

Effluent Quality Assessment

South Cross Bayou Water Reclamation Facility

Pinellas County

NPDES #FL0040436

Sampled March 5 - 9, 2007

June 2007

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

South Cross Bayou Water Reclamation Facility, 7401- 54th Avenue North, St. Petersburg, Pinellas County, Florida, NPDES #FL0040436. Effluent samples for this facility were collected on March 5 - 9, 2007.

Introduction

South Cross Bayou Water Reclamation Facility is a Type I dual-train advanced domestic wastewater treatment plant. The facility has a design flow of 33 million gallons per day (MGD) annual average daily flow (AADF). The permitted discharge through Outfall D001 is 20 MGD AADF. The D001 AADF from March 1, 2006 – February 28, 2007, was 9.01 MGD. The treatment plant consists of: an influent array which includes a pumping station with grinders and coarse screens with influent from South Cross service area, Pinellas Park service area, Madeira Beach service area, and Boca Ciega/McKay Creek service areas with a sideline equalization basin, a septage receiving station with four holding tanks, two septage transfer pumps; a head works with three bar screens, with bypasses, and a grit removal system with two grit classifiers, 14 vortex grit removal units and associated de-watering equipment; and a flow splitter system which divides flow between the North and South trains. The North train, rated at 18 MGD, consists of: five primary clarifiers, two primary sludge pumps, two anoxic basins, six secondary aeration basins using fine bubble membrane diffusers, and four final clarifiers. The South train, rated at 15 MGD, consists of: four primary clarifiers, two primary sludge pumps, three anoxic basins, six secondary aeration basins using fine bubble membrane diffusers, and four final clarifiers.

Effluent from both trains is directed to the de-nitrification filters then to the sand filters. Backwash from both filter systems is returned through the plant drainage system to the head works downstream of the mechanical screens. Effluent from the filtration systems is directed through a dual channel chlorine contact chamber. Effluent to be discharged to surface water is directed to the reclaimed water pumping station, withdrawn from the reclaimed water line, dechlorinated with sulfur dioxide, reaerated on a dual channel aeration cascade, thence directed to Outfall D001. Reclaimed water (reuse system R001) to be used beneficially is directed from the reclaimed water pumping station to three above ground storage tanks having a combined storage capacity of 18.09 million gallons. Reclaimed water is then re-chlorinated and directed from the reclaimed water high service pumping station to the reclaimed water distribution system, or to on-site reclaimed water usage. R001 is an existing 33.0 MGD AADF permitted capacity slow-rate public access system covering an area of approximately 57 square miles.

Outfall D001, located approximately at latitude 27º 49’ 33” N and longitude 82º 44’ 38” W, is a 94.5 m (310 feet) long weir running parallel to the east bank of Joe’s Creek (a Class II Marine water body). Effluent in the weir overflows through drain holes over rip-rap along the bank then into the creek. The residuals treatment system consists of two sludge thickening centrifuges, two anaerobic digesters, a methane gas storage system, three sludge de-watering centrifuges and multiple sludge storage tanks. De-watered unstabilized residuals may be transported to a permitted residuals management facility for further treatment. Stabilized residuals may be land applied at an approved residuals land application site.

The facility has no current Administrative Orders (AO) or Consent Orders (CO). The facility has no mixing zones. A review of Discharge Monitoring Report (DMR) data for the past year indicated a number of CBOD5, total suspended solids, total suspended solids (as a measure of high-level disinfection), total phosphorus, fecal coliform, total nitrogen and dissolved oxygen excursions. (Facility information provided by Lori Pillsbury and Michele Duggan of FDEP Southwest District.)

Methods

Samples were collected from the EFD-01 NPDES sampling point (at Outfall D001 after re-aeration structure) for Outfall D001by Lori Pillsbury, Peter Wenner, Joe Squitieri, and Michele Duggan (FDEP Southwest 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. Grab samples for chemical analysis were taken on March 5, 2007. Composite samples for chemical analysis were 24-hr composites with collection from March 5 to March 6, 2007. A 24-hr composite sample was collected from March 4 to March 5, 2007, for chronic definitive bioassays. Four individual grab samples were taken over 24 hours for acute definitive bioassays; however, those grab samples were treated as a single sample (i.e., grabs were not composited in the field or in the lab prior to use for tests).

See Appendix A for the completed chain of custody form.

The 96-hour acute definitive freshwater toxicity tests, the 7-day chronic definitive saltwater toxicity tests, and the algal growth potential test were performed following internal DEP SOPs TA07_01, TA07_02, TA07_14, TA07_15, 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.

Aliquots of the bioassay sample used in the chronic definitive saltwater bioassays were salinity adjusted to the minimum salinity required by the EPA test method (EPA 821-R-02-014) for each species (*Menidia beryllina*, 5 parts per thousand (ppth), *Americamysis bahia*, 20 ppth). The aliquots were salinity adjusted from an apparent salinity of less than one (1) part per thousand (ppth) to the appropriate test salinity using 40 Fathoms® artificial sea salts. The salt controls used for these tests were prepared by salting well water with artificial sea salts to approximate the corresponding test salinity. The purpose of the salt control was to confirm that there was no effect of adding artificial sea salts to the sample. There was 5% mortality in the salt control of the *Menidia beryllina* test. There was >20% mortality in the salt control of the *Americamysis bahia* test within 48 hours of test initiation. The *Americamysis bahia* test was invalidated at 48 hours.

Dunnett's procedure (available at Statistical Analysis for Biological Methods http://www.epa.gov/EERD/stat2.htm) was used to analyze data from the chronic definitive *Menidia beryllina* test.

An aliquot of the AGP test was salinity adjusted to meet the minimum salinity requirements of the marine test species.

Toxicity Test Results

Acute tests were performed March 6 - 10, 2007.

Ceriodaphnia dubia 96-hour acute definitive bioassay –	LC_{50} > 100%, 15% mortality in 100% sample at 96 hours
Cyprinella leedsi 96-hour acute definitive bioassay –	LC_{50} > 100%, 0% mortality in 100% sample at 96 hours

Chronic tests were performed March 6 - 13, 2007.

Menidia beryllina 7-day chronic definitive bioassay –	NOEC = 50%
Americamysis bahia 7-day chronic definitive bioassay –	No Result

The bioassay samples were not acutely toxic to the *Ceriodaphnia dubia* and the *Cyprinella leedsi* test organisms. The bioassay samples were chronically toxic to the *Menidia beryllina* test organisms, producing a No Observed Effect Concentration for growth of 50% sample. The cause of the observed biomass reduction was not determined. There was no effect observed for survival in the *Menidia beryllina* test. The *Americamysis bahia* test was invalidated at 48 hours due to excessive mortality in the salted control.

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 8.8 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 freshwater receiving waters, implying nutrient enrichment. The analytical chemistry suggests that the effluent is nitrogen –limited. The predicted AGP based on inorganic nitrogen concentrations was 1.4 (±20%) mg dry wt/L (Table 1; Miller et al. 1978).

The Algal Growth Potential (AGP) in the salinity-adjusted aliquot of effluent was less than the method detection limit of 3.0 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).

See Table 1 for AGP results

Chemistry Results

Total residual chlorine and total ammonia were not detected in the grab or composite bioassay samples in the laboratory. The total ammonia concentration in the samples collected and preserved for chemical analysis were 0.028 mg/L for the effluent grab sample and 0.037 mg/L for the effluent composite sample. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentrations were less than 0.02 mg/L for both the grab and composite Outfall D-001 samples.

Copper, iron, nickel, and zinc were detected in both the effluent grab and composite samples, and aluminum in the grab sample only, at levels that comply with Class II marine water quality criteria (62-302.530, F.A.C.); copper was also detected in the blank composite sample. Arsenic, cadmium, and chromium-III were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL) in the effluent grab sample. Aluminum, arsenic, cadmium, and lead were detected between the MDLs and PQLs in the effluent composite sample.

Bromodichloromethane (23 µg/L) and dibromochloromethane (40 µg/L) in the effluent grab sample exceeded the permit limits (≤22 µg/L and ≤34 µg/L, respectively) and Class II marine water quality criteria (62-302.530(35), F.A.C.). Cyanide in the effluent grab sample (0.01 mg/L) exceeded the Class II marine water quality criterion (≤0.001 mg/L; 62-302.530(24), 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 grab samples collected from South Cross Bayou Water Reclamation Facility Outfall D-001 on March 5, 7, and 9, 2007 were not acutely toxic to either freshwater test species during the 96-hour acute definitive bioassays. The effluent composite sample was chronically toxic to the marine fish during the 7-day chronic definitive bioassay. The cause of the toxicity was not determined. There was no result for the marine mysid 7-day chronic definitive bioassay. The effluent AGP result was less than the "problem” threshold for marine receiving waters.

Bromodichloromethane and dibromochloromethane exceeded water quality standards and permit limits. Cyanide also exceeded the water quality standard.

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 *Pseudokirchneriella subcapitata* for total soluble inorganic nitrogen (TSIN) and total nitrogen (TN) limitation, the AGP (salinity adjusted) of the saltwater species *Dunaliella tertiolecta* , and ratios of nitrogen to phosphorus for samples collected from South Cross Bayou Advanced Wastewater Treatment Plant on March 5, 2007.

Location	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (TN) ± 20%	AGP (salinity adjusted)	Inorganic N:P ratio	Total N:P ratio
Outfall D-001	8.8	1.4 ± 0.3	49.8 ± 10.0	3.0 A U	0.1	1.9

A - Value reported is the mean of two or more determinations
U - Material analyzed for but not detected; value reported is the method detection limit

Table 2. Effluent limits, Class II Marine Criteria, and chemical and microbiological data for samples collected from South Cross Bayou Water Reclamation Facility on March 5 and 6, 2007.

South Cross Bayou Advanced Wastewater Treatment Facility NPDES #FL0040436	Class II Marine Stds	Effluent Limits	Outfall D001 Grab March 5, 2007	Outfall D001 Composite March 6, 2007
Organic Constituents (µg/L)				
Atrazine	-	Report	0.1 U	-
Bromodichloromethane	≤ 22 a	≤ 22 a	23	-
Bromoform	≤ 360 a	-	21	-
Chloroform	≤ 470.8 a	-	11	-
Dibromochloromethane	≤ 34 a	≤ 34 a	40	-
Metals (µg/L unless otherwise noted)				
Aluminum	≤ 1500	-	44	51 I
Arsenic	≤ 50	-	0.79 I	0.77 I
Cadmium	≤ 8.8	-	0.078 I	0.1 I
Calcium (mg/L)	-	-	93.2	89.9
Chromium-III	-	-	0.34 I	1 U
Copper	≤ 3.7	≤ 3.7	1.58	2.29 f
Iron	≤ 300	-	42	35
Lead	≤ 8.5	-	0.2 U	0.21 I
Magnesium (mg/L)	-	-	31.8	28.6
Nickel	≤ 8.3	-	5.49	5.71
Selenium	≤ 71	-	0.5 U	0.5 U
Silver	≤ 2.3	-	0.025 U	0.025 U
Zinc	≤ 86	-	39	32
Nutrients (mg/L)				
Ortho-phosphate	-	-	0.56	-
Total Phosphorus	-	≤ 2.0 ps	0.68	0.69 A
Total Ammonia	-	-	0.028	0.037
Un-ionized Ammonia	-	-	≤ 0.02 c	≤ 0.02 c
Nitrate and Nitrite	-	-	0.01 If	0.18 f
Total Kjeldahl Nitrogen	-	-	1.3	1.4 A
Organic Nitrogen	-	-	1.272 c	1.363 c
Total Nitrogen	-	≤ 6.0 ps	1.31 c	1.58 c
General Physical and Chemical Parameters				
Dissolved Oxygen (mg/L)	≥ 4.0	-	8.5	-
pH (SU)	6.5 - 8.5	6.5 - 8.5	6.8	-
Conductivity (µmhos/cm)	-	-	1519	-
Temperature (°C)	-	-	24.0	-
Total Residual Chlorine (mg/L)	≤ 0.01	≤ 0.1 p	< 0.03 *	-
Total Suspended Solids (mg/L) Grab	-	≤ 5.0 s	4 U	-
Total Suspended Solids (mg/L) Composite	-	≤ 10 ps	-	4 U
Total Organic Carbon (mg/L) Grab	-	-	13	11
Dissolved Oxygen Carbon (mg/L) Composite	-	-	14 A	12
Turbidity (NTU)	≤ 29 t	-	0.65	-
Color (pt-Co)	-	-	10	-
CBOD, 5 day (mg/L), N - inhibited	-	≤ 10 ps	8.2 AL	8.3 fL
Cyanide (mg/L)	≤ 0.001	Report	0.01 I	-
Oils and Greases (mg/L)	≤ 5.0	≤ 5.0	1.7 Uf	-
Flow (MGD)	-	≤ 20 a	9.01	-
Hardness (mg $CaCO_3$)	-	-	363.67 c	342.26 c
Microbiology (Number of counts/100ml)				
Fecal Coliforms	≤ 800 s	≤ 25	14	-

Value exceeds the Class III Water Quality Criteria or permit limits

a - Annual average
c - Value is calculated
f - Analyte was detected in both sample and field blank
p- Effluent limit for composite sample.
s - Single sample
t - Shall not exceed 29 NTUs above background
A - Value reported is the mean of two or more determinations
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
L - Actual value is known to be greater than value given
U - Material analyzed for but not detected; value reported is the method detection limit
* - Measurement performed in laboratory

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Request Number: RQ-2007-03-05-44
South Cross Bayou WRF

Event ID *

Requester: Shannan Bogdanov
Field Report Prepared By: L Pillsbury

Customer: SW-DIST
Collected By: FDEP / LPillsbury / PWenner
Send Final Report To Tom Gucciardo

Project ID: FYI3
Sampling Agency: FDEP

PMAS: 1153

Lab ID *	Location / Field ID	Matrix (Include type e.g. Salt, Fresh, etc)	Temp (C)	pH	Latitude	Longitude	Collection (begin)	Collection (end)	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Sample Depth	Salinity (PPTh) / Sp Conductance (umho/cm)	NPDES Number	Comments	Bottle Group(s)**
	OUTFALL D001 / 34898	FRESH	24.04	6.82	o ' "	o ' "	X Grab Date 3/5/07 Time 0955 Eastern / 1406 Central	Date Time Eastern Central	0.00	8.51	OUTFALL m ft	0.77 / 1519	FL0040436		A
	OUTFALL D001 / 34903	FRESH			o ' "	o ' "	X Comp Date 3/4/07 Time 0843 Eastern / 2007 Central	Date 3/5/07 Time 0945 Eastern Central			OUTFALL m ft			Composite samples for toxicity - 4 bottles	A
	BLANK / 34908	FRESH			o	o	X Grab Date 3/5/07 Time 1015 Eastern Central	Date Time Eastern Central			m ft				C
	EQUIPMENT BLANK - COMPOSITE SAMPLER / 34906	FRESH			o	o	X Grab Date 3/5/07 Time 0800 Eastern Central	Date Time Eastern Central			m ft			3 Abs 45% 1010 GHF 103607 SD	B

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	3/5/07 1200	DHL	ABJ	3-6-07 08-55				

* 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-2007-03-05-44
South Cross Bayou WRF

Event ID *

Requester: Shannan Bogdanov

Field Report Prepared By: Pillsbury

Customer: SW-DIST

Collected By: SCB

Send Final Report To Tom Gucciardo

Project ID: FYI3

Sampling Agency: South Cross Bayou WWTP

PMAS: 1153

Lab ID *	Location / Field ID / Matrix / Lat / Long	Collection (begin)	Collection (end)	Bottle Group(s)**	Comments
	OUTFALL D001 Field ID 34899 Matrix: FRESH Temp (C): ___ pH: ___ Latitude: ___ Longitude: ___	[ ] Comp [X] Grab Date 3/4/07 Time 1406 (Eastern) Central Tot Res Chlorine (mg/L): ___ Diss Oxygen (mg/L): ___ Sample Depth: [ ] m [ ] ft OUTFALL [ ] Salinity (PPTh) [ ] Sp Conductance (umho/cm): ___	Eastern Central Date ___ Time ___ Storet Station Number: ___ NPDES Number: ___	A	Bottle 1 - Acute Definitive Tox Test
	OUTFALL D001 Field ID 34900 Matrix: FRESH Temp (C): ___ pH: ___ Latitude: ___ Longitude: ___	[ ] Comp [X] Grab Date 3/4/07 Time 2002 (Eastern) Central Tot Res Chlorine (mg/L): ___ Diss Oxygen (mg/L): ___ Sample Depth: [ ] m [ ] ft [ ] Salinity (PPTh) [ ] Sp Conductance (umho/cm): ___	Eastern Central Date ___ Time ___ Storet Station Number: ___ NPDES Number: ___	A	Bottle 2 - Acute Definitive Tox Test
	OUTFALL D001 Field ID 34901 Matrix: FRESH Temp (C): ___ pH: ___ Latitude: ___ Longitude: ___	[ ] Comp [X] Grab Date 3/5/07 Time 0202 (Eastern) Central Tot Res Chlorine (mg/L): ___ Diss Oxygen (mg/L): ___ Sample Depth: [ ] m [ ] ft [ ] Salinity (PPTh) [ ] Sp Conductance (umho/cm): ___	Eastern Central Date ___ Time ___ Storet Station Number: ___ NPDES Number: ___	A	Bottle 3 - Acute Definitive Tox Test
	OUTFALL D001 Field ID 34902 Matrix: FRESH Temp (C): ___ pH: ___ Latitude: ___ Longitude: ___	[ ] Comp [X] Grab Date 3/5/07 Time 0756 (Eastern) Central Tot Res Chlorine (mg/L): ___ Diss Oxygen (mg/L): ___ Sample Depth: [ ] m [ ] ft [ ] Salinity (PPTh) [ ] Sp Conductance (umho/cm): ___	Eastern Central Date ___ Time ___ Storet Station Number: ___ NPDES Number: ___	A	Bottle 4 - Acute Definitive Tox Test

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
James DeLaney	3/5/07 0930	Hand to Hand	[illegible]	3/5/07 0930	[illegible]	3/5/07 1200 to DHL		

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

Page 1 of 2

ABB 03-6-07 08:55

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2007-03-05-44
South Cross Bayou WRF

Requester: Shannan Bogdanov

Field Report Prepared By: M Duggan

Customer: SW-DIST

Collected By: M Duggan

Send Final Report To Tom Gucciardo

Project ID: FYI3

Sampling Agency: FDEP

PMAS: 1153

Lab ID *	Location / Field ID / Matrix / Lat / Long	Collection (begin)	Collection (end)	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	Sample Depth	Salinity / Sp Conductance	NPDES Number	Comments	Bottle Group(s)**
	Location: OUTFALL D001 COMPOSITE Field ID: 34907 Matrix: EFFLUENT Temp (C): pH: Latitude: o ' " Longitude: o ' "	☐ Comp ☐ Grab Date: 03/05/07 Time: 1000 Eastern Central	Date: 03/06/07 Time: 1000 Eastern Central	0.0	-		☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)			B
	Location: Field ID: Matrix: Temp (C): pH: Latitude: o ' " Longitude: o ' "	☐ Comp ☐ Grab Date: Time: Eastern Central	Date: Time: Eastern Central	Tot Res Chlorine (mg/L):	Diss Oxygen (mg/L):	Storet Station Number:	☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number:	Comments:	Bottle Group(s)**
	Location: Field ID: Matrix: Temp (C): pH: Latitude: o ' " Longitude: o ' "	☐ Comp ☐ Grab Date: Time: Eastern Central	Date: Time: Eastern Central	Tot Res Chlorine (mg/L):	Diss Oxygen (mg/L):	Storet Station Number:	☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number:	Comments:	Bottle Group(s)**
	Location: Field ID: Matrix: Temp (C): pH: Latitude: o ' " Longitude: o ' "	☐ Comp ☐ Grab Date: Time: Eastern Central	Date: Time: Eastern Central	Tot Res Chlorine (mg/L):	Diss Oxygen (mg/L):	Storet Station Number:	☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number:	Comments:	Bottle Group(s)**

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
M. Duggan	03/06/07 1100	DHL	Tom. B	03/07/07 9:45				

* 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-2007-03-05-44
South Cross Bayou WRF

Requester: Shannan Bogdanov

Field Report Prepared By:

Customer: SW-DIST

Collected By: M Duggan

Send Final Report To Tom Gucciardo

Project ID: FYI3

Sampling Agency: FDEP/SCB

PMAS: 1153

Lab ID *	Location / Field ID / Matrix / Lat / Long	Collection (begin)	Collection (end)	Bottle Group(s)**
	Location: OUTFALL D001 Field ID: 34904 Matrix: FRESH Temp (C): pH: Latitude: o ' " Longitude: o ' "	X Comp / Grab Date: 3/6/07 Time: 0847 Eastern / Central	Date: 3/7/07 Time: 0857 Eastern / Central	A
	Tot Res Chlorine (mg/L): Diss Oxygen (mg/L): Storet Station Number:			
	Sample Depth: m / ft Salinity (PPTh) / Sp Conductance (umho/cm) NPDES Number:			
	Comments: Composite samples -for chronic tox			
	Location / Field ID / Matrix / Lat / Long	Comp / Grab Collection (begin) Date Time Eastern / Central	Collection (end) Date Time Eastern / Central	Bottle Group(s)**
	Tot Res Chlorine (mg/L): Diss Oxygen (mg/L): Storet Station Number:			
	Sample Depth: m / ft Salinity (PPTh) / Sp Conductance (umho/cm) NPDES Number:			
	Comments:			
	Location / Field ID / Matrix / Lat / Long	Comp / Grab Collection (begin) Date Time Eastern / Central	Collection (end) Date Time Eastern / Central	Bottle Group(s)**
	Tot Res Chlorine (mg/L): Diss Oxygen (mg/L): Storet Station Number:			
	Sample Depth: m / ft Salinity (PPTh) / Sp Conductance (umho/cm) NPDES Number:			
	Comments:			
	Location / Field ID / Matrix / Lat / Long	Comp / Grab Collection (begin) Date Time Eastern / Central	Collection (end) Date Time Eastern / Central	Bottle Group(s)**
	Tot Res Chlorine (mg/L): Diss Oxygen (mg/L): Storet Station Number:			
	Sample Depth: m / ft Salinity (PPTh) / Sp Conductance (umho/cm) NPDES Number:			
	Comments: 4 Dioxin -Tox 10:10 3.9.07 J.D. Jane Daniels			

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
M. Duggan	03/09/06 1100	DHL						

* 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-2007-03-05-44
South Cross Bayou WRF

Requester: Shannan Bogdanov

Field Report Prepared By:

Customer: SW-DIST

Collected By: PETER WENNER

Send Final Report To: Tom Gucciardo

Project ID: FYI3

Sampling Agency: SWD

PMAS: 1153

Lab ID *	Location	Comp / Grab	Collection (begin) Eastern Central	Collection (end) Eastern Central	Bottle Group(s)**
	SOUTH CROSS BAYOU OUTFALL	☑ Comp ☐ Grab	Date 3/8/09 Time 0849	Date 3/9/09 Time 0900	A
	Field ID: 34405	Tot Res Chlorine (mg/L): 0.000	Diss Oxygen (mg/L):	Storet Station Number:	
	Matrix (Include type e.g. Salt, Fresh, etc):	Temp (C):	pH: 7.17	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)
	Latitude: o ' "	Longitude: o ' "		Comments: 4 BOTTLES FOR TOXICITY	NPDES Number:

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

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

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

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
	3/9/07 1205	DHL						

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

FDEP Biology Laboratory - Acute Definitive Bioassay Bench Sheets

Facility: SOUTH CROSS BAYOU WRF

Address: 5900 74TH ST. NORTH

City: ST. PETERSBURG County: PINELLAS

Contact/District: Lori Pillsbury / Southwest

NPDES Permit #: FL0040436

LIMS Job #: TLH-2007-03-06-46 LIMS Sample #: 990384

Lims Data Entry: MF 3-13-07 Data Entry Verification: JD 3.14.07

Sample Collection: Date: 3-5-07 Time: 0756

Hold Time Start: Date: 3-5-07 Time: 0756

Comments: four separate grab samples were collected from the facility at different Times for these tests. The samples were not composited in the field nor in the lab Prior to first use or at renewal. therefore the tests were performed w/ th "different" aliquots of sample. MF 3-13-07

NCR 2377 created Results J qualified MF 3-13-07

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

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

Test Duration: 48 (96) Hours.

Light Intensity : 50 - 100 ft. candles.

Photoperiod : 16 hours light 8 hours dark.

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: ____

Temperatures: Incubator 25.9-26.5
(Control water) Room: 24.7-25.9

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

Patsy Vickerlund

Marshall Faircloth

Bruce Albertson

James Daniels

Nijole Wellendorf
REVIEWER

Water Quality Parameters	20% DMW	Moderately Hard Water/ (Well Water)	Salt Water ASW NSW Test 1	Salt Water ASW NSW Test 2	Other:	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl_2 (mg/L):	N/A	N/A	N/A	N/A		NOT MEASURED			MF
Lab Total Residual Cl_2 (mg/L):	<0.03	<0.03				<0.03	HACH	~~PAV~~	MF
Alkalinity (mg/L as $CaCO_3$):	80	140				194	HACH	BA	MF
Hardness (mg/L as $CaCO_3$):	83	140				341	HACH	BA	MF
Total Ammonia (mg/L as N):	<0.017	<0.017				<0.017	DENVER	MF	~~PAV~~
Salinity (ppth):	<1	<1				0.8	~~YSI~~ / Mettler	JD	MF

V 1.4 9/12/05

Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 990384 Test #: 1 of 2 SOP#:TA 07 01 Test Started: Date 3-6-07 Time: 14:30
Organism/Batch/Age: C. dubia / 10-07 / <24HR. Test Ended: Date 3-10-07 Time: 11:20
Chamber/Test Volume: 30 / 20 ml Diluent/ Batch: DMW / 2-23-07
Food/Batch: YCT 2-7-07 P.sub 1-67.ppr Artemia 0hr — 24hr — 48hr — 72hr — Artemia Lot# —
Feeding: Prior to Test Prior to Renewal Daily

Concentration	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Control	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
6.25%	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	4 1D
	C	C	5	4 1D	4	4	4	4
	D	D	5	5	5	5	5	5
12.5%	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
25%	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	4 1D
	D	D	5	5	5	5	5	5
50%	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	4 1D
100%	A	A	5	4 1M	3 1D	3	2 1D	2
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
			MF	MF	ME	MF	MF	BA

Loaded/Verified by: BA / DW Checked by:
m = missing d = dead BR/AR = Before/After Renewal
Comments: M = missing D = dead

Test Results:
Screening Tests: Report LC50 as >100%, =100%, or <100%.
% mortality in 100% sample: 15 LC50: >100%
If Calculated: 95% CI — Method —

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

PAGE 000009 V 2.1 11/01/2005

Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 990384 Test #: 2062 SOP#:TA 07 02 Test Started: Date 3/6/07 Time: 1345
Organism/Batch/Age: C. tribuis /3-6-07/12 DAYS Test Ended: Date 3-10-07 Time: 1100
Chamber/Test Volume: 1000 / 500 ml Diluent/ Batch: well / 3-6-07
Food/Batch: YCT --- P.sub --- (Artemia) 0hr 21-07 24hr 22-07 48hr 23-07 72hr 24-07 Artemia Lot# GSL-S36-40
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	F1	5	5	5	5	5	5
	B	F2	5	5	5	5	5	5
	C	F3	5	5	5	5	5	5
	D	F4	5	5	5	5	5	5
6.25 %	A	F5	5	5	5	5	5	5
	B	F6	5	5	5	5	5	5
	C	F7	5	5	5	5	5	5
	D	F8	5	5	5	5	5	5
12.5 %	A	F9	5	5	5	5	5	5
	B	F10	5	5	5	5	5	5
	C	F11	5	5	5	5	5	5
	D	F12	5	5	5	5	5	5
25 %	A	F13	5	5	5	5	5	5
	B	F14	5	5	5	5	5	5
	C	F15	5	5	5	5	5	5
	D	F16	5	5	5	5	5	5
50 %	A	F17	5	5	5	5	5	5
	B	F18	5	5	5	5	5	5
	C	F19	5	5	5	5	5	5
	D	F20	5	5	5	5	5	5
100 %	A	F21	5	5	5	5	5	5
	B	F22	5	5	5	5	5	5
	C	F23	5	5	5	5	5	5
	D	F24	5	5	5	5	5	5
Loaded/Verified by: JD / [illegible]	Checked by:		JD	JD	JD	JD	JD	JD

m = missing d = dead BR/AR = Before/After Renewal
Test Results:
Screening Tests: Report LC50 as >100%, =100%, or <100%.
% mortality in 100% sample: Ø LC50: >100%
If Calculated: 95% CI - Method -
Substitue highest test concentration used if other than 100% (example: Ocean outfall tested at 30% concentration).

Comments:

PAGE 000010 V 2.1 11/01/2005

FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 990384 **Test #:** 1 of 2

TEST SOP #: TA07_ 01 **Test Species:** (Ceriodaphnia dubia) *Cyprinella leedsi* *Pimephales promelas* *Americamysis bahia* *Menidia beryllina* Other:_____

Concentration Control	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		M	M		A
pH (S.U.)	8.1		8.1	8.1		7.7
Temperature °C	24.7		25.0	24.8		24.6
Dissolved Oxygen mg/L	7.7		6.9	7.2		7.0
Conductivity (µmhos) mmhos	190		180	202		188
(initials) Measured by:	MF		BA	MF		BA
(initials) Recorded by:	MF		BA	MF		BA

Comments:

Concentration 6.25%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		M	M		A
pH (S.U.)	8.2		8.0	8.1		8.2
Temperature °C	24.9		25.1	24.4		24.1
Dissolved Oxygen mg/L	7.6		7.0	6.7		6.8
Conductivity (µmhos) mmhos	281		269	290		343
(initials) Measured by:	MF		BA	MF		BA
(initials) Recorded by:	MF		BA	MF		BA

Comments:

Concentration 12.5%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		M	M		A
pH (S.U.)	8.1		7.9	8.1		8.2
Temperature °C	24.9		25.1	24.4		24.0
Dissolved Oxygen mg/L	7.7		7.2	6.6		6.8
Conductivity (µmhos) mmhos	379		367	400		450
(initials) Measured by:	MF		BA	MF		BA
(initials) Recorded by:	MF		BA	MF		BA

Comments:

Concentration 25%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		M	M		A
pH (S.U.)	8.0		7.7	8.2		8.2
Temperature °C	24.9		25.1	24.2		24.0
Dissolved Oxygen mg/L	7.7		7.3	6.7		6.7
Conductivity (µmhos) mmhos	565		550	598		647
(initials) Measured by:	MF		BA	MF		BA
(initials) Recorded by:	MF		BA	MF		BA

Comments:

V 2.0 2/24/04

FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 990384 **Test #:** 1 of 2

TEST SOP #: TA07_ 01 **Test Species:** (*Ceriodaphnia dubia*) *Cyprinella leedsi* *Pimephales promelas* *Americamysis bahia* *Menidia beryllina* Other:

Concentration 50%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		M	M		A
pH (S.U.)	7.8		7.6	8.3		8.3
Temperature °C	24.7		25.0	24.3		24.0
Dissolved Oxygen mg/L	7.6		7.3	6.8		6.4
Conductivity (µmhos) mmhos	930		908	960		1082
(initials) Measured by:	MF		BA	MF		BA
(initials) Recorded by:	MF		BA	MF		BA

Comments:

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		M	M		A
pH (S.U.)	7.6		7.4	8.4		8.4
Temperature °C	24.6		24.9	24.2		24.1
Dissolved Oxygen mg/L	7.5		7.1	6.8		6.4
Conductivity (µmhos) mmhos	1658		1583	1640		1651
(initials) Measured by:	MF		BA	MF		BA
(initials) Recorded by:	MF		BA	MF		BA

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 Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 990384 **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.)	7.9	8.2	8.2	7.9	8.0	8.1
Temperature °C	25.0	24.1	24.1	24.1	24.0	24.0
Dissolved Oxygen mg/L	7.8	7.2	6.5	7.7	6.4	6.9
Conductivity ~~mmhos~~ mmhos	275	282	289	378	387	376
(initials) Measured by:	JD	PW/JD	JD	BA	JD	JD
(initials) Recorded by:	JD	PW JD	JD	BA	JD	JD

Comments:

Concentration 6.25	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	7.9	8.2	8.3	7.8	8.1	8.1
Temperature °C	25.1	25.1	24.0	24.0	24.0	24.3
Dissolved Oxygen mg/L	7.5	6.7	6.7	7.6	6.4	6.6
Conductivity ~~mmhos~~ mmhos	365	372	375	463	443	441
(initials) Measured by:	JD	PW/JD	JD	BA	JD	JD
(initials) Recorded by:	JD	PW/JD	JD	BA	JD	JD

Comments:

Concentration 12.5	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	7.9	8.1	8.3	7.9	8.0	8.1
Temperature °C	25.2	25.1	24.9	24.0	24.1	24.0
Dissolved Oxygen mg/L	7.8	6.8	6.8	7.6	6.4	6.7
Conductivity ~~mmhos~~ mmhos	452	456	466	521	528	556
(initials) Measured by:	JD	PW/JD	JD	BA	JD	JD
(initials) Recorded by:	JD	PW/JD	JD	BA	JD	JD

Comments:

Concentration 25	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	7.8	8.1	8.2	7.8	7.9	8.1
Temperature °C	25.2	24.9	24.1	24.1	24.4	24.0
Dissolved Oxygen mg/L	7.7	6.5	6.8	7.7	5.8	6.7
Conductivity ~~mmhos~~ mmhos	618	631	634	705	703	690
(initials) Measured by:	JD	PW/JD	JD	BA	JD	JD
(initials) Recorded by:	JD	PW/JD	JD	BA	JD	JD

Comments:

V 2.0 2/24/04

FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 990384 **Test #:** 2 of 2

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

Concentration 50	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	7.6	8.0	8.1	7.7	7.9	8.1
Temperature °C	25.1	24.5	24.0	24.3	24.6	24.6
Dissolved Oxygen mg/L	7.3	6.0	6.4	7.6	5.3	6.4
Conductivity ~~µmhos~~ mmhos	974	988	977	1030	987	1051
(initials) Measured by:	JD	AV/JD	JD	BA	JD	JD
(initials) Recorded by:	JD	AV/JD	JD	BA	JD	JD

Comments:

Concentration 100	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	7.6	8.1	8.1	7.5	7.8	8.0
Temperature °C	25.1	24.3	24.2	24.6	25.0	24.0
Dissolved Oxygen mg/L	7.3	6.1	5.9	7.7	4.2	5.4
Conductivity ~~µmhos~~ mmhos	1656	1663	1660	1647	1643	1622
(initials) Measured by:	JD	AV/JD	JD	BA	JD	JD
(initials) Recorded by:	JD	AV/JD	JD	BA	JD	JD

Comments:

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

Comments:

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

Comments:

V 2.0 2/24/04

Appendix B. (continued; 7-day chronic definitive)

Chronic Definitive Bioassay Benchsheet

Sample Identification, Test Conditions and Physical Chemistry

Americamysis bahia **SOP#: TA07_15**

Sample Source: SOUTH CROSS BAYOU WRF
Address: 5900 74TH ST NORTH
County: PINELLAS
NPDES Permit #FL0040436
Contact/District: Lori Pillsbury / Southwest

Start Date 3-6-07 Time 1245
3-8-07 MF wrote in missing end date
End Date ~~3-13-07~~ Time 1300 3-13-07

LIMS entry: 3-26-07 MF verified: —
Incubator # 2 Temperature Range: 24.7 - 25.9
Room B246 Temperature Range: 25.9-26.3
Waterbath Temperature Range: N/A
Feeding: 2 X Daily Artemia Lot:#:

Light Intensity : 50 - 100 ft. candles (yes) no
Photoperiod : 16 light 8 dark (yes) no
Chamber size : 400 mL Organism Batch #: 3-6-07
Sample volume : 250 ml Organism age : 7 days

Batch #s: Day 0 21-07 Day 1 22-07 Day 2 23-07 Day 3 24-07
Day 4 25-07 Day 5 26-07 Day 6 27-07

LIMS Entry as No Result. MF 3-26-07 verified BA 3-29-07

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	2	3	1	2	3
Sample:	NOT MEASURED		0.0	<0.03	<0.03	<0.03	194	198	178	341	348	340
Diluent/Control:				<0.03	<0.03	<0.03	200	215	215	NA	NA	N/A
additional Control:												
additional Sample:												
Method:	—	—	—	Hach	Hach	Hach	Hach	Hach	Hach	Hach	Hach	Hach
Measured by:	—	—	M. DUGAN	PPV	PPV	JD	JD	PPV	BA	JD	~~PPV~~	BA
Verified by:	—	—	~~PPV~~	MF	JD	BA	MF	JD	JD	MF	JD	JD

NA - Not applicable

	Salinity ‰			Ammonia mg/L		
Lab Sample#:	1	2	3	1	2	3
Sample:	0.8	0.8	0.7	<0.017	<0.017	<0.017
Diluent/Control:	20	20	20	<0.034	<0.034	<0.034
additional Control:						
additional Sample:						
Method:	Mettler	Mettler	Mettler	Denver	Denver	Denver
Measured by:	JD	JD	JD	MF	MF	MF
Verified by:	MF	BA	BA	JD	JD	JD

Statistics	
Control %cv:	
Dunnetts PMSD:	
Survival NOEC:	
Survival LOEC:	
Growth NOEC:	
Growth LOEC:	

Sample Received	LAB ID #	LIMS SAMPLE #	LIMS JOB #
Test Day 0	Sample: 1	990384 MF 3-26-07	TLH - 2007-03-06-46
Test Day 2	Sample: 2	991881	TLH - 2007-03-08-69
Test Day 4	Sample: 3	992037	TLH - 2007-03-12-01

Lab Sample #	Collection Date/Time	Received Date/Time
1	3-5-07 0945	3/6/07 0945
2	3/7/07 0857	3/8/07 0840
3	~~3/8/07~~ 3/9/07 0849	3/10/07 1005

Diluent / Control Batch #:	Days Used
3-5-07	3

Investigators' signatures
Patsy Vickrey
Marshall Faircloth
James Daniels

reviewer Nicole Wellborn

Comments: Sample Salinity adjusted from 20ppth by the addition of artificial Sea Salts - MF 3-6-07
Test invalid - excess control mortality MF -3-13-07
NCR 2348 noted 3-26-07 MF

revised 10/11/04 JF

page 000001

Appendix B. (continued)

Chronic Definitive Test Survival Benchsheet pg. 1

Americamysis bahia SOP TA07_15

Facility: South Cross Bayou WRF LIMS Sample Number: 99038 (for Lab Sample # 1)

		TEST DAY							
Concentration	Replicate	0	1	2	3	4	5	6	7
Control	Tox 1 A	5	5	5					
	Tox 2 B	5	5	5					
	Tox 3 C	5	5	5					
	Tox 4 D	5	5	5					
	Tox 5 E	5	5	5					
	Tox 6 F	5	5	5					
	Tox 7 G	5	5	5					
	Tox 8 H	5	5	5					
Sample 6 %	Tox 9 A	5	5	5					
	Tox 10 B	5	5	5					
	Tox 11 C	5	5	5					
	Tox 12 D	5	5	5					
	Tox 13 E	5	4 ID	4					
	Tox 14 F	5	5	5					
	Tox 15 G	5	5	5					
	Tox 16 H	5	5	5					
Sample 12 %	Tox 17 A	5	5	5					
	Tox 18 B	5	5	5					
	Tox 19 C	5	5	5					
	Tox 20 D	5	5	5					
	Tox 21 E	5	5	5					
	Tox 22 F	5	5	5					
	Tox 23 G	5	5	5					
	Tox ~~25~~ 24 H	5	5	5					
Sample 25 %	Tox 25 A	5	5	5					
	Tox 26 B	5	5	5					
	Tox 27 C	5	5	5					
	Tox 28 D	5	5	5					
	Tox 29 E	5	5	5					
	Tox 30 F	5	4 ID	4					
	Tox 31 G	5	5	5					
	Tox 32 H	5	5	5					
Loaded by: PDV	Checked by:	JD	JD	JD					

Comments:

revised 10/11/04 MF

page 000002

Appendix B. (continued)

Chronic Definitive Test Survival Benchsheet pg. 2

Americamysis bahia SOP TA07_15

Facility: South Cross Bayou WRF LIMS Sample Number: 99038 & MF

(for Lab Sample # 1)

		TEST DAY							
Concentration	Replicate	0	1	2	3	4	5	6	7
Sample 50 %	tox 33 A	5	5	5					
	tox 34 B	5	4D	4					
	tox 35 C	5	5	5					
	tox 36 D	5	5	5					
	tox 37 E	5	5	4D					
	tox 38 F	5	4D	4					
	tox 39 G	5	5	5					
	tox 40 H	5	4D	4					
Sample 100 %	tox 41 A	5	4D	3D					
	tox 42 B	5	4D	4					
	tox 43 C	5	3D	2D					
	tox 44 D	5	5	4D					
	tox 45 E	5	3D	3					
	tox 46 F	5	4D	3D					
	tox 47 G	5	4D	4					
	tox 48 H	5	5	4D					
Sample %	tox 100 A	5	3D	3					
	tox 101 B	5	5	4D					
SxH	tox 102 C	5	5	4D					
Ctrl	tox 103 D	5	5	5					
	tox 104 E	5	5	5					
	tox 105 F	5	5	4D					
	tox 106 G	5	5	3D					
	tox 107 H	5	5	3D					
Sample %	A	5							
	B	5							
	C	5							
	D	5							
	E	5							
	F	5							
	G	5							
	H	5							
Loaded by: ~~JDV~~	Checked by:	JD	JD	JD					

Comments:

revised 10/11/04 MF

Appendix B. (continued)

Biology Laboratory Chronic Definitive Bioassay Parameters Benchsheet pg. 1

***Americamysis bahia* SOP TA-07_15**

Sample Source: SOUTH CROSS BAYOU WRF — Start Date: 36.07 — End Date: 1245

LIMS Sample #: 990384 8mf (for Lab sample #1) — Start Time: 3-13-07 8 mf — End Time: 1300

conc = concentration — rep = replicate

Test Day		Conc.	New Sample: Test Rep.	pH (su)	Temp (°C)	DO (mg/L)	Salinity ppth	Conductivity mmhos-cm	Old Sample: Test Rep.	pH (su)	Temp (°C)	DO (mg/L)	Salinity ppth	Conductivity mmhos-cm
Day 0	sample:	Control	A	8.4	24.0	6.8	20.59	32.1						
	1	6.25	A	8.4	24.0	6.7	20.47	32.8						
	1	12.5	A	8.5	24.3	6.6	20.60	32.0						
	1	25.0	A	8.7	24.5	6.6	20.52	32.5						
	1	50.0	A	8.8	24.6	6.5	20.47	32.3						
	1	100.0	A	9.0	24.7	6.5	20.46	31.9						
	1	Salt Ctrl	A	9.0	24.3	6.9	20.42	31.2						
	Measured by:			JD	JD	JD	JD	JD						
	Recorded by:			JD	JD	JD	JD	JD						
			Rep	pH	Temp	DO	Salinity	Conductivity	Rep	pH	Temp	DO	Salinity	Conductivity
Day 1	sample:	Control	B	8.1	25.9	5.9	20.59	32.1	B	8.3	24.2	7.9	20.48	32.4
	1	6.25	B	8.1	25.9	5.8	20.46	32.3	B	8.4	24.4	7.4	20.48	32.4
	1	12.5	B	8.3	25.8	5.6	20.49	32.4	B	8.5	24.4	7.4	20.49	32.5
	1	25.0	B	8.4	25.8	5.3	20.47	32.3	B	8.6	24.2	7.4	20.45	32.3
	1	50	B	8.8	25.8	5.2	20.45	31.8	B	8.8	24.2	7.3	20.40	32.2
	1	100	B	8.6	25.6	5.3	20.45	31.8	B	8.8	24.1	7.4	20.36	31.8
	1	Salt Ctrl	B	8.6	25.7	5.0	20.45	31.8	B	8.5	24.1	7.4	20.44	32.4
	Measured by:			PPV	JD	PPV	JD	PPV		PPV	PPV	PPV	JD	PPV
	Recorded by:			PPV	JD	PPV	JD	PPV		PPV	PPV	PPV	JD	PPV
			Rep	pH	Temp	DO	Salinity	Conductivity	Rep	pH	Temp	DO	Salinity	Conductivity
Day 2	sample:	Control	C	8.0	24.9	4.3	20.60	33.3	C					
	2	6.25	C	8.1	24.9	4.1	20.73	33.3	C					
	2	12.5	C	8.2	24.8	3.5	20.63	33.1	C					
	2	25	C	8.3	24.8	3.0	20.61	33.0	C					
	2	50	C	8.5	24.7	3.1	20.43	33.0	C					
	2	100	C	8.6	24.7	3.8	20.16	32.7	C					
	2	Salt Ctrl	C	8.2	24.0	4.0	20.76	33.3	C					
	Measured by:			JD	JD	JD	JD	JD						
	Recorded by:			JD	JD	JD	JD	JD						
			Rep	pH	Temp	DO	Salinity	Conductivity	Rep	pH	Temp	DO	Salinity	Conductivity
Day 3	sample:	Control	C						C					
	2		C						C					
	2		C						C					
	2		C						C					
	2		C						C					
	2		C						C					
	2		C						C					
	Measured by:													
	Recorded by:													

revised 10/11/04 mf

Comments: measure conductivity if salinity probe is not functional.

Test Invalid

page 000004

Appendix B. (continued)

FDEP Biology Laboratory - Chronic Definitive Bench Sheet

Pimphales promelas or Menidia beryllina

Facility: SOUTH CROSS BAYOU WRF
Address: 5100 74TH ST. NORTH
County: PINELLAS
NPDES Permit #: FL 0040436
Contact/District: Jan Pillsbury / Southwest

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: 3/6/07 Time: 1400
End Date: 3-13-07 Time: 1000

Diluent/ Batch:
MHW / NA Test Days Used: —
MHW / NA Test Days Used: —
ASW / 3-5-07 Test Days Used: 2-6
ASW / 2-9-07 Test Days Used: 0-1

See Note above comments MF 3/29/07

Organism age : 11 days
Feeding Prior to Test and Daily
Artemia Lot #: 6GL-536-10
Chamber size : 1000 ml
Test volume : 500 ml

Artemia Batch #	Day 3 24-07
Day 0 21-07	Day 4 25-07
Day 1 22-07	Day 5 26-07
Day 2 23-07	Day 6 27-07

LIMS entry MF 3-29-07 verified BA 3-29-07

Sample Received	Lab Sample #	LIMS Job #	LIMS Sample #	Collection Date/Time	Received Date/Time
Test Day 0	1	TLH-2007-03-06-96	990384/8MF	3/5/07 0945	3/6/07 0945
Test Day 2	2	TLH-2007-03-08-69	991881	3/7/07 0857	3/8/07 0840
Test Day 4	3	TLH-2007-03120 01	992037	3/8/07 0849	3/10/07 1005

MF 3-21-07

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 (A)	2	3 (B)	1	2	3	1	2	3	1	2	3
Sample:	<0.02	NOT measured	<0.02	<0.03	<0.02	<0.03	194	198	178	341	348	340
Diluent/Control:				<0.03	<0.03	<0.03	200	215	340 215	NA	NA	NA
Method:	Hach	—	Hach	Hach	Hach	Hach	Hach	Hach	Hach	Hach	Hach	Hach
Measured by:	J.P. Illsbury	—	P. Wenke	PPV	PPV	PPV	BA	PPV	BA	BA	PPV	BA
Verified by:	MF	MF	MF	MF	MF	MF	MF	MF	PPV	MF	MF	MF

NA - Not applicable

	Conductivity (circle one) (µmhos-cm / mmhos-cm)			Ammonia (mg/L)			Salinity (ppth)			
Lab Sample#:	1 (D)	2	3	1	2	3	1	2	3	
Sample:	9.25 MF	1.65	1.68	<0.017	<0.017	<0.017	0.8	~0.8 (C)	~0.8	
Diluent/Control:	9.04	9.04	9.04	<0.017	<0.017	<0.017	5	5	5	
Method:	Mettler	Mettler	Mettler	Denver	Denver	Denver	Mettler	Mettler	Mettler	
Measured by:	JD	JD	JD	MF	MF	MF	JD	BA	BA	
Verified by:	MF	MF	MF	PPV	PPV	PPV	MF	PPV	PPV	

(D) Was not salted within the initial sample - initial was 1.68 mmhos-cm MF 3-6-07

Statistics	
Growth NOEC:	50%
Growth LOEC:	100%
Growth IC_{20}:	>100%
Growth IC_{25}:	>100%
Ctrl % CV:	13.86%
Dunnetts PMSD:	14.37%
Survival NOEC:	100%
Survival LOEC:	>100%

Light Intensity : 50 - 100 ft. candles
Photoperiod : 16 light 8 dark
Temperature Range °C:
Incubator # 2 min. 25.9 max. 26.2 mean 26.1
Water bath # ____ min. ____ max. ____ mean ____
Room B246 min. 25.0 max. 26.1 mean 25.6

Samples received at ≤ 6.0C (Yes) MF 3-21-07
Sample holding time ≤ 36hours (Yes)

Note: Salinity of ASW 2-9-07 and 3-5-07 diluted with well water from 20ppth To 5ppth for use as control/diluent for this test. MF 3-29-07

ppth = parts per thousand.

Investigators' signatures
Patsy Vichaila
Marshall Fairchild
James Peacock
Brian Reffner

Najeb Wellendorf
REVIEWER

Comments: Sample salted to 5 ppth salinity by the addition of artificial seasalts - MF 3-6-07
(A) Field sheet shows 0.00 mg/L MDL reported. MF 3-21-07
(B) Field sheet shows 0.000 mg/L. MDL reported MF 3-21-07
(C) Based on conductivity BA 3-28-07

NOTE - this test was salinity adjusted to the minimum salinity required by the test method. This was selected after discussion between District personnel and Biology section Administration MF 3/29/07

PAGE 000007

revised 08/24/06 MF/SP

Appendix B. (continued)

Chronic Definitive Bioassay Survival Benchsheet

Facility: South Cross Bayou WRF

LIMS Sample Number: 990384 8mf
(for Lab Sample # 1)

Department of Environmental Protection
Biology Laboratory Chronic Screening Bioassay
P. promelas SOP TA07_09 *M. beryllina* SOP TA07_14

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

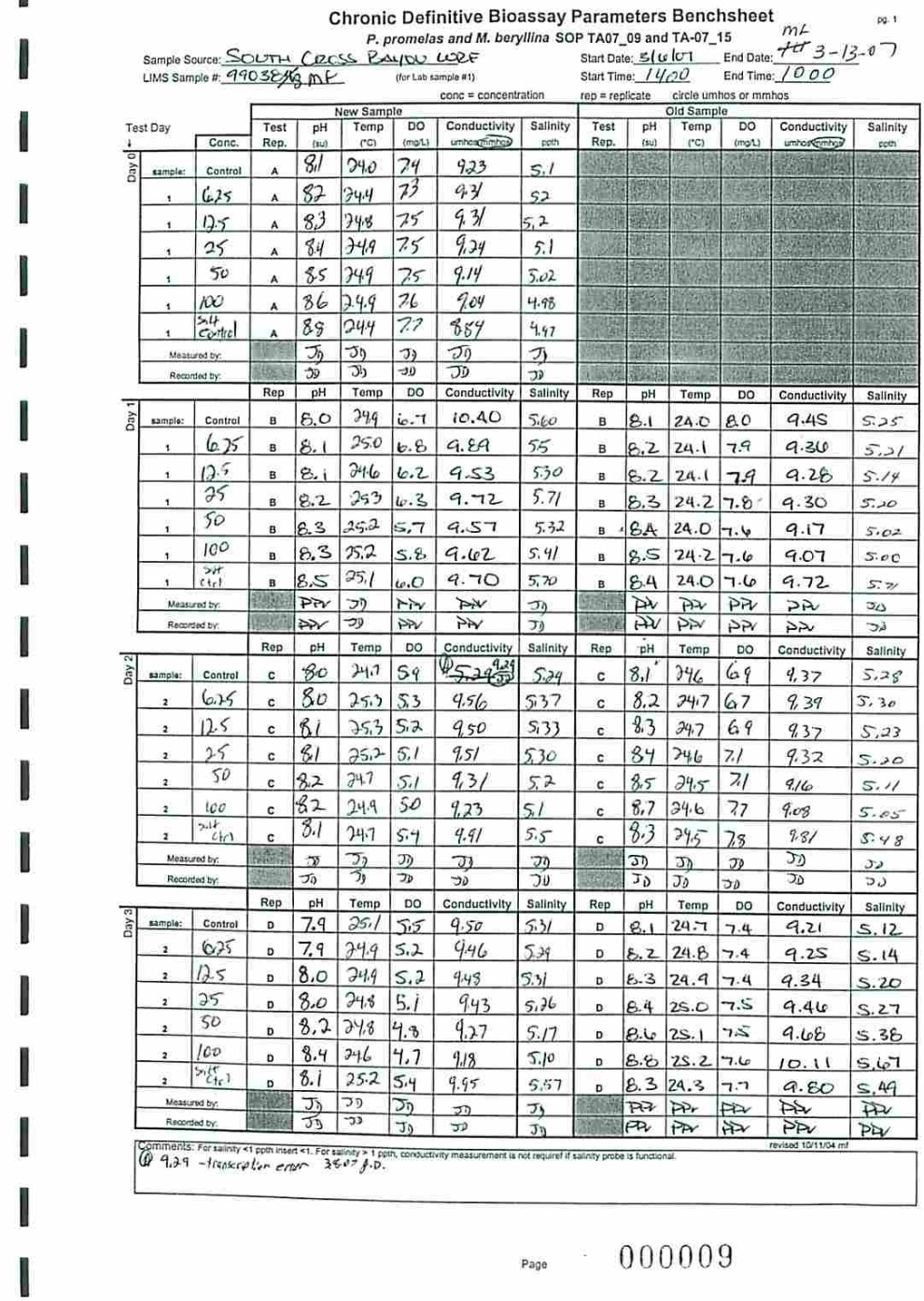
		TEST DAY							
Concentration	Replicate	0	1	2	3	4	5	6	7
Control	D1 A	10	10	10	10	10	10	10	10
	D2 B	10	10	10	10	10	10	10	10
	D3 C	10	9ID	9	9	9	9	9	8ID
	D4 D	10	9ID	9	9	9	9	9	9
Sample 6.25 %	D5 A	10	10	10	10	10	10	10	10
	D6 B	10	10	10	10	9ID	9	9	9
	D7 C	10	10	10	10	10	10	10	10
	D8 D	10	10	10	10	10	10	10	10
Sample 12.5 %	D9 A	10	10	10	10	10	10	10	10
	D10 B	10	10	10	10	10	10	10	10
	D11 C	10	10	10	10	10	10	10	10
	D12 D	10	10	10	10	10	10	10	10
Sample 25 %	D13 A	10	10	10	10	10	10	10	10
	D14 B	10	10	10	10	10	10	10	10
	D15 C	10	10	10	10	10	10	10	10
	D16 D	10	9ID	9	9	9	9	9	9
Sample 50 %	D17 A	10	10	10	9ID	9	9	9	9
	D18 B	10	10	10	10	10	10	10	10
	D19 C	10	10	10	10	10	10	10	10
	D20 D	10	10	10	10	10	10	10	10
Sample 100 %	D21 A	10	10	10	10	9ID	9	9	9
	D22 B	10	10	10	10	10	10	10	10
	D23 C	10	10	10	10	10	10	10	10
	D24 D	10	10	10	10	10	10	10	10
Sample S:H % Ctrl	A1 A	10	10	10	10	10	10	10	10
	A2 B	10	10	10	9ID	9	9	9	9
	A3 C	10	10	10	10	10	10	10	10
	A4 D	10	10	10	10	10	10	10	10
Loaded by: JD	Checked by:		JD	JD	JD	BA	B	JD	JD

Comments: verified by BA

revised 10/11/04 MF

Page 000008

Appendix B. (continued)



Chronic Definitive Bioassay Parameters Benchsheet pg. 1

P. promelas and M. beryllina SOP TA07_09 and TA-07_15

Sample Source: SOUTH CROSS BAYOU WRF — Start Date: 3/6/07 — End Date: 3-13-07

LIMS Sample #: 99038 MF (for Lab sample #1) — Start Time: 1400 — End Time: 1000

conc = concentration — rep = replicate — circle umhos or mmhos

Test Day		Conc.	New Sample: Test Rep.	pH (su)	Temp (°C)	DO (mg/L)	Conductivity umhos/mmhos	Salinity ppth	Old Sample: Test Rep.	pH (su)	Temp (°C)	DO (mg/L)	Conductivity umhos/mmhos	Salinity ppth
Day 0	sample:	Control	A	8.1	24.0	7.4	9.23	5.1						
	1	6.25	A	8.2	24.4	7.3	9.31	5.2						
	1	12.5	A	8.3	24.8	7.5	9.31	5.2						
	1	25	A	8.4	24.9	7.5	9.24	5.1						
	1	50	A	8.5	24.9	7.5	9.14	5.02						
	1	100	A	8.6	24.9	7.6	9.04	4.98						
	1	salt control	A	8.8	24.4	7.7	8.84	4.97						
	Measured by:			JD	JD	JD	JD	JD						
	Recorded by:			JD	JD	JD	JD	JD						
Day 1	sample:	Control	B	8.0	24.9	6.7	10.40	5.60	B	8.1	24.0	8.0	9.45	5.25
	1	6.25	B	8.1	25.0	6.8	9.89	55	B	8.2	24.1	7.9	9.36	5.21
	1	12.5	B	8.1	24.6	6.2	9.53	5.30	B	8.2	24.1	7.9	9.28	5.14
	1	25	B	8.2	25.3	6.3	9.72	5.71	B	8.3	24.2	7.8	9.30	5.20
	1	50	B	8.3	25.2	5.7	9.57	5.32	B	8.4	24.0	7.6	9.17	5.02
	1	100	B	8.3	25.2	5.8	9.62	5.41	B	8.5	24.2	7.6	9.07	5.00
	1	salt ctrl	B	8.5	25.1	6.0	9.70	5.70	B	8.4	24.0	7.6	9.72	5.37
	Measured by:			PPV	JD	PPV	PPV	JD		PPV	PPV	PPV	PPV	JD
	Recorded by:			PPV	JD	PPV	PPV	JD		PPV	PPV	PPV	PPV	JD
Day 2	sample:	Control	C	8.0	24.7	5.9	5.29 (9.29)	5.29	C	8.1	24.6	6.9	9.37	5.28
	2	6.25	C	8.0	25.3	5.3	9.56	5.37	C	8.2	24.7	6.7	9.39	5.30
	2	12.5	C	8.1	25.3	5.2	9.50	5.33	C	8.3	24.7	6.9	9.37	5.23
	2	25	C	8.1	25.2	5.1	9.51	5.30	C	8.4	24.6	7.1	9.32	5.20
	2	50	C	8.2	24.7	5.1	9.31	5.2	C	8.5	24.5	7.1	9.16	5.11
	2	100	C	8.2	24.9	5.0	9.23	5.1	C	8.7	24.6	7.7	9.08	5.05
	2	salt ctrl	C	8.1	24.7	5.4	9.91	5.5	C	8.3	24.5	7.8	9.81	5.48
	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	7.9	25.1	5.5	9.50	5.31	D	8.1	24.7	7.4	9.21	5.12
	2	6.25	D	7.9	24.9	5.2	9.46	5.29	D	8.2	24.8	7.4	9.25	5.14
	2	12.5	D	8.0	24.9	5.2	9.48	5.31	D	8.3	24.9	7.4	9.34	5.20
	2	25	D	8.0	24.8	5.1	9.43	5.26	D	8.4	25.0	7.5	9.46	5.27
	2	50	D	8.2	24.8	4.8	9.27	5.17	D	8.6	25.1	7.5	9.68	5.38
	2	100	D	8.4	24.6	4.7	9.18	5.10	D	8.8	25.2	7.6	10.11	5.67
	3	salt ctrl	D	8.1	25.2	5.4	9.95	5.57	D	8.3	24.3	7.7	9.80	5.49
	Measured by:			JD	JD	JD	JD	JD		PPV	PPV	PPV	PPV	PPV
	Recorded by:			JD	JD	JD	JD	JD		PPV	PPV	PPV	PPV	PPV

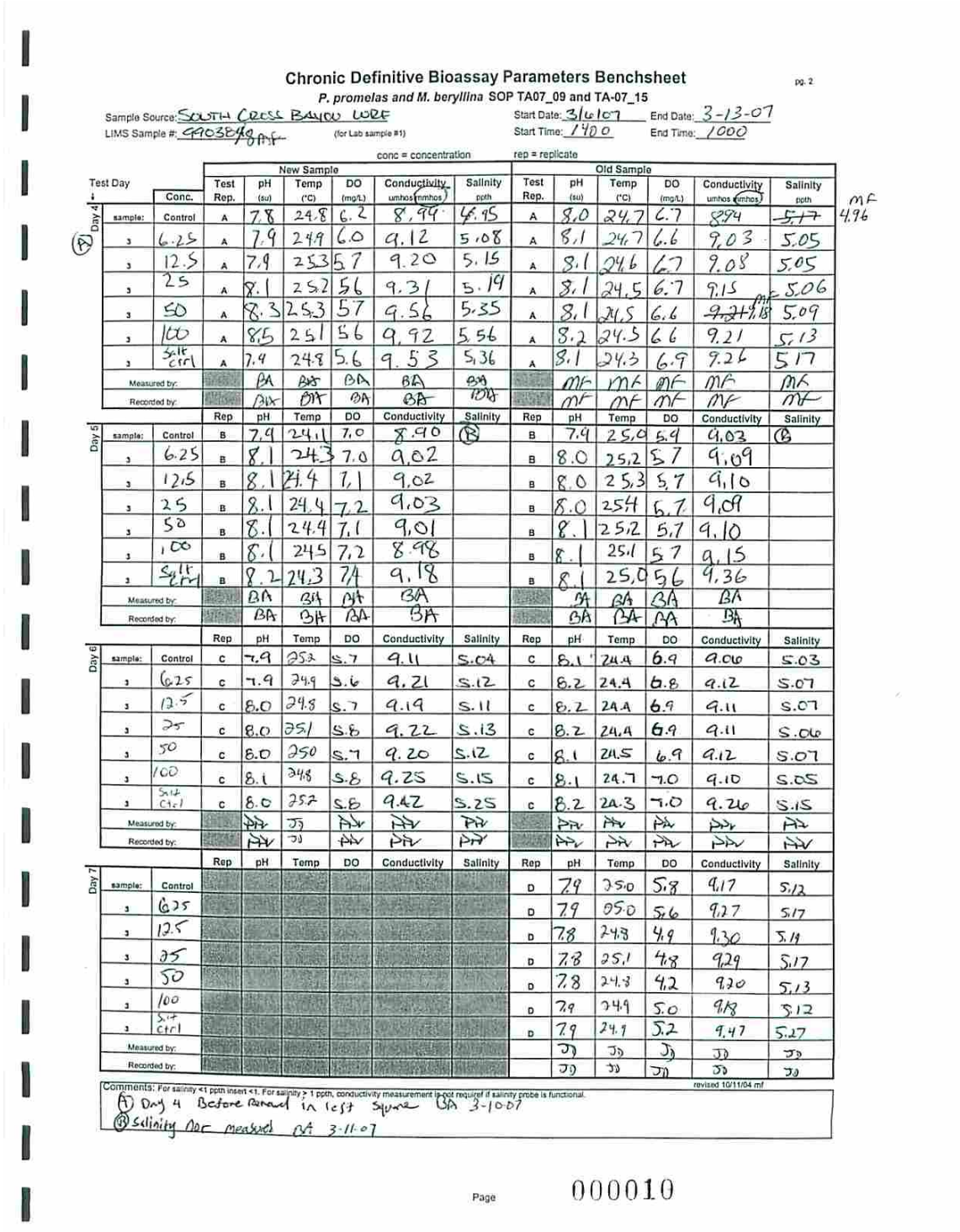
revised 10/11/04 mf

Comments: For salinity <1 ppth insert <1. For salinity > 1 ppth, conductivity measurement is not required if salinity probe is functional.

@ 9.29 – transcription error 3607 µ.D.

Page 000009

Appendix B. (continued)



Chronic Definitive Bioassay Parameters Benchsheet pg. 2

P. promelas and M. beryllina SOP TA07_09 and TA-07_15

Sample Source: SOUTH CROSS BAYOU WRF — Start Date: 3/6/07 — End Date: 3-13-07

LIMS Sample #: 49038AG BAF (for Lab sample #1) — Start Time: 1400 — End Time: 1000

conc = concentration — rep = replicate

Test Day			New Sample							Old Sample						
		Conc.	Test Rep.	pH (su)	Temp (°C)	DO (mg/L)	Conductivity umhos (mmhos)	Salinity ppth		Test Rep.	pH (su)	Temp (°C)	DO (mg/L)	Conductivity umhos (mmhos)	Salinity ppth	
Day 4	sample:	Control	A	7.8	24.8	6.2	8.99	5.95		A	8.0	24.7	6.7	8.94	5.77	MF 4.96
(A)	3	6.25	A	7.9	24.9	6.0	9.12	5.08		A	8.1	24.7	6.6	9.03	5.05	
	3	12.5	A	7.9	25.3	5.7	9.20	5.15		A	8.1	24.6	6.7	9.08	5.05	
	3	25	A	8.1	25.2	5.6	9.31	5.19		A	8.1	24.5	6.7	9.15	5.06	
	3	50	A	8.3	25.3	5.7	9.56	5.35		A	8.1	24.5	6.6	9.21 MF 9.18	5.09	
	3	100	A	8.5	25.1	5.6	9.92	5.56		A	8.2	24.5	6.6	9.21	5.13	
	3	Salt ctrl	A	7.4	24.8	5.6	9.53	5.36		A	8.1	24.3	6.9	9.26	5.17	
	Measured by:			BA	BA	BA	BA	BA			MF	MF	MF	MF	MF	
	Recorded by:			BA	BA	BA	BA	BA			MF	MF	MF	MF	MF	
			Rep	pH	Temp	DO	Conductivity	Salinity		Rep	pH	Temp	DO	Conductivity	Salinity	
Day 5	sample:	Control	B	7.9	24.1	7.0	8.90	(B)		B	7.9	25.0	5.9	9.03	(B)	
	3	6.25	B	8.1	24.3	7.0	9.02			B	8.0	25.2	5.7	9.09		
	3	12.5	B	8.1	24.4	7.1	9.02			B	8.0	25.3	5.7	9.10		
	3	25	B	8.1	24.4	7.2	9.03			B	8.0	25.4	5.7	9.09		
	3	50	B	8.1	24.4	7.1	9.01			B	8.1	25.2	5.7	9.10		
	3	100	B	8.1	24.5	7.2	8.98			B	8.1	25.1	5.7	9.15		
	3	Salt ctrl	B	8.2	24.3	7.4	9.18			B	8.1	25.0	5.6	9.36		
	Measured by:			BA	BA	BA	BA				BA	BA	BA	BA		
	Recorded by:			BA	BA	BA	BA				BA	BA	BA	BA		
			Rep	pH	Temp	DO	Conductivity	Salinity		Rep	pH	Temp	DO	Conductivity	Salinity	
Day 6	sample:	Control	C	7.9	25.2	5.7	9.11	5.04		C	8.1	24.4	6.9	9.06	5.03	
	3	6.25	C	7.9	24.9	5.6	9.21	5.12		C	8.2	24.4	6.8	9.12	5.07	
	3	12.5	C	8.0	24.8	5.7	9.19	5.11		C	8.2	24.4	6.9	9.11	5.07	
	3	25	C	8.0	25.1	5.8	9.22	5.13		C	8.2	24.4	6.9	9.11	5.06	
	3	50	C	8.0	25.0	5.7	9.20	5.12		C	8.1	24.5	6.9	9.12	5.07	
	3	100	C	8.1	24.8	5.8	9.25	5.15		C	8.1	24.7	7.0	9.10	5.05	
	3	Salt Ctrl	C	8.0	25.2	5.8	9.42	5.25		C	8.2	24.3	7.0	9.26	5.15	
	Measured by:			JD	JD	JD	JD	JD			JD	JD	JD	JD	JD	
	Recorded by:			JD	JD	JD	JD	JD			JD	JD	JD	JD	JD	
			Rep	pH	Temp	DO	Conductivity	Salinity		Rep	pH	Temp	DO	Conductivity	Salinity	
Day 7	sample:	Control								D	7.9	25.0	5.8	9.17	5.12	
	3	6.25								D	7.9	25.0	5.6	9.27	5.17	
	3	12.5								D	7.8	24.8	4.9	9.30	5.19	
	3	25								D	7.8	25.1	4.8	9.29	5.17	
	3	50								D	7.8	24.8	4.2	9.20	5.13	
	3	100								D	7.9	24.9	5.0	9.18	5.12	
	3	Salt ctrl								D	7.9	24.9	5.2	9.47	5.27	
	Measured by:										JD	JD	JD	JD	JD	
	Recorded by:										JD	JD	JD	JD	JD	

revised 10/11/04 mf

Comments: For salinity <1 ppth insert <1. For salinity > 1 ppth, conductivity measurement is not required if salinity probe is functional.

(A) Day 4 Before Renewal in test Spume BA 3-10-07

(B) Salinity Not Measured BA 3-11-07

Page 000010

Appendix B. (continued)

Chronic Definitive Bioassay Weighing Benchsheet

Facility: SOUTH CROSS BAYOU WRF

LIMS Sample Number: 990384 8 (for Lab Sample # 1)

P. promelas and *M. beryllina* Bench Sheet
SOP TA06_21

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	131	0.02425	0.04577	0.0215	10	2.15
	B	132	0.02472	0.04791	0.0231	10	2.31
	C	133	0.02444	0.04463	0.0202	10	2.02
	D	134	0.02475	0.04267	0.0179	10	1.79
sample 6.25 %	A	135	0.02462	0.04604	0.0214	10	2.14
	B	136	0.02409	0.04233	0.0182	10	1.82
	C	137	0.02410	0.04584	0.0217	10	2.17
	D	138	0.02448	0.04507	0.0206	10	2.06
sample 12.5 %	A	139	0.02354	0.04386	0.0203	10	2.03
	B	140	0.02480	0.04504	0.0202	10	2.02
	C	141	0.02389	0.04301	0.0141	10	1.91
	D	142	0.02466	0.04492	0.0209	10	2.09
sample 25 %	A	143	0.02575	0.04779	0.0220	10	2.20
	B	144	0.02664	0.04718	0.0205	10	2.05
	C	145	0.02592	0.04457	0.0187	10	1.87
	D	146	0.02534	0.04459	0.0243	10	2.43
sample 50 %	A	147	0.02459	0.04182	0.0172	10	1.72
	B	148	0.02467	0.04359	0.0189	10	1.89
	C	149	0.02579	0.04649	0.0207	10	2.07
	D	150	0.02514 ~~0.025~~ (D2)	0.04670	0.0216	10	2.16
sample 100 %	A	151	0.02566	0.04362	0.0180	10	1.80
	B	152	0.02577	0.04143	0.0157	10	1.57
	C	153	0.02415	0.04163	0.0175	10	1.75
	D	154	0.02466	0.04157	0.0169	10	1.69
sample SWI % Ctrl	A	155	0.02524	0.04552	0.0203	10	2.03
	B	156	0.02414	0.04343	0.0193	10	1.93
	C	157	0.02457	0.04858	0.0240	10	2.40
	D	158	0.02460	0.04133	0.0173	10	1.73
	Weighed by initials:		PTV	JD	revised 10/11/04 mf		

Comments:

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

Appendix B. (continued)

Chronic Definitive Test Weighing Benchsheet

Quality Control

Facility: South Cross Bayou WRF

LIMS Sample Number: 99038 X8MT
(for Lab Sample # 1)

P. promelas and M. beryllina Bench sheet
SOPs TA07_09, TA07_14 and TA06_21

Drying Oven ID:	ERO 3400
Temperature °C:	105
Hours:	8

Tare Weighing Date: 3-9-07 Final Weighing Date: 3.19.07

					Measured Value		S-weight Value
Tare Pan 1 after Pan 5	0.02426	@	0.02426	S-weights	0.10001	@	0.100
Tare Pan 1 after Pan 10	0.02426	@	0.02426	at tare	0.29999	@	0.300
Tare Pan 1 after Pan 15	0.02427	@	0.02426	S-weights	0.00998	@	0.01
Tare Pan 1 after Pan 20	0.02426	@	0.02426	at final	0.05001	@	0.05
Tare Pan 1 after Pan 25	0.02427	@	0.02426				
Tare Pan 1 after Pan 30	0.02425	@	0.02426				
Tare Pan 1 after Pan 35	0.02426	@	0.02426				
Tare Pan 1 after Pan 40		@					
Tare Pan 1 after Pan 45		@					
Tare Pan 1 after Pan 48		@					
Final Pan 1 after Pan 5	0.04577	@	0.04577				
Final Pan 1 after Pan 10	0.04578	@	0.04577				
Final Pan 1 after Pan 15	0.04578	@	0.04577				
Final Pan 1 after Pan 20	0.04577	@	0.04577				
Final Pan 1 after Pan 25	0.04575	@	0.04577				
Final Pan 1 after Pan 30	0.04575	@	0.04577				
Final Pan 1 after Pan 35	0.04576	@	0.04577				
Final Pan 1 after Pan 40		@					
Final Pan 1 after Pan 45		@					
Final Pan 1 after Pan 48		@					

Note: Pan numbers (5, 10, etc.) for Tare and Final refers to sequence of weighing as actual Pan #s may differ.

Comments:

revised 10/11/04 MF

Page 000012

Appendix B. (continued)

Statistics for South Cross Bayou chronic definitive bioassay with Menidia beryllina.

Larval Fish Growth and Survival Test-7 Day Growth

Start Date:	3/6/2007	Test ID:	SCBMB3607	Sample ID:	FL0040436-NPDES Permit #
End Date:	3/13/2007	Lab ID:	SCBM beryllina	Sample Type:	EFF1-POTW
Sample Date:		Protocol:	EPAM 94-EPA/600/4-91/003	Test Species:	MI-Menidia menidia
Comments:	South Cross Bayou Menidia beryllina chronic 3/6-13/07				

Conc-%	1	2	3	4
B-Control	2.0280	1.9290	2.4010	1.7330
D-Control	2.1520	2.3190	2.0190	1.7920
6.25	2.1420	1.8240	2.1740	2.0590
12.5	2.0320	2.0240	1.9120	2.0860
25	2.2040	2.0540	1.8650	2.4250
50	1.7230	1.8920	2.0700	2.1560
100	1.7960	1.5660	1.7480	1.6910

			Transform: Untransformed					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
B-Control	2.0228	0.9769	2.0228	1.7330	2.4010	13.862	4			
D-Control	2.0705	1.0000	2.0705	1.7920	2.3190	10.749	4	*		
6.25	2.0498	0.9900	2.0498	1.8240	2.1740	7.714	4	0.168	2.410	0.2976
12.5	2.0135	0.9725	2.0135	1.9120	2.0860	3.628	4	0.462	2.410	0.2976
25	2.1370	1.0321	2.1370	1.8650	2.4250	11.084	4	-0.539	2.410	0.2976
50	1.9603	0.9468	1.9603	1.7230	2.1560	9.826	4	0.893	2.410	0.2976
*100	1.7003	0.8212	1.7003	1.5660	1.7960	5.838	4	2.999	2.410	0.2976

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.963113	0.884	-0.23291	-0.40403
Bartlett's Test indicates equal variances (p = 0.45)	4.72529	15.08627		
The control means are not significantly different (p = 0.80)	0.266773	2.446912		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test Treatments vs D-Control	50	100	70.71068	2	0.297556	0.143712	0.093631	0.030488	0.035431	5, 18

Appendix C. SRT Bench Sheets and Statistical Analysis

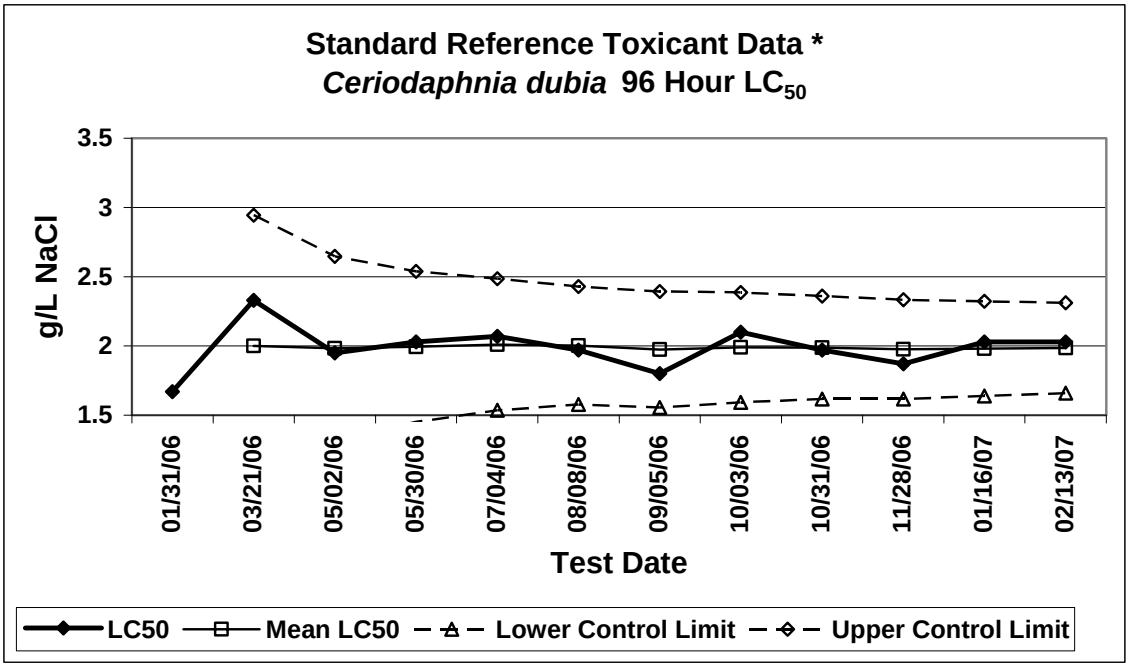
Florida Department of Environmental Protection
Bureau of Laboratories

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

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
01/31/06	1.67				
03/21/06	2.33	2.00	0.47	1.07	2.94
05/02/06	1.95	1.98	0.33	1.32	2.65
05/30/06	2.03	2.00	0.27	1.45	2.54
07/04/06	2.07	2.01	0.24	1.54	2.48
08/08/06	1.97	2.00	0.21	1.58	2.43
09/05/06	1.80	1.97	0.21	1.56	2.39
10/03/06	2.10	1.99	0.20	1.59	2.39
10/31/06	1.97	1.99	0.19	1.62	2.36
11/28/06	1.87	1.98	0.18	1.62	2.33
01/16/07	2.03	1.98	0.17	1.64	2.32
02/13/07	2.03	1.99	0.16	1.66	2.31

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

CV = 8.04
EPA reference 75th quartile CV = 29%



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

Appendix C. (continued)

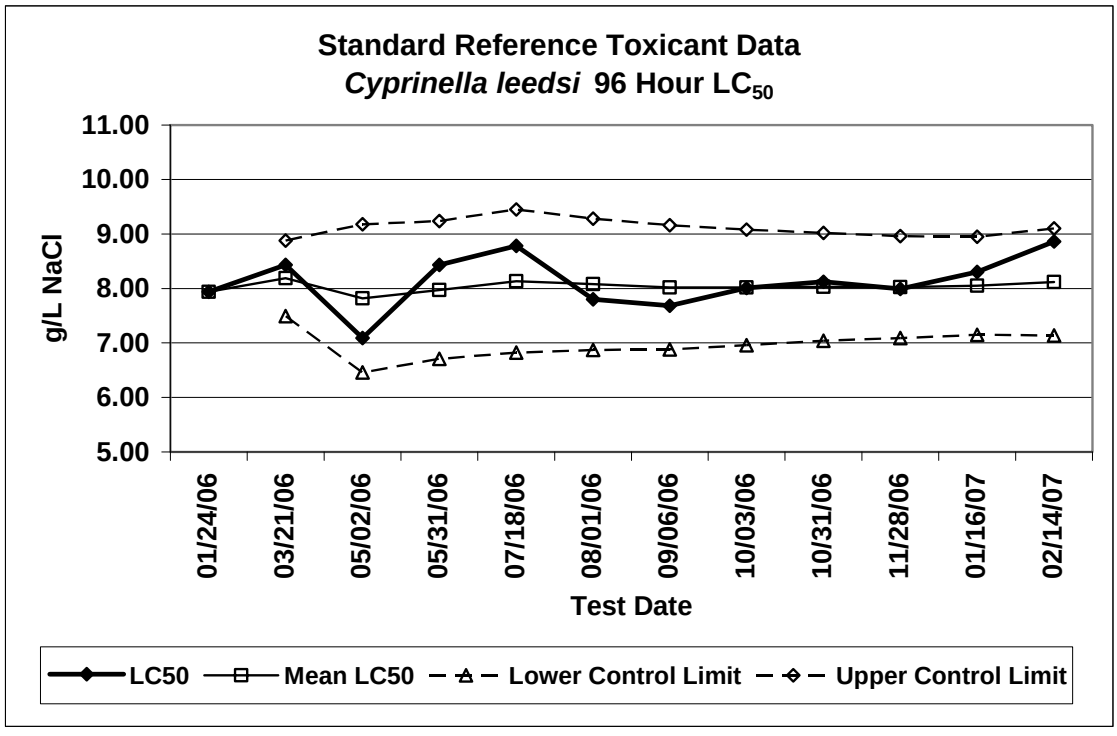
Florida Department of Environmental Protection
Bureau of Laboratories

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

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
01/24/06	7.94	7.94			
03/21/06	8.43	8.19	0.35	7.49	8.88
05/02/06	7.09	7.82	0.68	6.46	9.18
05/31/06	8.43	7.97	0.63	6.71	9.24
07/18/06	8.78	8.13	0.66	6.82	9.45
08/01/06	7.80	8.08	0.60	6.87	9.28
09/06/06	7.68	8.02	0.57	6.88	9.16
10/03/06	8.01	8.02	0.53	6.96	9.08
10/31/06	8.12	8.03	0.49	7.04	9.02
11/28/06	7.99	8.03	0.47	7.09	8.96
01/16/07	8.30	8.05	0.45	7.15	8.95
02/14/07	8.86	8.12	0.49	7.14	9.10

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

CV = 6.02
EPA reference 75th quartile CV = 19%



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

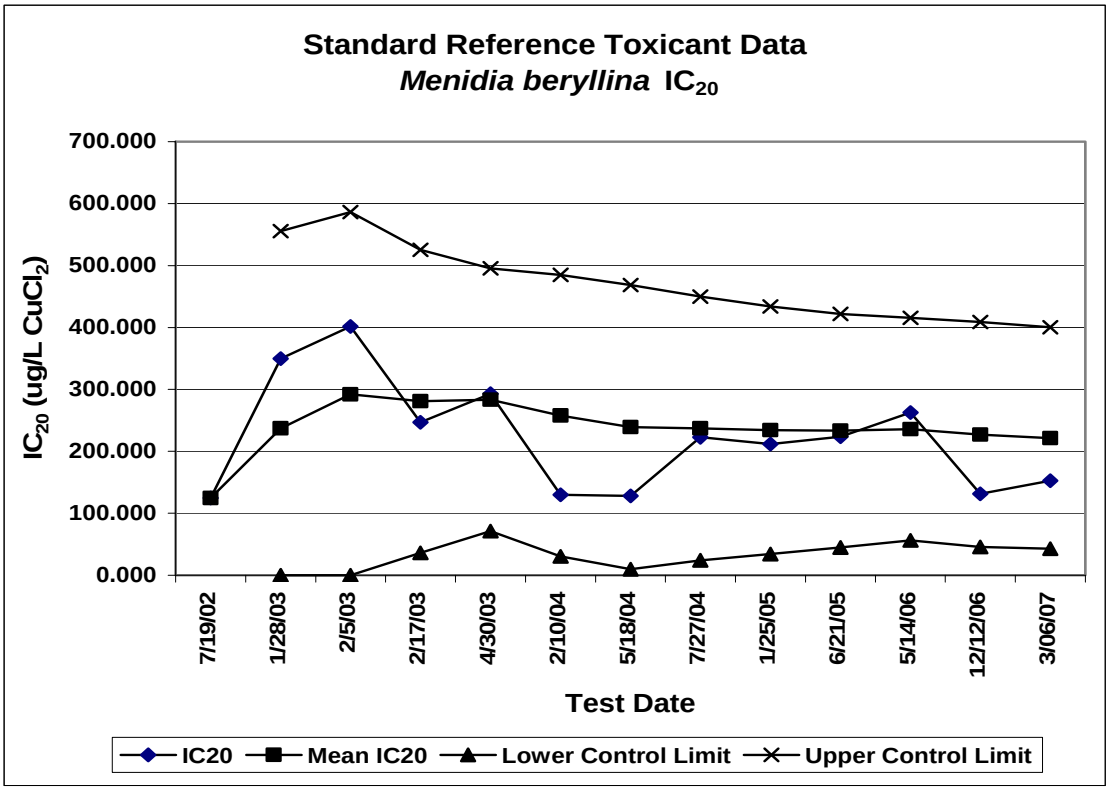
Appendix C. (continued)

Florida Department of Environmental Protection
Bureau of Laboratories

Standard Reference Toxicant (SRT) Test Data - 7-Day Chronic Toxicity
Menidia beryllina (inland silverside) - Copper Chloride ($CuCl_2$)

Date	IC20	Mean IC20	Std Dev	Lower Control Limit	Upper Control Limit
7/19/02	124.590	124.590			
1/28/03	349.900	237.245	159.32	0.000	555.881
2/5/03	401.600	292.030	147.29	0.000	586.617
2/17/03	246.800	280.723	122.37	35.978	525.467
4/30/03	293.200	283.218	106.12	70.969	495.467
2/10/04	129.780	257.645	113.73	30.191	485.099
5/18/04	128.030	239.129	114.80	9.536	468.721
7/27/04	222.570	237.059	106.44	24.175	449.942
1/25/05	211.523	234.221	99.93	34.361	434.082
6/21/05	223.744	233.174	94.27	44.627	421.720
5/14/06	262.860	235.872	89.88	56.108	415.637
12/12/06	131.470	227.172	90.84	45.483	408.861
3/06/07	152.600	221.436	89.40	42.631	400.240

Fewer than 20 chronic SRTs have been performed for this species.
Lower Confidence Limit = mean - 2 * Std Dev
Upper Confidence Limit = mean + 2 * Std Dev



Appendix C. (continued)

FDEP Biology Laboratory - Acute SRT Bench Sheet

Test Organism: *Americamysis bahia* Method 2007.0 | *Menidia beryllina* Method 2006.0 | *Hyalella azteca* Method 100.1 EPA-600-R-99-064
Ceriodaphnia dubia Method 2002.0 | *Cyprinella leedsi* Method 2000.0 | *Pimephales promelas* Method 2000.0 | Other: _____

Method from EPA-821-R-02-012
Test Type: 48 hour non-renewal / 96 hour renewal
Test Page 1 of 2

Diluent/ Batch #: DMW 122.07
Toxicant/ Batch#: NaCl 12.1307

Test Beginning: Date: 2.13.07 Time: 14:00
Test Ending: Date: 2-17-07 Time: 1235

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	BA
Alkalinity (mg/L as $CaCO_3$):	86	Hach	JD
Hardness (mg.L as $CaCO_3$):	100	Hach	JD
Total Ammonia (mg/L as N):	<0.07	Denver	MF
Salinity (ppth):	<1	Mettler	BA

Organism Batch #/ Age: 8-07 1 <24hr
Feeding: Prior to test/ Prior to renewal/ Daily
Food: YCT / *P.subcapitata* Artemia: Lot #_____
Food Batch: 2-06 5-06 0hr — 24hr — 48hr — 72hr —
Chamber size: 30 mL
Test volume: 20 mL per replicate

Conc. (%) µg/L mg/L	Rep.	Chamber #	Number Live 0 hr	24 hr	48 hr	pH (SU) 0 hr	24 hr	48 hr	Temperature (°C) 0 hr	24 hr	48 hr	D.O. (mg/L) 0 hr	24 hr	48 hr	Uncorrected Conductivity µmhom/cm (mmhos/cm) 0 hr	24 hr	48 hr
			~~48 hr~~	~~72 hr~~	~~96 hr~~	~~48 hr~~	~~72 hr~~	~~96 hr~~	~~48 hr~~	~~72 hr~~	~~96 hr~~	~~48 hr~~	~~72 hr~~	~~96 hr~~	~~48 hr~~	~~72 hr~~	~~96 hr~~
Control	A	A	5	5	5	7.7		7.6	25.6		24.0	6.9		7.8	0.180		0.129
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
1.5	A	A	5	5	5	7.7		7.6	26.0		24.0	7.1		7.7	2.95		3.16
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
2.0	A	A	5	5	3 20	7.7		7.7	25.7		24.0	6.9		7.7	3.35		4.5
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
2.5	A	A	5	5	4 10	7.8		7.8	25.3		24.0	7.0		7.7	4.69		5.44
	B	B	5	5	3 20												
	C	C	5	5	1 40												
	D	D	5	5	1 40												
3.0	A	A	5	4 40	0 40	7.8		7.8	25.2		24.0	7.0		7.8	5.51		6.14
	B	B	5	5	0 50												
	C	C	5	5	0 50												
	D	D	5	5	0 50												
4.0	A	A	5	1 40	0 40	7.8		7.8	24.7		24.0	7.0		7.8	7.2		7.91
	B	B	5	0 50	0												
	C	C	5	0 50	0												
	D	D	5	1 40	0												
	A																
	B																
	C																
	D																
Loaded / measured by:			BA	BA	BA	BA		BA	BA		BA	BA		BA	BA		BA
Recorded by:			BA	BA	BA	BA		BA	BA		BA	BA		BA	BA		BA

Investigators' Signatures
Jenny Daniels
Beth Blakeslee
Patsy Vichaikul
Marshall Fairbrother
Nicole Wellendorf
REVIEWER

Concentrations prepared by: BA
Loading verified by: JD
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 24.5 max. 26.6 mean 25.7
Incubator # ___ min. _____ max. _____ mean _____
Room B246 min. 23.1 max. 25.9 mean 24.6

Comments:

Statistics: Method: Spearman-Karber
48/ 96 hour LC_{50}: 2.39
95% Confidence Interval: lower 2.26 upper 2.53

PAGE 000001 revised 08/24/06 SP

Appendix C. (continued)

FDEP Biology Laboratory - Acute SRT Bench Sheet

Test Organism: *Americamysis bahia* (Method 2007.0) *Menidia beryllina* (Method 2006.0) *Hyalella azteca* (Method 100.1 EPA-600-R-99-064) *Ceriodaphnia dubia* (Method 2002.0) *Cyprinella leedsi* (Method 2000.0) *Pimephales promelas* (Method 2000.0) Other: _____

Method from EPA-821-R-02-012
Test Type: 48 hour non-renewal / 96 hour renewal
Test Page 2 of 2

Diluent/ Batch #: DmW 12.2.07
Toxicant/ Batch#: NaCl 12.2.07 .12

Test Beginning: Date: 2.13.07 Time: 14.00
Test Ending: Date: 2-17-07 Time: 1235

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	BA
Alkalinity (mg/L as $CaCO_3$):	86	Hach	JD
Hardness (mg.L as $CaCO_3$):	100	Hach	JD
Total Ammonia (mg/L as N):	0.07	Denver	MF
Salinity (ppth):	<1	Mettler	BA

Organism Batch #/ Age: 8-07 1 <24hr
Feeding: (Prior to test) (Prior to renewal) / Daily
Food: (YCT) (P.subcapitata) Artemia: Lot #—
Food Batch: 2-06 5-06 0hr — 24hr — 48hr — 72hr —
Chamber size: 30 mL
Test volume: 20 mL per replicate

Conc. µg/L mg/L	Rep.	Chamber #	Number Live 0 hr / 24 hr / 48 hr (48 hr / 72 hr / 96 hr)	pH (SU) 0 hr / 24 hr / 48 hr (48 hr / 72 hr / 96 hr)	Temperature (°C) 0 hr / 24 hr / 48 hr (48 hr / 72 hr / 96 hr)	D.O. (mg/L) 0 hr / 24 hr / 48 hr (48 hr / 72 hr / 96 hr)	Uncorrected Conductivity µmhom/cm (mmhos/cm) 0 hr / 24 hr / 48 hr (48 hr / 72 hr / 96 hr)
Control	A	A	5 / 5 / 5	7.7 / / 8.2	24.2 / / 23.9	7.9 / / 8.1	0.179 / / 0.205
	B	B	5 / 4(1D) / 4				
	C	C	5 / 5 / 5				
	D	D	5 / 5 / 5				
1.5	A	A	5 / 5 / 5	7.6 / / 8.1	24.4 / / 24.1	7.9 / / 7.9	3.09 / / 3.39
	B	B	5 / 5 / 5				
	C	C	5 / 5 / 5				
	D	D	5 / 5 / 5				
2.0	A	A	3 / 3 / 3	7.7 / / 8.1	24.7 / / 24.0	7.5 / / 7.9	3.84 / / 4.17
	B	B	5 / 3(1D) / 3				
	C	C	5 / 4(1D) / 2(2D)				
	D	D	5 / 4(1D) / 4				
2.5	A	A	4 / 1(1D) / 0(1D)	7.7 / / 8.1	24.9 / / 23.9	7.7 / / 7.8	4.77 / / 5.12
	B	B	3 / 0(3D) / —				
	C	C	1 / 0(1D) / —				
	D	D	1 / 0(1D) / —				
3.0	A	A	— / — / —	— / — / —	— / — / —	— / — / —	— / — / —
	B	B	— / — / —				
	C	C	— / — / —				
	D	D	— / — / —				
4.0	A	A	— / — / —	— / — / —	— / — / —	— / — / —	— / — / —
	B	B	— / — / —				
	C	C	— / — / —				
	D	D	— / — / —				
	A						
	B						
	C						
	D						
Loaded / measured by:			MF / MF / MF	BA / / MF	BA / / MF	BA / / MF	BA / / MF
Recorded by:			MF / MF / MF	BA / / MF	BA / / MF	MA / / MF	BA / / MF

Investigators' Signatures
James Daniels
Paul Nichols
Patsy Vichailuk
Marshall Faircloth

Najeli Nelle
REVIEWER

Concentrations prepared by: PA
Loading verified by: JD
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min 24.5 max 26.6 mean 25.7
Incubator # ___ min ___ max ___ mean ___
Room B248 min 23.3 max 25.9 mean 24.6

Comments:

Statistics: Method: Spearman-Karber
48 / (96) hour LC_{50}: 2.03
95% Confidence Interval: lower 1.92 upper 2.14

PAGE 000002

revised 08/24/06 SP

Appendix C. (continued)

FDEP Biology Laboratory - Acute SRT Bench Sheet

Test Organism: *Americamysis bahia* (Method 2007.0) *Menidia beryllina* (Method 2006.0) *Hyalella azteca* (Method 100.1 EPA-600-R-99-064) *Ceriodaphnia dubia* (Method 2002.0) ~~*Cyprinella leedsi* Method 2000.0~~ *Pimephales promelas* (Method 2000.0) Other: _____

Method from EPA-821-R-02-012

Test Type: 48 hour non-renewal (96 hour renewal)

Test Page 1 of 2

Diluent/ Batch #: Well H, 01 2.12.07

Toxicant/ Batch#: NaCl 1 2.13.07

Test Beginning: Date: 2-14-07 Time: 10:00

Test Ending: Date: 2-18-07 Time: 10:30

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	BA
Alkalinity (mg/L as $CaCO_3$):	158	Hach	JD
Hardness (mg.L as $CaCO_3$):	158	Hach	JD
Total Ammonia (mg/L as N):	<0.017	Denver	MF
Salinity (ppth):	<1	Mettler	BA

Organism Batch #/ Age: 2-13-07 / 1 day

Feeding: (Prior to test) Prior to renewal Daily

Food: YCT *P.subcapitata* (Artemia) Lot # GSL-63C-50

Food Batch: — — 0hr 10:01 24hr — 48hr 12:07 72hr —

Chamber size: 1000 mL

Test volume: 500 mL per replicate

Conc. µg/L (mg/L)	Rep.	Chamber #	Number Live 0 hr	24 hr	48 hr	pH (SU) 0 hr	24 hr	48 hr	Temperature (°C) 0 hr	24 hr	48 hr	D.O. (mg/L) 0 hr	24 hr	48 hr	Uncorrected Conductivity µmhom/cm (mmhos/cm) 0 hr	24 hr	48 hr
~~48 hr~~			~~48 hr~~	~~72 hr~~	~~96 hr~~	~~48 hr~~	~~72 hr~~	~~96 hr~~	~~48 hr~~	~~72 hr~~	~~96 hr~~	~~48 hr~~	~~72 hr~~	~~96 hr~~	~~48 hr~~	~~72 hr~~	~~96 hr~~
Control	A	A13	10	10	10	7.7		8.2	24.2		24.7	7.1		7.2	0.303		0.320
	B	A14	10	10	10		7.9			25.3			6.8			0.313	
	C																
	D																
6.0	A	A15	10	10	10	7.7		8.2	24.6		24.5	7.5		7.3	10.5		10.9
	B	A16	10	10	10		7.9			24.6			7.0			10.4	
	C																
	D																
7.0	A	A17	10	10	10	7.7		8.2	24.8		24.5	7.8		7.2	12.1		12.5
	B	A18	10	10	10		8.0			24.6			7.1			12.0	
	C																
	D																
8.0	A	A19	10	9:10	9:00	7.8		8.2	24.8		24.3	7.8		7.2	13.6		14.0
	B	A20	10	8:20	8		8.0			24.3			7.2			13.7	
	C																
	D				(A) MF 2.16.07												
9.0	A	A21	10	8:20	8:20	7.8		8.2	24.8		24.1	7.3		7.1	15.2		15.8
	B	A22	10	8:20	8:20		8.0			24.7			7.2			15.2	
	C																
	D																
10.0	A	A23	10	10:00	—	7.8			24.8			7.3			16.7		~~17.7~~ 17.7 BA
	B	A24	10	2:30	1:10		8.0	8.2		24.8	24.0		7.3	7.1		16.7	17.4
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			~~BA~~	JD	MF	BA	BA	BA	BA	JD	BA	BA	BA	BA	BA	BA	BA
Recorded by:			BA	JD	MF	BA	BA	BA	BA	JD	BA	BA	BA	BA	BA	BA	BA

Investigators' Signatures

James Daniels

Peter Abate

Patsy Kenaley

Marshall Faircloth

Najili Wellendorf

REVIEWER

Concentrations prepared by: BA

Loading verified by: BA

Light Intensity: 50-100 Ft. candles

Photoperiod: 16 hours Light / 8 hours dark

Temperature Range °C:

Incubator # 2 min 24.5 max 26.6 mean 25.7

Incubator # ___ min ___ max ___ mean ___

Room B246 min 23.3 max 25.9 mean 24.6

Comments: (A) recorded wrong # on hve MF 2-16-07

Statistics: Method: Spearman-Karber

(48)/ 96 hour LC_{50}: 8.92

95% Confidence Interval: lower 8.66 upper 9.25

PAGE 000003

revised 08/24/06 SP

Appendix C. (continued)

FDEP Biology Laboratory - Acute SRT Bench Sheet

Test Organism: *Americamysis bahia* Method 2007.0 | *Menidia beryllina* Method 2006.0 | *Hyalella azteca* Method 100.1 EPA-600-R-99-064
Ceriodaphnia dubia Method 2002.0 | *Cyprinella leedsi* Method 2000.0 | *Pimephales promelas* Method 2000.0 | Other: _____

Method from EPA-821-R-02-012
Test Type: 48 hour non-renewal / 96 hour renewal
Test Page 2 of 2

Diluent/ Batch #: Well H2O / 2.12.07
Toxicant/ Batch#: NaCl / 12-7-07 12

Test Beginning: Date: 2-13-07 14 BA Time: 10:00
Test Ending: Date: 2-18-07 Time: 10:30

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	BA
Alkalinity (mg/L as $CaCO_3$):	158	Hach	JD
Hardness (mg.L as $CaCO_3$):	158	Hach	JD
Total Ammonia (mg/L as N):	<0.07	Denver	MF
Salinity (ppth):	<1	Mettler	BA

Organism Batch #/ Age: 2-13-07 / 1 Hrs
Feeding: (Prior to test) (Prior to renewal) Daily
Food: YCT *P.subcapitata* Artemia: Lot # GSL-536-40
Food Batch: — —
0hr 10:37 24hr — 48hr 12-07 72hr —
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc. µg/L (mg/L)	Rep.	Chamber #	Number Live 0 hr / 48 hr	Number Live 24 hr / 72 hr	Number Live 48 hr / 96 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 Conductivity µmhom/cm (mmhos/cm) 0 hr	Uncorrected Conductivity 24 hr	Uncorrected Conductivity 48 hr
Control	A	A13	10	10	10	8.2		8.1	24.1		24.4 (B) 24.6	7.7		7.1	0.288		0.346
	B	A14	10	10	10		7.9			24.1			7.0			0.297	
	C																
	D										(B)						
6.0	A	A15	10	10	10	8.2		8.1	24.1		23.8	7.4		6.7	10.2		10.7
	B	A16	10	9 10	9		8.0			24.0	24.9		6.8			10.6	
	C																
	D										(B)						
7.0	A	A17	10	10	10	8.1		8.1	24.1		24.6	7.5		6.7	12.5		12.7
	B	A18	10	10	10		8.0			24.2	24.5		6.6			12.3	
	C																
	D										(B)						
8.0	A	A19	8	8	8	8.1		8.1	24.1		25.0	7.6		6.7	14.0		14.2
	B	A20	8	8	8		8.0			24.0	24.3		6.5			14.1	
	C																
	D																
9.0	A	A21	6	6	6	8.1		8.1	24.0		24.5	7.4		6.5	15.5		15.6
	B	A22	6	6	6		8.0			23.9			6.6			15.3	
	C																
	D																
100	A	A23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	B	A24	10 10	0 10	-	8.1	8.1	-	24.0	23.9	-	7.4	6.7	-	17.2	17.1	-
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			MF	MF	MF (A)	MF	MF	BA	MF	MF	MF (B)	MF	MF	BA	MF	MF	BA
Recorded by:			MF	MF	MF (A) MF 2/17/07	MF	MF	BA	MF	MF	MF (B)	MF	MF	BA	MF	MF	BA

Investigators' Signatures
James Daniels
Brian Abshier
Patsy Michaud
Marshall Faircloth
Heidi Wellendorf
REVIEWER

Concentrations prepared by: MF
Loading verified by: BA
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min 24.5 max 26.6 mean 25.7
Incubator # ___ min ___ max ___ mean ___
Room B246 min 23.2 max 25.9 mean 24.6

Comments: (A) initials in wrong space MF 2-17-07
(B) recorded incorrect temps MF 2/17/07

Statistics: Method: Spearman-Karber
48 / (96) hour LC_{50}: 8.86
95% Confidence Interval: lower 8.55 upper 9.18

PAGE 000004

revised 08/24/06 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: ~~3-5-07~~ ~~3-6-07~~ 20 ppth ASW MF Test Days Used: 2-5 MF 3-7-07 Day 6 Start Date: 3-6-07 Time: 1300

Diluent/ Batch: 2-9-07 Test Days Used: 0-1 End Date: 3-13-07 Time: 1330

Toxicant/ Batch # : Copper chloride 1-06 Organism Batch #/ Age: 3-6-07 / 11 Days

Artemia Lot # : GSL-S36-90

Artemia Batch #	Day 2 3-8-07	Day 5 3-11-07
Day 0 2-1-07	Day 3 3-9-07	Day 6 3-12-07
Day1 2-2-07	Day 4 3-10-07	

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 2-9-07	Diluent 3-5-07 / 3-7-07 (or other)		Method	Measured by	Verified by
Total Residual Cl_2 (mg/L):	<0.03	<0.03	<0.03	HACH	PPV / PPV	MF
Alkalinity (mg/L as $CaCO_3$):	~~184~~ ~~200~~	200	215	HACH	PPV / PPV	MF
Hardness (mg/L as $CaCO_3$):	NA	—	—	HACH	—	MF
Total Ammonia (mg/L as N):	<0.034	<0.034	<0.034	DENVER	MF / MF	PPV
Conductivity µmhos-cm (mmhos-cm)	31.9	32.4	31.8	METTLER	JD / JD	MF

Statistics	
Growth NOEC:	125 µg/L
Growth LOEC:	>125 µg/L
Growth IC_{20}:	152.6 µg/L
Growth IC_{25}:	161.0 µg/L
Ctrl % CV:	9.85
Dunnetts PMSD:	35.7 %
Survival NOEC:	125 µg/L
Survival LOEC:	250 µg/L

Light Intensity : 50 - 100 ft. candles

Photoperiod : 16 light 8 dark

Temperature Range °C:

Incubator # 2 min. 25.9 max. 26.7 mean 26.1

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

Room B246 min. 25.0 max. 26.1 mean 25.6

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

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

Investigators' signatures

Patsy Vicnaire

Marshall Faircloth

James Daniel

Bruce Albrecht

Nicki Wellenby

REVIEWER

Comments:

Test Page 1 of 6

PAGE 000019

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)

			TEST DAY							
Concentration	Replicate	Chamber	0	1	2	3	4	5	6	7
Control	A	E1	10	10	10	9 JD	9	9	9	9
	B	E2	10	9 JD	9	9	9	9	9	9
	C	E3	10	10	10	10	10	10	10	10
	D	E4	10	10	10	10	10	10	10	10
31.25	A	E5	10	10	10	7 JD	4 JD	4	4	3 JD
	B	E6	10	10	10	10	10	10	10	10
	C	E7	10	10	10	10	10	10	10	10
	D	E8	10	8 JD	8	8	8	8	8	8
62.5	A	E9	10	10	10	10	10	10	10	10
	B	E10	10	10	10	10	10	10	10	10
	C	E11	10	10	10	10	10	10	10	10
	D	E12	10	9 JD	9	9	9	9	9	9
125	A	E13	10	10	10	10	10	10	10	10
	B	E14	10	9 JD	9	9	9	9	9	9
	C	E15	10	10	10	10	10	10	10	10
	D	E16	10	5 JD	5	5	5	5	5	5
250	A	E17	10	2 JD	2	1 JD	1	1	1	1
	B	E18	10	4 JD	2 JD	2	2	2	2	2
	C	E19	10	4 JD	3 JD	3	3	3	3	3
	D	E20	10	2 JD	1 JD	1	1	1	1	1
500	A	E21	10	0 JD	—	—	—	—	—	—
	B	E22	10	0 JD	—	—	—	—	—	—
	C	E23	10	0 JD	—	—	—	—	—	—
	D	E24	10	0 JD	—	—	—	—	—	—
	A		10							
	B		10							
	C		10							
	D		10							
Loaded by (0 hr): JD		Checked by*:		JD	JD	JD	JD	BA	JD	JD
		Concentrations prepared by:		JD	JD	JD	JD	BA	JD	JD

Comments:

*verified by for 0 hour

Test Page 2 of 6 PAGE 000020 revised 8/24/06 MF/SP

Appendix C. (continued)

FDEP Biology Laboratory - Chronic SRT Benchsheet

Pimephales promelas or *Menidia beryllina* Parameters

Start Date: 3607 Time: 1300
End Date: 3-13-07 Time: 1330

Organism: *P. promelas* (*M.beryllina*) (circle one)
Concentration: (µg/L) g/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	8.3	24.4	6.8	36.9
	31.25						A	8.4	24.8	6.8	32.5
	62.5						A	8.4	24.1	6.9	33.4
	125						A	8.4	25.1	6.9	32.3
	250						A	8.3	25.2	6.9	32.4
	500						A	8.3	25.3	6.9	32.3
							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	8.2	25.0	7.2	32.6	B	8.3	24.0	7.9	32.4
	31.25	B	8.2	24.5	7.0	32.1	B	8.3	24.7	7.7	32.4
	62.5	B	8.2	24.9	6.9	32.3	B	8.4	24.7	7.8	32.5
	125	B	8.2	24.6	6.9	32.3	B	8.4	24.4	7.8	32.5
	250	B	8.2	24.0	6.9	32.9	B	8.3	24.4	7.8	32.6
	500	B	8.2	25.0	6.8	32.4	B	—	—	—	—
		B					B				
	Measured by:		PPV	JD	PPV	PPV		PPV	PPV	PPV	PPV
	Recorded by:		PPV	JD	PPV	PPV		PPV	PPV	PPV	PPV
	Concentration	Replicate	pH	Temp	DO	Conductivity	Replicate	pH	Temp	DO	Conductivity
Day 2	Control	C	8.3	24.0	5.8	32.7	C	8.5	24.0	6.8	32.9
	31.25	C	8.3	24.1	5.7	33.0	C	8.4	24.0	6.7	32.6
	62.50	C	8.2	24.1	5.6	33.0	C	8.4	24.0	6.7	32.7
	125.0	C	8.2	24.0	5.6	33.0	C	8.4	24.0	6.8	32.7
	250.0	C	8.2	24.0	5.7	33.1	C	8.4	24.0	6.8	32.8
	500.0	C	—	—	—	—	C	—	—	—	—
		C					C				
	Measured by:		PPV	PPV	PPV	PPV		PPV	PPV	PPV	PPV
	Recorded by:		PPV	PPV	PPV	PPV		PPV	PPV	PPV	PPV
	Concentration	Replicate	pH	Temp	DO	Conductivity	Replicate	pH	Temp	DO	Conductivity
Day 3	Control	D	8.0	25.5	5.4	32.9	D	8.3	24.0	7.4	32.4
	31.25	D	8.1	25.7	5.5	33.0	D	8.3	24.1	7.5	32.5
	62.5	D	8.2	25.7	5.9	32.8	D	8.4	24.0	7.6	32.5
	125	D	8.1	25.1	5.8	33.2	D	8.3	24.1	7.6	32.6
	250	D	8.1	~~25.9~~ JD	5.8	33.2	D	8.3	24.2	7.5	32.6
	500	D	--	~~25.4~~ JD	—	—	D	—	—	—	—
		D					D				
	Measured by:		PPV	JD	PPV	PPV		PPV	PPV	PPV	PPV
	Recorded by:		PPV	JD	PPV	PPV		PPV	PPV	PPV	PPV

Comments:
A. 25.9 – transcription error J.D. 3.9.07

Test Page 3 of 6 PAGE 000021 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 g/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	8.1	24.9	6.0	31.9	A	8.3	24.9	6.3	31.5
	31.25	A	8.1	25.3	5.7	32.3	A	8.3	24.5	6.4	31.3
	62.5	A	8.2	25.7	5.5	32.4	A	8.3	24.6	6.5	31.3
	125	A	8.2	25.5	5.3	32.1	A	8.3	24.6	6.5	31.4
	250	A	8.2	25.5	5.1	32.2	A	8.3	24.5	6.5	31.3
		A					A				
		A					A				
	Measured by:		BA	JD	BA	BA		DA	BA	BA	BA
	Recorded by:		BA	JD	BA	BA		BA	BA	BA	BA
↓	Concentration	Replicate	pH	Temp	DO	Conductivity	Replicate	pH	Temp	DO	Conductivity
Day 5	Control	B	8.2	24.6	5.1	32.9	B	8.4	24.0	6.4	31.7
	31.25	B	8.2	24.8	5.1	32.1	B	8.4	24.2	6.3	31.8
	62.5	B	8.3	24.0	5.0	31.8	B	8.4	24.1	6.3	31.7
	125	B	8.2	24.0	5.2	32.0	B	8.4	24.1	6.3	31.6
	250	B	8.2	25.4	5.3	32.3	B	8.4	24.3	6.3	31.9
		B					B				
		B					B				
	Measured by:		BA	BA	BA	BA		DA	DA	DA	DA
	Recorded by:		BA	BA	BA	BA		BA	BA	DA	BA
↓	Concentration	Replicate	pH	Temp	DO	Conductivity	Replicate	pH	Temp	DO	Conductivity
Day 6	Control	C	8.2	25.1	6.1	32.1	C	8.3	24.3	6.8	31.8
	31.25	C	8.2	25.3	6.1	32.8	C	8.4	24.3	6.8	32.1
	625	C	8.2	25.1	6.1	32.4	C	8.3	24.2	6.8	32.1
	125	C	8.2	24.7	6.1	32.6	C	8.3	24.1	6.8	32.1
	250	C	8.2	24.9	6.2	32.7	C	8.3	24.2	6.8	32.2
		C					C				
		C					C				
	Measured by:		PA	JD	PA	PA		PA	PA	PA	PA
	Recorded by:		PA	JD	PA	PA		PA	PA	PA	PA
↓	Concentration	Replicate	pH	Temp	DO	Conductivity	Replicate	pH	Temp	DO	Conductivity
Day 7	Control	D	8.0	25.1	5.8	32.3	D				
	31.25	D	8.1	24.9	5.9	32.5	D				
	62.50	D	8.2	24.9	6.0	32.6	D				
	125.0	D	8.2	24.4	6.0	32.4	D				
	250.0	D	8.2	24.7	5.9	32.7	D				
		D					D				
		D					D				
	Measured by:		PA	PA	PA	PA					
	Recorded by:		PA	PA	PA	PA					

Comments:

Test Page 4 of 6 PAGE 000022 revised 8/24/06 MF/SP

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) g/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	26	0.02377	0.03777	0.014	10	1.4
	B	27	0.02471	0.04185	0.0171	10	1.71
	C	28	0.02433	0.04194	0.0176	10	1.76
	D	29	0.02459	0.04093	0.0164	10	1.64
31.25	A	30	0.02486	0.02846	0.0036	10	0.360
	B	31	0.02416	0.04068	0.0165	10	1.65
	C	32	0.02493	0.04035	0.0154	10	1.54
	D	33	0.02509	0.04227	0.0172	10	1.72
62.5	A	34	0.02570	0.04331	0.0176	10	1.76
	B	35	0.02440	0.04202	0.0176	10	1.76
	C	36	0.02604	0.04322	0.0172	10	1.72
	D	37	0.02552	0.03841	0.0129	10	1.29
125	A	38	0.02458	0.04241	0.0183	10	1.83
	B	39	0.02408	0.04240	0.0183	10	1.83
	C	40	0.02462	0.04278	0.0182	10	1.82
	D	41	0.02382	0.03902	0.0152	10	1.52
250	A	42	0.02487	0.02705	0.00218	10	0.218
	B	43	0.02429	0.02726	0.00297	10	0.297
	C	44	0.02422	0.03128	0.00706	10	0.706
	D	45	0.02481	0.02721	0.0024	10	0.240
500	A					10	
	B					10	
	C					10	
	D					10	
	A					10	
	B					10	
	C					10	
	D					10	
		Weighed by:	ppv by MF	JD			

Comments:

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

Test Page 5 of 6 PAGE 000023 revised 8/24/06 MF/SP

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: 2.20.07

	Pan 1 wt.		Pan 1 initial wt.
after Pan 5	0.02076	@	0.02076
after Pan 10	0.02075	@	0.02076
after Pan 15	0.02076	@	0.02076
after Pan 20	0.02075	@	0.02076
after Pan 25	0.02076	@	0.02076
after Pan 30		@	
after Pan 35		@	
after Pan 40		@	
after Pan 45		@	
after Pan 48		@	

	Measured Value		S-weight Value
S-weights	0.10002	@	0.100
	0.29999	@	0.300

Fish + Pan Weights Date: 3.19.07

	Pan 1 wt.		Pan 1 initial wt.
after Pan 5	0.03777	@	0.03777
after Pan 10	0.03777	@	0.03777
after Pan 15	0.03778	@	0.03777
after Pan 20	0.03779	@	0.03777
after Pan 25	0.03779	@	0.03777
after Pan 30		@	
after Pan 35		@	
after Pan 40		@	
after Pan 45		@	
after Pan 48		@	

	Measured Value		S-weight Value
S-weights	0.00998	@	0.01
	0.05	@	0.05

Drying Oven ID: ERO 3400

Temperature °C: 105

Drying Hours: 8

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

Comments:

Test Page 6 of 6 PAGE 000024 revised 8/24/06 MF/SP

Appendix C. (continued)

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

DATE: 02-13-07 DURATION: 96 hr. TOXICANT: NaCl
SPECIES: *Ceriodaphnia dubia*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
0.0	20	1
1.5	20	0
2.0	20	8
2.5	20	20
3.0	20	20
4.0	20	20

SPEARMAN-KARBER TRIM: 0.00%

SPEARMAN-KARBER ESTIMATES: **LC50: 2.03**
95% LOWER CONFIDENCE: 1.92
95% UPPER CONFIDENCE: 2.14

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

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

DATE: 02-14-07 DURATION: 96 hr. TOXICANT: NaCl
SPECIES: *Cyprinella leedsi*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
0	20	0
6	20	1
7	20	0
8	20	4
9	20	8
10	20	20

SPEARMAN-KARBER TRIM: 2.50%

SPEARMAN-KARBER ESTIMATES: **LC50: 8.86**
95% LOWER CONFIDENCE: 8.55
95% UPPER CONFIDENCE: 9.18

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

Appendix C. (continued)

IC_{20} calculation for chronic definitive Standard Reference Toxicant test with Menidia beryllina.

Start Date:	3/6/2007	Test ID:	MBSRT30607	Sample ID:	REF-Ref Toxicant
End Date:	3/13/2007	Lab ID:	DEP TOXLAB-M beryllina chron	Sample Type:	CUCL-Copper chloride
Sample Date:		Protocol:	EPAMW02-EPA/821/R-02-014	Test Species:	MI-Menidia menidia
Comments:	Chronic SRT M. beryllina associated with South Cross Bayou				

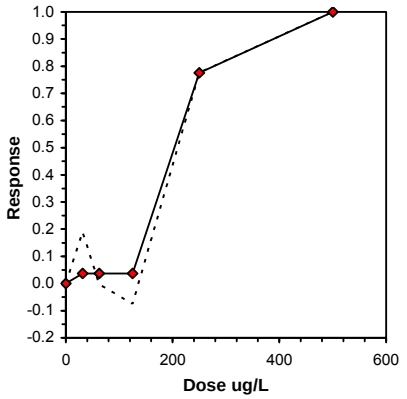
Conc-ug/L	1	2	3	4
D-Control	1.4000	1.7140	1.7610	1.6350
31.25	0.3600	1.6520	1.5420	1.7180
62.5	1.7610	1.7620	1.7180	1.2890
125	1.8330	1.8320	1.8160	1.5200
250	0.2180	0.2970	0.7060	0.2400
500	0.0000	0.0000	0.0000	0.0000

			Transform: Untransformed					Isotonic	
Conc-ug/L	Mean	N-Mean	Mean	Min	Max	CV%	N	Mean	N-Mean
D-Control	1.6275	1.0000	1.6275	1.4000	1.7610	9.851	4	1.6275	1.0000
31.25	1.3180	0.8098	1.3180	0.3600	1.7180	48.769	4	1.5669	0.9628
62.5	1.6325	1.0031	1.6325	1.2890	1.7620	14.084	4	1.5669	0.9628
125	1.7503	1.0754	1.7503	1.5200	1.8330	8.781	4	1.5669	0.9628
250	0.3653	0.2244	0.3653	0.2180	0.7060	62.859	4	0.3653	0.2244
500	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 non-normal distribution (p <= 0.01)	0.857933	0.868	-1.71501	4.699875
Bartlett's Test indicates equal variances (p = 0.07)	8.731866	13.2767		

Linear Interpolation (200 Resamples)

Point	ug/L	SD	95% CL(Exp)		Skew
IC05	127.16	55.66	0.00	137.94	-0.3913
IC10	135.63	42.91	0.00	147.10	-1.7283
IC15	144.09	26.20	0.00	156.56	-3.7357
IC20	152.56	14.10	118.23	165.82	-6.1654
IC25	161.02	7.42	129.46	175.42	-0.7799
IC40	186.42	7.02	162.51	204.61	0.0446
IC50	203.35	7.61	180.72	228.97	0.4387



Appendix D. Test Organism Receipts

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

NELAC Accredited

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 2/12/07

Shipped to: FDEP

P.O. No: _____

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia	150+	4 Days	MSO70208	25°C	~30‰
Menidia beryllina	150+	4 Days	SSO70131	25°C	~30‰
Cyprinella leedsi	150+	4 Days	CLC70131	25°C	
Pimephales promelas	150+	7 Days	FMC7CC5-1610	25°C	

Packed by: Frank Gaw

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: 3/5/07

Shipped to: EPA

P.O. No: _____

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia	550+	6 Days	MSC7C27	25°C	~30‰
Menidia beryllina	550+	10 Days	SSC7C23	25°C	~30‰
Cyprinella leedsi					
Pimephales promelas	150+	11 Days	CHC7C22	25°C	

Packed by: Frank Gray

Shipped Via: FedEx

Notes: _____

Thank you for your order.

Appendix E. Chemical Analyses performed on the effluent from the South Cross Bayou Water Reclamation Facility Outfall D001, sampled on March 5 - 9, 2006.

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
3/5/2007 9:55	Outfall D001 Grab	Bio-AGP/LimNut	Algal Growth Potential	8.76	mg DryWt/L		0.3	0.9
3/5/2007 9:55	Outfall D001 Grab	Bio-BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	8.2	mg/L	AL	0.2	2
3/5/2007 8:00	Equipment Blank Grab	Bio-BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	2.9	mg/L		0.2	2
3/6/2007 10:00	Oufall D001 Composite	Bio-BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	8.3	mg/L	L	0.2	2
3/5/2007 9:55	Outfall D001 Grab	Bio-Chl-a	Chlorophyll-A, Monochromatic, Water	0.85	ug/L	U	0.85	2.6
3/5/2007 9:55	Outfall D001 Grab	Bio-Chl-a	Phaeophytin-A, Monochromatic, Water	1.5	ug/L	U	1.5	4.5
3/5/2007 10:15	Blank Grab	Bio-Chl-a	Chlorophyll-A, Monochromatic, Water	0.85	ug/L	U	0.85	2.6
3/5/2007 10:15	Blank Grab	Bio-Chl-a	Phaeophytin-A, Monochromatic, Water	1.5	ug/L	U	1.5	4.5
3/5/2007 7:56	Outfall D001 Grab	Bio-Toxicology	Bioassay-Acute-Def-FW-C.dubia, LC50	100	LC50	LJ		
3/5/2007 7:56	Outfall D001 Grab	Bio-Toxicology	Bioassay-Acute-Def-FW-Fish, LC50	100	LC50	LJ		
3/5/2007 9:45	Outfall D001 Composite	Bio-Toxicology	Bioassay-Chron-Def-SW-Fish, IC20	100	IC20	L		
3/5/2007 9:45	Outfall D001 Composite	Bio-Toxicology	Bioassay-Chron-Def-SW-Fish, NOEC	50	NOEC			
3/5/2007 9:45	Outfall D001 Composite	Bio-Toxicology	Bioassay-Chron-Def-SW-Mysid, IC20	No Result	IC20			
3/5/2007 9:45	Outfall D001 Composite	Bio-Toxicology	Bioassay-Chron-Def-SW-Mysid, NOEC	No Result	NOEC			
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	1,2,4-Trichlorobenzene	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	1,2-Dichlorobenzene	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	1,3-Dichlorobenzene	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	1,4-Dichlorobenzene	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	2,4,6-Trichlorophenol	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	2,4-Dichlorophenol	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	2,4-Dimethylphenol	48	ug/L	U	48	190
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	2,4-Dinitrophenol	14	ug/L	U	14	57
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	2,4-Dinitrotoluene	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	2,6-Dinitrotoluene	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	2-Chloronaphthalene	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	2-Chlorophenol	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	2-Methyl-4,6-dinitrophenol	2.9	ug/L	U	2.9	11
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	2-Nitrophenol	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	3,3'-Dichlorobenzidine	38	ug/L	U	38	150
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	4,4'-DDD	1.4	ug/L	U	1.4	5.7
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	4,4'-DDE	1.4	ug/L	U	1.4	5.7
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	4,4'-DDT	1.4	ug/L	U	1.4	5.7
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	4-Bromophenyl phenyl ether	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	4-Chloro-3-methylphenol	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	4-Chlorophenyl phenyl ether	1.9	ug/L	U	1.9	7.6
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	4-Nitrophenol	14	ug/L	U	14	57
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Acenaphthene	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Acenaphthylene	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Aldrin	1.4	ug/L	U	1.4	5.7
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Anthracene	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Benzidine	95	ug/L	U	95	380

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Benzo(a)anthracene	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Benzo(a)pyrene	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Benzo(b)fluoranthene	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Benzo(g,h,i)perylene	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Benzo(k)fluoranthene	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Bis(2-chloroethoxy)methane	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Bis(2-chloroethyl)ether	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Bis(2-chloroisopropyl)ether	2.9	ug/L	U	2.9	11
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Bis(2-ethylhexyl)phthalate	14	ug/L	U	14	57
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Butyl benzyl phthalate	4.8	ug/L	U	4.8	19
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Chrysene	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Di-n-butyl phthalate	4.8	ug/L	U	4.8	19
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Di-n-octyl phthalate	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Dibenzo(a,h)anthracene	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Dieldrin	1.4	ug/L	U	1.4	5.7
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Diethyl phthalate	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Dimethyl phthalate	48	ug/L	U	48	190
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Endosulfan I	3.8	ug/L	U	3.8	15
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Endosulfan II	3.8	ug/L	U	3.8	15
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Endosulfan sulfate	1.4	ug/L	U	1.4	5.7
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Endrin	1.4	ug/L	U	1.4	5.7
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Endrin aldehyde	3.8	ug/L	U	3.8	15
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Fluoranthene	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Fluorene	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Heptachlor	1.4	ug/L	U	1.4	5.7
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Heptachlor epoxide	1.4	ug/L	U	1.4	5.7
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Hexachlorobenzene	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Hexachlorobutadiene	2.9	ug/L	U	2.9	11
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Hexachlorocyclopentadiene	2.9	ug/L	U	2.9	11
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Hexachloroethane	2.9	ug/L	U	2.9	11
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Indeno(1,2,3-cd)pyrene	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Isophorone	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	N-Nitrosodi-n-propylamine	1.9	ug/L	U	1.9	7.6
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	N-Nitrosodimethylamine	1.9	ug/L	U	1.9	7.6
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	N-Nitrosodiphenylamine/ Diphenylamine	2.9	ug/L	U	2.9	11
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Naphthalene	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Nitrobenzene	1.9	ug/L	U	1.9	7.6
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Pentachlorophenol	2.9	ug/L	U	2.9	11
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Phenanthrene	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Phenol	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	Pyrene	0.95	ug/L	U	0.95	3.8
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	alpha-BHC	1.4	ug/L	U	1.4	5.7
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	beta-BHC	1.4	ug/L	U	1.4	5.7
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	delta-BHC	1.4	ug/L	U	1.4	5.7
3/5/2007 9:55	Outfall D001 Grab	BNA-Water	gamma-BHC	1.4	ug/L	U	1.4	5.7

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
3/5/2007 10:15	Blank Grab	BNA-Water	1,2,4-Trichlorobenzene	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	1,2-Dichlorobenzene	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	1,3-Dichlorobenzene	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	1,4-Dichlorobenzene	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	2,4,6-Trichlorophenol	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	2,4-Dichlorophenol	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	2,4-Dimethylphenol	48	ug/L	U	48	190
3/5/2007 10:15	Blank Grab	BNA-Water	2,4-Dinitrophenol	14	ug/L	U	14	57
3/5/2007 10:15	Blank Grab	BNA-Water	2,4-Dinitrotoluene	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	2,6-Dinitrotoluene	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	2-Chloronaphthalene	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	2-Chlorophenol	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	2-Methyl-4,6-dinitrophenol	2.9	ug/L	U	2.9	11
3/5/2007 10:15	Blank Grab	BNA-Water	2-Nitrophenol	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	3,3'-Dichlorobenzidine	38	ug/L	U	38	150
3/5/2007 10:15	Blank Grab	BNA-Water	4,4'-DDD	1.4	ug/L	U	1.4	5.7
3/5/2007 10:15	Blank Grab	BNA-Water	4,4'-DDE	1.4	ug/L	U	1.4	5.7
3/5/2007 10:15	Blank Grab	BNA-Water	4,4'-DDT	1.4	ug/L	U	1.4	5.7
3/5/2007 10:15	Blank Grab	BNA-Water	4-Bromophenyl phenyl ether	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	4-Chloro-3-methylphenol	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	4-Chlorophenyl phenyl ether	1.9	ug/L	U	1.9	7.6
3/5/2007 10:15	Blank Grab	BNA-Water	4-Nitrophenol	14	ug/L	U	14	57
3/5/2007 10:15	Blank Grab	BNA-Water	Acenaphthene	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	Acenaphthylene	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	Aldrin	1.4	ug/L	U	1.4	5.7
3/5/2007 10:15	Blank Grab	BNA-Water	Anthracene	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	Benzidine	95	ug/L	U	95	380
3/5/2007 10:15	Blank Grab	BNA-Water	Benzo(a)anthracene	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	Benzo(a)pyrene	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	Benzo(b)fluoranthene	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	Benzo(g,h,i)perylene	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	Benzo(k)fluoranthene	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	Bis(2-chloroethoxy)methane	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	Bis(2-chloroethyl)ether	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	Bis(2-chloroisopropyl)ether	2.9	ug/L	U	2.9	11
3/5/2007 10:15	Blank Grab	BNA-Water	Bis(2-ethylhexyl)phthalate	14	ug/L	U	14	57
3/5/2007 10:15	Blank Grab	BNA-Water	Butyl benzyl phthalate	4.8	ug/L	U	4.8	19
3/5/2007 10:15	Blank Grab	BNA-Water	Chrysene	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	Di-n-butyl phthalate	4.8	ug/L	U	4.8	19
3/5/2007 10:15	Blank Grab	BNA-Water	Di-n-octyl phthalate	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	Dibenzo(a,h)anthracene	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	Dieldrin	1.4	ug/L	U	1.4	5.7
3/5/2007 10:15	Blank Grab	BNA-Water	Diethyl phthalate	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	Dimethyl phthalate	48	ug/L	U	48	190
3/5/2007 10:15	Blank Grab	BNA-Water	Endosulfan I	3.8	ug/L	U	3.8	15

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
3/5/2007 10:15	Blank Grab	BNA-Water	Endosulfan II	3.8	ug/L	U	3.8	15
3/5/2007 10:15	Blank Grab	BNA-Water	Endosulfan sulfate	1.4	ug/L	U	1.4	5.7
3/5/2007 10:15	Blank Grab	BNA-Water	Endrin	1.4	ug/L	U	1.4	5.7
3/5/2007 10:15	Blank Grab	BNA-Water	Endrin aldehyde	3.8	ug/L	U	3.8	15
3/5/2007 10:15	Blank Grab	BNA-Water	Fluoranthene	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	Fluorene	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	Heptachlor	1.4	ug/L	U	1.4	5.7
3/5/2007 10:15	Blank Grab	BNA-Water	Heptachlor epoxide	1.4	ug/L	U	1.4	5.7
3/5/2007 10:15	Blank Grab	BNA-Water	Hexachlorobenzene	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	Hexachlorobutadiene	2.9	ug/L	U	2.9	11
3/5/2007 10:15	Blank Grab	BNA-Water	Hexachlorocyclopentadiene	2.9	ug/L	U	2.9	11
3/5/2007 10:15	Blank Grab	BNA-Water	Hexachloroethane	2.9	ug/L	U	2.9	11
3/5/2007 10:15	Blank Grab	BNA-Water	Indeno(1,2,3-cd)pyrene	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	Isophorone	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	N-Nitrosodi-n-propylamine	1.9	ug/L	U	1.9	7.6
3/5/2007 10:15	Blank Grab	BNA-Water	N-Nitrosodimethylamine	1.9	ug/L	U	1.9	7.6
3/5/2007 10:15	Blank Grab	BNA-Water	N-Nitrosodiphenylamine/ Diphenylamine	2.9	ug/L	U	2.9	11
3/5/2007 10:15	Blank Grab	BNA-Water	Naphthalene	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	Nitrobenzene	1.9	ug/L	U	1.9	7.6
3/5/2007 10:15	Blank Grab	BNA-Water	Pentachlorophenol	2.9	ug/L	U	2.9	11
3/5/2007 10:15	Blank Grab	BNA-Water	Phenanthrene	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	Phenol	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	Pyrene	0.95	ug/L	U	0.95	3.8
3/5/2007 10:15	Blank Grab	BNA-Water	alpha-BHC	1.4	ug/L	U	1.4	5.7
3/5/2007 10:15	Blank Grab	BNA-Water	beta-BHC	1.4	ug/L	U	1.4	5.7
3/5/2007 10:15	Blank Grab	BNA-Water	delta-BHC	1.4	ug/L	U	1.4	5.7
3/5/2007 10:15	Blank Grab	BNA-Water	gamma-BHC	1.4	ug/L	U	1.4	5.7
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Alachlor	0.6	ug/L	UJ	0.6	2.4
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Ametryn	0.05	ug/L	U	0.05	0.2
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Atrazine	0.1	ug/L	U	0.1	0.4
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Azinphos Methyl	0.2	ug/L	UJ	0.2	0.8
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Bromacil	0.2	ug/L	U	0.2	0.8
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Butylate	0.2	ug/L	UJ	0.2	0.8
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Chlorpyrifos Ethyl	0.05	ug/L	U	0.05	0.2
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Chlorpyrifos Methyl	0.1	ug/L	U	0.1	0.4
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Diazinon	0.05	ug/L	U	0.05	0.2
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Ethion	0.05	ug/L	U	0.05	0.2
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Ethoprop	0.1	ug/L	U	0.1	0.4
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Fenamiphos	0.2	ug/L	U	0.2	0.8
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Fonofos	0.1	ug/L	U	0.1	0.4
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Hexazinone	0.1	ug/L	U	0.1	0.4
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Malathion	0.15	ug/L	U	0.15	0.6
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Metalaxyl	0.25	ug/L	U	0.25	1
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Metolachlor	0.5	ug/L	U	0.5	2
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Metribuzin	0.1	ug/L	U	0.1	0.4

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Mevinphos	0.2	ug/L	U	0.2	0.8
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Naled	0.8	ug/L	UJ	0.8	3.2
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Norflurazon	0.15	ug/L	UJ	0.15	0.6
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Parathion Ethyl	0.15	ug/L	UJ	0.15	0.6
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Parathion Methyl	0.1	ug/L	UJ	0.1	0.4
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Phorate	0.05	ug/L	U	0.05	0.2
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Prometryn	0.15	ug/L	UJ	0.15	0.6
3/5/2007 9:55	Outfall D001 Grab	GC-Water	Simazine	0.08	ug/L	U	0.08	0.32
3/5/2007 10:15	Blank Grab	GC-Water	Alachlor	0.57	ug/L	UJ	0.57	2.3
3/5/2007 10:15	Blank Grab	GC-Water	Ametryn	0.048	ug/L	U	0.048	0.19
3/5/2007 10:15	Blank Grab	GC-Water	Atrazine	0.048	ug/L	U	0.048	0.19
3/5/2007 10:15	Blank Grab	GC-Water	Azinphos Methyl	0.19	ug/L	UJ	0.19	0.76
3/5/2007 10:15	Blank Grab	GC-Water	Bromacil	0.19	ug/L	U	0.19	0.76
3/5/2007 10:15	Blank Grab	GC-Water	Butylate	0.19	ug/L	UJ	0.19	0.76
3/5/2007 10:15	Blank Grab	GC-Water	Chlorpyrifos Ethyl	0.048	ug/L	U	0.048	0.19
3/5/2007 10:15	Blank Grab	GC-Water	Chlorpyrifos Methyl	0.095	ug/L	U	0.095	0.38
3/5/2007 10:15	Blank Grab	GC-Water	Diazinon	0.048	ug/L	U	0.048	0.19
3/5/2007 10:15	Blank Grab	GC-Water	Ethion	0.048	ug/L	U	0.048	0.19
3/5/2007 10:15	Blank Grab	GC-Water	Ethoprop	0.095	ug/L	U	0.095	0.38
3/5/2007 10:15	Blank Grab	GC-Water	Fenamiphos	0.19	ug/L	U	0.19	0.76
3/5/2007 10:15	Blank Grab	GC-Water	Fonofos	0.095	ug/L	U	0.095	0.38
3/5/2007 10:15	Blank Grab	GC-Water	Hexazinone	0.095	ug/L	U	0.095	0.38
3/5/2007 10:15	Blank Grab	GC-Water	Malathion	0.14	ug/L	U	0.14	0.56
3/5/2007 10:15	Blank Grab	GC-Water	Metalaxyl	0.24	ug/L	U	0.24	0.96
3/5/2007 10:15	Blank Grab	GC-Water	Metolachlor	0.48	ug/L	U	0.48	1.9
3/5/2007 10:15	Blank Grab	GC-Water	Metribuzin	0.095	ug/L	U	0.095	0.38
3/5/2007 10:15	Blank Grab	GC-Water	Mevinphos	0.19	ug/L	U	0.19	0.76
3/5/2007 10:15	Blank Grab	GC-Water	Naled	0.76	ug/L	UJ	0.76	3
3/5/2007 10:15	Blank Grab	GC-Water	Norflurazon	0.14	ug/L	UJ	0.14	0.56
3/5/2007 10:15	Blank Grab	GC-Water	Parathion Ethyl	0.14	ug/L	UJ	0.14	0.56
3/5/2007 10:15	Blank Grab	GC-Water	Parathion Methyl	0.095	ug/L	UJ	0.095	0.38
3/5/2007 10:15	Blank Grab	GC-Water	Phorate	0.048	ug/L	U	0.048	0.19
3/5/2007 10:15	Blank Grab	GC-Water	Prometryn	0.14	ug/L	UJ	0.14	0.56
3/5/2007 10:15	Blank Grab	GC-Water	Simazine	0.048	ug/L	U	0.048	0.19
3/5/2007 9:55	Outfall D001 Grab	Metals-Water	Aluminum	44	ug/L		4	16
3/5/2007 9:55	Outfall D001 Grab	Metals-Water	Arsenic	0.79	ug/L	I	0.5	2
3/5/2007 9:55	Outfall D001 Grab	Metals-Water	Cadmium	0.078	ug/L	I	0.05	0.2
3/5/2007 9:55	Outfall D001 Grab	Metals-Water	Calcium	93.2	mg/L		0.02	0.08
3/5/2007 9:55	Outfall D001 Grab	Metals-Water	Chromium	0.34	ug/L	I	0.3	1.2
3/5/2007 9:55	Outfall D001 Grab	Metals-Water	Copper	1.58	ug/L		0.2	0.8
3/5/2007 9:55	Outfall D001 Grab	Metals-Water	Iron	42	ug/L		5	20
3/5/2007 9:55	Outfall D001 Grab	Metals-Water	Lead	0.2	ug/L	U	0.2	0.8
3/5/2007 9:55	Outfall D001 Grab	Metals-Water	Magnesium	31.8	mg/L		0.005	0.02
3/5/2007 9:55	Outfall D001 Grab	Metals-Water	Nickel	5.49	ug/L		0.25	1
3/5/2007 9:55	Outfall D001 Grab	Metals-Water	Selenium	0.5	ug/L	U	0.5	2

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
3/5/2007 9:55	Outfall D001 Grab	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
3/5/2007 9:55	Outfall D001 Grab	Metals-Water	Zinc	39	ug/L		3	12
3/5/2007 8:00	Equipment Blank Grab	Metals-Water	Aluminum	4	ug/L	U	4	16
3/5/2007 8:00	Equipment Blank Grab	Metals-Water	Arsenic	0.5	ug/L	U	0.5	2
3/5/2007 8:00	Equipment Blank Grab	Metals-Water	Cadmium	0.05	ug/L	U	0.05	0.2
3/5/2007 8:00	Equipment Blank Grab	Metals-Water	Calcium	0.02	mg/L	U	0.02	0.08
3/5/2007 8:00	Equipment Blank Grab	Metals-Water	Chromium	0.3	ug/L	U	0.3	1.2
3/5/2007 8:00	Equipment Blank Grab	Metals-Water	Copper	3.29	ug/L		0.2	0.8
3/5/2007 8:00	Equipment Blank Grab	Metals-Water	Iron	5	ug/L	U	5	20
3/5/2007 8:00	Equipment Blank Grab	Metals-Water	Lead	0.2	ug/L	I	0.2	0.8
3/5/2007 8:00	Equipment Blank Grab	Metals-Water	Magnesium	0.005	mg/L	U	0.005	0.02
3/5/2007 8:00	Equipment Blank Grab	Metals-Water	Nickel	0.25	ug/L	U	0.25	1
3/5/2007 8:00	Equipment Blank Grab	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
3/5/2007 8:00	Equipment Blank Grab	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
3/5/2007 8:00	Equipment Blank Grab	Metals-Water	Zinc	3	ug/L	U	3	12
3/6/2007 10:00	Oufall D001 Composite	Metals-Water	Aluminum	51	ug/L	I	15	60
3/6/2007 10:00	Oufall D001 Composite	Metals-Water	Arsenic	0.77	ug/L	I	0.5	2
3/6/2007 10:00	Oufall D001 Composite	Metals-Water	Cadmium	0.1	ug/L	I	0.05	0.2
3/6/2007 10:00	Oufall D001 Composite	Metals-Water	Calcium	89.9	mg/L		0.02	0.08
3/6/2007 10:00	Oufall D001 Composite	Metals-Water	Chromium	1	ug/L	U	1	4
3/6/2007 10:00	Oufall D001 Composite	Metals-Water	Copper	2.29	ug/L		0.2	0.8
3/6/2007 10:00	Oufall D001 Composite	Metals-Water	Iron	35	ug/L		5	20
3/6/2007 10:00	Oufall D001 Composite	Metals-Water	Lead	0.21	ug/L	I	0.2	0.8
3/6/2007 10:00	Oufall D001 Composite	Metals-Water	Magnesium	28.6	mg/L		0.025	0.1
3/6/2007 10:00	Oufall D001 Composite	Metals-Water	Nickel	5.71	ug/L		0.25	1
3/6/2007 10:00	Oufall D001 Composite	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
3/6/2007 10:00	Oufall D001 Composite	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
3/6/2007 10:00	Oufall D001 Composite	Metals-Water	Zinc	32	ug/L		3	12
3/5/2007 10:15	Blank Grab	Metals-Water	Aluminum	4	ug/L	U	4	16
3/5/2007 10:15	Blank Grab	Metals-Water	Arsenic	0.5	ug/L	U	0.5	2
3/5/2007 10:15	Blank Grab	Metals-Water	Cadmium	0.05	ug/L	U	0.05	0.2
3/5/2007 10:15	Blank Grab	Metals-Water	Calcium	0.02	mg/L	U	0.02	0.08
3/5/2007 10:15	Blank Grab	Metals-Water	Chromium	0.3	ug/L	U	0.3	1.2
3/5/2007 10:15	Blank Grab	Metals-Water	Copper	0.2	ug/L	U	0.2	0.8
3/5/2007 10:15	Blank Grab	Metals-Water	Iron	5	ug/L	U	5	20
3/5/2007 10:15	Blank Grab	Metals-Water	Lead	0.2	ug/L	U	0.2	0.8
3/5/2007 10:15	Blank Grab	Metals-Water	Magnesium	0.005	mg/L	U	0.005	0.02
3/5/2007 10:15	Blank Grab	Metals-Water	Nickel	0.25	ug/L	U	0.25	1
3/5/2007 10:15	Blank Grab	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
3/5/2007 10:15	Blank Grab	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
3/5/2007 10:15	Blank Grab	Metals-Water	Zinc	3	ug/L	U	3	12
3/5/2007 9:55	Outfall D001 Grab	Nutrients-Liquid	Ammonia-N	0.028	mg N/L		0.01	0.02
3/5/2007 9:55	Outfall D001 Grab	Nutrients-Liquid	Color	10	PCU		5	5
3/5/2007 9:55	Outfall D001 Grab	Nutrients-Liquid	Cyanide	0.01	mg CN/L	I	0.005	0.02
3/5/2007 9:55	Outfall D001 Grab	Nutrients-Liquid	Kjeldahl Nitrogen	1.3	mg N/L		0.08	0.2

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
3/5/2007 9:55	Outfall D001 Grab	Nutrients-Liquid	NO2NO3-N	0.01	mg N/L	I	0.004	0.01
3/5/2007 9:55	Outfall D001 Grab	Nutrients-Liquid	O-Phosphate-P	0.56	mg P/L		0.08	0.2
3/5/2007 9:55	Outfall D001 Grab	Nutrients-Liquid	Organic Carbon	13	mg C/L		1	5
3/5/2007 9:55	Outfall D001 Grab	Nutrients-Liquid	Organic Carbon	14	mg C/L	A	1	5
3/5/2007 9:55	Outfall D001 Grab	Nutrients-Liquid	TSS	4	mg/L	U	4	16
3/5/2007 9:55	Outfall D001 Grab	Nutrients-Liquid	Total-P	0.68	mg P/L		0.02	0.06
3/5/2007 9:55	Outfall D001 Grab	Nutrients-Liquid	Turbidity	0.65	NTU		0.05	0.05
3/5/2007 8:00	Equipment Blank Grab	Nutrients-Liquid	Ammonia-N	0.01	mg N/L	U	0.01	0.02
3/5/2007 8:00	Equipment Blank Grab	Nutrients-Liquid	Kjeldahl Nitrogen	0.08	mg N/L	U	0.08	0.2
3/5/2007 8:00	Equipment Blank Grab	Nutrients-Liquid	NO2NO3-N	0.086	mg N/L		0.004	0.01
3/5/2007 8:00	Equipment Blank Grab	Nutrients-Liquid	Organic Carbon	1	mg C/L	U	1	5
3/5/2007 8:00	Equipment Blank Grab	Nutrients-Liquid	TSS	4	mg/L	U	4	16
3/5/2007 8:00	Equipment Blank Grab	Nutrients-Liquid	Total-P	0.02	mg P/L	U	0.02	0.06
3/6/2007 10:00	Oufall D001 Composite	Nutrients-Liquid	Ammonia-N	0.037	mg N/L		0.01	0.02
3/6/2007 10:00	Oufall D001 Composite	Nutrients-Liquid	Kjeldahl Nitrogen	1.4	mg N/L	A	0.08	0.2
3/6/2007 10:00	Oufall D001 Composite	Nutrients-Liquid	NO2NO3-N	0.18	mg N/L		0.004	0.01
3/6/2007 10:00	Oufall D001 Composite	Nutrients-Liquid	Organic Carbon	11	mg C/L		1	5
3/6/2007 10:00	Oufall D001 Composite	Nutrients-Liquid	Organic Carbon	12	mg C/L		1	5
3/6/2007 10:00	Oufall D001 Composite	Nutrients-Liquid	TSS	4	mg/L	U	4	16
3/6/2007 10:00	Oufall D001 Composite	Nutrients-Liquid	Total-P	0.69	mg P/L	A	0.02	0.06
3/5/2007 10:15	Blank Grab	Nutrients-Liquid	Ammonia-N	0.01	mg N/L	U	0.01	0.02
3/5/2007 10:15	Blank Grab	Nutrients-Liquid	Cyanide	0.005	mg CN/L	U	0.005	0.02
3/5/2007 10:15	Blank Grab	Nutrients-Liquid	Kjeldahl Nitrogen	0.08	mg N/L	U	0.08	0.2
3/5/2007 10:15	Blank Grab	Nutrients-Liquid	NO2NO3-N	0.005	mg N/L	I	0.004	0.01
3/5/2007 10:15	Blank Grab	Nutrients-Liquid	O-Phosphate-P	0.004	mg P/L	U	0.004	0.01
3/5/2007 10:15	Blank Grab	Nutrients-Liquid	Organic Carbon	1	mg C/L	U	1	5
3/5/2007 10:15	Blank Grab	Nutrients-Liquid	Total-P	0.02	mg P/L	U	0.02	0.06
3/5/2007 9:55	Outfall D001 Grab	Overflow	Oil and Grease	1.7	mg/L	U		
3/5/2007 10:15	Blank Grab	Overflow	Oil and Grease	2.6	mg/L	I		
3/5/2007 9:55	Outfall D001 Grab	VOC-Water	Bromodichloromethane	23	ug/L		0.2	1
3/5/2007 9:55	Outfall D001 Grab	VOC-Water	Bromoform	21	ug/L		0.5	2
3/5/2007 9:55	Outfall D001 Grab	VOC-Water	Chloroform	11	ug/L		0.2	1
3/5/2007 9:55	Outfall D001 Grab	VOC-Water	Dibromochloromethane	40	ug/L		0.2	1
3/5/2007 10:15	Blank Grab	VOC-Water	Bromodichloromethane	0.2	ug/L	U	0.2	1
3/5/2007 10:15	Blank Grab	VOC-Water	Bromoform	0.5	ug/L	U	0.5	2
3/5/2007 10:15	Blank Grab	VOC-Water	Chloroform	0.2	ug/L	U	0.2	1
3/5/2007 10:15	Blank Grab	VOC-Water	Dibromochloromethane	0.2	ug/L	U	0.2	1
3/4/2007 14:06	Trip Blank	VOC-Water	Bromodichloromethane	0.2	ug/L	U	0.2	1
3/4/2007 14:06	Trip Blank	VOC-Water	Bromoform	0.5	ug/L	U	0.5	2
3/4/2007 14:06	Trip Blank	VOC-Water	Chloroform	0.2	ug/L	U	0.2	1
3/4/2007 14:06	Trip Blank	VOC-Water	Dibromochloromethane	0.2	ug/L	U	0.2	1

The Bioassay of South Cross Bayou Water Reclamation Facility effluent sampled on March 5, 7, and 9, 2007. NPDES #FL0040436.

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 4 0 4 3 6 11	12 0 7 0 3 0 5	18 **B**	19 **S**	20 1

Remarks

66

The Priority Pollutants Analysis of South Cross Bayou Water Reclamation Facility effluent sampled on March 5 and 6, 2007. NPDES #FL0040436.

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 4 0 4 3 6 11	12 0 7 0 3 0 5	18 **X**	19 **S**	20 1

Remarks

66

Biological Analyses of South Cross Bayou Water Reclamation Facility effluent sampled on March 5 and 6, 2007. NPDES #FL0040436.

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 4 0 4 3 6 11	12 0 7 0 3 0 5	18 **S**	19 **S**	20 1

Remarks

66