

Effluent Quality Assessment

Spanish Lakes Country Club Village
Reverse Osmosis Water Treatment Plant

St. Lucie County

NPDES #FL0345547

Sampled June 13, 2011

October 2011

Biology Section
Bureau of Laboratories
Division of Environmental Assessment and Restoration

Quality Manual No. 870346G
NELAC Certification No. E31780

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Spanish Lakes Country Club Village Water Treatment Plant, 166 Calle de Lagos, Ft. Pierce, St. Lucie County, Florida, 34951. NPDES #FL0345547. Effluent grab samples for biological and chemical analyses for this facility were collected on June 13, 2011.

Introduction

Spanish Lakes Country Club Village Water Treatment Plant is a reverse osmosis (RO) water treatment plant (WTP). The facility discharges RO concentrate blended with stormwater into a stormwater system. (See Appendix F for detailed facility information provided by Terry Davis of FDEP Southeast District.)

Methods

Samples were collected from the EFF-01 NPDES sampling point for Outfall D-001 by Terry Davis (FDEP Southeast 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 48-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.

Results and Discussion

- **Toxicity Test Results**
  Tests were performed June 14 - 16, 2011.

  Ceriodaphnia dubia 48-hour acute screening bioassay – LC_{50} > 100%, 0%* mortality in 100% sample at 48 hours

  Cyprinella leedsi 48-hour acute screening bioassay – LC_{50} > 100%, 5%* mortality in 100% sample at 48 hours

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

  *NOTE: In a 48-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 27.0 A 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 (Miller, et. al., 1978).

  See Table 1 for AGP results and qualifiers.

- **Chemistry Results**
  Total residual chlorine was not detected in the bioassay sample in the laboratory. Total ammonia (0.514 mg N/L) was detected in the bioassay sample in the laboratory. The total ammonia concentration in the grab sample collected and preserved for chemical analysis was 0.74 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, arsenic, copper and iron were detected in the effluent at levels that comply with Class III fresh water quality criteria (62-302.530, F.A.C.). Chromium-III, nickel and selenium were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL). Aluminum was also detected in the equipment blank.

  See Table 2 for results of analytes detected in the effluent, corresponding limits, and qualifiers. 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 EFF-01 NPDES sampling point for this facility on June 13, 2011, was not acutely toxic to either test species during the 48-hour acute screening bioassays. The effluent AGP result was greater than the "problem" threshold for fresh receiving waters suggesting that nutrient enrichment may be an issue. Effluent water quality samples collected on June 13, 2011, did not exceed any applicable water quality standards or violate any permit conditions.

Literature Cited

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

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

Table 1. 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 Spanish Lakes Country Club Village Water Treatment Plant on June 13, 2011.

Spanish Lakes Country Club Village Water Treatment Plant NPDES# FL0345547												
Location	**AGP (measured)**		**Predicted AGP (TSIN) ± 20%**			**Predicted AGP (TN) ± 20%**			**Inorganic N:P ratio**	**Total N:P ratio**		
Effluent	27.0	A	29.0	±	5.8	73.1	±	14.6	2.3	2.5		

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

Table 2. Effluent limits, Class III Freshwater Criteria, chemical data, and qualifiers for samples collected from the Spanish Lakes Country Club Village Water Treatment Plant on June 13, 2011.

Spanish Lakes Country Club Village Water Treatment Plant NPDES# FL0345547	Class III Criteria	Effluent Limits	Effluent	
Metals (µg/L unless otherwise noted)				
Aluminum	-	-	117	
Arsenic	≤ 50	-	1.08	
Cadmium	≤ 0.7 b	-	0.05	U
Calcium (mg/L)	-	-	135	
Chromium-III	≤ 251.6 b	-	1.1	I
Copper	≤ 28.5 b	-	4.72	
Iron	≤ 1,000	≤ 1,000 s	130	
Lead	≤ 16.8 b	-	0.2	U
Magnesium (mg/L)	-	-	7.99	
Nickel	≤ 157.8 b	-	0.35	I
Selenium	≤ 5.0	-	0.2	I
Silver	≤ 0.07	-	0.025	U
Zinc	≤ 363.0 b	-	5	U
Nutrients (mg/L)				
Ortho-phosphate	-	-	0.33	
Total Phosphorus	-	-	0.77	
Total Ammonia	-	-	0.74	
Un-ionized Ammonia	≤ 0.02 s	-	< 0.02	c
Nitrate and Nitrite	-	-	0.024	
Total Kjeldahl Nitrogen	-	-	1.9	
Organic Nitrogen	-	-	1.16	c
Total Nitrogen	-	-	1.924	c
General Physical and Chemical Parameters				
Dissolved Oxygen (mg/L)	≥ 5.0	-	6.8	£
pH (SU)	6.0 - 8.5	6.0 - 8.5	7.0	
Conductivity (µmhos/cm)	≤ 1,275	-	1089	
Temperature (°C)	-	-	29.7	
Salinity	-	-	0.49	c
Total Residual Chlorine (mg/L)	≤ 0.01	-	< 0.03	UQ£
Chlorophyll *a* (µg/L) - Corrected	-	-	14	
Phaeophytin (µg/L)	-	-	6.7	
Total Suspended Solids (mg/L)	-	-	10	I
Flow (MGD)	-	≤ 0.08	0.059	m
Hardness (mg $CaCO_3$)	-	-	370.00	c

Value exceeds the Class III Water Quality Criteria or permit limits

a - Annual average

b - Value is calculated based on hardness

c - Value is calculated

m - Monthly average unblended flow, monitored from 6/30/2010 - 5/31/2011

s - Single sample

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

Q - Sample held beyond normal holding time

U - Material analyzed for but not detected; value reported is the method detection limit

£ - measurement taken in the FDEP laboratory

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2011-06-13-19
FYI3 Sampling Inspection for Spanish Lakes CC Village

Requester: Edward Smith
Field Report Prepared By: T. Davis

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

Collected By: T Davis
Sampling Agency: SED
Send Final Report To: Michael Hambor/Terry Davis

Lab ID *	Location / Field ID / Matrix / Temp (C) / pH / Latitude / Longitude	Collection (begin) / Collection (end) / Tot Res Chlorine (mg/L) / Diss Oxygen (mg/L) / Storet Station Number / Sample Depth / Salinity (PPTh) / Sp Conductance (umho/cm) / NPDES Number / Comments	Bottle Group(s)**
	Location: D001 – Blended discharge to Lake #7 Field ID: 51-SL-1 Matrix: water - fresh; Temp (C): 29.73; pH: 6.96 Latitude: ☐ dd ☐ dms; Longitude: ☐ dd ☐ dms	☐ Comp ☐ Grab; Collection (begin) Date 6.11.11 Time 1110 Eastern Central; Collection (end) Date Time Eastern Central Tot Res Chlorine (mg/L); Diss Oxygen (mg/L) 18.32; Storet Station Number Sample Depth ☒ m ☐ ft .01; 1089 ☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm); NPDES Number Comments: Pres as rqd pH = <2	A
	Location: Equip. Blank Field ID: 51-SL-2 Matrix: DI water; Temp (C); pH Latitude: ☐ dd ☐ dms; Longitude: ☐ dd ☐ dms	☐ Comp ☐ Grab; Collection (begin) Date 6.11.11 Time 1030 Eastern Central; Collection (end) Date Time Eastern Central 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: Pres as rqd. pH = <2	B
	Location Field ID Matrix (include type e.g. Salt, Fresh, etc); Temp (C); pH Latitude: ☐ dd ☐ dms; Longitude: ☐ dd ☐ dms	☐ Comp ☐ Grab; Collection (begin) Date Time Eastern Central; Collection (end) Date Time Eastern Central 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	Bottle Group(s)**
	Location Field ID Matrix (include type e.g. Salt, Fresh, etc); Temp (C); pH Latitude: ☐ dd ☐ dms; Longitude: ☐ dd ☐ dms	☐ Comp ☐ Grab; Collection (begin) Date Time Eastern Central; Collection (end) Date Time Eastern Central 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: 2 bossay Reid inter by JD 9.46 6.14.11	Bottle Group(s)**

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
T Davis	6/13/1400	Fedex					SK	6.14.11/9.16

* Shaded Areas for Lab use only

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

FDEP Biology Laboratory - Acute Bioassay Bench Sheets

Facility: Spanish Lakes R/O

Address: 1616 Calle de Lagos

City: Ft. Pierce County: St. Lucie

Contact/District: Terry Davis / Southeast

NPDES Permit #: FL 0345547

LIMS Job #: TLH-2011-06-14-44 LIMS Sample #: 1357086

Lims Data Entry: BA 7.8.11

Data Entry Verification: 7.8.11 MF

Sample Collection: Date: 6.13.11 Time: 1110

Hold Time Start: Date: 6.13.11 Time: 1110

Comments:

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: ____mg/L Final DO: ____mg/L Duration: ____minutes Rate: ~____bubbles/min

Salinity adjusted (Test 1): ☐ yes ☑ no Initial Salinity: ____ Final Salinity: ____ Salts Hypersaline brine

Salinity adjusted (Test 2): ☐ yes ☑ no Initial Salinity: ____ Final Salinity: ____ Salts Hypersaline brine

Dechlorination: ☐ yes ☑ no ____mL of 0.025N Sodium Thiosulfate per liter of sample. Final TRC: ____

Sample Validation:

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:
Kala Coy	KC
Bruce Hiatt	BH
James Danish	JD
Marshall Fairbeth	MF
REVIEWER: Jay Miller	

Diluent/Control Batch#:	6.10.11	6.13.11							
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	—	KC
Lab Total Residual Cl_2 (mg/L):	<0.03	<0.03					<0.03	JD	KC
Alkalinity (mg/L as $CaCO_3$):	82	146					255	KC	KC
Hardness (mg/L as $CaCO_3$):	82	140					583	KC	KC
Total Ammonia (mg/L as N):	<0.017	<0.017					0.514	BA	KC
Conductivity: ☑ µmhos ☐ mmhos	177	277					1092	KC/JD	KC
Salinity (ppth):	—	—					—	—	—

V 1.8 1/13/10

Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample # 1357086 SOP#: TA 07 D1 Test # 1 of 2

Test Species:
Batch #: 10.14.11 Age: < 24 hrs
- [x] *Ceriodaphnia dubia*
- [ ] *Cyprinella leedsi*
- [ ] *Pimephales promelas*
- [ ] *Menidia beryllina*
- [ ] *Americamysis bahia*
- [ ] Other:_____

Test Validation
Control Survival ≥ 90%: [x] Yes [ ] No
Temperature Range ≤ 3° C: [x] Yes [ ] No

Diluent (Batch # 10.10.11)
- [ ] ASW
- [x] 20% DMW
- [ ] MHW
- [ ] Well

Test Type: [x] Acute [ ] Definitive
[x] Static [ ] Static Renewal [ ] Flow-Through

Test Duration:
- [x] 48 hr
- [ ] 96 hr
- [ ] ___hr

Test Started: Date 10.14.11 Time 1145

Test Ended: Date 10.16.11 Time 1245

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			
	B	B	5	5	5			
	C	C	5	5	5			
	D	D	5	5	5			
100%	A	A	5	5	5			
	B	B	5	5	5			
	C	C	5	5	5			
	D	D	5	5	5			
Checked or Verified by:			JD	KC	KC			

Loaded/ Verified by: KC / 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: 0 % LC50: >100 %
Calculated LC50 (Definitive) 95% CI_____ Method_____

Food
- [x] YCT Batch# 5.5.11
- [x] P. subcapitata Batch# 4.18.11
- [ ] Artemia Lot#_____

Feeding and Artemia Batch #
- [x] 0 hr_____ [x] Prior to Test
- [ ] 24 hr___
- [x] 48 hr___ [ ] Prior to Renewal (KC)
- [ ] 72 hr___

Temperature Range (°C)
Incubator # 2
min. 25.6 max 27.4 mean ___

Incubator #___
min.____max.____mean____

Waterbath #___
min.____max.____mean____

Room B246
min. 22.5 max 23.1 mean ___

Light intensity (ft. candles): 50-100

Photoperiod (hours): 16 light, 8 dark

Comments:

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 # 1357086 SOP#: TA 07.02 Test # 2 of 2

Test Species: Batch #: 6.14.11 Age: 13 days
- ☐ 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 # 6.13.11)
☐ 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 6.14.11 Time 1315

Test Ended: Date 6.16.11 Time 1450

Concentration	Replicate	Chamber #	0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Ctrl.	A	C1	5	5	5			
	B	C2	5	5	5			
	C	C3	5	5	5			
	D	C4	5	5	5			
100%	A	C5	5	5	4 1D			
	B	C6	5	5	5			
	C	C7	5	5	5			
	D	C8	5	5	5			
Checked or Verified by:			JD	JD	JD			

Loaded/ Verified by: JD / BA

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

Test Results:
Screening Tests: Report LC50 as >100%, =100%, or <100%.
% mortality in 100% sample: 5% LC50: >100%
Calculated LC50 (Definitive) 95% CI______ Method______

Comments:

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

Feeding and Artemia Batch #
- ☑ 0 hr 105-11 ☑ Prior to Test
- ☐ 24 hr____
- ☐ 48 hr____ ☐ Prior to Renewal
- ☐ 72 hr____

Temperature Range (°C)

Incubator # 5
min. 24.8 max. 26.2 mean –

Incubator #___
min.____ max.____ mean____

Waterbath #___
min.____ max.____ mean____

Room B246
min. 22.5 max. 23.1 mean –

Light Intensity (ft. candles): 50-100

Photoperiod (hours): 16 light, 8 dark

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 Parameter Sheet

LIMS Sample #1357086 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)
	M	0 hr	8.0	24.8	7.7	177	—
	—	24 hr	—	—	—	—	—
Ctrl.	A	48 hr BR	7.9	24.0	7.5	195	—
		48 hr AR					
		72 hr					
		96 hr					
	M	0 hr	7.6	26.1	6.8	1092	—
	—	24 hr	—	—	—	—	—
100%	A	48 hr BR	8.6	24.1	7.7	1086	—
		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					
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		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

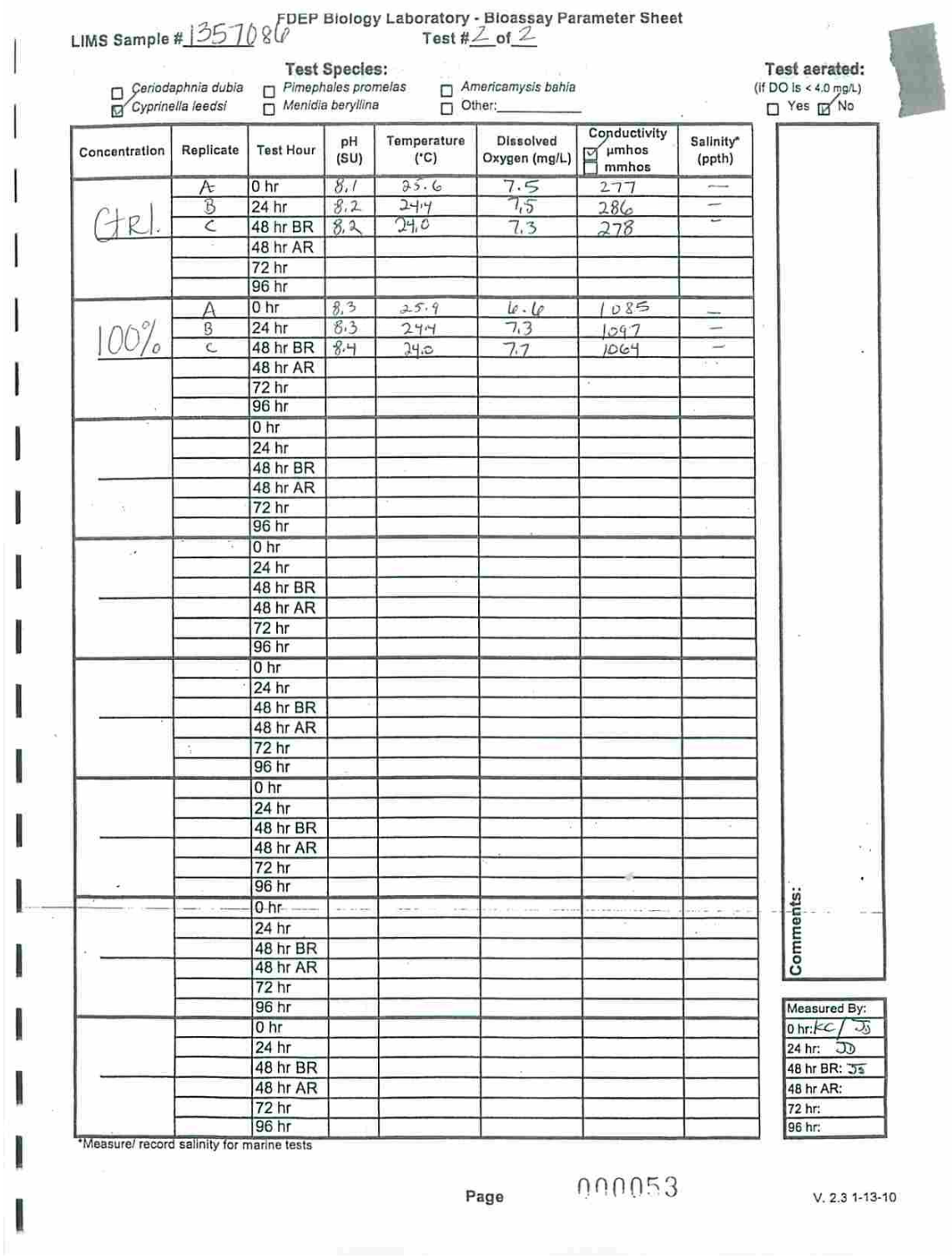
Comments:

Measured By:
0 hr: KC
24 hr: —
48 hr BR: KC
48 hr AR:
72 hr:
96 hr:

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V. 2.3 1-13-10

Appendix B. (continued)



FDEP Biology Laboratory - Bioassay Parameter Sheet

LIMS Sample # 1357086 Test # 2 of 2

Test Species:

☐ *Ceriodaphnia dubia* ☑ *Cyprinella leedsi* ☐ *Pimephales promelas* ☐ *Menidia beryllina* ☐ *Americamysis bahia* ☐ 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	8.1	25.6	7.5	277	—
	B	24 hr	8.2	24.4	7.5	286	—
	C	48 hr BR	8.2	24.0	7.3	278	—
		48 hr AR					
		72 hr					
		96 hr					
100%	A	0 hr	8.3	25.9	6.6	1085	—
	B	24 hr	8.3	24.4	7.3	1097	—
	C	48 hr BR	8.4	24.0	7.7	1064	—
		48 hr AR					
		72 hr					
		96 hr					
		0 hr					
		24 hr					
		48 hr BR					
		48 hr AR					
		72 hr					
		96 hr					
		0 hr					
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		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: KC / JS
24 hr: JD
48 hr BR: JS
48 hr AR:
72 hr:
96 hr:

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V. 2.3 1-13-10

Appendix B. (continued)

Test ID: Spanish Lakes R/O Dates: 6.14.11 - 6.16.11

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-SN101686412 #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)

entered 6.16.11 by Karen Cox

V 1.1 9/21/10 MF/jd

000054

Appendix C. SRT Bench Sheets and Statistical Analysis

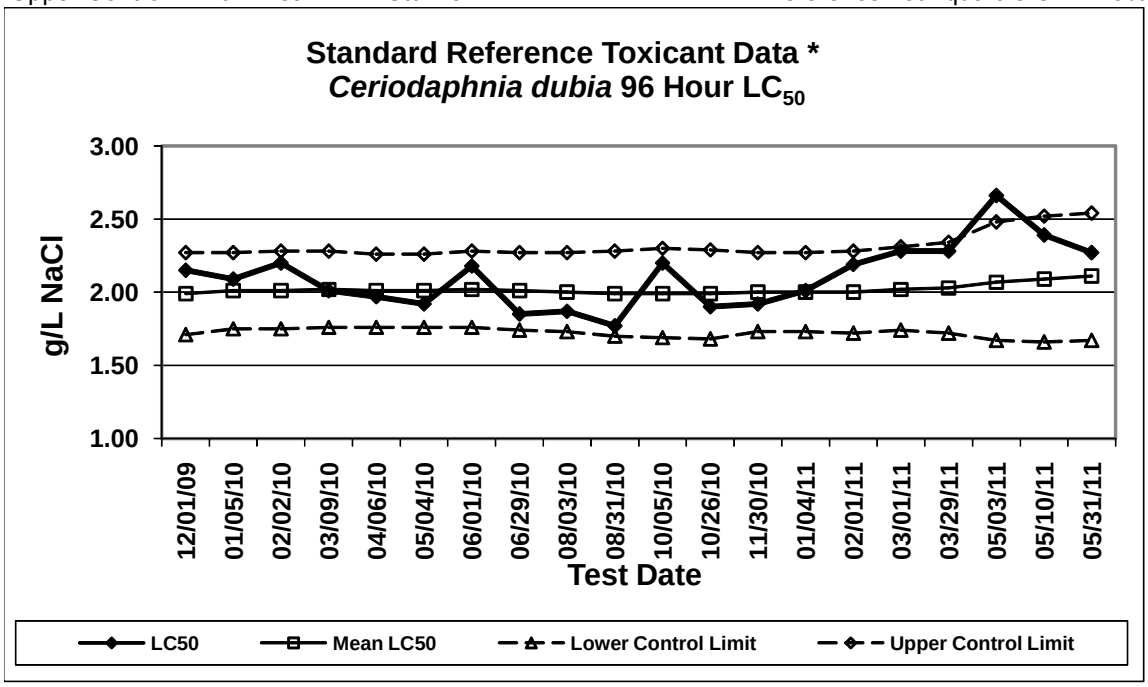
Florida Department of Environmental Protection
Bureau of Laboratories

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
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
03/01/11	2.28	2.02	0.14	1.74	2.31
03/29/11	2.28	2.03	0.15	1.72	2.34
05/03/11	2.66	2.07	0.20	1.67	2.48
05/10/11	2.39	2.09	0.21	1.66	2.52
05/31/11	2.27	2.11	0.22	1.67	2.54

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

CV = 10.28
EPA reference 75th quartile CV = 29%



Appendix C. (continued)

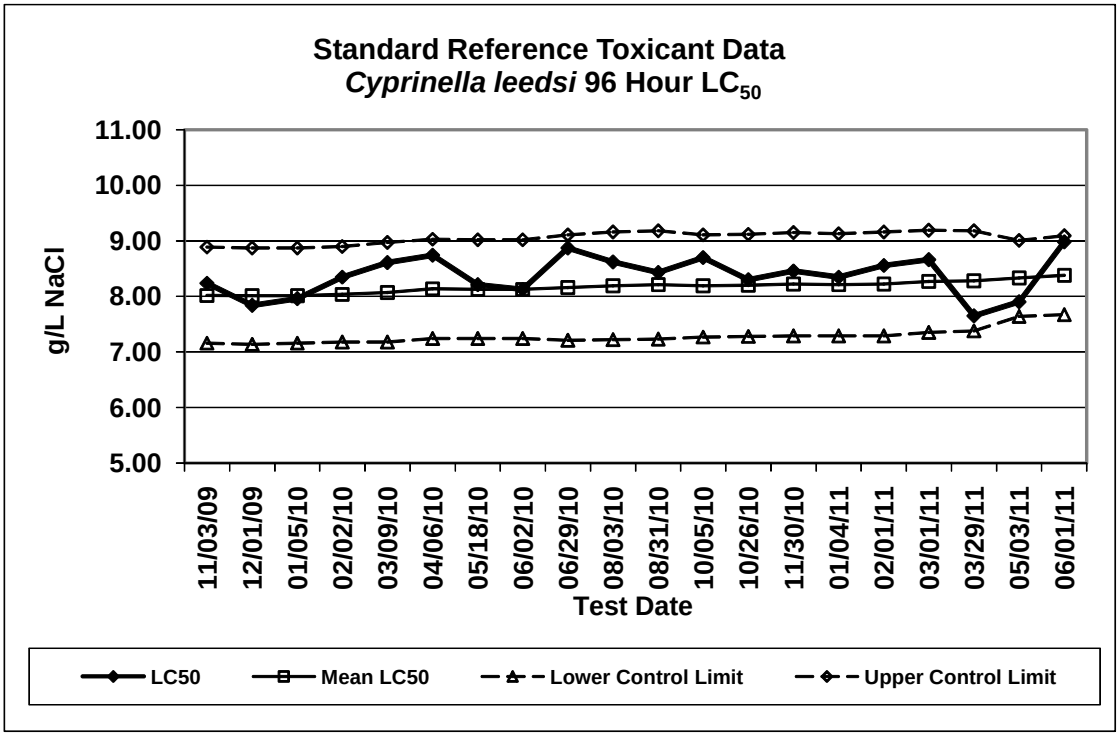
Florida Department of Environmental Protection
Bureau of Laboratories

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

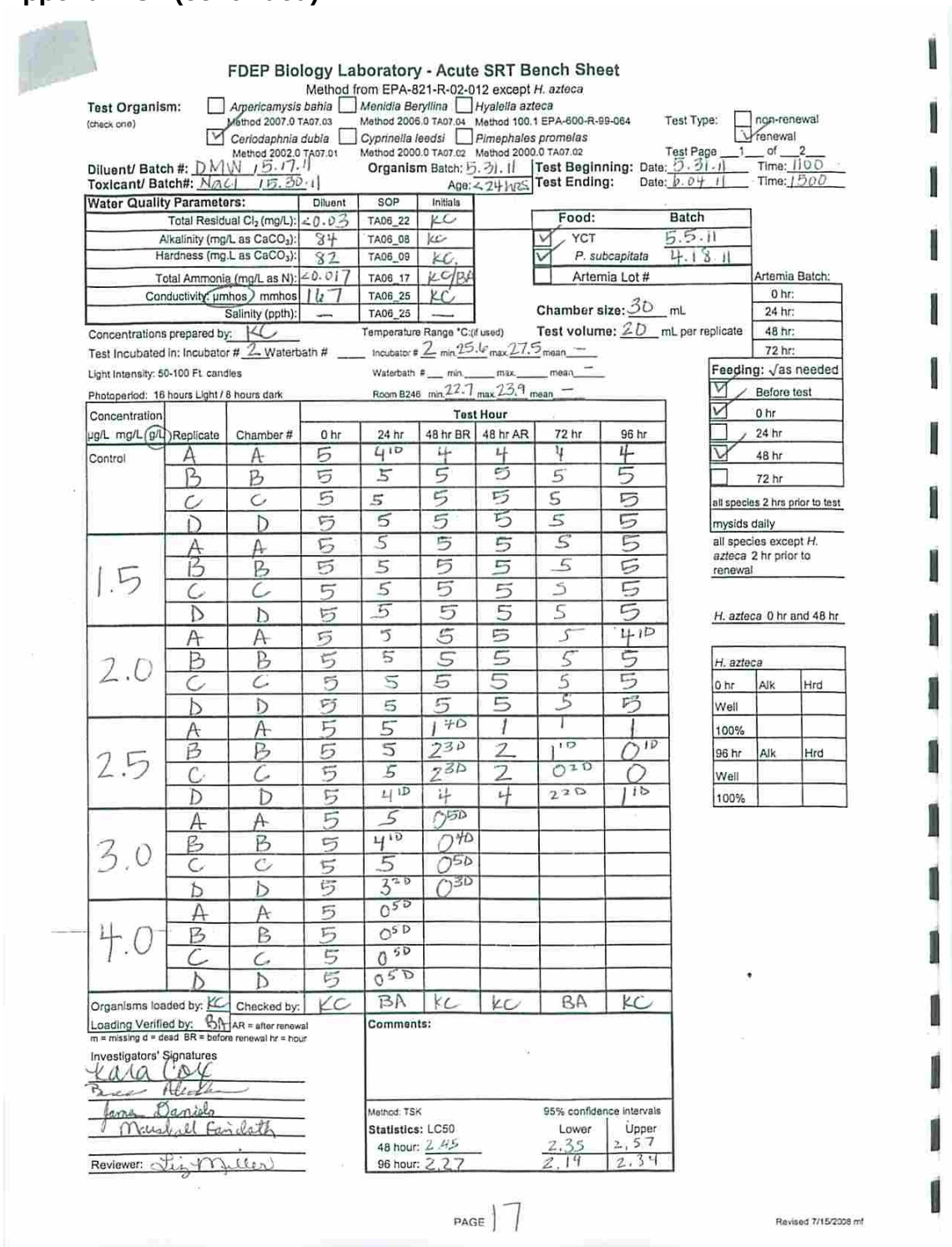
Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
11/03/09	8.24	8.02	0.43	7.16	8.89
12/01/09	7.84	8.01	0.43	7.14	8.87
01/05/10	7.96	8.01	0.43	7.16	8.87
02/02/10	8.35	8.04	0.43	7.18	8.90
03/09/10	8.61	8.07	0.45	7.18	8.97
04/06/10	8.74	8.14	0.45	7.24	9.03
05/18/10	8.21	8.13	0.45	7.24	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
03/01/11	8.66	8.27	0.46	7.35	9.19
03/29/11	7.65	8.28	0.45	7.38	9.18
05/03/11	7.90	8.33	0.34	7.64	9.01
06/01/11	8.98	8.38	0.36	7.67	9.09

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

CV = 4.25
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 15.17.11 **Organism** Batch: 5.31.11 **Test Beginning:** Date: 5.31.11 Time: 1100

Toxicant/ Batch#: NaCl 15.30.11 Age: <24 hrs **Test Ending:** Date: 6.04.11 Time: 1500

Water Quality Parameters:	Diluent	SOP	Initials
Total Residual Cl_2 (mg/L):	<0.03	TA06_22	KC
Alkalinity (mg/L as $CaCO_3$):	84	TA06_08	KC
Hardness (mg.L as $CaCO_3$):	82	TA06_09	KC
Total Ammonia (mg/L as N):	<0.017	TA06_17	KC/BA
Conductivity: µmhos mmhos	167	TA06_25	KC
Salinity (ppth):	—	TA06_25	—

Food:	Batch
☑ YCT	5.5.11
☑ *P. subcapitata*	4.18.11
☐ 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: KC

Temperature Range °C:(if used)

Test Incubated in: Incubator # 2 Waterbath # ____ Incubator # 2 min. 25.6 max. 27.5 mean —

Light Intensity: 50-100 Ft. candles Waterbath # ___ min. ___ max. ___ mean ___

Photoperiod: 16 hours Light / 8 hours dark Room B246 min. 22.7 max. 23.9 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	4 1D	4	4	4	4
	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	5
	D	D	5	5	5	5	5	5
2.0	A	A	5	5	5	5	5	4 1D
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
2.5	A	A	5	5	1 4D	1	1	1
	B	B	5	5	2 3D	2	1 1D	0 1D
	C	C	5	5	2 3D	2	0 2D	0
	D	D	5	4 1D	4	4	2 2D	1 1D
3.0	A	A	5	5	0 5D			
	B	B	5	4 1D	0 4D			
	C	C	5	5	0 5D			
	D	D	5	3 2D	0 3D			
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: KC		Checked by:	KC	BA	KC	KC	BA	KC

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

Loading Verified by: BA AR = after renewal

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

Investigators' Signatures

Kara Cox

Brian Alicki

Jana Daniels

Marshall Faircloth

Reviewer: Liz Miller

Comments:

Method: TSK

Statistics: LC50	95% confidence intervals Lower	Upper
48 hour: 2.45	2.35	2.57
96 hour: 2.27	2.14	2.34

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Revised 7/15/2008 mf

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: 5.31.11 Time: 1100
Test Ending: Date: 6.4.11 Time: ~~1300~~ 1500 KC

Test Type: ☐ non-renewal ☑ renewal

hr = hour AR = after renewal BR = before renewal

Concentration µg/L mg/L g/L	Replicate	Test Hour	pH (SU)	Temperature (°C)	Dissolved Oxygen (mg/L)	Conductivity ☑ µmhos ☑ mmhos	Salinity (ppth)
Control	M	0 hr	8.0	24.0	8.0	0.167	—
	—	24 hr	—	—	—	—	—
	A	48 hr BR	8.0	25.2	6.8	0.227	—
	M	48 hr AR	8.2	24.0	7.5	0.168	—
	—	72 hr	—	—	—	—	—
	A	96 hr	8.4	24.4	7.4	0.197	—
1.5	M	0 hr	8.0	24.6	7.8	2.96	—
	—	24 hr	—	—	—	—	—
	A	48 hr BR	8.0	25.2	7.1	3.23	—
	M	48 hr AR	8.2	24.0	7.5	3.00	—
	—	72 hr	—	—	—	—	—
	A	96 hr	8.2	24.4	7.4	3.31	—
2.0	M	0 hr	8.1	24.5	7.8	3.84	—
	—	24 hr	—	—	—	—	—
	A	48 hr BR	8.1	25.1	7.4	4.04	—
	M	48 hr AR	8.2	24.1	7.6	3.91	—
	—	72 hr	—	—	—	—	—
	A	96 hr	8.2	24.4	7.3	4.27	—
2.5	M	0 hr	8.1	24.5	7.8	4.77	—
	—	24 hr	—	—	—	—	—
	A	48 hr BR	8.1	25.2	7.5	5.13	—
	M	48 hr AR	8.2	24.1	7.6	4.86	—
	—	72 hr	—	—	—	—	—
	A	96 hr	8.2	24.6	7.3	5.23	—
3.0	M	0 hr	8.1	24.3	7.8	5.68	—
	—	24 hr	—	—	—	—	—
	A	48 hr BR	8.1	25.2	7.4	6.11	—
	M	48 hr AR	8.1	24.2	7.7	5.78	—
		72 hr					
		96 hr					
4.0	M	0 hr	8.1	24.0	7.8	7.37	—
	A	24 hr	7.8	24.0	6.6	8.08	—
		48 hr BR					
		48 hr AR					
		72 hr					
		96 hr					

Investigators Signatures
Kate Clary
Grace Alcala
James Daniels
Marshall Faircloth

Reviewed By: Lizmoore

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

Measure/record salinity for marine tests

Comments:

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Revised 07/15/2008 MF

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 #: WCII 15.31.11
Toxicant/ Batch#: NaCl 15.30.11
Organism Batch: 6.01.11 Age: 13day
Test Beginning: Date: 06.01.11 Time: 1315
Test Ending: Date: 06.05.11 Time: 1450

Water Quality Parameters:	Diluent	SOP	Initials
Total Residual Cl_2 (mg/L):	<0.03	TA06_22	KC
Alkalinity (mg/L as $CaCO_3$):	142	TA06_08	KC
Hardness (mg.L as $CaCO_3$):	139	TA06_09	KC
Total Ammonia (mg/L as N):	<0.017	TA06_17	BA
Conductivity: µmhos mmhos	274	TA06_25	KC
Salinity (ppth):	—	TA06_25	—

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

Artemia Batch:
0 hr: 101-11
24 hr:
48 hr: 103-11
72 hr:

Chamber size: 1000 mL
Test volume: 400 mL per replicate

Concentrations prepared by: KC
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 25.8 max 27.5 mean —
Waterbath # ___ min ____ max ____ mean ____
Room B246 min 23.2 max 23.9 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	B1	10	9 1D	9	9	9	9
	B	B2	10	10	10	10	10	10
6	A	B3	10	9 1D	9	9	8 1D	8
	B	B4	10	10	10	10	10	10
7	A	B5	10	10	10	10	9 1D	9
	B	B6	10	9 1D	9	9	9	9
8	A	B7	10	9 1D	9	9	9	9
	B	B8	10	10	9 1D	9	9	9
9	A	B9	10	7 3D	7	7	6 1D	5 1D
	B	B10	10	5 5D	5	5	5	5
10	A	B11	10	0 1D				
	B	B12	10	0 1D				
Organisms loaded by: JD		Checked by:	JD	JD	JD	JD	JD	KC
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
Kayla Coy
James Daniels
Brad Allen
Marshall Faircloth

Reviewer: Liz Miller

Comments:

Method: TSK

Statistics: LC50	95% confidence intervals Lower	Upper
48 hour: 9.04	8.80	9.29
96 hour: 8.98	8.72	9.24

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Revised 7/15/2008 mf

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: 6.01.11 Time: 1315
Test Ending: Date: 6.05.11 Time: 02 1450 KC
Test Type: ☐ non-renewal ☑ renewal

hr = hour AR = after renewal BR = before renewal

Concentration µg/L mg/L g/L	Replicate	Test Hour	pH (SU)	Temperature (°C)	Dissolved Oxygen (mg/L)	Conductivity ☐ µmhos ☑ mmhos	Salinity (ppth)
Control	A	0 hr	7.9	25.9	7.3	0.274	—
	B	24 hr	8.2	25.1	7.0	0.277	—
	A	48 hr BR	8.2	25.6	7.0	0.281	—
	A	48 hr AR	8.1	25.8	7.6	0.265	—
	B	72 hr	7.9	25.9	6.3	0.295	—
	A	96 hr	8.1	25.2	6.9	0.298	—
6	A	0 hr	7.9	25.89 JD	7.3	10.7	—
	B	24 hr	8.1	25.3	7.0	10.9	—
	A	48 hr BR	8.2	25.7	7.0	10.8	—
	A	48 hr AR	8.1	25.6	7.5	10.3	—
	B	72 hr	7.9	25.9	5.9	11.4	—
	A	96 hr	8.1	25.8	7.0	11.6	—
7	A	0 hr	7.9	25.9	7.3	12.4	—
	B	24 hr	8.0	25.5	6.8	12.5	—
	A	48 hr BR	8.2	25.6	6.9	12.8	—
	A	48 hr AR	8.1	25.6	7.4	12.1	—
	B	72 hr	7.9	25.9	6.4	13.2	—
	A	96 hr	8.0	25.6	6.5	13.2	—
8	A	0 hr	7.9	25.9	7.3	14.2	—
	B	24 hr	8.0	25.5	7.1	14.4	—
	A	48 hr BR	8.2	25.5	7.0	14.3	—
	A	48 hr AR	8.1	25.6	7.5	13.3	—
	B	72 hr	7.8	25.9	6.0	14.5	—
	A	96 hr	8.1	25.6	6.8	14.6	—
9	A	0 hr	7.9	25.9	7.3	15.7	—
	B	24 hr	8.0	24.8	6.7	16.0	—
	A	48 hr BR	8.2	25.9	6.9	16.1	—
	A	48 hr AR	8.1	25.7	7.5	15.4	—
	B	72 hr	7.9	25.9	6.5	16.4	—
	A	96 hr	8.0	26.1	6.4	16.6	—
10	A	0 hr	7.9	25.9	7.3	17.3	—
	B	24 hr	7.9	25.3	6.1	17.6	—
		48 hr BR					
		48 hr AR					
		72 hr					
		96 hr					

Investigators Signatures
Karen Cox
Anna Daniels
Bruce Allicks
Marshall Faircloth

Reviewed By:

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

Measure/record salinity for marine tests

Comments:

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Revised 07/15/2008 MF

Appendix C. (continued)

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

DATE: 5-31-11 DURATION: 96 h TOXICANT: NaCl
SPECIES: *Ceriodaphnia dubia*

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

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: LC50: 2.27
95% LOWER CONFIDENCE: 2.19
95% UPPER CONFIDENCE: 2.34

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

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

DATE: 6-1-11 DURATION: 96 h TOXICANT: NaCl
SPECIES: *Cyprinella leedsi*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
.00	20	1
6.00	20	2
7.00	20	2
8.00	20	2
9.00	20	10
10.00	20	20

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: LC50: 8.98
95% LOWER CONFIDENCE: 8.72
95% UPPER CONFIDENCE: 9.24

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

Appendix D. Test Organism Receipt

MARINCO BIOASSAY LABORATORY
The Aquatic Toxicology Specialists

NELAP Certification # E84191

Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Shipping Date: 6/13/11

Ship to: FDEP

P.O. No: _____

Species	Quantity	Age	Brood/Lot Number	Temp. (°C)	pH (S.U.)	Salinity (‰)
Mysidopsis bahia						
Menidia beryllina						
						Hardness mg/L
Cyprinella leedsi	200 ac	10 DAYS	CL 110661	25	7.5	80
Pimephales promelas	600	<24 Hrs	FM 110612-1715	25	7.5	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 E. Chemical Analyses performed on the effluent from the Spanish Lakes Country Club Village Water Treatment Plant Outfall D-001, sampled on June 13, 2011.

Date Sampled	Field ID	Analysis Group	Component	Results	Remark	Units	MDL	PQL
6/13/2011 11:10	Effluent	AGP/LN	Algal Growth Potential	27	A	mg DryWt/L	0.3	0.9
6/13/2011 11:10	Effluent	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	14		ug/L	0.79	2.4
6/13/2011 11:10	Effluent	Chlorophyll/Grain Size/BOD	Phaeophytin-a	6.7		ug/L	0.57	1.7
6/13/2011 11:10	Effluent	Toxicology	Bioassay-Acute-Screen-FW-C.dubia, LC50	100	L	LC50		
6/13/2011 11:10	Effluent	Toxicology	Bioassay-Acute-Screen-FW-Fish, LC50	100	L	LC50		
6/13/2011 11:10	Effluent	Metals	Cadmium	0.05	U	ug/L	0.05	0.2
6/13/2011 11:10	Effluent	Metals	Nickel	0.35	I	ug/L	0.25	1
6/13/2011 11:10	Effluent	Metals	Magnesium	7.99		mg/L	0.04	0.16
6/13/2011 11:10	Effluent	Metals	Calcium	135		mg/L	0.075	0.3
6/13/2011 11:10	Effluent	Metals	Aluminum	117		ug/L	5	20
6/13/2011 11:10	Effluent	Metals	Zinc	5	U	ug/L	5	20
6/13/2011 11:10	Effluent	Metals	Arsenic	1.08		ug/L	0.25	1
6/13/2011 11:10	Effluent	Metals	Chromium	1.1	I	ug/L	0.3	1.2
6/13/2011 11:10	Effluent	Metals	Selenium	0.2	I	ug/L	0.2	0.8
6/13/2011 11:10	Effluent	Metals	Copper	4.72		ug/L	0.5	1
6/13/2011 11:10	Effluent	Metals	Lead	0.2	U	ug/L	0.2	0.8
6/13/2011 11:10	Effluent	Metals	Iron	130		ug/L	30	120
6/13/2011 11:10	Effluent	Metals	Silver	0.025	U	ug/L	0.025	0.1
6/13/2011 11:10	Effluent	Nutrients	Kjeldahl Nitrogen	1.9		mg N/L	0.08	0.2
6/13/2011 11:10	Effluent	Nutrients	NO2NO3-N	0.024		mg N/L	0.004	0.01
6/13/2011 11:10	Effluent	Nutrients	O-Phosphate-P	0.33		mg P/L	0.02	0.05
6/13/2011 11:10	Effluent	Nutrients	Total-P	0.77		mg P/L	0.005	0.05
6/13/2011 11:10	Effluent	Nutrients	Ammonia-N	0.74		mg N/L	0.01	0.02
6/13/2011 11:10	Effluent	Nutrients	TSS	10	I	mg/L	2	10
6/13/2011 11:10	Effluent	Pesticides	Malathion	0.15	U	ug/L	0.15	0.6
6/13/2011 11:10	Effluent	Pesticides	Mevinphos	0.2	U	ug/L	0.2	0.8
6/13/2011 11:10	Effluent	Pesticides	Parathion Ethyl	0.15	U	ug/L	0.15	0.6
6/13/2011 11:10	Effluent	Pesticides	Alachlor	0.6	UJ	ug/L	0.6	2.4
6/13/2011 11:10	Effluent	Pesticides	Chlorpyrifos Methyl	0.1	U	ug/L	0.1	0.4
6/13/2011 11:10	Effluent	Pesticides	Diazinon	0.05	U	ug/L	0.05	0.2
6/13/2011 11:10	Effluent	Pesticides	Ethoprop	0.1	U	ug/L	0.1	0.4

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Results	Remark	Units	MDL	PQL
6/13/2011 11:10	Effluent	Pesticides	Fenamiphos	0.2	U	ug/L	0.2	0.8
6/13/2011 11:10	Effluent	Pesticides	Metolachlor	0.5	UJ	ug/L	0.5	2
6/13/2011 11:10	Effluent	Pesticides	Metribuzin	0.1	U	ug/L	0.1	0.4
6/13/2011 11:10	Effluent	Pesticides	Parathion Methyl	0.1	U	ug/L	0.1	0.4
6/13/2011 11:10	Effluent	Pesticides	Prometryn	0.15	U	ug/L	0.15	0.6
6/13/2011 11:10	Effluent	Pesticides	Ametryn	0.05	U	ug/L	0.05	0.2
6/13/2011 11:10	Effluent	Pesticides	Fonofos	0.1	U	ug/L	0.1	0.4
6/13/2011 11:10	Effluent	Pesticides	Hexazinone	0.1	U	ug/L	0.1	0.4
6/13/2011 11:10	Effluent	Pesticides	Naled	0.8	U	ug/L	0.8	3.2
6/13/2011 11:10	Effluent	Pesticides	Bromacil	0.2	UJ	ug/L	0.2	0.8
6/13/2011 11:10	Effluent	Pesticides	Butylate	0.2	UJ	ug/L	0.2	0.8
6/13/2011 11:10	Effluent	Pesticides	Phorate	0.05	U	ug/L	0.05	0.2
6/13/2011 11:10	Effluent	Pesticides	Chlorpyrifos Ethyl	0.05	U	ug/L	0.05	0.2
6/13/2011 11:10	Effluent	Pesticides	Metalaxyl	0.25	U	ug/L	0.25	1
6/13/2011 11:10	Effluent	Pesticides	Simazine	0.05	U	ug/L	0.05	0.2
6/13/2011 11:10	Effluent	Pesticides	Azinphos Methyl	0.2	U	ug/L	0.2	0.8
6/13/2011 11:10	Effluent	Pesticides	Ethion	0.05	U	ug/L	0.05	0.2
6/13/2011 11:10	Effluent	Pesticides	Norflurazon	0.15	U	ug/L	0.15	0.6
6/13/2011 11:10	Effluent	Pesticides	Atrazine	0.05	U	ug/L	0.05	0.2
6/13/2011 11:10	Effluent	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.96	U	ug/L	0.96	3.8
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Pyrene	0.19	U	ug/L	0.19	0.77
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Acenaphthylene	0.19	U	ug/L	0.19	0.77
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.19	U	ug/L	0.19	0.77
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Fluorene	0.19	U	ug/L	0.19	0.77
6/13/2011 11:10	Effluent	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.7
6/13/2011 11:10	Effluent	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	12
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.7
6/13/2011 11:10	Effluent	Priority Organic Pollutants	2,4-Dichlorophenol	0.96	U	ug/L	0.96	3.8
6/13/2011 11:10	Effluent	Priority Organic Pollutants	2,4-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
6/13/2011 11:10	Effluent	Priority Organic Pollutants	2-Nitrophenol	0.96	U	ug/L	0.96	3.8
6/13/2011 11:10	Effluent	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.96	U	ug/L	0.96	3.8
6/13/2011 11:10	Effluent	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.96	U	ug/L	0.96	3.8
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Acenaphthene	0.19	U	ug/L	0.19	0.77

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Results	Remark	Units	MDL	PQL
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Benzidine	96	U	ug/L	96	380
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Benzo(a)anthracene	0.19	U	ug/L	0.19	0.77
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Benzo(k)fluoranthene	0.19	U	ug/L	0.19	0.77
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	12
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Chrysene	0.19	U	ug/L	0.19	0.77
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Isophorone	0.96	U	ug/L	0.96	3.8
6/13/2011 11:10	Effluent	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	58
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Di-n-octyl phthalate	0.96	U	ug/L	0.96	3.8
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Diethyl phthalate	0.96	U	ug/L	0.96	3.8
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Fluoranthene	0.19	U	ug/L	0.19	0.77
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	U	ug/L	2.9	12
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2.9	12
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Phenol	0.96	U	ug/L	0.96	3.8
6/13/2011 11:10	Effluent	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.96	U	ug/L	0.96	3.8
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Benzo(b)fluoranthene	0.19	U	ug/L	0.19	0.77
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Dimethyl phthalate	9.6	U	ug/L	9.6	38
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Hexachlorobenzene	0.96	U	ug/L	0.96	3.8
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	12
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	12
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.19	U	ug/L	0.19	0.77
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Naphthalene	0.19	U	ug/L	0.19	0.77
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Phenanthrene	0.19	U	ug/L	0.19	0.77
6/13/2011 11:10	Effluent	Priority Organic Pollutants	2,4-Dimethylphenol	9.6	U	ug/L	9.6	38
6/13/2011 11:10	Effluent	Priority Organic Pollutants	2,4-Dinitrophenol	14	U	ug/L	14	58
6/13/2011 11:10	Effluent	Priority Organic Pollutants	2-Chlorophenol	0.96	U	ug/L	0.96	3.8
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Anthracene	0.19	U	ug/L	0.19	0.77
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Benzo(a)pyrene	0.19	U	ug/L	0.19	0.77
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.96	U	ug/L	0.96	3.8
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.19	U	ug/L	0.19	0.77
6/13/2011 11:10	Effluent	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	12
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.96	U	ug/L	0.96	3.8
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	14	U	ug/L	14	58
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Butyl benzyl phthalate	4.8	U	ug/L	4.8	19

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Results	Remark	Units	MDL	PQL
6/13/2011 11:10	Effluent	Priority Organic Pollutants	2,6-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
6/13/2011 11:10	Effluent	Priority Organic Pollutants	2-Chloronaphthalene	0.96	U	ug/L	0.96	3.8
6/13/2011 11:10	Effluent	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.7
6/13/2011 11:10	Effluent	Priority Organic Pollutants	Di-n-butyl phthalate	4.8	U	ug/L	4.8	19
6/13/2011 11:10	Effluent	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.7
6/13/2011 11:10	Effluent	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38	UJ	ug/L	38	150
6/13/2011 11:10	Effluent	Field Parameter	Temperature	29.73		C		
6/13/2011 11:10	Effluent	Field Parameter	Sample Depth	0.01		m		
6/13/2011 11:10	Effluent	Field Parameter	Dissolved Oxygen	78.3		mg/L		
6/13/2011 11:10	Effluent	Field Parameter	Specific Conductance	1089		umhos/cm		
6/13/2011 11:10	Effluent	Field Parameter	pH	6.96				
6/13/2011 10:30	Blank	Metals	Aluminum	24		ug/L	5	20
6/13/2011 10:30	Blank	Metals	Chromium	0.3	U	ug/L	0.3	1.2
6/13/2011 10:30	Blank	Metals	Iron	30	U	ug/L	30	120
6/13/2011 10:30	Blank	Metals	Silver	0.025	U	ug/L	0.025	0.1
6/13/2011 10:30	Blank	Metals	Copper	0.5	U	ug/L	0.5	1
6/13/2011 10:30	Blank	Metals	Lead	0.2	U	ug/L	0.2	0.8
6/13/2011 10:30	Blank	Metals	Nickel	0.25	U	ug/L	0.25	1
6/13/2011 10:30	Blank	Metals	Zinc	5	U	ug/L	5	20
6/13/2011 10:30	Blank	Metals	Magnesium	0.04	U	mg/L	0.04	0.16
6/13/2011 10:30	Blank	Metals	Calcium	0.075	U	mg/L	0.075	0.3
6/13/2011 10:30	Blank	Metals	Arsenic	0.25	U	ug/L	0.25	1
6/13/2011 10:30	Blank	Metals	Cadmium	0.05	U	ug/L	0.05	0.2
6/13/2011 10:30	Blank	Metals	Selenium	0.2	U	ug/L	0.2	0.8
6/13/2011 10:30	Blank	Nutrients	O-Phosphate-P	0.004	U	mg P/L	0.004	0.01
6/13/2011 10:30	Blank	Nutrients	Total-P	0.004	U	mg P/L	0.004	0.01
6/13/2011 10:30	Blank	Nutrients	NO2NO3-N	0.004	I	mg N/L	0.004	0.01
6/13/2011 10:30	Blank	Nutrients	Kjeldahl Nitrogen	0.08	U	mg N/L	0.08	0.2
6/13/2011 10:30	Blank	Nutrients	Ammonia-N	0.01	U	mg N/L	0.01	0.02
6/13/2011 10:30	Blank	Pesticides	Alachlor	0.57	UJ	ug/L	0.57	2.3
6/13/2011 10:30	Blank	Pesticides	Phorate	0.047	U	ug/L	0.047	0.19
6/13/2011 10:30	Blank	Pesticides	Prometryn	0.14	U	ug/L	0.14	0.57
6/13/2011 10:30	Blank	Pesticides	Hexazinone	0.094	U	ug/L	0.094	0.38

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Results	Remark	Units	MDL	PQL
6/13/2011 10:30	Blank	Pesticides	Mevinphos	0.19	U	ug/L	0.19	0.75
6/13/2011 10:30	Blank	Pesticides	Parathion Methyl	0.094	U	ug/L	0.094	0.38
6/13/2011 10:30	Blank	Pesticides	Simazine	0.047	U	ug/L	0.047	0.19
6/13/2011 10:30	Blank	Pesticides	Metalaxyl	0.24	U	ug/L	0.24	0.94
6/13/2011 10:30	Blank	Pesticides	Metribuzin	0.094	U	ug/L	0.094	0.38
6/13/2011 10:30	Blank	Pesticides	Azinphos Methyl	0.19	U	ug/L	0.19	0.75
6/13/2011 10:30	Blank	Pesticides	Parathion Ethyl	0.14	U	ug/L	0.14	0.57
6/13/2011 10:30	Blank	Pesticides	Metolachlor	0.47	UJ	ug/L	0.47	1.9
6/13/2011 10:30	Blank	Pesticides	Naled	0.75	U	ug/L	0.75	3
6/13/2011 10:30	Blank	Pesticides	Atrazine	0.047	U	ug/L	0.047	0.19
6/13/2011 10:30	Blank	Pesticides	Diazinon	0.047	U	ug/L	0.047	0.19
6/13/2011 10:30	Blank	Pesticides	Ethoprop	0.094	U	ug/L	0.094	0.38
6/13/2011 10:30	Blank	Pesticides	Malathion	0.14	U	ug/L	0.14	0.57
6/13/2011 10:30	Blank	Pesticides	Ametryn	0.047	U	ug/L	0.047	0.19
6/13/2011 10:30	Blank	Pesticides	Chlorpyrifos Methyl	0.094	U	ug/L	0.094	0.38
6/13/2011 10:30	Blank	Pesticides	Ethion	0.047	U	ug/L	0.047	0.19
6/13/2011 10:30	Blank	Pesticides	Fenamiphos	0.19	U	ug/L	0.19	0.75
6/13/2011 10:30	Blank	Pesticides	Norflurazon	0.14	U	ug/L	0.14	0.57
6/13/2011 10:30	Blank	Pesticides	Bromacil	0.19	UJ	ug/L	0.19	0.75
6/13/2011 10:30	Blank	Pesticides	Butylate	0.19	UJ	ug/L	0.19	0.75
6/13/2011 10:30	Blank	Pesticides	Chlorpyrifos Ethyl	0.047	U	ug/L	0.047	0.19
6/13/2011 10:30	Blank	Pesticides	Fonofos	0.094	U	ug/L	0.094	0.38
6/13/2011 10:30	Blank	Priority Organic Pollutants	2,4-Dinitrophenol	14	U	ug/L	14	58
6/13/2011 10:30	Blank	Priority Organic Pollutants	Hexachlorobenzene	0.96	U	ug/L	0.96	3.8
6/13/2011 10:30	Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.96	U	ug/L	0.96	3.8
6/13/2011 10:30	Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	U	ug/L	2.9	12
6/13/2011 10:30	Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.7
6/13/2011 10:30	Blank	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	12
6/13/2011 10:30	Blank	Priority Organic Pollutants	Naphthalene	0.19	U	ug/L	0.19	0.77
6/13/2011 10:30	Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
6/13/2011 10:30	Blank	Priority Organic Pollutants	Chrysene	0.19	U	ug/L	0.19	0.77
6/13/2011 10:30	Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.96	U	ug/L	0.96	3.8
6/13/2011 10:30	Blank	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	58

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Results	Remark	Units	MDL	PQL
6/13/2011 10:30	Blank	Priority Organic Pollutants	Diethyl phthalate	0.96	U	ug/L	0.96	3.8
6/13/2011 10:30	Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	12
6/13/2011 10:30	Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.19	U	ug/L	0.19	0.77
6/13/2011 10:30	Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.96	U	ug/L	0.96	3.8
6/13/2011 10:30	Blank	Priority Organic Pollutants	2,4-Dimethylphenol	9.6	U	ug/L	9.6	38
6/13/2011 10:30	Blank	Priority Organic Pollutants	Anthracene	0.19	U	ug/L	0.19	0.77
6/13/2011 10:30	Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.96	U	ug/L	0.96	3.8
6/13/2011 10:30	Blank	Priority Organic Pollutants	Butyl benzyl phthalate	4.8	U	ug/L	4.8	19
6/13/2011 10:30	Blank	Priority Organic Pollutants	Di-n-butyl phthalate	4.8	U	ug/L	4.8	19
6/13/2011 10:30	Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.96	U	ug/L	0.96	3.8
6/13/2011 10:30	Blank	Priority Organic Pollutants	Dimethyl phthalate	9.6	U	ug/L	9.6	38
6/13/2011 10:30	Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.19	U	ug/L	0.19	0.77
6/13/2011 10:30	Blank	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.7
6/13/2011 10:30	Blank	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2.9	12
6/13/2011 10:30	Blank	Priority Organic Pollutants	2-Nitrophenol	0.96	U	ug/L	0.96	3.8
6/13/2011 10:30	Blank	Priority Organic Pollutants	Acenaphthylene	0.19	U	ug/L	0.19	0.77
6/13/2011 10:30	Blank	Priority Organic Pollutants	Fluoranthene	0.19	U	ug/L	0.19	0.77
6/13/2011 10:30	Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.7
6/13/2011 10:30	Blank	Priority Organic Pollutants	Phenanthrene	0.19	U	ug/L	0.19	0.77
6/13/2011 10:30	Blank	Priority Organic Pollutants	Phenol	0.96	U	ug/L	0.96	3.8
6/13/2011 10:30	Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
6/13/2011 10:30	Blank	Priority Organic Pollutants	2-Chlorophenol	0.96	U	ug/L	0.96	3.8
6/13/2011 10:30	Blank	Priority Organic Pollutants	Acenaphthene	0.19	U	ug/L	0.19	0.77
6/13/2011 10:30	Blank	Priority Organic Pollutants	Benzidine	96	U	ug/L	96	380
6/13/2011 10:30	Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.19	U	ug/L	0.19	0.77
6/13/2011 10:30	Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.19	U	ug/L	0.19	0.77
6/13/2011 10:30	Blank	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	12
6/13/2011 10:30	Blank	Priority Organic Pollutants	Pyrene	0.19	U	ug/L	0.19	0.77
6/13/2011 10:30	Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.96	U	ug/L	0.96	3.8
6/13/2011 10:30	Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.96	U	ug/L	0.96	3.8
6/13/2011 10:30	Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	12
6/13/2011 10:30	Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.19	U	ug/L	0.19	0.77
6/13/2011 10:30	Blank	Priority Organic Pollutants	Fluorene	0.19	U	ug/L	0.19	0.77

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Results	Remark	Units	MDL	PQL
6/13/2011 10:30	Blank	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	12
6/13/2011 10:30	Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.96	U	ug/L	0.96	3.8
6/13/2011 10:30	Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38	UJ	ug/L	38	150
6/13/2011 10:30	Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.19	U	ug/L	0.19	0.77
6/13/2011 10:30	Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.19	U	ug/L	0.19	0.77
6/13/2011 10:30	Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	14	U	ug/L	14	58
6/13/2011 10:30	Blank	Priority Organic Pollutants	Isophorone	0.96	U	ug/L	0.96	3.8
6/13/2011 10:30	Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.96	U	ug/L	0.96	3.8
6/13/2011 10:30	Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.7

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: Terry Davis	Contact Number: (772)380-1269
Facility Name (as it appears on permit): Spanish lakes Country Club Village	Former Names:
NPDES Permit Number: FL0345547	Permit Expiration Date: 19 March, 2012
Physical Address: 166 Calle de Lagos, Ft. Pierce, FL 34951	
District: SED	County: St. Lucie
Function of Facility: Provide potable water to 1300 residential units	
Facility Type: Reverse osmosis WTP	Permitted Capacity (MGD): 0.08 MGD unblended reject water
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): D-001(On-site outfall to stormwater lake) May, 09 thru May, 10 – 0.0615 MGD unblended, 0.1505 MGD blended	
If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months): None	
Description of type of Discharge: ☐ Continuous ☒ Intermittent ☐ Seasonal ☐ Rainfall Dependent ☐ Other, please specify	
Description of Sampling Location(s) - actual permit designation of permitted sampling point(s): D-001 (EFF-01) –R.O. concentrate blended with water from stormwater system. Sample taken at WTP.	
Description of Permitted Outfall(s): D-001 – internal outfall to stormwater lake #7. D-002 – north off-site outfall from stormwater system. D-003 – south off-site outfall from stormwater system.	
Description of Treatment Process (if multiple discharge points, include a detailed map or diagram of facility): R.O. concentrate blended with stormwater from Lake #2 at a ratio of approximately 9.6:1. Lake #2 isolated from Lake #7 which receives blended effluent.	

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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
pH	s.u.	8.5/6.5				X	Monthly	Grab	EFF-01	
Iron	mg/L	1.0				X	Monthly	Grab	EFF-01	

Appendix F. (continued)

PART I: Continued	
Receiving Waters: D-001 On-site stormwater lake #7. D-002 &003 – Off site canal/ditches	**Classification (indicate whether fresh or marine): Fresh**

Toxicity Test Requirements (routine and/or additional test language, test species, salinity adjustment, etc.):
None

Administrative or Consent Orders (date executed, specific requirements, interim limit dates-if applicable, etc.):
None

Facility Mixing Zone Details (if applicable):
None

List Permit Violations (DMR data) and plant upsets that occurred at the plant within the last year: None

Date	Parameter and Units	Limit	Result

Describe previous FYI and WQBEL study:
None

Describe previous or current Enforcement Actions (including WLs):
None

Describe any violations or problems noted in previous inspection:
No deficiencies noted

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):

Anticipate taking sample for bioassay at D-001 (EFF-01) even though it is not off site because of the high dilution by stormwater, and inclusion of other possible sources, at the potential off site outfalls.

Appendix F. (continued)

PART II: Sampling Event Information	
Date(s) sample collected: June 13, 2011	Sampler(s): Terry Davis
Temperature (Deg C): 29.73	pH (SU): 6.96
Dissolved Oxygen (mg/L): 78.3 % Saturation	Conductivity (umhos/cm): 1,089
Total Residual Chlorine (mg/L): N/A	Total Residual Chlorine - after Disinfection (mg/L): N/A
Method of Chlorination: None	Method of De-chlorination: None
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	
Describe any conditions, difficulties or abnormal events that occurred during the sample collection and any other additional comments here: Nothing abnormal. Samples collected by dipper from discharge across weir in sump structure just before discharge through outfall pipe to lake in stormwater system.	

Appendix G. EPA End Sheet

The Bioassay of Spanish Lakes Country Club Village Water Treatment Plant effluent sampled on June 13, 2011. NPDES #FL0345547.

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

Remarks

66

The Priority Pollutants Analysis of Spanish Lakes Country Club Village Water Treatment Plant effluent sampled on June 13, 2011. NPDES #FL0345547.

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

Remarks

66

Biological Analyses of Spanish Lakes Country Club Village Water Treatment Plant effluent sampled on June 13, 2011. NPDES #FL0345547.

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

Remarks

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