

Effluent Quality Assessment

City of Naples WWTRF

Collier County

NPDES #FL0026271

Sampled February 21, 2011

June 2011

Biology Section
Bureau of Laboratories
Division of Environmental Assessment and Restoration

Quality Manual No. 870346G
NELAC Certification No. E31780

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City of Naples Wastewater Treatment and Reuse Facility (WWTRF), 1400 3rd Avenue North, Naples, Collier County, Florida, 34102. NPDES# FL0026271. Effluent grab samples for biological and chemical analysis for this facility were collected on February 21, 2011, and effluent composite samples for chemical analysis were collected on February 20, 2011.

Introduction

City of Naples WWTRF is a Type 1 advanced wastewater treatment facility which uses the Bardenpho Process to treat domestic wastewater and provide reuse. (See Appendix F for detailed facility information provided by Alyssa Mork of FDEP South District.)

Methods

Samples were collected from the EFA-01 (effluent transfer pump station) and the EFF-02 (after chlorine contact chamber and before effluent transfer station) NPDES sampling points for Outfall D-002 by Alyssa Mork, Caitlyn Eck, and Russell Budell (FDEP South District) following DEP-SOP-001/01 FS 2400 Wastewater Sampling. All DEP SOPs are available on the web at: http://www.floridadep.org/labs/bars/sas/sop/index.htm.

See Appendix A for the completed chain of custody form.

The 96-hour acute screening toxicity tests and algal growth potential test were performed following internal DEP SOPs TA07_01, TA07_02, and TA08_01 through TA08_09. All internal DEP SOPs are available on the web at: http://www.floridadep.org/labs/cgi-bin/sop/biosop.asp.

Total residual chlorine (TRC) (1.09 Q mg/L) was detected in the bioassay sample (LIMS # 1331704) in the laboratory. An aliquot of this sample was dechlorinated by the addition of sodium thiosulfate (0.025 N) at a rate of 1.2 mL per liter of sample to neutralize the chlorine. Bioassays were performed on the dechlorinated aliquot in addition to the bioassays performed on the original sample. The same concentration of sodium thiosulfate was added to the dechlorinated test controls. The purpose of the dechlorinated test controls was to confirm that there was no adverse effect of adding sodium thiosulfate to the sample. There was no mortality in the dechlorinated controls of either test species.

After initial processing, the AGP sample did not need dechlorination.

The bioassay sample was aerated for 30 minutes at a rate of approximately 100 bubbles per minute to decrease the dissolved oxygen (DO) from 11.2 mg/L to 7.8 mg/L.

An aliquot of the AGP sample was salinity adjusted with artificial sea salts from an apparent salinity of 0.44 ppth to a salinity of approximately 7.2 ppth to meet the salinity requirement of the marine AGP test.

Results and Discussion

- **Toxicity Test Results**
  Tests were performed February 22 - 26, 2011.

Ceriodaphnia dubia 96-hour acute screening bioassay –	LC_{50} > 100%, 25%* mortality in 100% sample at 96 hours
Cyprinella leedsi 96-hour acute screening bioassay –	LC_{50} < 100%, 100%* mortality in 100% sample at 24 hours
Ceriodaphnia dubia 96-hour dechlorinated acute screening bioassay –	LC_{50} > 100%, 0%* mortality in 100% sample at 96 hours

Cyprinella leedsi 96-hour dechlorinated acute screening bioassay – LC_{50} > 100%, 5%* mortality in 100% sample at 96 hours

The non-dechlorinated bioassay sample was highly acutely toxic to the *C. leedsi* test organisms and was moderately acutely toxic to the *C. dubia* test organisms. The cause of toxicity was attributed to the total residual chlorine (TRC) in the sample. TRC concentrations as low as 0.028 mg/L have been found to be acutely toxic to some freshwater fish and invertebrates (EPA *Quality Criteria for Water* 1986, EPA 44015-86-001, 1986). The dechlorinated bioassay samples were not toxic to the test organisms.

*NOTE: In a 96-hour acute screening test of 100% effluent, mortality of <20% provides confidence that the effluent meets the acute toxicity criterion of Florida's Surface Water Quality Standards (Rule 62-302.500 (1) (a) 4, F.A.C.). Mortality between 20-50% indicates low to moderate levels of toxicity, and further action may be required. Mortality of >50% indicates that the effluent fails to meet the minimum requirement to discharge to waters of the state (Rule 62-4.244(3) (a), F.A.C.).

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 14.4 mg dry wt/L of the unicellular green alga, *Pseudokirchneriella subcapitata*, formerly known as *Selenastrum capricornutum*. Raschke and Schultz (1987) determined that AGP values above 5.0 mg dry weight/L represent a "problem" threshold for fresh receiving waters, implying nutrient enrichment. The analytical chemistry suggests that the effluent is nitrogen-limited. (Table 1a; Miller et. al. 1978).

  The AGP of the salinity adjusted aliquot of effluent was 8.0 mg dry wt/L of the saltwater species *Dunaliella tertiolecta* (Table 1b). Raschke and Schultz determined that AGP values above 10.0 mg dry weight/L represent a "problem" threshold for marine receiving waters, implying nutrient enrichment (personal communication, Marshall Faircloth, et. al. FDEP, with Ron Raschke USEPA Region 4 1987).

  See Table 1 for AGP results.

- **Chemistry Results**
  Total residual chlorine (TRC) (1.09 Q mg/L) was detected in the bioassay sample in the laboratory. The TRC concentration was 2.2 mg/L when measured in the field. Total ammonia was not detected in the bioassay sample in the laboratory. The total ammonia concentration in the composite sample collected and preserved for chemical analysis was 0.026 mg N/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was ≤ 0.02 mg/L.

  Aluminum, copper, nickel and zinc were detected in the effluent at levels that comply with Class III marine water quality criteria (62-302.530, F.A.C.). Arsenic, cadmium, chromium – III, lead, silver, chlorophyll *a,* and total suspended solids (TSS) were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL). The effluent's iron (1,610 µg/L) and TRC (2.2 mg/L) exceeded the Class III marine water criterion and/or permit conditions. Aluminum and calcium were also detected in the field blanks.

  Enterococci and fecal coliforms were not detected in the chlorinated effluent.

  See Table 2 for results of analytes detected in the effluent corresponding limits, and qualifier codes. See Appendix E for a complete list of chemical analyses performed. See Appendix B for bioassay lab equipment.

Conclusion

The effluent sample collected from the EFA-01 NPDES sampling point for Outfall D-002 for this facility on February 21, 2011, was acutely toxic to the *Ceriodaphnia dubia* and *Cyprinella leedsi* test organisms during the 96-hour acute screening bioassays; however, the dechlorinated aliquot of effluent was not acutely toxic to either species. The cause of toxicity was attributed to the effluent's total residual chlorine. The effluent AGP result was greater than the "problem" threshold for fresh receiving waters suggesting that nutrient enrichment may be an issue, but was not greater than the problem threshold for marine waters. Since the receiving water for this facility is marine (Class III marine Gordon River), the marine threshold would apply. Effluent water quality samples collected on February 21, 2011, exceeded Class III marine water quality standards for iron and permit limits (EFA-01) for total residual chlorine after dechlorination.

Literature Cited

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

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

Table 1a. Measured and predicted algal growth potential (AGP; mg dry weight/L) for total soluble inorganic nitrogen (TSIN) and total nitrogen (TN) limitation of the freshwater species *Pseudokirchneriella subcapitata* and ratios of nitrogen to phosphorus for samples collected from the City of Naples WWTRF on February 21, 2011.

City of Naples WWTRF NPDES# FL0026271				
Location	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (TN) ± 20%	Total N:P ratio
Effluent	14.4	22.6 ± 4.5	59.7 ± 11.9	8.7

Table 1b. Measured algal growth potential (AGP; mg dry weight/L) of the saltwater species *Dunaliella tertiolecta* and ratios of nitrogen to phosphorus for samples collected from the City of Naples WWTRF on February 21, 2011.

City of Naples WWTRF NPDES# FL0026271		
Location	AGP (measured)	Total N:P ratio
Effluent	8.0 *	8.7

* - sample salinity adjusted to 7.2 ppt

Table 2. Effluent limits, Class III Criteria for predominantly marine waters and chemical data for samples collected from the City of Naples WWTRF on February 20 - 21, 2011.

City of Naples WWTRF NPDES # FL0026271	Class III Criteria	Effluent Limits	Effluent	
Metals (µg/L unless otherwise noted)				
Aluminum	≤ 1500	-	127	F
Arsenic	≤ 50	-	0.31	I
Cadmium	≤ 8.8	-	0.061	I
Calcium (mg/L)	-	-	47.3	F
Chromium-III	-	-	0.47	I
Copper	≤ 3.7	-	2.21	
Iron	≤ 300	-	1610	
Lead	≤ 8.5	-	0.29	I
Magnesium (mg/L)	-	-	12.9	
Nickel	≤ 8.3	-	1.4	
Selenium	≤ 71	-	0.2	U
Silver	≤ 2.3	-	0.025	I
Zinc	≤ 86	-	47	
Nutrients (mg/L)				
Total Phosphorus	-	1.6 p	0.18	
Total Ammonia	-	-	0.026	
Un-ionized Ammonia	-	-	≤ 0.02	c
Nitrate and Nitrite	-	-	0.57	
Total Kjeldahl Nitrogen	-	-	1.0	
Organic Nitrogen	-	-	0.974	c
Total Nitrogen	-	6.0 p	1.57	c
General Physical and Chemical Parameters				
Dissolved Oxygen (mg/L)	≥ 4.0	-	6.8	
pH (SU)	6.5 - 8.5	-	6.8	
Conductivity (µmhos/cm)	-	-	1052	£
Temperature (°C)	-	-	25.4	
Total Residual Chlorine (mg/L)	≤ 0.01	≤ 0.01 s	2.2	
Oil and Grease (mg/L)	≤ 5.0		1.4	U
Chlorophyll *a* (µg/L) - Corrected	-	-	0.61	I
Phaeophytin (µg/L)	-	-	0.4	U
Total Suspended Solids (mg/L)	-	-	4	I
Flow (MGD)	-	10.0 a	0.84	a*
Hardness (mg $CaCO_3$)	-	-	171.23	c
Microbiology (Number of colony forming units/100ml)				
Enterococci (mpn/100 ml)		-	1	U¥
Fecal Coliforms	≤ 400s #	-	1	U¥

Value exceeds the Class III Water Quality Criteria or permit limits

a - Annual average
c - Value is calculated
p - 24 hour flow proportioned composite
s - Single sample
A - Value reported is the mean of two or more determinations
F - Analyte was detected in both sample and field blank
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
U - Material analyzed for but not detected; value reported is the method detection limit
£ - measurement taken in the FDEP laboratory
* - Results measured from 3/10 to 3/11
# - If 10 or fewer samples are taken within a month, the single sample limit is 400 CFU (62-302.530(6), F.A.C.)
¥ - Analysis performed by Sanders Laboratories, Ft. Myers

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2011-02-21-14
City of Naples FYI3

Requester: Cari Butler
Field Report Prepared By: Alyssa Mulk

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

Collected By: Alyssa Mulk, Caitie Eck
Sampling Agency: FDEP - South D.
Rugged Buddy
Send Final Report To: Keith Kleinmann
Alyssa Mark

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	City of Naples WWTP - Blank	☐ Comp ☒ Grab Date 2-21-11 Time 12:50 Eastern Central	Date Time Eastern Central	
	Field ID: CON22111-01	Tot Res Chlorine (mg/L):	Diss Oxygen (mg/L):	Storet Station Number:
	Matrix (include type e.g. Salt, Fresh, etc): Wastewater-Blank	Temp (C):	pH:	Sample Depth ☐ m ☐ ft; ☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm); NPDES Number:
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Comments:	

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	City of Naples WWTP - Comp	☐ Comp ☐ Grab Date 2-19-11 Time 15:00 Central	Date 2-22-11 Time 13:00 Central	
	Field ID: CON22111-02	Tot Res Chlorine (mg/L): 2.2	Diss Oxygen (mg/L): 12.08	Storet Station Number:
	Matrix (include type e.g. Salt, Fresh, etc): Fresh-Wastewater	Temp (C): 8.6	pH: 7.34	Sample Depth ☐ m ☒ ft: .5; ☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm): .46; NPDES Number:
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Comments:	

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	City of Naples WWTP Grab	☐ Comp ☐ Grab Date 2-21-11 Time 10:50 Eastern Central	Date Time Eastern Central	
	Field ID: CON22111-03	Tot Res Chlorine (mg/L): 2.2	Diss Oxygen (mg/L): 6.84	Storet Station Number:
	Matrix (include type e.g. Salt, Fresh, etc): Wastewater	Temp (C): 25.36	pH: 6.75	Sample Depth ☐ m ☒ ft: 2; ☒ Salinity (PPTh) ☐ Sp Conductance (umho/cm): .48; NPDES Number:
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Comments:	

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	City of Naples WWTP Fecal	☐ Comp ☐ Grab Date 2-21-11 Time 10:50 Eastern Central	Date Time Eastern Central	
	Field ID: CON22111-04	Tot Res Chlorine (mg/L): 2.2	Diss Oxygen (mg/L): 6.78	Storet Station Number:
	Matrix (include type e.g. Salt, Fresh, etc): Wastewater	Temp (C): 25.49	pH: 7.03	Sample Depth ☐ m ☒ ft: .5; ☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm); NPDES Number:
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Comments:	

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	2-21-11 17:00	FEDEX			2.5.0.55-93 B Plummer	10:16, 2-22-11	CRC	2/22/11 930A 2-23-11 9:16

* Shaded Areas for Lab use only

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

1 Chl
3/23/11 0942
08

*Samples received on 2-23-11
Cooler was a day late.*

FDEP Biology Laboratory - Acute Bioassay Bench Sheets

Facility: City of Naples

Address: 1406 3rd Avenue N., Naples, FL 34102

City: Naples County: Collier

Contact/District: Alyssa Mark / South

NPDES Permit #: FL 0026271

LIMS Job #: TLH-2011-02-22-17 LIMS Sample #: 1331704

Lims Data Entry: 3/2/11 MF Data Entry Verification: 3/3/11 KC

Sample Collection: Date: 2.21.11 Time: 1030

Hold Time Start: Date: 2.21.11 Time: 1030

Comments: An aliquot of sample was dechlorinated by the addition of 1.2 ~~MF~~ mL of 0.025N Sodium Thiosulfate per Liter of sample. Control water for each test was also treated with the same proportion of sodium thiosulfate for the dechlorinated contacts MF 3-2-11

(A) Field Chlorine = 2.2 mg/L measured by Alyssa Mark -KC

Initial sample handling:

Instructions: Check yes or no. If yes is checked, complete blanks

PH adjustment: ☐ yes ☑ no Initial pH: ____ NaOH ____ N HCl ____ N ____ Drops mL Final pH: ____

Aeration: ☑ yes ☐ no Initial DO: 11.2 mg/L Final DO: 7.8 mg/L Duration: 30 minutes Rate: ~100 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 1.2 mL of 0.025N Sodium Thiosulfate per liter of sample. Final TRC: 0.05

Sample Validation:

Instructions: Check yes or no. Fill in temperatures.

Temperature: Shipped ≤ 6°C ☑ Yes ☐ No — IF Hand Delivered: Cooling ☐ Yes ☐ No (received ____°C collected ____°C)

Holding Time: ≤ 36 Hours ☑ Yes ☐ No (Composite-end of collection; grab-when collected; 4 in 24 - time last sample collected)

Investigators' Signatures:	Initials:
Kara Cox	KC
Marshall Faircloth	MF
Jana Davis	JD
Brice Aberle	BA
REVIEWER: Liz Miller	

Diluent/Control Batch#:	2.15.11	2.22.11							
Water Quality Parameters	20% DMW	Well Water	Moderately Hard Water	Salt Water ASW NSW Test 1	Salt Water ASW NSW Test 2	Other:	Original Sample	Measured by	Verified by
Field Total Residual Cl_2 (mg/L):	N/A	N/A	N/A	N/A	N/A	N/A	~~Not measured~~ (A)		KC
Lab Total Residual Cl_2 (mg/L):	<0.03	<0.03					1.09	KC	KC
Alkalinity (mg/L as $CaCO_3$):	86	145					79	KC	KC
Hardness (mg/L as $CaCO_3$):	85	139					169	KC	KC
Total Ammonia (mg/L as N):	<0.017	<0.017					<0.017	BA	KC
Conductivity: ☑ µmhos ☐ mmhos	175	279					1052	MF	KC
Salinity (ppth):	—	—					—	—	—

V 1.8 1/13/10

Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample # 1331704 SOP#: TA 07-01 Test # 1 of 2

Test Species:
Batch #: 2.22.11 Age: 24 hours
☑ *Ceriodaphnia dubia*
☐ *Cyprinella leedsi*
☐ *Pimephales promelas*
☐ *Menidia beryllina*
☐ *Americamysis bahia*
☐ Other:

Test Validation
Control Survival ≥ 90%: ☑ Yes ☐ No
Temperature Range ≤ 3° C: ☑ Yes ☐ No

Diluent (Batch # 2-15-11)
☐ ASW ☑ 20% DMW
☐ MHW ☐ Well

Test Type: ☑ Acute ☑ Definitive Screen ☐ Static ☑ Static Renewal ☐ Flow-Through

Test Duration: ☐ 48 hr ☑ 96 hr ☐ ___hr

Test Started: Date 2-22-11 Time 0945

Test Ended: Date 2-26-11 Time 1200

Chamber Size 30 ml
Test Volume: 20 ml

Concentration	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
CTRL.	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
100%.	A	A	5	5	5	5	5	5
	B	B	5	5	4 1D	4	4	4
	C	C	5	3 2D	1 2D	1	1	1
	D	D	5	5	5	5	5	5
dechlorinated CTRL.	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
dechlorinated 100%.	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
Checked or Verified by:			KC	KC	MF	MF	MF	MF

Food
☑ YCT Batch# 11.17.10
☑ P. subcapitata Batch# 10.22.10
☐ Artemia Lot#_____

Feeding and Artemia Batch #
☑ 0 hr____ ☑ Prior to Test
☐ 24 hr____
☑ 48 hr____ ☑ Prior to Renewal
☐ 72 hr____

Temperature Range (°C)
Incubator # 2
min. 26.4 max. 27.3 mean —

Incubator #___
min.____max.____mean____

Waterbath #___
min.____max.____mean____

Room B246
min.____max.____mean____

Light intensity (ft. candles): 50-100

Photoperiod (hours): 16 light, 8 dark

Loaded/ Verified by: KC / MF
m = missing, d = dead, BR/AR Before/ After Renewal

Test Results:
Screening Tests: Report LC50 as >100%, =100%, or <100%.
% mortality in 100% sample: 25% LC50: >100%
Calculated LC50 (Definitive) 95% CI_____ Method_____

Comments: 0% mortality in the 100% dechlorinated sample - LC50 = >100% MF 3/2/11

V. 2.5 1-13-10

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

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Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample # 1331704 **SOP#: TA 07** 02 **Test #** 2 **of** 2

Test Species:
Batch #: 2.22.11 Age: 13days
- ☐ *Ceriodaphnia dubia*
- ☑ *Cyprinella leedsi*
- ☐ *Pimephales promelas*
- ☐ *Menidia beryllina*
- ☐ *Americamysis bahia*
- ☐ Other: ____

Test Validation
Control Survival ≥ 90%: ☑ Yes ☐ No
Temperature Range ≤ 3° C: ☑ Yes ☐ No

Diluent (Batch # 2.22.11**)**
☐ ASW ☐ 20% DMW
☐ MHW ☑ Well

Test Type: ☑ Acute ☐ Definitive
☐ Static ☑ Static Renewal ☐ Flow-Through

Test Duration:
☐ 48 hr
☑ 96 hr
☐ __hr

Chamber Size 1000 ml
Test Volume: 400 ml

Test Started: Date 2-22-11 Time 1300

Test Ended: Date 2-26-11 Time 1200

Concentration	Replicate	Chamber #	0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Ctrl.	A	A1	10	10	10	10	10	10
	B	A2	10	10	10	10	10	10
	(A) ~~C~~	~~A3~~ JD	~~10~~					
	~~D~~	~~A4~~	~~10~~					
100%	A	~~A5~~ A3	10	0 100	–	–	–	–
	B	~~A6~~ 4	10	0 100	–	–	–	–
	~~C~~	~~A7~~	~~10~~					
	~~D~~	~~A8~~	~~10~~					
Dechlorinated Ctrl.	A	~~A9~~ 5	10	10	10	10	10	10
	B	~~A10~~ 6	10	10	10	10	10	10
	~~C~~	~~A11~~	~~10~~					
	~~D~~	~~A12~~	~~10~~					
Dechlorinated 100%	A	A7	10	10	10	10	10	10
	B	A8	10	9 10	9	9	9	9
	~~C~~		~~10~~					
	~~D~~		~~10~~					
Checked or Verified by:			KC	KO	JD	JD	MF	MF

Food
- ☐ YCT Batch# ____
- ☐ P. subcapitata Batch# ____
- ☑ Artemia Lot# 23613

Feeding and Artemia Batch #
- ☑ 0 hr 3-4-11 ☑ Prior to Test
- ☐ 24 hr ____
- ☑ 48 hr 3-6-11 ☑ Prior to Renewal
- ☐ 72 hr ____

Temperature Range (°C)

Incubator # 2
min. 26.4 max. 27.8 mean –

Incubator # ___
min. ____ max. ____ mean ____

Waterbath # ___
min. ____ max. ____ mean ____

Room B246
min. ____ max. ____ mean ____

Light Intensity (ft. candles): 50-100

Photoperiod (hours): 16 light, 8 dark

Loaded/ Verified by: JD / KC
m = missing, d = dead, BR/AR Before/ After Renewal

Test Results:
Screening Tests: Report LC50 as >100%, =100%, or <100%.
% mortality in 100% sample: 100% LC50: < 100%
Calculated LC50 (Definitive) 95% CI ____ Method ____

Comments: (A) Only two reps used – KC –
MF Ø 5% mortality in the dechlorinated effluent at 96 hrs. LC50 >100% dechlorinated sample MF 3-2-11

V. 2.5 1-13-10

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

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Appendix B. (continued)

LIMS Sample # 1331704 — **FDEP Biology Laboratory - Bioassay Parameter Sheet** — Test # 1 of 2

Test Species:
☑ *Ceriodaphnia dubia* ☐ *Pimephales promelas* ☐ *Americamysis bahia*
☐ *Cyprinella leedsi* ☐ *Menidia beryllina* ☐ Other:_____

Test aerated: (if DO is < 4.0 mg/L) ☐ Yes ☒ No

Concentration	Replicate	Test Hour	pH (SU)	Temperature (°C)	Dissolved Oxygen (mg/L)	Conductivity ☑ µmhos ☐ mmhos	Salinity* (ppth)
CTRL	m	0 hr	7.9	25.0	7.2	175	–
	–	24 hr	–	–	–	–	
	A	48 hr BR	8.1	24.2	8.3	204	
	m	48 hr AR	8.2	24.7	8.0	185	
	–	72 hr	–	–	–	–	
	A	96 hr	8.3	24.3	7.9	190	
100%	m	0 hr	7.8	25.7	7.4	1052	
	–	24 hr	–	–	–	–	
	A	48 hr BR	8.0	24.3	8.1	1150	
	m	48 hr AR	7.7	24.8	8.3	1039	
	–	72 hr	–	–	–	–	
	A	96 hr	8.3	24.1	8.3	1090	
Dechlorinated CTRL	m	0 hr	8.0	24.9	7.2	185	
	–	24 hr	–	–	–	–	
	A	48 hr BR	8.1	24.2	8.2	203	
	m	48 hr AR	8.2	25.4	8.0	193	
	–	72 hr	–	–	–	–	
	A	96 hr	8.3	24.2	8.2	200	
Dechlorinated 100%	m	0 hr	7.9	25.7	7.4	1040	
	–	24 hr	–	–	–	–	
	A	48 hr BR	8.0	24.2	8.1	1188	
	m	48 hr AR	7.7	25.2	8.2	1025	
	–	72 hr	–	–	–	–	
	A	96 hr	8.2	24.3	8.3	1110	
		0 hr					
		24 hr					
		48 hr BR					
		48 hr AR					
		72 hr					
		96 hr					
		0 hr					
		24 hr					
		48 hr BR					
		48 hr AR					
		72 hr					
		96 hr					
		0 hr					
		24 hr					
		48 hr BR					
		48 hr AR					
		72 hr					
		96 hr					
		0 hr					
		24 hr					
		48 hr BR					
		48 hr AR					
		72 hr					
		96 hr					

*Measure/ record salinity for marine tests

Comments:

Measured By:
0 hr: MF
24 hr: –
48 hr BR: MF
48 hr AR: MF
72 hr: –
96 hr: MF

Page 0000 4

V. 2.3 1-13-10

Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Parameter Sheet

LIMS Sample # 1331704 Test # 2 of 2

Test Species:

☐ *Ceriodaphnia dubia* ☐ *Pimephales promelas* ☐ *Americamysis bahia*
☑ *Cyprinella leedsi* ☐ *Menidia beryllina* ☐ Other:_____

Test aerated: (if DO is < 4.0 mg/L) ☐ Yes ☒ No

Concentration	Replicate	Test Hour	pH (SU)	Temperature (°C)	Dissolved Oxygen (mg/L)	Conductivity ☑ µmhos ☐ mmhos	Salinity* (ppth)
Ctrl.	A	0 hr	7.7	24.6	7.8	279	
	B	24 hr	8.0	25.5	7.2	294	
	A	48 hr BR	8.2	25.6	7.2	297	
	A	48 hr AR	7.8	24.5	7.7	295	
	B	72 hr	8.0	25.6	7.4	285	
	A	96 hr	8.2	25.0	6.8	295	
100%	A	0 hr	7.8	25.6	7.8	1041	
	B	24 hr	7.5	25.4	5.5	1038	
		48 hr BR					
		48 hr AR					
		72 hr		MF unable to read			
		96 hr		~~25.2~~			
Dechlorinated Ctrl.	A	0 hr	7.7	24.7	7.8	292	
	B	24 hr	8.0	25.7	7.8	314	
	A	48 hr BR	8.2	25.7	6.5	311	
	A	48 hr AR	7.8	24.3	7.7	288	
	B	72 hr	8.0	25.6	7.4	301	
	A	96 hr	8.2	25.2		298	
Dechlorinated 100%	A	0 hr	7.8	25.5	7.9	1040	
	B	24 hr	7.8	25.8	7.2	1054	
	A	48 hr BR	7.8	25.6	6.5	1064	
	A	48 hr AR	7.5	24.7	7.8	1028	
	B	72 hr	7.8	25.6	6.9	1043	
	A	96 hr	7.9	25.1	6.2	1080	
		0 hr					
		24 hr					
		48 hr BR					
		48 hr AR					
		72 hr					
		96 hr					
		0 hr					
		24 hr					
		48 hr BR					
		48 hr AR					
		72 hr					
		96 hr					
		~~0 hr~~					
		24 hr					
		48 hr BR					
		48 hr AR					
		72 hr					
		96 hr					
		0 hr					
		24 hr					
		48 hr BR					
		48 hr AR					
		72 hr					
		96 hr					

*Measure/ record salinity for marine tests

Comments:

Measured By:
0 hr: MF
24 hr: KC
48 hr BR: JS/KC
48 hr AR: KC/JS
72 hr: MF
96 hr: MF

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V. 2.3 1-13-10

Appendix B. (continued)

Test ID: City of Naples Dates: 2/22-26/2011

METER / DEVICE	ID	SOP	Parameter	Method	v used
YSI Model 58 Dissolved Oxygen Meter	90H018262	TA06_04	Dissolved Oxygen	SM 4500 O G	✓
YSI DO Probe	5905	TA06_04	Dissolved Oxygen	SM 4500 O G	✓
Accumet AR-10 pH Meter	93312105	TA06_23	pH	SM 4500 H+	✓
Mettler-Toledo SevenMulti Conductivity Meter	SN 1225117049 Probe H04257	TA06_25	Conductivity Salinity	SM 2510 B SM 2520 B	✓
Denver Model 225 ISE with ammonia probe	SN K01377	TA06_17	Ammonia	SM 4500 NH3 F	
Traceable Thermometer	#1-SN1016886412 #2-SN221295527 #3-SN240116020 #4-SN80361795 #5 SN61990624	TA06_05	Temperature	SM-2530B modified DEP SOP-001/01 FT1400	✓ #5
Hach Pocket Colorimeter II	05050C026378	TA06_22	Total Residual Chlorine	EPA 330.5 SM 4500 CL G	✓
Alkalinity (Hach Kit)	No SN	TA06_08	Alkalinity	SM 2320 B	✓
Hardness (Hach Kit)	No SN	TA06_09	Hardness	SM 2340 C	✓
OHAUS Balance 250D	1125481084	TA06_21 TA06_27	Weight	-	
S-Weights	BIO-S-WEIGHTS-01	NA	Balance check	-	

SM-2530B modified to allow use of electronic and non-mercury filled thermometers.

Insert other device information in blank spaces(if used). Test ID = Facility or SRTs (acute SRT--Chronic SRT)

Initialed by M. Faircloth 3/3/11

V 1.1 9/21/10 MF/jd

9 0000

Appendix C. SRT Bench Sheets and Statistical Analysis

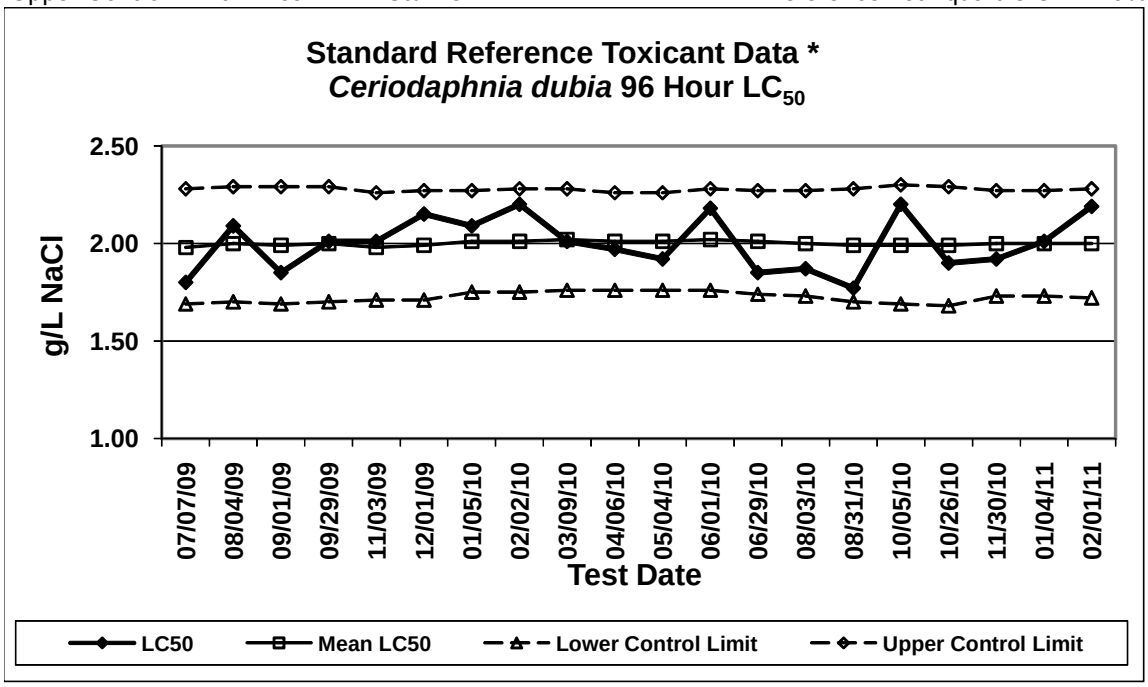
Florida Department of Environmental Protection
Bureau of Laboratories

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
07/07/09	1.80	1.98	0.15	1.69	2.28
08/04/09	2.09	2.00	0.15	1.70	2.29
09/01/09	1.85	1.99	0.15	1.69	2.29
09/29/09	2.01	2.00	0.15	1.70	2.29
11/03/09	2.01	1.98	0.14	1.71	2.26
12/01/09	2.15	1.99	0.14	1.71	2.27
01/05/10	2.09	2.01	0.13	1.75	2.27
02/02/10	2.20	2.01	0.13	1.75	2.28
03/09/10	2.01	2.02	0.13	1.76	2.28
04/06/10	1.97	2.01	0.12	1.76	2.26
05/04/10	1.92	2.01	0.12	1.76	2.26
06/01/10	2.18	2.02	0.13	1.76	2.28
06/29/10	1.85	2.01	0.13	1.74	2.27
08/03/10	1.87	2.00	0.14	1.73	2.27
08/31/10	1.77	1.99	0.14	1.70	2.28
10/05/10	2.20	1.99	0.15	1.69	2.30
10/26/10	1.90	1.99	0.15	1.68	2.29
11/30/10	1.92	2.00	0.14	1.73	2.27
01/04/11	2.01	2.00	0.14	1.73	2.27
02/01/11	2.19	2.00	0.14	1.72	2.28

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

CV = 6.94
EPA reference 75th quartile CV = 29%



Appendix C. (continued)

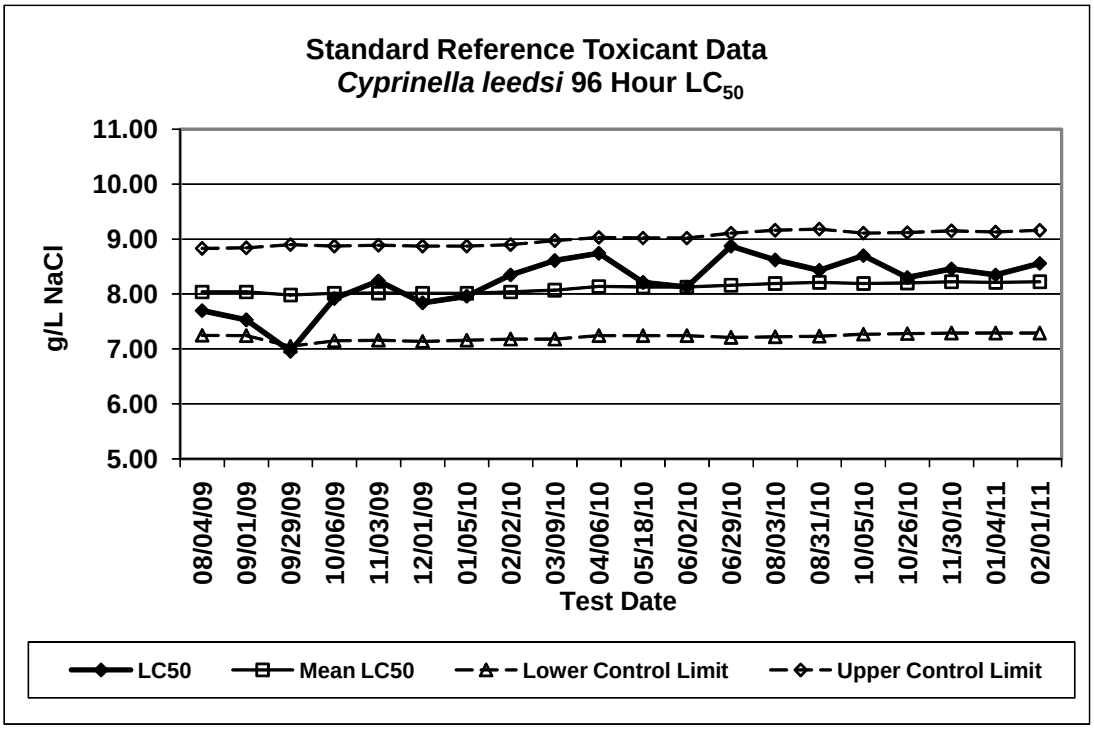
Florida Department of Environmental Protection
Bureau of Laboratories

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

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
08/04/09	7.70	8.04	0.40	7.25	8.83
09/01/09	7.53	8.04	0.40	7.24	8.84
09/29/09	6.96	7.98	0.46	7.05	8.90
10/06/09	7.92	8.01	0.43	7.15	8.87
11/03/09	8.24	8.02	0.43	7.16	8.89
12/01/09	7.84	8.01	0.43	7.14	8.87
01/05/10	7.96	8.01	0.43	7.16	8.87
02/02/10	8.35	8.04	0.43	7.18	8.90
03/09/10	8.61	8.07	0.45	7.18	8.97
04/06/10	8.74	8.14	0.45	7.24	9.03
05/18/10	8.21	8.13	0.45	7.24	9.02
06/02/10	8.13	8.13	0.45	7.24	9.02
06/29/10	8.87	8.16	0.47	7.21	9.11
08/03/10	8.62	8.19	0.48	7.22	9.16
08/31/10	8.43	8.21	0.49	7.23	9.18
10/05/10	8.70	8.19	0.46	7.27	9.11
10/26/10	8.30	8.20	0.46	7.28	9.12
11/30/10	8.46	8.22	0.46	7.29	9.15
01/04/11	8.35	8.21	0.46	7.29	9.13
02/01/11	8.56	8.22	0.47	7.29	9.16

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

CV = 5.67
EPA reference 75th quartile CV = 19%



Appendix C. (continued)

FDEP Biology Laboratory - Acute SRT Bench Sheet

Method from EPA-821-R-02-012 except *H. azteca*

Test Organism: (check one)
☐ *Americamysis bahia* Method 2007.0 TA07.03 ☐ *Menidia Beryllina* Method 2006.0 TA07.04 ☐ *Hyalella azteca* Method 100.1 EPA-600-R-99-064
☒ *Ceriodaphnia dubia* Method 2002.0 TA07.01 ☐ *Cyprinella leedsi* Method 2000.0 TA07.02 ☐ *Pimephales promelas* Method 2000.0 TA07.02

Test Type: ☐ non-renewal ☑ renewal

Test Page 1 of 2

Diluent/ Batch #: DMW 11.29.11
Toxicant/ Batch#: NaCl 11.31.11
Organism Batch: 2.1.11 Age: <24hr
Test Beginning: Date: 2.1.11 Time: 1300
Test Ending: Date: 2.5.11 Time: 1020

Water Quality Parameters:	Diluent	SOP	Initials
Total Residual Cl_2 (mg/L):	<0.03	TA06_22	KC
Alkalinity (mg/L as $CaCO_3$):	83	TA06_08	KC
Hardness (mg.L as $CaCO_3$):	87	TA06_09	KC
Total Ammonia (mg/L as N):	<0.017	TA06_17	MF
Conductivity: µmhos (mmhos)	0.173	TA06_25	BA
Salinity (ppth):	–	TA06_25	–

Food:	Batch
☑ YCT	11.17.10
☑ *P. subcapitata*	10.22.10
☐ Artemia Lot #	

Artemia Batch:
0 hr:
24 hr:
48 hr:
72 hr:

Chamber size: 30 mL
Test volume: 20 mL per replicate

Concentrations prepared by: BA
Temperature Range °C (if used)
Test incubated in: Incubator # 2 Waterbath # ____ Incubator # 2 min 26.3 max 28.1 mean ____
Light Intensity: 50-100 Ft. candles Waterbath # ___ min ____ max ____ mean ____
Photoperiod: 16 hours Light / 8 hours dark Room B246 min 25.1 max 25.3 mean ____

Feeding: √as needed
☑ Before test
☐ 0 hr
☐ 24 hr
☑ 48 hr
☐ 72 hr

all species 2 hrs prior to test
mysids daily
all species except *H. azteca* 2 hr prior to renewal
H. azteca 0 hr and 48 hr

Concentration µg/L mg/L g/L	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
1.5	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
2.0	A	A	5	5	5	5	5	3 2D
	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
2.5	A	A	5	5	2 3D	2	2	1 1D
	B	B	5	5	2 3D	2	1 1D	0 1D
	C	C	5	5	2 2D	2	0 2D	–
	D	D	5	5	3 2D	3	3	1 2D
3.0	A	A	5	4 1D	0 1D	–	–	–
	B	B	5	4 1D	1 3D	1	0 1D	–
	C	C	5	5	0 CD	–	–	–
	D	D	5	5	0 CD	–	–	–
4.0	A	A	5	0 5D	–	–	–	–
	B	B	5	0 5D	–	–	–	–
	C	C	5	0 5D	–	–	–	–
	D	D	5	0 5D	–	–	–	–
Organisms loaded by: BA		Checked by:	BA	BA	BA	BA	BA	MF

Loading Verified by: KC AR = after renewal
m = missing d = dead BR = before renewal hr = hour

H. azteca		
0 hr	Alk	Hrd
Well		
100%		
96 hr	Alk	Hrd
Well		
100%		

Investigators' Signatures
Bruce Nuckles
Tina Cox
Marshall Faircloth
James Daniels
Reviewer: Liz Miller

Comments:

Method: TSK

Statistics: LC50	95% confidence intervals Lower	Upper
48 hour: 2.48	2.36	2.61
96 hour: 2.19	2.08	2.32

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Appendix C. (continued)

FDEP Biology Laboratory - Acute SRT Bench Sheet
0-96 hour parameters

Methods from EPA-821-R-02-012 except *H. azteca*

Test Page 2 of 2

Test Organism: (check one)
- ☐ *Americamysis bahia* Method 2007.0 TA07.03
- ☐ *Menidia Beryllina* Method 2006.0 TA07.04
- ☐ *Hyalella azteca* Method 100.1 EPA-600-R-99-064
- ☒ *Ceriodaphnia dubia* Method 2002.0 TA07.01
- ☐ *Cyprinella leedsi* Method 2000.0 TA07.02
- ☐ *Pimephales promelas* Method 2000.0 TA07.02

Test Beginning: Date: 2-1-11 Time: 13:00
Test Ending: Date: 2-5-11 Time: 1020

Test Type: ☐ non-renewal ☑ renewal

hr = hour AR = after renewal BR = before renewal

Concentration µg/L mg/L@/L	Replicate	Test Hour	pH (SU)	Temperature (°C)	Dissolved Oxygen (mg/L)	Conductivity ☐ µmhos ☑ mmhos	Salinity (ppth)
Control	M	0 hr	7.9	24.0	6.9	0.173	
	—	24 hr	—	—	BA —	—	
	A	48 hr BR	7.8	24.0	6.3 ~~7.8~~	0.191	
	M	48 hr AR	7.8	24.2	7.3	0.180	
	—	72 hr	—	—	—	—	
	A	96 hr	8.0	25.1	7.7	0.190	
1.5	M	0 hr	7.9	24.0	7.1	2.94	
	—	24 hr	—	—	—	—	
	A	48 hr BR	7.9	24.0	6.5	3.06	
	M	48 hr AR	7.8	24.2	7.3	2.91	
	—	72 hr	—	—	—	—	
	A	96 hr	8.0	25.1	7.6	2.96	
2.0	M	0 hr	8.0	24.0	6.9	~~4.67~~ 3.89	BA
	—	24 hr	—	—	—	—	
	A	48 hr BR	7.9	24.0	6.5	4.07	
	M	48 hr AR	7.9	24.3	7.3	3.77	
	—	72 hr	—	—	—	—	
	A	96 hr	8.0	25.2	7.8	3.84	
2.5	M	0 hr	8.0	24.0	7.0	4.67	
	—	24 hr	—	—	—	—	
	A	48 hr BR	7.9	24.0	6.8	4.84	
	M	48 hr AR	7.9	24.2	7.3	4.73	
	—	72 hr	—	—	—	—	
	A	96 hr	8.0	25.0	8.0	4.91	
3.0	M	0 hr	8.0	24.0	7.1	5.53	
	—	24 hr	—	—	—	—	
	A	48 hr BR	8.0	24.0	7.1	5.87	
	M	48 hr AR	8.0	24.1	7.4	5.13	
	B	72 hr	7.7	24.0	6.9	5.45	
	—	96 hr	—	—	—	—	
4.0	M	0 hr	8.0	24.0	6.7	7.21	
	A	24 hr	7.8	24.0	7.0	7.20	
	—	48 hr BR	—	—	—	—	
	—	48 hr AR	—	—	—	—	
	—	72 hr	—	—	—	—	
	—	96 hr	—	—	—	—	

Investigators Signatures
Bue
Kara
Marshall Faircloth
James Daniel

Reviewed By: Liz Miller

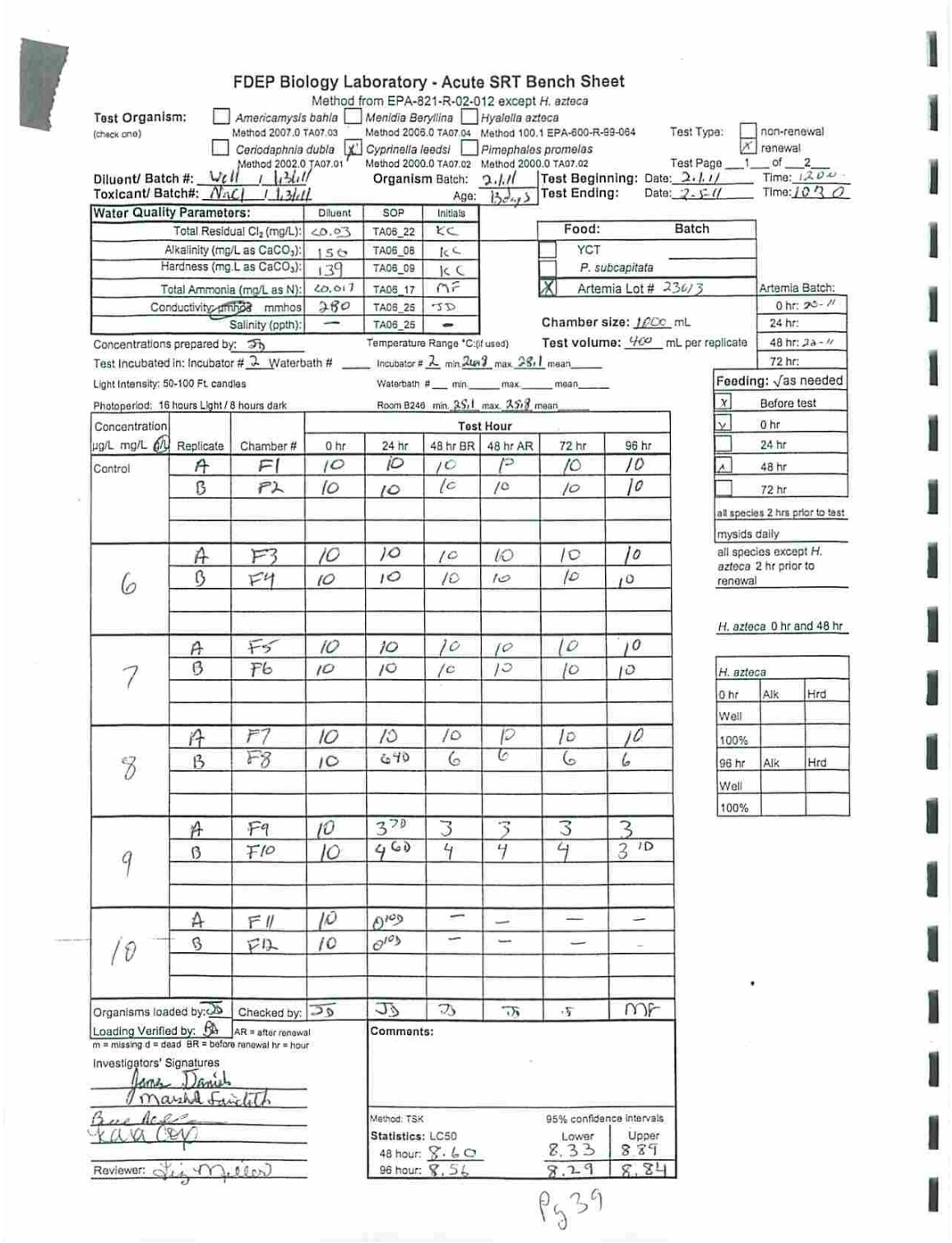
Measured by:
0 hr: BA
24 hr: BA
48 hr BR: BA
48 hr AR: BA
72 hr: BA
96 hr: BA

Measure/record salinity for marine tests

Comments: Thermometers used 0-96 hr - EC #5

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Appendix C. (continued)



FDEP Biology Laboratory - Acute SRT Bench Sheet

Method from EPA-821-R-02-012 except *H. azteca*

Test Organism: (check one)
- ☐ *Americamysis bahia* Method 2007.0 TA07.03
- ☐ *Menidia Beryllina* Method 2006.0 TA07.04
- ☐ *Hyalella azteca* Method 100.1 EPA-600-R-99-064
- ☐ *Ceriodaphnia dubia* Method 2002.0 TA07.01
- ☒ *Cyprinella leedsi* Method 2000.0 TA07.02
- ☐ *Pimephales promelas* Method 2000.0 TA07.02

Test Type: ☐ non-renewal ☒ renewal

Test Page 1 of 2

Diluent/ Batch #: Well / 1.13.11

Toxicant/ Batch#: NaCl / 1.13.11

Organism Batch: 2.1.11 Age: 13d, 9h

Test Beginning: Date: 2.1.11 Time: 1200

Test Ending: Date: 2.5.11 Time: 1030

Water Quality Parameters:	Diluent	SOP	Initials
Total Residual Cl_2 (mg/L):	<0.03	TA06_22	KC
Alkalinity (mg/L as $CaCO_3$):	150	TA06_08	KC
Hardness (mg.L as $CaCO_3$):	139	TA06_09	KC
Total Ammonia (mg/L as N):	<0.017	TA06_17	MF
Conductivity ~~umhos~~ mmhos	280	TA06_25	SD
Salinity (ppth):	—	TA06_25	—

Food:	Batch
☐ YCT	
☐ *P. subcapitata*	
☒ Artemia Lot #	23613

Artemia Batch:
- 0 hr: 2a-11
- 24 hr:
- 48 hr: 2a-11
- 72 hr:

Chamber size: 1000 mL

Test volume: 400 mL per replicate

Concentrations prepared by: SD

Test Incubated in: Incubator # 2 Waterbath # ____

Light Intensity: 50-100 Ft. candles

Photoperiod: 16 hours Light / 8 hours dark

Temperature Range °C:(if used)

Incubator # 2 min. 24.9 max. 28.1 mean ____

Waterbath # ___ min. ____ max. ____ mean ____

Room B246 min. 25.1 max. 25.8 mean ____

Feeding: √as needed

☒	Before test
☒	0 hr
☐	24 hr
☒	48 hr
☐	72 hr

all species 2 hrs prior to test

mysids daily

all species except *H. azteca* 2 hr prior to renewal

H. azteca 0 hr and 48 hr

H. azteca		
0 hr	Alk	Hrd
Well		
100%		
96 hr	Alk	Hrd
Well		
100%		

Concentration µg/L mg/L	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Control	A	F1	10	10	10	10	10	10
	B	F2	10	10	10	10	10	10
6	A	F3	10	10	10	10	10	10
	B	F4	10	10	10	10	10	10
7	A	F5	10	10	10	10	10	10
	B	F6	10	10	10	10	10	10
8	A	F7	10	10	10	10	10	10
	B	F8	10	6d0	6	6	6	6
9	A	F9	10	3d0	3	3	3	3
	B	F10	10	4d0	4	4	4	3d0
10	A	F11	10	0d03	—	—	—	—
	B	F12	10	0d03	—	—	—	—
Organisms loaded by: SD		Checked by:	SD	JD	JD	JD	S	MF

Loading Verified by: BA AR = after renewal

m = missing d = dead BR = before renewal hr = hour

Comments:

Investigators' Signatures

Jane Daniels

Marshall Faircloth

Bree Acree

Kara Cey

Reviewer: Liz Miller

Method: TSK

Statistics: LC50

	95% confidence intervals Lower	Upper
48 hour: 8.60	8.33	8.89
96 hour: 8.56	8.29	8.84

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Appendix C. (continued)

FDEP Biology Laboratory - Acute SRT Bench Sheet
0-96 hour parameters

Methods from EPA-821-R-02-012 except *H. azteca*

Test Page 2 of 2

Test Organism: (check one)
- ☐ *Americamysis bahia* Method 2007.0 TA07.03
- ☐ *Menidia Beryllina* Method 2006.0 TA07.04
- ☐ *Hyalella azteca* Method 100.1 EPA-600-R-99-064
- ☐ *Ceriodaphnia dubia* Method 2002.0 TA07.01
- ☒ *Cyprinella leedsi* Method 2000.0 TA07.02
- ☐ *Pimephales promelas* Method 2000.0 TA07.02

Test Beginning: Date: 2.1.11 Time: 1200
Test Ending: Date: 2-5-11 Time: 1030

Test Type: ☐ non-renewal ☒ renewal

hr = hour AR = after renewal BR = before renewal

Concentration µg/L mg/L (circle)	Replicate	Test Hour	pH (SU)	Temperature (°C)	Dissolved Oxygen (mg/L)	Conductivity ☐ µmhos ☒ mmhos	Salinity (ppth)
Control	A	0 hr	7.9	24.6	7.6	0.280	
	B	24 hr	8.0	24.6	6.4	0.297	
	A	48 hr BR	8.4	24.9	7.1	0.287	
	A	48 hr AR	8.0	24.7	6.2	0.281	
	B	72 hr	8.2	24.9	7.2	0.286	
	A	96 hr	8.3	25.8	7.0	0.292	
6	A	0 hr	8.0	24.7	7.6	10.8	
	B	24 hr	8.0	24.7	6.5	11.1	
	A	48 hr BR	8.2	25.4	7.0	11.1	
	A	48 hr AR	8.0	24.6	6.3	11.0	
	B	72 hr	8.1	24.9	6.9	11.3	
	A	96 hr	8.2	25.9	6.9	11.9	
7	A	0 hr	8.0	24.7	7.6	12.6	
	B	24 hr	8.1	24.7	6.5	12.7	
	A	48 hr BR	8.2	25.5	7.0	12.7	
	A	48 hr AR	8.0	24.6	6.4	12.9	
	B	72 hr	8.1	25.2	6.8	12.9	
	A	96 hr	8.1	25.9	6.8	13.5	
8	A	0 hr	8.0	24.7	7.5	14.4	
	B	24 hr	8.1	24.5	6.6	14.4	
	A	48 hr BR	8.2	25.2	6.9	14.4	
	A	48 hr AR	8.0	24.9	6.5	14.6	
	B	72 hr	8.0	25.5	6.7	14.8	
	A	96 hr	8.1	25.8	6.6	15.4	
9	A	0 hr	8.0	24.7	7.5	16.3	
	B	24 hr	8.1	24.4	6.4	16.5	
	A	48 hr BR	8.2	25.2	6.9	16.0	
	A	48 hr AR	8.0	24.6	6.7	15.9	
	B	72 hr	8.1	24.8	6.8	16.2	
	A	96 hr	8.1	25.7	6.5	16.9	
10	A	0 hr	7.8	24.6	7.6	18.2	
	B	24 hr	8.0	24.5	6.4	18.3	
		48 hr BR					
		48 hr AR					
		72 hr					
		96 hr					

Investigators Signatures
James Daniels
Marshall Faircloth
Bruce Hayden
Kara Cox

Reviewed By: Liz Miller

Measured by:
0 hr: JD
24 hr: JD
48 hr BR: JD
48 hr AR: JD
72 hr: JD
96 hr: MF

Measure/record salinity for marine tests

Comments:

Pg 40

Appendix C. (continued)

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

DATE: 2-1-11 DURATION: 96 h TOXICANT : NaCl
SPECIES: ***Ceriodaphnia dubia***

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
.00	20	0
1.50	20	1
2.00	20	3
2.50	20	18
3.00	20	20
4.00	20	20

SPEARMAN-KARBER TRIM: 5.00%

SPEARMAN-KARBER ESTIMATES: LC50: 2.19
95% LOWER CONFIDENCE: 2.08
95% UPPER CONFIDENCE: 2.32

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

DATE: 2-1-11 DURATION: 96 h TOXICANT : NaCl
SPECIES: ***Cyprinella leedsi***

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
.00	20	0
6.00	20	0
7.00	20	0
8.00	20	4
9.00	20	14
10.00	20	20

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: LC50: 8.56
95% LOWER CONFIDENCE: 8.29
95% UPPER CONFIDENCE: 8.84

Appendix D. Test Organism Receipts

MARINCO BIOASSAY LABORATORY
The Aquatic Toxicology Specialists

NELAP Certification # E84191

Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Shipping Date: 1/31/11

Ship to: FDEP

P.O. No: _____

Species	Quantity	Age	Brood/Lot Number	Temp. (°C)	pH (S.U.)	Salinity (‰)
Mysidopsis bahia	150 ac	4 days	MS 110127	25	8.0	20.0
Menidia beryllina	150 ac	12 days	SS 110119	25	8.0	20.0
						Hardness mg/L
Cyprinella leedsi	150 ac	12 days	CL 110119	25	7.8	80
Pimephales promelas	150 ac	7 days	FM 110124	25	7.8	80
Ceriodaphnia dubia						
Daphnia magna						
YCT						
P. subcapitata						

Packed by: PM

Shipped Via: Fed Ex

Notes: _____

Thank you for your order.

4569 Samuel Street · Sarasota, FL 34233 · Tel: 941-925-3594 · Fax: 941-922-3874 · Web: www.biologylab.com

Appendix D. (continued)

MARINCO BIOASSAY LABORATORY
The Aquatic Toxicology Specialists

NELAP Certification # E84191

Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Shipping Date: 2/21/11

Ship to: FDEP

P.O. No: _____

Species	Quantity	Age	Brood/Lot Number	Temp. (°C)	pH (S.U.)	Salinity (‰)
Mysidopsis bahia	100 ac	4 DAYS	MS 110217	25	8.0	20
	750 ch	6 DAYS	MS 110215	25	8.0	20
Menidia beryllina	100 ac	12 DAYS	SS 110209	25	8.0	20
	750 ch	9 DAYS	SS 110212	25	8.0	20
						Hardness mg/L
Cyprinella leedsi	100 ac	12 DAYS	CL 110209	25	7.8	80
Pimephales promelas						
Ceriodaphnia dubia						
Daphnia magna						
YCT						
P. subcapitata						

Packed by: PM

Shipped Via: Fed Ex

Notes: Pack the chronic mysids + menidia into two bags each (375/b

Thank you for your order.

4569 Samuel Street · Sarasota, FL 34233 · Tel: 941-925-3594 · Fax: 941-922-3874 · Web: www.biologylab.com

Appendix E. Chemical Analyses performed on the effluent from the City of Naples WWTRF Sampling Points EFA-01 and EFA- 02, sampled on February 20 - 21, 2011.

Date Sampled	Field ID	Analysis Group	Component	Value	Remark	Units	MDL	PQL
2/21/2011 10:30	CON22111-03	AGP/LN	AGP	14.4		mg DryWt/L	0.3	0.9
2/21/2011 10:30	CON22111-03	AGP/LN	AGP-Salinity Adjusted	7.98		mg DryWt/L	3	3
2/21/2011 10:30	CON22111-03	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	0.61	I	ug/L	0.55	1.7
2/21/2011 10:30	CON22111-03	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.4	U	ug/L	0.4	1.2
2/21/2011 10:30	CON22111-03	Overflow	Fecal Coliforms-Membrane Filter	1	U	cfu/100 mL	1	
2/21/2011 10:30	CON22111-03	Overflow	ENTEROCOCCI-ENTEROLERT	1	U	MPN/100 mL	1	
2/21/2011 10:30	CON22111-03	Toxicology	BSY-AS-FW-Fish, LC50	100	K	LC50		
2/21/2011 10:30	CON22111-03	Toxicology	BSY-AS-FW-Cdubia,LC50-dechlr	100	L	LC50		
2/21/2011 10:30	CON22111-03	Toxicology	BSY-AS-FW-Fish,LC50-dechlr	100	L	LC50		
2/21/2011 10:30	CON22111-03	Toxicology	BSY-AS-FW-C.dubia, LC50	100	L	LC50		
2/21/2011 10:30	CON22111-03	Metals	Chromium	0.47	I	ug/L	0.3	1.2
2/21/2011 10:30	CON22111-03	Metals	Cadmium	0.061	I	ug/L	0.05	0.2
2/21/2011 10:30	CON22111-03	Metals	Arsenic	0.31	I	ug/L	0.25	1
2/21/2011 10:30	CON22111-03	Metals	Copper	2.21		ug/L	0.5	1
2/21/2011 10:30	CON22111-03	Metals	Zinc	47		ug/L	5	20
2/21/2011 10:30	CON22111-03	Metals	Magnesium	12.9		mg/L	0.04	0.16
2/21/2011 10:30	CON22111-03	Metals	Selenium	0.2	U	ug/L	0.2	0.8
2/21/2011 10:30	CON22111-03	Metals	Lead	0.29	I	ug/L	0.2	0.8
2/21/2011 10:30	CON22111-03	Metals	Antimony	0.3	I	ug/L	0.25	1
2/21/2011 10:30	CON22111-03	Metals	Silver	0.025	I	ug/L	0.025	0.1
2/21/2011 10:30	CON22111-03	Metals	Aluminum	127		ug/L	5	20
2/21/2011 10:30	CON22111-03	Metals	Iron	1610		ug/L	30	120
2/21/2011 10:30	CON22111-03	Metals	Calcium	47.3		mg/L	0.075	0.3
2/21/2011 10:30	CON22111-03	Metals	Nickel	1.4		ug/L	0.25	1
2/21/2011 10:30	CON22111-03	Metals	Beryllium	0.025	U	ug/L	0.025	0.1
2/21/2011 10:30	CON22111-03	Nutrients	TSS	4	I	mg/L	4	16
2/21/2011 10:30	CON22111-03	Overflow	MBAS	0.17	I	mg/l LAS	0.12	0.2
2/21/2011 10:30	CON22111-03	Overflow	Oil and Grease	1.4	U	mg/L	1.4	5
2/21/2011 10:30	CON22111-03	Pesticides	Alachlor	0.6	U	ug/L	0.6	2.4
2/21/2011 10:30	CON22111-03	Pesticides	Ethion	0.05	U	ug/L	0.05	0.2
2/21/2011 10:30	CON22111-03	Pesticides	Metolachlor	0.5	U	ug/L	0.5	2

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Value	Remark	Units	MDL	PQL
2/21/2011 10:30	CON22111-03	Pesticides	Metribuzin	0.1	U	ug/L	0.1	0.4
2/21/2011 10:30	CON22111-03	Pesticides	Parathion Ethyl	0.15	U	ug/L	0.15	0.6
2/21/2011 10:30	CON22111-03	Pesticides	Endosulfan II	0.02	U	ug/L	0.02	0.08
2/21/2011 10:30	CON22111-03	Pesticides	Endosulfan Sulfate	0.02	U	ug/L	0.02	0.08
2/21/2011 10:30	CON22111-03	Pesticides	Gamma-BHC	0.01	U	ug/L	0.01	0.04
2/21/2011 10:30	CON22111-03	Pesticides	Heptachlor	0.01	U	ug/L	0.01	0.04
2/21/2011 10:30	CON22111-03	Pesticides	Chlorpyrifos Ethyl	0.05	U	ug/L	0.05	0.2
2/21/2011 10:30	CON22111-03	Pesticides	Beta-BHC	0.01	U	ug/L	0.01	0.04
2/21/2011 10:30	CON22111-03	Pesticides	Endrin	0.05	U	ug/L	0.05	0.2
2/21/2011 10:30	CON22111-03	Pesticides	Azinphos Methyl	0.2	UJ	ug/L	0.2	0.8
2/21/2011 10:30	CON22111-03	Pesticides	Bromacil	0.2	U	ug/L	0.2	0.8
2/21/2011 10:30	CON22111-03	Pesticides	Diazinon	0.05	U	ug/L	0.05	0.2
2/21/2011 10:30	CON22111-03	Pesticides	Fenamiphos	0.2	UJ	ug/L	0.2	0.8
2/21/2011 10:30	CON22111-03	Pesticides	Hexazinone	0.1	U	ug/L	0.1	0.4
2/21/2011 10:30	CON22111-03	Pesticides	Norflurazon	0.15	U	ug/L	0.15	0.6
2/21/2011 10:30	CON22111-03	Pesticides	Parathion Methyl	0.1	U	ug/L	0.1	0.4
2/21/2011 10:30	CON22111-03	Pesticides	Ametryn	0.05	U	ug/L	0.05	0.2
2/21/2011 10:30	CON22111-03	Pesticides	Atrazine	0.05	U	ug/L	0.05	0.2
2/21/2011 10:30	CON22111-03	Pesticides	Metalaxyl	0.25	U	ug/L	0.25	1
2/21/2011 10:30	CON22111-03	Pesticides	DDT-p,p'	0.03	U	ug/L	0.03	0.12
2/21/2011 10:30	CON22111-03	Pesticides	Toxaphene	0.75	U	ug/L	0.75	3
2/21/2011 10:30	CON22111-03	Pesticides	Mevinphos	0.2	U	ug/L	0.2	0.8
2/21/2011 10:30	CON22111-03	Pesticides	Heptachlor Epoxide	0.02	U	ug/L	0.02	0.08
2/21/2011 10:30	CON22111-03	Pesticides	Chlorpyrifos Methyl	0.1	U	ug/L	0.1	0.4
2/21/2011 10:30	CON22111-03	Pesticides	Ethoprop	0.1	U	ug/L	0.1	0.4
2/21/2011 10:30	CON22111-03	Pesticides	Naled	0.8	U	ug/L	0.8	3.2
2/21/2011 10:30	CON22111-03	Pesticides	Simazine	0.05	U	ug/L	0.05	0.2
2/21/2011 10:30	CON22111-03	Pesticides	DDE-p,p'	0.02	U	ug/L	0.02	0.08
2/21/2011 10:30	CON22111-03	Pesticides	Malathion	0.15	U	ug/L	0.15	0.6
2/21/2011 10:30	CON22111-03	Pesticides	Aldrin	0.01	U	ug/L	0.01	0.04
2/21/2011 10:30	CON22111-03	Pesticides	Alpha-BHC	0.01	U	ug/L	0.01	0.04
2/21/2011 10:30	CON22111-03	Pesticides	Chlordane	0.2	U	ug/L	0.2	0.8
2/21/2011 10:30	CON22111-03	Pesticides	Dieldrin	0.02	U	ug/L	0.02	0.08
2/21/2011 10:30	CON22111-03	Pesticides	Methoxychlor	0.05	U	ug/L	0.05	0.2

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Value	Remark	Units	MDL	PQL
2/21/2011 10:30	CON22111-03	Pesticides	Butylate	0.2	U	ug/L	0.2	0.8
2/21/2011 10:30	CON22111-03	Pesticides	Fonofos	0.1	UJ	ug/L	0.1	0.4
2/21/2011 10:30	CON22111-03	Pesticides	Phorate	0.05	U	ug/L	0.05	0.2
2/21/2011 10:30	CON22111-03	Pesticides	Prometryn	0.15	U	ug/L	0.15	0.6
2/21/2011 10:30	CON22111-03	Pesticides	DDD-p,p'	0.02	U	ug/L	0.02	0.08
2/21/2011 10:30	CON22111-03	Pesticides	Delta-BHC	0.01	U	ug/L	0.01	0.04
2/21/2011 10:30	CON22111-03	Pesticides	Endosulfan I	0.02	U	ug/L	0.02	0.08
2/21/2011 10:30	CON22111-03	Pesticides	Endrin Aldehyde	0.02	U	ug/L	0.02	0.08
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	2,4-Dichlorophenol	0.98	U	ug/L	0.98	3.9
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2	U	ug/L	2	7.8
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Chrysene	0.2	U	ug/L	0.2	0.78
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Di-n-octyl phthalate	0.98	U	ug/L	0.98	3.9
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.2	U	ug/L	0.2	0.78
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2.9	12
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	2,4-Dimethylphenol	9.8	U	ug/L	9.8	39
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	12
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	2-Nitrophenol	0.98	U	ug/L	0.98	3.9
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Benzo(a)pyrene	0.2	U	ug/L	0.2	0.78
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Benzo(b)fluoranthene	0.2	U	ug/L	0.2	0.78
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.2	U	ug/L	0.2	0.78
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Butyl benzyl phthalate	4.9	U	ug/L	4.9	20
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Dimethyl phthalate	9.8	U	ug/L	9.8	39
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	U	ug/L	2.9	12
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.2	U	ug/L	0.2	0.78
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.98	U	ug/L	0.98	3.9
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	2,4-Dinitrotoluene	0.98	U	ug/L	0.98	3.9
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	2-Chloronaphthalene	0.98	U	ug/L	0.98	3.9
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Acenaphthylene	0.2	U	ug/L	0.2	0.78
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Fluorene	0.2	U	ug/L	0.2	0.78
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	12
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Naphthalene	0.2	U	ug/L	0.2	0.78
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Nitrobenzene	2	U	ug/L	2	7.8
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Phenanthrene	0.2	U	ug/L	0.2	0.78
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Pyrene	0.2	U	ug/L	0.2	0.78

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Value	Remark	Units	MDL	PQL
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.98	U	ug/L	0.98	3.9
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Anthracene	0.2	U	ug/L	0.2	0.78
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Benzidine	98	UJ	ug/L	98	390
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	15	U	ug/L	15	59
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Diethyl phthalate	0.98	U	ug/L	0.98	3.9
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	UJ	ug/L	2.9	12
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	3,3'-Dichlorobenzidine	39	UJ	ug/L	39	160
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.98	U	ug/L	0.98	3.9
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2	U	ug/L	2	7.8
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Benzo(a)anthracene	0.2	U	ug/L	0.2	0.78
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	12
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	12
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	N-Nitrosodimethylamine	2	U	ug/L	2	7.8
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Phenol	0.98	U	ug/L	0.98	3.9
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.98	U	ug/L	0.98	3.9
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Acenaphthene	0.2	U	ug/L	0.2	0.78
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Hexachlorobenzene	0.98	U	ug/L	0.98	3.9
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Isophorone	0.98	U	ug/L	0.98	3.9
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	2,4-Dinitrophenol	15	U	ug/L	15	59
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	2-Chlorophenol	0.98	U	ug/L	0.98	3.9
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	4-Nitrophenol	15	U	ug/L	15	59
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Benzo(k)fluoranthene	0.2	U	ug/L	0.2	0.78
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.98	U	ug/L	0.98	3.9
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.98	U	ug/L	0.98	3.9
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Di-n-butyl phthalate	4.9	U	ug/L	4.9	20
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	Fluoranthene	0.2	U	ug/L	0.2	0.78
2/21/2011 10:30	CON22111-03	Priority Organic Pollutants	2,6-Dinitrotoluene	0.98	U	ug/L	0.98	3.9
2/21/2011 10:30	CON22111-03	Field Parameter	Sample Depth	2		ft		
2/21/2011 10:30	CON22111-03	Field Parameter	Specific Conductance	0.48		umhos/cm		
2/21/2011 10:30	CON22111-03	Field Parameter	Temperature	25.36		C		
2/21/2011 10:30	CON22111-03	Field Parameter	pH	6.75				
2/21/2011 10:30	CON22111-03	Field Parameter	Specific Conductance	0.48		umhos/cm		
2/21/2011 10:30	CON22111-03	Field Parameter	pH	6.75				
2/21/2011 10:30	CON22111-03	Field Parameter	Dissolved Oxygen	6.84		mg/L		

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Value	Remark	Units	MDL	PQL
2/21/2011 10:30	CON22111-03	Field Parameter	Sample Depth	2		ft		
2/21/2011 10:30	CON22111-03	Field Parameter	Temperature	25.36		C		
2/21/2011 10:30	CON22111-03	Field Parameter	Dissolved Oxygen	6.84		mg/L		
2/19/2011 23:00	CON22111-02	Chlorophyll/Grain Size/BOD	BOD-5 Day,N-Inhib	0.2	UJQ	mg/L	0.2	2
2/19/2011 23:00	CON22111-02	Nutrients	Ammonia-N	0.026		mg N/L	0.01	0.02
2/19/2011 23:00	CON22111-02	Nutrients	NO2NO3-N	0.57		mg N/L	0.004	0.01
2/19/2011 23:00	CON22111-02	Nutrients	Total-P	0.18		mg P/L	0.005	0.05
2/19/2011 23:00	CON22111-02	Nutrients	Kjeldahl Nitrogen	1		mg N/L	0.08	0.2
2/19/2011 23:00	CON22111-02	Field Parameter	Temperature	8.6		C		
2/19/2011 23:00	CON22111-02	Field Parameter	Specific Conductance	0.46		umhos/cm		
2/19/2011 23:00	CON22111-02	Field Parameter	Sample Depth	0.5		m		
2/19/2011 23:00	CON22111-02	Field Parameter	pH	7.34				
2/19/2011 23:00	CON22111-02	Field Parameter	Dissolved Oxygen	12.08		mg/L		
2/19/2011 23:00	CON22111-02	Field Parameter	Total Residual Chlorine	2.2		mg/L		
2/21/2011 12:30	CON22111-01	Chlorophyll/Grain Size/BOD	BOD-5 Day,N-Inhib	0.2	UJ	mg/L	0.2	2
2/21/2011 12:30	CON22111-01	Metals	Magnesium	0.04	U	mg/L	0.04	0.16
2/21/2011 12:30	CON22111-01	Metals	Lead	0.2	U	ug/L	0.2	0.8
2/21/2011 12:30	CON22111-01	Metals	Cadmium	0.05	U	ug/L	0.05	0.2
2/21/2011 12:30	CON22111-01	Metals	Beryllium	0.025	U	ug/L	0.025	0.1
2/21/2011 12:30	CON22111-01	Metals	Calcium	0.076	I	mg/L	0.075	0.3
2/21/2011 12:30	CON22111-01	Metals	Antimony	0.25	U	ug/L	0.25	1
2/21/2011 12:30	CON22111-01	Metals	Silver	0.025	U	ug/L	0.025	0.1
2/21/2011 12:30	CON22111-01	Metals	Chromium	0.3	U	ug/L	0.3	1.2
2/21/2011 12:30	CON22111-01	Metals	Iron	30	U	ug/L	30	120
2/21/2011 12:30	CON22111-01	Metals	Aluminum	40		ug/L	5	20
2/21/2011 12:30	CON22111-01	Metals	Zinc	5	U	ug/L	5	20
2/21/2011 12:30	CON22111-01	Metals	Nickel	0.25	U	ug/L	0.25	1
2/21/2011 12:30	CON22111-01	Metals	Arsenic	0.25	U	ug/L	0.25	1
2/21/2011 12:30	CON22111-01	Metals	Copper	0.5	U	ug/L	0.5	1
2/21/2011 12:30	CON22111-01	Metals	Selenium	0.2	U	ug/L	0.2	0.8
2/21/2011 12:30	CON22111-01	Nutrients	NO2NO3-N	0.004	U	mg N/L	0.004	0.01
2/21/2011 12:30	CON22111-01	Nutrients	Ammonia-N	0.01	U	mg N/L	0.01	0.02
2/21/2011 12:30	CON22111-01	Nutrients	Kjeldahl Nitrogen	0.08	U	mg N/L	0.08	0.2
2/21/2011 12:30	CON22111-01	Nutrients	Total-P	0.004	U	mg P/L	0.004	0.01

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Value	Remark	Units	MDL	PQL
2/21/2011 12:30	CON22111-01	Overflow	MBAS	0.12	U	mg/l LAS	0.12	0.2
2/21/2011 12:30	CON22111-01	Overflow	Oil and Grease	1.4	U	mg/L	1.4	5
2/21/2011 12:30	CON22111-01	Pesticides	Malathion	0.15	U	ug/L	0.15	0.6
2/21/2011 12:30	CON22111-01	Pesticides	Endosulfan I	0.02	U	ug/L	0.02	0.08
2/21/2011 12:30	CON22111-01	Pesticides	Alachlor	0.59	U	ug/L	0.59	2.4
2/21/2011 12:30	CON22111-01	Pesticides	Butylate	0.2	U	ug/L	0.2	0.8
2/21/2011 12:30	CON22111-01	Pesticides	Mevinphos	0.2	U	ug/L	0.2	0.8
2/21/2011 12:30	CON22111-01	Pesticides	Aldrin	0.0099	U	ug/L	0.0099	0.04
2/21/2011 12:30	CON22111-01	Pesticides	Endosulfan II	0.02	U	ug/L	0.02	0.08
2/21/2011 12:30	CON22111-01	Pesticides	Heptachlor Epoxide	0.02	U	ug/L	0.02	0.08
2/21/2011 12:30	CON22111-01	Pesticides	Chlorpyrifos Ethyl	0.049	U	ug/L	0.049	0.2
2/21/2011 12:30	CON22111-01	Pesticides	Hexazinone	0.099	U	ug/L	0.099	0.4
2/21/2011 12:30	CON22111-01	Pesticides	Naled	0.79	U	ug/L	0.79	3.2
2/21/2011 12:30	CON22111-01	Pesticides	DDE-p,p'	0.02	U	ug/L	0.02	0.08
2/21/2011 12:30	CON22111-01	Pesticides	Methoxychlor	0.049	U	ug/L	0.049	0.2
2/21/2011 12:30	CON22111-01	Pesticides	Ethoprop	0.099	U	ug/L	0.099	0.4
2/21/2011 12:30	CON22111-01	Pesticides	Metribuzin	0.099	U	ug/L	0.099	0.4
2/21/2011 12:30	CON22111-01	Pesticides	Prometryn	0.15	U	ug/L	0.15	0.6
2/21/2011 12:30	CON22111-01	Pesticides	Endrin Aldehyde	0.02	U	ug/L	0.02	0.08
2/21/2011 12:30	CON22111-01	Pesticides	Chlorpyrifos Methyl	0.099	U	ug/L	0.099	0.4
2/21/2011 12:30	CON22111-01	Pesticides	Fenamiphos	0.2	U	ug/L	0.2	0.8
2/21/2011 12:30	CON22111-01	Pesticides	Parathion Methyl	0.099	U	ug/L	0.099	0.4
2/21/2011 12:30	CON22111-01	Pesticides	Phorate	0.049	U	ug/L	0.049	0.2
2/21/2011 12:30	CON22111-01	Pesticides	Beta-BHC	0.0099	U	ug/L	0.0099	0.04
2/21/2011 12:30	CON22111-01	Pesticides	Diazinon	0.049	U	ug/L	0.049	0.2
2/21/2011 12:30	CON22111-01	Pesticides	Metolachlor	0.49	U	ug/L	0.49	2
2/21/2011 12:30	CON22111-01	Pesticides	Simazine	0.049	U	ug/L	0.049	0.2
2/21/2011 12:30	CON22111-01	Pesticides	Alpha-BHC	0.0099	U	ug/L	0.0099	0.04
2/21/2011 12:30	CON22111-01	Pesticides	Chlordane	0.2	U	ug/L	0.2	0.8
2/21/2011 12:30	CON22111-01	Pesticides	DDD-p,p'	0.02	U	ug/L	0.02	0.08
2/21/2011 12:30	CON22111-01	Pesticides	Endosulfan Sulfate	0.02	U	ug/L	0.02	0.08
2/21/2011 12:30	CON22111-01	Pesticides	Endrin	0.049	U	ug/L	0.049	0.2
2/21/2011 12:30	CON22111-01	Pesticides	Gamma-BHC	0.0099	U	ug/L	0.0099	0.04
2/21/2011 12:30	CON22111-01	Pesticides	Toxaphene	0.74	U	ug/L	0.74	3

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Value	Remark	Units	MDL	PQL
2/21/2011 12:30	CON22111-01	Pesticides	Bromacil	0.2	U	ug/L	0.2	0.8
2/21/2011 12:30	CON22111-01	Pesticides	Ethion	0.049	U	ug/L	0.049	0.2
2/21/2011 12:30	CON22111-01	Pesticides	Metalaxyl	0.25	U	ug/L	0.25	1
2/21/2011 12:30	CON22111-01	Pesticides	Norflurazon	0.15	U	ug/L	0.15	0.6
2/21/2011 12:30	CON22111-01	Pesticides	DDT-p,p'	0.03	U	ug/L	0.03	0.12
2/21/2011 12:30	CON22111-01	Pesticides	Delta-BHC	0.0099	U	ug/L	0.0099	0.04
2/21/2011 12:30	CON22111-01	Pesticides	Azinphos Methyl	0.2	U	ug/L	0.2	0.8
2/21/2011 12:30	CON22111-01	Pesticides	Fonofos	0.099	U	ug/L	0.099	0.4
2/21/2011 12:30	CON22111-01	Pesticides	Parathion Ethyl	0.15	U	ug/L	0.15	0.6
2/21/2011 12:30	CON22111-01	Pesticides	Dieldrin	0.02	U	ug/L	0.02	0.08
2/21/2011 12:30	CON22111-01	Pesticides	Heptachlor	0.0099	U	ug/L	0.0099	0.04
2/21/2011 12:30	CON22111-01	Pesticides	Ametryn	0.049	U	ug/L	0.049	0.2
2/21/2011 12:30	CON22111-01	Pesticides	Atrazine	0.049	U	ug/L	0.049	0.2
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	2,4-Dichlorophenol	0.97	U	ug/L	0.97	3.9
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	3,3'-Dichlorobenzidine	39	UJ	ug/L	39	160
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Benzidine	97	U	ug/L	97	390
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Benzo(a)pyrene	0.19	U	ug/L	0.19	0.78
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.97	U	ug/L	0.97	3.9
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.19	U	ug/L	0.19	0.78
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Fluorene	0.19	U	ug/L	0.19	0.78
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	2,6-Dinitrotoluene	0.97	U	ug/L	0.97	3.9
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Acenaphthene	0.19	U	ug/L	0.19	0.78
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Acenaphthylene	0.19	U	ug/L	0.19	0.78
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.97	U	ug/L	0.97	3.9
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Dimethyl phthalate	9.7	U	ug/L	9.7	39
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Isophorone	0.97	U	ug/L	0.97	3.9
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	2,4-Dinitrophenol	15	U	ug/L	15	58
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	2,4-Dinitrotoluene	0.97	U	ug/L	0.97	3.9
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	2-Chloronaphthalene	0.97	U	ug/L	0.97	3.9
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	12
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	2,4-Dimethylphenol	9.7	U	ug/L	9.7	39
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.97	U	ug/L	0.97	3.9
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.19	U	ug/L	0.19	0.78
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Fluoranthene	0.19	U	ug/L	0.19	0.78

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Value	Remark	Units	MDL	PQL
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	12
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	12
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	4-Nitrophenol	15	U	ug/L	15	58
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Anthracene	0.19	U	ug/L	0.19	0.78
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Benzo(a)anthracene	0.19	U	ug/L	0.19	0.78
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Benzo(b)fluoranthene	0.19	U	ug/L	0.19	0.78
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Benzo(k)fluoranthene	0.19	U	ug/L	0.19	0.78
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	15	U	ug/L	15	58
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Chrysene	0.19	U	ug/L	0.19	0.78
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	12
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Phenanthrene	0.19	U	ug/L	0.19	0.78
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Phenol	0.97	U	ug/L	0.97	3.9
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Pyrene	0.19	U	ug/L	0.19	0.78
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.97	U	ug/L	0.97	3.9
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	12
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	2-Nitrophenol	0.97	U	ug/L	0.97	3.9
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Di-n-butyl phthalate	4.9	U	ug/L	4.9	19
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	U	ug/L	2.9	12
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.19	U	ug/L	0.19	0.78
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.8
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Naphthalene	0.19	U	ug/L	0.19	0.78
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.97	U	ug/L	0.97	3.9
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.97	U	ug/L	0.97	3.9
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Butyl benzyl phthalate	4.9	U	ug/L	4.9	19
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Diethyl phthalate	0.97	U	ug/L	0.97	3.9
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Hexachlorobenzene	0.97	U	ug/L	0.97	3.9
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	2-Chlorophenol	0.97	U	ug/L	0.97	3.9
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.8
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Di-n-octyl phthalate	0.97	U	ug/L	0.97	3.9
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.8
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.8
2/21/2011 12:30	CON22111-01	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2.9	12

Appendix F. Facility Summary, Effluent Limits, and Permit Violations Recorded on Discharge Monitoring Report

State of Florida
Department of Environmental Protection
Facility Introduction & Summary

PART I: Information gathered prior to sampling event	
Prepared By: Alyssa Mork	Contact Number: 239-344-5673
Facility Name (as it appears on permit): City of Naples WWTRF	Former Names:
NPDES Permit Number: FL0026271	Permit Expiration Date: November 26, 2011
Physical Address: 1400 3rd Ave N, Naples 34102	
District: South	County: Collier
Function of Facility: Treat domestic wastewater and provide reuse	
Facility Type: Type 1	Permitted Capacity (MGD): 10.0 MGD
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): For March 2010 – March 2011, the average D-002 flow was 0.84 MGD. There was no flow from D-003 or D-004 in the past year.	
If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months): For March 2010 – March 2011, the average R-001 flow was 5.55 MGD.	
Description of type of Discharge: ☐ Continuous ☒ Intermittent ☐ Seasonal ☐ Rainfall Dependent ☐ Other, please specify	

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Appendix F. (continued)

Description of Sampling Location(s) - actual permit designation of permitted sampling point(s): EFA-01 effluent transfer pump station, EFA-02, after CCC and before effluent transfer pump station
Description of Permitted Outfall(s): D-002: Permitted discharge to Gordon River (Class III marine waters) which is upstream of the Bay of Naples at Discharge Location (D-002) which is approximately 50 feet in length and discharges at a depth of approximately 5 feet. The point of discharge is located approximately at latitude 26 o 08' 43" N, longitude 81 o 47' 22" W.- D-003: The stormwater control structure for the lower stormwater lake at Bears Pawq golf course intermittently discharges to an unnamed ditch upstream of Golden Gate Canal (Class III fresh waters) at Discharge Location (D-003), which is upstream of the Gordon River in Collier County, Florida. The point of discharge is located approximately at latitude 26 o 10' 04" N, longitude 81 o 46' 33" W. D-004: The stormwater control structure for the lower stormwater lake at Royal Poinciana intermittently discharges to an unnamed ditch (Class III fresh waters) at Discharge Location (D-004), which is upstream of the Gordon River in Collier County,Florida. Discharge D-004 include two stormwater structures that are located approximately at latitude 26 o 11' 52" N, longitude 81 o47' 04" W and latitude 26 o 11' 04" N, longitude 81 o 46' 55" W.
Description of Treatment Process (if multiple discharge points, include a detailed map or diagram of facility): Bardhenpho process followed by clarification and disinfection. Facility has a separate high-level disinfection system for Part III reuse.

Appendix F. (continued)

PART I: Continued

List current Effluent Limits of Outfall(s) to be Sampled: This should include any AO or CO limits the facility may be under (Leave cell blank if not applicable)

			Effluent Limitations				Monitoring Requirements			
Parameter	Units	Max/Min	Annual Average	Monthly Average	Weekly Average	Single Sample	Monitoring Frequency	Sample Type	Monitoring Location Site Number	Notes
Flow	MGD	Report	2.42		-		Continuous	Recording flow meters and totalizers	Eff-01	See Cond.I.A.4
BOD, Carbonaceous 5 day, 20C	MG/L	Maximum	5.0	6.25	7.5	10.0	5 Days/Week	24-hour flow proportioned composite	EFA-01	
Solids, Total Suspended	MG/L	Maximum				5.0	7 Days/Week	Grab	EFB-01	
pH	SU	Range	-	-	-	6.5 to 8.5	Continuous	Meter	EFF-01	See Cond.I.A.3
Coliform, Fecal	#/100ML	Maximum	See Permit Condition I.A.5.				7 Days/Week	Grab	EFA-20	
Total Residual Chlorine (For Disinfection)	MG/L	Minimum	-	-	-	1.0	Continuous	Meter	EFA-02	See Cond.I.A.3, 5
Total Residual Chlorine (For Dechlorination)	MG/L	Maximum	-	-	-	0.01	7 Days per week	Grab	EFA-01	
Nitrogen, Total	MG/L	Maximum	3.0	3.75	4.5	6.0	5 Days/Week	24-hour flow proportioned composite	EFA-01	
Phosphorus, Total (as P)	MG/L	Maximum	0.8	1.0	1.2	1.6	5 Days/Week	24-hour flow proportioned composite	EFA-01	
Whole Effluent Toxicity (toxicity)	See Permit Condition I.A.12								EFA-01	
Oxygen, Dissolved (DO)	MG/L	Minimum				4.0	Daily	Grab	EFF-01	
Ammonia, Unionized	MG/L	Maximum	-	-	-	Report	Annually	Grab	EFF-01	
Coliform, Fecal	#/100ML	Maximum	-	-	-	Report	Annually	Grab	EFF-01	
Coliform, Total	#/100ML	Maximum	-	-	-	Report	Annually	Grab	EFF-01	
Chloride (as Cl)	MG/L	Maximum	-	-	-	Report	Annually	Grab	EFF-01	
Fluoride, Total (as F)	MG/L	Maximum	-	-	-	Report	Annually	Grab	EFF--01	

Appendix F. (continued)

PART I: Continued

List current Effluent Limits of Outfall(s) to be Sampled: This should include any AO or CO limits the facility may be under (Leave cell blank if not applicable)

Parameter	Units	Max/Min	Effluent Limitations			Monitoring Requirements				Notes
			Annual Average	Monthly Average	Weekly Average	Single Sample	Monitoring Frequency	Sample Type	Monitoring Location Site Number	
Mercury, Total Recoverable	UG/L	Maximum	-	-	-	Report	Annually	Grab	EFF-01	
Aluminum, Total Recoverable	MG/L	Maximum	-	-	-	Report	Annually	Grab	EFF-01	
Iron, Total Recoverable	MG/L	Maximum	-	-	-	Report	Annually	Grab	EFF-01	
Oil & Grease (freon extr-ir meth) Total Recoverable	MG/L	Maximum	-	-	-	Report	Annually	Grab	EFF-01	
Antimony, Total Recoverable	UG/L	Maximum	-	-	-	Report	Annually	Grab	EFF-01	
Arsenic, Total Recoverable	UG/L	Maximum	-	-	-	Report	Annually	Grab	EFF-01	
Chromium, Hexavalent Total Recoverable	UG/L	Maximum	-	-	-	Report	Annually	Grab	EFF-01	
Salinity	PPT	Maximum	-	-	-	Report	Annually	Grab	EFF-01	
Silver, Total Recoverable	UG/L	Maximum	-	-	-	2.3	Semi-Annually	Grab	EFF-01	
Copper, Total Recoverable	UG/L	Maximum	-	-	-	Report	Annually	Grab	EFF-01	
Lead, Total Recoverable	UG/L	Maximum	-	-	-	Report	Annually	Grab	EFF-01	
Nickel, Total Recoverable	UG/L	Maximum	-	-	-	Report	Annually	Grab	EFF-01	
Zinc, Total Recoverable	UG/L	Maximum	-	-	-	Report	Annually	Grab	EFF-01	
Hardness, Total (as CACO3)	MG/L	Maximum	-	Report	-	Report	Annually	Grab	EFF-01	
Chloroform	UG/L	Maximum	-	-	-	Report	Annually	Grab	EFF-01	
Enterococci	#/100ml	Maximum	-	35.0	-	-	5/month average	Grab	EFF-01	
Specific Conductance	UMHO/CM	Maximum				Report	Annually	Grab	EFF-01	

Appendix F. (continued)

PART I: Continued	
Receiving Waters: Gordon River	**Classification (indicate whether fresh or marine):** Class III, Marine
Toxicity Test Requirements (routine and/or additional test language, test species, salinity adjustment, etc.): Acute definitive WET. Species are dependent upon salinity.	
Administrative or Consent Orders (date executed, specific requirements, interim limit dates-if applicable, etc.):	
Facility Mixing Zone Details (if applicable): No mixing zone.	
List Permit Violations (DMR data) and plant upsets that occurred at the plant within the last year:	

Date	Parameter and Units	Limit	Result

Describe previous FYI and WQBEL study: Level 1 WQBEL limiting nitrogen and phosphorus.
Describe previous or current Enforcement Actions (including WLs): **CO /AO for exceeding flow limits at d-002. Issue has been resolved.**
Describe any violations or problems noted in previous inspection: **No significant violations, no violations related to water quality**
Discuss whether DMR trends within previous five years are improving or declining: **No trends**
Additional Comments (this should include a trend of the Effluent, i.e. if the facility is now Reuse):

Appendix F. (continued)

PART II: Sampling Event Information	
Date(s) sample collected: 2-19-2011 to 2-20-2011 for the composite 2-21-2011 for the grab	**Sampler(s):** Alyssa Mork
Temperature (Deg C): CON22111-02: 8.6 CON22111-03: 25.36 CON22111-04: 25.49	**pH (SU):** CON22111-02: 7.34 CON22111-03: 6.75 CON22111-04: 7.03
Dissolved Oxygen (mg/L): CON22111-02: 12.08 CON22111-03: 6.48 CON22111-04: 6.78	**Conductivity (umhos/cm):** CON22111-02: .46 CON22111-03: .48 CON22111-04
Total Residual Chlorine (mg/L): CON22111-02: 2.2 CON22111-03: 2.2 CON22111-04: 2.2	**Total Residual Chlorine - after Disinfection (mg/L):**
Method of Chlorination: Sodium Hypochlorite	**Method of De-chlorination:** Sodium Bisulfite
Flow During Sample Collection for each outfall(MGD):	
Mean Flow for each outfall for previous 12 months based on sampling date (If samples are taken on more than one day, indicate Mean Flow for each day):	
Describe Discharge during Sampling Event: ☐ Continuous ☒ Intermittent ☐ Seasonal ☐ Rainfall Dependent ☐ Other, please specify	

Appendix F. (continued)

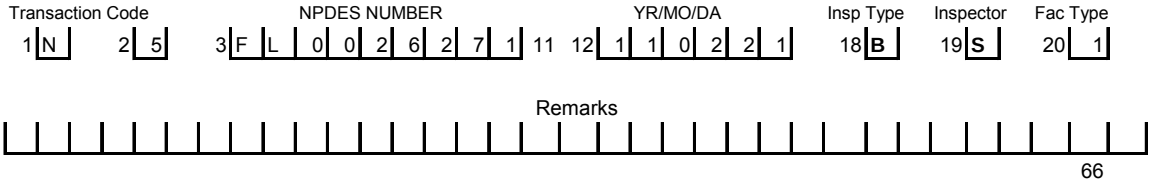
Describe any conditions, difficulties or abnormal events that occurred during the sample collection and any other additional comments here:

Facility was not discharging at the time of the sampling event as reuse demand was high. Samples are representative of normal surface discharge water.

Appendix G. EPA End Sheet

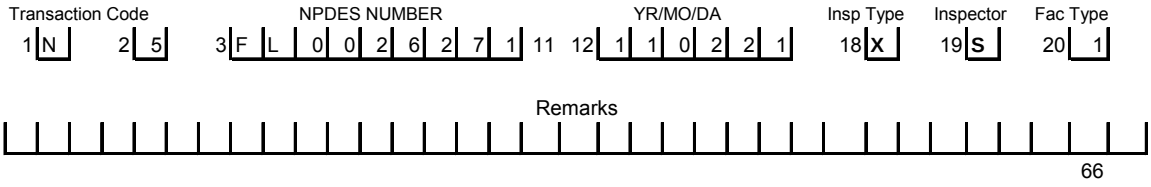
The Bioassay of City of Naples WWTRF sampling point EFA-01, sampled on February 21, 2011. NPDES #FL0026271.

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



The Priority Pollutants Analysis of City of Naples WWTRF sampling point EFA-01 and EFA-02, sampled on February 20 - 21, 2011. NPDES #FL0026271.

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



Biological Analyses of City of Naples WWTRF sampling point EFA-01, sampled on February 21, 2011. NPDES #FL0026271.

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

