

Bioassays of

Miller Street Wastewater Treatment Facility

Clay County

NPDES #FL0025151

Sampled November 13, 2006

February 2007

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

Miller Street Wastewater Treatment Facility, 1601 Bartlett Avenue, Orange Park, Clay County, Florida, NPDES# FL0025151. Effluent samples for this facility were collected on November 13, 2006.

Introduction

The Miller Street Wastewater Treatment Facility utilizes the oxidation ditch type activated-sludge process to treat domestic wastewater for the City of Orange Park. The facility has a design flow of 5.0 million gallons per day (MGD). The annual average daily flow (AADF) from November 2005 through October 2006 was 3.353 MGD. The facility consists of a grit removal system, two flow equalization basins, two oxidation ditches with brush aerators, three clarifiers, two chlorine contact chambers, chlorination and dechlorination systems, one aerobic digester, one sludge gravity-belt thickener, two sludge belt-filter presses and one lime stabilization system. Liquid chlorine is used for chlorination and liquid sodium bisulfide is used for dechlorination. Treated effluent is discharged through Outfall D-001 into the Class III marine waters of the St. Johns River. Outfall D-001 is approximately 305 m (1,000 ft) in length, discharges at a depth of 1.8 m (8 feet), and is located approximately at latitude 30º 10' 32" N and longitude 81º 41' 39" W. Residuals are treated to Class B stabilization requirements and are disposed by land application.

There are no Administrative Orders (AO) or Consent Orders (CO) for this facility. The facility has no mixing zones. No permit limit violations were noted during a review of Discharge Monitoring Report (DMR) data for the period of January 2005 through September 2006. (Facility information provided by Chet McGhee of the FDEP Northeast District).

Methods

Samples were collected from the EFD-1 NPDES sampling point for Outfall D-001 by Chet McGhee (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 screen toxicity tests and algal growth potential tests 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 (1) part per thousand (ppth) to approximately 20 ppth using 40 Fathoms® artificial sea salts. The salt control used for these tests was prepared by salting well water with artificial sea salts to approximately 20 ppth salinity. The purpose of the salt control was to confirm that there was no effect of adding artificial sea salts to the sample. There was no mortality in the salt control of the *Americamysis bahia* test. There was 5% mortality in the salt control of 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 November 14-16, 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%, 10% 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 408 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 wt/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 609.25 (±20%) mg dry wt/L (Table 1; Miller et al. 1978).

The effluent Algal Growth Potential (AGP) was 810 mg dry wt/L of the saltwater species *Dunaliella tertiolecta.* Raschke and Shultz found that AGP values above 10.0 mg dry wt/L represent a "problem" threshold for marine receiving waters, implying nutrient enrichment (personal communication with Ron Raschke USEPA Region 4, 1987). The greater dry weight obtained in the saltwater AGP test can be partially attributed to greater weight production per unit of nutrient in the saltwater test species (Maloney et al, 1974) when compared to the freshwater test species.

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 was 0.033 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, 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, nickel, 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-1 sampling point for outfall D-001 of this facility on November 13, 2006, was not acutely toxic to either test species during the 48-hour acute screen bioassays. The effluent AGP results greatly exceeded the "problem" thresholds 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

Maloney, T. E., W. E. Miller, and D. T. Specht. 1974. The Marine Algal Assay Procedure: Bottle Test. National Environmental Research Center Office of Research and Development. U. S. EPA, Corvallis, Oregon. 43 p.

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 AGP (salinity-adjusted) of the saltwater species* Dunaliella tertiolecta*, and ratios of nitrogen to phosphorus for samples collected from Miller Street Wastewater Treatment Facility on November 13, 2006.*

Location	**AGP (measured)**	**Predicted AGP (TSIN) ± 20%**	**Predicted AGP (TN) ± 20%**	**AGP (salinity-adjusted)**	**Inorganic N:P ratio**	**Total N:P ratio**
Effluent Samples	408	609.25 ± 121.85	661.2 ± 132.24	810	5.53	5.27

Table 2. Effluent limits, Class III Criteria, microbiological, and chemical data for samples from Miller Street Wastewater Treatment Facility collected on November 13, 2006.

Miller Street WWTF NPDES #FL0025151	Class III Marine Stds	Effluent Limits	Effluent Samples
Organic Constituents (µg/L)			
Atrazine	-	-	0.081 I
Metals (µg/L unless otherwise noted)			
Aluminum	≤ 1,500	-	23 A
Arsenic	≤ 50	-	0.5 U
Cadmium	≤ 9.3	-	0.05 U
Calcium (mg/L)	-	-	29.5 A
Chromium-III	-	-	0.3 U
Copper	≤ 3.7	-	1.82 A
Iron	≤ 300	-	131 A
Lead	≤ 8.5	-	0.2 U
Magnesium (mg/L)	-	-	13.9 A
Nickel	≤ 8.3	-	2.2 I
Selenium	≤ 71	-	0.5 U
Silver	≤ 2.3	-	0.03 I
Zinc	≤ 86	-	56 A
Nutrients (mg/L)			
Ortho-phosphate	-	Report	2.9
Total Phosphorus	-	Report	3.3
Ammonia	-	Report	0.033 f
Unionized Ammonia	≤ 0.02	-	< 0.02
Nitrate+Nitrite	-	Report	16 f
Total Kjeldahl Nitrogen	-	Report	1.4
Organic Nitrogen	-	Report	1.37 c
Total Nitrogen	-	Report	17.4 c
General Physical and Chemical Parameters			
Total Suspended Solids (mg/L)	-	≤ 60 s	4 U
Dissolved Oxygen (mg/L)	≥ 4.0 s	≥ 5.0 s	5.5
pH (S.U.)	6.5-8.5 s	6.0-8.5 s	6.8
Conductivity (umhos/cm)	-	-	640
Temperature (°C)	-	-	23.3
CBOD, 5 day (mg/L)	-	≤ 34 s	2.8
Flow (MGD)	-	≤ 4.99 a	3.353 a
Hardness (mg/L)	-	-	130.9 c
Total Residual Chlorine (mg/L)	≤ 0.01	≤ 0.01	< 0.03
Microbiology (# counts/100ml)			
Fecal Coliforms-Membrane Filter	≤ 800 s	≤ 800 s	4

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

a - Annual average

c - Calculated value

f - Analyte detected in field blank

s - Single sample

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

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

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

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Request Number: RQ-2006-11-13-25
Miller Street WWTF

Event ID *

Requester: Shannan Bogdanov
Field Report Prepared By:

Customer: NE-DIST
Collected By: Chet McGhee
Send Final Report To Melissa Long

Project ID: FYI3
Sampling Agency: FDEP

PMAS: 1143

Lab ID *	Location: Miller Street WWTF	☐ Comp ☒ Grab	Collection (begin) Date 11/13/06 Time 1130 (Eastern) Central	Collection (end) Date 11/13/06 Time 1219 (Eastern) Central			Bottle Group(s)** A
	Field ID: Effluent	Tot Res Chlorine (mg/L): 0.0	Diss Oxygen (mg/L): 5.47	Storet Station Number:			
	Matrix (Include type e.g. Salt, Fresh, etc)	Temp (C): 23.32	pH: 6.79	Sample Depth ☒ m ☐ ft: 1	☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm): 640	NPDES Number:	
	Latitude o ' " .	Longitude o ' " .	Comments:				
Lab ID *	Location: Miller Street WWTF	☐ Comp ☒ Grab	Collection (begin) Date 11/13/06 Time 1158 Eastern Central	Collection (end) Date 11/13/06 Time 1216 (Eastern) Central			Bottle Group(s)** B
	Field ID: field blank	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 11/14/06				

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time

* 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: Miller St. WWTF

Address: 1601 Bartlett Avenue

City: Orange Park County: Clay

Contact/District: Chet McGhee NED

NPDES Permit #: FL TLH-2006-11-14-33-01

LIMS Job # (A) 0025151 LIMS Sample #: 96571I

Lims Data Entry: 11-22-06 MF Data Entry Verification: 11-22-06 BA

Sample Collection: Date: 11-13-06 Time: 11:30

Hold Time Start: Date: 11-13-06 Time: 1120

Comments: (A) Job # & permit # switched BA 11-15-06

Sample salinity adjusted by the addition of artificial crystals to a salinity of 20 parts per thousand (ppth) per permit. Salinity (salt) water prepared by adding artificial crystals to well water to the stated approx. salinity by weight. MF 11-14-06

Salinity adjusted

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 03
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 int. 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: 20ppt (Salts) Hypersaline brine

Salinity adjusted (Test 2): (yes) no Initial Salinity: 2.1 Final Salinity: 20ppt (Salts) Hypersaline brine

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

Temperature Range °C
Incubator # 3 Range 24.2 - 26.1
Room B246: 23.7 - 24.9
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

BAH Hatcher

Jones Daniels

Reviewer

Water Quality Parameters	20% DMW	Moderately Hard Water/ Well Water	Salt Water ASW NSW Test 1	Salt Water ASW NSW Test 2	Other:	Original Sample	Method	Measured by Facility	Verified by
Field Total Residual Cl_2 (mg/L):	N/A	N/A	N/A	N/A	—	<0.01	—	Employee	MF
Lab Total Residual Cl_2 (mg/L):	—	—	<0.03		—	<0.03	HACH	BA	MF
Alkalinity (mg/L as $CaCO_3$):	246	75	188		124	87	HACH	BA	BA
Hardness (mg/L as $CaCO_3$):	93	104	—		— (B)	145	HACH	BA	BA
Total Ammonia (mg/L as N):	<0.017	<0.017	<0.034		<0.034 MF	<0.017	DENVER	MF	BA
Salinity (ppth):	-	—	~20ppt		~20ppt	<1	YSI/Mettler	BA	MF

(B) <0.034 mg/L 11-14-06

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Appendix B. (continued)

[redacted]

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 965717 Test #: 1 Test Started: Date 11/4/06 Time: 13:45
Organism: Abbia SOP #: TA 07_03 Test Ended: Date 11-16-06 Time: 11:30
Organism Batch: 30-06 Diluent/ Batch: ASW / 20-06
Organism Age: 5days Food: YCT P. subcapitata Artemia Lot. GSL-536-40 10-06/11-06/MF inserted 11-22-06
Chamber Size: 1000 mL Batch: — / — —
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	A1	5	5	5	5		
	B	A 2	5	5	5	5		
	C	A 3	5	5	5	5		
	D	A 4	5	5	5	5		
Salt Ctrl	A	A 5	5	5	5	5		
	B	A 6	5	5	5	5		
	C	A 7	5	5	5	5		
	D	A 8	5	5	5	5		
100%	A	A 9	5	5	5	5		
	B	A 10	5	5	5	5		
	C	A 11	5	5	5	5		
	D	A 12	5	5	5	5		

Organisms loaded by: DD Checked by: [redacted] DD DD BA
Loading Verified by: CW

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

Comments: Test NOT renewed- 48 hour AR data not necessary. MF 11-22-06

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).

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Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 965717 Test #: 2 Test Started: Date 11-14-06 Time: 14:00

Organism: M. beryllina SOP #: TA 07_04 Test Ended: Date 11-16-06 Time: 11:30

Organism Batch: 30-06 Diluent/ Batch: ASW / 2006

Organism Age: 12 days Food: YCT P. subcapitata Artemia

Chamber Size: 1000 mL Batch: — — 10-06

Test Volume: 500 mL Feeding: Prior to test Prior to renewal Daily

Concentration	Replicate	Chamber #	0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
			Test Hour					
Ctrl	A	A13	5	5	5	5		
	B	A 14	5	5	5	5		
	C	A 15	5	(A) 5 4 1D	4	4		
	D	A 16	5	5	5	5		
Salt Ctrl	A	A 17	5	5	5	5		
	B	A 18	5	4 1D	4	4		
	C	A 19	5	5	5	5		
	D	A 20	5	5	5	5		
100%	A	A 21	5	5	5	5		
	B	A 22	5	5	5	5		
	C	A 23	5	4 1D	3 1D	3		
	D	A 24	5	5	5	5		
Organisms loaded by: JD Loading Verified by: [illegible]		Checked by:	[redacted]	JD	JD	BA		

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

Comments:
(A) transcription error JD. 11/5/06
Test not renewed 48 hour AR data not necessary MF 11-22-06

Test Results:

% mortality in 100% sample: 10%

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 # : 965717 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.)	8.4	8.2	8.1			
Temperature °C	24.7	24.7	24.8			
Dissolved Oxygen mg/L	7.2	5.3	~~4.7~~ 4.7 (A)			
Conductivity µmhos (mmhos)	31.2	31.2	31.6			
(initials) Measured by:	BA	JD	BA			
(initials) Recorded by:	BA	JD	BA			

Comments: (A) Pan Stopped 11-14-06 MF Pm BA

Concentration Salt 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	8.1			
Temperature °C	24.4	24.8	24.9			
Dissolved Oxygen mg/L	7.2	5.9	4.7			
Conductivity µmhos (mmhos)	32.1	32.5	32.4			
(initials) Measured by:	BA	JD	BA			
(initials) Recorded by:	BA	JD	BA			

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.)	8.4	7.9	7.7			
Temperature °C	24.7	24.8	24.8			
Dissolved Oxygen mg/L	7.1	4.7	4.7			
Conductivity µmhos (mmhos)	32.1	32.2	32.5			
(initials) Measured by:	BA	JD	BA			
(initials) Recorded by:	BA	JD	BA			

Comments:

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

Comments:

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FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 965717 **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.)	8.4	8.3	8.3			
Temperature °C	24.2	24.7	24.9			
Dissolved Oxygen mg/L	7.1	5.9	6.6			
Conductivity µmhos (mmhos)	31.2	31.3	32.0			
(initials) Measured by:	BA	JD	BA/JD			
(initials) Recorded by:	BA	JD	BA/JD			

Comments:

Concentration Salt 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	8.4	8.9			
Temperature °C	24.1	24.7	25.0			
Dissolved Oxygen mg/L	7.1	6.1	6.5			
Conductivity µmhos (mmhos)	32.1	32.3	32.5			
(initials) Measured by:	BA	JD	BA/JD			
(initials) Recorded by:	BA	JD	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.)	8.5	8.1	8.1			
Temperature °C	24.3	24.7	24.9			
Dissolved Oxygen mg/L	7.0	5.3	6.5			
Conductivity µmhos (mmhos)	32.3	32.4	32.7			
(initials) Measured by:	BA	JD	BA/JD			
(initials) Recorded by:	BA	JD	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:

V 2.0 2/24/04

Appendix C. SRT Bench Sheets and Statistical Analysis

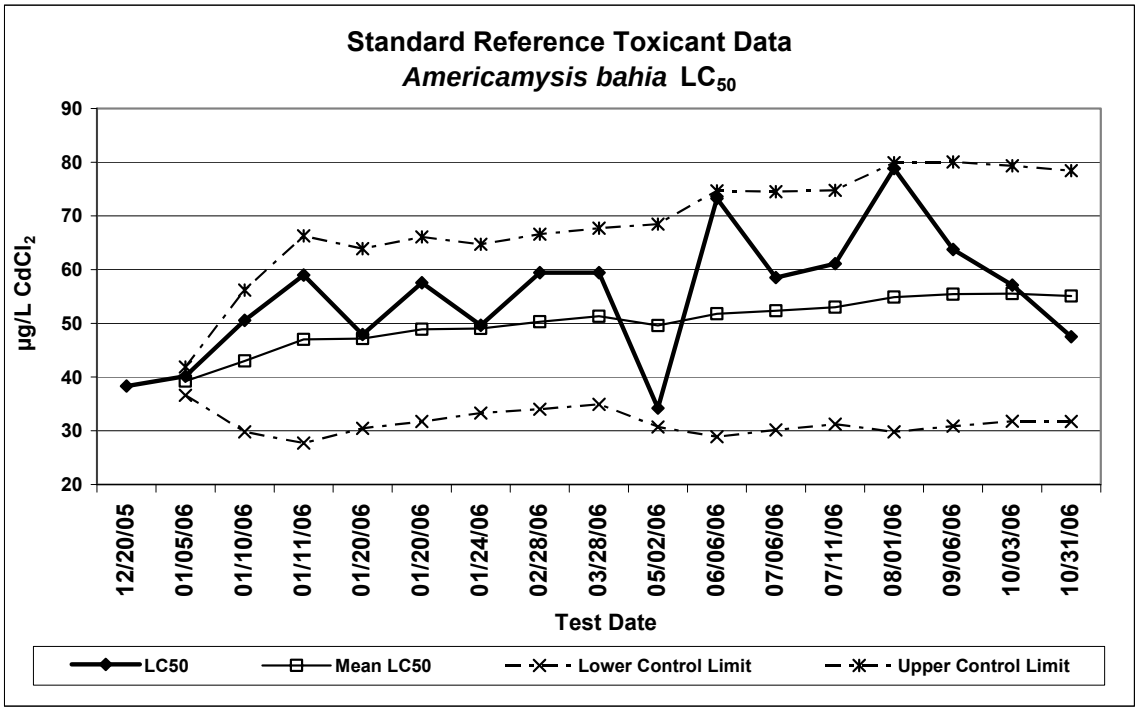
Florida Department of Environmental Protection
Bureau of Laboratories

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

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

CV = 21.19
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)

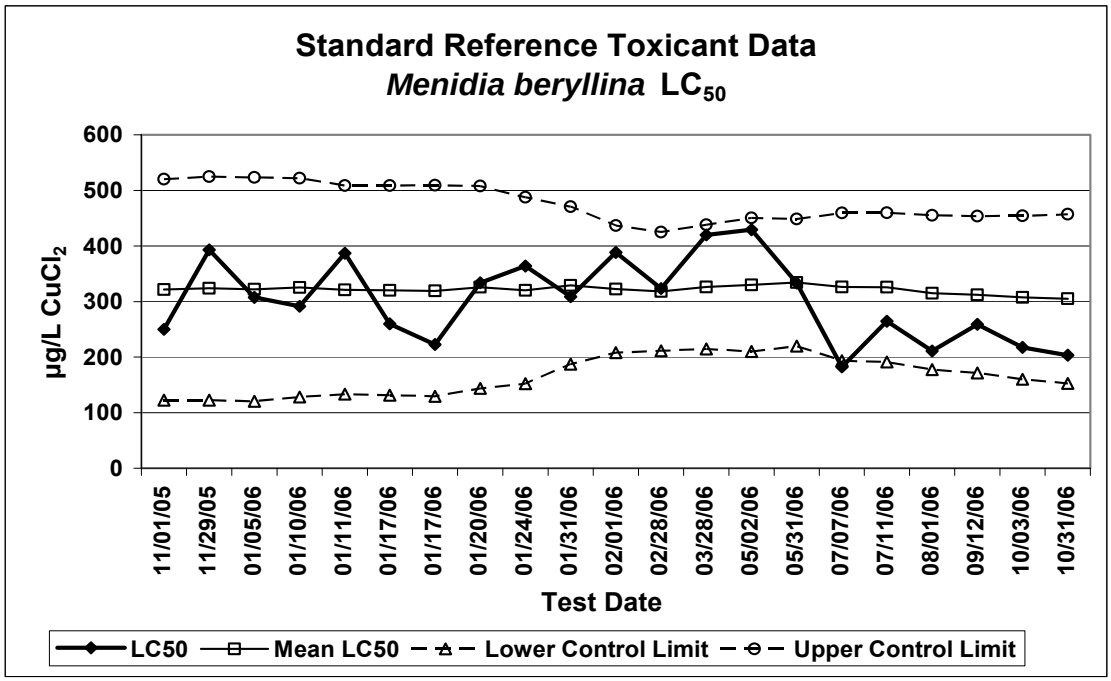
Florida Department of Environmental Protection
Bureau of Laboratories

Standard Reference Toxicant (SRT) Test Data - 48-hour Acute Toxicity
Menidia beryllina (inland silverside) - Copper Chloride ($CuCl_2$)

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
11/01/05	250.00	321.21	99.50	122.21	520.21
11/29/05	392.98	323.59	100.67	122.25	524.94
01/05/06	307.20	321.88	100.64	120.60	523.16
01/10/06	291.06	325.02	98.52	127.97	522.07
01/11/06	386.84	320.92	93.81	133.29	508.54
01/17/06	259.80	319.91	94.38	131.15	508.67
01/17/06	222.49	319.27	95.03	129.21	509.32
01/20/06	333.67	325.74	91.10	143.54	507.95
01/24/06	363.93	319.79	83.89	152.01	487.58
01/31/06	308.77	328.86	70.76	187.34	470.39
02/01/06	388.25	322.40	57.22	207.96	436.83
02/28/06	323.38	318.11	53.47	211.18	425.04
03/28/06	419.55	326.32	55.87	214.58	438.07
05/02/06	429.19	330.10	60.20	209.69	450.51
05/31/06	333.13	334.26	57.18	219.91	448.61
07/07/06	181.98	326.28	66.48	193.32	459.25
07/11/06	264.59	325.48	67.16	191.17	459.79
08/01/06	210.80	314.87	73.29	177.19	454.91
09/12/06	258.82	311.92	72.38	171.51	453.48
10/03/06	217.64	307.20	73.53	160.14	454.27
10/31/06	203.06	304.86	76.16	152.54	457.17

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

CV = 24.98
EPA reference 75th quartile CV = 21%



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 / 19-06
Toxicant/ Batch# $CdCl_2$ / 13-06

Test Beginning: Date: 10.3.06 Time: 1300
Test Ending: Date: 11-4-06 Time: 0930

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	BA
Alkalinity (mg/L as $CaCO_3$):	198	Hach	ED
Hardness (mg/L as CaCO3):	–	Hach	–
Total Ammonia (mg/L as N):	<0.054	Denver	MF
Salinity (ppth):	~20.0	Mettler	BA

Organism Batch #/ Age: 29-06 / 15 days
Feeding: (Prior to test) (Prior to renewal) (Daily)
Food: YCT P.*subcapitata* Artemia
Food Batch: – – 4-06, 7-06, 8-06, 9-06 GSL-536-10
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc. µg/L g/L	Rep.	Chamber#	Number Live 0 hr	24 hr	48 hr	pH (SU) 0 hr	24 hr	48 hr	Temperature (° C) 0 hr	24 hr	48 hr	D.O. (mg/l) 0 hr	24 hr	48 hr	UNCORRECTED 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			
(A) Control	A	F1	5	5	5	8.4			24.0			7.3			31.9		
	B	F 2	5	5	5		8.2			24.6			5.1			32.9	
	C	F 3	5	5	5			8.1			24.2			5.5			31.4
	D	F 4	5	5	5												
20 9.9	A	F 5	5	4/0	4	8.4			24.0			7.3			32.2		
	B	F 6	5	5	4/0		8.2			24.1			5.3			32.9	
	C	F 7	5	5	5			8.0			24.3			5.3			33.1
	D	F 8	5	5	5												
30 14.8	A	F 9	5	5	5	8.4			24.0			7.2			32.1		
	B	F 10	5	5	5		8.3			24.5			5.5			32.8	
	C	F 11	5	5	5			8.1			24.4			5.1			33.0
	D	F 12	5	5	5												
45 22.2	A	F 13	5	5	5	8.4			24.0			7.2			32.2		
	B	F 14	5	5	5		8.3			24.3			5.8			33.0	
	C	F 15	5	5	5			8.1			24.5			5.1			32.8
	D	F 16	5	5	5												
67 33.3	A	F 17	5	5	4/0	8.4			24.0			7.2			31.8		
	B	F 18	5	5	4/0		8.2			24.3			5.9			33.0	
	C	F 19	5	5	5			8.0			24.3			5.1			32.4
	D	F 20	5	5	4/0												
100 50	A	F 21	5	5	3/0	8.4			24.0			7.1			32.2		
	B	F 22	5	5	3/0		8.3			24.3			6.0			33.1	
	C	F 23	5	5	2/0			8.1			24.3			5.0			32.7
	D	F 24	5	5	1/0												
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	JD	JD	BA	JD	JD	BA	JD	JD	BA	JD	JD	BA	JD	JD
Recorded by:			BA	JD	JD	BA	JD	~~JD~~ PDV	BA	JD	~~JD~~ PDV	BA	JD	~~JD~~ PDV	BA	JD	PDV

Investigators' Signatures
Jamie Daniel
Marshall Faircloth
Brad Blackburn
Mindy Wellendorf
REVIEWER

Concentrations prepared by: JD
Loading verified by: ~~JD~~ PDV
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 24 max. 260 mean 250
Incubator # ____ min. _____ max. _____ mean _____
Room B246 min. 238 max. 246 mean 240

Remarks:
Chemical analysis shows that top concentration was made at 50% Strength ug/L concentration adjusted accordingly 11-10-06 BA

Statistical Results: 47.52 Method: Spearman-Karber
(48)/ 96 hour LC50: ~~45.72~~ 47.52
95% Confidence Interval: lower ~~38.19~~ 38.19 upper ~~55.78~~ 57.98

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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-02-01[redacted]
Test Type: Definitive
Static / Static Renewal
Test Page 2 of 2

Diluent/ Batch#: ASW / 19-06
Toxicant/ Batch# $CdCl_2$ / 13-06

Test Beginning: Date: 10/3/06 Time: 1300
Test Ending: Date: 11-4-06 Time: 0930

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	BA
Alkalinity (mg/L as $CaCO_3$):	198	Hach	EW
Hardness (mg/L as CaCO3):	—	Hach	—
Total Ammonia (mg/L as N):	0.034	Denver	ML
Salinity (ppth):	~20.0	Mettler	BA

Organism Batch #/ Age: 29-06 / 5 days
Feeding: Prior to test / Prior to renewal / Daily
Food: YCT P.subcapitata Artemia
Food Batch: — — 6-24, 7-06, 8-06, 9-06 CSL-53-70
Chamber size: 1000 mL
Test volume: 500 mL per replicate

UNCORRECTED Cond. (mmhos/cm) Cond. (umhos/cm)

Conc. (ug/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. 0 hr (48 hr)	UNCORRECTED Cond. 24 hr (72 hr)	UNCORRECTED Cond. 48 hr (96 hr)
(A) Control	A	F1	5	5	5			7.9			24.8			5.9			34.2
	B	F2	5	5	5												
	C	F3	5	5	5	8.3			24.0			6.4			31.6		
	D	F4	5	5	5		8.0			24.4			4.3			33.1	
	A	F5	4	4	4			7.8			25.1			5.5			33.7
	B	F6	4	4	4												
20 9.9	C	F7	5	5	5	8.3			24.0			6.5			32.1		
	D	F8	5	5	5		8.0			25.0			4.3			33.3	
	A	F9	5	5	5			7.9			24.8			4.9			33.4
~~30~~ 14.8	B	F10	5	5	5												
	C	F11	5	5	5	8.4			24.0			6.5			32.2		
	D	F12	5	5	5		8.0			24.8			4.4			33.2	
	A	F13	5	5	5			7.8			25.1			4.5			33.6
	B	F14	5	5	5												
45 22.2	C	F15	5	5	5	8.4			24.0			6.5			32.4		
	D	F16	5	5	5		8.0			24.3			4.5			33.4	
	A	F17	4	3 1D	1 1D			7.9			24.8			4.7			33.2
	B	F18	4	4	1 1D												
67 33.3	C	F19	5	5	4 1D	8.4			24.0			6.6			32.1		
	D	F20	4	2 2D	2		8.0			25.0			4.6			33.3	
	A	F21	3	0 3D	—			7.9									
~~100~~ 50	B	F22	3	1 2D	0 1D			7.9			25.1			4.7			33.6
	C	F23	2	0 2D	—	8.4			24.0			6.6			32.2		
	D	F24	1	0 1D	—		8.1			24.4			4.9			32.9	
	A																
	B																
	C																
	D																
Loaded / measured by:			BA	JD	JD	JD	BA	MF	JD	BA	MF	JD	BA	MF	JD	BA	MF
Recorded by:			BA	JD	JR	PW	BA	MF	PW	JD	MF	PW	BA	MF	PW	BA	MF

Investigators' Signatures

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. 24.1 max. 26.0 mean 25.0
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 23.8 max. 24.6 mean 24.0

Remarks: (A) see page 56

Statistical Results: 31.68 Method: Spearman-Karber
48 / (96) hour LC50: ~~25.81~~ 28.76 34.87
95% Confidence Interval: lower ~~26.63~~ upper 70.19

REVIEWER

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#: ASW / 19-06
Toxicant/ Batch# $CuCl_2$ / 13-06

Test Beginning: Date: 10/31/06 Time: 12:45
Test Ending: Date: 11-4-06 Time: 0925

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	20.03	Hach	BA
Alkalinity (mg/L as $CaCO_3$):	198	Hach	〃
Hardness (mg/L as CaCO3):	–	Hach	–
Total Ammonia (mg/L as N):	<0.034	Denver	MF
Salinity (ppth):	~20‰	Mettler	BA

Organism Batch #/ Age: 29-06 / 12 days
Feeding: Prior to test/ Prior to renewal/ Daily
Food: YCT *P.subcapitata* Artemia
Food Batch: – – 6-06, 8-06 GSL-536-90
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc. µg/L g/L	Rep.	Chamber#	Number Live 0 hr	24 hr	48 hr	pH (SU) 0 hr	24 hr	48 hr	Temperature (° C) 0 hr	24 hr	48 hr	D.O. (mg/l) 0 hr	24 hr	48 hr	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhom/cm) 0 hr	24 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~~	~~48 hr~~	~~72 hr~~	
Control	A	E1	10	10	10	8.3		8.2	24.0		24.2	7.1		6.0	32.0		32.5
	B	E2	10	10	10		8.3			24.4			6.0			33.2	
	C																
	D																
3.75	A	E3	10	10	10	8.4		8.2	24.0		24.3	7.1		6.2	32.2		32.6
	B	E4	10	10	10		8.3			24.5			6.0			33.0	
	C																
	D																
62.5	A	E5	10	10	10	8.4		8.2	24.0		24.4	7.0		6.2	32.3		33.0
	B	E6	10	10	10		8.3			24.7			6.0			33.2	
	C																
	D																
125	A	E7	10	10	10	8.4		8.2	24.0		24.5	7.0		6.3	32.2		32.5
	B	E8	10	9	9		8.3			24.7			6.1			33.0	
	C																
	D																
250	A	E9	10	9	4	8.4		8.2	24.0		24.3	7.0		6.3	32.1		32.6
	B	E10	10	10	1		8.3			24.7			6.1			33.0	
	C																
	D																
500	A	E11	10	0	–	8.4		–	24.0		–	7.0		–	32.1		–
	B	E12	10	0	–		8.3			24.8			6.1			33.2	
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	JD	JD	BA	JD	JD	BA	JD	JD	BA	JD	JD	BA	JD	JD
Recorded by:			BA	JD	JD	BA	JD	PRV	BA	JD	PRV	BA	JD	PRV	BA	JD	PRV

Investigators' Signatures
James Daniels
Marshall Faircloth
Brad Akins
Mindi Wellerly
REVIEWER

Concentrations prepared by: JD
Loading verified by: PRV
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 1 min. 24.1 max. 24.6 mean 24.0
Incubator # ____ min. ____ max. ____ mean ____
Room B246 min. 23.8 max. 24.6 mean 24.0

Remarks:

Statistical Results: Method: Spearman-Karber
(48) 96 hour LC50: 205.06
95% Confidence Interval: lower 174.73 upper 235.99

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#: ASW / 1906
Toxicant/ Batch# $CuCl_2$ / 1.13-06

Test Beginning: Date: 10/3/06 Time: 12:45
Test Ending: Date: 11/4/06 Time: 0925

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	BA
Alkalinity (mg/L as $CaCO_3$):	198	Hach	CW
Hardness (mg/L as CaCO3):	—	Hach	—
Total Ammonia (mg/L as N):	<0.034	Denver	MF
Salinity (ppth):	~20.0	Mettler	BA

Organism Batch #/ Age: 29-06/12dWS
Feeding: (Prior to test) / Prior to renewal/ Daily
Food: YCT P.*subcapitata* (Artemia)
Food Batch: — — 6-06, 8-06 (6.51 · 6.36 · 40)
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)	24 hr (72 hr)	48 hr (96 hr)
Control	A	E1	10	10	10	8.4		8.2	24.0		24.5	6.7		6.8	32.9		35.5
	B	E2	10	10	10		8.2			24.7			5.9			33.1	
	C																
	D																
3.25	A	E3	10	10	10	8.4		8.1	24.0		24.6	6.8		6.7	32.2		33.8
	B	E4	10	9[10]	9		8.2			24.6			5.9			33.2	
	C																
	D																
6.25	A	E5	10	10	10	8.4		8.1	24.0		24.4	6.8		6.3	32.2		33.4
	B	E6	10	10	10		8.1			24.7			5.6			33.2	
	C																
	D																
12.5	A	E7	10	10	10	8.4		8.0	24.0		24.3	6.9		6.0	32.1		33.4
	B	E8	9	9	9		8.2			24.7			5.3			33.2	
	C																
	D																
25.0	A	E9	4	4	4	8.4		8.2	24.0		24.3	6.9		5.6	31.5		33.0
	B	E10	1	1	1		8.2			24.7			5.4			32.8	
	C																
	D																
~~D00~~ 50.0	A	E11	—	—	—	—		—	—		—	—		—	—		—
	B	E12	—	—	—		—			—			—			—	
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			BA	JD	JD	JD	BA	MF	JD	BA	JD	JD	BA	MF	JD	BA	MF
Recorded by:			BA	JD	JD	PR	BA	MF	PR	JD	JD	PR	BA	MF	PR	BA	MF

Investigators' Signatures
James Daniels
Marshall Faircloth
Brian Nichols
Erin Peck
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. 24.1 max. 26.0 mean 25.0
Incubator # ____ min. ____ max. ____ mean ____
Room B246 min. 23.8 max. 24.6 mean 24.0

Remarks:

Statistical Results: Method: Spearman-Karber
48 / (96) hour LC50: 202.88
95% Confidence Interval: lower 172.95 upper 237.98

Revised 02/21/06

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Appendix C. (continued)

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

DATE: 10-31-06 DURATION: 48 h TOXICANT : $CdCl_2$
SPECIES: *A. bahia*

RAW DATA: Concentration (ug/L)	Number Exposed	Mortalities
0.0	20	0
9.9	20	2
14.8	20	0
22.2	20	0
33.3	20	3
50	20	11

SPEARMAN-KARBER TRIM: 45.00%

SPEARMAN-KARBER ESTIMATES: **LC50: 47.52**
95% LOWER CONFIDENCE: 38.95
95% UPPER CONFIDENCE: 57.98

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

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

DATE: 10-31-06 DURATION: 48 h TOXICANT : $CuCl_2$
SPECIES: *M. beryllina*

RAW DATA: Concentration (ug/L)	Number Exposed	Mortalities
0	20	0
31.25	20	0
62.50	20	0
125.00	20	1
250.00	20	15
500.00	20	20

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: **LC50: 203.06**
95% LOWER CONFIDENCE: 174.73
95% UPPER CONFIDENCE: 235.99

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: 10/30/06

Shipped to: FDEP

P.O. No: _____

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia	150	4 Days	MSO61026	25°C	~30‰
Menidia beryllina	150	11 Days	SSO61019	25°C	~30‰
Cyprinella leedsi	150	11 Days	CLO61019	25°C	
Pimephales promelas	150	8 Days	FM061022-0905	25°C	

Packed by: Frank Gary

Shipped Via: FedEx

Notes: _____

Thank you for your order

Frank Gary

Appendix D. (continued)

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

State of Florida Aquaculture Certificate Number AQ0668007

Date: 11/13/06

Shipped to: T-DEP

P.O. No: _____

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia	100+	4 Days	MSC61109	25°C	~30‰
Menidia beryllina	100+	11 Days	SSC61102	25°C	~30‰
Cyprinella leedsi					
Pimephales promelas	100+	9 Days	FMC1104-C88	25°C	

Packed by: T-Frank Gang

Shipped Via: T-Ex

Notes: _____

Thank you for your order.

Appendix E. Chemical Analyses performed on the effluent from the Miller Street Wastewater Treatment Facility Outfall D-001, sampled on November 13, 2006.

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
11/13/2006 11:30	EFFLUENT	Bio-AGP/LimNut	Algal Growth Potential	408	mg DryWt/L		0.3	0.9
11/13/2006 11:30	EFFLUENT	Bio-AGP/LimNut	Algal Growth Potential-Salinity Adjusted	810	mg DryWt/L		3	3
11/13/2006 11:30	EFFLUENT	Bio-BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	2.8	mg/L		0.2	2
11/13/2006 11:30	EFFLUENT	Bio-Chl-a	Chlorophyll-A, Monochromatic, Water	0.85	ug/L	U	0.85	2.6
11/13/2006 11:30	EFFLUENT	Bio-Chl-a	Phaeophytin-A, Monochromatic, Water	1.5	ug/L	U	1.5	4.5
11/13/2006 11:30	EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	100	LC50	L		
11/13/2006 11:30	EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	100	LC50	L		
11/13/2006 11:30	EFFLUENT	BNA-Water	1,2,4-Trichlorobenzene	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	1,2-Dichlorobenzene	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	1,3-Dichlorobenzene	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	1,4-Dichlorobenzene	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	2,4,6-Trichlorophenol	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	2,4-Dichlorophenol	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	2,4-Dimethylphenol	51	ug/L	U	51	200
11/13/2006 11:30	EFFLUENT	BNA-Water	2,4-Dinitrophenol	15	ug/L	U	15	61
11/13/2006 11:30	EFFLUENT	BNA-Water	2,4-Dinitrotoluene	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	2,6-Dinitrotoluene	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	2-Chloronaphthalene	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	2-Chlorophenol	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	2-Methyl-4,6-dinitrophenol	3	ug/L	U	3	12
11/13/2006 11:30	EFFLUENT	BNA-Water	2-Nitrophenol	1	ug/L	UJ	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	3,3'-Dichlorobenzidine	40	ug/L	UJ	40	160
11/13/2006 11:30	EFFLUENT	BNA-Water	4,4'-DDD	1.5	ug/L	U	1.5	6.1
11/13/2006 11:30	EFFLUENT	BNA-Water	4,4'-DDE	1.5	ug/L	U	1.5	6.1
11/13/2006 11:30	EFFLUENT	BNA-Water	4,4'-DDT	1.5	ug/L	U	1.5	6.1
11/13/2006 11:30	EFFLUENT	BNA-Water	4-Bromophenyl phenyl ether	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	4-Chloro-3-methylphenol	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	4-Chlorophenyl phenyl ether	2	ug/L	U	2	8.1
11/13/2006 11:30	EFFLUENT	BNA-Water	4-Nitrophenol	15	ug/L	U	15	61
11/13/2006 11:30	EFFLUENT	BNA-Water	Acenaphthene	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	Acenaphthylene	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	Aldrin	1.5	ug/L	U	1.5	6.1
11/13/2006 11:30	EFFLUENT	BNA-Water	Anthracene	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	Benzidine	100	ug/L	U	100	400
11/13/2006 11:30	EFFLUENT	BNA-Water	Benzo(a)anthracene	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	Benzo(a)pyrene	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	Benzo(b)fluoranthene	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	Benzo(g,h,i)perylene	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	Benzo(k)fluoranthene	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	Bis(2-chloroethoxy)methane	1	ug/L	U	1	4

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
11/13/2006 11:30	EFFLUENT	BNA-Water	Bis(2-chloroethyl)ether	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	Bis(2-chloroisopropyl)ether	3	ug/L	U	3	12
11/13/2006 11:30	EFFLUENT	BNA-Water	Bis(2-ethylhexyl)phthalate	15	ug/L	U	15	61
11/13/2006 11:30	EFFLUENT	BNA-Water	Butyl benzyl phthalate	5.1	ug/L	U	5.1	20
11/13/2006 11:30	EFFLUENT	BNA-Water	Chrysene	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	Di-n-butyl phthalate	5.1	ug/L	U	5.1	20
11/13/2006 11:30	EFFLUENT	BNA-Water	Di-n-octyl phthalate	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	Dibenzo(a,h)anthracene	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	Dieldrin	1.5	ug/L	U	1.5	6.1
11/13/2006 11:30	EFFLUENT	BNA-Water	Diethyl phthalate	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	Dimethyl phthalate	51	ug/L	U	51	200
11/13/2006 11:30	EFFLUENT	BNA-Water	Endosulfan I	4	ug/L	U	4	16
11/13/2006 11:30	EFFLUENT	BNA-Water	Endosulfan II	4	ug/L	U	4	16
11/13/2006 11:30	EFFLUENT	BNA-Water	Endosulfan sulfate	1.5	ug/L	U	1.5	6.1
11/13/2006 11:30	EFFLUENT	BNA-Water	Endrin	1.5	ug/L	UJ	1.5	6.1
11/13/2006 11:30	EFFLUENT	BNA-Water	Endrin aldehyde	4	ug/L	U	4	16
11/13/2006 11:30	EFFLUENT	BNA-Water	Fluoranthene	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	Fluorene	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	Heptachlor	1.5	ug/L	U	1.5	6.1
11/13/2006 11:30	EFFLUENT	BNA-Water	Heptachlor epoxide	1.5	ug/L	U	1.5	6.1
11/13/2006 11:30	EFFLUENT	BNA-Water	Hexachlorobenzene	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	Hexachlorobutadiene	3	ug/L	U	3	12
11/13/2006 11:30	EFFLUENT	BNA-Water	Hexachlorocyclopentadiene	3	ug/L	U	3	12
11/13/2006 11:30	EFFLUENT	BNA-Water	Hexachloroethane	3	ug/L	U	3	12
11/13/2006 11:30	EFFLUENT	BNA-Water	Indeno(1,2,3-cd)pyrene	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	Isophorone	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	N-Nitrosodi-n-propylamine	2	ug/L	U	2	8.1
11/13/2006 11:30	EFFLUENT	BNA-Water	N-Nitrosodimethylamine	2	ug/L	U	2	8.1
11/13/2006 11:30	EFFLUENT	BNA-Water	N-Nitrosodiphenylamine/ Diphenylamine	3	ug/mL	UJ	3	12
11/13/2006 11:30	EFFLUENT	BNA-Water	Naphthalene	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	Nitrobenzene	2	ug/L	U	2	8.1
11/13/2006 11:30	EFFLUENT	BNA-Water	Pentachlorophenol	3	ug/L	U	3	12
11/13/2006 11:30	EFFLUENT	BNA-Water	Phenanthrene	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	Phenol	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	Pyrene	1	ug/L	U	1	4
11/13/2006 11:30	EFFLUENT	BNA-Water	alpha-BHC	1.5	ug/L	U	1.5	6.1
11/13/2006 11:30	EFFLUENT	BNA-Water	beta-BHC	1.5	ug/L	U	1.5	6.1
11/13/2006 11:30	EFFLUENT	BNA-Water	delta-BHC	1.5	ug/L	U	1.5	6.1
11/13/2006 11:30	EFFLUENT	BNA-Water	gamma-BHC	1.5	ug/L	U	1.5	6.1
11/13/2006 11:58	FIELD BLANK	BNA-Water	1,2,4-Trichlorobenzene	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	1,2-Dichlorobenzene	0.96	ug/L	U	0.96	3.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
11/13/2006 11:58	FIELD BLANK	BNA-Water	1,3-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	1,4-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	2,4,6-Trichlorophenol	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	2,4-Dichlorophenol	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	2,4-Dimethylphenol	48	ug/L	U	48	190
11/13/2006 11:58	FIELD BLANK	BNA-Water	2,4-Dinitrophenol	14	ug/L	U	14	58
11/13/2006 11:58	FIELD BLANK	BNA-Water	2,4-Dinitrotoluene	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	2,6-Dinitrotoluene	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	2-Chloronaphthalene	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	2-Chlorophenol	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	2-Methyl-4,6-dinitrophenol	2.9	ug/L	U	2.9	12
11/13/2006 11:58	FIELD BLANK	BNA-Water	2-Nitrophenol	0.96	ug/L	UJ	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	3,3'-Dichlorobenzidine	38	ug/L	UJ	38	150
11/13/2006 11:58	FIELD BLANK	BNA-Water	4,4'-DDD	1.4	ug/L	U	1.4	5.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	4,4'-DDE	1.4	ug/L	U	1.4	5.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	4,4'-DDT	1.4	ug/L	U	1.4	5.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	4-Bromophenyl phenyl ether	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	4-Chloro-3-methylphenol	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	4-Chlorophenyl phenyl ether	1.9	ug/L	U	1.9	7.7
11/13/2006 11:58	FIELD BLANK	BNA-Water	4-Nitrophenol	14	ug/L	U	14	58
11/13/2006 11:58	FIELD BLANK	BNA-Water	Acenaphthene	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Acenaphthylene	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Aldrin	1.4	ug/L	U	1.4	5.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Anthracene	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Benzidine	96	ug/L	U	96	380
11/13/2006 11:58	FIELD BLANK	BNA-Water	Benzo(a)anthracene	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Benzo(a)pyrene	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Benzo(b)fluoranthene	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Benzo(g,h,i)perylene	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Benzo(k)fluoranthene	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Bis(2-chloroethoxy)methane	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Bis(2-chloroethyl)ether	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Bis(2-chloroisopropyl)ether	2.9	ug/L	U	2.9	12
11/13/2006 11:58	FIELD BLANK	BNA-Water	Bis(2-ethylhexyl)phthalate	14	ug/L	U	14	58
11/13/2006 11:58	FIELD BLANK	BNA-Water	Butyl benzyl phthalate	4.8	ug/L	U	4.8	19
11/13/2006 11:58	FIELD BLANK	BNA-Water	Chrysene	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Di-n-butyl phthalate	4.8	ug/L	U	4.8	19
11/13/2006 11:58	FIELD BLANK	BNA-Water	Di-n-octyl phthalate	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Dibenzo(a,h)anthracene	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Dieldrin	1.4	ug/L	U	1.4	5.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Diethyl phthalate	0.96	ug/L	U	0.96	3.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
11/13/2006 11:58	FIELD BLANK	BNA-Water	Dimethyl phthalate	48	ug/L	U	48	190
11/13/2006 11:58	FIELD BLANK	BNA-Water	Endosulfan I	3.8	ug/L	U	3.8	15
11/13/2006 11:58	FIELD BLANK	BNA-Water	Endosulfan II	3.8	ug/L	U	3.8	15
11/13/2006 11:58	FIELD BLANK	BNA-Water	Endosulfan sulfate	1.4	ug/L	U	1.4	5.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Endrin	1.4	ug/L	UJ	1.4	5.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Endrin aldehyde	3.8	ug/L	U	3.8	15
11/13/2006 11:58	FIELD BLANK	BNA-Water	Fluoranthene	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Fluorene	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Heptachlor	1.4	ug/L	U	1.4	5.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Heptachlor epoxide	1.4	ug/L	U	1.4	5.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Hexachlorobenzene	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Hexachlorobutadiene	2.9	ug/L	U	2.9	12
11/13/2006 11:58	FIELD BLANK	BNA-Water	Hexachlorocyclopentadiene	2.9	ug/L	U	2.9	12
11/13/2006 11:58	FIELD BLANK	BNA-Water	Hexachloroethane	2.9	ug/L	U	2.9	12
11/13/2006 11:58	FIELD BLANK	BNA-Water	Indeno(1,2,3-cd)pyrene	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Isophorone	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	N-Nitrosodi-n-propylamine	1.9	ug/L	U	1.9	7.7
11/13/2006 11:58	FIELD BLANK	BNA-Water	N-Nitrosodimethylamine	1.9	ug/L	U	1.9	7.7
11/13/2006 11:58	FIELD BLANK	BNA-Water	N-Nitrosodiphenylamine/ Diphenylamine	2.9	ug/mL	UJ	2.9	12
11/13/2006 11:58	FIELD BLANK	BNA-Water	Naphthalene	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Nitrobenzene	1.9	ug/L	U	1.9	7.7
11/13/2006 11:58	FIELD BLANK	BNA-Water	Pentachlorophenol	2.9	ug/L	U	2.9	12
11/13/2006 11:58	FIELD BLANK	BNA-Water	Phenanthrene	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Phenol	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	Pyrene	0.96	ug/L	U	0.96	3.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	alpha-BHC	1.4	ug/L	U	1.4	5.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	beta-BHC	1.4	ug/L	U	1.4	5.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	delta-BHC	1.4	ug/L	U	1.4	5.8
11/13/2006 11:58	FIELD BLANK	BNA-Water	gamma-BHC	1.4	ug/L	U	1.4	5.8
11/13/2006 11:30	EFFLUENT	GC-Water	Alachlor	0.6	ug/L	UJ	0.6	2.4
11/13/2006 11:30	EFFLUENT	GC-Water	Ametryn	0.05	ug/L	U	0.05	0.2
11/13/2006 11:30	EFFLUENT	GC-Water	Atrazine	0.081	ug/L	I	0.05	0.2
11/13/2006 11:30	EFFLUENT	GC-Water	Azinphos Methyl	0.2	ug/L	U	0.2	0.8
11/13/2006 11:30	EFFLUENT	GC-Water	Bromacil	0.2	ug/L	U	0.2	0.8
11/13/2006 11:30	EFFLUENT	GC-Water	Butylate	0.2	ug/L	UJ	0.2	0.8
11/13/2006 11:30	EFFLUENT	GC-Water	Chlorpyrifos Ethyl	0.05	ug/L	U	0.05	0.2
11/13/2006 11:30	EFFLUENT	GC-Water	Chlorpyrifos Methyl	0.1	ug/L	U	0.1	0.4
11/13/2006 11:30	EFFLUENT	GC-Water	Diazinon	0.05	ug/L	UJ	0.05	0.2
11/13/2006 11:30	EFFLUENT	GC-Water	Ethion	0.05	ug/L	U	0.05	0.2
11/13/2006 11:30	EFFLUENT	GC-Water	Ethoprop	0.1	ug/L	U	0.1	0.4
11/13/2006 11:30	EFFLUENT	GC-Water	Fenamiphos	0.2	ug/L	U	0.2	0.8

Appendix E. (continued)

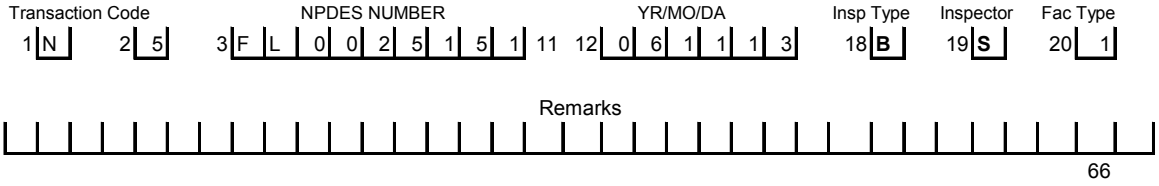
Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
11/13/2006 11:30	EFFLUENT	GC-Water	Fonofos	0.1	ug/L	U	0.1	0.4
11/13/2006 11:30	EFFLUENT	GC-Water	Hexazinone	0.1	ug/L	U	0.1	0.4
11/13/2006 11:30	EFFLUENT	GC-Water	Malathion	0.15	ug/L	U	0.15	0.6
11/13/2006 11:30	EFFLUENT	GC-Water	Metalaxyl	0.25	ug/L	UJ	0.25	1
11/13/2006 11:30	EFFLUENT	GC-Water	Metolachlor	0.5	ug/L	U	0.5	2
11/13/2006 11:30	EFFLUENT	GC-Water	Metribuzin	0.1	ug/L	U	0.1	0.4
11/13/2006 11:30	EFFLUENT	GC-Water	Mevinphos	0.2	ug/L	U	0.2	0.8
11/13/2006 11:30	EFFLUENT	GC-Water	Naled	0.8	ug/L	U	0.8	3.2
11/13/2006 11:30	EFFLUENT	GC-Water	Norflurazon	0.15	ug/L	U	0.15	0.6
11/13/2006 11:30	EFFLUENT	GC-Water	Parathion Ethyl	0.15	ug/L	U	0.15	0.6
11/13/2006 11:30	EFFLUENT	GC-Water	Parathion Methyl	0.1	ug/L	U	0.1	0.4
11/13/2006 11:30	EFFLUENT	GC-Water	Phorate	0.05	ug/L	U	0.05	0.2
11/13/2006 11:30	EFFLUENT	GC-Water	Prometryn	0.15	ug/L	U	0.15	0.6
11/13/2006 11:30	EFFLUENT	GC-Water	Simazine	0.05	ug/L	U	0.05	0.2
11/13/2006 11:58	FIELD BLANK	GC-Water	Alachlor	0.6	ug/L	UJ	0.6	2.4
11/13/2006 11:58	FIELD BLANK	GC-Water	Ametryn	0.05	ug/L	U	0.05	0.2
11/13/2006 11:58	FIELD BLANK	GC-Water	Atrazine	0.05	ug/L	U	0.05	0.2
11/13/2006 11:58	FIELD BLANK	GC-Water	Azinphos Methyl	0.2	ug/L	U	0.2	0.8
11/13/2006 11:58	FIELD BLANK	GC-Water	Bromacil	0.2	ug/L	U	0.2	0.8
11/13/2006 11:58	FIELD BLANK	GC-Water	Butylate	0.2	ug/L	UJ	0.2	0.8
11/13/2006 11:58	FIELD BLANK	GC-Water	Chlorpyrifos Ethyl	0.05	ug/L	U	0.05	0.2
11/13/2006 11:58	FIELD BLANK	GC-Water	Chlorpyrifos Methyl	0.1	ug/L	U	0.1	0.4
11/13/2006 11:58	FIELD BLANK	GC-Water	Diazinon	0.05	ug/L	UJ	0.05	0.2
11/13/2006 11:58	FIELD BLANK	GC-Water	Ethion	0.05	ug/L	U	0.05	0.2
11/13/2006 11:58	FIELD BLANK	GC-Water	Ethoprop	0.1	ug/L	U	0.1	0.4
11/13/2006 11:58	FIELD BLANK	GC-Water	Fenamiphos	0.2	ug/L	U	0.2	0.8
11/13/2006 11:58	FIELD BLANK	GC-Water	Fonofos	0.1	ug/L	U	0.1	0.4
11/13/2006 11:58	FIELD BLANK	GC-Water	Hexazinone	0.1	ug/L	U	0.1	0.4
11/13/2006 11:58	FIELD BLANK	GC-Water	Malathion	0.15	ug/L	U	0.15	0.6
11/13/2006 11:58	FIELD BLANK	GC-Water	Metalaxyl	0.25	ug/L	UJ	0.25	1
11/13/2006 11:58	FIELD BLANK	GC-Water	Metolachlor	0.5	ug/L	U	0.5	2
11/13/2006 11:58	FIELD BLANK	GC-Water	Metribuzin	0.1	ug/L	U	0.1	0.4
11/13/2006 11:58	FIELD BLANK	GC-Water	Mevinphos	0.2	ug/L	U	0.2	0.8
11/13/2006 11:58	FIELD BLANK	GC-Water	Naled	0.8	ug/L	U	0.8	3.2
11/13/2006 11:58	FIELD BLANK	GC-Water	Norflurazon	0.15	ug/L	U	0.15	0.6
11/13/2006 11:58	FIELD BLANK	GC-Water	Parathion Ethyl	0.15	ug/L	U	0.15	0.6
11/13/2006 11:58	FIELD BLANK	GC-Water	Parathion Methyl	0.1	ug/L	U	0.1	0.4
11/13/2006 11:58	FIELD BLANK	GC-Water	Phorate	0.05	ug/L	U	0.05	0.2
11/13/2006 11:58	FIELD BLANK	GC-Water	Prometryn	0.15	ug/L	U	0.15	0.6
11/13/2006 11:58	FIELD BLANK	GC-Water	Simazine	0.05	ug/L	U	0.05	0.2
11/13/2006 11:30	EFFLUENT	Metals-Water	Aluminum	23	ug/L	A	4	16

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
11/13/2006 11:30	EFFLUENT	Metals-Water	Arsenic	0.5	ug/L	U	0.5	2
11/13/2006 11:30	EFFLUENT	Metals-Water	Cadmium	0.05	ug/L	U	0.05	0.2
11/13/2006 11:30	EFFLUENT	Metals-Water	Calcium	29.5	mg/L	A	0.02	0.08
11/13/2006 11:30	EFFLUENT	Metals-Water	Chromium	0.3	ug/L	U	0.3	1.2
11/13/2006 11:30	EFFLUENT	Metals-Water	Copper	1.82	ug/L	A	0.2	0.8
11/13/2006 11:30	EFFLUENT	Metals-Water	Iron	131	ug/L	A	5	20
11/13/2006 11:30	EFFLUENT	Metals-Water	Lead	0.2	ug/L	U	0.2	0.8
11/13/2006 11:30	EFFLUENT	Metals-Water	Magnesium	13.9	mg/L	A	0.005	0.02
11/13/2006 11:30	EFFLUENT	Metals-Water	Nickel	2.2	ug/L	I	1	4
11/13/2006 11:30	EFFLUENT	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
11/13/2006 11:30	EFFLUENT	Metals-Water	Silver	0.03	ug/L	I	0.025	0.1
11/13/2006 11:30	EFFLUENT	Metals-Water	Zinc	56	ug/L	A	3	12
11/13/2006 11:58	FIELD BLANK	Metals-Water	Aluminum	4	ug/L	U	4	16
11/13/2006 11:58	FIELD BLANK	Metals-Water	Arsenic	0.5	ug/L	U	0.5	2
11/13/2006 11:58	FIELD BLANK	Metals-Water	Cadmium	0.05	ug/L	U	0.05	0.2
11/13/2006 11:58	FIELD BLANK	Metals-Water	Calcium	0.02	mg/L	U	0.02	0.08
11/13/2006 11:58	FIELD BLANK	Metals-Water	Chromium	0.3	ug/L	U	0.3	1.2
11/13/2006 11:58	FIELD BLANK	Metals-Water	Copper	0.2	ug/L	U	0.2	0.8
11/13/2006 11:58	FIELD BLANK	Metals-Water	Iron	5	ug/L	U	5	20
11/13/2006 11:58	FIELD BLANK	Metals-Water	Lead	0.2	ug/L	U	0.2	0.8
11/13/2006 11:58	FIELD BLANK	Metals-Water	Magnesium	0.005	mg/L	U	0.005	0.02
11/13/2006 11:58	FIELD BLANK	Metals-Water	Nickel	1	ug/L	U	1	4
11/13/2006 11:58	FIELD BLANK	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
11/13/2006 11:58	FIELD BLANK	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
11/13/2006 11:58	FIELD BLANK	Metals-Water	Zinc	3	ug/L	U	3	12
11/13/2006 11:30	EFFLUENT	Nutrients-Liquid	Ammonia-N	0.033	mg N/L		0.01	0.02
11/13/2006 11:30	EFFLUENT	Nutrients-Liquid	Kjeldahl Nitrogen	1.4	mg N/L		0.32	0.8
11/13/2006 11:30	EFFLUENT	Nutrients-Liquid	NO2NO3-N	16	mg N/L		0.2	0.5
11/13/2006 11:30	EFFLUENT	Nutrients-Liquid	O-Phosphate-P	2.9	mg P/L		0.08	0.2
11/13/2006 11:30	EFFLUENT	Nutrients-Liquid	Specific_Conductance	648	umhos/cm		2	8
11/13/2006 11:30	EFFLUENT	Nutrients-Liquid	TSS	4	mg/L	U	4	16
11/13/2006 11:30	EFFLUENT	Nutrients-Liquid	Total-P	3.3	mg P/L		0.2	0.6
11/13/2006 11:58	FIELD BLANK	Nutrients-Liquid	Ammonia-N	0.016	mg N/L	I	0.01	0.02
11/13/2006 11:58	FIELD BLANK	Nutrients-Liquid	Kjeldahl Nitrogen	0.08	mg N/L	U	0.08	0.2
11/13/2006 11:58	FIELD BLANK	Nutrients-Liquid	NO2NO3-N	0.006	mg N/L	I	0.004	0.01
11/13/2006 11:58	FIELD BLANK	Nutrients-Liquid	O-Phosphate-P	0.004	mg P/L	U	0.004	0.01
11/13/2006 11:58	FIELD BLANK	Nutrients-Liquid	Total-P	0.02	mg P/L	U	0.02	0.06

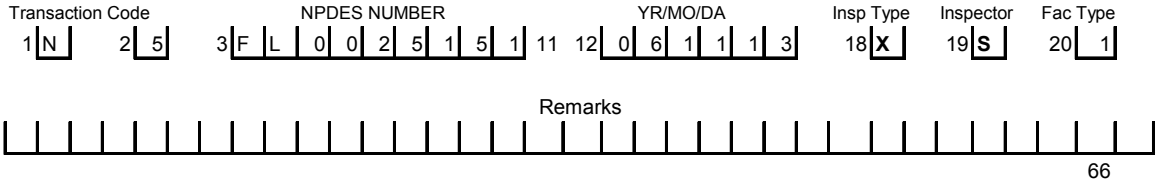
The Bioassay of Miller Street Wastewater Treatment Facility effluent sampled on November 13, 2006. NPDES #FL0025151.

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



The Priority Pollutants Analysis of Miller Street Wastewater Treatment Facility effluent sampled on November 13, 2006. NPDES #FL0025151.

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



Biological Analyses of Miller Street Wastewater Treatment Facility effluent sampled on November 13, 2006. NPDES #FL0025151.

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

