)**	**Diss Oxygen (mg/L)**	**Storet Station Number**	
	EFFLUENT- TOXICITY #4		7.51		
	Matrix (Include type e.g. Salt, Fresh, etc)	**Temp (C)**	**pH**	**Sample Depth ☐ m ☐ ft**	**☐ Salinity (PPTh) ☑ Sp Conductance (umho/cm)** / **NPDES Number**
			7.43	Le14	
	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)**
	BALDWIN WWTF	☐ Comp ☑ Grab	Date 8/24/06 Time 11:46 Eastern Central	Date 8/24/06 Time 11:46 Eastern Central	D
	Field ID	**Tot Res Chlorine (mg/L)**	**Diss Oxygen (mg/L)**	**Storet Station Number**	
	BLANKS				
	Matrix (Include type e.g. Salt, Fresh, etc)	**Temp (C)**	**pH**	**Sample Depth ☐ m ☐ ft**	**☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)** / **NPDES Number**
	Latitude o ' "	**Longitude** o ' "	**Comments**		

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
		☐ 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**		

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
			ATSP	8/24/06 08:55				

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

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

Facility: Town of Baldwin Wastewater Treatment Plant
Address: 800 South Main Street
City: Baldwin County: Duval
Contact/District: Joe Emery / Northeast District
NPDES Permit #: FL 0027812
LIMS Job # TLH-2006-08-22-41-01 LIMS Sample #: 945411
Lims Data Entry: MF 8-28-06 Data Entry Verification: 8-29-06 SS

Sample Collection: Date: 8.2006 Time: 17:30
Hold Time Start: Date: 8.21.06 Time: 11:30
Sample: 1 of 4

Comments:

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 fL candles
Photoperiod : 16 hours light 8 hours dark.

Test 1 validation: **Test 1:** SOP TA 07_01_
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No

Test 2 validation: **Test 2:** SOP TA 07_02_
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No

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: ____

Temperature Range °C
Incubator # 2 Range 24.8-26.8
Room B246: 24.6 – 25.7
Waterbath: N/A

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)

Investigators' Signatures
Joseph Pickard
James Daniels
Eric Lewis
Bill Taylor
Marshall Faircloth
Nicole Wallendorf
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	Method	Measured by	Verified by
Field Total Residual Cl2 (mg/L):	N/A	N/A	N/A	N/A	N/A	–	Not measured (A)		MF
Lab Total Residual Cl2 (mg/L):	<0.03	<0.03				<0.03	HACH	SP	[illegible]
Alkalinity (mg/L as $CaCO_3$):	85	139				118	HACH	[illegible]	SP
Hardness (mg/L as $CaCO_3$):	86	132				162	HACH	[illegible]	SP
Total Ammonia (mg/L as N):	<0.017	<0.017				<0.017	DENVER	MF	JD
Salinity (ppt):	<1	<1				<1	YSI / (Mettler)	JD	MF

(A) UV ~~Ozon~~ MF disinfection MF 8-28-06

V 2.0 4/12/05

Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 945411 Test #: 1 Test Started: Date 8-22-06 Time: 12:10

Organism: C. dubia (A) SOP #: TA 07_01 (A) Test Ended: Date 8-26-06 Time: 0845

Organism Batch: ~~21-06~~ 35-06 Diluent/ Batch: DMW / ~~21-06~~ 22-06

Organism Age: <24 hrs Food: YCT *P. subcapitata* *Artemia*

Chamber Size: 30 mL Batch: 2-06 4-06 ~

Test Volume: 20 mL 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	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
100%	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
Organisms loaded by: BA		Checked by:		JD	BA	BA	MF	MF

Loading Verified by: BP

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

Comments:
(A) transcription error 8-22-06

Test Results:

% mortality in 100% sample: Ø

LC_{50}: >100 % If Calculated: 95% CI______ Method:______

Screening Tests:

Report LC50 as >100%, =100%, or <100%.

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

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Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 94541I Test #: 2 Test Started: Date 8-22-06 Time: 1215
Organism: C.leedsi SOP #: TA 07_02 Test Ended: Date 8-26-06 Time: 0915
Organism Batch: 18-06 Diluent/ Batch: Well H2O 1.8-21-06
Organism Age: 12 days Food: YCT — P. subcapitata — Artemia GSL536-90
Chamber Size: 1000 mL Batch:
Test Volume: 500 mL 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	A1	5	5	4D	4	4	4
	B	A2	5	5	5	5	5	5
	C	A3	5	5	5	5	5	5
	D	A4	5	5	5	5	5	5
100%	A	A5	5	5	5	5	4D	4
	B	A6	5	5	5	5	5	5
	C	A7	5	5	5	5	5	5
	D	A8	5	5	5	5	5	5
Organisms loaded by: JD	Checked by: [redacted]		JD	JD	JD	JD	JD	MF
Loading Verified by: AA								

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

Comments:

Test Results:
% mortality in 100% sample: 5
LC_{50}: >100% If Calculated: 95% CI_____ Method:_____
Screening Tests:
Report LC50 as >100%, =100%, or <100%.
Substitute highest test concentration used if other than 100% (example: Ocean outfall tested at 30% concentration).

V 2.1 11/01/2005

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FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 945411 **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. (A) before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	~~B~~	A	A	|	A
pH (S.U.)	8.0	|	8.1	8.0	|	8.0
Temperature °C	24.7	|	24.3	24.3	|	24.2
Dissolved Oxygen mg/L	7.8	|	8.0	7.7	|	7.5
Conductivity ~~µmhos~~ mmhos	171.9	|	~~1748~~	189	|	194
(initials) Measured by:	BA		SP	SP		MF
(initials) Recorded by:	BA		SP	SP		MF

Comments: (A) before and after switched SP

Concentration 100%	0 Hr.	24 Hr.	48 Hr. (A) before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	~~B~~	A	A	|	A
pH (S.U.)	7.7	|	7.7	8.1	|	8.2
Temperature °C	24.6	|	24.7	24.4	|	24.4
Dissolved Oxygen mg/L	7.7	|	8.2	7.6	|	7.6
Conductivity (µmhos) mmhos	627	|	636	620	|	696
(initials) Measured by:	BA		SP	SP		MF
(initials) Recorded by:	BA		SP	SP		MF

Comments: (A) before and after switched SP

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

Comments:

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

Comments:

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FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 945411 **Test #:** 2 of 2

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

Concentration CRL	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	7.9	8.2	8.2	7.9	7.1	8.1
Temperature °C	24.6	24.9	24.3	24.2	25.1	25.5
Dissolved Oxygen mg/L	7.5	7.3	7.9	7.9	6.7	6.4
Conductivity ~~µmhos~~ mmhos	269	277	278	271	274	283
(initials) Measured by:	JD	JD	BA/JD	BA	JD	MF
(initials) Recorded by:	JD	JD	BA/JD	BA	JD	MF

Comments:

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	7.5	8.0	8.0	7.7	7.8	8.0
Temperature °C	24.8	24.7	25.2	24.3	25.0	25.5
Dissolved Oxygen mg/L	7.8	7.2	7.8	7.8	6.8	6.7
Conductivity ~~µmhos~~ mmhos	629	639	657	636	649	666
(initials) Measured by:	JD	JD	BA	BA	JD	MF
(initials) Recorded by:	JD	JD	BA	BA	JD	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:

V 2.0 2/24/04

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

Facility: Town of Baldwin Wastewater Treatment Plant

Address: 800 South Main Street

City: Baldwin County: Duval

Contact/District: Joe Emery / Northeast District

NPDES Permit #: FL 0027812

LIMS Job #: TLH-2006-08-22-91-02 LIMS Sample #: 945412

Lims Data Entry: MF 8-28-06 Data Entry Verification: 8-29-06 CG

Sample Collection: Date: 8.2006 Time: 23:45

Hold Time Start: Date: 8.21.06 Time: 11:30

Sample: 2 of 4

Comments:
C.dubia terminated @ 72 hrs due to control Failure in Replicate "B."
PH levels were elevated in comparison to reps & c.o.
Parameters for control replicate B: Temp - 25.5 D.O. - 6.0
PH - 7.9 Cond - 276
Chlorine - 0.03
Ammonia - 0.125
NCR 2175 created 8-28-06 MF

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

Test 1 validation:
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No
Test 1: SOP TA 07_01_

Test 2 validation:
Control survival ≥90%: Yes (No) Failed at 72 hours
Temperature Range ≤3°C: (Yes) No
Test 2: SOP TA 07_02_

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)

Investigators' Signatures
Sarah Pritchard
Erin Rapp
Paul Hurley
Marshall Faircloth
James Dench
Nicole Wellendorf
REVIEWER

Water Quality Parameters	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl2 (mg/L):	Not	measured	(A)	MF
Lab Total Residual Cl2 (mg/L):	<0.03	HACH	SP	EW
Alkalinity (mg/L as $CaCO_3$):	112	HACH	EW	SP
Hardness (mg/L as $CaCO_3$):	161	HACH	EW	SP
Total Ammonia (mg/L as N):	0.017	DENVER	MF	JB
Salinity (ppt):	4	YSI / Mettler	To	MF

(A) UV disinfection MF 8-28-06

V 2.0 4/12/05

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Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 945912 Test #: 1 Test Started: Date 8-22-06 Time: 12:18
Organism: C. dubia SOP #: TA 07_ 01 Test Ended: Date 8-26-06 Time: 0850
Organism Batch: 35-06 Diluent/ Batch: DMW 1 22-06
Organism Age: <24 hours Food: YCT P. subcapitata Artemia
Chamber Size: 30 mL Batch: 2-06 4-06 —
Test Volume: 20 mL 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	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
100%	A	A	5	5	~~5~~ 5	5	5	5
	B	B	5	5	Ⓐ ~~5~~ 5	5	5	5
	C	C	5	5	~~5~~ 5	5	5	5
	D	D	5	5	5	5	5	5
Organisms loaded by: BA	Checked by:		JD	BA	BA	MF	MF	
Loading Verified by: SP								

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

Comments: Ⓐ Transcription error, BA

Test Results:
% mortality in 100% sample: 0%
LC_{50}: >100% If Calculated: 95% CI_____ Method:_____

Screening Tests:
Report LC50 as >100%, =100%, or <100%.
Substitue highest test concentration used if other than 100% (example: Ocean outfall tested at 30% concentration).

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Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 945412 Test #: 2 Test Started: Date 8-22-06 Time: ~~1215~~ 1225 SP
Organism: C. leedsi SOP #: TA 07_02 Test Ended: Date 8-26-06 Time: 1200
Organism Batch: 18-06 Diluent/ Batch: Well H$_2$O , 8-21-06
Organism Age: 12 days Food: YCT P. subcapitata Artemia
Chamber Size: 1000 mL Batch: — — GSL536-90
Test Volume: 500 mL 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	A9	5	5	5	5	5	
	B	A10	5	5	4/D	4	1 3D	
	C	A11	5	5	5	5	5	
	D	A12	5	5	5	5	5	
100%	A	A13	5	5	5	5	5	
	B	A14	5	5	5	5	5	
	C	A15	5	5	5	5	5	
	D	A16	5	5	5	5	5	
Organisms loaded by: JD		Checked by: [redacted]		JD	JD	JD	JD	~~MC~~ NA

Loading Verified by: BA
m = missing d = dead BR = before renewal AR = after renewal

Comments: Control failure see comments sample information page 8-26-06 MF

Test Results:
% mortality in 100% sample: 0% at 72 hours
LC$_{50}$: No Result If Calculated: 95% CI__________ Method:__________
Screening Tests:
Report LC50 as >100%, =100%, or <100%.
Substitue highest test concentration used if other than 100% (example: Ocean outfall tested at 30% concentration).
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FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 945412 **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. (A) before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A		A	A		A
pH (S.U.)	8.0		8.1	8.1		8.1
Temperature °C	24.1		24.5	24.5		24.4
Dissolved Oxygen mg/L	7.6		8.0	7.7		7.3
Conductivity (µmhos) mmhos	1743		176	197		195
(initials) Measured by:	BA		SP	SP		MF
(initials) Recorded by:	BA		SP	SP		MF

Comments: (A) before and after switched SP

Concentration: 100%	0 Hr.	24 Hr.	48 Hr. (A) before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A		A	A		A
pH (S.U.)	7.6		7.7	8.2		8.2
Temperature °C	24.0		24.4	24.5		24.4
Dissolved Oxygen mg/L	7.7		8.3	7.6		7.5
Conductivity (µmhos) mmhos	630		631	683		700
(initials) Measured by:	BA		SP	SP		MF
(initials) Recorded by:	BA		SP	SP		ML

Comments: (A) before and after switched SP

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

Comments:

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

Comments:

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FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 945412 Test #: 2 of 2

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

Concentration CRL	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	
pH (S.U.)	7.7	8.2	8.2	7.9	7.9	
Temperature °C	24.6	24.9	24.9	24.3	24.9	
Dissolved Oxygen mg/L	7.6	7.2	7.8	7.7	6.4	
Conductivity ~~µmhos~~ mmhos	259	289	277	268	287	
(initials) Measured by:	JD	JD	BA	BA	JD	
(initials) Recorded by:	JD	JD	BA	BA	JD	

Comments: Test Terminated at 72 hours - control mortality Lucas = 20% (4 of 5) MF 8-26-06

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	
pH (S.U.)	7.5	7.9	8.1	7.7	7.8	
Temperature °C	24.8	24.8	25.2	24.1	25.2	
Dissolved Oxygen mg/L	7.8	7.2	7.6	7.6	6.4	
Conductivity ~~µmhos~~ mmhos	629	628	650	630	648	
(initials) Measured by:	JD	JD	BA	BA	JD	
(initials) Recorded by:	JD	JD	BA	BA	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

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

Facility: Town of Baldwin Wastewater Treatment Plant

Address: 800 South Main Street

City: Baldwin County: Duval

Contact/District: Joe Emery / Northeast District

NPDES Permit #: FL 0027812

LIMS Job #: TH-2006-08-22-91-03 LIMS Sample #: 945413

Lims Data Entry: MF 8-28-06 Data Entry Verification: 8-29-06 BP

Sample Collection: Date: 8.21.06 Time: 05:45

Hold Time Start: Date: 8.21.06 Time: 11:30

Sample: 3 of 4

Comments:

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

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

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

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)

Investigators' Signatures

Brad Friehauf
Jim Lenz
Darrell Bowden
Marshall Faircloth
James Daniels
Nicole Wellendorf

REVIEWER

Water Quality Parameters	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl2 (mg/L):	Not	measured (A)		MF
Lab Total Residual Cl2 (mg/L):	<0.03	HACH	BP	CW
Alkalinity (mg/L as $CaCO_3$):	110	HACH	CW	BP
Hardness (mg/L as $CaCO_3$):	170	HACH	CW	BP
Total Ammonia (mg/L as N):	<0.017	DENVER	MF	70
Salinity (ppt):	4	YSI / Mettler	70	MF

(A) UV disinfection MF 8-28-06

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Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 945413 Test #: 1 Test Started: Date 8-22-06 Time: 1230
Organism: C. dubia SOP #: TA 07_ 01 Test Ended: Date 8-26-06 Time: 0855
Organism Batch: 35-06 Diluent/ Batch: DMW / 22-06
Organism Age: <24 hours Food: YCT P. subcapitata Artemia
Chamber Size: 30 mL Batch: 2-06 4-06 —
Test Volume: 20 mL 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
CTL	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
100%	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
Organisms loaded by: BA		Checked by:		JD	BA	BA	MF	MF
Loading Verified by: SR								

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

Comments:

Test Results:
% mortality in 100% sample: 0
LC_{50}: >100% If Calculated: 95% CI_____ Method:_____

Screening Tests:
Report LC50 as >100%, =100%, or <100%.
Substitue highest test concentration used if other than 100% (example: Ocean outfall tested at 30% concentration).

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Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 945413 Test #: 2 Test Started: Date 8-22-06 Time: 1230
Organism: C. leedsi SOP #: TA 07_02 Test Ended: Date 8-26-06 Time: 0905
Organism Batch: 18-06 Diluent/ Batch: Well H_2O 18-21-06
Organism Age: 12 days Food: YCT *P. subcapitata* *Artemia*
Chamber Size: 1000 mL Batch: — — GSL536-90
Test Volume: 500 mL 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	A17	5	5	5	5	5	5
	B	A18	5	5	5	5	5	5
	C	A19	5	5	5	5	5	5
	D	A20	5	5	5	5	5	5
100%	A	A21	5	5	5	5	5	5
	B	A22	5	5	5	5	5	5
	C	A23	5	5	5	5	5	5
	D	A24	5	5	5	5	5	5
Organisms loaded by: JD		Checked by: [redacted]	JD	JD	JD	JD	JD	MF
Loading Verified by: BA								

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

Comments:

Test Results:
% mortality in 100% sample: 0
LC_{50}: >100% If Calculated: 95% CI _____ Method: _____

Screening Tests:
Report LC50 as >100%, =100%, or <100%.
Substitue highest test concentration used if other than 100% (example: Ocean outfall tested at 30% concentration).

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FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 945413 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. (A) before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	|	A	A	|	A
pH (S.U.)	8.0	|	8.2	8.2	|	8.1
Temperature °C	24.3	|	24.6	24.4	|	24.4
Dissolved Oxygen mg/L	7.7	|	8.0	7.6	|	7.6
Conductivity (µmhos) mmhos	177.2	|	176	195	|	198
(initials) Measured by:	BA		SP	SP		MF
(initials) Recorded by:	BA		SP	SP		MF

Comments:
(A) before and after switched SP

Concentration 100%	0 Hr.	24 Hr.	48 Hr. (A) before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	|	A	A	|	A
pH (S.U.)	7.6	|	7.7	8.2	|	8.2
Temperature °C	24.3	|	24.7	24.5	|	24.5
Dissolved Oxygen mg/L	7.6	|	8.2	7.7	|	7.7
Conductivity (µmhos) mmhos	625	|	631	640	|	694
(initials) Measured by:	BA		SP	SP		MF
(initials) Recorded by:	BA		SP	SP		MF

Comments:
(A) before and after switched SP

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

Comments:

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

Comments:

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FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 945413 **Test #:** 2 of 2

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

Concentration CtRL	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	7.5	8.2	8.3	7.9	8.1	8.1
Temperature °C	25.0	24.6	25.1	24.5	25.2	25.5
Dissolved Oxygen mg/L	7.1	7.3	7.3	7.5	6.7	6.3
Conductivity ~~µmhos~~ mmhos	264	244	281	269	282	282
(initials) Measured by:	JD	JD	BA	BA	JD	MF
(initials) Recorded by:	JD	JD	BA	BA	JD	MF

Comments:

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	7.6	8.0	8.1	7.8	7.8	8.0
Temperature °C	25.0	24.6	24.7	24.5	25.1	25.6
Dissolved Oxygen mg/L	7.6	7.4	7.5	7.5	6.8	6.8
Conductivity ~~µmhos~~ mmhos	648	628	637	634	639	658
(initials) Measured by:	JD	JD	BA	BA	JD	MF
(initials) Recorded by:	JD	JD	BA	BA	JD	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:

V 2.0 2/24/04

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

Facility: Town of Baldwin Waste Water Treatment Plant

Address: 800 South Main Street

City: Baldwin County: Duval

Contact/District: Joe Emery / Northeast District

NPDES Permit #: FL 0027812

LIMS Job #: TH-2006-08-22-01-04 LIMS Sample #: 945414

Lims Data Entry: 8-25-06 MF Data Entry Verification: 8-29-06 [illegible]

Sample Collection: Date: 8.21.06 Time: 11:30

Hold Time Start: Date: 8.21.06 Time: 11:30

Sample: 4 of 4

Comments:

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

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

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

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)

Investigators' Signatures

Sarah Pritchard
Eric Isip
Bud Stuhler
Marshall Faircloth
James Daniels
Nejib Wellendorf
REVIEWER

Water Quality Parameters	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl2 (mg/L):	not	measured	(A)	MF
Lab Total Residual Cl2 (mg/L):	<0.03	HACH	SP	CW
Alkalinity (mg/L as $CaCO_3$):	115	HACH	CW	SP
Hardness (mg/L as $CaCO_3$):	159	HACH	CW	SP
Total Ammonia (mg/L as N):	<0.017	DENVER	MF	JD
Salinity (ppt):	4	YSI / Mettler	JD	MF

(A) UV disinfection MF 8-25-06

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Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 945414 Test #: 1 Test Started: Date 8-22-06 Time: 1235
Organism: C. dubia SOP #: TA 07_01 Test Ended: Date 8-26-06 Time: 0900
Organism Batch: 35-06 Diluent/ Batch: DMW / 22-06
Organism Age: <24 hours Food: YCT P. subcapitata Artemia
Chamber Size: 30 mL Batch: 2-06 4-06 —
Test Volume: 20 mL 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	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
100%	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
Organisms loaded by: BA		Checked by:		JD	BA	BA	MF	MF
Loading Verified by:								

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

Comments:

Test Results:
% mortality in 100% sample: 0%
LC_{50}: >100% If Calculated: 95% CI_____ Method:_____

Screening Tests:
Report LC50 as >100%, =100%, or <100%.
Substitue highest test concentration used if other than 100% (example: Ocean outfall tested at 30% concentration).

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Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 945414
Test #: 2
Test Started: Date 8-22-06 Time: 1240
Organism: C. leedsi
SOP #: TA 07_ 02
Test Ended: Date 8-26-06 Time: 0910
Organism Batch: 18-06
Diluent/ Batch: Well H2O / 8-21-06
Organism Age: 12 days
Food: YCT P. subcapitata Artemia
Chamber Size: 1000 mL
Batch: — — GSL 536-90
Test Volume: 500 mL
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	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
100%	A	B5	5	5	5	5	5	5
	B	B6	5	4 1D	4	4	4	4
	C	B7	5	5	5	5	5	5
	D	B8	5	5	5	5	5	5
Organisms loaded by: JP		Checked by:		JD	JD	JD	JD	MF

Loading Verified by: BA

Comments:

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

Test Results:

% mortality in 100% sample: 5%

LC_{50}: >100% If Calculated: 95% CI__________ Method:__________

Screening Tests:

Report LC50 as >100%, =100%, or <100%.

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

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FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 945414 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. (B) before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A		A	A		A
pH (S.U.)	8.1		8.2	8.2		8.1
Temperature °C	24.4		24.7	24.4		24.6
Dissolved Oxygen mg/L	7.7		8.0	7.6		7.5
Conductivity (µmhos) mmhos	175.8		176	192		192
(initials) Measured by:	BA		SB	SB		MF
(initials) Recorded by:	BA		SB	SB		MF

Comments: (A) before and after switched SB

Concentration 100%	0 Hr.	24 Hr.	48 Hr. (A) before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A		A	A		A
pH (S.U.)	7.5		7.7	8.2		8.3
Temperature °C	24.3		24.6	24.4		24.7
Dissolved Oxygen mg/L	7.6		8.3	7.7		7.6
Conductivity (µmhos) mmhos	615		6022	6002		68
(initials) Measured by:	BA		SB	SB		MF
(initials) Recorded by:	BA		SB	SB		MF

Comments: (A) before and after switched SB

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

Comments:

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

Comments:

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FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 945414 **Test #:** 2 of 2

TEST SOP #: TA07_ 02 **Test Species:** *Ceriodaphnia dubia* *Cyprinella leedsi* *Pimephales promelas* *Americamysis bahia* *Menidia beryllina* Other:_____

Concentration <Ir 1	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.)	7.7	8.1	8.2	8.0	8.0	8.1
Temperature °C	25.5	24.5	24.8	24.4	24.9	25.2
Dissolved Oxygen mg/L	7.7	7.2	7.4	7.8	6.5	6.0
Conductivity (µmhos) mmhos	268	291	279	272	286	282
(initials) Measured by:	JD	JD	BA	BA	JD	MF
(initials) Recorded by:	JD	JD	BA	BA	JD	MF

Comments:

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	7.6	7.4	8.1	7.7	7.9	8.0
Temperature °C	25.5	24.6	24.7	24.5	24.8	25.6
Dissolved Oxygen mg/L	7.7	7.2	7.4	7.8	6.7	6.4
Conductivity (µmhos) mmhos	607	624	641	617	640	652
(initials) Measured by:	JD	JD	BA	BA	JD	MF
(initials) Recorded by:	JD	JD	BA	BA	JD	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:

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Appendix C. SRT Bench Sheets and Statistical Analysis

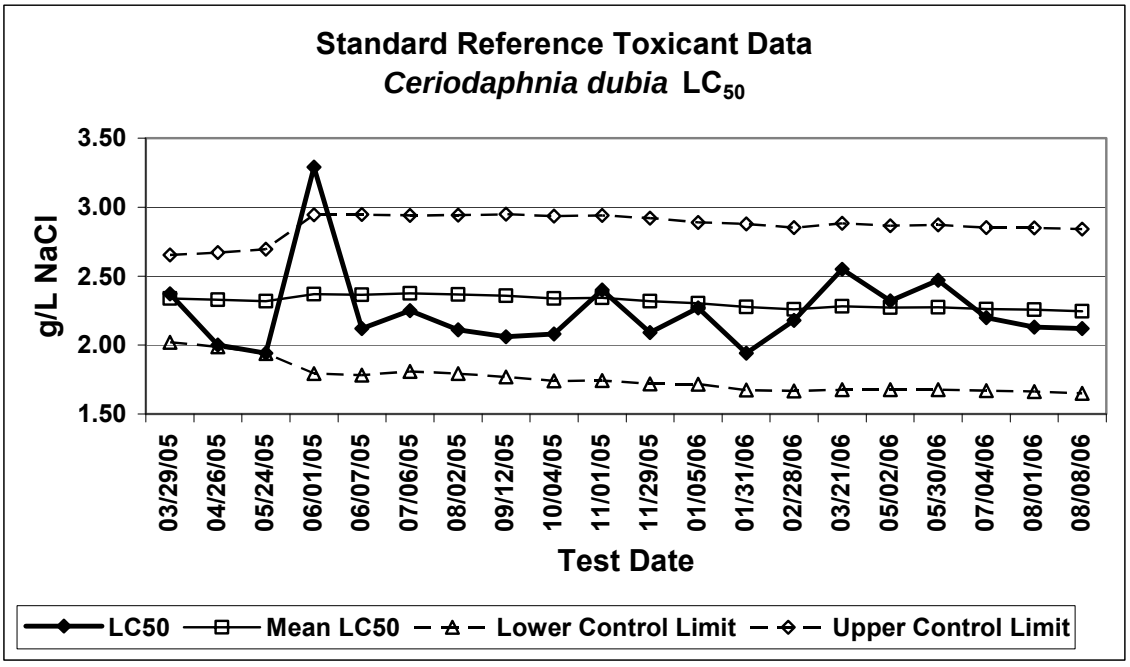
Florida Department of Environmental Protection
Bureau of Laboratories

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

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
03/29/05	2.37	2.34	0.16	2.02	2.65
04/26/05	2.00	2.33	0.17	1.99	2.67
05/24/05	1.94	2.32	0.19	1.94	2.70
06/01/05	3.29	2.37	0.29	1.79	2.94
06/07/05	2.12	2.36	0.29	1.78	2.95
07/06/05	2.25	2.37	0.28	1.81	2.94
08/02/05	2.11	2.37	0.29	1.79	2.94
09/12/05	2.06	2.36	0.29	1.77	2.95
10/04/05	2.08	2.34	0.30	1.74	2.94
11/01/05	2.40	2.34	0.30	1.74	2.94
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

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

CV = 13.26
EPA reference 75th quartile CV = 29%



Appendix C. (continued)

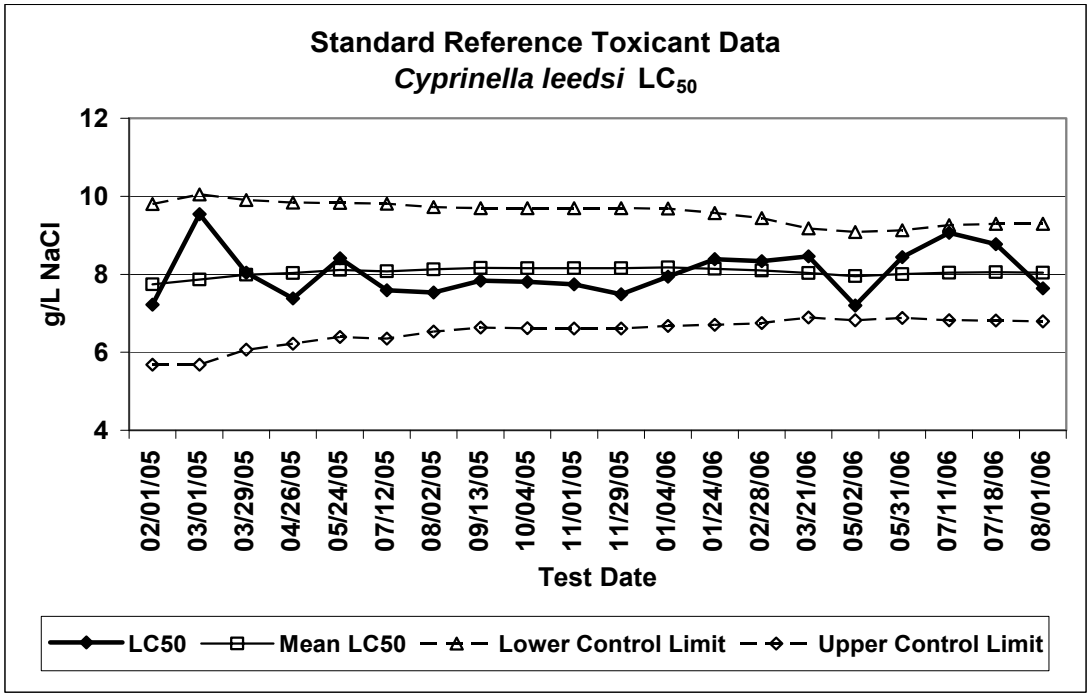
Florida Department of Environmental Protection
Bureau of Laboratories

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
02/01/05	7.22	7.74	1.03	5.68	9.80
03/01/05	9.54	7.87	1.09	5.68	10.05
03/29/05	8.04	7.99	0.96	6.07	9.91
04/26/05	7.38	8.03	0.90	6.22	9.84
05/24/05	8.41	8.11	0.86	6.40	9.83
07/12/05	7.59	8.08	0.86	6.35	9.81
08/02/05	7.53	8.13	0.80	6.53	9.72
09/13/05	7.84	8.16	0.77	6.63	9.70
10/04/05	7.81	8.16	0.77	6.62	9.69
11/01/05	7.74	8.15	0.77	6.61	9.69
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

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

CV = 7.78
EPA reference 75th quartile CV = 19%



Appendix C. (continued)

FDEP Biology Section - 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: Definitive
Static / Static Renewal
Test Page 1 of 2

Diluent/ Batch#: DMW / 20-06
Toxicant/ Batch# NaCl / 11-06

Test Beginning: Date: 8-8-06 Time: 12:15
Test Ending: Date: 8-12-06 Time: 10:30

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	JD
Alkalinity (mg/L as $CaCO_3$):	120	Hach	JD
Hardness (mg/L as CaCO3):	138	Hach	JD
Total Ammonia (mg/L as N):	<0.05	Denver	BA
Salinity (ppth):	<1	Mettler	BA

Organism Batch #/ Age: 33-06 / <24 hrs
Feeding: Prior to test / Prior to renewal / Daily
Food: YCT P.*subcapitata* Artemia
Food Batch: 2-06 4-06 —
Chamber size: 30 mL
Test volume: 20 mL per replicate

Conc. µg/L (a.i.)	Rep.	Chamber#	Number Live 0 hr	Number Live 24 hr	Number Live 48 hr	pH (SU) 0 hr	pH (SU) 24 hr	pH (SU) 48 hr	Temperature (° C) 0 hr	Temperature (° C) 24 hr	Temperature (° C) 48 hr	D.O. (mg/l) 0 hr	D.O. (mg/l) 24 hr	D.O. (mg/l) 48 hr	UNCORRECTED Cond. (mmhos/cm) 0 hr	UNCORRECTED Cond. (mmhos/cm) 24 hr	UNCORRECTED Cond. (mmhos/cm) 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	8.1		7.7	24.7		24.0	7.4		6.2	0.179		0.207
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	4 1D	4												
1.5	A	A	5	5	5	8.0		7.7	25.7		24.0	7.5		6.4	2.95		3.23
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
2.0	A	A	5	5	4 1D	8.0		7.7	25.8		24.0	7.4		6.4	3.85		4.26
	B	B	5	5	3 2D												
	C	C	5	5	3 2D												
	D	D	5	5	3 2D												
2.5	A	A	5	5	1 4D	8.0		7.7	25.9		24.0	7.3		6.2	4.66		5.28
	B	B	5	5	0 5D												
	C	C	5	5	1 4D												
	D	D	5	5	0 5D												
3.0	A	A	5	5	1 4D	8.0		7.7	26.0		24.1	7.3		6.4	5.57		6.42
	B	B	5	5	0 5D												
	C	C	5	4 1D	0 4D												
	D	D	5	3 2D	0 3D												
4.0	A	A	5	0 5D	—	8.0		—	25.7		—	7.3		—	7.27		—
	B	B	5	0 5D	—												
	C	C	5	0 3D	—												
	D	D	5	0 5D	—												
	A																
	B																
	C																
	D																
Loaded / measured by:			BA	BA/mc	BA	BA		BA	BA		BA	BA		BA	BA		BA
Recorded by:			BA	BA/mc	BA	BA		BA	BA		BA	BA		BA	BA		BA

Investigators' Signatures

Concentrations prepared by: BA
Loading verified by: MC
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 24.9 max. 26.7 mean 25.6
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 24.9 max. 26.1 mean 25.3

REVIEWER

Remarks:

Statistical Results: Method: Spearman-Karber
48 / 96 hour LC50: 2.72
95% Confidence Interval: lower 1.91 upper 2.26

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Appendix C. (continued)

FDEP Biology Section - 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: Definitive
Static / Static Renewal
Test Page 2 of 2

Diluent/ Batch#: DMW 1-20-06
Toxicant/ Batch# NaCl 1-11-06

Test Beginning: Date: 8-8-06 Time: 12:15
Test Ending: Date: 8-12-06 Time: 10:30

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	JD
Alkalinity (mg/L as $CaCO_3$):	120	Hach	JD
Hardness (mg/L as CaCO3):	135	Hach	JD
Total Ammonia (mg/L as N):	<0.017	Denver	~~JD~~ BA
Salinity (ppth):	<1	Mettler	BA

Organism Batch #/ Age: 33-06C 24 hrs
Feeding: Prior to test / Prior to renewal / Daily
Food: YCT P.*subcapitata* Artemia
Food Batch: 2-06 4-06 —
Chamber size: 30 mL
Test volume: 20 mL per replicate

Conc. µg/L (ng/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 Cond. (mmhos/cm) 0 hr / 48 hr	Cond. (µmhos/cm) 24 hr / 72 hr	48 hr / 96 hr
Control	A	A	5	5	5	8.1		8.1	24.7		24.7	7.3		7.9	~~0.176~~ BA		0.206
	B	B	5	5	5										0.177		
	C	C	5	5	5												
	D	D	4	4	4												
1.5	A	A	5	5	5	8.0		8.1	25.2		24.6	7.2		7.8	2.97		3.30
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
2.0	A	A	4	3 1D	3	8.0		8.1	25.3		24.7	7.2		7.8	3.81		4.25
	B	B	3	3	3												
	C	C	3	3	2 1D												
	D	D	3	2 1D	2												
2.5	A	A	1	0 1D	—	8.1	8.0	—	25.3	25.4	—	7.2	7.4	—	4.69	4.90	—
	B	B	—	—	—												
	C	C	+ BA	0 1D	—												
	D	D	—	~~0 1D~~	MF Missing Stage 8-11-06												
3.0	A	A	1	0 1D	—	8.1	8.0	—	25.1	25.2	—	7.3	7.4	—	5.60	5.96	—
	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	MF	BA	MF	MF	BA	MF	MF	BA	MF	MF	BA	MF	MF
Recorded by:			BA	MF	MF	BA	MF	MF	BA	MF	MF	BA	MF	MF	BA	MF	MF

Investigators' Signatures
Bill Allender
Brent Pickard
Marshall Faircloth
James Daniels
Nicole Wellenhof
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. 24.9 max. 26.7 mean 25.6
Incubator # ____ min. ____ max. ____ mean ____
Room B246 min. 24.9 max. 26.1 mean 25.3

Remarks:

Statistical Results: Method: Spearman-Karber
48 / 96 hour LC50: 1.97
95% Confidence Interval: lower 1.86 upper 2.09

Revised 02/21/06

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Appendix C. (continued)

FDEP Biology Section - 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: Definitive
Static / Static Renewal
Test Page 1 of 2

Diluent/ Batch#: Well H2O / 7-31-06
Toxicant/ Batch# NaCl / 9-06

Test Beginning: Date: 8-1-06 Time: 1330
Test Ending: Date: 8-5-06 Time: 1145

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	JD
Alkalinity (mg/L as $CaCO_3$):	156	Hach	JD
Hardness (mg/L as CaCO3):	135	Hach	JD
Total Ammonia (mg/L as N):	<0.017	Denver	SP
Salinity (ppth):	<1	Mettler	SP

Organism Batch #/ Age: 17-06 / 13 days
Feeding: Prior to test / Prior to renewal / Daily
Food: YCT P.*subcapitata* Artemia
Food Batch: - - GSL-536-90
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc. µg/L (a.i.)	Rep.	Chamber#	Number Live 0 hr / 48 hr / 48 hr / 96 hr	pH (SU) 0 hr / 48 hr / 48 hr / 96 hr	Temperature (° C) 0 hr / 48 hr / 48 hr / 96 hr	D.O. (mg/l) 0 hr / 48 hr / 48 hr / 96 hr	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhom/cm) 0 hr / 48 hr / 48 hr / 96 hr
Control	A	D1	10 / 10 / 10	7.7 / 8.2	24.8 / 24.3	7.1 / 6.3	0.280 / 0.309
	B	D2	10 / 10 / 10	8.1	25.0	6.6	0.306
	C						
	D						
60	A	D3	10 / 10 / 9 D	7.8 / 8.1	25.0 / 24.7	7.0 / 6.1	10.5 / 10.2
	B	D4	10 / 10 / 8 D	8.1	25.0	6.2	9.99
	C						
	D						
70	A	D5	10 / 8 D / 6 D	7.9 / 8.1	25.0 / 24.1	6.9 / 6.2	12.3 / 12.5
	B	D6	10 / 9 D / 6 D	8.1	24.5	6.0	12.2
	C						
	D						
80	A	D7	10 / 7 D / 5 D	7.8 / 8.1	25.0 / 24.9	7.0 / 6.2	13.9 / 13.8
	B	D8	10 / 6 D / 4 D	8.1	24.7	6.1	13.9
	C						
	D						
90	A	D9	10 / 3 D / 3	7.9 / ~~8.1~~ D / ~~8.1~~	25.0 / 24.4	6.9 / 6.0	15.2 / 15.3
	B	D10	10 / 3 D / 3	8.1 / 8.2 B	24.8	6.1	15.2
	C						
	D						
100	A	D11	10 / 0 D / -	7.9 / -	25.0 / -	6.9 / -	17.0 / -
	B	D12	10 / 0 D / -	8.1	24.9	6.1	17.1
	C						
	D						
	A						
	B						
	C						
	D						
Loaded / measured by:			JD / JD / JD	SP / JD / BA	JD / JD / BA	SP / JD / DA	SP / JD / BA
Recorded by:			JD / JD / JD	SP / JD / BA	JD / JD / BA	SP / JD / BA	SP / JD / BA

Investigators' Signatures
Sarah Prichard
Jason David
Brian Absher
Marshall Fairchild
Nicole Wellenhof
REVIEWER

Concentrations prepared by: JD
Loading verified by: SP
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 24.2 max. 26.3 mean 25.3
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 24.9 max. 25.7 mean 25.3

Remarks:

Statistical Results: Method: Spearman-Karber
(48)/ 96 hour LC50: 7.64
95% Confidence Interval: lower 7.13 upper 8.19

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Appendix C. (continued)

FDEP Biology Section - 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: Definitive
Static / Static Renewal
Test Page 2 of 2

Diluent/ Batch#: Well H_2O / 7-31-06
Toxicant/ Batch# NaCl / 9-06

Test Beginning: Date: 8-1-06 Time: 1330
Test Ending: Date: 8-5-06 Time: 1145

Water Quality Parameters:

	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	20.03	Hach	JD
Alkalinity (mg/L as $CaCO_3$):	156	Hach	JD
Hardness (mg/L as CaCO3):	135	Hach	JD
Total Ammonia (mg/L as N):	<0.017	Denver	BP
Salinity (ppth):	<1	Mettler	BP

Organism Batch #/ Age: 17-06 / 13 days
Feeding: Prior to test / Prior to renewal / Daily
Food: YCT P.*subcapitata* Artemia
Food Batch: – – GSL-536-90
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc. µg/L (g/L)	Rep.	Chamber#	Number Live 0 hr / 48 hr	Number Live 24 hr / 72 hr	Number Live 48 hr / 96 hr	pH (SU) 0 hr / 48 hr	pH (SU) 24 hr / 72 hr	pH (SU) 48 hr / 96 hr	Temperature (° C) 0 hr / 48 hr	Temperature (° C) 24 hr / 72 hr	Temperature (° C) 48 hr / 96 hr	D.O. (mg/l) 0 hr / 48 hr	D.O. (mg/l) 24 hr / 72 hr	D.O. (mg/l) 48 hr / 96 hr	UNCORRECTED Cond. (mmhos/cm) / Cond. (µmhom/cm) 0 hr / 48 hr	UNCORRECTED Cond. (mmhos/cm) / Cond. (µmhom/cm) 24 hr / 72 hr	UNCORRECTED Cond. (mmhos/cm) / Cond. (µmhom/cm) 48 hr / 96 hr
Control	A	D1	10	10	9 1P	8.1		8.2	24.1		24.5	6.4		6.9	0.333		0.319
	B	D2	10	10	9 1P		8.0			24.4			6.2			0.312	
	C																
	D																
6.0	A	D3	9	9	8 1D	8.0		8.1	24.0		24.5	6.2		6.5	10.7		11.0
	B	D4	8	8	8		7.9			24.6			5.9			10.0	
	C																
	D																
7.0	A	D5	6	6	6	8.0		8.1	24.0		24.7	6.1		6.3	12.4		12.6
	B	D6	6	6	6		8.0			24.9			5.9			12.2	
	C																
	D																
8.0	A	D7	5	5	5	8.0		8.1	24.0		24.1	6.1		6.3	13.4		14.4
	B	D8	4	4	4		7.9			25.1			5.7			13.9	
	C																
	D																
9.0	A	D9	3	3	3	8.0		8.1	24.0		24.0	6.1		6.3	15.2		15.7
	B	D10	3	2 1D	2		7.9			25.2			5.6			15.1	
	C																
	D																
10.0	A	D11	–	–	–	–		–	–		–	–		–	–		–
	B	D12	–	–	–		–			–			–			–	
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	JD	MF	BA	JD	MF	BA	JD	MF	BA	JD	MF	BA	JD	MF
Recorded by:			BP	JD	MF	BA	JD	MF	BA	JD	MF	BA	JD	MF	BA	JD	MF

Investigators' Signatures
Sarah Pinckard
Bruce Hanson
Jones Canal
Marshall Faircloth
Nicole Wellenkamp
REVIEWER

Concentrations prepared by: BP
Loading verified by: JD
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 24.2 max. 26.3 mean 25.3
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 24.9 max. 25.7 mean 25.3

Remarks:

Statistical Results: Method: Spearman-Karber
48 / (96) hour LC50: 7.80
95% Confidence Interval: lower 7.31 upper 8.29

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Appendix C. (continued)

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

DATE: 8-08-06 DURATION: 96 h TOXICANT : NaCl
SPECIES: *C. dubia*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
.00	20	1
1.50	20	0
2.00	20	10
2.50	20	20
3.00	20	20
4.00	20	20

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: LC_{50}: 1.97
95% LOWER CONFIDENCE: 1.86
95% UPPER CONFIDENCE: 2.09

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

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

DATE: 8-01-06 DURATION: 96 h TOXICANT : NaCl
SPECIES: *C. leedsi*

RAW DATA: Concentration (g/l)	Number Exposed	Mortalities
.00	20	2
6.00	20	4
7.00	20	8
8.00	20	11
9.00	20	15
10.00	20	20

SPEARMAN-KARBER TRIM: 11.11%

SPEARMAN-KARBER ESTIMATES: LC50: 7.80
95% LOWER CONFIDENCE: 7.34
95% UPPER CONFIDENCE: 8.29

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

Appendix D. Test Organism Receipt(s)

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: 7/31/16

Shipped to: FDEP

P.O. No: _____

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia	250+	4 Days	MS060727	25°C	~20‰
Menidia beryllina	250+	12 Days	SS060719	25°C	~20‰
Cyprinella leedsi	120+	12 Days	CL060719	25°C	
Pimephales promelas	120+	7 Days	FM060714-1&2	25°C	

Packed by: Frank Gary

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: 8/21/06

Shipped to: FDEP

P.O. No: _____

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia					
Menidia beryllina					
Cyprinella leedsi	300+	11 Days	060810	25C	
Pimephales promelas					

Packed by: Frank Gangi

Shipped Via: FedEx

Notes: _____

Thank you for your order.

Frank Gangi

Appendix E. Chemical Analyses performed on the effluent from the Town of Baldwin Wastewater Treatment Plant Outfall D-001, sampled on August 21, 2006.

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
8/21/2006 10:20	EFFLUENT	Bio-AGP/LimNut	Algal Growth Potential	348	mg DryWt/L		0.3	0.9
8/21/2006 10:20	EFFLUENT	Bio-Chl-a	Chlorophyll-A, Monochromatic, Water	0.85	ug/L	U	0.85	2.6
8/21/2006 10:20	EFFLUENT	Bio-Chl-a	Phaeophytin-A, Monochromatic, Water	1.5	ug/L	U	1.5	4.5
8/20/2006 17:45	EFFLUENT-TOXICITY#1	Bio-Toxicology	Bioassay-Acute-Screen-FW-C.dubia, LC50	100	LC50	L		
8/20/2006 17:45	EFFLUENT-TOXICITY#1	Bio-Toxicology	Bioassay-Acute-Screen-FW-Fish, LC50	100	LC50	L		
8/20/2006 23:45	EFFLUENT-TOXICITY#2	Bio-Toxicology	Bioassay-Acute-Screen-FW-C.dubia, LC50	100	LC50	L		
8/20/2006 23:45	EFFLUENT-TOXICITY#2	Bio-Toxicology	Bioassay-Acute-Screen-FW-Fish, LC50	No Result	LC50			
8/21/2006 5:45	EFFLUENT-TOXICITY#3	Bio-Toxicology	Bioassay-Acute-Screen-FW-C.dubia, LC50	100	LC50	L		
8/21/2006 5:45	EFFLUENT-TOXICITY#3	Bio-Toxicology	Bioassay-Acute-Screen-FW-Fish, LC50	100	LC50	L		
8/21/2006 11:30	EFFLUENT-TOXICITY#4	Bio-Toxicology	Bioassay-Acute-Screen-FW-C.dubia, LC50	100	LC50	L		
8/21/2006 11:30	EFFLUENT-TOXICITY#4	Bio-Toxicology	Bioassay-Acute-Screen-FW-Fish, LC50	100	LC50	L		
8/21/2006 11:46	BLANKS	BNA-Water	1,2,4-Trichlorobenzene	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	1,2-Dichlorobenzene	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	1,3-Dichlorobenzene	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	1,4-Dichlorobenzene	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	2,4,6-Trichlorophenol	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	2,4-Dichlorophenol	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	2,4-Dimethylphenol	49	ug/L	U	49	190
8/21/2006 11:46	BLANKS	BNA-Water	2,4-Dinitrophenol	15	ug/L	U	15	58
8/21/2006 11:46	BLANKS	BNA-Water	2,4-Dinitrotoluene	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	2,6-Dinitrotoluene	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	2-Chloronaphthalene	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	2-Chlorophenol	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	2-Methyl-4,6-dinitrophenol	2.9	ug/L	U	2.9	12
8/21/2006 11:46	BLANKS	BNA-Water	2-Nitrophenol	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	3,3'-Dichlorobenzidine	39	ug/L	UJ	39	160
8/21/2006 11:46	BLANKS	BNA-Water	4,4'-DDD	1.5	ug/L	U	1.5	5.8
8/21/2006 11:46	BLANKS	BNA-Water	4,4'-DDE	1.5	ug/L	U	1.5	5.8
8/21/2006 11:46	BLANKS	BNA-Water	4,4'-DDT	1.5	ug/L	U	1.5	5.8
8/21/2006 11:46	BLANKS	BNA-Water	4-Bromophenyl phenyl ether	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	4-Chloro-3-methylphenol	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	4-Chlorophenyl phenyl ether	1.9	ug/L	U	1.9	7.8
8/21/2006 11:46	BLANKS	BNA-Water	4-Nitrophenol	15	ug/L	U	15	58
8/21/2006 11:46	BLANKS	BNA-Water	Acenaphthene	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	Acenaphthylene	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	Aldrin	1.5	ug/L	U	1.5	5.8
8/21/2006 11:46	BLANKS	BNA-Water	Anthracene	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	Benzidine	97	ug/L	U	97	390
8/21/2006 11:46	BLANKS	BNA-Water	Benzo(a)anthracene	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	Benzo(a)pyrene	0.97	ug/L	U	0.97	3.9

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
8/21/2006 11:46	BLANKS	BNA-Water	Benzo(b)fluoranthene	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	Benzo(g,h,i)perylene	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	Benzo(k)fluoranthene	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	Bis(2-chloroethoxy)methane	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	Bis(2-chloroethyl)ether	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	Bis(2-chloroisopropyl)ether	2.9	ug/L	U	2.9	12
8/21/2006 11:46	BLANKS	BNA-Water	Bis(2-ethylhexyl)phthalate	15	ug/L	U	15	58
8/21/2006 11:46	BLANKS	BNA-Water	Butyl benzyl phthalate	4.9	ug/L	U	4.9	19
8/21/2006 11:46	BLANKS	BNA-Water	Chrysene	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	Di-n-butyl phthalate	4.9	ug/L	U	4.9	19
8/21/2006 11:46	BLANKS	BNA-Water	Di-n-octyl phthalate	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	Dibenzo(a,h)anthracene	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	Dieldrin	1.5	ug/L	U	1.5	5.8
8/21/2006 11:46	BLANKS	BNA-Water	Diethyl phthalate	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	Dimethyl phthalate	49	ug/L	U	49	190
8/21/2006 11:46	BLANKS	BNA-Water	Endosulfan I	3.9	ug/L	U	3.9	16
8/21/2006 11:46	BLANKS	BNA-Water	Endosulfan II	3.9	ug/L	U	3.9	16
8/21/2006 11:46	BLANKS	BNA-Water	Endosulfan sulfate	1.5	ug/L	U	1.5	5.8
8/21/2006 11:46	BLANKS	BNA-Water	Endrin	1.5	ug/L	U	1.5	5.8
8/21/2006 11:46	BLANKS	BNA-Water	Endrin aldehyde	3.9	ug/L	U	3.9	16
8/21/2006 11:46	BLANKS	BNA-Water	Fluoranthene	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	Fluorene	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	Heptachlor	1.5	ug/L	U	1.5	5.8
8/21/2006 11:46	BLANKS	BNA-Water	Heptachlor epoxide	1.5	ug/L	U	1.5	5.8
8/21/2006 11:46	BLANKS	BNA-Water	Hexachlorobenzene	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	Hexachlorobutadiene	2.9	ug/L	U	2.9	12
8/21/2006 11:46	BLANKS	BNA-Water	Hexachlorocyclopentadiene	2.9	ug/L	U	2.9	12
8/21/2006 11:46	BLANKS	BNA-Water	Hexachloroethane	2.9	ug/L	U	2.9	12
8/21/2006 11:46	BLANKS	BNA-Water	Indeno(1,2,3-cd)pyrene	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	Isophorone	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	N-Nitrosodi-n-propylamine	1.9	ug/L	U	1.9	7.8
8/21/2006 11:46	BLANKS	BNA-Water	N-Nitrosodimethylamine	1.9	ug/L	U	1.9	7.8
8/21/2006 11:46	BLANKS	BNA-Water	N-Nitrosodiphenylamine	2.9	ug/L	U	2.9	12
8/21/2006 11:46	BLANKS	BNA-Water	Naphthalene	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	Nitrobenzene	1.9	ug/L	U	1.9	7.8
8/21/2006 11:46	BLANKS	BNA-Water	Pentachlorophenol	2.9	ug/L	U	2.9	12
8/21/2006 11:46	BLANKS	BNA-Water	Phenanthrene	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	Phenol	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	Pyrene	0.97	ug/L	U	0.97	3.9
8/21/2006 11:46	BLANKS	BNA-Water	alpha-BHC	1.5	ug/L	U	1.5	5.8
8/21/2006 11:46	BLANKS	BNA-Water	beta-BHC	1.5	ug/L	U	1.5	5.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
8/21/2006 11:46	BLANKS	BNA-Water	delta-BHC	1.5	ug/L	U	1.5	5.8
8/21/2006 11:46	BLANKS	BNA-Water	gamma-BHC	1.5	ug/L	U	1.5	5.8
8/21/2006 10:20	EFFLUENT	BNA-Water	1,2,4-Trichlorobenzene	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	1,2-Dichlorobenzene	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	1,3-Dichlorobenzene	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	1,4-Dichlorobenzene	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	2,4,6-Trichlorophenol	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	2,4-Dichlorophenol	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	2,4-Dimethylphenol	49	ug/L	U	49	200
8/21/2006 10:20	EFFLUENT	BNA-Water	2,4-Dinitrophenol	15	ug/L	U	15	59
8/21/2006 10:20	EFFLUENT	BNA-Water	2,4-Dinitrotoluene	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	2,6-Dinitrotoluene	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	2-Chloronaphthalene	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	2-Chlorophenol	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	2-Methyl-4,6-dinitrophenol	2.9	ug/L	U	2.9	12
8/21/2006 10:20	EFFLUENT	BNA-Water	2-Nitrophenol	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	3,3'-Dichlorobenzidine	39	ug/L	UJ	39	160
8/21/2006 10:20	EFFLUENT	BNA-Water	4,4'-DDD	1.5	ug/L	U	1.5	5.9
8/21/2006 10:20	EFFLUENT	BNA-Water	4,4'-DDE	1.5	ug/L	U	1.5	5.9
8/21/2006 10:20	EFFLUENT	BNA-Water	4,4'-DDT	1.5	ug/L	U	1.5	5.9
8/21/2006 10:20	EFFLUENT	BNA-Water	4-Bromophenyl phenyl ether	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	4-Chloro-3-methylphenol	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	4-Chlorophenyl phenyl ether	2	ug/L	U	2	7.8
8/21/2006 10:20	EFFLUENT	BNA-Water	4-Nitrophenol	15	ug/L	U	15	59
8/21/2006 10:20	EFFLUENT	BNA-Water	Acenaphthene	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Acenaphthylene	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Aldrin	1.5	ug/L	U	1.5	5.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Anthracene	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Benzidine	98	ug/L	U	98	390
8/21/2006 10:20	EFFLUENT	BNA-Water	Benzo(a)anthracene	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Benzo(a)pyrene	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Benzo(b)fluoranthene	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Benzo(g,h,i)perylene	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Benzo(k)fluoranthene	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Bis(2-chloroethoxy)methane	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Bis(2-chloroethyl)ether	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Bis(2-chloroisopropyl)ether	2.9	ug/L	U	2.9	12
8/21/2006 10:20	EFFLUENT	BNA-Water	Bis(2-ethylhexyl)phthalate	15	ug/L	U	15	59
8/21/2006 10:20	EFFLUENT	BNA-Water	Butyl benzyl phthalate	4.9	ug/L	U	4.9	20
8/21/2006 10:20	EFFLUENT	BNA-Water	Chrysene	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Di-n-butyl phthalate	4.9	ug/L	U	4.9	20

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
8/21/2006 10:20	EFFLUENT	BNA-Water	Di-n-octyl phthalate	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Dibenzo(a,h)anthracene	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Dieldrin	1.5	ug/L	U	1.5	5.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Diethyl phthalate	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Dimethyl phthalate	49	ug/L	U	49	200
8/21/2006 10:20	EFFLUENT	BNA-Water	Endosulfan I	3.9	ug/L	U	3.9	16
8/21/2006 10:20	EFFLUENT	BNA-Water	Endosulfan II	3.9	ug/L	U	3.9	16
8/21/2006 10:20	EFFLUENT	BNA-Water	Endosulfan sulfate	1.5	ug/L	U	1.5	5.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Endrin	1.5	ug/L	U	1.5	5.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Endrin aldehyde	3.9	ug/L	U	3.9	16
8/21/2006 10:20	EFFLUENT	BNA-Water	Fluoranthene	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Fluorene	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Heptachlor	1.5	ug/L	U	1.5	5.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Heptachlor epoxide	1.5	ug/L	U	1.5	5.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Hexachlorobenzene	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Hexachlorobutadiene	2.9	ug/L	U	2.9	12
8/21/2006 10:20	EFFLUENT	BNA-Water	Hexachlorocyclopentadiene	2.9	ug/L	U	2.9	12
8/21/2006 10:20	EFFLUENT	BNA-Water	Hexachloroethane	2.9	ug/L	U	2.9	12
8/21/2006 10:20	EFFLUENT	BNA-Water	Indeno(1,2,3-cd)pyrene	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Isophorone	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	N-Nitrosodi-n-propylamine	2	ug/L	U	2	7.8
8/21/2006 10:20	EFFLUENT	BNA-Water	N-Nitrosodimethylamine	2	ug/L	U	2	7.8
8/21/2006 10:20	EFFLUENT	BNA-Water	N-Nitrosodiphenylamine	2.9	ug/L	U	2.9	12
8/21/2006 10:20	EFFLUENT	BNA-Water	Naphthalene	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Nitrobenzene	2	ug/L	U	2	7.8
8/21/2006 10:20	EFFLUENT	BNA-Water	Pentachlorophenol	2.9	ug/L	U	2.9	12
8/21/2006 10:20	EFFLUENT	BNA-Water	Phenanthrene	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Phenol	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	Pyrene	0.98	ug/L	U	0.98	3.9
8/21/2006 10:20	EFFLUENT	BNA-Water	alpha-BHC	1.5	ug/L	U	1.5	5.9
8/21/2006 10:20	EFFLUENT	BNA-Water	beta-BHC	1.5	ug/L	U	1.5	5.9
8/21/2006 10:20	EFFLUENT	BNA-Water	delta-BHC	1.5	ug/L	U	1.5	5.9
8/21/2006 10:20	EFFLUENT	BNA-Water	gamma-BHC	1.5	ug/L	U	1.5	5.9
8/21/2006 11:46	BLANKS	GC-Water	Alachlor	0.58	ug/L	U	0.58	2.3
8/21/2006 11:46	BLANKS	GC-Water	Ametryn	0.049	ug/L	U	0.049	0.2
8/21/2006 11:46	BLANKS	GC-Water	Atrazine	0.049	ug/L	UJ	0.049	0.2
8/21/2006 11:46	BLANKS	GC-Water	Azinphos Methyl	0.19	ug/L	U	0.19	0.76
8/21/2006 11:46	BLANKS	GC-Water	Bromacil	0.19	ug/L	UJ	0.19	0.76
8/21/2006 11:46	BLANKS	GC-Water	Butylate	0.19	ug/L	UJ	0.19	0.76
8/21/2006 11:46	BLANKS	GC-Water	Chlorpyrifos Ethyl	0.049	ug/L	U	0.049	0.2
8/21/2006 11:46	BLANKS	GC-Water	Chlorpyrifos Methyl	0.097	ug/L	U	0.097	0.39

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
8/21/2006 11:46	BLANKS	GC-Water	Diazinon	0.049	ug/L	UJ	0.049	0.2
8/21/2006 11:46	BLANKS	GC-Water	Ethion	0.049	ug/L	U	0.049	0.2
8/21/2006 11:46	BLANKS	GC-Water	Ethoprop	0.097	ug/L	U	0.097	0.39
8/21/2006 11:46	BLANKS	GC-Water	Fenamiphos	0.19	ug/L	U	0.19	0.76
8/21/2006 11:46	BLANKS	GC-Water	Fonofos	0.097	ug/L	U	0.097	0.39
8/21/2006 11:46	BLANKS	GC-Water	Hexazinone	0.097	ug/L	U	0.097	0.39
8/21/2006 11:46	BLANKS	GC-Water	Malathion	0.15	ug/L	U	0.15	0.6
8/21/2006 11:46	BLANKS	GC-Water	Metalaxyl	0.24	ug/L	U	0.24	0.96
8/21/2006 11:46	BLANKS	GC-Water	Metolachlor	0.49	ug/L	U	0.49	2
8/21/2006 11:46	BLANKS	GC-Water	Metribuzin	0.097	ug/L	U	0.097	0.39
8/21/2006 11:46	BLANKS	GC-Water	Mevinphos	0.19	ug/L	U	0.19	0.76
8/21/2006 11:46	BLANKS	GC-Water	Naled	0.78	ug/L	U	0.78	3.1
8/21/2006 11:46	BLANKS	GC-Water	Norflurazon	0.15	ug/L	U	0.15	0.6
8/21/2006 11:46	BLANKS	GC-Water	Parathion Ethyl	0.15	ug/L	U	0.15	0.6
8/21/2006 11:46	BLANKS	GC-Water	Parathion Methyl	0.097	ug/L	U	0.097	0.39
8/21/2006 11:46	BLANKS	GC-Water	Phorate	0.049	ug/L	U	0.049	0.2
8/21/2006 11:46	BLANKS	GC-Water	Prometryn	0.15	ug/L	U	0.15	0.6
8/21/2006 11:46	BLANKS	GC-Water	Simazine	0.049	ug/L	UJ	0.049	0.2
8/21/2006 10:20	EFFLUENT	GC-Water	Alachlor	0.6	ug/L	U	0.6	2.4
8/21/2006 10:20	EFFLUENT	GC-Water	Ametryn	0.05	ug/L	U	0.05	0.2
8/21/2006 10:20	EFFLUENT	GC-Water	Atrazine	0.05	ug/L	UJ	0.05	0.2
8/21/2006 10:20	EFFLUENT	GC-Water	Azinphos Methyl	0.2	ug/L	U	0.2	0.8
8/21/2006 10:20	EFFLUENT	GC-Water	Bromacil	0.2	ug/L	UJ	0.2	0.8
8/21/2006 10:20	EFFLUENT	GC-Water	Butylate	0.2	ug/L	UJ	0.2	0.8
8/21/2006 10:20	EFFLUENT	GC-Water	Chlorpyrifos Ethyl	0.05	ug/L	U	0.05	0.2
8/21/2006 10:20	EFFLUENT	GC-Water	Chlorpyrifos Methyl	0.1	ug/L	U	0.1	0.4
8/21/2006 10:20	EFFLUENT	GC-Water	Diazinon	0.05	ug/L	UJ	0.05	0.2
8/21/2006 10:20	EFFLUENT	GC-Water	Ethion	0.05	ug/L	U	0.05	0.2
8/21/2006 10:20	EFFLUENT	GC-Water	Ethoprop	0.1	ug/L	U	0.1	0.4
8/21/2006 10:20	EFFLUENT	GC-Water	Fenamiphos	0.2	ug/L	U	0.2	0.8
8/21/2006 10:20	EFFLUENT	GC-Water	Fonofos	0.1	ug/L	U	0.1	0.4
8/21/2006 10:20	EFFLUENT	GC-Water	Hexazinone	0.1	ug/L	U	0.1	0.4
8/21/2006 10:20	EFFLUENT	GC-Water	Malathion	0.15	ug/L	U	0.15	0.6
8/21/2006 10:20	EFFLUENT	GC-Water	Metalaxyl	0.25	ug/L	U	0.25	1
8/21/2006 10:20	EFFLUENT	GC-Water	Metolachlor	0.5	ug/L	U	0.5	2
8/21/2006 10:20	EFFLUENT	GC-Water	Metribuzin	0.1	ug/L	U	0.1	0.4
8/21/2006 10:20	EFFLUENT	GC-Water	Mevinphos	0.2	ug/L	U	0.2	0.8
8/21/2006 10:20	EFFLUENT	GC-Water	Naled	0.8	ug/L	U	0.8	3.2
8/21/2006 10:20	EFFLUENT	GC-Water	Norflurazon	0.15	ug/L	U	0.15	0.6
8/21/2006 10:20	EFFLUENT	GC-Water	Parathion Ethyl	0.15	ug/L	U	0.15	0.6
8/21/2006 10:20	EFFLUENT	GC-Water	Parathion Methyl	0.1	ug/L	U	0.1	0.4

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
8/21/2006 10:20	EFFLUENT	GC-Water	Phorate	0.05	ug/L	U	0.05	0.2
8/21/2006 10:20	EFFLUENT	GC-Water	Prometryn	0.15	ug/L	U	0.15	0.6
8/21/2006 10:20	EFFLUENT	GC-Water	Simazine	0.05	ug/L	UJ	0.05	0.2
8/21/2006 11:46	BLANKS	Metals-Water	Aluminum	4	ug/L	U	4	16
8/21/2006 11:46	BLANKS	Metals-Water	Arsenic	0.5	ug/L	U	0.5	2
8/21/2006 11:46	BLANKS	Metals-Water	Cadmium	0.05	ug/L	U	0.05	0.2
8/21/2006 11:46	BLANKS	Metals-Water	Calcium	0.02	mg/L	U	0.02	0.08
8/21/2006 11:46	BLANKS	Metals-Water	Chromium	0.3	ug/L	U	0.3	1.2
8/21/2006 11:46	BLANKS	Metals-Water	Copper	0.65	ug/L	U	0.65	2.6
8/21/2006 11:46	BLANKS	Metals-Water	Iron	5	ug/L	U	5	20
8/21/2006 11:46	BLANKS	Metals-Water	Lead	0.2	ug/L	U	0.2	0.8
8/21/2006 11:46	BLANKS	Metals-Water	Magnesium	0.005	mg/L	U	0.005	0.02
8/21/2006 11:46	BLANKS	Metals-Water	Nickel	0.25	ug/L	U	0.25	1
8/21/2006 11:46	BLANKS	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
8/21/2006 11:46	BLANKS	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
8/21/2006 11:46	BLANKS	Metals-Water	Zinc	3	ug/L	U	3	12
8/21/2006 10:20	EFFLUENT	Metals-Water	Aluminum	15	ug/L	I	4	16
8/21/2006 10:20	EFFLUENT	Metals-Water	Arsenic	0.5	ug/L	U	0.5	2
8/21/2006 10:20	EFFLUENT	Metals-Water	Cadmium	0.3	ug/L		0.05	0.2
8/21/2006 10:20	EFFLUENT	Metals-Water	Calcium	41.8	mg/L		0.02	0.08
8/21/2006 10:20	EFFLUENT	Metals-Water	Chromium	0.3	ug/L	U	0.3	1.2
8/21/2006 10:20	EFFLUENT	Metals-Water	Copper	6.57	ug/L		0.2	0.8
8/21/2006 10:20	EFFLUENT	Metals-Water	Iron	65	ug/L		5	20
8/21/2006 10:20	EFFLUENT	Metals-Water	Lead	0.21	ug/L	I	0.2	0.8
8/21/2006 10:20	EFFLUENT	Metals-Water	Magnesium	15.9	mg/L		0.005	0.02
8/21/2006 10:20	EFFLUENT	Metals-Water	Nickel	3.23	ug/L		0.25	1
8/21/2006 10:20	EFFLUENT	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
8/21/2006 10:20	EFFLUENT	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
8/21/2006 10:20	EFFLUENT	Metals-Water	Zinc	80	ug/L		3	12
8/21/2006 11:46	BLANKS	Nutrients-Liquid	Ammonia-N	0.011	mg N/L	I	0.01	0.02
8/21/2006 11:46	BLANKS	Nutrients-Liquid	Kjeldahl Nitrogen	0.08	mg N/L	U	0.08	0.2
8/21/2006 11:46	BLANKS	Nutrients-Liquid	NO2NO3-N	0.004	mg N/L	U	0.004	0.01
8/21/2006 11:46	BLANKS	Nutrients-Liquid	O-Phosphate-P	0.004	mg P/L	U	0.004	0.01
8/21/2006 11:46	BLANKS	Nutrients-Liquid	Total-P	0.02	mg P/L	U	0.02	0.06
8/21/2006 10:20	EFFLUENT	Nutrients-Liquid	Ammonia-N	0.017	mg N/L	I	0.01	0.02
8/21/2006 10:20	EFFLUENT	Nutrients-Liquid	Kjeldahl Nitrogen	0.97	mg N/L	JA	0.08	0.2
8/21/2006 10:20	EFFLUENT	Nutrients-Liquid	NO2NO3-N	19	mg N/L		0.2	0.5
8/21/2006 10:20	EFFLUENT	Nutrients-Liquid	O-Phosphate-P	4.3	mg P/L		0.4	1
8/21/2006 10:20	EFFLUENT	Nutrients-Liquid	TSS	4	mg/L	U	4	16
8/21/2006 10:20	EFFLUENT	Nutrients-Liquid	Total-P	5	mg P/L	A	0.2	0.6

The Bioassay of the Town of Baldwin Wastewater Treatment Plant effluent sampled on August 20 and 21, 2006. NPDES #FL0027812.

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

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 2 7 8 1 2 11	12 0 6 0 8 2 1	18 **B**	19 **S**	20 1

Remarks

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The Priority Pollutants Analysis of Town of Baldwin Wastewater Treatment Plant effluent sampled on August 21, 2006. NPDES #FL0027812.

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

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 2 7 8 1 2 11	12 0 6 0 8 2 1	18 **X**	19 **S**	20 1

Remarks

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Biological Analyses of Town of Baldwin Wastewater Treatment Plant effluent sampled on August 21, 2006. NPDES #FL0027812.

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

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 11	12 0 6 0 8 2 1	18 **S**	19 **S**	20 1

Remarks

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