

Effluent Quality Assessment

Fiesta Village WWTP

Lee County

NPDES #FL0039829

Sampled March 17, 19 and 21, 2008

August 2008

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

Fiesta Village WWTP, 1366 San Souci Drive, Fort Myers, Lee County, Florida, NPDES #FL0039829. Effluent samples for chemical, microbiological, algal growth potential and bioassay analyses for this facility were collected on March 17, 2008. Additional effluent samples for bioassay analyses were collected on March 19 and 21, 2008.

Introduction

Fiesta Village WWTP uses the extended-aeration process to treat domestic wastewater. The facility has a permitted capacity of 5.0 million gallons per day (MGD) annual average daily flow (AADF). The AADF through the facility from March 1, 2007, through February 29, 2007, was 2.9877 MGD. The wastewater treatment plant consists of:

- an odor control system;
- primary bar manual/mechanical screening system;
- aerated grit systems;
- two oxidation ditches;
- two clarifier tanks;
- two aerobic digester tanks;
- three screw lift pumps;
- denitrification filters;
- dual chlorine contact chambers:
- effluent transfer pumping station;
- chemical feed equipment and appurtenances;
- sulfur dioxide dechlorination system;
- post aeration facilities;
- reuse storage tank; and,
- high service reuse/effluent pump station.

Residuals are disposed by land application or transport to the Lee County/Fort Myers Beach WWTP or disposal in a Class I or Class II solid waste landfill.

The facility is permitted for surface water discharge into the Class III marine waters of the Caloosahatchee River at discharge point location D-001 which is approximately 244 m (800 feet) from shore. The point of discharge is at the 1.83 m (6 feet) contour line located approximately at latitude 26º 33’ 33” N, longitude 81º 55’ 36” W. The AADF through Outfall D-001 from March 1, 2007, through February 29, 2007, was approximately 0.9781 MGD.

The facility’s reuse system (R-001) is a 2.011 MGD AADF design capacity slow-rate public access irrigation system consisting of a general reuse service area located throughout the Fiesta Village Water and Sewer Reuse Service Area. In the permit application, the future reuse rate was estimated to be 1.147 MGD for a combined total design capacity of 3.158 MGD-AADF.

In addition, the facility has a stormwater outfall system (D-002) which is associated with the Landings Golf Course Lake which is used to store public access reuse water. Reclaimed water intermittently overflows and is discharged to the Caloosahatchee River. (Facility information obtained from NPDES permit #FL0039829 issued September 11, 2003.)

Methods

Samples were collected on March 17, 2008, from the EFD-01 NPDES sampling point for Outfall D-001 by Albert Walton and Alyssa Mork (FDEP South District). Effluent samples for bioassay were also collected on March 19 and March 21, 2008, by Alyssa Mork. Samples were collected 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 forms.

The chronic screening toxicity tests and algal growth potential (AGP) test were performed following internal DEP SOPs TA07_05, TA07_09, and TA08_01 through TA08_09. All internal DEP SOPs are available on the web at: http://www.floridadep.org/labs/cgi-bin/sop/biosop.asp.

The chronic bioassay tests were performed in accordance with the facility's NPDES permit requirement of a screening test utilizing a control and a single concentration of 44% effluent.

Dunnett's procedure (available at Statistical Analysis for Biological Methods http://www.epa.gov/EERD/stat2.htm) and t-tests were used to analyze data from these tests.

An aliquot of the AGP sample was salinity adjusted to meet the minimum salinity requirements of the marine test species. Both a freshwater and a marine AGP test were performed.

Toxicity Test Results

Tests were performed March 18 – 25*, 2008.

Ceriodaphnia dubia chronic screening bioassay – NOEC = 44%

Pimephales promelas chronic screening bioassay – NOEC = 44%

The bioassay samples were not chronically toxic to the test organisms at the permitted effluent test concentration.

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

*NOTE: The Ceriodaphnia dubia bioassay was terminated on test day 6 (March 24, 2008) because termination criteria was met (≥ 60% of control organisms having 3rd brood).

Algal Growth Potential

The effluent Algal Growth Potential (AGP) was 5.8 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 1.7 (±20%) mg dry wt/L. The predicted AGP based on total nitrogen concentrations was 34.5 (±20%) mg dry wt/L (Table 1; Miller et al. 1978).

The effluent Algal Growth Potential (AGP) was 3.0 U mg dry wt/L of the saltwater species *Dunaliella tertiolecta.* Raschke and Shultz found that AGP values above 10.0 mg dry weight/L represent a "problem" threshold for marine receiving waters, implying nutrient enrichment (personal communication with Ron Raschke USEPA Region 4, 1987).

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

See Table 1 for AGP results.

Chemistry Results

Total residual chlorine (TRC) was not detected in the laboratory in the bioassay samples collected on March 17 and March 21, 2008. TRC (0.04 mg/L) was detected in the bioassay sample collected on March 19, 2008. TRC (1.52 mg/L) was detected in the field in the effluent collected on March 17, but was not detected in the field in the effluent collected on March 19 and March 21. Total ammonia was not detected in the three bioassay samples in the bioassay laboratory. The total ammonia concentration in the sample collected and preserved for chemical analysis on March 17 was 0.036 mg/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was < 0.02 mg/L.

Zinc was detected in the effluent at levels that comply with Class III marine water quality criteria (62-302.530, F.A.C.). Atrazine, aluminum, arsenic, chromium-III, diethyl phthalate, iron, lead and nickel were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL). Bis(2-ethylhexyl)phthalate, diethyl phthalate, cadmium, copper, nickel and selenium were detected in the field blank.

See Table 2 for results of analytes detected in the effluent, and corresponding limits. See Appendix E for a complete list of chemical analyses performed. See Appendix F for laboratory instruments.

Conclusion

The effluent samples collected from the EFD-01 NPDES sampling point for this facility on March 17, 19 and 21, 2008, were not chronically toxic to either test species during the chronic screening bioassays. The effluent AGP result exceeded the "problem" threshold for fresh receiving waters, suggesting nutrient enrichment may be an issue. The salinity adjusted AGP result was less than the laboratory method detection limit in the marine AGP test. Effluent water quality samples did not exceed any applicable water quality standards or violate any permit conditions.

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 1a. Measured and predicted algal growth potential (AGP; mg dry weight/L) for total soluble inorganic nitrogen (TSIN) and total nitrogen (TN) limitation of the freshwater species *Pseudokirchneriella subcapitata,* and ratios of the nitrogen to phosphorus for samples collected from the Fiesta Village WWTP on March 17, 2008.

Fiesta Village WWTP					
Location	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (TN) ± 20%	Inorganic N:P ratio	Total N:P ratio
Effluent	5.8	1.7 ± 0.3	34.5 ± 6.9	0.3	5.1

Table 1b. Measured and predicted algal growth potential (AGP; mg dry weight/L) of the saltwater species *Dunaliella tertiolecta* and ratios of nitrogen to phosphorus, in a sample of effluent collected from the Fiesta Village WWTP on March 17, 2008.

Fiesta Village WWTP			
Location	Salinity Adjusted AGP (measured)	Inorganic N:P ratio	Total N:P ratio
Effluent	3.0 U	0.3	5.1

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

Table 2. Effluent limits, Class III Criteria for predominantly marine waters and chemical data for samples collected from the Fiesta Village WWTP on March 17, 19 and 21, 2008.

Fiesta Village WWTP NPDES # FL0039829	Class III Criteria	Effluent Limits D-001	Effluent 3/17/2008	
Organic Constituents (µg/L)				
Atrazine	-	-	0.13	I
Bis(2-ethylhexyl)phthalate	-	-	28	IF
Diethyl phthalate	-	-	1.2	I
Diethyl phthalate	-	-	1.1	IF
Metals (µg/L unless otherwise noted)				
Aluminum	≤ 1,500	-	120	I
Arsenic	≤ 50	-	0.55	I
Cadmium	≤ 8.8	-	0.02	UF
Calcium (mg/L)	-	-	62.2	F
Chromium-III	-	-	1	U
Copper	≤ 3.7	-	0.5	UF
Iron	≤ 300	-	40	I
Lead	≤ 8.5	-	0.28	I
Magnesium (mg/L)	-	-	10.5	
Nickel	≤ 8.3	-	0.95	IF
Selenium	≤ 71	-	0.5	U
Silver	≤ 2.3	-	0.025	U
Zinc	≤ 86	-	40	
Nutrients (mg/L)				
Ortho-phosphate	-	-	0.14	
Total Phosphorus	-	≤ 1.0 sp	0.18	
Total Ammonia	-	-	0.036	
Un-ionized Ammonia	-	-	≤ 0.02	c
Nitrate and Nitrite	-	-	0.009	I
Total Kjeldahl Nitrogen	-	-	0.9	
Organic Nitrogen	-	-	0.864	c
Total Nitrogen	-	≤ 6.0 sp	0.909	c
General Physical and Chemical Parameters				
Dissolved Oxygen (mg/L)	≥ 4.0 s	≥ 4.0	5.7	
pH (SU) collected on 3/17/08	6.5 - 8.5 s	6.5 - 8.5 s	7.0	
pH (SU) collected on 3/19/08	6.5 - 8.5 s	6.5 - 8.5 s	7.0	
pH (SU) collected on 3/21/08	6.5 - 8.5 s	6.5 - 8.5 s	6.9	
Conductivity (µmhos/cm)	-	-	966	
Temperature °C	-	-	27.0	
Total Residual Chlorine (mg/L) (3/17/08)	≤ 0.01 s	≤ 0.01 s	1.52*	
Total Residual Chlorine (mg/L) (3/19/08)	≤ 0.01 s	≤ 0.01 s	0	
Total Residual Chlorine (mg/L) (3/21/08)	≤ 0.01 s	≤ 0.01 s	0	
Chlorophyll a (µg/L) - Corrected	-	-	1.3	I
Phaeophytin (µg/L)	-	-	0.39	I
Total Suspended Solids (mg/L)	-	≤ 60 sp	4	U
Total Dissolved Solids (mg/L)	-	-	557	
CBOD, 5 day (mg/L), N - inhibited	-	≤ 60 sp	2.4	
Oils and Greases (mg/L)	≤ 5	-	2.4	I
Flow (MGD) (surface water)	-	≤ 5.0 a	0.9781	a
Hardness (mg $CaCO_3$)	-	-	198.55	c

Value exceeds the Class III Water Quality Criteria or permit limits

a - Annual average
c - Value is calculated
p - Permit requires 24-hour flow proportioned composite sample
s - Single sample
t - Shall not exceed 29 NTUs above background
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
U - Material analyzed for but not detected; value reported is the method detection limit
* - Field measurement--TRC measured at <0.03 mg/L in the laboratory.

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Request Number: RQ-2008-03-17-36
Lee County Utilities - Fiesta Village

Customer: SO-DIST

Project ID: FYI3

PMAS: 1143

Event ID *

Requester: Jennifer Paris

Collected By: ALBERT WALTON & ALYSSA MORIK

Sampling Agency: DEP SOUTH DIST

Field Report Prepared By: ALBERT WALTON

Send Final Report To Keith Kleinmann & ALYSSA MORIK

0600 per walton email 3/18/08

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	FIESTA VILLAGE AWWTP EFFLUENT	☒ Comp ☐ Grab Date 3-16-08 Time 1800 Eastern Central	Date 3-17-08 Time 0600 Eastern Central	A
	Field ID: WF 031708-1	Tot Res Chlorine (mg/L): 1.52	Diss Oxygen (mg/L): 5.69	Storet Station Number:
	Matrix (Include type e.g. Salt, Fresh, etc): FR WATER	Temp (C): 26.96	pH: 6.96	
	Latitude: 26° 32' 0.353"	Longitude: 81° 54.243"	Sample Depth: — ☐ m ☐ ft	☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm): 966
			NPDES Number: FL 0039829	
			Comments: FL 0039829 EFP-01	

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	BLANK FOR FIESTA VILLAGE AWWTP	☐ Comp ☑ Grab Date 3-15-08 Time 1600 Eastern Central	Date Time Eastern Central	B
	Field ID: WF 031508-1	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number
	Matrix (Include type e.g. Salt, Fresh, etc): FR. WATER	Temp (C)	pH	Sample Depth ☐ m ☐ ft
	Latitude o ' "	Longitude o ' "	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number: FL# 39829
			Comments: D.I. WATER FROM PUNTA GORDA LAB	

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
		☐ Comp ☐ Grab Date Time Eastern Central	Date Time Eastern Central	
	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
	Latitude o ' "	Longitude o ' "	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number
			Comments	

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
		☐ Comp ☐ Grab Date Time Eastern Central	Date Time Eastern Central	
	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
	Latitude o ' "	Longitude o ' "	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number
			Comments: 2 bissay 1:50 3.19.08 J.D. Red in box	

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
ALBERT WALTON	3-17-08 1320	DHL	[illegible]	3/18/08 0845				

* 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-2008-03-17-36
Lee County Utilities - Fiesta Village

Event ID *

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

Requester: Jennifer Paris
Collected By: ALBERT WALTON/ALYSA MORIC
Sampling Agency: DEP SOUTH DIST

Field Report Prepared By: ALBERT WALTON
Send Final Report To Keith Kleinmann

Lab ID *	Location: FIESTA VILLAGE AWWTP EFFLUENT		☑ Comp ☐ Grab	Collection (begin) Eastern Date 3-18-08 Time 0900 ~~Control~~	Collection (end) Eastern Date 3-19-08 Time 0800 ~~Central~~	Bottle Group(s)**	
	Field ID: WF 031908-1		Tot Res Chlorine (mg/L): 0	Diss Oxygen (mg/L)	Storet Station Number	A	
	Matrix (Include type e.g. Salt, Fresh, etc): FR. WAT	Temp (C)	pH 6.99	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number: FL0039829	
	Latitude: 26 ° 32 ' 35" .	Longitude: 81 ° 54 ' 24" .		Comments: FL0039829 EFP-01			
Lab ID *	Location		☐ Comp ☐ Grab	Collection (begin) Eastern Date Time Central	Collection (end) Eastern Date Time Central	Bottle Group(s)**	
	Field ID		Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number		
	Matrix (Include type e.g. Salt, Fresh, etc)	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number	
	Latitude o ' " .	Longitude o ' " .		Comments			
Lab ID *	Location		☐ Comp ☐ Grab	Collection (begin) Eastern Date Time Central	Collection (end) Eastern Date Time Central	Bottle Group(s)**	
	Field ID		Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number		
	Matrix (Include type e.g. Salt, Fresh, etc)	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number	
	Latitude o ' " .	Longitude o ' " .		Comments			
Lab ID *	Location		☐ Comp ☐ Grab	Collection (begin) Eastern Date Time Central	Collection (end) Eastern Date Time Central	Bottle Group(s)**	
	Field ID		Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number		
	Matrix (Include type e.g. Salt, Fresh, etc)	**Temp (C)**	**pH**	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number	
	Latitude o ' " .	Longitude o ' " .		Comments			

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
Alysa Moric	3-19-08 13:50	DHL	AB	3-20-08 09:00				

* 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

Event ID *

Request Number: RQ-2008-03-17-36
Lee County Utilities - Fiesta Village

Customer: SO-DIST

Project ID: FYI3

PMAS: 1143

Requester: Jennifer Paris
Field Report Prepared By: ALBERT WALTON
Collected By: ALYSSA MORK / ALBERT WALTON
Send Final Report To Keith Kleinmann
Sampling Agency: DEP SOUTH DIST

Lab ID *	Location: FIESTA VILLAGE AWWTP EFFLUENT	☑ Comp ☐ Grab	Collection (begin) Date 3-20-08 Time 0900 Eastern Central	Collection (end) Date 3-21-08 Time 0800 Eastern Central	Bottle Group(s)** A			
	Field ID: WF-032108-1	Tot Res Chlorine (mg/L): 0	Diss Oxygen (mg/L):	Storet Station Number:				
	Matrix (Include type e.g. Salt, Fresh, etc): FR. WATER	Temp (C):	pH: 6.93	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number: FL0039829		
	Latitude: 26 32 35.3	Longitude: 81 54 24.8	Comments: FL0039829 EFP-01					
Lab ID *	Location	☐ Comp ☐ Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**			
	Field ID	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number				
	Matrix (Include type e.g. Salt, Fresh, etc	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number		
	Latitude o ' "	Longitude o ' "	Comments					
Lab ID *	Location	☐ Comp ☐ Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**			
	Field ID	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number				
	Matrix (Include type e.g. Salt, Fresh, etc	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number		
	Latitude o ' "	Longitude o ' "	Comments					
Lab ID *	Location	☐ Comp ☐ Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**			
	Field ID	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number				
	Matrix (Include type e.g. Salt, Fresh, etc	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number		
	Latitude o ' "	Longitude o ' "	Comments					

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
Alyssa Mork	3-21-08	DHL	Marshall Faircloth	3/22/08 1030				3-24-08 9:55am

* Shaded Areas for Lab use only. 10:20

** Please see reverse side for Bottle Group information.

2 coolers Temperature 1.4 and 1.2

3 Jugs of Bioassay Samples

last revised October 1, 2003

Appendix B. Bench Sheets

FDEP Biology Laboratory - Chronic Screen Bench Sheet

Ceriodaphnia dubia

Facility: Lee County Utilities Fiesta Village WWTP
Address: 1346 San Souci Drive
County: Lee
NPDES Permit #: FL 0039829
Contact/District: Jennifer Parris / SO District

LIMS entry: 4-11-08 MF verified: 4-11-08 BA

Diluent/ Batch: 20% DMW / 3-10-08 Test Days Used: 0-2
20% DMW / 3-17-08 Test Days Used: 3-5 MF

SOP#: TA07_05 EPA 821-R-02-013 Method 1002.0

Start Date: 3.18.08 Time: BA 12:50
End Date: 3-24-08 Time: 13:00

Organism: *Ceriodaphnia dubia*
Organism Batch #: 11-08
Organism age : <24 hours
Feeding: Prior to Test and Daily
Food: YCT *P. subcapitata*
Food Batch: 7-26-07 MF 1-31-08
Chamber size : 30 ml
Sample volume : 20 ml

Sample Received	Lab Sample #	LIMS Job #	LIMS Sample #	Collection Date/Time	Received Date/Time
Test Day 0	1	TLH- 2008-03-12-63	108 9349	3-17-08 / 6:00	3-18-08 / 9:50
Test Day 2	2	TLH- 2008-03-20-11	108 9919	3-19-08 / 8:00	3-20-08 / 10:15
Test Day 4	3	TLH-2008-03-24-01	10903 50	3/21/08 0800	3-22-08 / 1030

Water Quality Parameters	Field Chlorine (mg/L)			Lab Chlorine (mg/L)			Alkalinity (mg/L as $CaCO_3$)		
Lab Sample #:	1	2	3	1	2	3	1	2	3
Sample:	1.52	0	0	<0.03	<0.03 MF	<0.03	97	102	106
Diluent/Control:				<0.03	<0.03	<0.03	97 BA 89	94	94
Method:	Hach	Hach	Hach	Hach	Hach	Hach	Hach	Hach	Hach
Measured by:	AM/AW	AM/AW	AM/AW	JD	JD	MF	BA	BA	BA
Verified by:	BA	BA	BA	MF	MF	BA	MF	MF	MF
	Conductivity (circle one) (umhos-cm) (mmhos-cm)			Ammonia (mg/L)			Hardness (mg/L as $CaCO_3$)		
Lab Sample #:	1	2	3	1	2	3	1	2	3
Sample:	1008	1008	1007	<0.017	<0.017	<0.017	200	200	198
Diluent/Control:	175	174	185	<0.017	<0.017	<0.017	84	94	94
Method:	Mettler	Mettler	Mettler	Denver	Denver	Denver	Hach	Hach	Hach
Measured by:	JD/MF	JD/MF	MF	MF	MF	MF	BA	BA	BA
Verified by:	MF/BA	MF/BA	BA	BA	BA	BA	MF	MF	MF

Temperature Shipped ≤6° C (all samples) (yes) no
Holding Time ≤36 hours (yes) no
Light Intensity : 50 - 100 ft. candles
Photoperiod : 16 light 8 dark
Temperature Range °C:
Incubator # 2 min. 25.7 max. 27.2 mean 26.5
Room B246 min. 24.2 max. 25.7 mean 25.0

Test Replicate	Loaded from culture vial
1	A 2
2	A 4
3	A 7
4	A 14
5	A 17
6	A 22
7	A 29
8	A 28
9	B 10
10	B 15

Statistics	
Control % CV:	15.59%
Dunnetts PMSD:	17.3%
Reproduction NOEC:	44%
Survival NOEC:	44%
T-test value	0.9612i
T- table value:	1.9430
df:	MF 16 18

Investigators' signatures
Jamar Daniels
Brian Ab
Marshall Faircloth

Roletta C. Wolfe
REVIEWER

Comments: Test terminated on day 6 due to control reproduction criteria being met MF 3-29-08

FDEP Biology Laboratory - Chronic Screen Bench Sheet

Ceriodaphnia dubia Survival and Reproduction

Facility: Lee County Utilities Fiesta Village WWTP

LIMS Sample # 1089349 for lab sample 1

Start Date: 3/18.08 Time: ~~1:45~~ 12:50

End Date: 3-24-08 Time: 13:00

Conc.	Day	Replicate Number 1	2	3	4	5	6	7	8	9	10	Total Neonates	Surviving adults	Neonates per adult
Control	0*												10	
	1												10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	3	0	4	0	4	0	0	0	0	0	0	8	10	0.8
	4	3	0	4	0	4	4	5	4	4	2	30	10	3.0
	5	10	10	7	9	8	8	11	10	9	9	91	10	9.1
	6	12	13	13	7	12	6	13	12	14	8	110	10	11.0
	7													
	8													
	Total	25	27	24	20	24	18	29	26	27	19	239	10	23.9

Conc.	Day	Replicate Number 1	2	3	4	5	6	7	8	9	10	Total Neonates	Surviving adults	Neonates per adult
44 % sample	0*												10	
	1												10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	3	2	4	0	2	0	0	0	0	0	0	8	10	0.8
	4	8	0	3	0	4	5	3	3	4	3	33	10	3.3
	5	11	10	9	11	8	7	10	2	9	10	87	10	8.7
	6	0	12	10	13	6	11	8	0	13	15	88	10	8.8
	7													
	8													
	Total	21	26	22	26	18	23	21	5	26	28	216	10	21.6

Organisms loaded by: BA	
Day	Counted/ verified by:
0	JD
1	MF
2	MF
3	MF
4	MF
5	BA
6	BA
7	
8	

Concentration	Mean neonates /adult	% survival
Control	23.9	100
44%	21.6	100

Test acceptability	
Mean control reproduction 15/female	(yes) no
3rd brood in 60% of surviving females	(yes) no
Control survival ≥80%:	(yes) no

Comments: (A) Rep 4-44% - Day 3 - 3 neonates MF 3-31-08

Test Terminated at Day 6 due to acceptability requirements being met. MF 3-28-08

*Day 0 is test initiation day

X = Dead (original organism)

Appendix B. (continued)

FDEP Biology Laboratory - Chronic Screen Bench Sheet

Ceriodaphnia dubia Parameters

Facility: Lee County Utilities - Fiesta Village

LIMS Sample # : 1089399 for lab sample 1

Circle µmhos-cm or mmhos-cm

Test Day ↓		Concentration	New Sample					Old Sample				
			Test Replicate	pH (su)	Temp (°C)	DO (mg/L)	Conductivity (µmhos/cm) (mmhos/cm)	Test Replicate	pH (su)	Temp (°C)	DO (mg/L)	Conductivity (µmhos/cm) (mmhos/cm)
Day 0	sample: Control		M	8.2	25.2	7.9	175					
	1 41%		M	7.9	25.3	8.2	456					
	Measured by:			BA	DA	BA	BA					
	Recorded by:			BA	BA	BA	BA					
Day 1	sample: Control		M	8.1	24.3	7.9	170	M	8.2	24.2	7.5	183
	1 44%		M	7.8	24.8	8.0	631	M	8.2	24.2	7.4	460
	Measured by:			MF	MF	MF	MF		MF	MF	MF	MF
	Recorded by:			MF	MF	MF	MF		MF	MF	MF	MF
Day 2	sample: Control		M	8.2	25.1	7.7	174	M	8.1	24.4	7.2	180
	2 44%		M	7.8	25.3	7.7	548	M	8.2	24.3	7.1	631
	Measured by:			MF	MF	MF	MF		MF	MF	MF	MF
	Recorded by:			MF	MF	MF	MF		MF	MF	MF	MF
Day 3	sample: Control		M	8.2	24.2	7.8	172	M	8.1	24.3	7.3	177
	2 44%		M	7.7	25.4	8.4	565	M	8.1	24.2	7.6	528
	Measured by:			MF	MF	MF	MF		MF	MF	MF	MF
	Recorded by:			MF	MF	MF	MF		MF	MF	MF	MF
Day 4	sample: Control		M	8.2	24.8	7.6	185	M	8.1	25.1	MF ~~25.7~~ 7.7	175
	3 44%		M	8.0	25.0	7.6	546	M	8.1	25.0	MF ~~25.0~~ 7.5	571
	Measured by:			MF	MF	MF	MF		MF	MF	MF	MF
	Recorded by:			MF	MF	MF	MF		MF	MF	MF	MF
Day 5	sample: Control		M	8.2	24.0	7.7	173	M	8.1	24.0	7.7	197
	3 44%		M	8.3	24.0	8.0	561	M	8.2	24.0	7.7	568
	Measured by:			BA	BA	BA	BA		BA	BA	BA	BA
	Recorded by:			BA	BA	BA	BA		BA	BA	BA	BA
Day 6	sample: Control		M					M	8.1	24.0	7.2	197
	3 44%		M					M	8.2	24.0	6.9	568
	Measured by:								BA	BA	BA	BA
	Recorded by:				Not renewed BA 3/24/06				BA	BA	BA	BA
Day 7	sample: Control		M					M				
	3 44%		M					M				
	Measured by:											
	Recorded by:											
Day 8	sample: Control							M				
	3 44%							M				
	Measured by:											
	Recorded by:											

Comments:

Replicate M= "Metered" vial, a surrogate vial for parameters

Test Page 3 of 3 PAGE 000024 revised 08/24/06 MF/SP

FDEP Biology Laboratory - Chronic Screen Bench Sheet

Pimphales promelas or Menidia beryllina

Facility: Lee County - Fiesta Village WWTP
Address: 1366 San Souci Dr
County: Lee county
NPDES Permit #: FL0039829
Contact/District: Jennifer Paris / SO-District

Test Species (circle one)
(P. promelas) SOP#: TA07_09 EPA-821-R-02-013 Method 1000.0
M. beryllina SOP#: TA07_14 EPA-821-R-02-014 Method 1006.0

Start Date: 3.18.08 Time: 1315
End Date: 3.25.08 Time: 1100

Diluent/ Batch:
MHW / 3.17.08 Test Days Used: 0-3
MHW / 3.21.08 Test Days Used: 3-7
ASW / _____ Test Days Used: _____
ASW / _____ Test Days Used: _____

Organism age : <1 days
Feeding Prior to Test and Daily
Artemia Lot # : 38438425
Chamber size : 1000 ml
Test volume : 500 ml
Artemia lot # GSL-336-40 used Day 2,

Artemia Batch #		Day 3	52-08
Day 0	49-08	Day 4	53-08
Day 1	50-08	Day 5	54-08
Day 2	51-08	Day 6	55-08

LIMS:	Date	Initials
Entry:	4-11-08	MF
Verification:	4-11-08	BA

Sample Received	Lab Sample #	LIMS Job #	LIMS Sample #	Collection Date/Time	Received Date/Time
Test Day 0	1	TLH- 2008- 03-18 63	1084319	3-17-08/ 6:00	3-18-08/ 9:50
Test Day 2	2	TLH- 2008 03-20 11	1089919	3-19-08/ 8:00	3-20-08/ 10:15
Test Day 4	3	TLH-2008 -03-24-01	1090350	3-21-08/ 8:00	3-22-08/ 10:30

Water Quality Parameters	Field Chlorine (mg/L)			Lab Chlorine (mg/L)			Alkalinity (mg/L as $CaCO_3$)			Hardness (mg/L as $CaCO_3$)		
Lab Sample #:	1	2	3	1	2	3	1 BA	2	3	1 BA	2	3
Sample:	1.52	0	0	<0.03	0.04	<0.03	97	102	106	200	200	198
Diluent/Control:				<0.03	<0.03	<0.03	67	81	81	104	147	147
Method:	HACH	Hach	Hach	Hach	Hach	Hach	Hach	Hach	Hach	Hach	Hach	Hach
Measured by:	AM/AW	AM/AW	AM/AW	JD	JD	MF	BA	BA	BA	BA	BA	BA
Verified by:	BA	BA	BA	BA	BA	BA	MF	MF	MF	MF	MF	MF

	Conductivity (circle one) (µmhos-cm / mmhos-cm)			Ammonia (mg/L)			Salinity (ppth)		
Lab Sample#:	1	2	3	1	2	3	1	2	3
Sample:	1008	1008	1007	<0.017	<0.017	<0.017	<1	<1	<1
Diluent/Control:	~~698~~	~~697~~ (A)	~~694~~ (A)	<0.017	<0.017	<0.017	<1	<1	<1
Method:	Mettler	Mettler	Mettler	Denver	Denver	Denver	Mettler	Mettler	Mettler
Measured by:	JD	BA/JD	MF	MF	MF	MF	JD	BA	MF
Verified by:	BA	MF	BA	BA	BA	BA	BA	MF	BA

Temperature Stipped ≤6° C (all samples) (yes) no
Holding Time ≤36 hours (yes) no
Light Intensity : 50 - 100 ft. candles
Photoperiod : 16 light 8 dark
Temperature Range °C:
Incubator # 2 min 25.1 max 27.2 mean 26.5
Water bath # ____ min.____ max:____ mean____
Room B246 min. 24.2 max 25.7 mean 25.0

Investigators' signatures
James Daniels
Bruce Alvis
Marshall Faircloth

Loretta C. Wolfe
REVIEWER

Statistics	
Control %cv:	9.72%
Dunnetts PMSD:	12.99
Survival NOEC:	44%
Survival LOEC:	>44%
Growth NOEC:	44%
Growth LOEC:	>44%

Comments: A Control Conductivity : Day 0 = 1410 Day ~~3~~ 4 ~~410~~ 494 2 MF 4-21-08
Day ~~3~~ 4: ~~403~~ 384 BA 3-25-08 MF 4-21-08 Test Days corrected to correspond to sample receiving days MF-4-21-08

Test Page 1 of 4

PAGE 33

revised 3/13/07 MF

Appendix B. (continued)

FDEP Biology Laboratory - Chronic Screen Bench Sheet

Pimphales promelas or Menidia beryllina Survival

Facility: Lee County Utilities - Fiesta Village WWTP

Organism: (*P. promelas*) *M.beryllina* (circle one)

LIMS Sample Number: 1089349 for lab sample #1

Start Date: 3.18.08 Time: 1315

End Date: 3-25-08 Time: 1100

			TEST DAY							
Concentration	Replicate		0	1	2	3	4	5	6	7
Control	A	Z1	10	10	10	10	10	10	9[10]	9
	B	Z2	10	10	10	10	10	10	10	10
	C	Z3	10	10	10	10	10	10	10	10
	D	Z4	10	10	10	10	10	10	10	10
44 % sample concentration	A	Z5	10	10	10	10	10	10	9[10]	9
	B	Z6	10	10	9[10]	9	9	9	9	9
	C	Z7	10	10	9[10]	9	9	9	9	9
	D	Z8	10	10	10	10	10	10	10	10
Control	A		10							
	B		10							
	C		10							
	D		10							
% sample concentration	A		10							
	B		10							
	C		10							
	D		10							
Loaded by: JD	Checked by:			JD	JD	JD	BA	JD	JD	MF
Verified by: BA										

Comments:

Test Page 2 of 4

PAGE 34

revised 08/24/06 MF/SP

Appendix B. (continued)

Biology Laboratory Chronic Screening Bioassay Benchsheet

Parameters

P. promelas SOP TA-07_09 *M. beryllina* SOP TA-07_14

Sample Source: Lee County Utilities - Fiesta Village WWTP

LIMS Sample #: 1085134 (for Lab sample #1)

Test Day ↓		Conc.	Old Sample: Test Rep.	pH (su)	Temp (°C)	DO (mg/L)	Cond (µmhos/cm) (mmhos/cm)	Salinity ppth	New Sample: Test Rep.	pH (su)	Temp (°C)	DO (mg/L)	Cond (µmhos/cm) (mmhos/cm)	Salinity ppth
Day 0	sample:	Control							A	6.4	25.3	8.2	440	<1
	1	100%							A	7.5	25.8	8.1	694	<1
	Measured by:									JD	JD	JD	JD	JD
	Recorded by:									JD	JD	JD	JD	JD
Day 1	sample:	Control	B	6.5	24.0	6.7	444	<1	B	7.0	24.0	7.7	456	<1
	1	100%	B	7.3	24.0	7.0	647	<1	B	7.5	24.0	7.1	692	<1
	Measured by:			JD	JD	JD	JD	JD		JD	JD	JD	JD	JD
	Recorded by:			JD	JD	JD	JD	JD		JD	JD	JD	JD	JD
Day 2	sample:	Control	C	6.5	24.0	6.4	460	<1	C	6.4	24.0	7.5	444	<1
	2	100%	C	7.5	24.0	6.2	708	<1	C	7.5	24.1	7.6	695	<1
	Measured by:			JD	JD	JD	JD	JD		JD	JD	JD	JD	JD
	Recorded by:			JD	JD	JD	JD	JD		JD	JD	JD	JD	JD
Day 3	sample:	Control	D	6.0	24.0	5.9	447	<1	D	7.5	24.0	7.6	440	<1
	2	100%	D	7.3	24.0	6.1	699	<1	D	7.4	24.1	7.3	697	<1
	Measured by:			JD	JD	JD	JD	JD		JD	JD	JD	JD	JD
	Recorded by:			JD	JD	JD	JD	JD		JD	JD	JD	JD	JD
Day 4	sample:	Control	A	6.7	24.0	BA 5.8	435	<1	A	7.4	24.0	7.6	389	<1
	3	100%	A	7.1	24.0	5.8	717	<1	A	7.8	24.0	7.4	695	<1
	Measured by:			BA	BA	BA	BA	BA		BA	BA	BA	BA	BA
	Recorded by:			BA	BA	BA	BA	BA		BA	BA	BA	BA	BA
Day 5	sample:	Control	B	7.4	24.0	6.0	434	<1	B	7.5	24.0	7.2	403	<1
	3	100%	B	7.5	24.0	5.6	719	<1	B	7.8	24.0	7.6	694	<1
	Measured by:			JD	JD	JD	JD	JD		JD	JD	JD	JD	JD
	Recorded by:			JD	JD	JD	JD	JD		JD	JD	JD	JD	JD
Day 6	sample:	Control	C	7.7	24.2	5.7	408	<1	C	8.0	24.0	7.0	347	<1
	3	100%	C	7.5	24.2	5.6	709	<1	C	7.8	24.0	7.2	711	<1
	Measured by:			JD	JD	JD	JD	JD		JD	JD	JD	JD	JD
	Recorded by:			JD	JD	JD	JD	JD		JD	JD	JD	JD	JD
Day 7	sample:	Control	D	7.6	24.0	5.9	353	<1						
	3	100%	D	7.5	24.3	5.8	724	<1						
	Measured by:			BA	BA	BA	BA	BA						
	Recorded by:			BA	BA	BA	BA	BA						

Test Rep. = Replicate Record Salinity < 1 if freshwater Circle µmhos-cm or mmhos-cm

Comments: 100% = 44% Effluent for this facility - mf 4-17-08

revised 6/24/05 mf

test page 3 of 4 Page 000035

Appendix B. (continued)

FDEP Biology Laboratory - Chronic Screen Bench Sheet

Facility: Lee County

LIMS Sample Number: 08 9349 for lab sample #1

Concentration	Replicate	Pan #	Pan wt. (g)	Pan + Fish (g)	Fish wt. (g)	Original # Fish	Mean wt. (mg)
			mean wt = fish wt divided by 10 convert g to mg: move decimal 3 places to right				
Control	A	1	0.01757	0.02252	0.00495	10	0.495
	B	2	0.01822	0.02444	0.00612	10	0.612
	C	3	0.01822	0.02335	0.00513	10	0.513
	D	4	0.01939	0.02506	0.00567	10	0.567
44 % sample	A	5	0.01977	0.02664	0.00687	10	0.687
	B	6	0.01832	0.02413	0.00581	10	0.581
	C	7	0.01797	0.02400	0.00603	10	0.603
	D	8	0.01825	0.02491	0.00666	10	0.666
Control	A					10	
	B					10	
	C					10	
	D					10	
% sample	A					10	
	B					10	
	C					10	
	D					10	
	Weighed by initials:		MF	MF			

Growth	%CV	PMSD
Control		

Growth	Table	Calculated	dF
T-test	1.94300	-2.38576	6
Survival T-test	1.94300	1.41421	6

Drying 630F Sediment ow. 8205

Temperature °C:	60°C
Hours:	24'

Tare Weighing Date:	Final Weighing Date:		Measured Value		S-weight Value
Tare Pan 1 after Pan 5	0.01756 @ 0.01757	S-weights	0.00998	@	0.01000
Tare Pan 1 after Pan 8	0.01757 @ 0.01757	at tare	0.03000	@	0.03000
Final Pan 1 after Pan 5	0.02255 @ 0.02252	S-weights	0.01000	@	0.01000
Final Pan 1 after Pan 8	0.02254 @ 0.02252	at final	0.03000	@	0.03000

Comments: 97.5% Survival in the control 92.5% survival in 44% effluent
control mean wt = 0.547 mg/organism (original)
44% mean wt = 0.634 mg/original organism

Test Page 4 of 4 PAGE 000036 revised 08/24/06 MF/SP

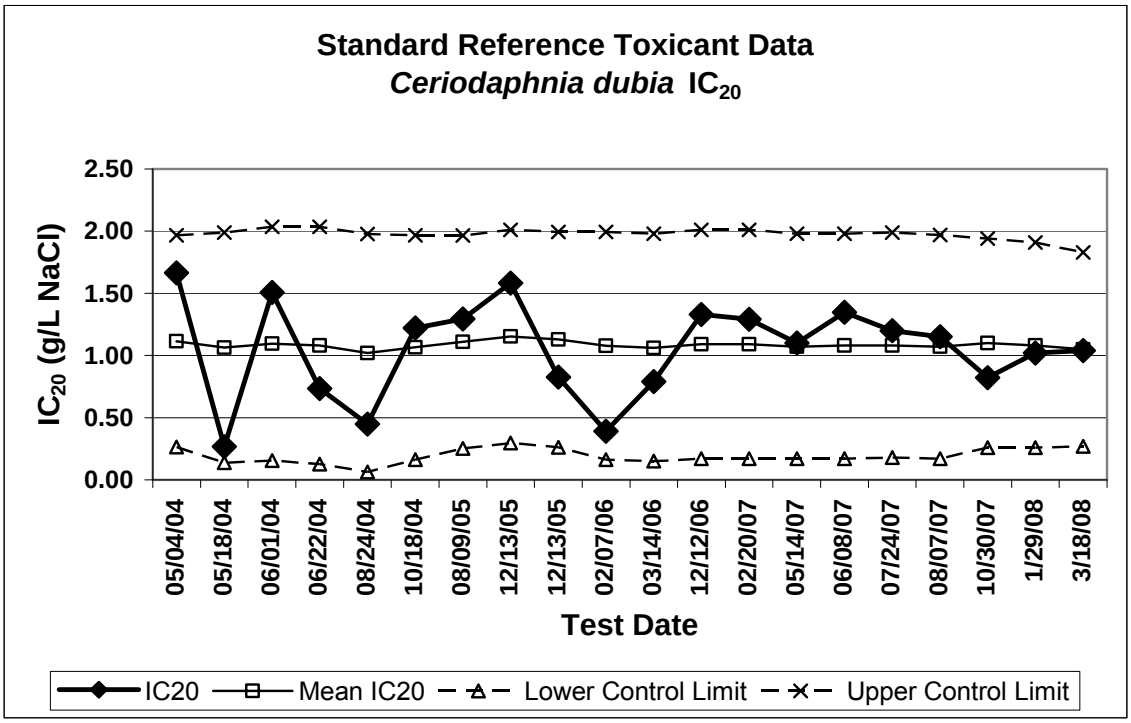
Appendix C. SRT Bench Sheets and Statistical Analysis

Florida Department of Environmental Protection
Bureau of Laboratories

Standard Reference Toxicant (SRT) Test Data - 7-Day Chronic Toxicity
Ceriodaphnia dubia (water flea) - Sodium Chloride (NaCl)

Date	IC20	Mean IC20	Std Dev	Lower Control Limit	Upper Control Limit
05/04/04	1.66	1.12	0.43	0.26	1.97
05/18/04	0.27	1.06	0.46	0.14	1.99
06/01/04	1.51	1.10	0.47	0.15	2.04
06/22/04	0.73	1.08	0.48	0.13	2.03
08/24/04	0.45	1.02	0.48	0.06	1.98
10/18/04	1.22	1.07	0.45	0.16	1.97
11/16/04	1.29	1.11	0.43	0.25	1.96
08/09/05	1.58	1.15	0.43	0.30	2.01
12/13/05	0.83	1.13	0.43	0.26	1.99
02/07/06	0.39	1.08	0.46	0.16	1.99
03/14/06	0.79	1.06	0.46	0.15	1.98
12/12/06	1.33	1.09	0.46	0.17	2.01
02/20/07	1.29	1.09	0.46	0.17	2.01
05/14/07	1.10	1.07	0.45	0.17	1.98
06/08/07	1.35	1.08	0.45	0.17	1.98
07/24/07	1.20	1.08	0.45	0.18	1.99
08/07/07	1.15	1.07	0.45	0.17	1.97
10/30/07	0.82	1.10	0.42	0.26	1.94
1/29/08	1.02	1.08	0.41	0.26	1.91
3/18/08	1.04	1.05	0.39	0.27	1.83

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



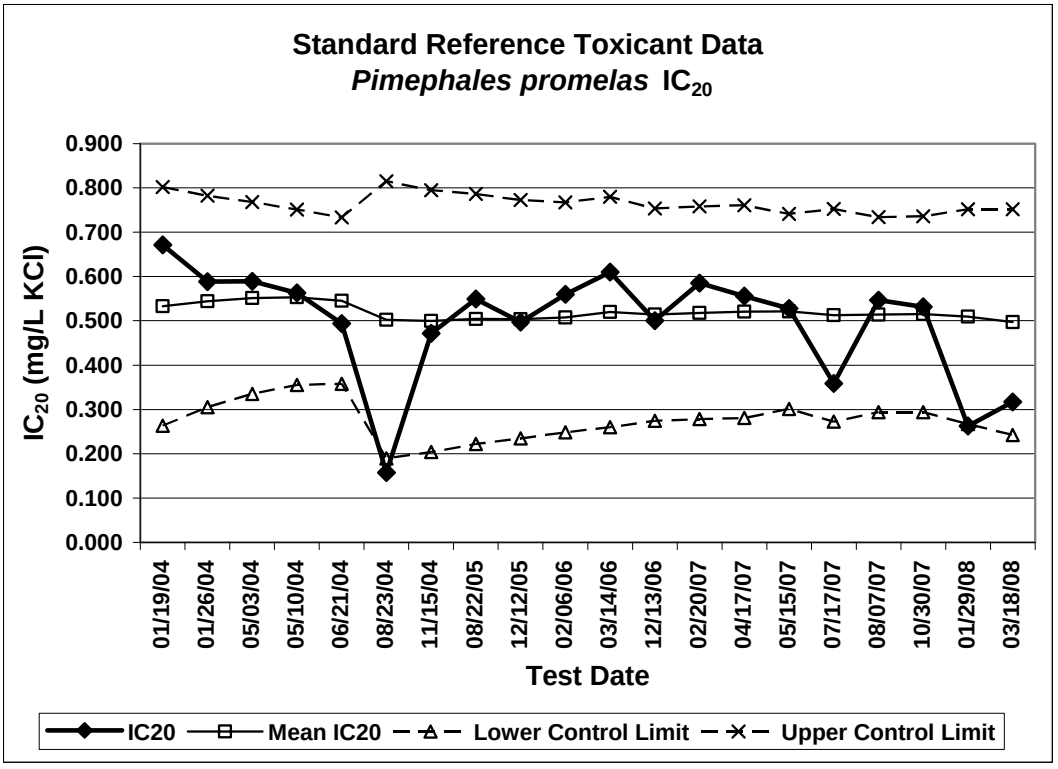
Appendix C. (continued)

Florida Department of Environmental Protection
Bureau of Laboratories

Standard Reference Toxicant (SRT) Test Data - 7-Day Chronic Toxicity
Pimephales promelas (fathead minnow) - Potassium Chloride (KCl)

Date	IC20	Mean IC20	Std Dev	Lower Control Limit	Upper Control Limit
01/19/04	0.671	0.533	0.13	0.263	0.802
01/26/04	0.588	0.544	0.12	0.305	0.782
05/03/04	0.589	0.551	0.11	0.335	0.768
05/10/04	0.563	0.553	0.10	0.355	0.751
06/21/04	0.494	0.546	0.09	0.358	0.734
08/23/04	0.157	0.503	0.16	0.190	0.815
11/15/04	0.472	0.499	0.15	0.204	0.795
08/22/05	0.549	0.504	0.14	0.222	0.786
12/12/05	0.497	0.503	0.13	0.234	0.772
02/06/06	0.559	0.508	0.13	0.248	0.767
03/14/06	0.610	0.520	0.13	0.260	0.780
12/13/06	0.501	0.514	0.12	0.274	0.754
02/20/07	0.585	0.518	0.12	0.278	0.758
04/17/07	0.556	0.521	0.12	0.281	0.761
05/15/07	0.528	0.521	0.11	0.301	0.741
07/17/07	0.358	0.513	0.12	0.273	0.753
08/07/07	0.547	0.514	0.11	0.294	0.734
10/30/07	0.531	0.515	0.11	0.294	0.736
01/29/08	0.263	0.509	0.12	0.267	0.752
03/18/08	0.317	0.497	0.13	0.242	0.752

Means are from all SRT tests, up to 20 tests..
Lower Confidence Limit = mean - 2 * Std Dev
Upper Confidence Limit = mean + 2 * Std Dev



FDEP Biology Laboratory - Chronic SRT Bench Sheet

Ceriodaphnia dubia

Diluent/ Batch: 20% DMW / 3-10-08 Test Days Used: 0-3
20% DMW / 3-12-08 Test Days Used: 4-5
Toxicant/ Batch: NaCl / 3-17-08 3ppt

SOP # : TA 07_05
EPA-821-R-02-013 Method 1002.0

Organism: *Ceriodaphnia dubia*
Organism Batch #/ Age: 11-08 / <24 hr.
Feeding: Prior to Test and Daily
Food: YCT / *P. subcapitata*
Food Batch: 7-26 Bot 1-31-08
Chamber size: 30 mL
Test Volume: 20 mL

Start Date: 3.18.08 Time: 1330 1345
End Date: 3-24-08 Time: 14:15

Water Quality Parameters	20% DMW 3-10-08	Diluent (or other)	Method	Measured by:	Verified by:
Lab Total Residual Cl_2 (mg/L):	<0.03	<0.03	HACH	JD	MF
Alkalinity (mg/L as $CaCO_3$):	87	94	HACH	BA	MF
Hardness (mg/L as $CaCO_3$):	84	94	HACH	BA	MF
Total Ammonia (mg/L as N):	<0.017	<0.017	DENVER	MF	BA
Conductivity (umhos-cm) mmhos-cm :	175	188	YSI (Mettler)	MF	BA

20% DMW 3-12-08

Results	
Control % CV:	15.7
Dunnetts PMSD:	16.9
Reproduction NOEC:	0.89 ppth
Reproduction LOEC:	1.3 ppth
Survival NOEC:	1.3
Survival LOEC:	2
ICP_{20}:	1.04
ICP_{25}:	1.11

Day	Concentrations prepared by	Counted by
0	MF	MF/BA
1	MF	MF
2	MF	MF
3	MF	MF
4	MF	MF
5	MF	BA
6	—	BA
7	—	—
8	—	-

Test Replicate	Loaded from culture vial
1	A2
2	A4
3	A7
4	A14
5	A17
6	A22
7	A27
8	A28
9	B10
10	B15

Comments:

Test terminated at Day 6 because control survival and reproduction criteria was met. MF 3-24-08

Investigators' signatures

Marshall Faircloth

Loretta C. Wolfe
REVIEWER

Light Intensity : 50 - 100 ft. candles
Photoperiod : 16 light 8 dark
Temperature Range °C:
Incubator # 2 min. 25.7 max. 27.2 mean 26.5
Incubator # ____ min. _____ max. _____ mean _____
Room B246 min. 24.2 max. 25.7 mean 25.0

Appendix C. (continued)

Ceriodaphnia dubia Survival and Reproduction

Start Date: 3-18-08 Time: 13:30 Loaded by: BA
End Date: 3-24-08 Time: 14:15 Verified by: [illegible]

Concentration	Day	Replicate Number 1	2	3	4	5	6	7	8	9	10	Total neonates	Live adults	Neonates per adult
Control	0												10	
	1												10	
	2	0	0	0	0	0	0	0	0	0	0		10	
	3	0	4	0	4	0	0	0	0	0	0	8	10	0.8
	4	4	0	2	0	0	4	5	5	3	4	27	10	2.7
	5	5	8	8	9	8	10	9	10	10	9	86	10	8.6
	6	12	11	13	9	10	14	13	16	10	13	121	10	12.1
	7													
	8													
	Total	21	23	23	22	18	28	27	31	23	26	242	10	24.2
0.59 ppth	0												10	
	1												10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	3	0	3	0	2	0	0	0	0	0	0	5	10	0.5
	4	5	1	2	0	3	6	5	3	4	3	32	10	3.2
	5	11	9	8	9	9	9	9	8	9	8	89	10	8.9
	6	14	9	10	12	13	8	14	12	13	10	115	10	11.5
	7													
	8													
	Total	30	22	20	23	25	23	28	23	26	21	241	10	24.1
0.89 ppth	0												10	
	1												10	
	2	0	0	0	0	0	0	0	0	0	0	—	10	—
	3	0	0	0	4	0	0	0	0	0	0	4	10	0.4
	4	4	3	4	0	4	3	5	3	3	5	34	10	3.4
	5	8	7	8	8	7	11	8	5	7	7	76	10	7.6
	6	10	11	11	12	12	10	12	9	10	12	109	10	10.9
	7													
	8													
	Total	22	21	23	24	23	24	25	17	20	24	223	10	22.3

Comments:

Appendix C. (continued)

FDEP Biology Laboratory - Chronic SRT Bench Sheet

Ceriodaphnia dubia Survival and Reproduction

Concentration	Day	Replicate Number 1	2	3	4	5	6	7	8	9	10	Total neonates	Live adults	Neonates per adult
1.3 ppth	0												10	
	1												10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0
	4	3	2	3	0	2	4	3	3	4	4	28	10	2.8
	5	0	6	6	D	4	10	3	8	6	7	50	10	5.0
	6	0	10	10	0*	8	1	9	11	9	9	67	10	6.7
	7													
	8													
	Total	3	18	19	0	14	15	15	22	19	20	145	10	14.5
2.0 ppth	0												10	
	1												10	
	2	0	X	0	0	X	0	X	0	0	0	0	7	0
	3	0	|	X	0	|	0	|	0	0	0	0	6	0
	4	1	|	|	0	|	0	|	0	0	0	1	6	0.16
	5	1	|	|	0	|	0	|	1	1	0	3	6	0.5
	6	0	|	|	†♂BA	|	†♂BA	|	0	♂ BA	0	0	6	0
	7		|	|	|	|	|	|	|	|	|	|	|	
	8		|	|	|	|	|	|	|	|	|	|	|	
	Total	2	|	|	0	|	0	|	1	1	0	4	10	0.4
3.0 ppth	0												10	
	1												10	
	2	X	X	X	X	X	X	X	X	X	X		0	
	3													
	4													
	5													
	6													
	7													
	8													
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Comments: 3-24-08 1.3 ppth rep. 4 aborted ME eggs - MF

Test Page 3 of 5 PAGE 0000 8 08/24/06 MF/SP

Appendix C. (continued)

FDEP Biology Laboratory - Chronic SRT Bench Sheet

Ceriodaphnia dubia Parameters

Test Day ↓	Conc.	New Sample Replicate	pH (su)	Temp (°C)	DO (mg/L)	Conductivity (µmhos/cm) (mmhos/cm)	Old Sample Replicate	pH (su)	Temp (°C)	DO (mg/L)	Conductivity (µmhos/cm) (mmhos/cm)
Day 0	Control	M	8.2	25.2	7.6	0.175					
	0.59 ppth	M	8.1	25.2	7.8	1.34					
	0.89 ppth	M	8.1	25.2	7.8	1.93					
	1.3ppth	M	8.1	25.2	7.8	2.75					
	2.0 ppth	M	8.1	24.9	7.8	3.98					
	3.0 ppth	M	8.1	24.9	7.7	5.82					
	Measured by:		BA	BA	BA	BA					
	Recorded by:		BA	BA	BA	BA					
Day 1	Control	M	8.1	24.3	7.9	0.173	M	8.2	24.8	7.2	0.195
	0.59 ppth	M	8.1	24.2	7.7	1.290	M	8.1	24.2	7.2	1.39
	0.89 ppth	M	8.1	24.4	7.7	1.87	M	8.1	24.1	7.2	1.97
	1.3ppth	M	8.1	24.4	7.7	2.70	M	8.1	24.1	7.2	2.80 MF
	2.0 ppth	M	8.1	24.4	7.6	3.92	M	8.1	24.2	7.2	4.0
	3.0 ppth	M	8.1	24.4	7.6	5.74	M	8.1	24.2	7.1	5.79
	Measured by:		MF	MF	MF	MF		MF	MF	MF	MF
	Recorded by:		MF	MF	MF	MF		MF	MF	MF	MF
Day 2	Control	M	8.3	25.0	7.6	0.175	M	8.2	24.5	7.3	0.173
	0.59 ppth	M	8.2	25.5	7.6	1.39	M	8.1	24.5	7.2	1.32
	0.89 ppth	M	8.1	25.4	7.5	1.93	M	8.1	24.5	7.3	1.89
	1.3ppth	M	8.1	25.4	7.5	2.73	M	8.1	24.3	7.3	2.81
	2.0 ppth	M	8.1	25.3	7.5	3.94	M	8.0	24.3	7.3	3.95
	3.0 ppth	M	—	—	—	—	M	8.0	24.4	7.2	5.81
	Measured by:		MF	MF	MF	MF		MF	MF	MF	MF
	Recorded by:		MF	MF	MF	MF		MF	MF	MF	MF
Day 3	Control	M	8.2	7.8 (A)	25.5	0.170	M	8.0	24.1	7.4	0.172
	0.59 ppth	M	8.1	7.8 (A)	24.4	1.33	M	7.9	24.3	7.4	1.39
	0.89 ppth	M	8.1	7.9 (A)	24.7	1.91	M	7.9	24.3	7.4	1.94
	1.3ppth	M	8.1	7.8 (A)	24.6	2.69	M	7.9	24.3	7.4	2.76
	2.0 ppth	M	8.1	7.7 (A)	24.7	3.86	M	7.9	24.4	7.4	3.91
	3.0 ppth	M	—	—	—	—		—	—	—	—
	Measured by:		MF	MF	MF	MF		MF	MF	MF	MF
	Recorded by:		MF	MF	MF	MF		MF	MF	MF	MF

Comments: (A) MF 3-21-08 Recorded DO interpolation and Temperature in DO spaces.

M= "Metered" vial, a surrogate vial for parameters

Test Page 4 of 5 PAGE 0000 9 08/24/06 MF/SP

Appendix C. (continued)

FDEP Biology Laboratory - Chronic SRT Bench Sheet

Ceriodaphnia dubia Parameters

Test Day ↓	Conc.	New Sample Replicate	pH (su)	Temp (°C)	DO (mg/L)	Conductivity (µmhos/cm) (mmhos/cm)	Old Sample Replicate	pH (su)	Temp (°C)	DO (mg/L)	Conductivity (µmhos/cm) (mmhos/cm)
Day 4	Control	M	8.2	24.8	7.6	0.188	m	8.1	25.0	7.4	0.190
	0.59 ppth	M	8.1	25.2	7.6	1.33	m	8.1	24.8	7.3	1.36
	0.89 ppth	M	8.1	25.2	7.3	1.90	m	8.1	24.8	7.1	1.92
	1.3ppth	M	8.0	25.3	7.3	2.71	m	8.0	24.8	7.1	2.87
	2.0 ppth	M	8.0	25.4	7.4	3.87	m	8.0	24.8	7.1	3.85
	3.0 ppth	M	—	—	—	—	—	—	—	—	—
	Measured by:		MF	MF	MF	MF		MF	MF	MF	MF
	Recorded by:		MF	MF	MF	MF		MF	MF	MF	MF
Day 5	Control	M	8.2	24.0	7.5	0.179	A	8.1	24.0	6.9	0.195
	0.59 ppth	M	8.1	24.7	7.7	1.36	A	8.1	24.0	6.9	1.38
	0.89 ppth	M	8.1	24.8	7.6	1.92	A	8.1	24.0	7.0	1.98
	1.3ppth	M	8.1	24.8	7.6	2.71	A	8.1	24.0	7.1	2.9
	2.0 ppth	M	8.1	24.9	7.6	3.91	A	8.1	24.0	7.1	3.82
	3.0 ppth	M	—	—	—	—	A	—	—	—	—
	Measured by:		BA	BA	BA	BA		BA	BA	BA	BA
	Recorded by:		BA	BA	BA	BA		BA	BA	BA	BA
Day 6	Control	M					M	8.1	24.0	7.3	0.182
	0.59 ppth	M					M	8.1	24.0	7.3	1.42
	0.89 ppth	M					M	8.1	24.0	7.2	01.95
	1.3ppth	M					M	8.1	24.0	7.1	2.81
	2.0 ppth	M					M	8.1	24.0	7.1	3.99
	3.0 ppth	M					M	—	—	—	—
	Measured by:							BA	BA	BA	BA
	Recorded by:							BA	BA	BA	BA
Day 7	Control	M									
	0.59 ppth	M									
	0.89 ppth	M									
	1.3ppth	M									
	2.0 ppth	M									
	3.0 ppth	M									
	Measured by:										
	Recorded by:										
Day 8	Control	M									
	0.59 ppth	M									
	0.89 ppth	M									
	1.3ppth	M									
	2.0 ppth	M									
	3.0 ppth	M									
	Measured by:										
	Recorded by:										

Not renewed BA 3-25-06

Replicate M= "Metered" vial, a surrogate vial for parameters

Test Page 5 of 5 PAGE 000010 08/24/06 MF/SP

Appendix C. (continued)

FDEP Biology Laboratory - Chronic SRT Benchsheet

Pimephales promelas or *Menidia beryllina*

Test Species (circle one)

(*P. promelas*)	SOP#: TA07_09	EPA-821-R-02-013	Method 1000.0
M. beryllina	SOP#: TA07_14	EPA-821-R-02-014	Method 1006.0

Diluent/ Batch: Mod. Hard 3.17.08 Test Days Used: 0-3 Start Date: 3.18.08 Time: 1305

Diluent/ Batch: MHW 3-21-08 Test Days Used: 3-7 End Date: 3-25-08 Time: 1130

Toxicant/ Batch # : KCL / 3.17.08 Organism Batch #/ Age: 3-15-08 / <24hrs

Artemia Lot # : 384384256R Artemia lot # GSL-536-90 used Day 2,

Artemia Batch #	Day 2 51-08	Day 5 54-08
Day 0 49-08	Day 3 52-08	Day 6 55-08
Day1 50-08	Day 4 53-08	

Chamber size : 1000 ml

Test volume : 500 ml

Feeding: *P. promelas* 0.15 g wet wt. 2X day 6 hour interval

M. beryllina 0.10 g wet wt days 0-2 0.15g wet wt. days 3-7

Water Quality Parameters	Diluent 3-17-08	Diluent 3-21-08 (or other)	Method	Measured by	Verified by
Total Residual Cl_2 (mg/L):	<0.03	<0.03	HACH	SD	BA
Alkalinity (mg/L as $CaCO_3$):	67	81	HACH	BA	MF
Hardness (mg/L as $CaCO_3$):	106	147	HACH	BA	MF
Total Ammonia (mg/L as N):	<0.07	<0.07	DENVER	MF	BA
Conductivity µmhos-cm (mmhos-cm)	0.440	0.406	METTLER	SD	BA

Statistics	
Growth NOEC:	0.25 g/L
Growth LOEC:	0.50 g/L
Growth IC_{20}:	0.317 g/L
Growth IC_{25}:	0.336 g/L
Ctrl % CV:	6.89%
Dunnetts PMSD:	21.2%
Survival NOEC:	0.25 g/L
Survival LOEC:	0.5 g/L

Light Intensity : 50 - 100 ft. candles

Photoperiod : 16 light 8 dark

Temperature Range °C:

Incubator # 3 min. 25.1 max. 26.7 mean 25.9

Water bath # ____ min. _____ max. _____ mean _____

Room B246 min. 24.2 max. 25.7 mean 25.0

P. promelas PMSD Bounds for Growth: Lower 12 Upper 30

M. beryllina PMSD Bounds for Growth: Lower 11 Upper 28

Investigators' signatures

James Daniel

Beau Absher

Marshall Faircloth

Loretta C. Wolfe

REVIEWER

Comments: Concurrent with Lee County and trademark Nitrogen MF 3-27-08

Test Page 1 of 6 PAGE 000001 revised 8/24/06 MF/SP

Appendix C. (continued)

FDEP Biology Laboratory - Chronic SRT Benchsheet

Pimephales promelas or Menidia beryllina Survival

Organism: ~~P. promelas~~ *M.beryllina* (circle one) D = dead M = missing

Concentration: µg/L g/L (circle one)

Concentration	Replicate	Chamber	TEST DAY 0	1	2	3	4	5	6	7
Control	A	F1	10	10	10	9 10	9	9	9	9
	B	F2	10	10	10	10	10	10	10	10
	C	F3	10	10	10	10	10	10	10	10
	D	F4	10	10	9 10	9	9	9	9	9
0.0625	A	F5	10	10	10	10	10	10	10	10
	B	F6	10	10	10	10	10	10	10	10
	C	F7	10	10	10	10	10	10	10	10
	D	F8	10	10	10	10	10	10	10	10
.125	A	F9	10	8 2D	7 10	7	7	7	7	7
	B	F10	10	10	10	10	10	10	10	10
	C	F11	10	10	10	10	10	10	10	10
	D	F12	10	10	10	10	10	10	10	10
.25	A	F13	10	10	10	10	10	10	10	10
	B	F14	10	10	10	10	10	10	9 10	9
	C	F15	10	7 3D	7	7	7	7	7	7
	D	F16	10	10	9 1D	9	9	9	9	9
.5	A	F17	10	3 7D	2 1D	2	2	2	2	2
	B	F18	10	6 4D	5 1D	5	5	5	5	5
	C	F19	10	4 6D	2 3D	2	2	2	2	2
	D	F20	10	5 5D	0 5D	—	—	—	—	
1.0	A	F21	10	0 10D						
	B	F22	10	0 10D						
	C	F23	10	0 10D						
	D	F24	10	0 10D						
	A		10							
	B		10							
	C		10							
	D		10							
Loaded by (0 hr): JD		Checked by*:		JD	JD	JD	BA	JD	JD	MF
		Concentrations prepared by:		JD	JD	JD	BA	JD	JD	—

Comments: Verified by BA 3-18-08

*verified by for 0 hour

Test Page 2 of 6 PAGE 000062 revised 8/24/06 MF/SP

Appendix C. (continued)

FDEP Biology Laboratory - Chronic SRT Benchsheet

Pimephales promelas or *Menidia beryllina* Parameters

Start Date: 3.18.08 Time: 1305

End Date: 3-25-08 Time: 1130

Organism: (*P. promelas*) *M.beryllina* (circle one)

Concentration: µg/L (d/l) (circle one)

circle µmhos or mmhos

Test Day		Before Renewal					Test Start and After Renewal				
	Concentration	Test Replicate	pH (su)	Temp (°C)	DO (mg/L)	Conductivity µmhos mmhos	Test Replicate	pH (su)	Temp (°C)	DO (mg/L)	Conductivity µmhos (mmhos)
Day 0	Control						A	6.3	24.9	8.0	0.440
	.0625						A	6.2	24.5	8.0	0.540
	.125						A	6.1	24.1	8.0	0.700
	.25						A	6.1	24.0	8.0	0.934
	.5						A	6.0	24.0	8.1	1.43
	1.0						A	6.1	24.0	8.1	2.43
							A				
	Measured by:							JD	JD	JD	JD
	Recorded by:							JD	JD	JD	JD
	Concentration	Replicate	pH	Temp	DO	Conductivity	Replicate	pH	Temp	DO	Conductivity
Day 1	Control	B	6.8	25.4	6.8	0.452	B	7.0	24.1	7.6	0.435
	.0625	B	6.7	25.0	7.0	0.549	B	6.2	24.0	7.5	0.511
	.125	B	6.6	24.0	7.1	0.699	B	6.2	24.0	7.6	0.705
	.25	B	6.5	24.2	7.3	0.933	B	6.1	24.0	7.7	0.950
	.5	B	6.4	25.4	7.2	1.46	B	6.1	24.1	7.7	1.44
	1.0	B	6.3	24.4	6.9	2.42	B				
		B					B				
	Measured by:		JD	JD	JD	JD		JD	JD	JD	JD
	Recorded by:		JD	JD	JD	JD		JD	JD	JD	JD
	Concentration	Replicate	pH	Temp	DO	Conductivity	Replicate	pH	Temp	DO	Conductivity
Day 2	Control	C	6.3	24.2	6.8	0.448	C	6.1	24.0	7.5	0.438
	.0625	C	6.0	24.0	6.7	0.509	C	6.0	24.0	7.5	0.529
	.125	C	6.0	24.1	6.4	0.720	C	6.0	24.0	7.4	0.685
	.25	C	6.0	25.4	6.3	0.983	C	6.0	24.0	7.4	0.954
	.5	C	6.1	24.0	6.6	1.45	C	6.0	24.0	7.5	1.42
	1.0	C					C				
		C					C				
	Measured by:		JD	JD	JD	JD		JD	JD	JD	JD
	Recorded by:		JD	JD	JD	JD		JD	JD	JD	JD
	Concentration	Replicate	pH	Temp	DO	Conductivity	Replicate	pH	Temp	DO	Conductivity
Day 3	Control	D	6.0	24.0	6.4	0.445	D	7.3	24.0	7.7	0.406
	.0625	D	6.0	24.0	6.1	0.541	D	7.8	24.0	7.6	0.562
	.125	D	6.0	24.0	6.4	0.694	D	8.0	24.0	7.6	0.775
	.25	D	6.0	24.0	6.5	0.972	D	8.2	24.0	7.7	0.999
	.5	D	6.0	24.0	6.5	1.44	D	8.3	24.0	7.7	1.44
	1.0	D					D				
		D					D				
	Measured by:		JD	JD	JD	JD		JD	JD	JD	JD
	Recorded by:		JD	JD	JD	JD		JD	JD	JD	JD

Comments:

Test Page 3 of 6 PAGE 000003 revised 8/24/06 MF/SP

Appendix C. (continued)

FDEP Biology Laboratory - Chronic SRT Benchsheet

Pimephales promelas or *Menidia beryllina* Parameters

Organism: (*P. promelas*) *M.beryllina* (circle one)

Concentration: µg/L (mg/L) (circle one)

circle µmhos or mmhos

Test Day		Before Renewal					After Renewal				
	Concentration	Test Replicate	pH (su)	Temp (°C)	DO (mg/L)	Conductivity µmhos (mmhos)	Test Replicate	pH (su)	Temp (°C)	DO (mg/L)	Conductivity µmhos (mmhos)
Day 4	Control	A	~~12.9~~ 7.9	24.0	6.5	0.427	A	7.5	24.0	7.4	0.387
	.0625	A	~~7.02~~ 7.8	24.0	6.2	0.577	A	7.9	24.0	7.4	0.487
	.125	A	7.6	24.0	6.1	0.808	A	7.9	24.1	7.4	0.82
	.25	A	8.0	24.0	6.0	1.16	A	7.9	24.0	7.4	0.911
	.5	A	8.2	24.0	6.0	1.83	A	8.0	24.0	7.4	1.36
	1.0	A	—	—	—	—	A	—	—	—	—
		A					A				
	Measured by:		BA	BA	BA	BA		BA	BA	BA	BA
	Recorded by:		BA	BA	BA	BA		BA	BA	BA	BA
	Concentration	Replicate	pH	Temp	DO	Conductivity	Replicate	pH	Temp	DO	Conductivity
Day 5	Control	B	7.4	24.0	6.2	0.396	B	7.7	24.0	7.6	0.380
	.0625	B	7.4	24.0	6.3	0.501	B	7.8	24.0	7.5	0.598
	.125	B	7.5	24.0	6.2	0.843	B	7.8	24.0	7.4	0.732
	.25	B	7.6	24.0	6.3	0.927	B	7.8	24.0	7.4	0.941
	.5	B	7.8	24.0	6.3	1.40	B	7.9	24.0	7.5	1.33
		B					B				
		B					B				
	Measured by:		DD	DD	DD	DD		DD	DD	DD	DD
	Recorded by:		DD	DD	DD	DD		DD	DD	DD	DD
	Concentration	Replicate	pH	Temp	DO	Conductivity	Replicate	pH	Temp	DO	Conductivity
Day 6	Control	C	7.6	24.0	6.4	0.398	C	7.9	24.0	7.6	0.339
	.06	C	7.6	24.0	6.4	0.617	C	7.9	24.0	7.4	0.606
	.125	C	7.5	24.0	~~5.49~~	0.756	C	7.8	24.0	7.4	0.695
	.25	C	7.6	24.0	5.8	0.973	C	7.8	24.0	7.4	0.933
	.5	C	7.7	24.0	6.1	1.37	C	7.9	24.0	7.4	1.38
		C					C				
		C					C				
	Measured by:		DD	DD	DD	DD		DD	DD	DD	DD
	Recorded by:		DD	DD	DD	DD		DD	DD	DD	DD
	Concentration	Replicate	pH	Temp	DO	Conductivity	Replicate	pH	Temp	DO	Conductivity
Day 7	Control	D	7.5	24.0	5.7	0.440	D				
	0.06	D	7.5	24.0	6.0	0.622	D				
	0.125	D	7.5	24.0	5.8	0.71	D				
	0.25	D	7.4	25.9	5.4	0.945	D				
	0.5	~~B~~ C	7.4	24.4	5.4	1.37	D				
		D					D				
		~~C~~ D					D				
	Measured by:		BA	BA	BA	BA					
	Recorded by:		BA	BA	BA	BA					

Comments: D 5.4 J.D Day 6 .125 D.O.

Appendix C. (continued)

FDEP Biology Laboratory - Chronic SRT Benchsheet

Pimephales promelas or *Menidia beryllina* Weights

SOP TA06_21

Organism: (*P. promelas*) *M.beryllina* (circle one)

Concentration: µg/L (mg/L) (circle one)

mean wt = fish wt divided by 10

convert g to mg: move decimal 3 places to right

Concentration	Replicate	Pan #	Pan wt. (g)	Pan + Fish (g)	Fish wt. (g)	Original # of fish	Mean wt. (mg)
Control	A	17	0.01712	0.02191	0.00479	10	0.479
	B	18	0.01746	0.02301	0.00555	10	0.555
	C	19	0.01702	0.02238	0.00536	10	0.536
	D	20	0.02068	0.02626	0.00558	10	0.558
.0625	A	21	0.01864	0.02471	0.00607	10	0.607
	B	22	0.02068	0.02662	0.00594	10	0.594
	C	23	0.01809	0.02351	0.00542	10	0.542
	D	24	0.01868	0.02442	0.00574	10	0.574
.125	A	25	0.01780	0.02292	0.00512	10	0.512
	B	26	0.01735	0.02299	0.00564	10	0.564
	C	27	0.01687	0.02371	0.00684	10	0.684
	D	28	0.01949	0.02387	0.00438	10	0.438
.25	A	29	0.01896	0.02424	0.00528	10	0.528
	B	30	0.01970	0.02468	0.00498	10	0.498
	C	31	0.01889	0.02433	0.00544	10	0.544
	D	32	0.01946	0.02549	0.00603	10	0.603
.5	A	33	0.01887	0.02040	0.00153	10	0.153
	B	34	0.02190	0.02557	0.00367	10	0.367
	C	35	0.01708	0.01883	0.00175	10	0.175
	D	—	—	—	—	10	—
1.0	A					10	
	B					10	
	C					10	
	D					10	
	A					10	
	B					10	
	C					10	
	D					10	
Weighed by:			MF	MF			

Comments:

Note: Pan number (#) refers to actual Pan number.

Appendix C. (continued)

FDEP Biology Laboratory - Chronic SRT Benchsheet

Pimephales promelas or *Menidia beryllina* QC

SOPs TA07_09, TA07_14 and TA06_21

Empty Pan Weights Date: 3-25-08 MF

	Pan 1 wt.	Pan 1 initial wt.
after Pan 5 ~~(20)~~ MF	0.01757 @	0.01757
after Pan 10 ~~(25)~~ MF	0.01757 @	0.01757
after Pan 15 ~~(30)~~ MF	0.01758 @	0.01757
after Pan 20 ~~(35)~~ MF	0.01759 @	0.01757
after Pan 25	MF @	0.01757
after Pan 30	@	
after Pan 35	@	
after Pan 40	@	
after Pan 45	@	
after Pan 48	@	

	Measured Value	S-weight Value
S-weights	0.00998 @	0.01000
	0.03000 @	0.03000

~~(actual 48hr wt)~~ MF 3-25-08

Fish + Pan Weights Date: 3-26-08 MF

	Pan 1 wt.	Pan 1 initial wt.
after Pan 5	0.02193 @	0.02191
after Pan 10	0.02193 @	0.02191
after Pan 15	0.02194 @	0.02191
after Pan 20	0.02193 @	0.02191
after Pan 25	@	
after Pan 30	@	
after Pan 35	@	
after Pan 40	@	
after Pan 45	@	
after Pan 48	@	

	Measured Value	S-weight Value
S-weights	0.01000 @	0.01000
	0.03000 @	0.03000

Drying Oven ID: 630F Selmeatova 8205

Temperature °C: 60°C

Drying Hours: 24 hours

Note: Pan number (5, 10, etc.) refers to sequence of weighing as actual Pan #s may differ.

Comments:

Test Page 6 of 6 PAGE 000006 revised 8/24/06 MF/SP

Appendix C. (continued)

Fiesta Village WWTP *C. dubia* reproduction T-test

Sample: Fiesta Village WWTP Dates tested: 3/18/2008 - 3/24/2008
Species: Ceriodaphnia dubia Test Type: chronic screen

	Teatment A	Treatment B	#of Reps./sample	10
Replicate #	Control	44% Effluent		
1	25.000	21.000		p=0.05
2	27.000	26.000	df	Table t-value
3	24.000	22.000	1	6.31400
4	20.000	26.000	2	2.92000
5	24.000	18.000	3	2.35300
6	18.000	23.000	4	2.13200
7	29.000	21.000	5	2.01500
8	26.000	5.000	6	1.94300
9	27.000	26.000	7	1.89500
10	19.000	28.000	8	1.86000
			9	1.83300
Average	23.90000	21.60000	10	1.81200
			18	1.734

t-value= 0.96121
df= 18

Fiesta Village WWTP *C. dubia* survival T-test

Sample: Fiesta Village WWTP Date tested: 3/18-24/2008
Species: Ceriodaphnia dubia Test Type: chronic screen

	Treatment A	Treatment B	# of Reps/Sample	10
	Control	44% Effluent		
	1.00	1.00		p=0.05
	1.00	1.00	df	Table t-value
	1.00	1.00	1	6.31400
	1.00	1.00	2	2.92000
	1.00	1.00	3	2.35300
	1.00	1.00	4	2.13200
	1.00	1.00	5	2.01500
	1.00	1.00	6	1.94300
	1.00	1.00	7	1.89500
	1.00	1.00	8	1.86000
Average	1.000	1.000	9	1.83300
			10	1.81200
t-value=		0.00000	18	1.73400
df=		18.00000		

Appendix C. (continued)

Fiesta Village WWTP *P. promelas* survival T-test

Sample: Fiesta Village WWTF Dates tested: 03/18/2008 - 03/25/2008
Species: *Pimephales promelas* Test Type: Chronic Screen

	Treatment A Control	Treatment B 44% Effluent	# of Reps/Sample	4
	0.90	0.90		p=0.05
	1.00	0.90	df	Table t-value
	1.00	0.90	1	6.31400
	1.00	1.00	2	2.92000
			3	2.35300
Average	0.975	0.925	4	2.13200
			5	2.01500
t-value=		1.41421	6	1.94300
df=		6.00000		

Fiesta Village WWTP *P. promelas* Growth T-Tests

Sample: Fiesta Village WWTF Date tested: 03/18/2008-03/25/2008
Species: *Pimephales promelas* Test Type: Chronic screen

	Teatment A	Treatment B	#of Reps./sample	4
Replicate #	Control	44% Effluent		
1	0.495	0.687		p=0.05
2	0.612	0.581	df	Table t-value
3	0.513	0.603	1	6.31400
4	0.567	0.666	2	2.92000
5			3	2.35300
6			4	2.13200
7			5	2.01500
8			6	1.94300
9			7	1.89500
10			8	1.86000
			9	1.83300
Average	0.54675	0.63425	10	1.81200
			18	1.734
	t-value=	-2.38976		
	df=	6		

Appendix C. (continued)

Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	3/18/2008 13:30	Test ID:	CDcdsrt318	Sample ID:	REF-Ref Toxicant
End Date:	3/24/2008 14:15	Lab ID:	DEP TOXLAB-FDEP Biology To	Sample Type:	NACL-Sodium chloride
Sample Date:		Protocol:	EPAFW02-EPA/821/R-02-013	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Conc-ppt	1	2	3	4	5	6	7	8	9	10
D-Control	21.000	23.000	23.000	22.000	18.000	28.000	27.000	31.000	23.000	26.000
0.59	30.000	22.000	20.000	23.000	25.000	23.000	28.000	23.000	26.000	21.000
0.89	22.000	21.000	23.000	24.000	23.000	24.000	25.000	17.000	20.000	24.000
1.3	3.000	18.000	19.000	0.000	14.000	15.000	15.000	22.000	19.000	20.000
2	2.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000	1.000	0.000
3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

			Transform: Untransformed					Rank	1-Tailed	Isotonic	
Conc-ppt	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
D-Control	24.200	1.0000	24.200	18.000	31.000	15.681	10			24.200	1.0000
0.59	24.100	0.9959	24.100	20.000	30.000	13.041	10	103.50	77.00	24.100	0.9959
0.89	22.300	0.9215	22.300	17.000	25.000	10.789	10	93.00	77.00	22.300	0.9215
*1.3	14.500	0.5992	14.500	0.000	22.000	50.496	10	61.00	77.00	14.500	0.5992
2	0.400	0.0165	0.400	0.000	2.000	174.801	10			0.400	0.0165
3	0.000	0.0000	0.000	0.000	0.000	0.000	10			0.000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.925709	0.919	-1.14942	2.652279
Bartlett's Test indicates unequal variances (p = 5.53E-03)	12.62313	11.34487		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	0.89	1.3	1.075639	
Treatments vs D-Control				

Linear Interpolation (200 Resamples)

Point	ppt	SD	95% CL		Skew
IC05	0.7750	0.1884	0.2735	0.9278	-0.9974
IC10	0.9173	0.1165	0.5470	1.0087	-1.8016
IC15	0.9809	0.0684	0.8383	1.1020	-0.3823
IC20	1.0445	0.0711	0.9318	1.2164	0.5838
IC25	1.1081	0.0793	0.9950	1.3139	0.6328
IC40	1.2989	0.0844	1.1486	1.4540	-0.0887
IC50	1.4191	0.0841	1.2492	1.5469	-0.4285

Larval Fish Growth and Survival Test-7 Day Growth

Start Date:	3/18/2008 13:05	Test ID:	ppcsrt318	Sample ID:	REF-Ref Toxicant
End Date:	3/25/2008 11:30	Lab ID:	DEP TOXLAB-FDEP Biology To	Sample Type:	KCL-Potassium chloride
Sample Date:		Protocol:	EPAF 94-EPA/600/4-91/002	Test Species:	PP-Pimephales promelas
Comments:	Concurrent SRT for Facility Tests				

Conc-gm/L	1	2	3	4
D-Control	0.4790	0.5550	0.5360	0.5580
0.0625	0.6070	0.5940	0.5420	0.5740
0.125	0.5120	0.5640	0.6840	0.4380
0.25	0.5280	0.4980	0.5440	0.6030
0.5	0.1530	0.3670	0.1750	0.0000
1	0.0000	0.0000	0.0000	0.0000

			Transform: Untransformed					Isotonic	
Conc-gm/L	Mean	N-Mean	Mean	Min	Max	CV%	N	Mean	N-Mean
D-Control	0.5320	1.0000	0.5320	0.4790	0.5580	6.889	4	0.5556	1.0000
0.0625	0.5793	1.0888	0.5793	0.5420	0.6070	4.886	4	0.5556	1.0000
0.125	0.5495	1.0329	0.5495	0.4380	0.6840	18.836	4	0.5495	0.9890
0.25	0.5433	1.0211	0.5433	0.4980	0.6030	8.129	4	0.5433	0.9777
0.5	0.1738	0.3266	0.1738	0.0000	0.3670	86.629	4	0.1738	0.3127
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	4	0.0000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.920948	0.868	0.376732	2.279355
Bartlett's Test indicates equal variances (p = 0.04)	10.15574	13.2767		

Linear Interpolation (200 Resamples)

Point	gm/L	SD	95% CL(Exp)		Skew
IC05	0.2604	0.0614	0.0000	0.2733	-1.0280
IC10	0.2792	0.0269	0.1927	0.2998	-4.2498
IC15	0.2980	0.0135	0.2455	0.3297	0.2755
IC20	0.3168	0.0155	0.2675	0.3584	0.6656
IC25	0.3356	0.0182	0.2849	0.3977	0.9029
IC40	0.3920	0.0281	0.3277	0.5159	1.1155
IC50	0.4296	0.0373	0.3576	0.6173	1.3805

Appendix D. Test Organism Receipt

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: 3/17/08

Shipped to: FDEP

P.O. No: N/A

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia					
Menidia beryllina					
Cyprinella leedsi	100	11 DAYS	CL080306	25°C	
Pimephales promelas	450	<24 HRS	FM080316-1550	25°C	

Packed by: [signature]

Shipped Via: FedEx

Notes: _____

Thank you for your order.

Appendix E. Chemical Analyses performed on the effluent from the Fiesta Village Wastewater Treatment Plant Outfall D-001, sampled on March 17, 2008.

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
3/17/2008 6:00	Effluent	AGP/LN	Algal Growth Potential-Salinity Adjusted	3	U	mg DryWt/L	3	3
3/17/2008 6:00	Effluent	AGP/LN	Algal Growth Potential	5.82		mg DryWt/L	0.3	0.9
3/17/2008 6:00	Effluent	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	1.3	I	ug/L	0.55	1.7
3/17/2008 6:00	Effluent	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	2.4		mg/L	0.2	2
3/17/2008 6:00	Effluent	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.39	I	ug/L	0.24	0.71
3/17/2008 6:00	Effluent	Toxicology	Bioassay-Chronic-Scrn-FW-C.dubia, NOEC	44		NOEC		
3/17/2008 6:00	Effluent	Toxicology	Bioassay-Chronic-Scrn-FW-Fish, NOEC	44		NOEC		
3/17/2008 6:00	Effluent	Metals	Selenium	0.5	U	ug/L	0.5	2
3/17/2008 6:00	Effluent	Metals	Lead	0.28	I	ug/L	0.2	0.8
3/17/2008 6:00	Effluent	Metals	Mercury	0.12	U	ug/L	0.12	0.5
3/17/2008 6:00	Effluent	Metals	Arsenic	0.55	I	ug/L	0.5	2
3/17/2008 6:00	Effluent	Metals	Antimony	0.5	U	ug/L	0.5	2
3/17/2008 6:00	Effluent	Metals	Calcium	62.2		mg/L	0.075	0.3
3/17/2008 6:00	Effluent	Metals	Iron	40	I	ug/L	30	120
3/17/2008 6:00	Effluent	Metals	Copper	0.5	U	ug/L	0.5	2
3/17/2008 6:00	Effluent	Metals	Magnesium	10.5		mg/L	0.04	0.16
3/17/2008 6:00	Effluent	Metals	Nickel	0.95	I	ug/L	0.25	1
3/17/2008 6:00	Effluent	Metals	Beryllium	0.025	U	ug/L	0.025	0.1
3/17/2008 6:00	Effluent	Metals	Chromium	1	U	ug/L	1	4
3/17/2008 6:00	Effluent	Metals	Cadmium	0.02	U	ug/L	0.02	0.08
3/17/2008 6:00	Effluent	Metals	Zinc	40		ug/L	5	20
3/17/2008 6:00	Effluent	Metals	Aluminum	120	I	ug/L	60	240
3/17/2008 6:00	Effluent	Metals	Silver	0.025	U	ug/L	0.025	0.1
3/17/2008 6:00	Effluent	Nutrients	TDS	557		mg/L	15	60
3/17/2008 6:00	Effluent	Nutrients	Kjeldahl Nitrogen	0.9		mg N/L	0.08	0.2
3/17/2008 6:00	Effluent	Nutrients	Ammonia-N	0.036		mg N/L	0.01	0.02
3/17/2008 6:00	Effluent	Nutrients	O-Phosphate-P	0.14		mg P/L	0.012	0.03
3/17/2008 6:00	Effluent	Nutrients	Total-P	0.18		mg P/L	0.02	0.06
3/17/2008 6:00	Effluent	Nutrients	NO2NO3-N	0.009	I	mg N/L	0.004	0.01
3/17/2008 6:00	Effluent	Nutrients	TSS	4	U	mg/L	4	16
3/17/2008 6:00	Effluent	Overflow	Oil and Grease	2.4	I	mg/L	1.7	5

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
3/17/2008 6:00	Effluent	Pesticides	Chlorpyrifos Ethyl	0.051	U	ug/L	0.051	0.2
3/17/2008 6:00	Effluent	Pesticides	Ethion	0.051	U	ug/L	0.051	0.2
3/17/2008 6:00	Effluent	Pesticides	Prometryn	0.15	U	ug/L	0.15	0.6
3/17/2008 6:00	Effluent	Pesticides	Alachlor	0.61	U	ug/L	0.61	2.4
3/17/2008 6:00	Effluent	Pesticides	Parathion Ethyl	0.15	U	ug/L	0.15	0.6
3/17/2008 6:00	Effluent	Pesticides	Metalaxyl	0.26	U	ug/L	0.26	1
3/17/2008 6:00	Effluent	Pesticides	Butylate	0.2	UJ	ug/L	0.2	0.8
3/17/2008 6:00	Effluent	Pesticides	Chlorpyrifos Methyl	0.1	U	ug/L	0.1	0.4
3/17/2008 6:00	Effluent	Pesticides	Hexazinone	0.1	U	ug/L	0.1	0.4
3/17/2008 6:00	Effluent	Pesticides	Metolachlor	0.51	U	ug/L	0.51	2
3/17/2008 6:00	Effluent	Pesticides	Ethoprop	0.1	U	ug/L	0.1	0.4
3/17/2008 6:00	Effluent	Pesticides	Parathion Methyl	0.1	U	ug/L	0.1	0.4
3/17/2008 6:00	Effluent	Pesticides	Norflurazon	0.15	U	ug/L	0.15	0.6
3/17/2008 6:00	Effluent	Pesticides	Metribuzin	0.1	U	ug/L	0.1	0.4
3/17/2008 6:00	Effluent	Pesticides	Fonofos	0.1	U	ug/L	0.1	0.4
3/17/2008 6:00	Effluent	Pesticides	Fenamiphos	0.2	U	ug/L	0.2	0.8
3/17/2008 6:00	Effluent	Pesticides	Malathion	0.15	U	ug/L	0.15	0.6
3/17/2008 6:00	Effluent	Pesticides	Phorate	0.051	U	ug/L	0.051	0.2
3/17/2008 6:00	Effluent	Pesticides	Atrazine	0.13	I	ug/L	0.051	0.2
3/17/2008 6:00	Effluent	Pesticides	Simazine	0.051	U	ug/L	0.051	0.2
3/17/2008 6:00	Effluent	Pesticides	Mevinphos	0.2	U	ug/L	0.2	0.8
3/17/2008 6:00	Effluent	Pesticides	Naled	0.82	U	ug/L	0.82	3.3
3/17/2008 6:00	Effluent	Pesticides	Azinphos Methyl	0.2	U	ug/L	0.2	0.8
3/17/2008 6:00	Effluent	Pesticides	Ametryn	0.051	U	ug/L	0.051	0.2
3/17/2008 6:00	Effluent	Pesticides	Diazinon	0.051	U	ug/L	0.051	0.2
3/17/2008 6:00	Effluent	Pesticides	Bromacil	0.2	U	ug/L	0.2	0.8
3/17/2008 6:00	Effluent	Priority Organic Pollutants	2,4-Dinitrotoluene	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	3,3'-Dichlorobenzidine	43	U	ug/L	43	170
3/17/2008 6:00	Effluent	Priority Organic Pollutants	4,4'-DDD	1.6	U	ug/L	1.6	6.4
3/17/2008 6:00	Effluent	Priority Organic Pollutants	4,4'-DDE	1.6	U	ug/L	1.6	6.4
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	3.2	U	ug/L	3.2	13
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Endosulfan I	4.3	U	ug/L	4.3	17
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Endrin	1.6	U	ug/L	1.6	6.4
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Endrin aldehyde	4.3	UJ	ug/L	4.3	17

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Fluorene	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Hexachlorobenzene	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	N-Nitrosodimethylamine	2.1	UJ	ug/L	2.1	8.5
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Phenanthrene	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Phenol	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	alpha-BHC	1.6	U	ug/L	1.6	6.4
3/17/2008 6:00	Effluent	Priority Organic Pollutants	beta-BHC	1.6	U	ug/L	1.6	6.4
3/17/2008 6:00	Effluent	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.2	U	ug/L	3.2	13
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Anthracene	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Aldrin	1.6	U	ug/L	1.6	6.4
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Benzidine	110	U	ug/L	110	430
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Endosulfan sulfate	1.6	U	ug/L	1.6	6.4
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Fluoranthene	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Naphthalene	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	2,4-Dimethylphenol	11	U	ug/L	11	43
3/17/2008 6:00	Effluent	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2.1	U	ug/L	2.1	8.5
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Acenaphthene	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Dimethyl phthalate	11	U	ug/L	11	43
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Hexachloroethane	3.2	U	ug/L	3.2	13
3/17/2008 6:00	Effluent	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2.1	U	ug/L	2.1	8.5
3/17/2008 6:00	Effluent	Priority Organic Pollutants	2,6-Dinitrotoluene	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Benzo(g,h,i)perylene	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Bis(2-chloroethyl)ether	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Dibenzo(a,h)anthracene	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Diethyl phthalate	1.2	I	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Isophorone	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Nitrobenzene	2.1	U	ug/L	2.1	8.5
3/17/2008 6:00	Effluent	Priority Organic Pollutants	2,4,6-Trichlorophenol	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	2-Chloronaphthalene	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	4,4'-DDT	1.6	U	ug/L	1.6	6.4
3/17/2008 6:00	Effluent	Priority Organic Pollutants	4-Bromophenyl phenyl ether	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Acenaphthylene	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Butyl benzyl phthalate	5.3	U	ug/L	5.3	21

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Chrysene	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Heptachlor	1.6	U	ug/L	1.6	6.4
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Hexachlorobutadiene	3.2	U	ug/L	3.2	13
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Pentachlorophenol	3.2	U	ug/L	3.2	13
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Pyrene	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	gamma-BHC	1.6	U	ug/L	1.6	6.4
3/17/2008 6:00	Effluent	Priority Organic Pollutants	1,2,4-Trichlorobenzene	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	2,4-Dichlorophenol	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Benzo(a)pyrene	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Benzo(b)fluoranthene	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	16	U	ug/L	16	64
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Di-n-octyl phthalate	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Dieldrin	1.6	U	ug/L	1.6	6.4
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Endosulfan II	4.3	U	ug/L	4.3	17
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Heptachlor epoxide	1.6	U	ug/L	1.6	6.4
3/17/2008 6:00	Effluent	Priority Organic Pollutants	2,4-Dinitrophenol	16	U	ug/L	16	64
3/17/2008 6:00	Effluent	Priority Organic Pollutants	2-Chlorophenol	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	2-Nitrophenol	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	4-Chloro-3-methylphenol	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	4-Nitrophenol	16	U	ug/L	16	64
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Benzo(a)anthracene	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Benzo(k)fluoranthene	1.1	U	ug/L	1.1	4.3
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Di-n-butyl phthalate	5.3	U	ug/L	5.3	21
3/17/2008 6:00	Effluent	Priority Organic Pollutants	Hexachlorocyclopentadiene	3.2	U	ug/L	3.2	13
3/17/2008 6:00	Effluent	Priority Organic Pollutants	delta-BHC	1.6	U	ug/L	1.6	6.4
3/17/2008 6:00	Effluent	Field Parameter	Dissolved Oxygen	5.69		mg/L		
3/17/2008 6:00	Effluent	Field Parameter	pH	6.96				
3/17/2008 6:00	Effluent	Field Parameter	Total Residual Chlorine	1.52		mg/L		
3/17/2008 6:00	Effluent	Field Parameter	Specific Conductance	966		umhos/cm		
3/17/2008 6:00	Effluent	Field Parameter	Temperature	26.96		C		
3/15/2008 16:00	Blank	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	0.2	UQ	mg/L	0.2	2
3/15/2008 16:00	Blank	Metals	Silver	0.025	U	ug/L	0.025	0.1
3/15/2008 16:00	Blank	Metals	Beryllium	0.025	U	ug/L	0.025	0.1

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
3/15/2008 16:00	Blank	Metals	Chromium	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Metals	Nickel	0.7	I	ug/L	0.25	1
3/15/2008 16:00	Blank	Metals	Iron	30	U	ug/L	30	120
3/15/2008 16:00	Blank	Metals	Lead	0.2	U	ug/L	0.2	0.8
3/15/2008 16:00	Blank	Metals	Copper	0.62	I	ug/L	0.5	2
3/15/2008 16:00	Blank	Metals	Arsenic	0.5	U	ug/L	0.5	2
3/15/2008 16:00	Blank	Metals	Calcium	0.15	I	mg/L	0.075	0.3
3/15/2008 16:00	Blank	Metals	Selenium	0.5	U	ug/L	0.5	2
3/15/2008 16:00	Blank	Metals	Mercury	0.12	U	ug/L	0.12	0.5
3/15/2008 16:00	Blank	Metals	Cadmium	0.3		ug/L	0.02	0.08
3/15/2008 16:00	Blank	Metals	Antimony	0.5	U	ug/L	0.5	2
3/15/2008 16:00	Blank	Metals	Zinc	5	U	ug/L	5	20
3/15/2008 16:00	Blank	Metals	Aluminum	60	U	ug/L	60	240
3/15/2008 16:00	Blank	Metals	Magnesium	0.04	U	mg/L	0.04	0.16
3/15/2008 16:00	Blank	Nutrients	Kjeldahl Nitrogen	0.08	U	mg N/L	0.08	0.2
3/15/2008 16:00	Blank	Nutrients	O-Phosphate-P	0.004	UQ	mg P/L	0.004	0.01
3/15/2008 16:00	Blank	Nutrients	Ammonia-N	0.01	U	mg N/L	0.01	0.02
3/15/2008 16:00	Blank	Nutrients	NO2NO3-N	0.004	U	mg N/L	0.004	0.01
3/15/2008 16:00	Blank	Nutrients	Total-P	0.02	U	mg P/L	0.02	0.06
3/15/2008 16:00	Blank	Nutrients	TSS	4	U	mg/L	4	16
3/15/2008 16:00	Blank	Nutrients	TDS	15	U	mg/L	15	60
3/15/2008 16:00	Blank	Overflow	Oil and Grease	1.7	U	mg/L	1.7	5
3/15/2008 16:00	Blank	Pesticides	Ethoprop	0.1	U	ug/L	0.1	0.4
3/15/2008 16:00	Blank	Pesticides	Fenamiphos	0.2	U	ug/L	0.2	0.8
3/15/2008 16:00	Blank	Pesticides	Parathion Ethyl	0.15	U	ug/L	0.15	0.6
3/15/2008 16:00	Blank	Pesticides	Simazine	0.05	U	ug/L	0.05	0.2
3/15/2008 16:00	Blank	Pesticides	Butylate	0.2	UJ	ug/L	0.2	0.8
3/15/2008 16:00	Blank	Pesticides	Alachlor	0.6	U	ug/L	0.6	2.4
3/15/2008 16:00	Blank	Pesticides	Mevinphos	0.2	U	ug/L	0.2	0.8
3/15/2008 16:00	Blank	Pesticides	Bromacil	0.2	U	ug/L	0.2	0.8
3/15/2008 16:00	Blank	Pesticides	Fonofos	0.1	U	ug/L	0.1	0.4
3/15/2008 16:00	Blank	Pesticides	Malathion	0.15	U	ug/L	0.15	0.6
3/15/2008 16:00	Blank	Pesticides	Phorate	0.05	U	ug/L	0.05	0.2
3/15/2008 16:00	Blank	Pesticides	Prometryn	0.15	U	ug/L	0.15	0.6

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
3/15/2008 16:00	Blank	Pesticides	Ametryn	0.05	U	ug/L	0.05	0.2
3/15/2008 16:00	Blank	Pesticides	Atrazine	0.05	U	ug/L	0.05	0.2
3/15/2008 16:00	Blank	Pesticides	Azinphos Methyl	0.2	U	ug/L	0.2	0.8
3/15/2008 16:00	Blank	Pesticides	Diazinon	0.05	U	ug/L	0.05	0.2
3/15/2008 16:00	Blank	Pesticides	Ethion	0.05	U	ug/L	0.05	0.2
3/15/2008 16:00	Blank	Pesticides	Naled	0.8	U	ug/L	0.8	3.2
3/15/2008 16:00	Blank	Pesticides	Norflurazon	0.15	U	ug/L	0.15	0.6
3/15/2008 16:00	Blank	Pesticides	Chlorpyrifos Ethyl	0.05	U	ug/L	0.05	0.2
3/15/2008 16:00	Blank	Pesticides	Hexazinone	0.1	U	ug/L	0.1	0.4
3/15/2008 16:00	Blank	Pesticides	Metolachlor	0.5	U	ug/L	0.5	2
3/15/2008 16:00	Blank	Pesticides	Parathion Methyl	0.1	U	ug/L	0.1	0.4
3/15/2008 16:00	Blank	Pesticides	Chlorpyrifos Methyl	0.1	U	ug/L	0.1	0.4
3/15/2008 16:00	Blank	Pesticides	Metalaxyl	0.25	U	ug/L	0.25	1
3/15/2008 16:00	Blank	Pesticides	Metribuzin	0.1	U	ug/L	0.1	0.4
3/15/2008 16:00	Blank	Priority Organic Pollutants	Endosulfan sulfate	1.5	U	ug/L	1.5	6.1
3/15/2008 16:00	Blank	Priority Organic Pollutants	Heptachlor epoxide	1.5	U	ug/L	1.5	6.1
3/15/2008 16:00	Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	3	U	ug/L	3	12
3/15/2008 16:00	Blank	Priority Organic Pollutants	Nitrobenzene	2	U	ug/L	2	8.1
3/15/2008 16:00	Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	Anthracene	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	28	I	ug/L	15	61
3/15/2008 16:00	Blank	Priority Organic Pollutants	Endosulfan I	4	U	ug/L	4	16
3/15/2008 16:00	Blank	Priority Organic Pollutants	Pyrene	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	2,4-Dichlorophenol	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	2,4-Dinitrophenol	15	U	ug/L	15	61
3/15/2008 16:00	Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3	U	ug/L	3	12
3/15/2008 16:00	Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	40	U	ug/L	40	160
3/15/2008 16:00	Blank	Priority Organic Pollutants	Acenaphthene	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	Chrysene	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	Endosulfan II	4	U	ug/L	4	16
3/15/2008 16:00	Blank	Priority Organic Pollutants	Endrin	1.5	U	ug/L	1.5	6.1
3/15/2008 16:00	Blank	Priority Organic Pollutants	Hexachlorobutadiene	3	U	ug/L	3	12
3/15/2008 16:00	Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	1	U	ug/L	1	4

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
3/15/2008 16:00	Blank	Priority Organic Pollutants	Phenanthrene	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	2-Chlorophenol	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2	U	ug/L	2	8.1
3/15/2008 16:00	Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	2,4-Dimethylphenol	10	U	ug/L	10	40
3/15/2008 16:00	Blank	Priority Organic Pollutants	2-Chloronaphthalene	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	4,4'-DDE	1.5	U	ug/L	1.5	6.1
3/15/2008 16:00	Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	4-Nitrophenol	15	U	ug/L	15	61
3/15/2008 16:00	Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	Di-n-butyl phthalate	5.1	U	ug/L	5.1	20
3/15/2008 16:00	Blank	Priority Organic Pollutants	Di-n-octyl phthalate	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	Dieldrin	1.5	U	ug/L	1.5	6.1
3/15/2008 16:00	Blank	Priority Organic Pollutants	Fluorene	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	Isophorone	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	Phenol	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	delta-BHC	1.5	U	ug/L	1.5	6.1
3/15/2008 16:00	Blank	Priority Organic Pollutants	4,4'-DDD	1.5	U	ug/L	1.5	6.1
3/15/2008 16:00	Blank	Priority Organic Pollutants	4,4'-DDT	1.5	U	ug/L	1.5	6.1
3/15/2008 16:00	Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2	U	ug/L	2	8.1
3/15/2008 16:00	Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	3	U	ug/L	3	12
3/15/2008 16:00	Blank	Priority Organic Pollutants	Diethyl phthalate	1.1	I	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	Endrin aldehyde	4	UJ	ug/L	4	16
3/15/2008 16:00	Blank	Priority Organic Pollutants	Heptachlor	1.5	U	ug/L	1.5	6.1
3/15/2008 16:00	Blank	Priority Organic Pollutants	Naphthalene	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	Hexachlorobenzene	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	Hexachloroethane	3	U	ug/L	3	12
3/15/2008 16:00	Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	2	UJ	ug/L	2	8.1
3/15/2008 16:00	Blank	Priority Organic Pollutants	alpha-BHC	1.5	U	ug/L	1.5	6.1
3/15/2008 16:00	Blank	Priority Organic Pollutants	beta-BHC	1.5	U	ug/L	1.5	6.1

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
3/15/2008 16:00	Blank	Priority Organic Pollutants	2-Nitrophenol	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	Acenaphthylene	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	Aldrin	1.5	U	ug/L	1.5	6.1
3/15/2008 16:00	Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	Butyl benzyl phthalate	5.1	U	ug/L	5.1	20
3/15/2008 16:00	Blank	Priority Organic Pollutants	Fluoranthene	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	Pentachlorophenol	3	U	ug/L	3	12
3/15/2008 16:00	Blank	Priority Organic Pollutants	gamma-BHC	1.5	U	ug/L	1.5	6.1
3/15/2008 16:00	Blank	Priority Organic Pollutants	Benzidine	100	U	ug/L	100	400
3/15/2008 16:00	Blank	Priority Organic Pollutants	Benzo(a)anthracene	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	Benzo(a)pyrene	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	1	U	ug/L	1	4
3/15/2008 16:00	Blank	Priority Organic Pollutants	Dimethyl phthalate	10	U	ug/L	10	40
3/19/2008 8:00	Effluent	Field Parameter	Total Residual Chlorine	0		mg/L		
3/19/2008 8:00	Effluent	Field Parameter	pH	6.99				
3/21/2008 8:00	Effluent	Field Parameter	pH	6.93				
3/21/2008 8:00	Effluent	Field Parameter	Total Residual Chlorine	0		mg/L		

Appendix F. Bioassay Meter Identification

Facility ID: Fiesta Village WWTP Test Dates: March 18 -25, 2008

METER / DEVICE	ID	SOP	Parameter	Method	√ used
YSI Model 58 Dissolved Oxygen Meter	90H018262	TA06_04	Dissolved Oxygen	SM 4500 O G	√
Accumet AR-10 pH Meter	93312105	TA06_23	pH	SM 4500 H^+	√
Mettler-Toledo SevenMulti Conductivity Meter	SN 1225117049 Probe H04257	TA06_25	Conductivity Salinity	SM 2510 B SM 2520 B	√
Denver Model 225 ISE with ammonia probe	SN K01377	TA06_17	Ammonia	SM 4500 NH3 F	√
Thermometer (DO probe)	YSI 5750 SN 05J1720	TA06_05	Temperature	SM-2530B modified DEP SOP-001/01 FT1400	√
Hach Pocket Colorimeter II	05050C026378	TA06_22	Total Residual Chlorine	EPA 330.5 SM 4500 CL G	√
Alkalinity (Hach Kit)	No SN	TA06_08	Alkalinity	SM 2320 B	√
Hardness (Hach Kit)	No SN	TA06_09	Hardness	SM 2340 C	√
OHAUS Balance 250D	1125481084	TA06_21 TA06_27	Weight	-	√
S-Weights	BIO-S-WEIGHTS-01	NA	Balance check	-	√

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

V 1.1 6/12/08 MF

The Bioassay of the Fiesta Village Wastewater Treatment Plant effluent sampled on March 17, 19 and 21, 2008. NPDES #FL0039829.

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 3 9 8 2 9 11	12 0 8 0 3 1 7	18 **B**	19 **S**	20 1

Remarks

66

The Priority Pollutants Analysis of the Fiesta Village Wastewater Treatment Plant effluent sampled on March 17, 19 and 21, 2008. NPDES #FL0039829.

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 3 9 8 2 9 11	12 0 8 0 3 1 7	18 **X**	19 **S**	20 1

Remarks

66

Biological Analyses of the Fiesta Village Wastewater Treatment Plant effluent sampled on March 17, 19 and 21, 2008. NPDES #FL0039829.

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 3 9 8 2 9 11	12 0 8 0 3 1 7	18 **S**	19 **S**	20 1

Remarks

66