

Bioassays of

South County Regional WWTP

Hillsborough County

NPDES #FL0028061

Sampled September 11 and 12, 2006

January 2007

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

South County Regional WWTP, 520 Teco Road, Ruskin, Hillsborough County, Florida, NPDES #FL0028061. Effluent samples for chemistry and bioassay analyses for this facility were collected on September 11, 2006. As part of the compliance inspection for this facility, additional samples for chemical analyses were collected on September 12, 2006.

Introduction

South County Regional WWTP is a Type 1 Kruger-Biodenipho process advanced domestic wastewater treatment plant with a design flow of 4.5 million gallons per day (MGD) annual average daily flow (AADF). The facility had an AADF through Outfall D-003 of 3.616 MGD from September 1, 2005, through August 31, 2006. The treatment plant consists of the following units: screening, grit removal with odor control, two oxidation ditches, four settling tanks, four deep bed dual media filtration/denitrification filters, three chlorine contact tanks, two reclaimed water storage tanks and one 30 million gallon storage pond, one dechlorination/reaeration facility, and two residuals gravity thickeners. The facility includes the Bahia Beach Master Pump Station which consists of two aerated holding tanks, one settling tank, one pump chamber and one overflow/storage tank. Effluent is chlorinated and filtered for disinfection, and dechlorinated with sulfur dioxide gas prior to being intermittently discharged through Outfall D-003 into the Class III Marine waters of the Port Redwing Canal, thence into Tampa Bay. The Outfall D-003 structure is approximately 6.1 m (20 feet) in length and discharges at a depth of approximately 1.52 m (5 feet). The point of discharge is located approximately at latitude 27º 48' 25" N and longitude 82º 24' 03" W. The facility serves two reuse systems. The facility is a source-plant for Reuse System R001 which is a public access master-reuse system consisting of existing and proposed reuse sites. Reuse system R002 is an industrial reuse system directing up to 3.5 MGD AADF reclaimed water to the Tampa Electric Company for industrial usage as process waters.

The facility currently has no Administrative Orders (AO) or Consent Orders (CO). There are no mixing zones for this facility. A review of the Discharge Monitoring Report for the past year shows that the facility had permit violations for total nitrogen during November 2005 (monthly average value 3.94 mg/L, limit 3.75 mg/L) and June 2006 (weekly average 5.05 mg/L, limit 4.5 mg/L; maximum single sample value 6.15 mg/L [3 times], limit 6.0 mg/L). (Facility information provided by Lori Pillsbury and Joe Squiteri of FDEP Southwest District.)

Methods

Samples were collected from the EFA-01 (after disinfection, prior to dechlorination), the EFD-01 (after dechlorination), and the EFB-01(designated sampling point for total suspended solids) NPDES sampling points for Outfall D-003 by Lori Pillsbury, Peter Wenner, Joe Squiteri, and Michele Duggan (FDEP Southwest District) following DEP-SOP-001/01 FS 2400 Wastewater Sampling. All DEP SOPs are available on the web at: http://www.floridadep.org/labs/qa/sops.htm.

See Appendix A for the completed chain of custody forms.

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. While the 48-hour acute screening toxicity test does not reflect the permit required conditions, the Department uses it to provide reasonable assurance that the facility does not adversely affect waters of the state.

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

Toxicity Test Results

Tests were performed September 12 - 14, 2006.

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.

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

*NOTE: In a 48-hour acute screening test of 100% effluent, mortality of <20% provides reasonable assurance 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% provides reasonable assurance 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.).

Algal Growth Potential

The effluent Algal Growth Potential (AGP) was 123 mg dry wt/L of the unicellular green alga, *Pseudokirchneriella subcapitata*, formerly known as *Selenastrum capricornutum*. Raschke and Shultz (1987) found that AGP values above 5.0 mg dry weight/L represent a "problem" threshold for fresh receiving waters, implying nutrient enrichment. The analytical chemistry suggests that the effluent is phosphorus-limited. The predicted AGP based on total phosphorus concentrations was 77.4 (±20%) mg dry wt/L (Table 1; Miller et al. 1978).

The effluent Algal Growth Potential (AGP) was 31.3 mg dry wt/L of the saltwater species *Dunaliella tertiolecta.* Raschke and Shultz found that AGP values above 10.0 mg dry weight/L represent a "problem" threshold for marine receiving waters, implying nutrient enrichment (personal communication with Ron Raschke USEPA Region 4, 1987).

See Table 1 for AGP results.

Chemistry Results

Total residual chlorine and total ammonia were not detected in the bioassay sample in the laboratory. The total ammonia concentration in the sample collected and preserved for chemical analysis on September 11, 2006, was 0.031 mg/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was ≤ 0.02 mg/L. The total ammonia concentration in the effluent collected on September 12, 2006, for the compliance monitoring inspection was between the laboratory method detection limit (MDL) and the practical quantification limit (PQL).

In the effluent collected on September 11, 2006, aluminum, chloroform, dibromochloromethane, iron, and zinc were detected at levels that comply with Class III Marine water quality criteria. Atrazine, arsenic, chromium-III, and copper were detected between the MDL and PQL. The effluent bromodichloromethane concentration (31 µg/L) exceeded the Class III Marine water quality criterion of ≤ 22 µg/L (62-302.530(36)(b) F.A.C.); although the criterion is to be applied to an annual average value and this result was from a grab sample, the result suggests that if the trend continues, it could exceed the annual average criterion.

In the effluent collected on September 12, 2006, aluminum, arsenic, copper, iron, and zinc were detected at levels that comply with Class III Marine water quality criteria. Nickel was detected between the MDL and PQL.

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

Conclusion

The effluent sample collected from the EFD-01 NPDES sampling point for Outfall D-003 for this facility on September 11, 2006, was not acutely toxic to either test species during the 48-hour acute screen bioassays. The effluent AGP results exceeded the "problem" thresholds for both fresh and marine receiving waters, suggesting nutrient enrichment may be an issue. The effluent concentration of bromodichloromethane from a grab sample was greater than the annual average Class III Marine water quality criterion; if the trend continues, the effluent concentration could be in violation of the criterion.

Literature Cited

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

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

Table 1. Measured and predicted algal growth potential (AGP; mg dry weight/L) of the freshwater species Psuedokirchneriella subcapitata *for total phosphorus (TP) and ortho-phosphate (OP) limitation, the AGP (salinity adjusted) of the saltwater species* Dunaliella tertiolecta*, and ratios of nitrogen to phosphorus for samples collected from South County Regional Wastewater Treatment Plant on September 11, 2006.*

Location	AGP (measured)	Predicted AGP (OP) ± 20%	Predicted AGP (TP) ± 20%	AGP (salinity adjusted)	Inorganic N:P ratio	Total N:P ratio
Effluent Samples	123	60.2 ± 12.04	77.4 ± 15.48	31.3	22.36	21.56

Table 2. Effluent limits, Class III Marine Criteria, microbiological, and chemical data for samples collected from South County Regional Wastewater Treatment Plant on September 11 and 12, 2006.

South County Regional WWTP NPDES# FL0028061	Class III Marine Stds	Effluent Limits	Effluent Grab Samples 9/11/06 (From EFD-01)	Effluent Composite Samples 9/12/06 (From EFA-01)
Organic Constituents (µg/L)				
Atrazine	-	-	0.097 I	-
Bromodichloromethane	≤ 22 a	-	31	-
Chloroform	≤ 470.8 a	-	140	-
Dibromochloromethane	≤ 34 a	-	4.6	-
Metals (µg/L unless otherwise noted)				
Aluminum	≤ 1,500	-	77	64
Arsenic	≤ 50	-	4 I	4.4
Cadmium	≤ 9.3	-	0.05 U	0.05 Uf
Calcium (mg/L)	-	-	60.2	65.2
Chromium-III	-	-	0.31 I	0.3 Uf
Copper	≤ 3.7	≤ 2.9 s	0.7 I	1.65 f
Iron	≤ 300	-	37	45
Lead	≤ 8.5	-	0.2 U	0.2 U
Magnesium (mg/L)	-	-	12.3	13.6
Nickel	≤ 8.3	-	1 U	1.7 I
Selenium	≤ 71	-	0.5 U	0.5 U
Silver	≤ 2.3	-	0.025 U	0.025 U
Zinc	≤ 86	≤ 86 s	21	21
Nutrients (mg/L)				
Ortho-phosphate	-	-	0.14	-
Total Phosphorus	-	≤ 2.0 s #	0.18	0.22
Ammonia	-	-	0.031	0.02 I
Unionized Ammonia	≤ 0.02	-	≤ 0.02	≤ 0.02
Nitrate+Nitrite	-	-	3.1	1f
Total Kjeldahl Nitrogen	-	-	0.78	0.99
Organic Nitrogen	-	-	0.75 c	0.97 c
Total Nitrogen	-	≤ 6.0 s #	3.88 c	1.99 c
General Physical and Chemical Parameters				
Color (PCU)	-	-	5	-
Organic Carbon (mg/L)	-	-	8.3 A	9.1
TSS (mg/L)	-	≤ 10 s #	4 U	4 U[1]
Turbidity (NTU)	≤ 29 t	-	0.4	-
Dissolved Oxygen (mg/L)	≥ 4	≥ 5 s	7.6	-
pH (S.U.)	6.5 - 8.5	6.5 - 8.5 s	7.5	-
Conductivity (umhos/cm)	-	-	845	-
Temperature (C)	-	-	28.9	-
CBOD (mg/L)	-	≤ 10 s #	3.8	0.2 Uf
Oil and Grease (mg/L)	≤ 5	-	1.7 U	-
Flow (MGD)	-	≤ 4.5 a	3.54 a	-
Hardness (mg/L)	-	-	201 c	218.8 c
Total Residual Chlorine (mg/L)	≤ 0.01	≤ 0.01	≤ 0.015	-
Microbiology (# counts/100ml)				
Fecal Coliforms-Membrane Filter	≤ 800 s	86 s	136*	-

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

a - Annual average
c - Calculated value
f - Analyte detected in equipment blank
s - Single sample
t - Shall not exceed 29 NTUs above background
A - Value reported is the mean of two or more determinations
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U - Material analyzed for but not detected; value reported is the minimum detection limit
* - Analyses conducted at the DEP Southwest District Lab
# - Permitted limit is for a composite sample
1 - Collected from EFB-01 sampling location

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2006-09-11-23
South County Regional WWTP

Requester: Shannan Bogdanov
Field Report Prepared By: L Pillsbury

Customer: SW-DIST
Collected By: L Pillsbury / P Wenner
Send Final Report To Tom Gucciardo

Project ID: FYI3
Sampling Agency: FDEP

PMAS: 1153

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	Outfall D001	☐ Comp ☑ Grab	Date 09/11/06 Time 1020 Eastern Central	Date Time Eastern Central	A
	Field ID: 34124	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L): 7.62	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc): Fresh	Temp (C): 28.86	pH: 7.48	Sample Depth ☐ m ☐ ft: 0.41/845	☑ Salinity (PPTh) ☑ Sp Conductance (umho/cm)
	Latitude o ' "	Longitude o ' "	Comments		NPDES Number

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	Field Blank	☐ Comp ☑ Grab	Date 09/11/06 Time 1030 Eastern Central	Date Time Eastern Central	C
	Field ID: 34125	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc): FRESH	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)
	Latitude o ' "	Longitude o ' "	Comments		NPDES Number

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	Equipment Blank	☐ Comp ☑ Grab	Date 09/11/06 Time 0915 Eastern Central	Date Time Eastern Central	B
	Field ID: 34126	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc): FRESH	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)
	Latitude o ' "	Longitude o ' "	Comments: blanks for composite sampler		NPDES Number

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
		☐ Comp ☐ Grab	Date Time Eastern Central	Date Time Eastern Central	
	Field ID	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc)	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)
	Latitude o ' "	Longitude o ' "	Comments: 2 bleasey 10:19 9/12.06 James Deneh		NPDES Number

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	09/11/06 1330	DHL	Tom. G	9/12/06 9:05				

* Shaded Areas for Lab use only

** Please see reverse side for Bottle Group information

last revised October 1, 2003

1 AGP
1243
9-12-06
aw

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2006-09-11-23
South County Regional WWTP

Requester: Shannan Bogdanov

Field Report Prepared By: M. Duggan

Customer: SW-DIST

Collected By: J. Gutteri / M. Duggan

Send Final Report To Tom Gucciardo

Project ID: FYI3

Sampling Agency: FDEP

PMAS: 1153

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	Equipment Blank	☐ Comp ☒ Grab		Date 9/12 Time 0915 Central	B
	Field ID	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc): Fresh	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) NPDES Number
	Latitude o ' "	Longitude o ' "	Comments		

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	Effluent	☒ Comp ☐ Grab	Date 9/11 Time 1216 Central	Date 9/12 Time 1000 Central	B
	Field ID 34134	Tot Res Chlorine (mg/L) + 3.67	Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc): Fresh	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) NPDES Number
	Latitude o ' "	Longitude o ' "	Comments: Flow proportioned composite		

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	Filter Effluent	☐ Comp ☒ Grab		Date 9/12 Time 1000 Central	B
	Field ID 34135	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc): Fresh	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) NPDES Number
	Latitude o ' "	Longitude o ' "	Comments: grab, after filters.		

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
		☐ Comp ☐ Grab			
	Field ID	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc)	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) NPDES Number
	Latitude o ' "	Longitude o ' "	Comments		

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
M. Duggan	09/12/06 1400	DHL	Tom. E	9/13/06 4:12				

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

FDEP Biology Section - Acute Screen Bioassay Bench Sheets

Facility: South County Regional WWTP
Address: 520 Teco Road
City: Ruskin, Fl County: Hillsborough
Contact/District: Lori Pillsbury SW-Dist
NPDES Permit #: FL 002806 1
LIMS Job #: TLH-2006-09-17-28 LIMS Sample #: 94587
Lims Data Entry: 9-14-06 MF Data Entry Verification: 9-15-06 BA

Sample Collection: Date: 9-12-06 9-11-06 BA 9-12-06 Time: 1020
Hold Time Start: Date: 9-11-06 Time: 1020

Comments:

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

Test Type: (Screen)
(Static) / Static Renewal / Flow-through
Test Duration: (48) 96 Hours.
Light Intensity : 50 - 100 ft. candles.
Photoperiod : 16 hours light 8 hours dark.

Test 1 validation: Test 1: SOP TA 07 01
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No

Test 2 validation: Test 2: SOP TA 07 C2
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No

Initial sample handling:

PH adjustment : yes (no) Initial pH: ____ NaOH N HCl N ____ Drops mL Final pH: ____
Aeration : yes (no) Initial DO: ____mg/L Final DO: ____mg/L Duration: ____minutes Rate: ~____bubbles/min
Salinity adjusted (Test 1): yes (no) Initial Salinity: ____ Final Salinity: ____ Salts Hypersaline brine
Salinity adjusted (Test 2): yes (no) Initial Salinity: ____ Final Salinity: ____ Salts Hypersaline brine
Dechlorination: yes (no) ____mL of 0.025N Sodium Thiosulfate per liter of sample. Final TRC: ____

Temperature Range °C
Incubator # 2 Range 24.6 – 26.3
Room B246: 24.5 – 25.3
Waterbath: N/A

Sample Validation:
Temperature: Shipped ≤6°C (Yes) No Hand Delivered: Cooling (received °C < collected °C) Yes No
Holding Time: ≤36 Hours (Yes) No (Composite-end of collection; grab-when collected; 4 in 24 - time last sample collected)

Investigators' Signatures
James Daniels
Bruce Alexander
Marshall Faircloth
Nigel Wetherspoon
REVIEWER

Water Quality Parameters (V)	23-06 20% DMW 9/12-13/06	Moderately Hard Water/ Well Water	Salt Water ASW NSW Test 1	Salt Water ASW NSW Test 2	Other: 24-06 20% DMW 9-14-15/06	Original Sample (A)	Method	Measured by	Verified by
Field Total Residual Cl_2 (mg/L):	N/A	N/A	N/A	N/A	—	<0.015	Hach DR 700	Signatures	MF
Lab Total Residual Cl_2 (mg/L):	<0.03	<0.03			<0.03	0.06	HACH	BA	MF
Alkalinity (mg/L as $CaCO_3$):	81	134			84	116	HACH	〃	BA
Hardness (mg/L as $CaCO_3$):	80	130			86	212	HACH	〃	BA
Total Ammonia (mg/L as N):	<0.017	<0.017			<0.017	<0.017	DENVER	MF	BA
Salinity (ppth):	<1	<1			<1	<1	YSI / Mettler	BA	MF

Hardness 9-13-06

(B) Information not needed for this test. MF 9-18-06

(A) Field measurement result was 0.00 mg/L. The DR700 MDL of 0.015 mg/L was selected for report the result above. The DR700 PQL is not available. MF 9-14-06

V 1.4 9/12/05

Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 949587
Organism: C. dubia
Organism Batch: 38-06
Organism Age: < 24 hrs
Chamber Size: 30 mL
Test Volume: 20 mL

Test #: 1
SOP #: TA 07_01
Diluent/ Batch: DMW 1-23-06
Food: YCT *P. subcapitata* *Artemia*
Batch: 2-06 4-06 —
Feeding: (Prior to test) - Prior to renewal - Daily

Test Started: Date 9-12-06 Time: 12:20
Test Ended: Date 9-14-06 Time: 12:00

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			
Organisms loaded by: BA		Checked by:		MF	BA			

Loading Verified by: MF

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

Comments:

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

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

V 2.1 11/01/2005

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Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 949587 Test #: 2 Test Started: Date 9/20/06 Time: 12:15
Organism: C. leedsi SOP #: TA 07 02 Test Ended: Date 9-14-06 Time: 12:10
Organism Batch: 21-06 Diluent/ Batch: well 19-6-06
Organism Age: 12 days Food: YCT *P. subcapitata* (Artemia)
Chamber Size: 1000 mL Batch: - - GSL-536-90
Test Volume: 500 mL Feeding: (Prior to test) - Prior to renewal - Daily

Concentration	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
CTRL	A	F1	5	5	5			
	B	F2	5	5	5			
	C	F3	5	5	5			
	D	F4	5	5	5			
100%	A	F5	5	5	5			
	B	F6	5	4/0	4			
	C	F7	5	5	5			
	D	F8	5	5	5			

Organisms loaded by: JD Checked by: [redacted] MF JD
Loading Verified by: BA
m = missing d = dead BR = before renewal AR = after renewal

Comments:

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

V 2.1 11/01/2005

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FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 949587 Test #: 1 of 2

TEST SOP #: TA07_01 Test Species: (Ceriodaphnia dubia) Cyprinella leedsi Pimephales promelas Americamysis bahia Menidia beryllina Other:_____

Concentration Ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M(B)	M	M			
pH (S.U.)	8.1	|	8.1			
Temperature °C	25.0	|	24.0			
Dissolved Oxygen mg/L	7.9	|	7.3			
Conductivity (µmhos) mmhos	1733	|	228			
(initials) Measured by:	BA		BA			
(initials) Recorded by:	BA		BA			

Comments: (B) "M" stands for Meter Vial BA 9-12-06

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M	|	M			
pH (S.U.)	7.7	|	8.3			
Temperature °C	25.5	|	24.0			
Dissolved Oxygen mg/L	8.2	|	~~8.~~ (A) 7.3			
Conductivity (µmhos) mmhos	839	|	941			
(initials) Measured by:	BA		BA			
(initials) Recorded by:	BA		BA			

Comments: (A) Transcription error BA 9-19-06

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

Comments:

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

Comments:

000009

V 2.0 2/24/04

Page

FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 949587 **Test #:** 2 of 2

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

Concentration CTRL	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C			
pH (S.U.)	8.1	8.1	8.3			
Temperature °C	25.0	24.7	25.7			
Dissolved Oxygen mg/L	7.5	6.6	7.7			
Conductivity (µmhos) mmhos	271	283	286			
(initials) Measured by:	JD	MF	BA/JD			
(initials) Recorded by:	JD	MF	BA/JD			

Comments:

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C			
pH (S.U.)	7.8	8.0	8.2			
Temperature °C	25.3	24.8	25.5			
Dissolved Oxygen mg/L	8.2	6.7	7.6			
Conductivity (µmhos) mmhos	838	850	868			
(initials) Measured by:	JD	MF	BA/JD			
(initials) Recorded by:	JD	MF	BA/JD			

Comments:

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

Comments:

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

Comments:

V 2.0 2/24/04

Appendix C. SRT Bench Sheets and Statistical Analysis

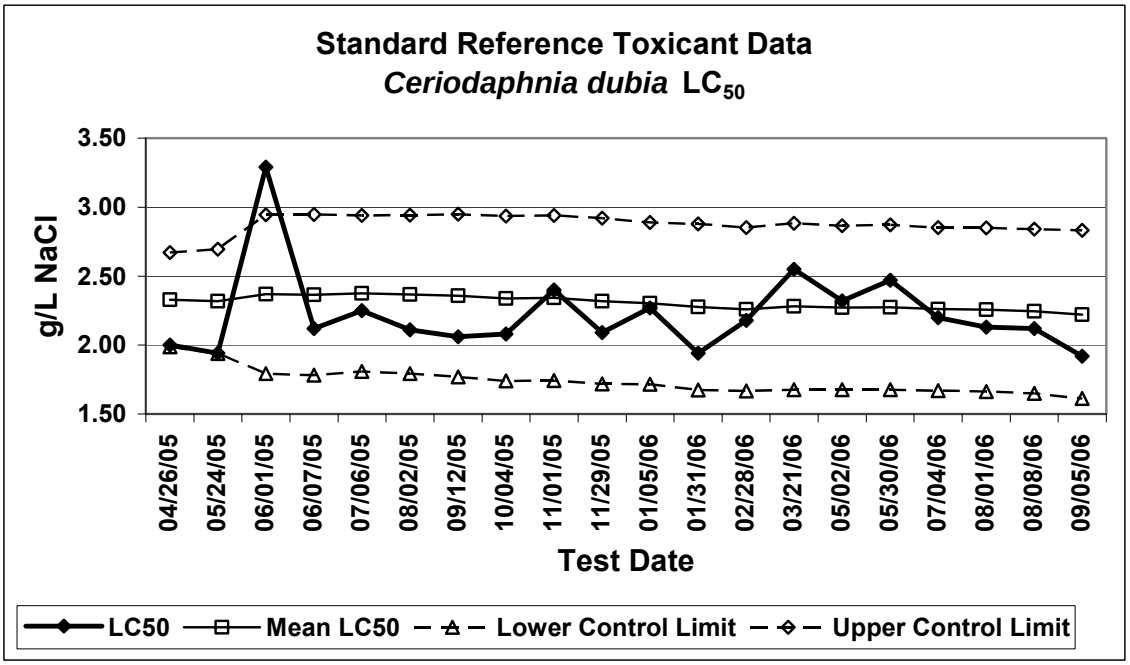
Florida Department of Environmental Protection
Bureau of Laboratories

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

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
04/26/05	2.00	2.33	0.17	1.99	2.67
05/24/05	1.94	2.32	0.19	1.94	2.70
06/01/05	3.29	2.37	0.29	1.79	2.94
06/07/05	2.12	2.36	0.29	1.78	2.95
07/06/05	2.25	2.37	0.28	1.81	2.94
08/02/05	2.11	2.37	0.29	1.79	2.94
09/12/05	2.06	2.36	0.29	1.77	2.95
10/04/05	2.08	2.34	0.30	1.74	2.94
11/01/05	2.40	2.34	0.30	1.74	2.94
11/29/05	2.09	2.32	0.30	1.72	2.92
01/05/06	2.27	2.30	0.29	1.72	2.89
01/31/06	1.94	2.28	0.30	1.67	2.88
02/28/06	2.18	2.26	0.30	1.67	2.85
03/21/06	2.55	2.28	0.30	1.68	2.88
05/02/06	2.32	2.27	0.30	1.68	2.87
05/30/06	2.47	2.27	0.30	1.68	2.87
07/04/06	2.20	2.26	0.30	1.67	2.85
08/01/06	2.13	2.26	0.30	1.66	2.85
08/08/06	2.12	2.24	0.30	1.65	2.84
09/05/06	1.92	2.22	0.30	1.61	2.83

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

CV = 13.70
EPA reference 75th quartile CV = 29%



Appendix C. (continued)

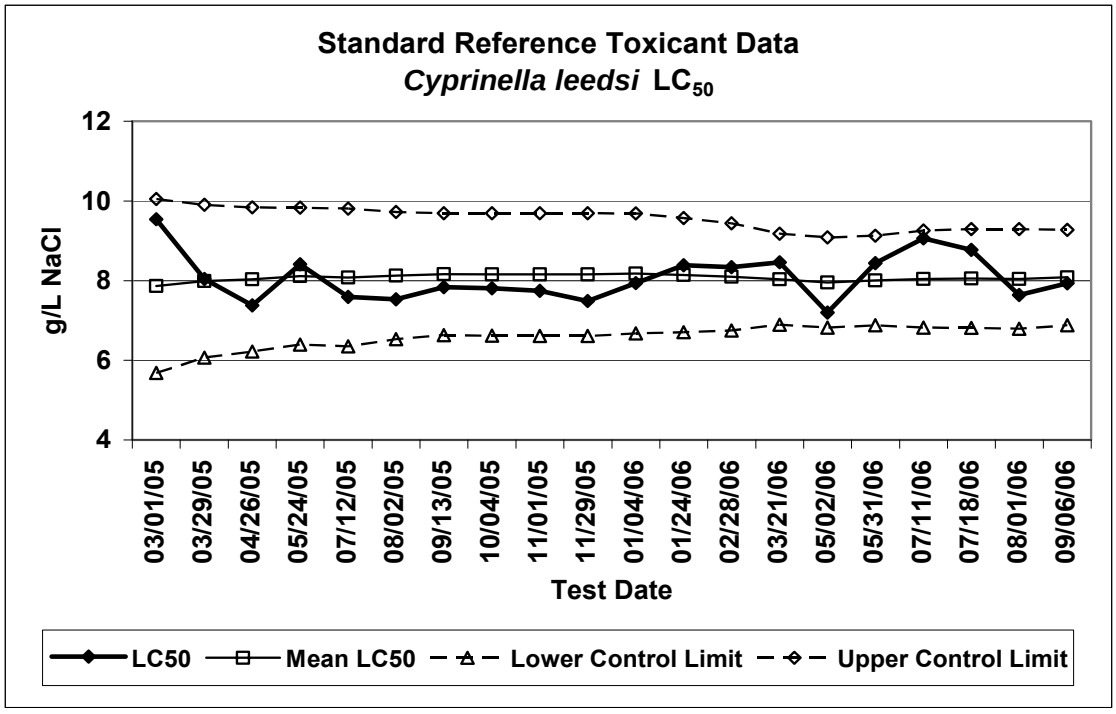
Florida Department of Environmental Protection
Bureau of Laboratories

Standard Reference Toxicant (SRT) Test Data - 48-hour Acute Toxicity
Cyprinella leedsi (bannerfin shiner) - Sodium Chloride (NaCl)

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
03/01/05	9.54	7.87	1.09	5.68	10.05
03/29/05	8.04	7.99	0.96	6.07	9.91
04/26/05	7.38	8.03	0.90	6.22	9.84
05/24/05	8.41	8.11	0.86	6.40	9.83
07/12/05	7.59	8.08	0.86	6.35	9.81
08/02/05	7.53	8.13	0.80	6.53	9.72
09/13/05	7.84	8.16	0.77	6.63	9.70
10/04/05	7.81	8.16	0.77	6.62	9.69
11/01/05	7.74	8.15	0.77	6.61	9.69
11/29/05	7.49	8.15	0.77	6.61	9.69
01/04/06	7.94	8.18	0.75	6.67	9.68
01/24/06	8.39	8.14	0.72	6.71	9.57
02/28/06	8.34	8.09	0.67	6.75	9.44
03/21/06	8.46	8.04	0.57	6.89	9.18
05/02/06	7.2	7.95	0.57	6.82	9.09
05/31/06	8.44	8.00	0.56	6.88	9.13
07/11/06	9.06	8.04	0.61	6.82	9.26
07/18/06	8.77	8.05	0.62	6.81	9.29
08/01/06	7.64	8.04	0.63	6.79	9.29
09/06/06	7.93	8.08	0.60	6.88	9.27

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

CV = 7.93
EPA reference 75th quartile CV = 19%



Appendix C. (continued)

FDEP Biology Section - Acute SRT Bench Sheet

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

Method from EPA-821-R-02-012
Test Type: Definitive
Static / Static Renewal
Test Page 1 of 2

Diluent/ Batch#: DMW / 23-06
Toxicant/ Batch# NaCl / 12-06

Test Beginning: Date: 9-5-06 Time: 1240
Test Ending: Date: 9-9-06 Time: 1430

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	BA
Alkalinity (mg/L as $CaCO_3$):	81	Hach	GW
Hardness (mg/L as CaCO3):	80	Hach	GW
Total Ammonia (mg/L as N):	<0.017	Denver	BA
Salinity (ppth):	<1	Mettler	BA

Organism Batch #/ Age: 37-06 ~~37-06~~ <24 hrs BA
Feeding: Prior to test / Prior to renewal / Daily
Food: YCT *P.subcapitata* Artemia
Food Batch: 2-06 4-06 –
Chamber size: 30 mL
Test volume: 20 mL per replicate

Conc. µg/L (B)	Rep.	Chamber#	Number Live 0 hr	Number Live 24 hr	Number Live 48 hr	pH (SU) 0 hr	pH (SU) 24 hr	pH (SU) 48 hr	Temperature (° C) 0 hr	Temperature (° C) 24 hr	Temperature (° C) 48 hr	D.O. (mg/l) 0 hr	D.O. (mg/l) 24 hr	D.O. (mg/l) 48 hr	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhom/cm) 0 hr	24 hr	48 hr
			~~48 hr~~	~~72 hr~~	~~96 hr~~	~~48 hr~~	~~72 hr~~	~~96 hr~~	~~48 hr~~	~~72 hr~~	~~96 hr~~	~~48 hr~~	~~72 hr~~	~~96 hr~~	~~48 hr~~	~~72 hr~~	~~96 hr~~
Control	A	A	5	5	5	8.0		7.9	24.9		24.1	7.1		7.6	170.8		0.190
	B	B	5	5	5										0.176		
	C	C	5	5	5												
	D	D	5	5	5												
1.5	A	A	5	5	5	7.9		7.9	24.9		24.1	7.0		7.4	2.94		3.34
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
2.0	A	A	5	3 2D	2 1D	8.0		7.9	24.9		24.2	7.1		7.4	3.82		4.48
	B	B	5	5	2 3D												
	C	C	5	5	3 2D												
	D	D	5	4 1D	1 3D												
2.5	A	A	5	4 1D	0 4D	8.0		7.9	24.9		24.2	7.1		7.2	4.72		5.97
	B	B	5	5	0 5D												
	C	C	5	3 2D	0 3D												
	D	D	5	4 1D	0 4D												
3.0	A	A	5	4 1D	0 4D	8.0		7.9	24.8		24.2	7.1		7.2	5.59		6.81
	B	B	5	3 2D	0 3D												
	C	C	5	4 1D	0 4D												
	D	D	5	2 3D	0 2D												
4.0	A	A	5	0 5D	–	8.0		7.9	24.8		24.2	7.1		7.3	7.29		8.71
	B	B	5	0 5D	–												
	C	C	5	0 5D	–												
	D	D	5	1 4D	0 1D												
	A																
	B																
	C																
	D																
Loaded / measured by:			BA	BA	BA	BA		BA	BA		BA	BA		BA	BA		BA
Recorded by:			BA	BA	BA	BA		BA	BA		BA	BA		BA	BA		BA

Investigators' Signatures
Bruce Anderson
James Daniel
Marshall Faircloth
Mindi Wellendorf
REVIEWER

Concentrations prepared by: BA
Loading verified by: JD
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 24.1 max. 26.3 mean 25.5
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 24.5 max. 25.4 mean 24.9

Remarks: (B) written in uhmhos/cm at 0hr, corrected BA 9-6-06

Statistical Results: Method: Spearman-Karber
(B) / 96 hour LC50: 1.92
95% Confidence Interval: lower 1.81 upper 2.03

Revised 02/21/06

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Appendix C. (continued)

FDEP Biology Section - Acute SRT Bench Sheet

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

Method from EPA-821-R-02-012
Test Type: Definitive
Static / Static Renewal
Test Page 1 of 2

Diluent/ Batch#: DMW / 23-06
Toxicant/ Batch# NaCl / 12-06

Test Beginning: Date: 9-5-06 Time: 1240
Test Ending: Date: 9-9-06 Time: 1430

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	BA
Alkalinity (mg/L as $CaCO_3$):	81	Hach	aw
Hardness (mg/L as CaCO3):	80	Hach	aw
Total Ammonia (mg/L as N):	<0.017	Denver	BA
Salinity (ppth):	<1	Mettler	BA

Organism Batch #/ Age: 37-06 / <24 hrs
Feeding: Prior to test / Prior to renewal / Daily
Food: YCT P.*subcapitata* Artemia
Food Batch: 2-06 4-06 —
Chamber size: 30 mL
Test volume: 20 mL per replicate

Conc. µg/L (A1)	Rep.	Chamber#	Number Live 0 hr / 48 hr	Number Live 24 hr / 72 hr	Number Live 48 hr / 96 hr	pH (SU) 0 hr / 48 hr	pH (SU) 24 hr / 72 hr	pH (SU) 48 hr / 96 hr	Temperature (° C) 0 hr / 48 hr	Temperature (° C) 24 hr / 72 hr	Temperature (° C) 48 hr / 96 hr	D.O. (mg/l) 0 hr / 48 hr	D.O. (mg/l) 24 hr / 72 hr	D.O. (mg/l) 48 hr / 96 hr	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhom/cm) 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr
Control	A	A	5	4 1D	4	8.0		8.1	24.9		24.8	7.9		8.4	0.171		0.187
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
1.5	A	A	5	5	5	7.9		8.0	25.2		24.7	7.5		8.3	2.95		3.21
	B	B	5	5	5												
	C	C	5	5	4 1D												
	D	D	5	5	4 1D												
2.0	A	A	2	1	1	8.0		8.1	25.3		24.7	7.5		8.3	3.86		4.22
	B	B	2	2	1 1D												
	C	C	3	2 1D	1 1D												
	D	D	1	1	1												
2.5	A	A	—	—	—	8.0		—	25.2		—	7.4		—	4.72		—
	B	B	—	—	—												
	C	C	—	—	—												
	D	D	—	—	—												
3.0	A	A	—	—	—	8.0		—	25.0		—	7.5		—	5.57		—
	B	B	—	—	—												
	C	C	—	—	—												
	D	D	—	—	—												
4.0	A	A	—	—	—	8.0		—	24.7		—	7.4		—	7.28		—
	B	B	—	—	—												
	C	C	—	—	—												
	D	D	—	—	—												
	A																
	B																
	C																
	D																
Loaded / measured by:			BA	BA	MF	BA		MF	BA		MF	BA		MF	BA		MF
Recorded by:			BA	BA	MF	BA		MF	BA		MF	BA		MF	BA		MF

Investigators' Signatures
Paul Aluhd
James Davis
Marshall Faircloth
Gina Nipp
Nicki Willenby
REVIEWER

Concentrations prepared by: BA
Loading verified by: —
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 241 max. 263 mean 255
Incubator # ____ min. ____ max. ____ mean ____
Room B246 min. 245 max. 254 mean 249

Remarks:

Statistical Results: Method: Spearman-Karber
48 / 96 hour LC50: 1.80
95% Confidence Interval: lower 1.71 upper 1.90

Revised 02/21/06

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Appendix C. (continued)

FDEP Biology Section - Acute SRT Bench Sheet

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

Method from EPA-821-R-02-012
Test Type: Definitive
Static / Static Renewal
Test Page 1 of 2

Diluent/ Batch#: Well H2O / 9-6-06
Toxicant/ Batch# NaCl / 13-06

Test Beginning: Date: 9-6-06 Time: 1330
Test Ending: Date: 9-10-06 Time: 12:15

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	BA
Alkalinity (mg/L as $CaCO_3$):	134	Hach	GW
Hardness (mg/L as CaCO3):	130	Hach	GW
Total Ammonia (mg/L as N):	<0.017	Denver	BA
Salinity (ppth):	26	Mettler	BA

Organism Batch #/ Age: 20-06 / 12 days
Feeding: Prior to test / Prior to renewal / Daily
Food: YCT P.subcapitata Artemia
Food Batch: — — GSL-536-90
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc µg/L (A/L)	Rep.	Chamber#	Number Live 0 hr	Number Live 24 hr	Number Live 48 hr	pH (SU) 0 hr	pH (SU) 24 hr	pH (SU) 48 hr	Temperature (° C) 0 hr	Temperature (° C) 24 hr	Temperature (° C) 48 hr	D.O. (mg/l) 0 hr	D.O. (mg/l) 24 hr	D.O. (mg/l) 48 hr	UNCORRECTED Cond. (mmhos/cm) 0 hr	UNCORRECTED Cond. (mmhos/cm) 24 hr	UNCORRECTED Cond. (mmhos/cm) 48 hr
(A) Control	A	D13	10	10	10	7.8		8.1	24.3		24.3	7.7		7.6	0.371		0.375
	B	D14	10	10	10		8.1			24.2			7.2			0.298	
	C																
	D																
6.0	A	D15	10	10	10	7.9		8.1	24.2		25.1	7.4		7.2	10.50		10.5
	B	D16	10	9/0	8/0		8.0			24.6			6.7			10.1	
	C																
	D																
7.0	A	D17	10	9/0	7/0	7.9		8.1	24.4		25.2	7.4		7.1	12.51		12.5
	B	D18	10	10	10		8.0			24.7			6.8			11.9	
	C																
	D																
8.0	A	D19	10	8/0	6/0	7.9		8.1	24.4		24.4	7.2		7.1	13.83		13.9
	B	D20	10	8/0	5/0		8.0			24.7			6.8			13.6	
	C																
	D																
9.0	A	D21	10	2/0	1/0	7.9		8.2	24.4		25.0	7.1		7.1	15.52		16.0
	B	D22	10	0/0	—		8.0			24.7			6.7			15.5	
	C																
	D																
(A) 10.0	A	D23	10	0/0	—	7.9			24.4			7.1			16.90		16.9
	B	D24	10	2/0	1/0		8.0	8.2		24.6	24.6		6.4	6.9		16.8	16.9
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			DD	DD	DD	GW	JB	BA	GW	BA	GW	GW	DD	BA	GW	DD	BA
Recorded by:			DD	DD	DD	GW	DD	BA	GW	BA	GW	GW	DD	BA	GW	DD	BA

Investigators' Signatures
Brian Akridge
Eric Snyder
James Parish
Marshall Faircloth
Nyoki Nilkerson
REVIEWER

Concentrations prepared by: DD
Loading verified by: GW
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 24.9 max. 26.3 mean 25.5
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 24.5 max. 25.4 mean 24.9

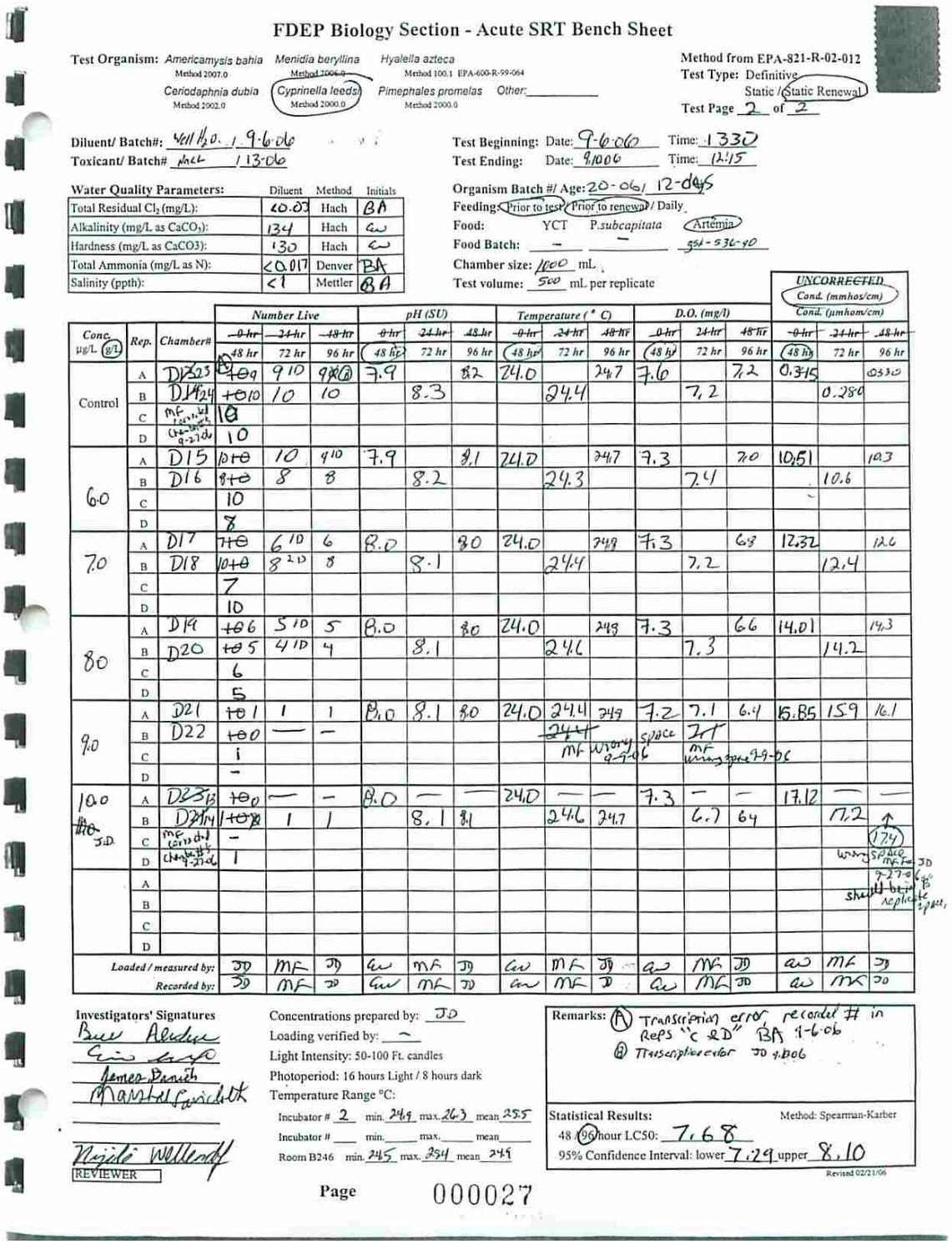
Remarks:
(A) Wrong chamber # GW 9-6-06
(B) Transcription error BA 9-8-06

Statistical Results: Method: Spearman-Karber
(48) 96 hour LC50: 7.93
95% Confidence Interval: lower 7.57 upper 8.32

Revised 02/21/06

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Appendix C. (continued)



FDEP Biology Section - Acute SRT Bench Sheet

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

Method from EPA-821-R-02-012
Test Type: Definitive
Static / Static Renewal
Test Page 2 of 2

Diluent/ Batch#: 4/11 H2O 1.9.06
Toxicant/ Batch# NaCl 1.13.06

Test Beginning: Date: 9-6-06 Time: 1330
Test Ending: Date: 9/10/06 Time: 12:15

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	BA
Alkalinity (mg/L as $CaCO_3$):	134	Hach	GW
Hardness (mg/L as CaCO3):	130	Hach	GW
Total Ammonia (mg/L as N):	<0.017	Denver	BA
Salinity (ppth):	<1	Mettler	BA

Organism Batch #/ Age: 20-061 12-day
Feeding: Prior to test / Prior to renewal / Daily
Food: YCT P.subcapitata Artemia
Food Batch: — — 561-536-40
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc. µg/L (g/L)	Rep.	Chamber#	Number Live 0 hr	Number Live 24 hr	Number Live 48 hr	pH (SU) 0 hr	pH (SU) 24 hr	pH (SU) 48 hr	Temperature (°C) 0 hr	Temperature (°C) 24 hr	Temperature (°C) 48 hr	D.O. (mg/l) 0 hr	D.O. (mg/l) 24 hr	D.O. (mg/l) 48 hr	UNCORRECTED Cond. (mmhos/cm) 0 hr	UNCORRECTED Cond. (mmhos/cm) 24 hr	UNCORRECTED Cond. (mmhos/cm) 48 hr
			48 hr	72 hr	96 hr	48 hr	72 hr	96 hr	48 hr	72 hr	96 hr	48 hr	72 hr	96 hr	48 hr	72 hr	96 hr
Control	A	D23	10	9 10	9 10	7.9		8.2	24.0		24.7	7.6		7.2	0.315		0330
	B	D24	10	10	10		8.3			24.4			7.2			0.280	
	C	MF recount 9-27-06	10														
	D	(transfer 9-27-06)	10														
6.0	A	D15	10	10	10	7.9		8.1	24.0		24.7	7.3		7.0	10.51		10.3
	B	D16	8	8			8.2			24.3			7.4			10.6	
	C		10														
	D		8														
7.0	A	D17	10	6 10	6	8.0		8.0	24.0		24.9	7.3		6.8	12.32		12.6
	B	D18	10	8 10	8		8.1			24.4			7.2			12.4	
	C		7														
	D		10														
8.0	A	D19	10	5 10	5	8.0		8.0	24.0		24.9	7.3		6.6	14.01		14.3
	B	D20	10	4 10	4		8.1			24.6			7.3			14.2	
	C		6														
	D		5														
9.0	A	D21	10	1	1	8.0	8.1	8.0	24.0	24.4	24.9	7.2	7.1	6.4	15.85	15.9	16.1
	B	D22	10	—	—					24.4 MF wrong 9-9-06		space	7.1 MF wrong space 9-9-06				
	C		1														
	D		—														
10.0 tho J.D.	A	D23	10	—	—	8.0	—	—	24.0	—	—	7.3	—	—	17.12	—	—
	B	D24	10	1	1		8.1	8.1		24.6	24.7		6.7	6.4		17.2	(17.4)
	C	MF recount and change # 9-27-06	—														
	D		1														wrong space MF 9-27-06 JD
	A																should be in replicate space, JD
	B																
	C																
	D																
Loaded / measured by:			JD	MF	JD	GW	MF	JD	GW	MF	JD	GW	MF	JD	GW	MF	JD
Recorded by:			JD	MF	JD	GW	MF	JD	GW	MF	JD	GW	MF	JD	GW	MF	JD

Investigators' Signatures
Bill Alden
Gina Lopo
James Beach
Manfred Faircloth
Nicole Wellendorf
REVIEWER

Concentrations prepared by: JD
Loading verified by: —
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 24.9 max. 26.3 mean 25.5
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 24.5 max. 25.4 mean 24.9

Remarks: (A) Transcription error, recorded # in Reps "C 2D" BA 1-6-06
(B) Transcription error JD 9.8.06

Statistical Results: Method: Spearman-Karber
48 (96) hour LC50: 7.68
95% Confidence Interval: lower 7.29 upper 8.10
Revised 02/21/06

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Appendix C. (continued)

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

DATE: 9-05-06 DURATION: 48 h TOXICANT : NaCl
SPECIES: *C. dubia*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
0.00	20	0
1.50	20	0
2.00	20	12
2.50	20	20
3.00	20	20
4.00	20	20

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: **LC50: 1.92**
95% LOWER CONFIDENCE: 1.81
95% UPPER CONFIDENCE: 2.03

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

DATE: 9-06-06 DURATION: 48 h TOXICANT : NaCl
SPECIES: *C. leedsi*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
0.00	20	0
6.00	20	2
7.00	20	3
8.00	20	9
9.00	20	19
10.00	20	19

SPEARMAN-KARBER TRIM: 10.00%

SPEARMAN-KARBER ESTIMATES**:** **LC50: 7.93**
95% LOWER CONFIDENCE: 7.57
95% UPPER CONFIDENCE: 8.32

Appendix D. Test Organism Receipt

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

NELAC Accredited

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 9/5/06

Shipped to: F-DEP

P.O. No: _____

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia	150+	4 Days	MS060901	25°C	~18.2‰
Menidia beryllina	150+	11 Days	SS060825	25°C	~18.6‰
Cyprinella leedsi	150+	12 Days	CL060824	25°C	
Pimephales promelas	150+	11 Days 8/26 9/5/06	FM060826-1515 8/26 9/5/06	25°C	

Packed by: Frank Gauzi

Shipped Via: FedEx

Notes: _____

Thank you for your order.

Appendix D. (continued)

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

NELAC Accredited

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 9/11/06

Shipped to: FDEP

P.O. No: _____

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia			~~NA~~		
Menidia beryllina	150+	11 Days	SS060831	25°C	~18‰
Cyprinella leedsi	100+	11 Days	CL060831	25°C	
Pimephales promelas	150+	16 Days	FM060105-101ST	25°C	

Packed by: Frank Gamji

Shipped Via: FedEx

Notes: _____

Thank you for your order

Appendix E. Chemical Analyses performed on the effluent from the South County Regional Wastewater Treatment Plant Outfall D003, sampled on September 11 and 12, 2006.

Date Sampled	Field ID	Analysis Group	Component	Results	Units	Remark	MDL	PQL
9/11/2006 10:20	Effluent	Bio-AGP/LimNut	Algal Growth Potential	123	mg DryWt/L		0.3	0.9
9/11/2006 10:20	Effluent	Bio-AGP/LimNut	Algal Growth Potential-Salinity Adjusted	31.3	mg DryWt/L		3	3
9/11/2006 10:20	Effluent	Bio-BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	3.8	mg/L		0.2	2.0
9/11/2006 9:15	Equip Blank	Bio-BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	0.41	mg/L	I	0.2	2.0
9/11/2006 10:20	Effluent	Bio-Chl-a	Chlorophyll-A, Monochromatic, Water	0.85	ug/L	U	0.85	2.6
9/11/2006 10:20	Effluent	Bio-Chl-a	Phaeophytin-A, Monochromatic, Water	1.5	ug/L	U	1.5	4.5
9/11/2006 10:30	Field Blank	Bio-Chl-a	Chlorophyll-A, Monochromatic, Water	0.85	ug/L	U	0.85	2.6
9/11/2006 10:30	Field Blank	Bio-Chl-a	Phaeophytin-A, Monochromatic, Water	1.5	ug/L	U	1.5	4.5
9/11/2006 10:20	Effluent	Bio-Toxicology	Bioassay-Acute-Screen-FW-C.dubia, LC50	100	LC50	L		
9/11/2006 10:20	Effluent	Bio-Toxicology	Bioassay-Acute-Screen-FW-Fish, LC50	100	LC50	L		
9/11/2006 10:20	Effluent	BNA-Water	1,2,4-Trichlorobenzene	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	1,2-Dichlorobenzene	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	1,3-Dichlorobenzene	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	1,4-Dichlorobenzene	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	2,4,6-Trichlorophenol	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	2,4-Dichlorophenol	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	2,4-Dimethylphenol	51	ug/L	U	51	200
9/11/2006 10:20	Effluent	BNA-Water	2,4-Dinitrophenol	15	ug/L	U	15	61
9/11/2006 10:20	Effluent	BNA-Water	2,4-Dinitrotoluene	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	2,6-Dinitrotoluene	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	2-Chloronaphthalene	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	2-Chlorophenol	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	2-Methyl-4,6-dinitrophenol	3	ug/L	U	3	12
9/11/2006 10:20	Effluent	BNA-Water	2-Nitrophenol	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	3,3'-Dichlorobenzidine	40	ug/L	UJ	40	160
9/11/2006 10:20	Effluent	BNA-Water	4,4'-DDD	1.5	ug/L	U	1.5	6.1
9/11/2006 10:20	Effluent	BNA-Water	4,4'-DDE	1.5	ug/L	U	1.5	6.1
9/11/2006 10:20	Effluent	BNA-Water	4,4'-DDT	1.5	ug/L	U	1.5	6.1
9/11/2006 10:20	Effluent	BNA-Water	4-Bromophenyl phenyl ether	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	4-Chloro-3-methylphenol	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	4-Chlorophenyl phenyl ether	2	ug/L	U	2	8.1
9/11/2006 10:20	Effluent	BNA-Water	4-Nitrophenol	15	ug/L	U	15	61

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Results	Units	Remark	MDL	PQL
9/11/2006 10:20	Effluent	BNA-Water	Acenaphthene	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	Acenaphthylene	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	Aldrin	1.5	ug/L	U	1.5	6.1
9/11/2006 10:20	Effluent	BNA-Water	Anthracene	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	Benzidine	100	ug/L	U	100	400
9/11/2006 10:20	Effluent	BNA-Water	Benzo(a)anthracene	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	Benzo(a)pyrene	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	Benzo(b)fluoranthene	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	Benzo(g,h,i)perylene	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	Benzo(k)fluoranthene	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	Bis(2-chloroethoxy)methane	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	Bis(2-chloroethyl)ether	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	Bis(2-chloroisopropyl)ether	3	ug/L	U	3	12
9/11/2006 10:20	Effluent	BNA-Water	Bis(2-ethylhexyl)phthalate	15	ug/L	U	15	61
9/11/2006 10:20	Effluent	BNA-Water	Butyl benzyl phthalate	5.1	ug/L	U	5.1	20
9/11/2006 10:20	Effluent	BNA-Water	Chrysene	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	Di-n-butyl phthalate	5.1	ug/L	U	5.1	20
9/11/2006 10:20	Effluent	BNA-Water	Di-n-octyl phthalate	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	Dibenzo(a,h)anthracene	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	Dieldrin	1.5	ug/L	U	1.5	6.1
9/11/2006 10:20	Effluent	BNA-Water	Diethyl phthalate	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	Dimethyl phthalate	51	ug/L	U	51	200
9/11/2006 10:20	Effluent	BNA-Water	Endosulfan I	4	ug/L	U	4	16
9/11/2006 10:20	Effluent	BNA-Water	Endosulfan II	4	ug/L	U	4	16
9/11/2006 10:20	Effluent	BNA-Water	Endosulfan sulfate	1.5	ug/L	U	1.5	6.1
9/11/2006 10:20	Effluent	BNA-Water	Endrin	1.5	ug/L	U	1.5	6.1
9/11/2006 10:20	Effluent	BNA-Water	Endrin aldehyde	4	ug/L	U	4	16
9/11/2006 10:20	Effluent	BNA-Water	Fluoranthene	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	Fluorene	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	Heptachlor	1.5	ug/L	U	1.5	6.1
9/11/2006 10:20	Effluent	BNA-Water	Heptachlor epoxide	1.5	ug/L	U	1.5	6.1
9/11/2006 10:20	Effluent	BNA-Water	Hexachlorobenzene	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	Hexachlorobutadiene	3	ug/L	U	3	12
9/11/2006 10:20	Effluent	BNA-Water	Hexachlorocyclopentadiene	3	ug/L	U	3	12

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Results	Units	Remark	MDL	PQL
9/11/2006 10:20	Effluent	BNA-Water	Hexachloroethane	3	ug/L	U	3	12
9/11/2006 10:20	Effluent	BNA-Water	Indeno(1,2,3-cd)pyrene	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	Isophorone	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	N-Nitrosodi-n-propylamine	2	ug/L	U	2	8.1
9/11/2006 10:20	Effluent	BNA-Water	N-Nitrosodimethylamine	2	ug/L	U	2	8.1
9/11/2006 10:20	Effluent	BNA-Water	N-Nitrosodiphenylamine	3	ug/L	U	3	12
9/11/2006 10:20	Effluent	BNA-Water	Naphthalene	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	Nitrobenzene	2	ug/L	U	2	8.1
9/11/2006 10:20	Effluent	BNA-Water	Pentachlorophenol	3	ug/L	U	3	12
9/11/2006 10:20	Effluent	BNA-Water	Phenanthrene	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	Phenol	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	Pyrene	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	BNA-Water	alpha-BHC	1.5	ug/L	U	1.5	6.1
9/11/2006 10:20	Effluent	BNA-Water	beta-BHC	1.5	ug/L	U	1.5	6.1
9/11/2006 10:20	Effluent	BNA-Water	delta-BHC	1.5	ug/L	U	1.5	6.1
9/11/2006 10:20	Effluent	BNA-Water	gamma-BHC	1.5	ug/L	U	1.5	6.1
9/11/2006 10:30	Field Blank	BNA-Water	1,2,4-Trichlorobenzene	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	1,2-Dichlorobenzene	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	1,3-Dichlorobenzene	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	1,4-Dichlorobenzene	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	2,4,6-Trichlorophenol	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	2,4-Dichlorophenol	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	2,4-Dimethylphenol	49	ug/L	U	49	190
9/11/2006 10:30	Field Blank	BNA-Water	2,4-Dinitrophenol	15	ug/L	U	15	58
9/11/2006 10:30	Field Blank	BNA-Water	2,4-Dinitrotoluene	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	2,6-Dinitrotoluene	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	2-Chloronaphthalene	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	2-Chlorophenol	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	2-Methyl-4,6-dinitrophenol	2.9	ug/L	U	2.9	12
9/11/2006 10:30	Field Blank	BNA-Water	2-Nitrophenol	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	3,3'-Dichlorobenzidine	39	ug/L	UJ	39	160
9/11/2006 10:30	Field Blank	BNA-Water	4,4'-DDD	1.5	ug/L	U	1.5	5.8
9/11/2006 10:30	Field Blank	BNA-Water	4,4'-DDE	1.5	ug/L	U	1.5	5.8
9/11/2006 10:30	Field Blank	BNA-Water	4,4'-DDT	1.5	ug/L	U	1.5	5.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Results	Units	Remark	MDL	PQL
9/11/2006 10:30	Field Blank	BNA-Water	4-Bromophenyl phenyl ether	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	4-Chloro-3-methylphenol	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	4-Chlorophenyl phenyl ether	1.9	ug/L	U	1.9	7.8
9/11/2006 10:30	Field Blank	BNA-Water	4-Nitrophenol	15	ug/L	U	15	58
9/11/2006 10:30	Field Blank	BNA-Water	Acenaphthene	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	Acenaphthylene	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	Aldrin	1.5	ug/L	U	1.5	5.8
9/11/2006 10:30	Field Blank	BNA-Water	Anthracene	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	Benzidine	97	ug/L	U	97	390
9/11/2006 10:30	Field Blank	BNA-Water	Benzo(a)anthracene	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	Benzo(a)pyrene	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	Benzo(b)fluoranthene	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	Benzo(g,h,i)perylene	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	Benzo(k)fluoranthene	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	Bis(2-chloroethoxy)methane	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	Bis(2-chloroethyl)ether	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	Bis(2-chloroisopropyl)ether	2.9	ug/L	U	2.9	12
9/11/2006 10:30	Field Blank	BNA-Water	Bis(2-ethylhexyl)phthalate	15	ug/L	U	15	58
9/11/2006 10:30	Field Blank	BNA-Water	Butyl benzyl phthalate	4.9	ug/L	U	4.9	19
9/11/2006 10:30	Field Blank	BNA-Water	Chrysene	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	Di-n-butyl phthalate	4.9	ug/L	U	4.9	19
9/11/2006 10:30	Field Blank	BNA-Water	Di-n-octyl phthalate	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	Dibenzo(a,h)anthracene	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	Dieldrin	1.5	ug/L	U	1.5	5.8
9/11/2006 10:30	Field Blank	BNA-Water	Diethyl phthalate	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	Dimethyl phthalate	49	ug/L	U	49	190
9/11/2006 10:30	Field Blank	BNA-Water	Endosulfan I	3.9	ug/L	U	3.9	16
9/11/2006 10:30	Field Blank	BNA-Water	Endosulfan II	3.9	ug/L	U	3.9	16
9/11/2006 10:30	Field Blank	BNA-Water	Endosulfan sulfate	1.5	ug/L	U	1.5	5.8
9/11/2006 10:30	Field Blank	BNA-Water	Endrin	1.5	ug/L	U	1.5	5.8
9/11/2006 10:30	Field Blank	BNA-Water	Endrin aldehyde	3.9	ug/L	U	3.9	16
9/11/2006 10:30	Field Blank	BNA-Water	Fluoranthene	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	Fluorene	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	Heptachlor	1.5	ug/L	U	1.5	5.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Results	Units	Remark	MDL	PQL
9/11/2006 10:30	Field Blank	BNA-Water	Heptachlor epoxide	1.5	ug/L	U	1.5	5.8
9/11/2006 10:30	Field Blank	BNA-Water	Hexachlorobenzene	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	Hexachlorobutadiene	2.9	ug/L	U	2.9	12
9/11/2006 10:30	Field Blank	BNA-Water	Hexachlorocyclopentadiene	2.9	ug/L	U	2.9	12
9/11/2006 10:30	Field Blank	BNA-Water	Hexachloroethane	2.9	ug/L	U	2.9	12
9/11/2006 10:30	Field Blank	BNA-Water	Indeno(1,2,3-cd)pyrene	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	Isophorone	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	N-Nitrosodi-n-propylamine	1.9	ug/L	U	1.9	7.8
9/11/2006 10:30	Field Blank	BNA-Water	N-Nitrosodimethylamine	1.9	ug/L	U	1.9	7.8
9/11/2006 10:30	Field Blank	BNA-Water	N-Nitrosodiphenylamine	2.9	ug/L	U	2.9	12
9/11/2006 10:30	Field Blank	BNA-Water	Naphthalene	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	Nitrobenzene	1.9	ug/L	U	1.9	7.8
9/11/2006 10:30	Field Blank	BNA-Water	Pentachlorophenol	2.9	ug/L	U	2.9	12
9/11/2006 10:30	Field Blank	BNA-Water	Phenanthrene	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	Phenol	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	Pyrene	0.97	ug/L	U	0.97	3.9
9/11/2006 10:30	Field Blank	BNA-Water	alpha-BHC	1.5	ug/L	U	1.5	5.8
9/11/2006 10:30	Field Blank	BNA-Water	beta-BHC	1.5	ug/L	U	1.5	5.8
9/11/2006 10:30	Field Blank	BNA-Water	delta-BHC	1.5	ug/L	U	1.5	5.8
9/11/2006 10:30	Field Blank	BNA-Water	gamma-BHC	1.5	ug/L	U	1.5	5.8
9/11/2006 10:20	Effluent	GC-Water	Alachlor	0.6	ug/L	UJ	0.6	2.4
9/11/2006 10:20	Effluent	GC-Water	Ametryn	0.05	ug/L	U	0.05	0.2
9/11/2006 10:20	Effluent	GC-Water	Atrazine	0.097	ug/L	I	0.05	0.2
9/11/2006 10:20	Effluent	GC-Water	Azinphos Methyl	0.2	ug/L	U	0.2	0.8
9/11/2006 10:20	Effluent	GC-Water	Bromacil	0.2	ug/L	UJ	0.2	0.8
9/11/2006 10:20	Effluent	GC-Water	Butylate	0.2	ug/L	U	0.2	0.8
9/11/2006 10:20	Effluent	GC-Water	Chlorpyrifos Ethyl	0.05	ug/L	U	0.05	0.2
9/11/2006 10:20	Effluent	GC-Water	Chlorpyrifos Methyl	0.1	ug/L	U	0.1	0.4
9/11/2006 10:20	Effluent	GC-Water	Diazinon	0.05	ug/L	U	0.05	0.2
9/11/2006 10:20	Effluent	GC-Water	Ethion	0.05	ug/L	U	0.05	0.2
9/11/2006 10:20	Effluent	GC-Water	Ethoprop	0.1	ug/L	U	0.1	0.4
9/11/2006 10:20	Effluent	GC-Water	Fenamiphos	0.2	ug/L	U	0.2	0.8
9/11/2006 10:20	Effluent	GC-Water	Fonofos	0.1	ug/L	U	0.1	0.4
9/11/2006 10:20	Effluent	GC-Water	Hexazinone	0.1	ug/L	U	0.1	0.4

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Results	Units	Remark	MDL	PQL
9/11/2006 10:20	Effluent	GC-Water	Malathion	0.15	ug/L	U	0.15	0.6
9/11/2006 10:20	Effluent	GC-Water	Metalaxyl	0.25	ug/L	U	0.25	1
9/11/2006 10:20	Effluent	GC-Water	Metolachlor	0.5	ug/L	U	0.5	2
9/11/2006 10:20	Effluent	GC-Water	Metribuzin	0.1	ug/L	U	0.1	0.4
9/11/2006 10:20	Effluent	GC-Water	Mevinphos	0.2	ug/L	U	0.2	0.8
9/11/2006 10:20	Effluent	GC-Water	Naled	0.8	ug/L	U	0.8	3.2
9/11/2006 10:20	Effluent	GC-Water	Norflurazon	0.15	ug/L	U	0.15	0.6
9/11/2006 10:20	Effluent	GC-Water	Parathion Ethyl	0.15	ug/L	U	0.15	0.6
9/11/2006 10:20	Effluent	GC-Water	Parathion Methyl	0.1	ug/L	U	0.1	0.4
9/11/2006 10:20	Effluent	GC-Water	Phorate	0.05	ug/L	U	0.05	0.2
9/11/2006 10:20	Effluent	GC-Water	Prometryn	0.15	ug/L	U	0.15	0.6
9/11/2006 10:20	Effluent	GC-Water	Simazine	0.05	ug/L	U	0.05	0.2
9/11/2006 10:30	Field Blank	GC-Water	Alachlor	0.59	ug/L	UJ	0.59	2.4
9/11/2006 10:30	Field Blank	GC-Water	Ametryn	0.05	ug/L	U	0.05	0.2
9/11/2006 10:30	Field Blank	GC-Water	Atrazine	0.05	ug/L	U	0.05	0.2
9/11/2006 10:30	Field Blank	GC-Water	Azinphos Methyl	0.2	ug/L	U	0.2	0.8
9/11/2006 10:30	Field Blank	GC-Water	Bromacil	0.2	ug/L	UJ	0.2	0.8
9/11/2006 10:30	Field Blank	GC-Water	Butylate	0.2	ug/L	U	0.2	0.8
9/11/2006 10:30	Field Blank	GC-Water	Chlorpyrifos Ethyl	0.05	ug/L	U	0.05	0.2
9/11/2006 10:30	Field Blank	GC-Water	Chlorpyrifos Methyl	0.099	ug/L	U	0.099	0.4
9/11/2006 10:30	Field Blank	GC-Water	Diazinon	0.05	ug/L	U	0.05	0.2
9/11/2006 10:30	Field Blank	GC-Water	Ethion	0.05	ug/L	U	0.05	0.2
9/11/2006 10:30	Field Blank	GC-Water	Ethoprop	0.099	ug/L	U	0.099	0.4
9/11/2006 10:30	Field Blank	GC-Water	Fenamiphos	0.2	ug/L	U	0.2	0.8
9/11/2006 10:30	Field Blank	GC-Water	Fonofos	0.099	ug/L	U	0.099	0.4
9/11/2006 10:30	Field Blank	GC-Water	Hexazinone	0.099	ug/L	U	0.099	0.4
9/11/2006 10:30	Field Blank	GC-Water	Malathion	0.15	ug/L	U	0.15	0.6
9/11/2006 10:30	Field Blank	GC-Water	Metalaxyl	0.25	ug/L	U	0.25	1
9/11/2006 10:30	Field Blank	GC-Water	Metolachlor	0.5	ug/L	U	0.5	2
9/11/2006 10:30	Field Blank	GC-Water	Metribuzin	0.099	ug/L	U	0.099	0.4
9/11/2006 10:30	Field Blank	GC-Water	Mevinphos	0.2	ug/L	U	0.2	0.8
9/11/2006 10:30	Field Blank	GC-Water	Naled	0.79	ug/L	U	0.79	3.2
9/11/2006 10:30	Field Blank	GC-Water	Norflurazon	0.15	ug/L	U	0.15	0.6
9/11/2006 10:30	Field Blank	GC-Water	Parathion Ethyl	0.15	ug/L	U	0.15	0.6

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Results	Units	Remark	MDL	PQL
9/11/2006 10:30	Field Blank	GC-Water	Parathion Methyl	0.099	ug/L	U	0.099	0.4
9/11/2006 10:30	Field Blank	GC-Water	Phorate	0.05	ug/L	U	0.05	0.2
9/11/2006 10:30	Field Blank	GC-Water	Prometryn	0.15	ug/L	U	0.15	0.6
9/11/2006 10:30	Field Blank	GC-Water	Simazine	0.05	ug/L	U	0.05	0.2
9/11/2006 10:20	Effluent	Metals-Water	Aluminum	77	ug/L		5	20
9/11/2006 10:20	Effluent	Metals-Water	Arsenic	4	ug/L	I	1.3	5.2
9/11/2006 10:20	Effluent	Metals-Water	Cadmium	0.05	ug/L	U	0.05	0.2
9/11/2006 10:20	Effluent	Metals-Water	Calcium	60.2	mg/L		0.02	0.08
9/11/2006 10:20	Effluent	Metals-Water	Chromium	0.31	ug/L	I	0.3	1.2
9/11/2006 10:20	Effluent	Metals-Water	Copper	0.7	ug/L	I	0.2	0.8
9/11/2006 10:20	Effluent	Metals-Water	Iron	37	ug/L		5	20
9/11/2006 10:20	Effluent	Metals-Water	Lead	0.2	ug/L	U	0.2	0.8
9/11/2006 10:20	Effluent	Metals-Water	Magnesium	12.3	mg/L		0.005	0.02
9/11/2006 10:20	Effluent	Metals-Water	Nickel	1	ug/L	U	1	4
9/11/2006 10:20	Effluent	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
9/11/2006 10:20	Effluent	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
9/11/2006 10:20	Effluent	Metals-Water	Zinc	21	ug/L		3	12
9/11/2006 10:30	Field Blank	Metals-Water	Aluminum	4	ug/L	U	4	16
9/11/2006 10:30	Field Blank	Metals-Water	Arsenic	0.5	ug/L	U	0.5	2
9/11/2006 10:30	Field Blank	Metals-Water	Cadmium	0.05	ug/L	U	0.05	0.2
9/11/2006 10:30	Field Blank	Metals-Water	Calcium	0.02	mg/L	U	0.02	0.08
9/11/2006 10:30	Field Blank	Metals-Water	Chromium	0.3	ug/L	U	0.3	1.2
9/11/2006 10:30	Field Blank	Metals-Water	Copper	0.2	ug/L	U	0.2	0.8
9/11/2006 10:30	Field Blank	Metals-Water	Iron	5	ug/L	U	5	20
9/11/2006 10:30	Field Blank	Metals-Water	Lead	0.2	ug/L	U	0.2	0.8
9/11/2006 10:30	Field Blank	Metals-Water	Magnesium	0.005	mg/L	U	0.005	0.02
9/11/2006 10:30	Field Blank	Metals-Water	Nickel	1	ug/L	U	1	4
9/11/2006 10:30	Field Blank	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
9/11/2006 10:30	Field Blank	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
9/11/2006 10:30	Field Blank	Metals-Water	Zinc	3	ug/L	U	3	12
9/11/2006 9:15	Equip Blank	Metals-Water	Aluminum	4	ug/L	U	4	16
9/11/2006 9:15	Equip Blank	Metals-Water	Arsenic	1.3	ug/L	U	1.3	5.2
9/11/2006 9:15	Equip Blank	Metals-Water	Cadmium	0.12	ug/L	I	0.05	0.2
9/11/2006 9:15	Equip Blank	Metals-Water	Calcium	0.02	mg/L	U	0.02	0.08

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Results	Units	Remark	MDL	PQL
9/11/2006 9:15	Equip Blank	Metals-Water	Chromium	0.43	ug/L	I	0.3	1.2
9/11/2006 9:15	Equip Blank	Metals-Water	Copper	4.26	ug/L		0.2	0.8
9/11/2006 9:15	Equip Blank	Metals-Water	Iron	5	ug/L	U	5	20
9/11/2006 9:15	Equip Blank	Metals-Water	Lead	0.2	ug/L	U	0.2	0.8
9/11/2006 9:15	Equip Blank	Metals-Water	Magnesium	0.005	mg/L	U	0.005	0.02
9/11/2006 9:15	Equip Blank	Metals-Water	Nickel	1	ug/L	U	1	4
9/11/2006 9:15	Equip Blank	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
9/11/2006 9:15	Equip Blank	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
9/11/2006 9:15	Equip Blank	Metals-Water	Zinc	3	ug/L	U	3	12
9/11/2006 10:20	Effluent	Nutrients-Liquid	Ammonia-N	0.031	mg N/L		0.01	0.02
9/11/2006 10:20	Effluent	Nutrients-Liquid	Color	5	PCU		5	5
9/11/2006 10:20	Effluent	Nutrients-Liquid	Kjeldahl Nitrogen	0.78	mg N/L		0.16	0.4
9/11/2006 10:20	Effluent	Nutrients-Liquid	NO2NO3-N	3.1	mg N/L		0.04	0.1
9/11/2006 10:20	Effluent	Nutrients-Liquid	O-Phosphate-P	0.14	mg P/L		0.012	0.03
9/11/2006 10:20	Effluent	Nutrients-Liquid	Organic Carbon	8.3	mg C/L	A	1	5
9/11/2006 10:20	Effluent	Nutrients-Liquid	TSS	4	mg/L	U	4	16
9/11/2006 10:20	Effluent	Nutrients-Liquid	Total-P	0.18	mg P/L		0.02	0.06
9/11/2006 10:20	Effluent	Nutrients-Liquid	Turbidity	0.4	NTU		0.05	0.05
9/11/2006 10:30	Field Blank	Nutrients-Liquid	Ammonia-N	0.01	mg N/L	U	0.01	0.02
9/11/2006 10:30	Field Blank	Nutrients-Liquid	Kjeldahl Nitrogen	0.08	mg N/L	U	0.08	0.2
9/11/2006 10:30	Field Blank	Nutrients-Liquid	NO2NO3-N	0.004	mg N/L	U	0.004	0.01
9/11/2006 10:30	Field Blank	Nutrients-Liquid	O-Phosphate-P	0.004	mg P/L	U	0.004	0.01
9/11/2006 10:30	Field Blank	Nutrients-Liquid	Organic Carbon	1	mg C/L	U	1	5
9/11/2006 10:30	Field Blank	Nutrients-Liquid	Total-P	0.02	mg P/L	U	0.02	0.06
9/11/2006 9:15	Equip Blank	Nutrients-Liquid	Ammonia-N	0.01	mg N/L	U	0.01	0.02
9/11/2006 9:15	Equip Blank	Nutrients-Liquid	Kjeldahl Nitrogen	0.08	mg N/L	U	0.08	0.2
9/11/2006 9:15	Equip Blank	Nutrients-Liquid	NO2NO3-N	0.006	mg N/L	I	0.004	0.01
9/11/2006 9:15	Equip Blank	Nutrients-Liquid	Organic Carbon	1	mg C/L	U	1	5
9/11/2006 9:15	Equip Blank	Nutrients-Liquid	TSS	4	mg/L	U	4	16
9/11/2006 9:15	Equip Blank	Nutrients-Liquid	Total-P	0.02	mg P/L	U	0.02	0.06
9/11/2006 10:20	Effluent	Overflow	Oil and Grease	1.7	mg/L	U		
9/11/2006 10:30	Field Blank	Overflow	Oil and Grease	1.7	mg/L	U		
9/11/2006 10:20	Effluent	VOC-Water	Bromodichloromethane	31	ug/L		0.2	1
9/11/2006 10:20	Effluent	VOC-Water	Bromoform	0.5	ug/L	UJ	0.5	2

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Results	Units	Remark	MDL	PQL
9/11/2006 10:20	Effluent	VOC-Water	Chloroform	140	ug/L		0.2	1
9/11/2006 10:20	Effluent	VOC-Water	Dibromochloromethane	4.6	ug/L		0.2	1
9/11/2006 10:30	Field Blank	VOC-Water	Bromodichloromethane	0.2	ug/L	U	0.2	1
9/11/2006 10:30	Field Blank	VOC-Water	Bromoform	0.5	ug/L	UJ	0.5	2
9/11/2006 10:30	Field Blank	VOC-Water	Chloroform	0.2	ug/L	U	0.2	1
9/11/2006 10:30	Field Blank	VOC-Water	Dibromochloromethane	0.2	ug/L	U	0.2	1
9/11/2006 9:15	Equip Blank	VOC-Water	Bromodichloromethane	0.2	ug/L	U	0.2	1
9/11/2006 9:15	Equip Blank	VOC-Water	Bromoform	0.5	ug/L	UJ	0.5	2
9/11/2006 9:15	Equip Blank	VOC-Water	Chloroform	0.2	ug/L	U	0.2	1
9/11/2006 9:15	Equip Blank	VOC-Water	Dibromochloromethane	0.2	ug/L	U	0.2	1
9/12/2006 10:00	Effluent	Bio-BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	0.2	mg/L	U	0.2	2
9/12/2006 10:00	Effluent	Metals-Water	Aluminum	64	ug/L		4	16
9/12/2006 10:00	Effluent	Metals-Water	Arsenic	4.4	ug/L		0.5	2
9/12/2006 10:00	Effluent	Metals-Water	Cadmium	0.05	ug/L	U	0.05	0.2
9/12/2006 10:00	Effluent	Metals-Water	Calcium	65.2	mg/L		0.02	0.08
9/12/2006 10:00	Effluent	Metals-Water	Chromium	0.3	ug/L	U	0.3	1.2
9/12/2006 10:00	Effluent	Metals-Water	Copper	1.65	ug/L	0.2	0.8	
9/12/2006 10:00	Effluent	Metals-Water	Iron	45	ug/L	5	20	
9/12/2006 10:00	Effluent	Metals-Water	Lead	0.2	ug/L	U	0.2	0.8
9/12/2006 10:00	Effluent	Metals-Water	Magnesium	13.6	mg/L		0.005	0.02
9/12/2006 10:00	Effluent	Metals-Water	Nickel	1.7	ug/L	I	1	4
9/12/2006 10:00	Effluent	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
9/12/2006 10:00	Effluent	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
9/12/2006 10:00	Effluent	Metals-Water	Zinc	21	ug/L		3	12
9/12/2006 10:00	Effluent	Nutrients-Liquid	Ammonia-N	0.02	mg N/L	I	0.01	0.02
9/12/2006 10:00	Effluent	Nutrients-Liquid	Kjeldahl Nitrogen	0.99	mg N/L		0.08	0.2
9/12/2006 10:00	Effluent	Nutrients-Liquid	NO2NO3-N	1	mg N/L		0.04	0.1
9/12/2006 10:00	Effluent	Nutrients-Liquid	Organic Carbon	9.1	mg C/L		1	5
9/12/2006 10:00	Effluent	Nutrients-Liquid	TSS	4	mg/L	U	4	16
9/12/2006 10:00	Effluent	Nutrients-Liquid	Total-P	0.22	mg P/L		0.02	0.06
9/12/2006 10:00	Effluent	Nutrients-Liquid	TSS	4	mg/L	U	4	16

The Bioassay of South County Regional Wastewater Treatment Plant effluent sampled on September 11, 2006. NPDES #FL0028061.

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

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 2 8 0 6 1 11	12 0 6 0 9 1 1	18 **B**	19 **S**	20 1

Remarks

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The Priority Pollutants Analysis of South County Regional Wastewater Treatment Plant effluent sampled on September 11 and 12, 2006. NPDES #FL0028061.

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

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 2 8 0 6 1 11	12 0 6 0 9 1 1	18 **X**	19 **S**	20 1

Remarks

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Biological Analyses of South County Regional Wastewater Treatment Plant effluent sampled on September 11, 2006. NPDES #FL0028061.

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

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 2 8 0 6 1 11	12 0 6 0 9 1 1	18 **S**	19 **S**	20 1

Remarks

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