

Bioassays of

Arlington East Wastewater Treatment Facility

Duval County

NPDES #FL0026441

Sampled December 4, 2006

March 2007

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

Arlington East Wastewater Treatment Facility, 1555 Millcoe Road, Jacksonville, Duval County, Florida, NPDES #FL0026441. Effluent samples for this facility were collected on December 4, 2006.

Introduction

The Arlington East Wastewater Treatment Facility (WWTF) is a complete-mix activated-sludge wastewater treatment facility. The facility has a design flow of 20 million gallons per day (MGD) annual average daily flow (AADF). The AADF from December 2005-November 2006 was 13.99 MGD. The facility consists of bar screens, an aerated grit chamber, two primary clarifiers, two aeration trains (one containing four aeration basins and the other containing two aeration basins), four secondary clarifiers, one *Aqua Disk* filter, two chlorine contact chambers, and two covered sludge holding tanks. Chlorine gas and sulfur dioxide are used for disinfection and dechlorination, respectively. Final treated effluent is either discharged through D-001 to the Class III Marine waters of the St. Johns River or reused (after receiving high level disinfection) as reclaimed water via a slow-rate public access (R-001) spray irrigation system. Outfall D-001 is approximately 137.2 m (450 feet) from shore, discharges at a depth of approximately 9.45 m (31 feet), and is located approximately at latitude 30º 23' 05" N and longitude 81º 33' 05" W. Primary and secondary residuals are collected in a holding tank and pumped to the Buckman WWTF for further treatment and disposal.

The facility has no Administrative Orders (AO) or Consent Orders (CO). The facility has a mixing zone for total recoverable copper. The mixing zone, approximate 4,073.4 m^2 (43,830 ft^2) in area, has a circular shape (radius of 35.97 m [118 feet] with the origin centered at the outfall terminus. No permit violations were noted during a review of discharge monitoring report (DMR) data for the period of May 2005 – August 2006. (Facility information provided by Michael Bogin of FDEP Northeast district.)

Methods

Samples were collected from the EFD-1 NPDES sampling point for Outfall D-001 by Michael Bogin and Melissa Long (FDEP Northeast 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 form.

The 48-hour acute screening toxicity tests and algal growth potential test were performed following internal DEP SOPs TA07_03, TA07_04, 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.

The bioassay samples were salinity-adjusted per permit requirements from an apparent salinity of less than one part per thousand (ppth) to approximately 20 ppth using 40 Fathoms® artificial sea salts. The salt controls used for these tests were prepared by salting well water with artificial sea salts to a salinity of approximately 20 ppth. The purpose of the salt control was to confirm that there was no effect of adding artificial sea salts to the sample. There was no mortality in the salt controls in either the *Americamysis bahia* test or in the *Menidia beryllina* test.

An aliquot of the AGP sample was salinity-adjusted to 7 ppth to meet the minimum salinity requirements of the marine test species.

Toxicity Test Results

Tests were performed December 5-7, 2006.

Americamysis bahia 48-hour acute screening bioassay –	LC_{50} > 100%, 0% mortality* in 100% sample at 48 hours
Menidia beryllina 48-hour acute screening bioassay –	LC_{50} > 100%, 0% 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 170 mg dry wt/L of the unicellular green alga, *Pseudokirchneriella subcapitata*, formerly known as *Selenastrum capricornutum*. Raschke and Shultz (1987) found that AGP values above 5.0 mg dry weight/L represent a "problem" threshold for fresh receiving waters, implying nutrient enrichment. The analytical chemistry suggests that the effluent is nitrogen-limited. The predicted AGP based on inorganic nitrogen concentrations was 209 (±20%) mg dry wt/L (Table 1; Miller et al. 1978).

The salinity-adjusted effluent Algal Growth Potential (AGP) was 162 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 was not detected in the bioassay sample in the laboratory. Total ammonia was detected in the bioassay sample in the laboratory at a concentration of 1.94 mg/L. Based on field measurements of pH, salinity, and temperature, the unionized ammonia concentration in the bioassay sample was < 0.02 mg/L. The total ammonia concentration in the sample collected and preserved for chemical analysis was 2.3 mg/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was < 0.02 mg/L.

Aluminum, copper, iron, nickel, and zinc were detected in the effluent at levels that comply with Class III marine water quality criteria (62-302.530, F.A.C.). Atrazine, lead, and silver were detected between the laboratory method detection limits (MDL) and practical quantitation limits (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-1NPDES sampling point for Outfall D-001 for this facility on December 4, 2006, was not acutely toxic to either test species during the 48-hour acute screening bioassays. The effluent AGP result exceeded the "problem" threshold for both fresh and marine receiving waters, suggesting nutrient enrichment may be an issue. Effluent water quality samples did not exceed any applicable water quality standards or violate any permit conditions.

Literature Cited

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

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

Table 1. Measured and predicted algal growth potential (AGP; mg dry weight/L) of the freshwater species Psuedokirchneriella subcapitata *for total soluble inorganic nitrogen (TSIN) and total nitrogen (TN) limitation, the salt adjusted AGP for the saltwater species* Dunaliella tertiolecta*, and ratios of total nitrogen to total phosphorus for samples collected from Arlington East Wastewater Treatment Facility on December 4, 2006.*

Location	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (TN) ± 20%	AGP (salt adjusted)	Total N:P ratio
Effluent Samples	170	209 ± 41.8	258.4 ± 51.68	162	4

Note: Ortho-phosphate was not measured; therefore inorganic nutrient ratios cannot be determined.

Table 2. Effluent limits, Class III Marine Criteria, and chemical and microbiological data for samples collected from Arlington East Wastewater Treatment Facility on December 4, 2006.

Arlington East WWTF NPDES# FL0026441	Class III Marine Stds	Effluent Limits	Effluent Grab Samples
Organic Constituents (µg/L)			
Atrazine	-	-	0.13 I
Metals (µg/L unless otherwise noted)			
Aluminum	≤ 1,500	-	18
Arsenic	≤ 50	-	0.5 U
Cadmium	≤ 9.3	-	0.05 U
Calcium (mg/L)	-	-	76.6
Chromium-III	-	-	0.7 U
Copper	≤ 3.7	≤ 16.8 s #	1.76
Iron	≤ 300	-	56
Lead	≤ 8.5	-	0.25 I
Magnesium (mg/L)	-	-	33.8
Nickel	≤ 8.3	-	1.75
Selenium	≤ 71	-	0.5 U
Silver	≤ 2.3	-	0.028 I
Zinc	≤ 86	-	26
Nutrients (mg/L)			
Ortho-phosphate	-	Report	-
Total Phosphorus	-	Report	1.7
Ammonia	-	Report	2.3
Unionized Ammonia	-	-	< 0.02 c
Nitrate+Nitrite	-	Report	3.2
Total Kjeldahl Nitrogen	-	Report	3.6
Organic Nitrogen	-	Report	1.3 c
Total Nitrogen	-	Report	6.8 c
General Physical and Chemical Parameters			
Dissolved Oxygen (mg/L)	≥ 4.0	Report	6.1
pH (S.U.)	6.5-8.5	6.0-8.5	7.1
Conductivity (umhos/cm)	-	-	1,261
Temperature (°C)	-	-	24.5
CBOD, 5 day (mg/L)	-	≤ 60.0 s #	1.4 I
Flow (MGD)	-	≤ 20.0 a	13.99
Hardness (mg/L)	-	-	330.5 c
Total Supended Solids (mg/L)	-	≤ 60.0 s #	4 U
Turbidity (NTU)	≤ 29 t	-	0.55
Total Residual Chlorine (mg/L)	≤ 0.01	≤ 0.01 s	< 0.03 U £
Microbiology (# counts/100ml)			
Fecal Coliforms-Membrane Filter	≤ 800 s	≤ 800 s	2 U*

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

a - Annual average

c - Calculated value

s - Single sample

t - Shall not exceed 29 NTUs above background

I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

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

- Permit limit based on composite sample

£ - Analysis performed in bioassay laboratory

*- Analysis performed at Northeast District laboratory

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2006-12-04-26
Arlington East WWTF

Requester: Shannan Bogdanov
Field Report Prepared By: Melissa Long

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

Collected By: Michael Bogan + Melissa Long
Sampling Agency: DEP - NED
Send Final Report To: Melissa Long

Lab ID *								
	Location: Final Effluent			☐ Comp ☒ Grab	Collection (begin) Date 12/4/06 Time 1233 (Eastern) Central	Collection (end) Date 12/4/06 Time 1408 (Eastern) Central		Bottle Group(s)** A
	Field ID			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L) 6.1	Storet Station Number		
	Matrix (Include type e.g. Salt, Fresh, etc)	Temp (C) 24.5	pH 7.07	Sample Depth ☐ m ☐ ft 1261	☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm)	NPDES Number		
	Latitude o ' "	Longitude o ' "		Comments 12.3‰ salt ⇒ DO				
Lab ID *	Location: Blank - Arlington East WWTF			☐ Comp ☒ Grab	Collection (begin) Date 12-4-06 Time 1405 (Eastern) Central	Collection (end) Date 12-4-06 Time 1423 (Eastern) Central		Bottle Group(s)** B
	Field ID			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number		
	Matrix (Include type e.g. Salt, Fresh, etc)	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number		
	Latitude o ' "	Longitude o ' "		Comments				
Lab ID *	Location			☐ Comp ☐ Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central		Bottle Group(s)**
	Field ID			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number		
	Matrix (Include type e.g. Salt, Fresh, etc)	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number		
	Latitude o ' "	Longitude o ' "		Comments				
Lab ID *	Location			☐ Comp ☐ Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central		Bottle Group(s)**
	Field ID			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number		
	Matrix (Include type e.g. Salt, Fresh, etc)	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number		
	Latitude o ' "	Longitude o ' "		Comments 2 bottles 10:16 D. Eller from Final				

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
								12-5-06/9:23a

* 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: Arlington EAST WWTF

Address: 1555 MILLCOE Road

City: JACKSONVILLE **County:** DUVAL

Contact/District: NORTHEAST / Melissa Long

NPDES Permit #: FL0026441

LIMS Job #: TLH-2006-12-05.10.01 **LIMS Sample #:** 970501

Lims Data Entry: MF 12-8-06 Data Entry Verification: BA 12-8-06

Sample Collection: Date: 12-4-06 Time: 13:33

Hold Time Start: Date: 12-4-06 Time: 13:33

Comments: Sample salinity adjusted to ~20 parts per thousand by the addition of artificial sea salts per permit. MF 12-5-06
Salt control prepared by salting well water to a salinity of ~20 parts per thousand with artificial sea salts - MF 12-5-06

A,B
Culture Room temperatures have lowered due to frequent overnight sub-freezing temperatures outside.

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_08
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No

Test 2 validation: **Test 2:** SOP TA 07_04
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: ~~2~~ 1 Final Salinity: 20.1 (Salts) Hypersaline brine

Salinity adjusted (Test 2): (yes) no Initial Salinity: ~~2~~ 1 Final Salinity: 20.1 (Salts) Hypersaline brine
MF 12-5-06 corrected sign

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

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)

Temperature Range °C
Incubator # 2 Range 240 - 260
Room B246: 23.0 - 23.7 A
Waterbath: N/A

Investigators' Signatures
Daniel Adkins
Jessica Jones
Patti Vichaikul
Marshall Faircloth

REVIEWER

Water Quality Parameters	20% DMW	Moderately Hard Water/ (Well Water)	Salt Water (ASW) NSW Test 1	Salt Water ASW NSW Test 2	Other: Salt ctrl	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl_2 (mg/L):	N/A	N/A	N/A	N/A	NA	Not measured		PD	MF
Lab Total Residual Cl_2 (mg/L):		<0.03	<0.03		—	<0.03	HACH	PDV	BA
Alkalinity (mg/L as $CaCO_3$):		145	197		18.8	194	HACH	BA	PDV
Hardness (mg/L as $CaCO_3$):		192	—		—	313	HACH	BA	PDV
Total Ammonia (mg/L as N):		<0.017	<0.034		<0.034	1.94	DENVER	MF	PDV
Salinity (ppth):		~~2~~ 1	~20		~20	~~2~~ 1	YSI / Mettler	JD	BA

< MF 12-5-06 corrected sign

< MF 12-8-06 corrected sign

V 1.4 9/12/05

Appendix B. (continued)

[redacted]

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 970501 Test #: 1 Test Started: Date 12.5.06 Time: 1315
Organism: Atherinops affinis SOP #: TA 07_03 Test Ended: Date 12-7-06 Time: 11:15
Organism Batch: 33-06 Diluent/ Batch: ASW 1 21-06
Organism Age: 5 days Food: YCT P. subcapitata Artemia
Chamber Size: 1000 mL Batch: — — 17-06, 18-06
Test Volume: 500 mL Feeding: Prior to test - Prior to renewal (Daily) GSL-536-90

Concentration	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Ctrl	A	F13	5	5	5			
	B	F14	5	5	5			
	C	F15	5	5	5			
	D	F16	5	3	5			
Salt Ctrl	A	F17	5	5	5			
	B	F18	5	5	5			
	C	F19	5	5	5			
	D	F20	5	5	5			
100%	A	F21	5	5	5			
	B	F22	5	5	5			
	C	F23	5	5	5			
	D	F24	5	5	5			
Organisms loaded by: JD	Checked by: [redacted]		JD	JD				
Loading Verified by: BR								

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

Page 000057

Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 470501 Test #: 2 Test Started: Date 12806 Time: 1345
Organism: A. bergiliana SOP #: TA 07_04 Test Ended: Date 12-7-06 Time: 11:15
Organism Batch: 32-06 Diluent/ Batch: ASW / 21-06
Organism Age: 13 days Food: YCT P. subcapitata Artemia
Chamber Size: 1000 mL Batch: 17-06
Test Volume: 800 mL Feeding: (Prior to test) - Prior to renewal - Daily 6 SL-536-90

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			
S/W Ctrl	A	F5	5	5	5			
	B	F6	5	5	5			
	C	F7	5	5	5			
	D	F8	5	5	5			
100%	A	F9	5	5	5			
	B	F10	5	5	5			
	C	F11	5	5	5			
	D	F12	5	5	5			

Organisms loaded by: JD Checked by: [redacted] JD JD
Loading Verified by: BA
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

Page 000058

FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 970501 Test #: 1 of 2

TEST SOP #: TA07_03 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.)	8.5	8.3	8.0			
Temperature °C	24.0	24.4	24.8			
Dissolved Oxygen mg/L	6.9	~~6.9~~ (A)	5.2			
Conductivity µmhos (mmhos)	31.1	31.9	32.1			
(initials) Measured by:	JD	JD	BA			
(initials) Recorded by:	JD	JD	~~PPV~~			

Comments: (A) is at bottom of page mf 1-7-07

Concentration S/H Ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C			
pH (S.U.)	8.6	8.3	8.0			
Temperature °C	24.0	24.3	24.8			
Dissolved Oxygen mg/L	7.0	5.0	5.3			
Conductivity µmhos (mmhos)	32.6	32.8	32.7			
(initials) Measured by:	JD	JD	BA			
(initials) Recorded by:	JD	JD	~~PPV~~			

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.)	8.1	~~8.1~~	8.0			
Temperature °C	24.1	24.2	24.8			
Dissolved Oxygen mg/L	6.9	5.1	5.1			
Conductivity µmhos (mmhos)	32.4	32.7	32.3			
(initials) Measured by:	JD	JD	BA			
(initials) Recorded by:	JD	JD	~~PPV~~			

Comments: (A) 4.9 Transcription error JD 12.6.06

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:

000059

V 2.0 2/24/04

Page

FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 970501 **Test #:** 2 of 2

TEST SOP #: TA07_ 04 **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.)	8.5	8.2	8.2			
Temperature °C	24.0	24.1	24.7			
Dissolved Oxygen mg/L	6.4	6.9	6.1			
Conductivity µmhos (mmhos)	31.4	31.7	32.1			
(initials) Measured by:	JD	JD	BA			
(initials) Recorded by:	JD	JD	DPV			

Comments:

Concentration 5% Ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C			
pH (S.U.)	8.6	8.3	8.2			
Temperature °C	24.0	24.2	24.8			
Dissolved Oxygen mg/L	7.0	6.9	6.4			
Conductivity µmhos (mmhos)	32.8	32.5	32.6			
(initials) Measured by:	JD	JD	BA			
(initials) Recorded by:	JD	JD	DPV			

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.)	8.1	8.0	8.2			
Temperature °C	24.1	24.2	25.1			
Dissolved Oxygen mg/L	6.7	6.9	6.4			
Conductivity µmhos (mmhos)	32.5	32.5	32.2			
(initials) Measured by:	JD	JD	BA			
(initials) Recorded by:	JD	JD	DPV			

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

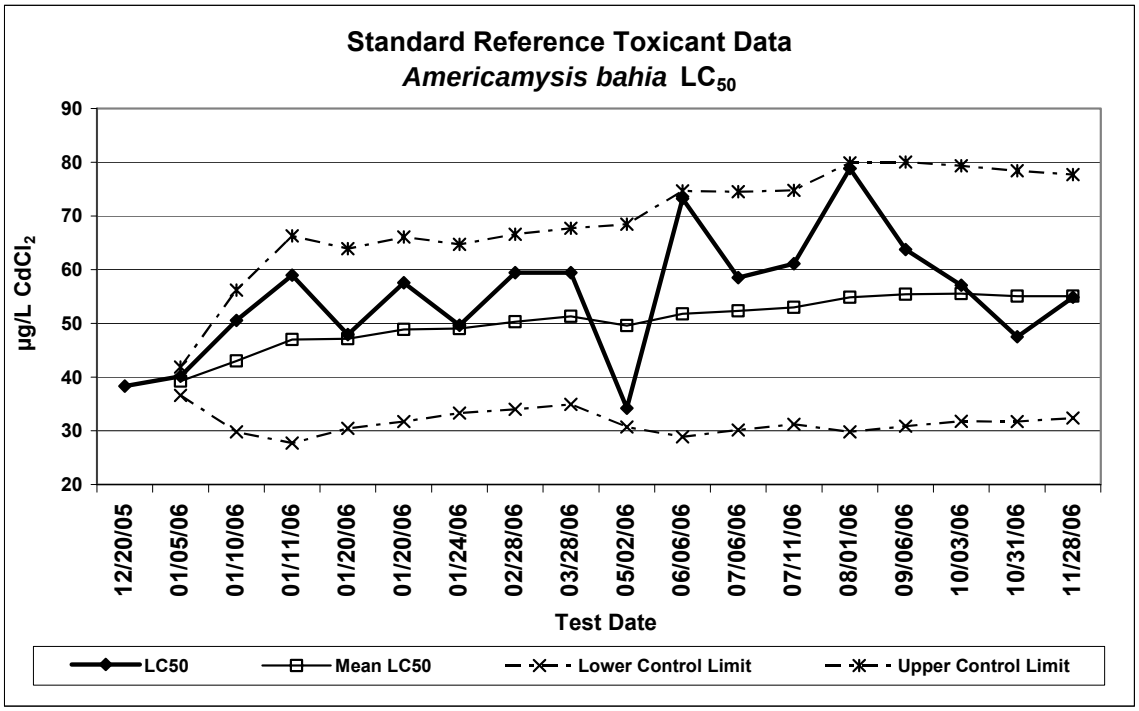
Florida Department of Environmental Protection
Bureau of Laboratories

Standard Reference Toxicant (SRT) Test Data - 48-hour Acute Toxicity
Americamysis bahia (mysid shrimp) - Cadmium Chloride ($CdCl_2$)

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
12/20/05	38.30				
01/05/06	40.16	39.23	1.32	36.60	41.86
01/10/06	50.55	43.00	6.60	29.80	56.21
01/11/06	58.98	47.00	9.64	27.72	66.27
01/20/06	47.91	47.18	8.36	30.47	63.89
01/20/06	57.54	48.91	8.59	31.73	66.08
01/24/06	49.65	49.01	7.84	33.32	64.70
02/28/06	59.45	50.32	8.15	34.03	66.61
03/28/06	59.42	51.33	8.20	34.93	67.73
05/02/06	34.19	49.62	9.44	30.73	68.50
06/06/06	73.23	51.76	11.44	28.88	74.65
07/06/06	58.53	52.33	11.08	30.16	74.49
07/11/06	61.12	53.00	10.89	31.22	74.78
08/01/06	78.84	54.85	12.54	29.78	79.92
09/06/06	63.78	55.44	12.30	30.85	80.04
10/03/06	57.1	55.55	11.89	31.77	79.32
10/31/06	47.52	55.07	11.67	31.73	78.42
11/28/06	54.87	55.06	11.33	32.41	77.71

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

CV = 20.58
EPA reference 75th quartile CV = 26%



*Fewer than 20 points are charted due to recent initiation of SRT testing using $CdCl_2$.

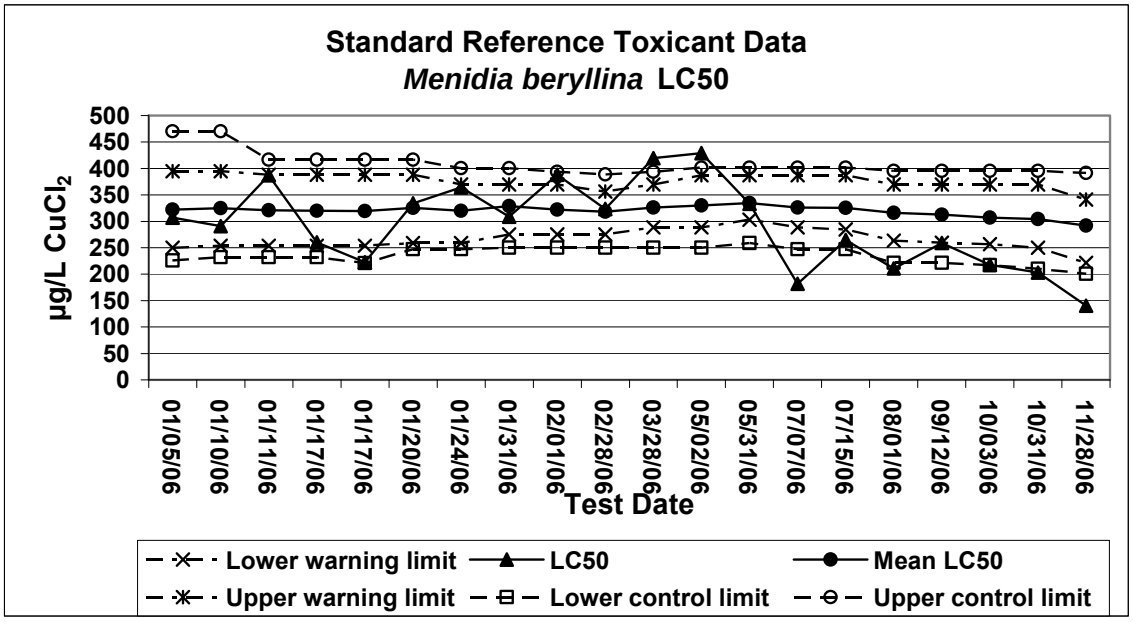
Appendix C. (continued)

Florida Department of Environmental Protection
Bureau of Laboratories

Standard Reference Toxicant (SRT) Test Data - Acute Toxicity
Menidia beryllina (Inland silverside) - Copper Chloride ($CuCl_2$)

Date	LC50	Mean LC50	Lower control limit	Lower warning limit	Upper warning limit	Upper control limit
01/05/06	307.20	321.88	225.8	250.0	394.6	470.3
01/10/06	291.06	325.02	232.3	254.0	394.6	470.3
01/11/06	386.84	320.92	232.3	254.0	388.4	416.5
01/17/06	259.80	319.91	232.3	254.0	388.4	416.5
01/17/06	222.49	319.27	220.7	254.0	388.4	416.5
01/20/06	333.67	325.74	247.2	258.7	388.4	416.5
01/24/06	363.93	319.79	247.2	258.7	369.7	400.4
01/31/06	308.77	328.86	250.0	275.4	369.7	400.4
02/01/06	388.25	322.40	250.0	275.4	369.7	393.6
02/28/06	323.38	318.11	250.0	275.4	356.1	388.7
03/28/06	419.55	326.32	250.0	288.5	369.7	393.6
05/02/06	429.19	330.10	250.0	288.5	387.2	401.5
05/31/06	333.13	334.26	258.8	303.2	387.2	401.5
07/07/06	181.98	326.28	247.2	288.5	387.2	401.5
07/15/06	264.59	325.48	247.2	284.4	387.2	401.5
08/01/06	210.80	316.05	221.3	263.4	369.7	395.6
09/12/06	258.82	312.50	221.3	259.6	369.7	395.6
10/03/06	217.64	307.20	217.0	256.6	369.7	395.6
10/31/06	203.06	304.28	210.0	249.7	369.7	395.6
11/28/06	140.31	292.22	201.0	221.3	341.2	391.4

Means are of the last 20 SRT tests.
Upper warning and control limits are the 75th and 90th percentiles, respectively, of the past 20 LC50s.
Lower warning and control limits are the 25th and 10th percentiles, respectively, of the past 20 LC50s.
EPA reference 75th quartile CV = 21% **CV = 27.9***



* High variability due to change in fish supplier beginning 7/7/06.

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#: ASW / 20-06
Toxicant/ Batch# dch / 14-06

Test Beginning: Date: 11.28.06 Time: 1300
Test Ending: Date: 12-2-06 Time: 1035

Water Quality Parameters:

	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	PPV
Alkalinity (mg/L as $CaCO_3$):	200	Hach	~
Hardness (mg/L as CaCO3):	—	Hach	—
Total Ammonia (mg/L as N):	<0.034	Denver	MF
Salinity (ppth):	28	Mettler	BA

Organism Batch #/ Age: 31-06 15 days
Feeding: (Prior to test) Prior to renewal / Daily
Food: YCT P.*subcapitata* (Artemia)
Food Batch: — — 13-06, 19-06, 13-06, 14-06 652-536-90
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc. (µg/L) g/L	Rep.	Chamber#	Number Live 0 hr (48 hr)	Number Live 24 hr (72 hr)	Number Live 48 hr (96 hr)	pH (SU) 0 hr (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) 0 hr (48 hr)	UNCORRECTED Cond. (mmhos/cm) 24 hr (72 hr)	UNCORRECTED Cond. (mmhos/cm) 48 hr (96 hr)
Control	A	N	5	5	5	8.4		7.9	24.0		24.6	6.8		5.3	31.8		31.8
	B	D2	5	5	5		8.2			25.3			5.8			31.7	
	C	D3	5	5	5												
	D	D4	5	5	5												
20	A	D5	5	5	5	8.4		8.0	24.0		24.4	6.7		5.1	31.9		32.4
	B	D6	5	5	5		8.2			24.5			5.6			31.7	
	C	D7	5	5	5												
	D	D8	5	5	5												
30	A	D9	5	5	5	8.4		8.0	24.0		24.4	6.7		5.4	31.7		32.5
	B	D10	5	5	5		8.1			24.8			5.4			29.5	
	C	D11	5	5	5												
	D	D12	5	5	5												
45	A	D13	5	5	3 4D	8.4		8.0	24.0		24.5	6.8		5.4	31.8		32.4
	B	D14	5	5	4 1D		8.2			24.7			5.5			32.0	
	C	D15	5	5	4 1D												
	D	D16	5	5	4 1D												
67	A	D17	5	5	0 5D	8.4		8.0	24.0		24.5	6.8		5.5	31.7		32.3
	B	D18	5	5	2 3D		8.2			24.7			5.5			31.8	
	C	D19	5	5	2 3D												
	D	D20	5	4D	1 3D												
100	A	D21	5	5	0 5D	8.4		8.1	24.0		24.5	6.9		5.8	32.0		32.3
	B	D22	5	5	0 5D		8.3			24.5			5.9			31.8	
	C	D23	5	5	0 5D												
	D	D24	5	4 1D	0 4D												
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	JD	JD	BA	PPV	PPV	BA	JD	PPV	BA	PPV	PPV	BA	PPV	PPV
Recorded by:			DM	JD	JD	BA	PPV	PPV	BA	JD	PPV	BA	PPV	PPV	BA	PPV	PPV

Investigators' Signatures
Jason Daniel
Brad Ashwell
Marshall Faircloth
Bobby Vickers Jr.
Erin Wilcox
REVIEWER

Concentrations prepared by: PPV
Loading verified by: BA
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 24.0 max. 26.2 mean 25.1
Incubator # ____ min. _____ max. _____ mean _____
Room B246 min. 23.2 max. 24.9 mean 24.1

Remarks:
FOR 48-HR READINGS, ~~THESE~~ THEY'RE SUPPOSE TO BE WRITTEN N ROW C NOT A. PPV 11/30/06.
@ mark under Diluent measured at 20 PPT 12-15-06 BA

Statistical Results: Method: Spearman-Karber
48 / 96 hour LC50: 54.87
95% Confidence Interval: lower 49.17 upper 61.29

Revised 02/21/06

Page 000064

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#: ASW / 20-06
Toxicant/ Batch# $CaCl_2$ / 19-06

Test Beginning: Date: 11.28.06 Time: 1300
Test Ending: Date: 12-2-06 Time: 1035

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	PPV
Alkalinity (mg/L as $CaCO_3$):	100	Hach	GW
Hardness (mg/L as CaCO3):	—	Hach	—
Total Ammonia (mg/L as N):	<0.034	Denver	MF
Salinity (ppth):	~20	Mettler	BA

Organism Batch #/ Age: 31-06 / 5 day
Feeding: (Prior to test) / (Prior to renewal) / Daily
Food: YCT P.subcapitata (Artemia)
Food Batch: — — 13-06 -16-06 GSL-536-90
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc. (ppt) g/L	Rep.	Chamber#	Number Live 0 hr / 24 hr / 48 hr / 48 hr / 72 hr / 96 hr	pH (SU) 0 hr / 24 hr / 48 hr / 48 hr / 72 hr / 96 hr	Temperature (° C) 0 hr / 24 hr / 48 hr / 48 hr / 72 hr / 96 hr	D.O. (mg/l) 0 hr / 24 hr / 48 hr / 48 hr / 72 hr / 96 hr	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhom/cm) 0 hr / 24 hr / 48 hr / 48 hr / 72 hr / 96 hr
Control	A	D1	5 / 5 / 5	/ / 8.0	24.0 (1) / / 24.6	8 / / 4.4	32.3 (2) / / 32.3
	B	D2	5 / 5 / 5				
	C	D3	5 / 5 / 5	8.3 / /	24.0 / /	5.8 / /	31.8 / /
	D	D4	5 / 5 / 5	/ 8.1 /	/ 24.4 /	/ 4.9 /	/ 31.7 /
20	A	D5	5 / 5 / 5	/ / 8.0	/ / 25.3	/ / 4.1	/ / 32.2
	B	D6	5 / 5 / 5				
	C	D7	5 / 5 / 5	8.3 / /	24.0 / /	6.0 / /	32.1 / /
	D	D8	5 / 5 / 4 (10)	/ 8.1 /	/ 24.5 /	/ 4.9 /	/ 31.8 /
30	A	D9	5 / 4 10 / 4	/ / 8.0	/ / 24.8	/ / 4.0	/ / 31.9
	B	D10	5 / 5 / 2 3D				
	C	D11	5 / 5 / 1 4D	8.3 / /	24.0 / /	6.2 / /	32.1 / /
	D	D12	5 / 5 / 5	/ 8.1 /	/ 24.5 /	/ 4.9 /	/ 31.9 /
45	A	D13	3 / 1 3D / 0 1D	/ / 8.1	/ / 24.7	/ / 5.0	/ / 32.2
	B	D14	4 / 2 3D / 0 2D				
	C	D15	4 / 3 1D / 1 2D	8.3 / /	24.0 / /	6.3 / /	32.1 / /
	D	D16	4 / 3 1D / 2 1D	/ 8.1 /	/ 24.5 /	/ 5.1 /	/ 31.7 /
67	A	D17	— / — / —	/ / —	/ / —	/ / —	/ / —
	B	D18	2 / 0 2D / —				
	C	D19	2 / 0 2D / —	8.3 / /	24.0 / /	6.3 / /	32.0 / /
	D	D20	1 / 0 1D / —	/ 8.1 /	/ 24.5 /	/ 5.1 /	/ 31.6 /
100	A	3D D21	— / — / —	/ / —	/ / —	/ / —	/ / —
	B	D22	— / — / —				
	C	3D D23	— / — / —	— / /	— / /	— / /	— / /
	D	D24	— / — /	/ — /	/ — /	/ — /	/ — /
	A						
	B						
	C						
	D						
Loaded / measured by:			JD / JD / MF	PPV / BA / MF	PPV / BA / MF	PPV / BA / MF	PPV / BA / MF
Recorded by:			JD / JD / MF	JD / PPV / MF	JD / PPV / MF	JD / PPV / MF	JD / PPV / MF

Investigators' Signatures
James Daniels
Shane Anglum
Marshall Faircloth
Daisy Richmond
Erin Wilcox

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. 24.0 max. 26.2 mean 25.1
Incubator # ____ min. ____ max. ____ mean ____
Room B246 min. 23.2 max. 24.4 mean 24.1

REVIEWER

Remarks:
(1) transcription error D.O. 12/4/06
(2) transcription error D.O. 12/4/06

Statistical Results: Method: Spearman-Karber
48 / 96 hour LC50: 32.57
95% Confidence Interval: lower 28.85 upper 36.78

Revised 02/21/06

Page 000065

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#: ASW / 1-20-06
Toxicant/ Batch#: $CuCl_2$ / 1406

Test Beginning: Date: 11/28/06 Time: 13:05
Test Ending: Date: 12-2-06 Time: 1050

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	PPV
Alkalinity (mg/L as $CaCO_3$):	200	Hach	EW
Hardness (mg/L as CaCO3):	--	Hach	--
Total Ammonia (mg/L as N):	<0.034	Denver	MF
Salinity (ppth):	~20	Mettler	BK

Organism Batch #/ Age: 3-06 / 16 d 4 h
Feeding: ~~Prior to test~~ / Prior to renewal / Daily
Food: YCT / *P.subcapitata* / Artemia GSL 53690 (121) 13-06, 15-06
Food Batch: ✓ / – / 13-06, 15-06
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) 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	E1	10	10	10	8.4		8.3	24.0		24.6	7.0		6.6	31.7		33.9
	B	E2	10	10	10		8.3			24.9			6.0			31.6	
	C																
	D																
3.25	A	E3	10	10	10	8.4		8.2	24.0		24.4	6.8		6.6	31.9		32.6
	B	E4	10	10	9 1D		8.3			25.4			6.1			32.2	
	C																
	D																
6.25	A	E5	10	9 1D	8 1D	8.4		8.2	24.0		24.4	6.8		6.6	31.8		32.7
	B	E6	10	9 1D	9		8.3			25.5			6.0			31.9	
	C																
	D																
12.5	A	E7	10	10	10	8.4		8.2	24.0		24.4	6.8		6.5	32.0		32.7
	B	E8	10	5 5D	5		8.2			25.1			5.9			32.1	
	C																
	D																
25.0	A	E9	10	1 9D	0 1D	8.4	~~8.2~~	8.2	24.0		24.4	6.8		6.5	31.8		32.4
	B	E10	10	1 9D	1		8.2			24.9			5.8			31.8	
	C																
	D																
50.0	A	E11	10	0 10D	–	8.4		–	24.0		–	6.8		–	31.9		–
	B	E12	10	0 10D	–		8.2			25.2			5.9			32.2	
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	JD	PPV	BA	~~PPV~~	PPV	BA	JD	PPV	BA	~~PPV~~	PPV	BA	~~PPV~~	PPV
Recorded by:			BK	JD	PPV	BA	~~PPV~~	PPV	BA	JD	PPV	BA	~~PPV~~	PPV	BA	~~PPV~~	PPV

Investigators' Signatures
James Daniels
Dave Dardeau
Marshall Faircloth
Betsy McCausland
Erin Wilcox
REVIEWER

Concentrations prepared by: JD
Loading verified by: BA
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 24.0 max. 26.7 mean 25.1
Incubator # ____ min. ____ max. ____ mean ____
Room B246 min. 23.2 max. 24.9 mean 24.1

Remarks:

Statistical Results: Method: Spearman-Karber
48 / 96 hour LC50: 140.31
95% Confidence Interval: lower 114.82 upper 171.45

Revised 02/21/06

Page 000066

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#: ASW 1 20-06
Toxicant/ Batch# $CuCl_2$ 1 19-06

Test Beginning: Date: 11/28/06 Time: 13:05
Test Ending: Date: 12-2-06 Time: 1050

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	0.03	Hach	PPV
Alkalinity (mg/L as $CaCO_3$):	800	Hach	[illegible]
Hardness (mg/L as CaCO3):	—	Hach	—
Total Ammonia (mg/L as N):	20034	Denver	MF
Salinity (ppth):	~20	Mettler	BA

Organism Batch #/ Age: 31-06 / 10-2hrs
Feeding: (Prior to test) / (Prior to renewal) / Daily
Food: YCT P.*subcapitata* (Artemia) GSL 53690 (Lot)
Food Batch: — — 13-06, 15-06
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc. (µg/L) g/L	Rep.	Chamber#	Number Live 0 hr / 48 hr	Number Live 24 hr / 72 hr	Number Live 48 hr / 96 hr	pH (SU) 0 hr / 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	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhom/cm) 24 hr / 72 hr	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhom/cm) 48 hr / 96 hr
Control	A	E1	10	9 ID	8 ID	8.3		8.1	24.0		25.0	6.5		6.0	31.9		32.5
	B	E2	10	10	10		8.0			24.4			5.2			31.9	
	C																
	D																
31.25	A	E3	10	10	10	8.3		8.1	24.0		24.8	6.5		5.6	32.1		32.3
	B	E4	9	9	9		8.1			24.9			5.3			32.0	
	C																
	D																
62.5	A	E5	8	8	8	8.4		8.2	24.0		25.3	6.6		5.5	32.1		32.5
	B	E6	9	9	9		8.2			24.8			5.4			32.1	
	C																
	D																
125	A	E7	10	10	10	8.4		8.2	24.0		24.9	6.5		5.7	32.1		32.0
	B	E8	5	5	5		8.2			24.8			5.5			31.7	
	C																
	D																
250	A	E9	—	—	—	8.4											
	B	E10	1	1	1		8.2	8.1	24.0	24.6	25.3	6.5	5.7	5.6	31.8	31.7	32.3
	C																
	D																
500	A	E11	—	—	—	—		—	—		—	—		—	—		—
	B	E12	—	—	—		—			—			—			—	
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	JD	MF	PPV	BA	MF	PPV	BA	MF	PPV	BA	MF	PPV	BA	MF
Recorded by:			JD	JD	MF	JD	PPV	MF	JD	PPV	MF	JD	PPV	MF	JD	PPV	MF

Investigators' Signatures
Jason Ranson
Brent Hughes
Marshall Fairchild
Blair Nicholas
Erin Wilcox
REVIEWER

Concentrations prepared by: _____
Loading verified by: —
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 24.0 max. 26.2 mean 25.1
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 23.2 max. 24.9 mean 24.1

Remarks:
LC50 – 48h + 96h verified by MF 12-15-06

Statistical Results: 152.17 Method: Spearman-Karber
48 (96) hour LC50: 140.31 BA
95% Confidence Interval: lower 114.99 upper 179.25
129.19

Revised 02/21/06

Page 000067

Appendix C. (continued)

***Americamysis bahia* Acute Standard Reference Toxicant Test**

DATE: 11-28-06 DURATION: 48 h TOXICANT : $CdCl_2$
SPECIES: *A. bahia*

RAW DATA: Concentration --- ---- (ug/L)	Number Exposed	Mortalities
0	20	0
20	20	0
30	20	0
45	20	5
67	20	15
100	20	20

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: **LC50: 54.87**
95% LOWER CONFIDENCE: 49.17
95% UPPER CONFIDENCE: 61.24

***Menidia beryllina* Acute Standard Reference Toxicant Test**

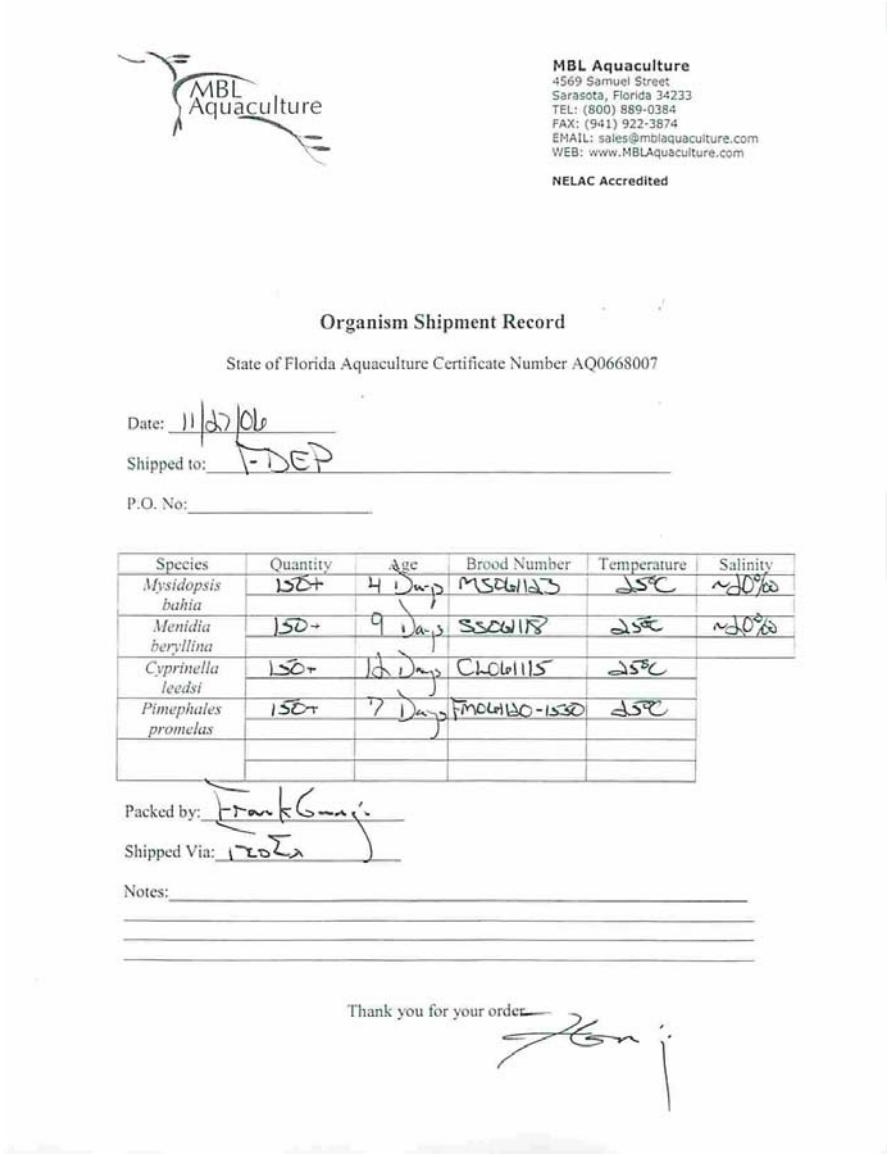
DATE: 11-28-06 DURATION: 48 h TOXICANT : $CuCl_2$
SPECIES: *M. beryllina*

RAW DATA: Concentration --- ---- (ug/L)	Number Exposed	Mortalities
0	20	0
31.25	20	1
62.50	20	3
125.00	20	5
250.00	20	19
500.00	20	20

SPEARMAN-KARBER TRIM: 5.00%

SPEARMAN-KARBER ESTIMATES: **LC50: 140.31**
95% LOWER CONFIDENCE: 114.82
95% UPPER CONFIDENCE: 171.45

Appendix D. Test Organism Receipts



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

NELAC Accredited

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 11/27/06

Shipped to: FDEP

P.O. No:

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia	150+	4 Days	MS061123	25°C	~30‰
Menidia beryllina	150+	9 Days	SS061118	25°C	~30‰
Cyprinella leedsi	150+	12 Days	CL061115	25°C	
Pimephales promelas	150+	7 Days	FM061130-1530	25°C	

Packed by: Frank Gmaj

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: 12/4/06

Shipped to: T-DEP

P.O. No: _____

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia	150+	4 Days	MS061130	25°C	~30‰
	250+	6 Days	MS061128	25°C	~30‰
Menidia beryllina	150+	12 Days	SS061120	25°C	~20‰
	250+	9 Days	SS061175	25°C	~30‰
Cyprinella leedsi					
Pimephales promelas					

Packed by: Frank Gonzi

Shipped Via: FedEx

Notes: _____

Thank you for your order.

Appendix E. Chemical Analyses performed on the effluent from the Arlington East Wastewater Treatment Facility Outfall D-001, sampled on December 4, 2006.

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
12/4/2006 13:33	ARLINGTON EAST WWTF	Bio-AGP/LimNut	Algal Growth Potential	170	mg DryWt/L		0.3	0.9
12/4/2006 13:33	ARLINGTON EAST WWTF	Bio-AGP/LimNut	Algal Growth Potential-Salinity Adjusted	162	mg DryWt/L		3	3
12/4/2006 13:33	ARLINGTON EAST WWTF	Bio-BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	1.4	mg/L	I	0.2	2
12/4/2006 13:33	ARLINGTON EAST WWTF	Bio-Chl-a	Chlorophyll-A, Monochromatic, Water	0.85	ug/L	U	0.85	2.6
12/4/2006 13:33	ARLINGTON EAST WWTF	Bio-Chl-a	Phaeophytin-A, Monochromatic, Water	1.5	ug/L	U	1.5	4.5
12/4/2006 13:33	ARLINGTON EAST WWTF	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	100	LC50	L		
12/4/2006 13:33	ARLINGTON EAST WWTF	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	100	LC50	L		
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	1,2,4-Trichlorobenzene	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	1,2-Dichlorobenzene	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	1,3-Dichlorobenzene	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	1,4-Dichlorobenzene	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	2,4,6-Trichlorophenol	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	2,4-Dichlorophenol	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	2,4-Dimethylphenol	48	ug/L	U	48	190
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	2,4-Dinitrophenol	14	ug/L	U	14	57
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	2,4-Dinitrotoluene	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	2,6-Dinitrotoluene	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	2-Chloronaphthalene	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	2-Chlorophenol	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	2-Methyl-4,6-dinitrophenol	2.9	ug/L	U	2.9	11
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	2-Nitrophenol	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	3,3'-Dichlorobenzidine	38	ug/L	UJ	38	150
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	4,4'-DDD	1.4	ug/L	UJ	1.4	5.7
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	4,4'-DDE	1.4	ug/L	UJ	1.4	5.7
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	4,4'-DDT	1.4	ug/L	UJ	1.4	5.7
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	4-Bromophenyl phenyl ether	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	4-Chloro-3-methylphenol	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	4-Chlorophenyl phenyl ether	1.9	ug/L	U	1.9	7.6
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	4-Nitrophenol	14	ug/L	U	14	57
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Acenaphthene	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Acenaphthylene	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Aldrin	1.4	ug/L	UJ	1.4	5.7
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Anthracene	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Benzidine	95	ug/L	U	95	380
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Benzo(a)anthracene	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Benzo(a)pyrene	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Benzo(b)fluoranthene	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Benzo(g,h,i)perylene	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Benzo(k)fluoranthene	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Bis(2-chloroethoxy)methane	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Bis(2-chloroethyl)ether	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Bis(2-chloroisopropyl)ether	2.9	ug/L	U	2.9	11

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Bis(2-ethylhexyl)phthalate	14	ug/L	U	14	57
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Butyl benzyl phthalate	4.8	ug/L	U	4.8	19
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Chrysene	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Di-n-butyl phthalate	4.8	ug/L	U	4.8	19
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Di-n-octyl phthalate	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Dibenzo(a,h)anthracene	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Dieldrin	1.4	ug/L	UJ	1.4	5.7
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Diethyl phthalate	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Dimethyl phthalate	48	ug/L	U	48	190
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Endosulfan I	3.8	ug/L	U	3.8	15
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Endosulfan II	3.8	ug/L	UJ	3.8	15
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Endosulfan sulfate	1.4	ug/L	UJ	1.4	5.7
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Endrin	1.4	ug/L	UJ	1.4	5.7
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Endrin aldehyde	3.8	ug/L	UJ	3.8	15
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Fluoranthene	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Fluorene	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Heptachlor	1.4	ug/L	U	1.4	5.7
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Heptachlor epoxide	1.4	ug/L	U	1.4	5.7
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Hexachlorobenzene	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Hexachlorobutadiene	2.9	ug/L	U	2.9	11
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Hexachlorocyclopentadiene	2.9	ug/L	U	2.9	11
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Hexachloroethane	2.9	ug/L	U	2.9	11
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Indeno(1,2,3-cd)pyrene	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Isophorone	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	N-Nitrosodi-n-propylamine	1.9	ug/L	U	1.9	7.6
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	N-Nitrosodimethylamine	1.9	ug/L	U	1.9	7.6
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	N-Nitrosodiphenylamine/ Diphenylamine	2.9	ug/mL	UJ	2.9	11
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Naphthalene	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Nitrobenzene	1.9	ug/L	U	1.9	7.6
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Pentachlorophenol	2.9	ug/L	U	2.9	11
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Phenanthrene	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Phenol	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	Pyrene	0.95	ug/L	U	0.95	3.8
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	alpha-BHC	1.4	ug/L	UJ	1.4	5.7
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	beta-BHC	1.4	ug/L	U	1.4	5.7
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	delta-BHC	1.4	ug/L	UJ	1.4	5.7
12/4/2006 13:33	ARLINGTON EAST WWTF	BNA-Water	gamma-BHC	1.4	ug/L	U	1.4	5.7
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	1,2,4-Trichlorobenzene	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	1,2-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	1,3-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	1,4-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	2,4,6-Trichlorophenol	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	2,4-Dichlorophenol	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	2,4-Dimethylphenol	48	ug/L	U	48	190
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	2,4-Dinitrophenol	14	ug/L	U	14	58

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	2,4-Dinitrotoluene	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	2,6-Dinitrotoluene	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	2-Chloronaphthalene	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	2-Chlorophenol	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	2-Methyl-4,6-dinitrophenol	2.9	ug/L	U	2.9	12
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	2-Nitrophenol	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	3,3'-Dichlorobenzidine	38	ug/L	UJ	38	150
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	4,4'-DDD	1.4	ug/L	UJ	1.4	5.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	4,4'-DDE	1.4	ug/L	UJ	1.4	5.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	4,4'-DDT	1.4	ug/L	UJ	1.4	5.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	4-Bromophenyl phenyl ether	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	4-Chloro-3-methylphenol	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	4-Chlorophenyl phenyl ether	1.9	ug/L	U	1.9	7.7
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	4-Nitrophenol	14	ug/L	U	14	58
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Acenaphthene	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Acenaphthylene	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Aldrin	1.4	ug/L	UJ	1.4	5.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Anthracene	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Benzidine	96	ug/L	U	96	380
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Benzo(a)anthracene	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Benzo(a)pyrene	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Benzo(b)fluoranthene	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Benzo(g,h,i)perylene	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Benzo(k)fluoranthene	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Bis(2-chloroethoxy)methane	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Bis(2-chloroethyl)ether	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Bis(2-chloroisopropyl)ether	2.9	ug/L	U	2.9	12
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Bis(2-ethylhexyl)phthalate	14	ug/L	U	14	58
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Butyl benzyl phthalate	4.8	ug/L	U	4.8	19
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Chrysene	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Di-n-butyl phthalate	4.8	ug/L	U	4.8	19
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Di-n-octyl phthalate	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Dibenzo(a,h)anthracene	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Dieldrin	1.4	ug/L	UJ	1.4	5.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Diethyl phthalate	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Dimethyl phthalate	48	ug/L	U	48	190
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Endosulfan I	3.8	ug/L	U	3.8	15
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Endosulfan II	3.8	ug/L	UJ	3.8	15
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Endosulfan sulfate	1.4	ug/L	UJ	1.4	5.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Endrin	1.4	ug/L	UJ	1.4	5.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Endrin aldehyde	3.8	ug/L	UJ	3.8	15
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Fluoranthene	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Fluorene	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Heptachlor	1.4	ug/L	U	1.4	5.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Heptachlor epoxide	1.4	ug/L	U	1.4	5.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Hexachlorobenzene	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Hexachlorobutadiene	2.9	ug/L	U	2.9	12
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Hexachlorocyclopentadiene	2.9	ug/L	U	2.9	12
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Hexachloroethane	2.9	ug/L	U	2.9	12
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Indeno(1,2,3-cd)pyrene	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Isophorone	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	N-Nitrosodi-n-propylamine	1.9	ug/L	U	1.9	7.7
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	N-Nitrosodimethylamine	1.9	ug/L	U	1.9	7.7
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	N-Nitrosodiphenylamine/ Diphenylamine	2.9	ug/mL	UJ	2.9	12
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Naphthalene	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Nitrobenzene	1.9	ug/L	U	1.9	7.7
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Pentachlorophenol	2.9	ug/L	U	2.9	12
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Phenanthrene	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Phenol	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	Pyrene	0.96	ug/L	U	0.96	3.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	alpha-BHC	1.4	ug/L	UJ	1.4	5.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	beta-BHC	1.4	ug/L	U	1.4	5.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	delta-BHC	1.4	ug/L	UJ	1.4	5.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	BNA-Water	gamma-BHC	1.4	ug/L	U	1.4	5.8
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Alachlor	0.6	ug/L	UJ	0.6	2.4
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Ametryn	0.05	ug/L	U	0.05	0.2
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Atrazine	0.13	ug/L	I	0.05	0.2
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Azinphos Methyl	0.2	ug/L	UJ	0.2	0.8
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Bromacil	0.2	ug/L	UJ	0.2	0.8
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Butylate	0.2	ug/L	UJ	0.2	0.8
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Chlorpyrifos Ethyl	0.05	ug/L	U	0.05	0.2
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Chlorpyrifos Methyl	0.1	ug/L	UJ	0.1	0.4
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Diazinon	0.05	ug/L	U	0.05	0.2
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Ethion	0.05	ug/L	U	0.05	0.2
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Ethoprop	0.1	ug/L	U	0.1	0.4
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Fenamiphos	0.2	ug/L	U	0.2	0.8
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Fonofos	0.1	ug/L	U	0.1	0.4
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Hexazinone	0.1	ug/L	UJ	0.1	0.4
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Malathion	0.15	ug/L	U	0.15	0.6
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Metalaxyl	0.25	ug/L	U	0.25	1
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Metolachlor	0.5	ug/L	U	0.5	2
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Metribuzin	0.1	ug/L	U	0.1	0.4
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Mevinphos	0.2	ug/L	U	0.2	0.8
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Naled	0.8	ug/L	U	0.8	3.2
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Norflurazon	0.15	ug/L	UJ	0.15	0.6
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Parathion Ethyl	0.15	ug/L	U	0.15	0.6
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Parathion Methyl	0.1	ug/L	U	0.1	0.4
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Phorate	0.05	ug/L	U	0.05	0.2
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Prometryn	0.15	ug/L	UJ	0.15	0.6
12/4/2006 13:33	ARLINGTON EAST WWTF	GC-Water	Simazine	0.05	ug/L	U	0.05	0.2

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Alachlor	0.57	ug/L	UJ	0.57	2.3
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Ametryn	0.048	ug/L	U	0.048	0.19
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Atrazine	0.048	ug/L	U	0.048	0.19
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Azinphos Methyl	0.19	ug/L	UJ	0.19	0.76
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Bromacil	0.19	ug/L	UJ	0.19	0.76
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Butylate	0.19	ug/L	UJ	0.19	0.76
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Chlorpyrifos Ethyl	0.048	ug/L	U	0.048	0.19
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Chlorpyrifos Methyl	0.095	ug/L	UJ	0.095	0.38
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Diazinon	0.048	ug/L	U	0.048	0.19
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Ethion	0.048	ug/L	U	0.048	0.19
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Ethoprop	0.095	ug/L	U	0.095	0.38
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Fenamiphos	0.19	ug/L	U	0.19	0.76
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Fonofos	0.095	ug/L	U	0.095	0.38
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Hexazinone	0.095	ug/L	UJ	0.095	0.38
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Malathion	0.14	ug/L	U	0.14	0.56
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Metalaxyl	0.24	ug/L	U	0.24	0.96
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Metolachlor	0.48	ug/L	U	0.48	1.9
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Metribuzin	0.095	ug/L	U	0.095	0.38
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Mevinphos	0.19	ug/L	U	0.19	0.76
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Naled	0.76	ug/L	U	0.76	3
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Norflurazon	0.14	ug/L	UJ	0.14	0.56
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Parathion Ethyl	0.14	ug/L	U	0.14	0.56
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Parathion Methyl	0.095	ug/L	U	0.095	0.38
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Phorate	0.048	ug/L	U	0.048	0.19
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Prometryn	0.14	ug/L	UJ	0.14	0.56
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	GC-Water	Simazine	0.048	ug/L	U	0.048	0.19
12/4/2006 13:33	ARLINGTON EAST WWTF	Metals-Water	Aluminum	18	ug/L		4	16
12/4/2006 13:33	ARLINGTON EAST WWTF	Metals-Water	Arsenic	0.5	ug/L	U	0.5	2
12/4/2006 13:33	ARLINGTON EAST WWTF	Metals-Water	Cadmium	0.05	ug/L	U	0.05	0.2
12/4/2006 13:33	ARLINGTON EAST WWTF	Metals-Water	Calcium	76.6	mg/L		0.02	0.08
12/4/2006 13:33	ARLINGTON EAST WWTF	Metals-Water	Chromium	0.7	ug/L	U	0.7	2.8
12/4/2006 13:33	ARLINGTON EAST WWTF	Metals-Water	Copper	1.76	ug/L		0.2	0.8
12/4/2006 13:33	ARLINGTON EAST WWTF	Metals-Water	Iron	56	ug/L		5	20
12/4/2006 13:33	ARLINGTON EAST WWTF	Metals-Water	Lead	0.25	ug/L	I	0.2	0.8
12/4/2006 13:33	ARLINGTON EAST WWTF	Metals-Water	Magnesium	33.8	mg/L		0.005	0.02
12/4/2006 13:33	ARLINGTON EAST WWTF	Metals-Water	Nickel	1.75	ug/L		0.25	1
12/4/2006 13:33	ARLINGTON EAST WWTF	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
12/4/2006 13:33	ARLINGTON EAST WWTF	Metals-Water	Silver	0.028	ug/L	I	0.025	0.1
12/4/2006 13:33	ARLINGTON EAST WWTF	Metals-Water	Zinc	26	ug/L		3	12
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	Metals-Water	Aluminum	4	ug/L	U	4	16
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	Metals-Water	Arsenic	0.5	ug/L	U	0.5	2
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	Metals-Water	Cadmium	0.05	ug/L	U	0.05	0.2
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	Metals-Water	Calcium	0.02	mg/L	U	0.02	0.08
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	Metals-Water	Chromium	0.3	ug/L	U	0.3	1.2
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	Metals-Water	Copper	0.2	ug/L	U	0.2	0.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	Metals-Water	Iron	5	ug/L	U	5	20
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	Metals-Water	Lead	0.2	ug/L	U	0.2	0.8
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	Metals-Water	Magnesium	0.005	mg/L	U	0.005	0.02
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	Metals-Water	Nickel	0.25	ug/L	U	0.25	1
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
12/4/2006 14:09	ARLINGTON EAST WWTF BLANK	Metals-Water	Zinc	3	ug/L	U	3	12
12/4/2006 13:33	ARLINGTON EAST WWTF	Nutrients-Liquid	Ammonia-N	2.3	mg N/L		0.05	0.1
12/4/2006 13:33	ARLINGTON EAST WWTF	Nutrients-Liquid	Kjeldahl Nitrogen	3.6	mg N/L		0.16	0.4
12/4/2006 13:33	ARLINGTON EAST WWTF	Nutrients-Liquid	NO2NO3-N	3.2	mg N/L		0.04	0.1
12/4/2006 13:33	ARLINGTON EAST WWTF	Nutrients-Liquid	TSS	4	mg/L	U	4	16
12/4/2006 13:33	ARLINGTON EAST WWTF	Nutrients-Liquid	Total-P	1.7	mg P/L		0.04	0.12
12/4/2006 13:33	ARLINGTON EAST WWTF	Nutrients-Liquid	Turbidity	0.55	NTU		0.05	0.05
12/4/2006 14:09	ARLINGTON EAST WWTF	Nutrients-Liquid	Ammonia-N	0.01	mg N/L	U	0.01	0.02
12/4/2006 14:09	ARLINGTON EAST WWTF	Nutrients-Liquid	Kjeldahl Nitrogen	0.08	mg N/L	U	0.08	0.2
12/4/2006 14:09	ARLINGTON EAST WWTF	Nutrients-Liquid	NO2NO3-N	0.004	mg N/L	U	0.004	0.01
12/4/2006 14:09	ARLINGTON EAST WWTF	Nutrients-Liquid	Total-P	0.02	mg P/L	U	0.02	0.06

The Bioassay of Arlington East Wastewater Treatment Facility effluent sampled on December 4, 2006. NPDES #FL0026441.

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 6 4 4 1 11	12 0 6 1 2 0 4	18 **B**	19 **S**	20 1

Remarks

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The Priority Pollutants Analysis of Arlington East Wastewater Treatment Facility effluent sampled on December 4, 2006. NPDES #FL0026441.

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 6 4 4 1 11	12 0 6 1 2 0 4	18 **X**	19 **S**	20 1

Remarks

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Biological Analyses of Arlington East Wastewater Treatment Facility effluent sampled on December 4, 2006. NPDES #FL0026441.

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 6 4 4 1 11	12 0 6 1 2 0 4	18 **S**	19 **S**	20 1

Remarks

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