

Effluent Quality Assessment

Orange County Utilities Department/Eastern WRF

Orange County

NPDES #FL0038849

Sampled March 2, 2009

June 2009

Biology Section
Bureau of Laboratories
Division of Environmental Assessment and Restoration

Quality Manual No. 870346G
NELAC Certification No. E31780

Orange County Utilities Department (OCUD)/Eastern WRF, 1621 South Alafaya Trail, Orlando, Orange County, Florida, NPDES #FL0038849. Effluent samples for this facility were collected on March 2, 2009.

Introduction

The OCUD/Eastern WRF (water reclamation facility) is an advanced domestic wastewater treatment facility. Effluent discharge from the facility is continuous. The facility has a design capacity of 19.0 million gallons per day (MGD) annual average daily flow (AADF). From January 2008 through December 2008 the AADF discharged to surface water was 11.772 MGD (D-001), the AADF to the rapid infiltration basin (R-001) was 0.238 MGD, and the AADF discharged to the Stanton Energy Center (R-002) was 8.015 MGD. The facility consists of two (2) parallel treatment plants with a common preliminary treatment structure and an effluent pump station. The treatment processes consist of:

- odor control;
- mechanical influent screening;
- grit removal;
- two (2) five-stage Bardenpho-carrousel nutrient removal treatment units with reaeration;
- chemical feed facilities;
- secondary clarification;
- tertiary filtration and chlorination;
- aerobic digestion;
- dechlorination (for river discharge);
- postaeration; and
- thickening and dewatering of residuals.

Liquid chlorine is used for chlorination. Effluent is dechlorinated via natural attenuation in the wetlands. Dewatered residuals are removed by Shelly's Septic Company and are disposed by land application at approved sites.

Effluent Disposal:

Land Application and Surface Water Discharge: An existing 6.2 MGD AADF permitted capacity wetland system (R-003) with a discharge to the Class III freshwaters of the Big Econlockhatchee River through Outfall D-001. R-003 consists of combined man-made and natural receiving/treatment wetland covering an area of approximately 121.4 hectares (300 acres) (60.7 hectares (150 acres) man-made and 60.7 hectares (150 acres) natural), including berms and buffer zones, and consisting of five components as follows:

- distribution man-made wetlands;
- natural non-jurisdictional wetlands;
- redistribution man-made wetlands;
- jurisdictional natural wetlands; and
- exit natural wetlands.

The receiving wetlands treatment/reuse system receives reclaimed water from the OCUD/Eastern WRF for further treatment prior to discharge to an unnamed tributary of the Big Econlockhatchee River at Discharge Location D-001. No chemical dechlorination is applied to the effluent discharging into R-003. The point of discharge is located approximately at latitude 28º 30' 20" N, longitude 81º 11' 14" W. Reclaimed water that does not meet the criteria for the wetland system shall be diverted to Reuse systems R-001 or R-002.

REUSE:

Land Application: R-001, an existing 2.5 MGD AADF permitted capacity rapid infiltration basin system, consists of 14 rapid infiltration basins (RIBS) with a total wetted area of 36.4 hectares (90 acres) located approximately at latitude 28º 30' 42" N., longitude 81º 11' 24" W.

Land Application: Substantial modifications to an existing 7.0 MGD AADF system to be increased to 13.0 MGD AADF permitted capacity industrial reuse system (R-002). R-002 consists of once-through no-return cooling water at the Curtis H. Stanton Energy Center.

Land Application: A new 2.4 MGD AADF permitted capacity slow-rate public access reuse system (R-004) consisting of irrigation within the approved Reuse Service Area. Reclaimed water that does not meet the criteria for the public access reuse system shall be diverted to R-001, R-002 or R-003.

The facility has an Administrative Order (AO-03-001-CD) which established a pH range of 6.0 - 8.5 SU in the effluent discharged to the wetlands rather than the rule requirement in 62-302.503(52)(c) F.A.C., which states that the pH of effluent discharged into Class III predominantly freshwaters where the natural background is less than 6 shall not vary below natural background, or vary more than one unit above background. The Site Specific Criteria rule 62-302.800(5) (a) F.A.C. was established for the facility.

The facility has no Consent Orders or mixing zones. A review of Discharge Monitoring Report (DMR) data for R-003 for the past year, revealed permit violations for the annual average total nitrogen limit of 3.0 mg/L from January 2008 – December 2008. The monthly average total nitrogen limit of 5.0 mg/L was exceeded in December 2008. The annual average flow to the wetland (R-003) exceeded the permit limit of 6.2 MGD from March through December 2008. The cyanide maximum reported for January, May, June, and August, 2008, exceeded the permit limit of 5.2 mg/L.

The facility has no permitted toxicity test requirements; however, an acute screening or definitive test of ≥ 48-hour duration can provide confidence that the effluent meets the acute toxicity criterion of Florida's Surface Water Quality Standards (Rule 62-302.500 (1)(a)4, F.A.C.) if the mortality in 100% effluent is less than 20%. (Facility information provided by David Smicherko, Phil Kane and Blake Vahlsing of FDEP Central District.)

Methods

Samples were collected from the WEP-1 NPDES sampling point for Outfall D-001 by Phil Kane, Steve Kent, Stephanie Carbone (FDEP Central District) and Nelson (OCUD employee) 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 96 - hour acute definitive toxicity tests and algal growth potential test were performed following internal DEP SOPs TA07_01, TA07_02, and TA08_01 through TA08_09. All internal DEP SOPs are available on the web at: http://www.floridadep.org/labs/cgi-bin/sop/biosop.asp.

Toxicity Test Results

Tests were performed March 3 - 7, 2009.

Ceriodaphnia dubia 96-hour acute definitive bioassay –	LC_{50} > 100%, 0% mortality in 100% sample at 96 hours
Cyprinella leedsi 96-hour acute definitive bioassay –	LC_{50} > 100%, 0% mortality in 100% sample at 96 hours

The bioassay samples were not acutely toxic to the test organisms. There was 5% mortality in the *C. dubia* 25% sample test concentration at 96 hours but no mortality in any other *C. dubia* test concentration. There was no mortality in any of the *C. leedsi* test concentrations.

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

Algal Growth Potential

The effluent Algal Growth Potential (AGP) was 61.5 mg dry wt/L of the unicellular green alga, *Pseudokirchneriella subcapitata*, formerly known as *Selenastrum capricornutum*. Raschke and Schultz (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 co-limited by both nitrogen and phosphorus. The predicted AGP based on inorganic nitrogen concentrations was 42.4 (±20%) mg dry wt/L and predicted AGP based on orthophosphate concentrations was 43.0 (±20%) mg dry wt/ (Table 1; Miller et al. 1978). 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 0.017 mg/L (I) (I – The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit). Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was < 0.02 mg/L.

Copper, nickel and zinc were detected in the effluent at levels that comply with Class III fresh water quality criteria (62-302.530, F.A.C.). Arsenic, chloroform and total ammonia 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. See Appendix F for bioassay lab equipment.

Conclusion

The effluent sample collected from the WEP-1 NPDES sampling point for Outfall D-001 for this facility on March 2, 2009, was not acutely toxic to either test species during the 96-hour acute definitive bioassays. The effluent AGP result exceeded the "problem” threshold for fresh 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) for total soluble inorganic nitrogen (TSIN), orthophosphate (OP), total nitrogen (TN) and total phosphorus (TP) limitation of the freshwater species *Pseudokirchneriella subcapitata* for samples collected from the OCUD - Eastern Water Reclamation Facility on March 2, 2009.

OCUD - Eastern Water Treatment Facility							
Location	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (OP) ± 20%	Predicted AGP (TN) ± 20%	Predicted AGP (TP) ± 20%	Inorganic N:P ratio	Total N:P ratio
Effluent	61.5	42.4 ± 8.5	43.0 ± 8.6	91.2 ± 18.2	51.6 ± 10.3	11.2	20.0

Table 2. Effluent limits, Class III Freshwater Criteria and chemical data for samples collected from the OCUD - Eastern Water Reclamation Facility on March 2, 2009.

OCUD - Eastern Water Reclamation Facility NPDES# FL0038849	Class III Criteria	Effluent Limits	Effluent	
Organic Constituents (µg/L)				
Chloroform	-	-	0.38	I
Metals (µg/L unless otherwise noted)				
Aluminum	-	-	60	U
Arsenic	≤ 50	-	0.49	I
Cadmium	≤ 0.3 b	Report p	0.03	U
Calcium (mg/L)	-	-	41	
Chromium-III	≤ 110.9 b	-	0.3	U
Copper	≤ 12.1 b	-	0.74	
Iron	≤ 1,000	-	30	U
Lead	≤ 4.7 b	-	0.2	U
Magnesium (mg/L)	-	-	8.19	
Nickel	≤ 67.7 b	-	1.04	
Selenium	≤ 5.0	-	0.2	U
Silver	≤ 0.07	Report p	0.01	U
Zinc	≤ 155.6 b	-	22	
Nutrients (mg/L)				
Ortho-phosphate	-	-	0.1	
Total Phosphorus	-	0.4 sp	0.12	A
Total Ammonia	-	-	0.017	I
Un-ionized Ammonia	≤ 0.02 s	-	≤ 0.02	c
Nitrate and Nitrite	-	-	1.1	
Total Kjeldahl Nitrogen	-	-	1.3	
Organic Nitrogen	-	-	1.283	c
Total Nitrogen	-	4.4 sp	2.4	c
General Physical and Chemical Parameters				
Dissolved Oxygen (mg/L)	≥ 5.0 s	Report	10.1	
pH (SU)	6.0 - 8.5 s	6.0 - 8.5 s	6.9	
Conductivity (µmhos/cm)	≤ 1,275	-	677.4	
Temperature (°C)	-	-	10.7	
Sample Depth (m)	-	-	0.2	
Total Residual Chlorine (mg/L)	≤ 0.01	-	0	€
Chlorophyll *a* (µg/L) - Corrected	-	-	1.9	
Phaeophytin (µg/L)	-	-	0.63	I
Total Suspended Solids (mg/L)	-	-	4	I
BOD, 5 day (mg/L), N - uninhibited	-	-	0.2	UJ
Cyanide (µg/L)	≤ 5.2	Report p	0.005	U
Flow (MGD)	-	19.0 a	11.771	a
Hardness (mg $CaCO_3$)	-	-	136.10	c

Value exceeds the Class III Water Quality Criteria or permit limits

a - Annual average
b - Value is calculated based on hardness
c - Value is calculated
s - Single sample
p - Permit limit based on 24-hour composite 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
J - Estimated value
U - Material analyzed for but not detected; value reported is the method detection limit
€ - TRC measurement from the facility's TRC meter

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2009-03-02-35
OCUD-Eastern Subregional WRF

Requester: Jennifer Paris
Field Report Prepared By: KANE

Customer: CEN-DIST
Collected By: KANE, KENT, Carbone, Nelson
Send Final Report To Gary Miller and Phil Kane

Project ID: FYI3
Sampling Agency: FDEP CENTRAL DISTRICT

PMAS: 1143

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	OCUD/EASTERN WRF 1621 S. ALAFAYA TRAIL, ORLANDO, FL.	Grab	3/2/09 9:00	PK	
	Field ID: OEAST	Tot Res Chlorine (mg/L): 0.06	Diss Oxygen (mg/L): 10.07	Storet Station Number:	
	Matrix: EFFLUENT	Temp (C): 10.67	pH: 6.86	Sample Depth: 0.2 m	Salinity (PPTh) / Sp Conductance (umho/cm): 677.40	NPDES Number: FL0038849
	Latitude: 81° 10' 32"	Longitude: 28° 30' 38" 3	Comments: nutrients, metals and cyanide were preserved and pH checked, then TRC meter		

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	OCUD/EASTERN WRF 1621 S. ALAFAYA TRAIL, ORLANDO, FL.	Grab	3/2/09 9:30	PK	
	Field ID: OEAST	Tot Res Chlorine (mg/L):	Diss Oxygen (mg/L):	Storet Station Number:	
	Matrix: BLANK	Temp (C):	pH:	Sample Depth: m	Salinity (PPTh) / Sp Conductance (umho/cm):	NPDES Number: FL0038849
	Latitude: ° ' "	Longitude: 28° 30' 38" 3	Comments: nutrients, metals and cyanide were preserved and pH checked, then Cl2 (TRC) meter		

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	OCUD/EASTERN WRF 1621 S. ALAFAYA TRAIL, ORLANDO, FL.	Grab	3/2/09 8:52	PK	
	Field ID: OEAST	Tot Res Chlorine (mg/L): 0.00	Diss Oxygen (mg/L): 10.07	Storet Station Number:	
	Matrix: EFFLUENT	Temp (C): 10.67	pH: 6.86	Sample Depth: 0.2 m	Salinity (PPTh) / Sp Conductance (umho/cm): 677.40	NPDES Number: FL0038849
	Latitude: 81° 10' 32"	Longitude: 28° 30' 38" 3	Comments: BIOLOGY BIOASSAY, then TRC meter		

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:	Temp (C):	pH:	Sample Depth: m	Salinity (PPTh) / Sp Conductance (umho/cm):	NPDES Number:
	Latitude: 81° 10' 32" (GIVE)	Longitude: 28° 30' 38" 3 (GIVE)	Comments: then TRC meter (GIVE) 3 bioassay Reid in by by J.D. 1042 3.3.09		

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
KANE/KENT	3/2/09	FEDEX	[signature]	3/3/09 0920				

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

FDEP Biology Laboratory - Acute Definitive Bioassay Bench Sheets

Facility: O.U.D Eastern ~~Subregional~~ WRF MF 3-18-09

Address: 1621 South Alafaya Trial

City: Orlando County: Orange 32825

Contact/District: Phil Kane

NPDES Permit #: FL 0038849

LIMS Job #: TLH-2009-03-03 #1 JRW 3/20/09 LIMS Sample #: 1170590

Lims Data Entry: 3-10-09 Data Entry Verification: 3.10.09 JD

Sample Collection: Date: 3-2-09 Time: 9:00

Hold Time Start: Date: 3-2-09 Time: 9:00

Comments:

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

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

Test 1 validation: **Test 1:** SOP TA 07_01
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No

Test 2 validation: **Test 2:** SOP TA 07_02
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No

Initial sample handling:

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

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

Brent Alexander
Marshall Faircloth
Kim M. Stamer
James Daniels
Jackie Jinn
Loretta C. Wolfe
REVIEWER

Water Quality Parameters	20% DMW 2-24-09	Moderately Hard Water/ (Well Water)	Salt Water ASW NSW Test 1	Salt Water ASW NSW Test 2	Other:	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl_2 (mg/L):	N/A	N/A	N/A	N/A		0.00	Facility water	Kane	MF
Lab Total Residual Cl_2 (mg/L):	<0.03	<0.03				<0.03	HACH	KMS	gd/MF
Alkalinity (mg/L as $CaCO_3$):	83	145				200	HACH	BA	MF
Hardness (mg/L as $CaCO_3$):	84	132				145	HACH	BA	MF
Total Ammonia (mg/L as N):	<0.217	<0.217				<0.017	DENVER	MF	JD
Salinity (ppth):	—	—				—	YSI / Mettler	—	—

V 1.4 9/12/05

Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 1170590 Test #: 1 SOP#:TA 07 01 Test Started: Date 3-3-09 Time: 12:30
Organism/Batch/Age: C.dub./9-09/<24hr Test Ended: Date 3-7-09 Time: 0900
Chamber/Test Volume: 30 / 20 ml Diluent/ Batch: DMW / 2-24-09
Food/Batch: YCT 1-22-09 P.sub 2-13-09 Artemia 0hr____ 24hr____ 48hr____ 72hr____ Artemia Lot#_____
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
CTL	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
6.25%	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
12.5%	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
25%	A	A	5	5	5	5	5	4 10
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
50%	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
100%	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
Checked by:			BA	BA	BA	BA	BA	MF

Loaded/Verified by: BA / MF
m = missing d = dead BR/AR = Before/After Renewal
Test Results:
Screening Tests: Report LC50 as >100%, =100%, or <100%.
% mortality in 100% sample: 0% LC50: >100%
If Calculated: 95% CI_____ Method_____

Comments:

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 Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 1170590 Test #: 2 SOP#:TA 07 D2 Test Started: Date 3-3-09 Time: 14:30
Organism/Batch/Age: C. leedsi/3-3-09/11 days Test Ended: Date 3-7-09 Time: 0920
Chamber/Test Volume: 1000 / 500 ml Diluent/ Batch: well / 3-2-09
Food/Batch: YCT____ P.sub____ Artemia 0hr 24-09 24hr - 48hr 31-09 72hr____ Artemia Lot# 28438
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	D13	10	10	10	10	10	10
	B	D14	10	10	10	10	10	10
6.25%	A	D15	10	10	10	10	10	10
	B	D16	10	10	10	10	10	10
12.5%	A	D17	10	10	10	10	10	10
	B	D18	10	10	10	10	10	10
25%	A	D19	10	10	10	10	10	10
	B	D20	10	10	10	10	10	10
50%	A	D21	10	10	10	10	10	10
	B	D22	10	10	10	10	10	10
100%	A	D23	10	10	10	10	10	10
	B	D12	10	10	10	10	10	10
Loaded/Verified by: BS / mm2		Checked by:	m					MF

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

Test Results:
Screening Tests: Report LC50 as >100%, =100%, or <100%.
% mortality in 100% sample: 0 LC50: >100%
If Calculated: 95% CI_____ Method_____
Substitue highest test concentration used if other than 100% (example: Ocean outfall tested at 30% concentration).

Comments:

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FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1170590 **Test #:** 1 of 2

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

Concentration Ctr	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		A	M		A
pH (S.U.)	7.8		7.7	7.7		8.1
Temperature °C	24.0		24.0	24.0		24.1
Dissolved Oxygen mg/L	7.9		6.9	6.7		7.8
Conductivity (µmhos) mmhos	180		195 (A) ~~185~~	185		182
(initials) Measured by:	BA		BA	BA		MF
(initials) Recorded by:	BA		BA	BA		MF

Comments: A-Transcription error 3-5-09 BA by MF

Concentration 6.25%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		A	M		A
pH (S.U.)	7.9		7.9	7.8		8.1
Temperature °C	24.0		24.0	24.0		24.1
Dissolved Oxygen mg/L	7.7		6.8	7.1		7.8
Conductivity (µmhos) mmhos	220		225	220		221
(initials) Measured by:	BA		BA	BA		MF
(initials) Recorded by:	BA		BA	BA		MF

Comments:

Concentration 12.5%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		A	M		A
pH (S.U.)	7.9		8.0	7.8		8.1
Temperature °C	24.0		24.0	24.5		24.0
Dissolved Oxygen mg/L	7.5		7.0	7.1		7.7
Conductivity (µmhos) mmhos	258		261	259		266
(initials) Measured by:	BA		BA	BA		MF
(initials) Recorded by:	BA		BA	BA		MF

Comments:

Concentration 25%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		A	M		A
pH (S.U.)	7.9		8.1	7.8		8.1
Temperature °C	24.0		24.0	24.1		24.0
Dissolved Oxygen mg/L	7.4		6.9	7.2		7.8
Conductivity (µmhos) mmhos	333		340	334		345
(initials) Measured by:	BA		BA	BA		MF
(initials) Recorded by:	BA		BA	BA		MF

Comments:

V 2.0 2/24/04

FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1170590 **Test #:** 1 of 2

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

Concentration 50%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		A	M		A
pH (S.U.)	7.9		8.2	7.8		8.2
Temperature °C	24.0		24.0	24.5		24.1
Dissolved Oxygen mg/L	7.2		6.8	7.1		7.8
Conductivity (µmhos) mmhos	473		477	474		471
(initials) Measured by:	BA		BA	BA		MF
(initials) Recorded by:	BA		BA	BA		MF

Comments:

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		A	M		A
pH (S.U.)	7.9		8.4	7.8		8.3
Temperature °C	24.0		24.0	24.7		24.3
Dissolved Oxygen mg/L	7.2		7.1	7.3		7.8
Conductivity (µmhos) mmhos	776		758	743		735
(initials) Measured by:	BA		BA	BA		MF
(initials) Recorded by:	BA		BA	BA		MF

Comments:

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

Comments:

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

Comments:

V 2.0 2/24/04

FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1170590 **Test #:** 2 of 2

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

Concentration Ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	A	A	B	A
pH (S.U.)	7.7	8.0	8.1	7.7	7.8	8.0
Temperature °C	24.6	24.9	24.8	24.0	25.4	24.9
Dissolved Oxygen mg/L	7.4	7.6	7.5	7.6	6.7	6.4
Conductivity (µmhos) mmhos	287	302	297	305	288	305
(initials) Measured by:	BA	[illegible]	[illegible]	[illegible]	[illegible]	MF
(initials) Recorded by:	BA	[illegible]	[illegible]	[illegible]	[illegible]	MF

Comments:

Concentration 6.25%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	A	A	B	A
pH (S.U.)	7.8	8.0	8.1	7.8	7.8	8.1
Temperature °C	24.6	24.9	24.2	24.1	25.2	25.3
Dissolved Oxygen mg/L	7.4	7.1	7.4	7.5	6.0	6.3
Conductivity (µmhos) mmhos	324	321	321	319	312	322
(initials) Measured by:	BA	[illegible]	[illegible]	[illegible]	[illegible]	MF
(initials) Recorded by:	BA	[illegible]	[illegible]	[illegible]	[illegible]	MF

Comments:

Concentration 12.5%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	A	A	B	A
pH (S.U.)	7.9	8.1	8.2	7.9	7.8	8.1
Temperature °C	24.9	24.6	24.5	24.2	25.3	25.1
Dissolved Oxygen mg/L	7.4	7.0	7.3	7.5	6.0	6.2
Conductivity (µmhos) mmhos	346	334	340	341	343	336
(initials) Measured by:	BA	[illegible]	[illegible]	[illegible]	[illegible]	MF
(initials) Recorded by:	BA	[illegible]	[illegible]	[illegible]	[illegible]	MF

Comments:

Concentration 25%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	A	A	B	A
pH (S.U.)	7.9	8.1	8.2	7.9	7.8	8.1
Temperature °C	25.0	24.7	24.5	24.2	25.3	25.1
Dissolved Oxygen mg/L	7.2	7.0	7.2	7.5	5.9	6.4
Conductivity (µmhos) mmhos	411	343	403	400	340	399
(initials) Measured by:	BA	[illegible]	[illegible]	[illegible]	[illegible]	MF
(initials) Recorded by:	BA	[illegible]	[illegible]	[illegible]	[illegible]	MF

Comments:

V 2.0 2/24/04

FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1170590 **Test #:** 2 of 2

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

Concentration 50%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	A	A	B	A
pH (S.U.)	7.9	8.1	8.2	7.9	7.8	8.1
Temperature °C	24.9	24.5	25.1	24.3	25.6	25.4
Dissolved Oxygen mg/L	7.2	7.0	7.2	7.5	5.7	6.4
Conductivity µmhos mmhos	516	496	507	515	522	518
(initials) Measured by:	BA	"	"	"	"	MF
(initials) Recorded by:	BA	"	gb	"	"	MF

Comments:

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	A	A	B	A
pH (S.U.)	7.9	8.2	8.3	7.9	7.9	8.2
Temperature °C	25.6	24.6	24.4	24.7	25.4	25.0
Dissolved Oxygen mg/L	7.1	7.1	7.1	7.7	5.6	6.3
Conductivity µmhos mmhos	771	735	734	755	734	748
(initials) Measured by:	BA	"	"	"	"	MF
(initials) Recorded by:	BA	"	gb	"	"	MF

Comments:

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

Comments:

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

Comments:

V 2.0 2/24/04

Appendix C. SRT Bench Sheets and Statistical Analysis

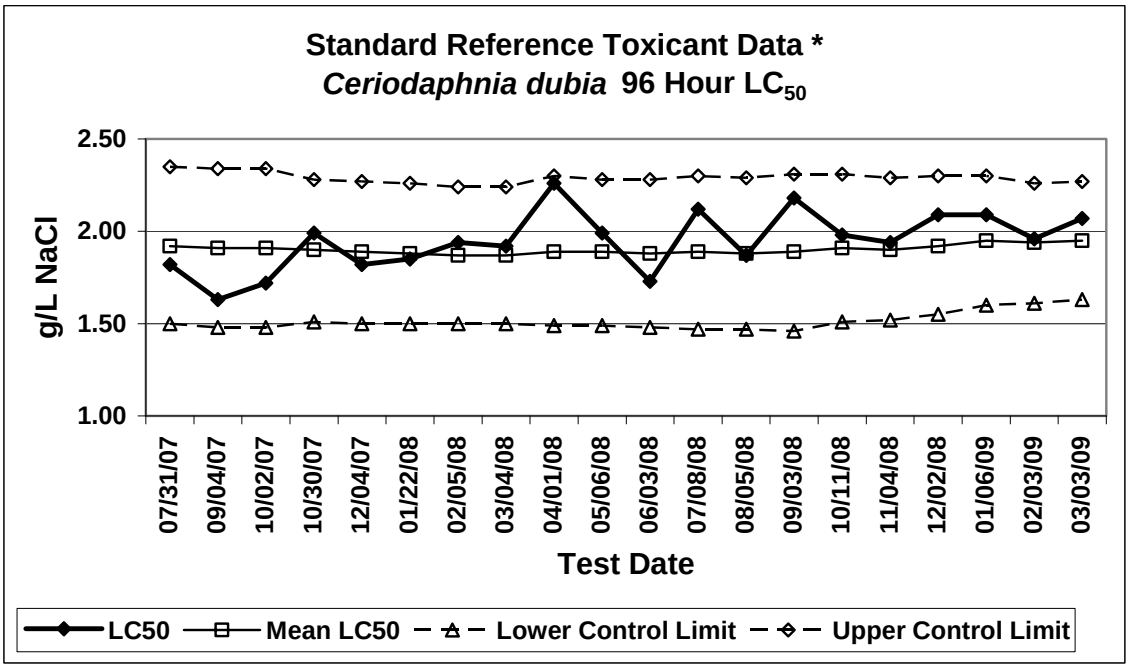
Florida Department of Environmental Protection
Bureau of Laboratories

Standard Reference Toxicant (SRT) Test Data - 96-hour Acute Toxicity
Ceriodaphnia dubia (water flea) - Sodium Chloride (NaCl)

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
07/31/07	1.82	1.92	0.21	1.50	2.35
09/04/07	1.63	1.91	0.22	1.48	2.34
10/02/07	1.72	1.91	0.21	1.48	2.34
10/30/07	1.99	1.90	0.19	1.51	2.28
12/04/07	1.82	1.89	0.19	1.50	2.27
01/22/08	1.85	1.88	0.19	1.50	2.26
02/05/08	1.94	1.87	0.18	1.50	2.24
03/04/08	1.92	1.87	0.18	1.50	2.24
04/01/08	2.26	1.89	0.20	1.49	2.30
05/06/08	1.99	1.89	0.20	1.49	2.28
06/03/08	1.73	1.88	0.20	1.48	2.28
07/08/08	2.12	1.89	0.21	1.47	2.30
08/05/08	1.87	1.88	0.20	1.47	2.29
09/03/08	2.18	1.89	0.21	1.46	2.31
10/11/08	1.98	1.91	0.20	1.51	2.31
11/04/08	1.94	1.90	0.19	1.52	2.29
12/02/08	2.09	1.92	0.19	1.55	2.30
01/06/09	2.09	1.95	0.17	1.60	2.30
02/03/09	1.96	1.94	0.16	1.61	2.26
03/03/09	2.07	1.95	0.16	1.63	2.27

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

CV = 8.25
EPA reference 75th quartile CV = 29%



Appendix C. (continued)

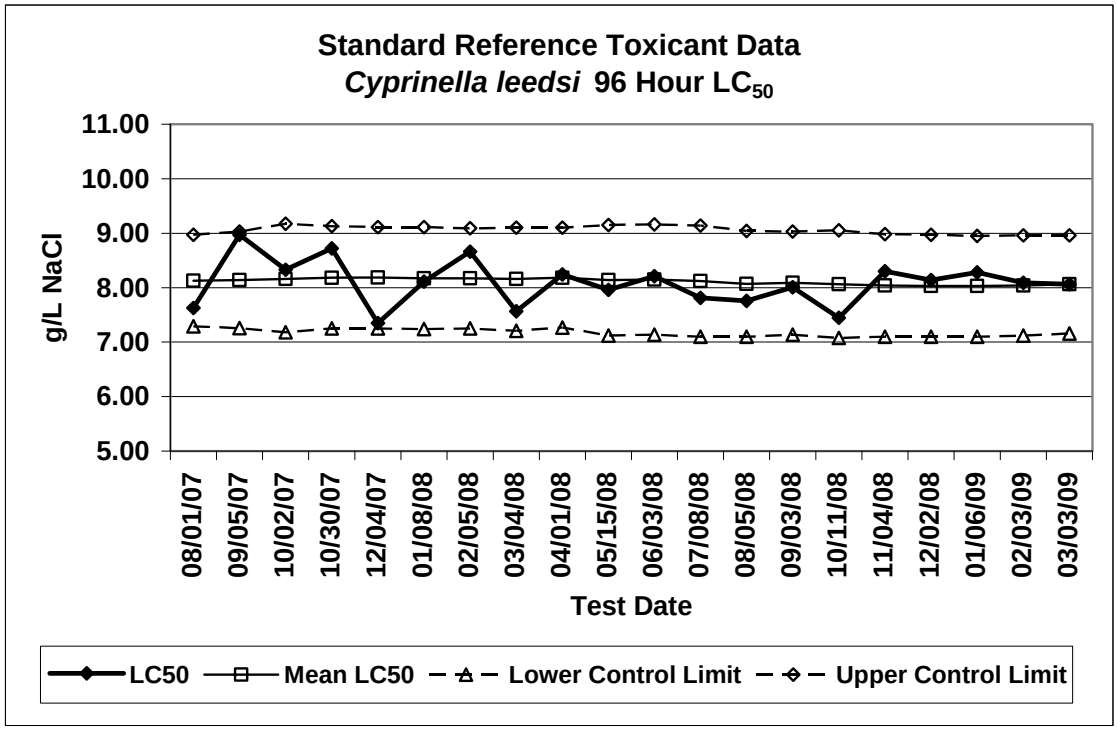
Florida Department of Environmental Protection
Bureau of Laboratories

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

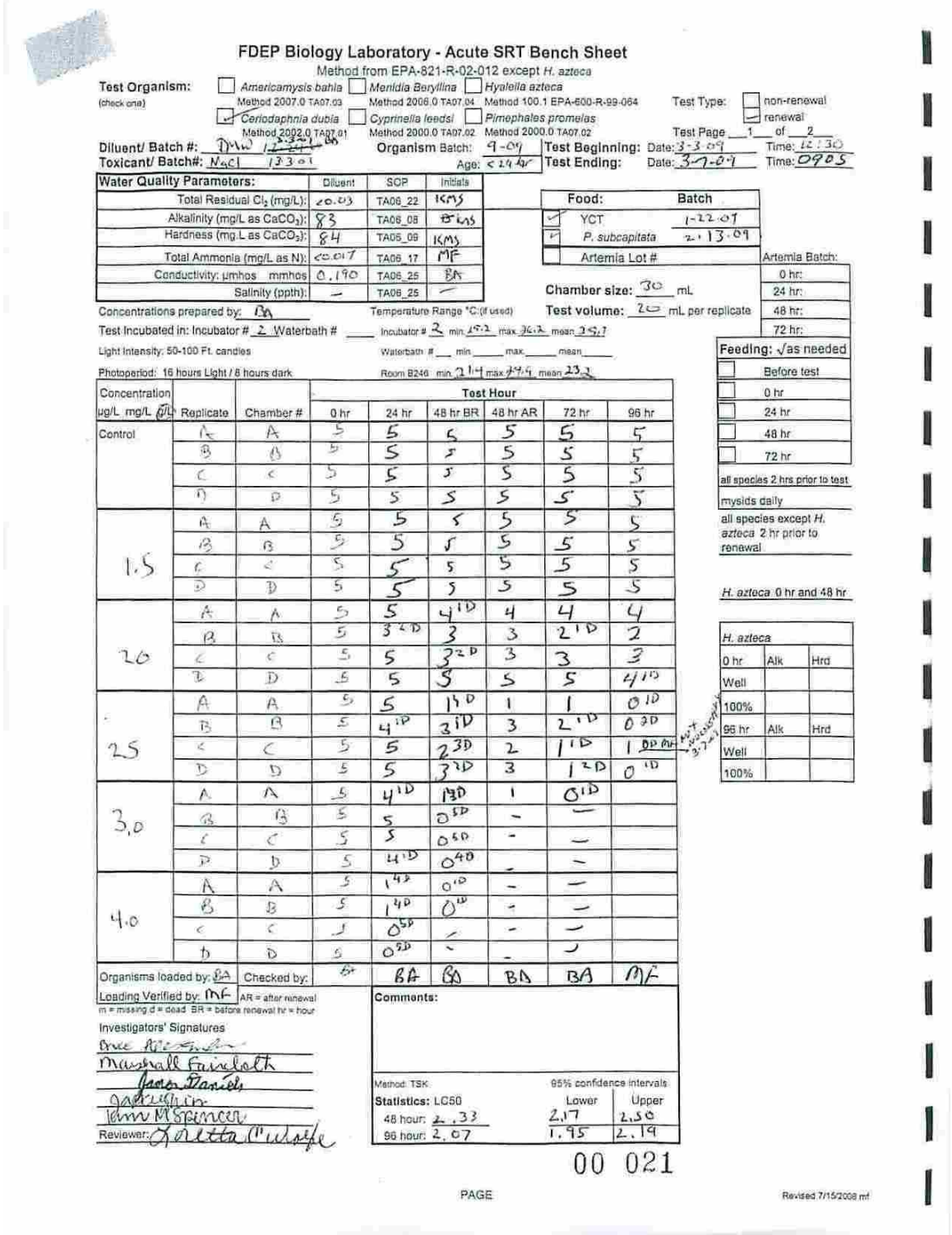
Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
08/01/07	7.63	8.13	0.42	7.29	8.97
09/05/07	8.97	8.14	0.44	7.26	9.03
10/02/07	8.33	8.16	0.50	7.18	9.17
10/30/07	8.72	8.18	0.47	7.25	9.13
12/04/07	7.35	8.19	0.47	7.25	9.11
01/08/08	8.11	8.17	0.47	7.24	9.11
02/05/08	8.66	8.17	0.47	7.25	9.09
03/04/08	7.57	8.16	0.47	7.21	9.10
04/01/08	8.24	8.18	0.46	7.27	9.10
05/15/08	7.96	8.14	0.51	7.12	9.15
06/03/08	8.21	8.15	0.51	7.14	9.16
07/08/08	7.81	8.12	0.51	7.10	9.14
08/05/08	7.76	8.07	0.48	7.10	9.04
09/03/08	8.01	8.09	0.47	7.14	9.03
10/11/08	7.45	8.06	0.49	7.08	9.05
11/04/08	8.30	8.04	0.47	7.10	8.98
12/02/08	8.14	8.03	0.47	7.10	8.97
01/06/09	8.28	8.03	0.46	7.10	8.95
02/03/09	8.09	8.04	0.46	7.12	8.96
03/03/09	8.06	8.06	0.45	7.16	8.96

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

CV = 5.57
EPA reference 75th quartile CV = 19%



Appendix C. (continued)



FDEP Biology Laboratory - Acute SRT Bench Sheet

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

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

Test Type: ☐ non-renewal ☑ renewal

Test Page 1 of 2

Diluent/ Batch #: DMW 12-22-08 BA

Toxicant/ Batch#: NaCl 13301

Organism Batch: 9-09 Age: < 24 hr

Test Beginning: Date: 3-3-09 Time: 12:30

Test Ending: Date: 3-7-09 Time: 0905

Water Quality Parameters:	Diluent	SOP	Initials
Total Residual Cl_2 (mg/L):	<0.03	TA06_22	KMS
Alkalinity (mg/L as $CaCO_3$):	83	TA06_08	BMS
Hardness (mg/L as $CaCO_3$):	84	TA05_09	KMS
Total Ammonia (mg/L as N):	<0.07	TA06_17	MF
Conductivity: µmhos mmhos	0.190	TA06_25	BA
Salinity (ppth):	—	TA06_25	—

Food:	Batch
☑ YCT	1-22-09
☑ *P. subcapitata*	2-13-09
☐ Artemia Lot #	

Artemia Batch:

0 hr:

24 hr:

48 hr:

72 hr:

Chamber size: 30 mL

Test volume: 20 mL per replicate

Concentrations prepared by: BA

Temperature Range °C: (if used)

Test Incubated in: Incubator # 2 Waterbath # ____ Incubator # 2 min 19.2 max 26.2 mean 25.7

Light Intensity: 50-100 Ft. candles

Waterbath # ___ min ____ max ____ mean ____

Photoperiod: 16 hours Light / 8 hours dark

Room B246 min 21.4 max 24.6 mean 23.2

Feeding: √as needed

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

all species 2 hrs prior to test

mysids daily

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

H. azteca 0 hr and 48 hr

Concentration µg/L mg/L %?	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Control	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
1.5	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
2.0	A	A	5	5	4 1D	4	4	4
	B	B	5	3 2D	3	3	2 1D	2
	C	C	5	5	3 2D	3	3	3
	D	D	5	5	5	5	5	4 1D
2.5	A	A	5	5	1 3D	1	1	0 1D
	B	B	5	4 1D	3 1D	3	2 1D	0 2D
	C	C	5	5	2 3D	2	1 1D	1 DD MF
	D	D	5	5	3 2D	3	1 2D	0 1D
3.0	A	A	5	4 1D	1 3D	1	0 1D	
	B	B	5	5	0 5D	-	—	
	C	C	5	5	0 5D	-	—	
	D	D	5	4 1D	0 4D	-	—	
4.0	A	A	5	1 4D	0 1D	-	—	
	B	B	5	1 4D	0 1D	-	—	
	C	C	5	0 5D	-	-	—	
	D	D	5	0 5D	-	-	—	
Organisms loaded by: BA		Checked by: BA		BA	BA	BA	BA	MF

Not included in 3.7 calculation

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

Loading Verified by: MF AR = after renewal

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

Investigators' Signatures

Bruce Buchanan

Marshall Faircloth

Jason Daniels

Jason Lin

John M Spencer

Reviewer: Loretta C. Wolfe

Comments:

Method: TSK

Statistics: LC50	95% confidence intervals Lower	Upper
48 hour: 2.33	2.17	2.50
96 hour: 2.07	1.95	2.19

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PAGE

Revised 7/15/2008 mf

Appendix C. (continued)

FDEP Biology Laboratory - Acute SRT Bench Sheet
0-96 hour parameters
Methods from EPA-821-R-02-012 except *H. azteca*
Test Page 2 of 2

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

Test Beginning: Date: 3-3-09 Time: 12:30
Test Ending: Date: 3-7-09 Time: 0905
Test Type: ☐ non-renewal ☑ renewal

hr = hour AR = after renewal BR = before renewal

Concentration µg/L mg/L	Replicate	Test Hour	pH (SU)	Temperature (°C)	Dissolved Oxygen (mg/L)	Conductivity ☐ µmhos ☑ mmhos	Salinity (ppth)
Control	M	0 hr	7.8	24.0	7.5	0.190	–
	–	24 hr	–	–	–	–	–
	A	48 hr BR	7.8	24.0	6.9	0.213	–
	M	48 hr AR	7.8	24.0	7.2	0.184	–
		72 hr					–
	A	96 hr	8.2	24.3	7.8	0.202	–
1.5	M	0 hr	7.8	24.0	7.6	3.00	–
	–	24 hr	–	–	–	–	–
	A	48 hr BR	7.8	24.0	7.0	3.14	–
	M	48 hr AR	7.7	24.3	7.3	2.93	–
		72 hr					–
	A	96 hr	8.1	24.4	7.8	3.02	–
2.0	M	0 hr	7.8	24.0	7.4	3.88	–
	–	24 hr	–	–	–	–	–
	A	48 hr BR	7.9	24.0	7.1	4.15	–
	M	48 hr AR	7.7	24.5	7.2	3.75	–
		72 hr					–
	A	96 hr	8.1	24.4	7.7	3.94	–
2.5	M	0 hr	7.8	24.1	7.4	4.80	–
	–	24 hr	–	–	–	–	–
	A	48 hr BR	8.0	24.0	6.8	5.12	–
	M	48 hr AR	7.8	24.3	7.1	4.49	–
		72 hr					–
	A	96 hr	8.1	24.4	7.6	4.70	–
3.0	M	0 hr	7.9	24.0	7.3	5.67	–
	–	24 hr	–	–	–	–	–
	A	48 hr BR	8.0	24.0	6.8	5.92	–
	M	48 hr AR	8.0	24.0	7.0	5.47	–
	A	72 hr	7.7	24.0	6.5	5.48	–
	–	96 hr	–	–	–	–	–
4.0	M	0 hr	7.9	24.0	7.2	7.35	–
	–	24 hr	–	–	–	–	–
	A	48 hr BR	8.0	24.0	6.9	7.88	–
	–	48 hr AR	–	–	–	–	–
	–	72 hr	–	–	–	–	–
	–	96 hr	–	–	–	–	–

Investigators Signatures
Bruce Alexander
James Daniel
Jackie Slim
Marshall Faircloth
Kim M Spencer
Reviewed By: Loretta C Wolfe

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

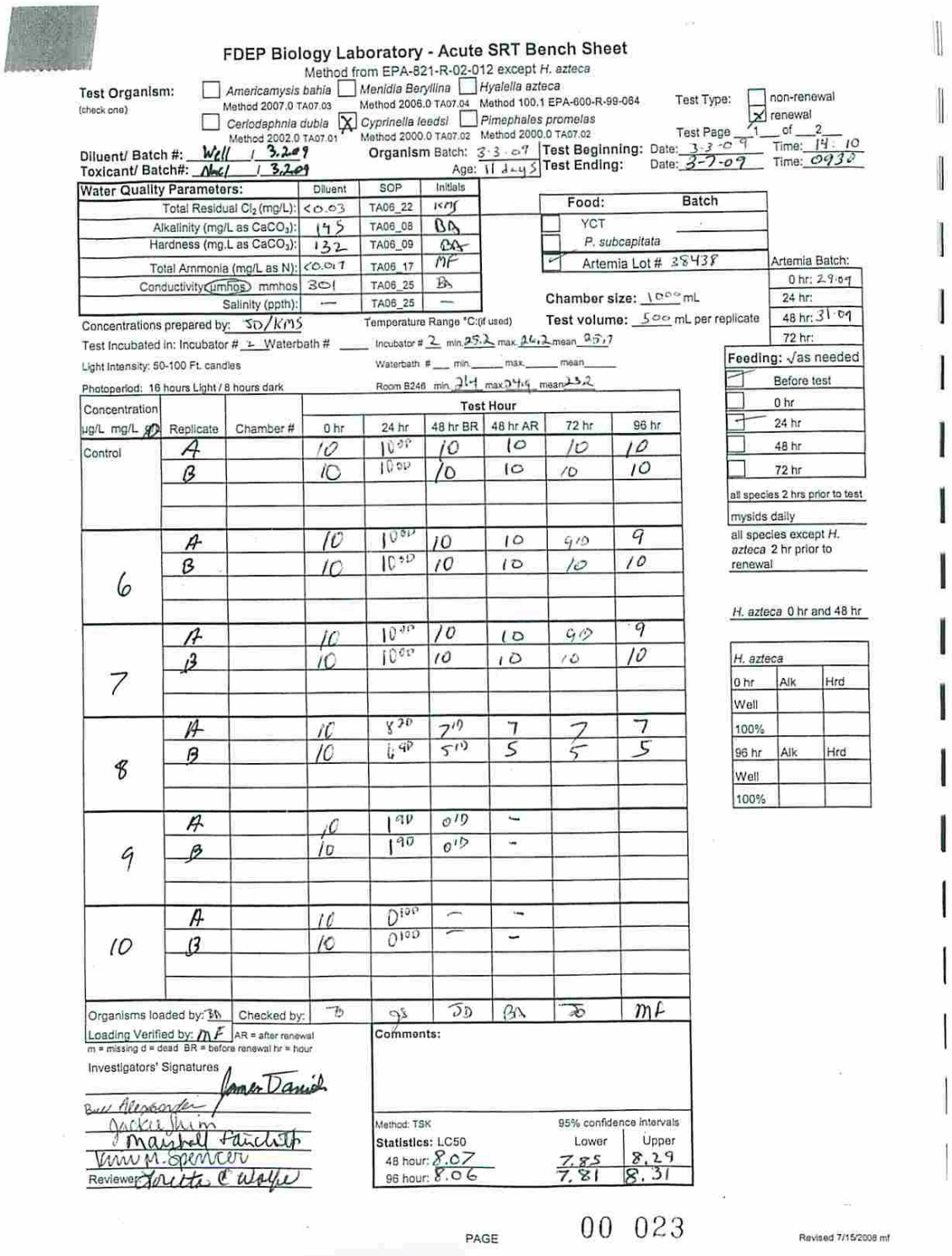
Measure/record salinity for marine tests

Comments:

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Revised 07/15/2008 MF

Appendix C. (continued)



FDEP Biology Laboratory - Acute SRT Bench Sheet

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

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

Test Type: ☐ non-renewal ☒ renewal

Test Page 1 of 2

Diluent/ Batch #: Well / 3.209
Toxicant/ Batch#: NaCl / 3.209

Organism Batch: 3-3-09 Age: 11 days

Test Beginning: Date: 3-3-09 Time: 14:10
Test Ending: Date: 3-7-09 Time: 0930

Water Quality Parameters:	Diluent	SOP	Initials
Total Residual Cl_2 (mg/L):	<0.03	TA06_22	KMS
Alkalinity (mg/L as $CaCO_3$):	175	TA06_08	BA
Hardness (mg.L as $CaCO_3$):	132	TA06_09	BA
Total Ammonia (mg/L as N):	<0.07	TA06_17	MF
Conductivity (umhos) mmhos	301	TA06_25	BA
Salinity (ppth):	—	TA06_25	—

Food:	Batch
☐ YCT	
☐ *P. subcapitata*	
☑ Artemia Lot # 38438	

Artemia Batch:
0 hr: 2-9-09
24 hr:
48 hr: 31-09
72 hr:

Chamber size: 1000 mL
Test volume: 500 mL per replicate

Concentrations prepared by: SD/KMS
Temperature Range °C:(if used)

Test Incubated in: Incubator # 2 Waterbath # ____ Incubator # 2 min. 25.2 max. 26.2 mean 25.7

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

Photoperiod: 16 hours Light / 8 hours dark Room B246 min. 21.4 max 24.9 mean 23.2

Feeding: √as needed

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

all species 2 hrs prior to test

mysids daily

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

H. azteca 0 hr and 48 hr

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

Concentration µg/L mg/L	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Control	A		10	10 SD	10	10	10	10
	B		10	10 SD	10	10	10	10
6	A		10	10 SD	10	10	9 D	9
	B		10	10 SD	10	10	10	10
7	A		10	10 SD	10	10	9 D	9
	B		10	10 SD	10	10	10	10
8	A		10	8 SD	7 D	7	7	7
	B		10	6 SD	5 D	5	5	5
9	A		10	1 SD	0 D	-		
	B		10	1 SD	0 D	-		
10	A		10	0 DSD	—	-		
	B		10	0 DSD	—	-		
Organisms loaded by: BA		Checked by:	TD	JS	DD	BA	TD	MF

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

Investigators' Signatures

James Daniel
Bill Alexander
Jackie Shim
Marshall Faircloth
Tim P. Spencer
Reviewer Loretta C Wolfe

Comments:

Method: TSK 95% confidence intervals

Statistics: LC50	Lower	Upper
48 hour: 8.07	7.85	8.29
96 hour: 8.06	7.81	8.31

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Revised 7/15/2008 mf

Appendix C. (continued)

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

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

Test Page 2 of 2

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

Test Beginning: Date: 3-3-09 Time: 14:10
Test Ending: Date: 3-7-09 Time: 0930

Test Type: ☐ non-renewal ☒ renewal

hr = hour AR = after renewal BR = before renewal

MF 3/7/09

Concentration µg/L mg/L	Replicate	Test Hour	pH (SU)	Temperature (°C)	Dissolved Oxygen (mg/L)	Conductivity µmhos mmhos	Salinity (ppth)
Control	A	0 hr	7.6	26.0	7.6	20 20.301	—
	B	24 hr	7.9	24.7	7.0	20 20.011	—
	A	48 hr BR	8.0	25.3	7.5	0.469	—
	A	48 hr AR	7.9	24.3	7.6	0.316	—
	B	72 hr	7.7	25.0	6.7	0.419	—
	A	96 hr	8.1	25.1	7.0	0.301	—
6	A	0 hr	7.7	25.7	7.1	12,18	—
	B	24 hr	8.0	24.9	6.8	12,10	—
	A	48 hr BR	8.1	25.1	7.5	12,00	—
	A	48 hr AR	7.9	25.3	7.3	12,23	—
	B	72 hr	7.9	25.5	6.4	11.63	—
	A	96 hr	8.1	25.6	6.6	12,1	—
7	A	0 hr	7.8	26.0	6.4	1406	—
	B	24 hr	8.0	24.9	6.8	13,83	—
	A	48 hr BR	8.1	25.5	6.8	13,19	—
	A	48 hr AR	8.0	25.7	7.1	14,01	—
	B	72 hr	7.9	25,7	6.2	13.64	—
	A	96 hr	8.1	25.5	6.5	13.7	—
8	A	0 hr	7.8	26.0	6.8	16,32	—
	B	24 hr	8.0	24.6	6.8	15,55	—
	A	48 hr BR	8.1	25.6	6.7	16,00	—
	A	48 hr AR	8.0	25.4	7.1	15,53	—
	B	72 hr	8.0	25,7	6.1	1541	—
	A	96 hr	8.1	25,3	6.5	15,4	—
9	A	0 hr	7.8	26,0	6.6	17,45	—
	B	24 hr	8.0	24.8	6.6	16,64	—
	A	48 hr BR	8.1	25.4	6.8	17,05	—
	—	48 hr AR	~~8.0~~ not recorded	—	—	—	—
	—	72 hr	—	—	—	—	—
	—	96 hr	—	—	—	—	—
10	A	0 hr	7.8	24.8	6.6	1961	—
	B	24 hr	8.0	25.0	6.4	13,61	—
	—	48 hr BR	—	—	—	—	—
	—	48 hr AR	—	—	—	—	—
	—	72 hr	—	—	—	—	—
	—	96 hr	—	—	—	—	—

Investigators Signatures
Jamie Darnell
Bree Alexander
Jackie Shinn
Marshall Faircloth
Kim M Spencer
Reviewed By: Laura E Wolfe

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

Measure/record salinity for marine tests

Comments:

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Revised 07/15/2008 MF

Appendix C. (continued)

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

DATE: 3-3-09 DURATION: 96 hr TOXICANT: NaCl
SPECIES: *Ceriodaphnia dubia*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
0.00	20	0
1.50	20	0
2.00	20	7
2.50	20	19
3.00	20	20
4.00	20	20

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: **LC50: 2.07**
95% LOWER CONFIDENCE: 1.95
95% UPPER CONFIDENCE: 2.19

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

DATE: 3-3-09 DURATION: 96 hr TOXICANT: NaCl
SPECIES: *Cyprinella leedsi*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
.00	20	0
6.00	20	1
7.00	20	1
8.00	20	8
9.00	20	20
10.00	20	20

SPEARMAN-KARBER TRIM: 5.00%

SPEARMAN-KARBER ESTIMATES: **LC50: 8.06**
95% LOWER CONFIDENCE: 7.81
95% UPPER CONFIDENCE: 8.31

Appendix D. Test Organism Receipt

MARINCO BIOASSAY LABORATORY
The Aquatic Toxicology Specialists

NELAP Certification # E84191

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 3/2/09

Shipped to: FDEP

P.O. No: —

Species	Quantity	Age	Brood Number	Temp.	pH	Salinity
Mysidopsis bahia	150	4 DAYS	MS090226	25°C	7.9	20‰
Menidia beryllina	150	12 DAYS	SS090218	25°C	7.9	20‰
						Hardness
✓ *Cyprinella leedsi*	250	10 DAYS	CL090220	25°C	7.9	80mg/L
✓ *Pimephales promelas*	150	7 DAYS	FM090223	25°C	7.9	80mg/L

Packed by: [signature]

Shipped Via: FedEx

Notes: _____

Thank you for your order.

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

Appendix E. Chemical Analyses performed on the effluent from the OCUD-Eastern Water Reclamation Facility Plant Outfall D-001, sampled on March 2, 2009.

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
3/2/2009 9:00	Effluent	AGP/LN	Algal Growth Potential	61.5		mg DryWt/L	0.3	0.9
3/2/2009 9:00	Effluent	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.63	I	ug/L	0.24	0.71
3/2/2009 9:00	Effluent	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day	0.2	UJ	mg/L	0.2	2
3/2/2009 9:00	Effluent	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	1.9		ug/L	0.55	1.7
3/2/2009 9:00	Effluent	Toxicology	Bioassay-Acute-Def-FW-Fish, LC50	100	L	LC50		
3/2/2009 9:00	Effluent	Toxicology	Bioassay-Acute-Def-FW-C.dubia, LC50	100	L	LC50		
3/2/2009 9:00	Effluent	Metals	Selenium	0.2	U	ug/L	0.2	0.8
3/2/2009 9:00	Effluent	Metals	Copper	0.74		ug/L	0.5	0.5
3/2/2009 9:00	Effluent	Metals	Aluminum	60	U	ug/L	60	240
3/2/2009 9:00	Effluent	Metals	Lead	0.2	U	ug/L	0.2	0.8
3/2/2009 9:00	Effluent	Metals	Silver	0.01	U	ug/L	0.01	0.04
3/2/2009 9:00	Effluent	Metals	Cadmium	0.03	U	ug/L	0.03	0.12
3/2/2009 9:00	Effluent	Metals	Magnesium	8.19		mg/L	0.04	0.16
3/2/2009 9:00	Effluent	Metals	Beryllium	0.025	U	ug/L	0.025	0.1
3/2/2009 9:00	Effluent	Metals	Arsenic	0.49	I	ug/L	0.25	1
3/2/2009 9:00	Effluent	Metals	Calcium	41		mg/L	0.075	0.3
3/2/2009 9:00	Effluent	Metals	Nickel	1.04		ug/L	0.25	1
3/2/2009 9:00	Effluent	Metals	Zinc	22		ug/L	5	20
3/2/2009 9:00	Effluent	Metals	Chromium	0.3	U	ug/L	0.3	1.2
3/2/2009 9:00	Effluent	Metals	Iron	30	U	ug/L	30	120
3/2/2009 9:00	Effluent	Nutrients	O-Phosphate-P	0.1		mg P/L	0.008	0.02
3/2/2009 9:00	Effluent	Nutrients	Kjeldahl Nitrogen	1.3		mg N/L	0.08	0.2
3/2/2009 9:00	Effluent	Nutrients	Ammonia-N	0.017	I	mg N/L	0.01	0.02
3/2/2009 9:00	Effluent	Nutrients	Cyanide	0.005	U	mg CN/L	0.005	0.02
3/2/2009 9:00	Effluent	Nutrients	Total-P	0.12	A	mg P/L	0.008	0.02
3/2/2009 9:00	Effluent	Nutrients	NO2NO3-N	1.1		mg N/L	0.04	0.1
3/2/2009 9:00	Effluent	Nutrients	TSS	4	I	mg/L	4	16
3/2/2009 9:00	Effluent	Pesticides	Alachlor	0.6	U	ug/L	0.6	2.4
3/2/2009 9:00	Effluent	Pesticides	Atrazine	0.05	U	ug/L	0.05	0.2
3/2/2009 9:00	Effluent	Pesticides	Chlorpyrifos Ethyl	0.05	U	ug/L	0.05	0.2
3/2/2009 9:00	Effluent	Pesticides	Fonofos	0.1	U	ug/L	0.1	0.4
3/2/2009 9:00	Effluent	Pesticides	Malathion	0.15	U	ug/L	0.15	0.6
3/2/2009 9:00	Effluent	Pesticides	Naled	0.8	U	ug/L	0.8	3.2

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
3/2/2009 9:00	Effluent	Pesticides	Beta-BHC	0.01	U	ug/L	0.01	0.04
3/2/2009 9:00	Effluent	Pesticides	DDE-p,p'	0.02	U	ug/L	0.02	0.08
3/2/2009 9:00	Effluent	Pesticides	Hexazinone	0.1	U	ug/L	0.1	0.4
3/2/2009 9:00	Effluent	Pesticides	Endrin	0.05	U	ug/L	0.05	0.2
3/2/2009 9:00	Effluent	Pesticides	Azinphos Methyl	0.2	UJ	ug/L	0.2	0.8
3/2/2009 9:00	Effluent	Pesticides	Diazinon	0.05	U	ug/L	0.05	0.2
3/2/2009 9:00	Effluent	Pesticides	Fenamiphos	0.2	U	ug/L	0.2	0.8
3/2/2009 9:00	Effluent	Pesticides	Metribuzin	0.1	U	ug/L	0.1	0.4
3/2/2009 9:00	Effluent	Pesticides	Parathion Ethyl	0.15	U	ug/L	0.15	0.6
3/2/2009 9:00	Effluent	Pesticides	Delta-BHC	0.01	U	ug/L	0.01	0.04
3/2/2009 9:00	Effluent	Pesticides	Dieldrin	0.02	U	ug/L	0.02	0.08
3/2/2009 9:00	Effluent	Pesticides	Heptachlor Epoxide	0.02	U	ug/L	0.02	0.08
3/2/2009 9:00	Effluent	Pesticides	Aldrin	0.01	U	ug/L	0.01	0.04
3/2/2009 9:00	Effluent	Pesticides	Chlordane	0.2	U	ug/L	0.2	0.8
3/2/2009 9:00	Effluent	Pesticides	Butylate	0.2	U	ug/L	0.2	0.8
3/2/2009 9:00	Effluent	Pesticides	Parathion Methyl	0.1	U	ug/L	0.1	0.4
3/2/2009 9:00	Effluent	Pesticides	Phorate	0.05	U	ug/L	0.05	0.2
3/2/2009 9:00	Effluent	Pesticides	Prometryn	0.15	U	ug/L	0.15	0.6
3/2/2009 9:00	Effluent	Pesticides	Alpha-BHC	0.01	U	ug/L	0.01	0.04
3/2/2009 9:00	Effluent	Pesticides	DDT-p,p'	0.03	U	ug/L	0.03	0.12
3/2/2009 9:00	Effluent	Pesticides	Endosulfan I	0.02	U	ug/L	0.02	0.08
3/2/2009 9:00	Effluent	Pesticides	Endosulfan II	0.02	U	ug/L	0.02	0.08
3/2/2009 9:00	Effluent	Pesticides	Endrin Aldehyde	0.02	UJ	ug/L	0.02	0.08
3/2/2009 9:00	Effluent	Pesticides	Gamma-BHC	0.01	U	ug/L	0.01	0.04
3/2/2009 9:00	Effluent	Pesticides	Methoxychlor	0.05	UJ	ug/L	0.05	0.2
3/2/2009 9:00	Effluent	Pesticides	Toxaphene	0.75	U	ug/L	0.75	3
3/2/2009 9:00	Effluent	Pesticides	Ametryn	0.05	U	ug/L	0.05	0.2
3/2/2009 9:00	Effluent	Pesticides	Bromacil	0.2	U	ug/L	0.2	0.8
3/2/2009 9:00	Effluent	Pesticides	Chlorpyrifos Methyl	0.1	U	ug/L	0.1	0.4
3/2/2009 9:00	Effluent	Pesticides	Metalaxyl	0.25	U	ug/L	0.25	1
3/2/2009 9:00	Effluent	Pesticides	Mevinphos	0.2	U	ug/L	0.2	0.8
3/2/2009 9:00	Effluent	Pesticides	Norflurazon	0.15	U	ug/L	0.15	0.6
3/2/2009 9:00	Effluent	Pesticides	Simazine	0.05	U	ug/L	0.05	0.2
3/2/2009 9:00	Effluent	Pesticides	Endosulfan Sulfate	0.02	U	ug/L	0.02	0.08

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
3/2/2009 9:00	Effluent	Pesticides	Heptachlor	0.01	U	ug/L	0.01	0.04
3/2/2009 9:00	Effluent	Pesticides	Ethion	0.05	U	ug/L	0.05	0.2
3/2/2009 9:00	Effluent	Pesticides	Ethoprop	0.1	U	ug/L	0.1	0.4
3/2/2009 9:00	Effluent	Pesticides	Metolachlor	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Effluent	Pesticides	DDD-p,p'	0.02	U	ug/L	0.02	0.08
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Dibromochloromethane	0.2	U	ug/L	0.2	1
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Vinyl chloride	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Effluent	Priority Organic Pollutants	2,6-Dinitrotoluene	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Fluoranthene	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Hexachlorobutadiene	2.8	U	ug/L	2.8	11
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Phenol	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	1,1,2,2-Tetrachloroethane	0.5	UJ	ug/L	0.5	2
3/2/2009 9:00	Effluent	Priority Organic Pollutants	1,4-Dichlorobenzene	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Chlorobenzene	0.2	U	ug/L	0.2	1
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Acenaphthylene	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Benzo(k)fluoranthene	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.8	U	ug/L	2.8	11
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Phenanthrene	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	1,1,2-Trichloroethane	0.2	U	ug/L	0.2	1
3/2/2009 9:00	Effluent	Priority Organic Pollutants	1,1-Dichloroethene	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Chloroethane	0.5	UJ	ug/L	0.5	2
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Chloroform	0.38	I	ug/L	0.2	1
3/2/2009 9:00	Effluent	Priority Organic Pollutants	trans-1,3-Dichloropropene	0.2	U	ug/L	0.2	1
3/2/2009 9:00	Effluent	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Acenaphthene	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Benzo(a)pyrene	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Butyl benzyl phthalate	4.7	U	ug/L	4.7	19
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Hexachlorobenzene	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	1,2-Dichlorobenzene	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Effluent	Priority Organic Pollutants	1,2-Dichloropropane	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Bromoform	0.5	U	ug/L	0.5	2

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
3/2/2009 9:00	Effluent	Priority Organic Pollutants	cis-1,3-Dichloropropene	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Effluent	Priority Organic Pollutants	2,4-Dinitrotoluene	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	2-Chlorophenol	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.8	U	ug/L	2.8	11
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	14	U	ug/L	14	57
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Dimethyl phthalate	9.5	U	ug/L	9.5	38
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Isophorone	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Naphthalene	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	1,2-Dichloroethane	0.2	U	ug/L	0.2	1
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Trichlorofluoromethane	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Diethyl phthalate	2.8	U	ug/L	2.8	11
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Benzene	0.5	U	ug/L	0.5	1
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Bromodichloromethane	0.2	U	ug/L	0.2	1
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Chloromethane	1	U	ug/L	1	4
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Toluene	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Effluent	Priority Organic Pollutants	2,4-Dichlorophenol	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	2,4-Dimethylphenol	9.5	U	ug/L	9.5	38
3/2/2009 9:00	Effluent	Priority Organic Pollutants	2-Chloronaphthalene	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.8	U	ug/L	2.8	11
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Chrysene	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Methylene chloride	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Effluent	Priority Organic Pollutants	trans-1,2-Dichloroethene	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Effluent	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.6
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Benzidine	95	U	ug/L	95	380
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Benzo(a)anthracene	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Benzo(b)fluoranthene	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Hexachloroethane	2.8	U	ug/L	2.8	11
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.6
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Pyrene	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	1,1,1-Trichloroethane	0.2	U	ug/L	0.2	1
3/2/2009 9:00	Effluent	Priority Organic Pollutants	1,1-Dichloroethane	0.2	U	ug/L	0.2	1
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Bromomethane	5	U	ug/L	5	20

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Carbon tetrachloride	0.2	U	ug/L	0.2	1
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Ethylbenzene	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Tetrachloroethene	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Trichloroethene	0.2	UJ	ug/L	0.2	1
3/2/2009 9:00	Effluent	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	2,4-Dinitrophenol	14	U	ug/L	14	57
3/2/2009 9:00	Effluent	Priority Organic Pollutants	2-Nitrophenol	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38	UJ	ug/L	38	150
3/2/2009 9:00	Effluent	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	57
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Anthracene	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Di-n-butyl phthalate	4.7	U	ug/L	4.7	19
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Di-n-octyl phthalate	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Fluorene	0.95	U	ug/L	0.95	3.8
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.8	U	ug/L	2.8	11
3/2/2009 9:00	Effluent	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.6
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.6
3/2/2009 9:00	Effluent	Priority Organic Pollutants	Pentachlorophenol	2.8	UJ	ug/L	2.8	11
3/2/2009 9:00	Effluent	Priority Organic Pollutants	1,3-Dichlorobenzene	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Effluent	Field Parameter	Temperature	10.67		C		
3/2/2009 9:00	Effluent	Field Parameter	Total Residual Chlorine	0		mg/L		
3/2/2009 9:00	Effluent	Field Parameter	Specific Conductance	677.4		umhos/cm		
3/2/2009 9:00	Effluent	Field Parameter	Sample Depth	0.2		m		
3/2/2009 9:00	Effluent	Field Parameter	Dissolved Oxygen	10.07		mg/L		
3/2/2009 9:00	Effluent	Field Parameter	pH	6.86				
3/2/2009 9:30	Equipment Blank	Metals	Iron	30	U	ug/L	30	120
3/2/2009 9:30	Equipment Blank	Metals	Magnesium	0.04	U	mg/L	0.04	0.16
3/2/2009 9:30	Equipment Blank	Metals	Beryllium	0.025	U	ug/L	0.025	0.1
3/2/2009 9:30	Equipment Blank	Metals	Cadmium	0.03	U	ug/L	0.03	0.12
3/2/2009 9:30	Equipment Blank	Metals	Copper	0.5	U	ug/L	0.5	0.5
3/2/2009 9:30	Equipment Blank	Metals	Silver	0.01	U	ug/L	0.01	0.04
3/2/2009 9:30	Equipment Blank	Metals	Selenium	0.2	U	ug/L	0.2	0.8
3/2/2009 9:30	Equipment Blank	Metals	Arsenic	0.25	U	ug/L	0.25	1

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
3/2/2009 9:30	Equipment Blank	Metals	Chromium	0.3	U	ug/L	0.3	1.2
3/2/2009 9:30	Equipment Blank	Metals	Zinc	5	U	ug/L	5	20
3/2/2009 9:30	Equipment Blank	Metals	Aluminum	60	U	ug/L	60	240
3/2/2009 9:30	Equipment Blank	Metals	Lead	0.2	U	ug/L	0.2	0.8
3/2/2009 9:30	Equipment Blank	Metals	Nickel	0.3	I	ug/L	0.25	1
3/2/2009 9:30	Equipment Blank	Metals	Calcium	0.075	U	mg/L	0.075	0.3
3/2/2009 9:30	Equipment Blank	Nutrients	Ammonia-N	0.01	U	mg N/L	0.01	0.02
3/2/2009 9:30	Equipment Blank	Nutrients	Cyanide	0.005	U	mg CN/L	0.005	0.02
3/2/2009 9:30	Equipment Blank	Nutrients	Total-P	0.004	U	mg P/L	0.004	0.01
3/2/2009 9:30	Equipment Blank	Nutrients	Kjeldahl Nitrogen	0.08	U	mg N/L	0.08	0.2
3/2/2009 9:30	Equipment Blank	Nutrients	NO2NO3-N	0.004	U	mg N/L	0.004	0.01
3/2/2009 9:30	Equipment Blank	Nutrients	O-Phosphate-P	0.004	U	mg P/L	0.004	0.01
3/2/2009 9:30	Equipment Blank	Pesticides	Atrazine	0.047	U	ug/L	0.047	0.19
3/2/2009 9:30	Equipment Blank	Pesticides	Endosulfan II	0.019	U	ug/L	0.019	0.076
3/2/2009 9:30	Equipment Blank	Pesticides	Chlordane	0.19	U	ug/L	0.19	0.76
3/2/2009 9:30	Equipment Blank	Pesticides	Gamma-BHC	0.0094	U	ug/L	0.0094	0.038
3/2/2009 9:30	Equipment Blank	Pesticides	Bromacil	0.19	U	ug/L	0.19	0.76
3/2/2009 9:30	Equipment Blank	Pesticides	Fenamiphos	0.19	U	ug/L	0.19	0.76
3/2/2009 9:30	Equipment Blank	Pesticides	Fonofos	0.094	U	ug/L	0.094	0.38
3/2/2009 9:30	Equipment Blank	Pesticides	Malathion	0.14	U	ug/L	0.14	0.56
3/2/2009 9:30	Equipment Blank	Pesticides	Endosulfan I	0.019	U	ug/L	0.019	0.076
3/2/2009 9:30	Equipment Blank	Pesticides	Endosulfan Sulfate	0.019	U	ug/L	0.019	0.076
3/2/2009 9:30	Equipment Blank	Pesticides	DDE-p,p'	0.019	U	ug/L	0.019	0.076
3/2/2009 9:30	Equipment Blank	Pesticides	Methoxychlor	0.047	UJ	ug/L	0.047	0.19
3/2/2009 9:30	Equipment Blank	Pesticides	Toxaphene	0.71	U	ug/L	0.71	2.8
3/2/2009 9:30	Equipment Blank	Pesticides	Azinphos Methyl	0.19	UJ	ug/L	0.19	0.76
3/2/2009 9:30	Equipment Blank	Pesticides	Ethoprop	0.094	U	ug/L	0.094	0.38
3/2/2009 9:30	Equipment Blank	Pesticides	Prometryn	0.14	U	ug/L	0.14	0.56
3/2/2009 9:30	Equipment Blank	Pesticides	Alpha-BHC	0.0094	U	ug/L	0.0094	0.038
3/2/2009 9:30	Equipment Blank	Pesticides	Delta-BHC	0.0094	U	ug/L	0.0094	0.038
3/2/2009 9:30	Equipment Blank	Pesticides	Endrin	0.047	U	ug/L	0.047	0.19
3/2/2009 9:30	Equipment Blank	Pesticides	Mevinphos	0.19	U	ug/L	0.19	0.76
3/2/2009 9:30	Equipment Blank	Pesticides	Dieldrin	0.019	U	ug/L	0.019	0.076
3/2/2009 9:30	Equipment Blank	Pesticides	Endrin Aldehyde	0.019	UJ	ug/L	0.019	0.076

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
3/2/2009 9:30	Equipment Blank	Pesticides	Alachlor	0.57	U	ug/L	0.57	2.3
3/2/2009 9:30	Equipment Blank	Pesticides	Parathion Methyl	0.094	U	ug/L	0.094	0.38
3/2/2009 9:30	Equipment Blank	Pesticides	Beta-BHC	0.0094	U	ug/L	0.0094	0.038
3/2/2009 9:30	Equipment Blank	Pesticides	Ametryn	0.047	U	ug/L	0.047	0.19
3/2/2009 9:30	Equipment Blank	Pesticides	Butylate	0.19	U	ug/L	0.19	0.76
3/2/2009 9:30	Equipment Blank	Pesticides	Chlorpyrifos Methyl	0.094	U	ug/L	0.094	0.38
3/2/2009 9:30	Equipment Blank	Pesticides	Ethion	0.047	U	ug/L	0.047	0.19
3/2/2009 9:30	Equipment Blank	Pesticides	Metalaxyl	0.24	U	ug/L	0.24	0.96
3/2/2009 9:30	Equipment Blank	Pesticides	Norflurazon	0.14	U	ug/L	0.14	0.56
3/2/2009 9:30	Equipment Blank	Pesticides	Parathion Ethyl	0.14	U	ug/L	0.14	0.56
3/2/2009 9:30	Equipment Blank	Pesticides	Phorate	0.047	U	ug/L	0.047	0.19
3/2/2009 9:30	Equipment Blank	Pesticides	Simazine	0.047	U	ug/L	0.047	0.19
3/2/2009 9:30	Equipment Blank	Pesticides	DDD-p,p'	0.019	U	ug/L	0.019	0.076
3/2/2009 9:30	Equipment Blank	Pesticides	DDT-p,p'	0.028	U	ug/L	0.028	0.11
3/2/2009 9:30	Equipment Blank	Pesticides	Heptachlor	0.0094	U	ug/L	0.0094	0.038
3/2/2009 9:30	Equipment Blank	Pesticides	Heptachlor Epoxide	0.019	U	ug/L	0.019	0.076
3/2/2009 9:30	Equipment Blank	Pesticides	Chlorpyrifos Ethyl	0.047	U	ug/L	0.047	0.19
3/2/2009 9:30	Equipment Blank	Pesticides	Hexazinone	0.094	U	ug/L	0.094	0.38
3/2/2009 9:30	Equipment Blank	Pesticides	Metolachlor	0.47	U	ug/L	0.47	1.9
3/2/2009 9:30	Equipment Blank	Pesticides	Metribuzin	0.094	U	ug/L	0.094	0.38
3/2/2009 9:30	Equipment Blank	Pesticides	Naled	0.75	U	ug/L	0.75	3
3/2/2009 9:30	Equipment Blank	Pesticides	Aldrin	0.0094	U	ug/L	0.0094	0.038
3/2/2009 9:30	Equipment Blank	Pesticides	Diazinon	0.047	U	ug/L	0.047	0.19
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Diethyl phthalate	2.8	U	ug/L	2.8	11
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	1,1,2-Trichloroethane	0.2	U	ug/L	0.2	1
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Chlorobenzene	0.2	U	ug/L	0.2	1
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Trichloroethene	0.2	UJ	ug/L	0.2	1
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Trichlorofluoromethane	0.5	U	ug/L	0.5	2
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	2,4-Dimethylphenol	9.4	U	ug/L	9.4	38
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.8	U	ug/L	2.8	11

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	14	U	ug/L	14	57
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.8	U	ug/L	2.8	11
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	1,1,1-Trichloroethane	0.2	U	ug/L	0.2	1
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	1,2-Dichloropropane	0.5	U	ug/L	0.5	2
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Benzene	0.5	U	ug/L	0.5	1
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Chloromethane	1	U	ug/L	1	4
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Toluene	0.5	U	ug/L	0.5	2
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	trans-1,3-Dichloropropene	0.2	U	ug/L	0.2	1
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.6
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	57
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Butyl benzyl phthalate	4.7	U	ug/L	4.7	19
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Naphthalene	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Phenol	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	1,1-Dichloroethane	0.2	U	ug/L	0.2	1
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	1,4-Dichlorobenzene	0.5	U	ug/L	0.5	2
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Dibromochloromethane	0.2	U	ug/L	0.2	1
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Vinyl chloride	0.5	U	ug/L	0.5	2
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Acenaphthylene	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Fluoranthene	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Hexachlorobutadiene	2.8	U	ug/L	2.8	11
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Hexachloroethane	2.8	U	ug/L	2.8	11
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Chloroethane	0.5	UJ	ug/L	0.5	2
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	2-Chlorophenol	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Anthracene	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Dimethyl phthalate	9.4	U	ug/L	9.4	38
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Fluorene	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Isophorone	0.94	U	ug/L	0.94	3.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.6
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	1,1-Dichloroethene	0.5	U	ug/L	0.5	2
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Bromodichloromethane	0.2	U	ug/L	0.2	1
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Bromoform	0.5	U	ug/L	0.5	2
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Chloroform	0.2	U	ug/L	0.2	1
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Tetrachloroethene	0.5	U	ug/L	0.5	2
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	trans-1,2-Dichloroethene	0.5	U	ug/L	0.5	2
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	2,4-Dinitrophenol	14	U	ug/L	14	57
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	2-Nitrophenol	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.8	U	ug/L	2.8	11
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Hexachlorobenzene	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	1,2-Dichloroethane	0.2	U	ug/L	0.2	1
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Bromomethane	5	UJ	ug/L	5	20
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Methylene chloride	0.5	U	ug/L	0.5	2
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38	UJ	ug/L	38	150
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Pyrene	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	1,1,2,2-Tetrachloroethane	0.5	UJ	ug/L	0.5	2
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	1,2-Dichlorobenzene	0.5	U	ug/L	0.5	2
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	1,3-Dichlorobenzene	0.5	U	ug/L	0.5	2
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Carbon tetrachloride	0.2	U	ug/L	0.2	1
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Ethylbenzene	0.5	U	ug/L	0.5	2
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	cis-1,3-Dichloropropene	0.5	U	ug/L	0.5	2
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Acenaphthene	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Benzidine	94	U	ug/L	94	380
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Chrysene	0.94	U	ug/L	0.94	3.8
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Di-n-butyl phthalate	4.7	U	ug/L	4.7	19
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.8	U	ug/L	2.8	11

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.6
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.6
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Pentachlorophenol	2.8	UJ	ug/L	2.8	11
3/2/2009 9:30	Equipment Blank	Priority Organic Pollutants	Phenanthrene	0.94	U	ug/L	0.94	3.8
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	1,1,2,2-Tetrachloroethane	0.5	UJ	ug/L	0.5	2
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	Chloroethane	0.5	UJ	ug/L	0.5	2
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	Ethylbenzene	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	1,1,2-Trichloroethane	0.2	U	ug/L	0.2	1
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	Methylene chloride	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	Trichlorofluoromethane	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	Chlorobenzene	0.2	U	ug/L	0.2	1
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	Chloromethane	1	U	ug/L	1	4
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	Dibromochloromethane	0.2	U	ug/L	0.2	1
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	Toluene	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	trans-1,3-Dichloropropene	0.2	U	ug/L	0.2	1
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	1,1,1-Trichloroethane	0.2	U	ug/L	0.2	1
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	1,1-Dichloroethene	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	1,2-Dichlorobenzene	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	1,3-Dichlorobenzene	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	Bromomethane	5	UJ	ug/L	5	20
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	Carbon tetrachloride	0.2	U	ug/L	0.2	1
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	1,2-Dichloroethane	0.2	U	ug/L	0.2	1
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	1,2-Dichloropropane	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	1,1-Dichloroethane	0.2	U	ug/L	0.2	1
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	Bromoform	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	Trichloroethene	0.2	UJ	ug/L	0.2	1
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	cis-1,3-Dichloropropene	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	Chloroform	0.2	U	ug/L	0.2	1
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	Tetrachloroethene	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	trans-1,2-Dichloroethene	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	1,4-Dichlorobenzene	0.5	U	ug/L	0.5	2
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	Benzene	0.5	U	ug/L	0.5	1
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	Bromodichloromethane	0.2	U	ug/L	0.2	1
3/2/2009 9:00	Trip Blank	Priority Organic Pollutants	Vinyl chloride	0.5	U	ug/L	0.5	2

Appendix F. Bioassay Instruments

Test Dates: March 3 - 7, 2009

Test ID: OCUD/Eastern WRF

SRT Dates: March 3 - 7, 2009

METER / DEVICE	ID	SOP	Parameter	Method	√ used
YSI Model 58 Dissolved Oxygen Meter	90H018262	TA06_04	Dissolved Oxygen	SM 4500 O G	√
Accumet AR-10 pH Meter	93312105	TA06_23	pH	SM 4500 H^+	√
Mettler-Toledo SevenMulti Conductivity Meter	SN 1225117049 Probe H04257	TA06_25	Conductivity Salinity	SM 2510 B SM 2520 B	√
Denver Model 225 ISE with ammonia probe	SN K01377	TA06_17	Ammonia	SM 4500 NH3 F	√
Thermometer (DO probe)	YSI 5750 SN 05J1720	TA06_05	Temperature	SM-2530B modified DEP SOP-001/01 FT1400	√
Hach Pocket Colorimeter II	05050C026378	TA06_22	Total Residual Chlorine	EPA 330.5 SM 4500 CL G	√
Alkalinity (Hach Kit)	No SN	TA06_08	Alkalinity	SM 2320 B	√
Hardness (Hach Kit)	No SN	TA06_09	Hardness	SM 2340 C	√
OHAUS Balance 250D	1125481084	TA06_21 TA06_27	Weight	-	√
S-Weights	BIO-S-WEIGHTS-01	NA	Balance check	-	

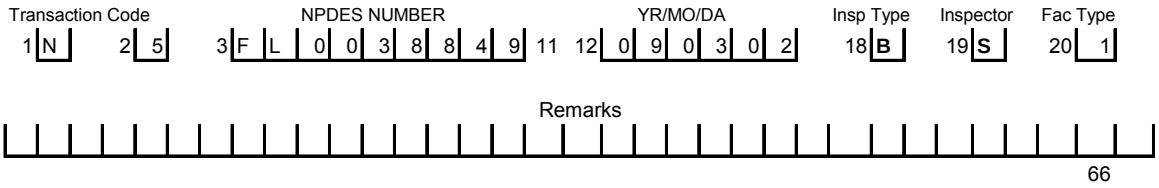
SM-2530B modified to allow use electronic and non-mercury filled thermometers.
Insert other device information in blank spaces(if used). Test ID = Facility or SRTs (acute SRT--Chronic SRT)

Comments: Form filled out by M. Faircloth 4/17/2009

V 1.4 8/21/08 BA

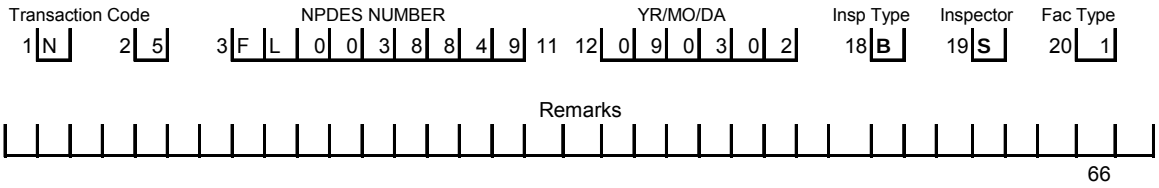
The Bioassay of the OCUD-Eastern Wastewater Reclamation Facility effluent sampled on March 2, 2009. NPDES #FL0038849.

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



The Priority Pollutants Analysis of the OCUD-Eastern Wastewater Reclamation Facility effluent sampled on March 2, 2009. NPDES #FL0038849.

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



Biological Analyses of the OCUD-Eastern Wastewater Reclamation Facility effluent sampled on March 2, 2009. NPDES #FL0038849.

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

