

Bioassays of

Wheelabrator North Broward Resource Recovery Facility

Broward County

NPDES #FLS267520

Sampled June 12, 2006

August 2006

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

Wheelabrator North Broward Resource Recovery Facility, 2600 N.W. 48th Street, Pompano Beach, Broward County, Florida, NPDES #FLS267520. Effluent samples for this facility were collected on June 12, 2006.

Introduction

The Wheelabrator North Broward Resource Recovery Facility is a mass-burn waste-to-energy plant capable of processing 2,250 tons of non-hazardous municipal solid waste per day. At full capacity, the plant can generate 60 megawatts of electrical power. Electricity generated at the facility is sold to Florida Power and Light Company. The facility does not have a permitted design flow but for reference purposes, the discharge from outfall D-001 may reach a peak rate of 15.5 cubic feet per second (CFS) during a 25-year/72-hour storm event. There was no discharge reported on the facility's Discharge Monitoring Report (DMR) from May 2005-April 2006. The refuse combustion and energy production process components are all located onsite, whereas the incinerator ash residue is disposed of at the adjacent Central Sanitary Landfill property located immediately south of the facility. The resource recovery facility and landfill are physically separated and operated by different entities.

All stormwater (stormwater associated with industrial activity [SWAWIA] and non-SWAWIA) at the facility is collected in two lined stormwater detention ponds (western and eastern detention ponds). The detention ponds are in series and have a total estimated capacity of 4.5 million gallons (MG). All process wastewaters and contaminated stormwater are captured in a central wastewater storage tank for various plant reuse, e.g., ash quenching and flue gas cleaning.

Treatment of stormwater is attained primarily by normal settling, natural degradation, dilution, and biological breakdown and uptake of pollutants, as stormwater is conveyed from point of generation to the final detention bodies where it remains in storage until it is actually released from the outfall. The outfall has a baffle system for final removal of oil, grease, and other floating material. Outfall D-001 is located at the eastern end of the eastern 3.2 MG stormwater detention pond approximately at latitude 26º 17' 16" N, longitude 80º 09' 28" W. The discharge pipe from this outfall structure extends easterly, goes beneath the elevated roadway along the eastern property boundary, and emerges at a concrete lined drainage ditch located inside the adjacent landfill complex. The ditch entry point is near the beginning of Broward County's C-3 Canal, a Class III fresh waterbody, which flows southerly for several miles and eventually empties into the Class III freshwater C-14 Canal along Atlantic Boulevard.

There are no Administrative Orders (AO) or Consent Orders (CO) for this facility. The facility has no mixing zones. During the past year, there have been no violations reported on the facility's DMR. (Facility information provided by Paul Sze and Val deOlloqui of FDEP Southeast District.)

Methods

Samples were collected from the STM-01 NPDES sampling point for Outfall D-001 by Terry Davis (FDEP Southeast District) following DEP-SOP-001/01 FS 2400 Wastewater Sampling. The facility was not discharging at the time of 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 test were performed following internal DEP SOPs TA07_01, TA07_02, and TA08_01 through TA08_09. All internal DEP SOPs are available on the web at: http://www.floridadep.org/labs/cgi-bin/sop/biosop.asp. While the 48-hour acute screening toxicity test does not reflect the permit required conditions, the Department uses it to provide reasonable assurance that the facility does not adversely affect waters of the state.

The pH of the bioassay sample was adjusted with hydrochloric acid from the original sample pH of 9.2 to a pH of 7.0.

Toxicity Test Results

Tests were performed June 13 - 15, 2006.

Ceriodaphnia dubia 48-hour acute screening bioassay –	LC_{50} > 100%, 5% mortality* in 100% sample at 48 hours
Cyprinella leedsi 48-hour acute screening bioassay –	LC_{50} > 100%, 20% mortality* in 100% sample at 48 hours

The bioassay sample was not acutely toxic to the *C. dubia* test organisms, but was slightly toxic to the *C. leedsi* 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 less than the laboratory method detection limit (MDL) of 0.30 mg dry wt/L of the unicellular green alga, *Pseudokirchneriella subcapitata*, formerly known as *Selenastrum capricornutum*. Raschke and Shultz (1987) found that AGP values above 5.0 mg dry weight/L represent a "problem" threshold for fresh receiving waters, implying nutrient enrichment. The analytical chemistry results for total nitrogen and total phosphorus suggests that the effluent is co-limited by both nitrogen and phosphorus. The predicted AGP based on inorganic nitrogen concentrations was 0.836 (±20%) mg dry wt/L. Orthophosphate (OP) was not detected; therefore, AGP could not be predicted for OP (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 0.022 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 and barium were detected in the effluent. Arsenic, cadmium, copper, iron, and zinc were detected in the effluent at levels that comply with Class III fresh water quality criteria (62-302.530, F.A.C.). Atrazine, chromium, nickel, and silver were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL). The effluent lead concentration (13.5 µg/L) exceeded the Class III freshwater quality criterion for lead (2.91 µg/L; 62-302.530(40), F.A.C.), but this exceedance was not a violation because the facility was not discharging.

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 Outfall D-001 for this facility on June 12, 2006 was not acutely toxic to *C. dubia*, but was slightly toxic to the *C. leedsi* test organisms during the 48-hour acute screen bioassays. The effluent AGP result was less than the "problem" threshold for fresh receiving waters. Effluent lead concentration exceeded Class III freshwater criteria but this exceedance was not a violation because the facility was not discharging.

Literature Cited

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

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

Table 1. Measured and predicted algal growth potential (AGP; mg dry weight/L) of the freshwater species Pseudokirchneriella subcapitata *for total soluble nitrogen (TSIN), total nitrogen (TN), total phosphorus (TP), and ortho phosphate (OP) limitation and ratios of nitrogen to phosphorus for samples collected from Wheelabrator North Broward Resource Recovery Facility on June 12, 2006.*

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 Samples	0.300 U	1.1 ± 0.22	NC	148.47 ± 29.694	120.4 ± 24.08	0.03	13.95

NC- Not calculable because orthophosphate was not detected in the sample
U - Material analyzed for but not detected; value reported is the minumum detection limit

Table 2. Effluent limits, Class III Freshwater Criteria, and chemical data for samples collected from Wheelabrator North Broward Resource Recovery Facility on June 12, 2006.

Wheelabrator North Broward NPDES# FLS267520	Class III Freshwater Stds	Effluent Limits	Effluent Samples
Organic Constituents (µg/L)			
Atrazine	-	-	0.13 IJ
Cyanide (mg/L)	≤ 0.0052	Report	0.005 U
Metals (µg/L unless otherwise noted)			
Aluminum	-	-	596
Arsenic	≤ 50	Report	4.7
Barium	-	Report	35.8
Cadmium	≤ 1.1 b	Report	0.39
Calcium (mg/L)	-	-	33.5
Chromium-III	≤ 81.3 b	Report	0.52 I
Copper	≤ 8.8 b	-	4.88
Iron	≤ 1,000	-	174
Lead	≤ 2.9 b	Report	13.5
Magnesium (mg/L)	-	Report	2.3
Mercury	≤ 0.012	Report	
Nickel	≤ 49.1 b	-	3.4 I
Selenium	≤ 5	Report	0.5 U
Silver	≤ 0.07	Report	0.03 I
Zinc	≤ 112.8 b	-	39.3
Nutrients (mg/L)			
Ortho-phosphate	-	-	0.004 U
Total Phosphorus	-	-	0.28
Ammonia	-	-	0.022
Unionized Ammonia	≤ 0.02	-	≤ 0.02 c
Nitrate+Nitrite	-	-	0.007 f I
Total Kjeldahl Nitrogen	-	Report	3.9
Organic Nitrogen	-	-	3.88 c
Total Nitrogen	-	-	3.91 c
General Physical and Chemical Parameters			
pH (S.U.)	6-8.5	6-8.5	8.2
Conductivity (umhos/cm)	≤ 1,275	-	283
Temperature (C)	-	-	27.2
Dissolved Oxygen (mg/L)	≥ 5	-	28.6 c
Chemical Oxygen Demand (COD;mg/L)	-	Report	63
TDS (mg/L)	-	Report	190
TSS (mg/L)	-	≤ 60	41
Organic Carbon (mg/L)	-	Report	9.4
Oil and Grease (mg/L)	≤ 5	≤ 5	1.7 U
Chlorophyll-A (µg/L)	-	-	130
Phaeophytin-A (µg/L)	-	-	6 U
Flow (MGD)	-	Report	0 *
Alkalinity (mg/L)	≥ 20	-	42
Hardness (mg/L)	-	Report	93.1 c

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

a - Annual average

b - Value is calculated based on hardness

c - Calculated value

d - Daily average

f - Nitrate+nitrite and bis(2-ethylhexyl)phthalate were detected in the field blank between the laboratory MDL and PQL

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

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

* - no flow was reported on the facility's DMR from May 2005-April 2006

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Request Number: RQ-2006-06-12-31
Wheelabrator North Broward

Event ID *

Customer: SE-DIST
Project ID: FYI3
PMAS: 1163

Requester: Shannan Bogdanov
Field Report Prepared By: T. Davis
Collected By: T Davis
Send Final Report To: Terry Davis or Bill Theil
Sampling Agency: SE District

Lab ID *	Location: D-001-Stormwater overflow struc				☐ Comp ☒ Grab	Collection (begin) Date: 12 June 06 Time: 1005	Eastern Central	Collection (end) Date	Time	Eastern Central	Bottle Group(s)**: A			
	Field ID: 51-WB-1				Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L): 10.5 %		Storet Station Number						
	Matrix (Include type e.g. Salt, Fresh, etc): water, fresh	Temp (C): 31.20	pH: 8.73		Sample Depth: .01 ☒ m ☐ ft	283		☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm)		NPDES Number				
	Latitude: o ' "	Longitude: o ' "			Comments: Green tinge on water - algal bloom									
Lab ID *	Location: Blank				☐ Comp ☒ Grab	Collection (begin) Date: 12 June 06 Time: 1030	Eastern Central	Collection (end) Date	Time	Eastern Central	Bottle Group(s)**: B			
	Field ID: 51-WB-0				Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)		Storet Station Number						
	Matrix (Include type e.g. Salt, Fresh, etc): water, d.i.	Temp (C)	pH		Sample Depth: .01 ☒ 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									

Relinquished By	Date/Time	Shipping Method	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time
T Davis	13 June 06 / 1445	DHL	RKW	6-13-06 / 935A				

* 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: Wheelabrator North Broward Resource Recovery Facility
Address: 2600 N.W. 48th Street
City: Pompano Beach County: Broward
Contact/District: Terry Davis / Southeast District
NPDES Permit #: FLS 2607520
LIMS Job #: TLH-2006-06-13-06 LIMS Sample #: 92814H
Lims Data Entry: 6-15-06 SP Data Entry Verification: 6-16-06 MF

Sample Collection: Date: 6-12-06 Time: 1005
Hold Time Start: Date: 6-12-06 Time: 1005

Comments:
Due to pH of original sample being > 8.0 pH an aliquot of sample was pH adjusted w/ 1N HCL to a pH of 7.0. MF 6-13-06
(Sample collected from pond 2 algal bloom in progress - green colored - MF 6-13-06)

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

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

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

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

Initial sample handling:
PH adjustment : (yes) no Initial pH: 9.2 NaOH N HCl 1N 13 Drops MF Final pH: 7.0
Aeration : yes (no) Initial DO: ____mg/L Final DO: ____mg/L Duration: ____minutes Rate: ~____bubbles/min
Salinity adjusted (Test 1): yes (no) Initial Salinity: ____ Final Salinity: ____ Salts Hypersaline brine
Salinity adjusted (Test 2): yes (no) Initial Salinity: ____ Final Salinity: ____ Salts Hypersaline brine
Dechlorination: yes (no) ____mL of 0.025N Sodium Thiosulfate per liter of sample. Final TRC: ____

Temperature Range °C
Incubator # 3 Range 25.8-26.8
Room B246: 24.3- 25.2
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
Lynn Pritchard
Eric Lynch
Bud Alnutt
Marshall Faircloth
James Daniel
Nicole Wellendorf
REVIEWER

Water Quality Parameters	20% DMW	Moderately Hard Water/ Well Water	Salt Water ASW NSW Test 1	Salt Water ASW NSW Test 2	Other: pH adjusted 100% sample	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl2 (mg/L):	N/A	N/A	N/A	N/A	N/A	not measured	-	SP	
Lab Total Residual Cl2 (mg/L):	<0.03	<0.03			<0.03	<0.03	HACH	BA	SP
Alkalinity (mg/L as $CaCO_3$):	81	138			55	66	HACH	SP/KD	BA
Hardness (mg/L as $CaCO_3$):	81	129			80	81	HACH	SP/KD	BA
Total Ammonia (mg/L as N):	<0.017	<0.017			<0.017	<0.017	DENVER	MF	SP
Salinity (ppth):	<1	<1			<1	<1	YSI (Mettler)	SP	MF

V 1.4 9/12/05

Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 928041 | Test #: 1 | Test Started: Date 6-13-06 Time: 1145
Organism: C. dubia | SOP #: TA 07_01 | Test Ended: Date 6-15-06 Time: 1120
Organism Batch: 26-06 | Diluent/ Batch: DMW / 15-06
Organism Age: <24hrs | Food: YCT | *P. subcapitata* | *Artemia*
Chamber Size: 30 mL | Batch: 1-06 | 3-06 | –
Test Volume: 20 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	A	5	5	5			
	B	B	5	5	5			
	C	C	5	5	5			
	D	D	5	5	5			
pH adjusted 100%	A	A	5	5	5			
	B	B	5	5	5			
	C	C	5	5	5			
	D	D	5	5	5			
100%	A	A	5	5	5			
	B	B	5	5	5			
	C	C	5	5	5			
	D	D	5	5	y/o			
Organisms loaded by: mF		Checked by:	[redacted]	JD	JD			

Loading Verified by: RA

Comments:

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

Test Results:
% mortality in 100% sample: 5
LC_{50}: >100 If Calculated: 95% CI____ Method:____

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

V 2.1 11/01/2005

Page 000042

Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 978641 Test #: 2 Test Started: Date 6-13-06 Time: 1135

Organism: C. leedsi SOP #: TA 07_02 Test Ended: Date 6-15-06 Time: 1100

Organism Batch: 12-06 Diluent/ Batch: Well H_2O / 6-12-06

Organism Age: 5 days Food: YCT *P. subcapitata* *Artemia*

Chamber Size: 1000 mL Batch: – – GSL-536-90

Test Volume: 500 mL Feeding: Prior to test (circled) 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			
	B	A2	5	5	5			
	C	A3	5	5	5			
	D	A4	5	5	5			
pH adjusted 100%	A	A5	5	5	5			
	B	A6	5	5	5			
	C	A7	5	5	5			
	D	A8	5	5	5			
100%	A	A9	5	5	5			
	B	A10	5	4 1D	4			
	C	A11	5	3 2D	3			
	D	A12	5	4 1D	4			
Organisms loaded by: JO		Checked by:	[redacted]	JD	JD			

Loading Verified by: BA

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

Comments:

Test Results:

% mortality in 100% sample: 20

LC_{50}: >100 If Calculated: 95% CI________ Method:________

Screening Tests:

Report LC50 as >100%, =100%, or <100%.

Substitue highest test concentration used if other than 100% (example: Ocean outfall tested at 30% concentration).

V 2.1 11/01/2005

Page 000043

FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 928641 Test #: 1 of 2

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

Concentration CTRL	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A		B			
pH (S.U.)	8.1		8.2			
Temperature °C	25.0		25.2			
Dissolved Oxygen mg/L	7.8		7.2			
Conductivity µmhos mmhos	172		219			
(initials) Measured by:						
(initials) Recorded by:						

Comments:

Concentration pH adjusted 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A		B			
pH (S.U.)	7.2		8.1			
Temperature °C	25.3		24.1			
Dissolved Oxygen mg/L	8.0		7.6			
Conductivity µmhos mmhos	310		344			
(initials) Measured by:						
(initials) Recorded by:						

Comments:

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A		B			
pH (S.U.)	9.1		8.3			
Temperature °C	25.4		24.9			
Dissolved Oxygen mg/L	8.4		7.7			
Conductivity µmhos mmhos	282		316			
(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

Page 000044

FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 928641 **Test #:** 2 of 2

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

Concentration CTRL	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C			
pH (S.U.)	8.2	8.2	8.4			
Temperature °C	24.5	24.7	25.2			
Dissolved Oxygen mg/L	7.6	6.4	7.3			
Conductivity ~~µmhos~~ mmhos	265	297	298			
(initials) Measured by:	[illegible]	JD	JD			
(initials) Recorded by:	[illegible]	JD	JD			

Comments:

Concentration pH adjusted 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C			
pH (S.U.)	7.2	8.6	8.4			
Temperature °C	24.8	24.5	24.9			
Dissolved Oxygen mg/L	8.1	8.0	7.5			
Conductivity ~~µmhos~~ mmhos	323	340	352			
(initials) Measured by:	[illegible]	JD	JD			
(initials) Recorded by:	[illegible]	JD	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.)	9.1	9.1	8.5			
Temperature °C	25.1	24.6	24.5			
Dissolved Oxygen mg/L	8.4	8.5	8.1			
Conductivity ~~µmhos~~ mmhos	288	307	300			
(initials) Measured by:	[illegible]	JD	JD			
(initials) Recorded by:	[illegible]	JD	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

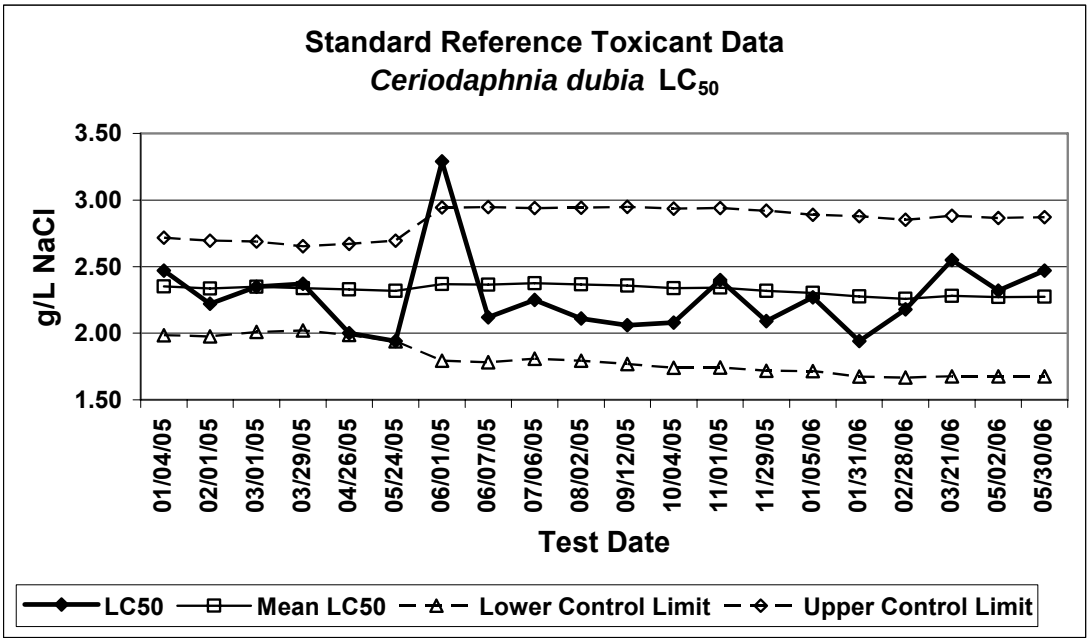
Florida Department of Environmental Protection
Bureau of Laboratories

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

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
01/04/05	2.47	2.35	0.18	1.98	2.72
02/01/05	2.22	2.34	0.18	1.98	2.70
03/01/05	2.35	2.35	0.17	2.01	2.69
03/29/05	2.37	2.34	0.16	2.02	2.65
04/26/05	2.00	2.33	0.17	1.99	2.67
05/24/05	1.94	2.32	0.19	1.94	2.70
06/01/05	3.29	2.37	0.29	1.79	2.94
06/07/05	2.12	2.36	0.29	1.78	2.95
07/06/05	2.25	2.37	0.28	1.81	2.94
08/02/05	2.11	2.37	0.29	1.79	2.94
09/12/05	2.06	2.36	0.29	1.77	2.95
10/04/05	2.08	2.34	0.30	1.74	2.94
11/01/05	2.40	2.34	0.30	1.74	2.94
11/29/05	2.09	2.32	0.30	1.72	2.92
01/05/06	2.27	2.30	0.29	1.72	2.89
01/31/06	1.94	2.28	0.30	1.67	2.88
02/28/06	2.18	2.26	0.30	1.67	2.85
03/21/06	2.55	2.28	0.30	1.68	2.88
05/02/06	2.32	2.27	0.30	1.68	2.87
05/30/06	2.47	2.27	0.30	1.68	2.87

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

CV = 13.14
EPA reference 75th quartile CV = 29%



Appendix C. (continued)

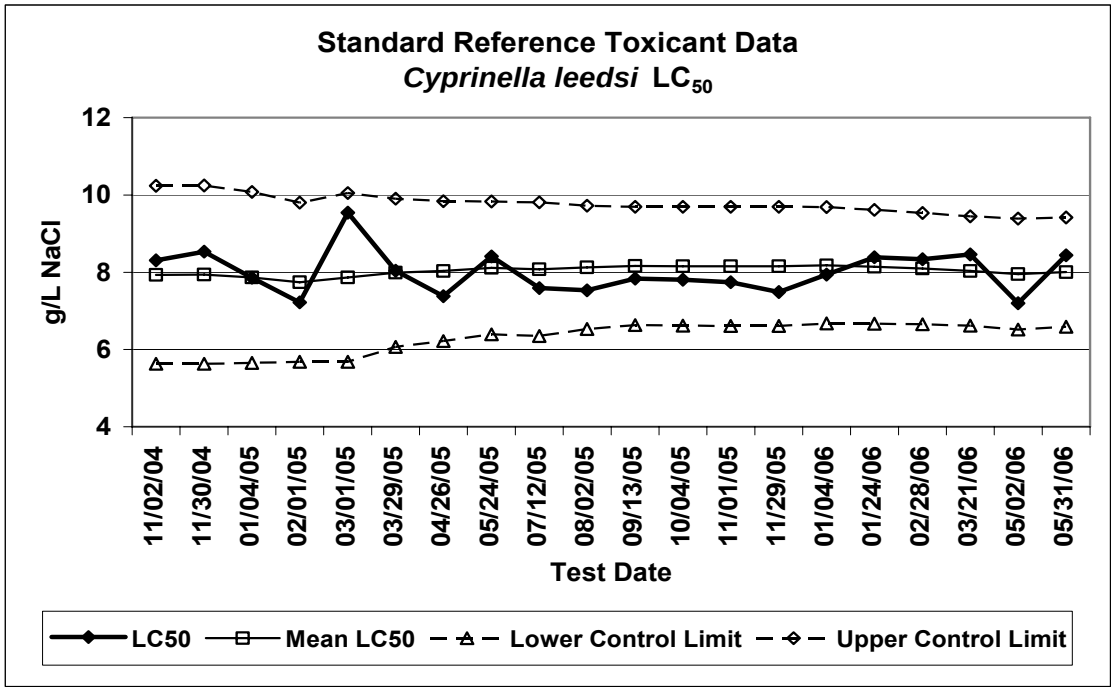
Florida Department of Environmental Protection
Bureau of Laboratories

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

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
11/02/04	8.31	7.93	1.15	5.63	10.24
11/30/04	8.53	7.94	1.15	5.63	10.24
01/04/05	7.86	7.87	1.11	5.65	10.08
02/01/05	7.22	7.74	1.03	5.68	9.80
03/01/05	9.54	7.87	1.09	5.68	10.05
03/29/05	8.04	7.99	0.96	6.07	9.91
04/26/05	7.38	8.03	0.90	6.22	9.84
05/24/05	8.41	8.11	0.86	6.40	9.83
07/12/05	7.59	8.08	0.86	6.35	9.81
08/02/05	7.53	8.13	0.80	6.53	9.72
09/13/05	7.84	8.16	0.77	6.63	9.70
10/04/05	7.81	8.16	0.77	6.62	9.69
11/01/05	7.74	8.15	0.77	6.61	9.69
11/29/05	7.49	8.15	0.77	6.61	9.69
01/04/06	7.94	8.18	0.75	6.67	9.68
01/24/06	8.39	8.14	0.74	6.67	9.61
02/28/06	8.34	8.09	0.72	6.65	9.53
03/21/06	8.46	8.04	0.71	6.62	9.45
05/02/06	7.2	7.95	0.72	6.51	9.39
05/31/06	8.44	8.00	0.71	6.59	9.42

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

CV = 8.83
EPA reference 75th quartile CV = 19%



Appendix C. (continued)

FDEP Biology Section - Acute SRT Bench Sheet

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

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

Diluent/ Batch#: DMW / 13-06, 14-06
Toxicant/ Batch# NaCl / 6-06

Test Beginning: Date: 5-30-06 Time: 11:50
Test Ending: Date: 6-3-06 Time: 0930

Organism Batch #/ Age: 23-06 / <24hrs
Feeding: (Prior to test) (Prior to renewal) Daily
Food: YCT P.subcapitata Artemia
Food Batch: 5-05 3-06 —
Chamber size: 30 mL
Test volume: 20 mL per replicate

Water Quality Parameters:	13-06 Diluted	14-06 Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	<0.03	Hach	BA
Alkalinity (mg/L as $CaCO_3$):	81	87	Hach	MF/BA
Hardness (mg/L as CaCO3):	85	85	Hach	MF/BA
Total Ammonia (mg/L as N):	<0.067	<0.067	Denver	MF
Salinity (ppth):	<1	<1	Mettler	SP

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. (µmhos/cm) 0 hr (48 hr)	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhos/cm) 24 hr (72 hr)	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhos/cm) 48 hr (96 hr)
Control	A	A	5	5	5	8.3		8.0	25.5		24.5	7.5		7.4	0.171		0.205
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
1.5	A	A	5	5	5	8.1		7.9	25.8		24.6	7.5		7.0	354 (A)		338
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
2.0	A	A	5	5	5	8.1		7.9	25.9		24.7	7.5		7.1	347		4.31
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
2.5	A	A	5	0 5D	—	8.1		7.9	25.9		24.9	7.6		7.1	4.98		5.84
	B	B	5	3 2D 5	2 3D												
	C	C	5	1 4D 5	4 1D												
	D	D	5	2 3D 0	4 1D												
3.0	A	A	5	0 5D	—	8.1	8.1	7.9	25.9	25.2	24.9	7.4	7.2	7.1	5.70	6.18	6.50
	B	B	5	3 2D	0 1D												
	C	C	5	1 4D	0 1D												
	D	D	5	2 3D	0 2D												
4.6	A	A	5	0 5D	-	8.1	8.1	—	25.9	25.1	—	7.6	7.3	—	7.41	7.67	—
	B	B	5	0 5D	-												
	C	C	5	0 5D	-												
	D	D	5	0 5D	-												
	A																
	B																
	C																
	D																
Loaded / measured by:			BA	SP	MF	SP	SP	MF	SP	SP	MF	SP	SP	MF	SP	SP	MF
Recorded by:			SP	SP	MF	SP	SP	MF	SP	SP	MF	SP	SP	MF	SP	SP	MF

Investigators' Signatures
Sarah Pritchard
Brad Antrim
Marshall Faircloth
Nicole Wilkerdf
REVIEWER

Concentrations prepared by: SP/BA
Loading verified by: SP
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 23.0 max. 26.0 mean 24.5
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 24.2 max. 24.9 mean 24.6

Remarks:
(A) remixed ; passed concentration before loading conductivity 2.99 mmhos SP
(B) transcription error SP

Statistical Results: Method: Spearman-Karber
(48) 96 hour LC50: 2.47
95% Confidence Interval: lower 2.36 upper 2.59

Revised 02/21/06

Page 000066

Appendix C. (continued)

FDEP Biology Section - Acute SRT Bench Sheet

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

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

Diluent/ Batch#: DMW / 13-06, 14-06
Toxicant/ Batch# NaCl / 6-06

Test Beginning: Date: 5-30-06 Time: 11:50
Test Ending: Date: 6-3-06 Time: 0930

Organism Batch #/ Age: 23-06 / <24hrs
Feeding: (Prior to test) (Prior to renewal) / Daily
Food: YCT P.subcapitata Artemia
Food Batch: 5-05 3-06
Chamber size: 30 mL
Test volume: 20 mL per replicate

Water Quality Parameters:	13-06 Diluent	14-06 Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	<0.03	Hach	BP BN
Alkalinity (mg/L as $CaCO_3$):	81	87	Hach	X BA
Hardness (mg/L as CaCO3):	85	85	Hach	X BA
Total Ammonia (mg/L as N):	<0.017	0.017	Denver	MF
Salinity (ppth):	<1	<1	Mettler	30

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	48 hr	72 hr	96 hr
Control	A	A	5	4 10	4	8.1		8.1	24.3		24.9	7.4		7.0	0.168		0.208
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
1.5	A	A	5	5	5	8.1		8.1	24.7		25.0	7.4		6.9	2.92		3.54
	B	B	5	5	4 10												
	C	C	5	5	4 10												
	D	D	5	4 10	4												
2.0	A	A	5	4 10	4	8.1		8.1	24.7		25.3	7.4		6.8	3.84		4.64
	B	B	5	5	5												
	C	C	5	3 20	3												
	D	D	5	2 30	0 20												
2.5	A	A	0	—	—	8.0		—	24.8		25.7 (A)	7.3		—	4.80		5.26 (A)
	B	B	2	0 20	—		8.0			25.2			7.0			5.15	
	C	C	4	0 40	—												
	D	D	4	0 40	—												
3.0	A	A	-	-	-	8.1		-	24.7		-	7.3		-	5.66		-
	B	B	-	-	-		-			-			-			-	
	C	C	-	-	-												
	D	D	-	-	-												
4.0	A	A	-	-	-	-		-	-		-	-	-	-	-		-
	B	B	-	-	-												
	C	C	-	-	-												
	D	D	-	-	-												
	A																
	B																
	C																
	D																
Loaded / measured by:			MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF
Recorded by:			MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF

Investigators' Signatures
Sarah Pinckney
Brad Peaden
Marshall Faircloth
Nicole Wellenkoff
REVIEWER

Concentrations prepared by: MF
Loading verified by: MH
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 23.0 max. 26.0 mean 24.5
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 24.2 max. 27.9 mean 24.6

Remarks: (A) measurements not necessary - MF 6/2/06

Statistical Results: Method: Spearman-Karber
48 / 96 hour LC50: 2.03
95% Confidence Interval: lower 1.88 upper 2.18
Revised 02/21/06

Page 000067

Appendix C. (continued)

FDEP Biology Section - Acute SRT Bench Sheet

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

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

Diluent/ Batch#: well HO 5-30-06
Toxicant/ Batch# NaCl 1-6-06

Test Beginning: Date: 5-31-06 Time: 1345
Test Ending: Date: 6-4-06 Time: 1330

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	BA/MD
Alkalinity (mg/L as $CaCO_3$):	142	Hach	BA
Hardness (mg/L as CaCO3):	131	Hach	BA
Total Ammonia (mg/L as N):	<0.017	Denver	MF
Salinity (ppth):	<1	Mettler	BA

Organism Batch #/ Age: 11-06 / 8 days
Feeding: Prior to test / Prior to renewal / Daily
Food: YCT P.*subcapitata* Artemia
Food Batch: — — GSL-536-90
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc. µg/L (B1)	Rep.	Chamber#	Number Live 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr	pH (SU) 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr	Temperature (° C) 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr	D.O. (mg/l) 0 hr / 48 hr	24 hr / 72 hr	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	D13	10	10	10	7.8		7.9	24.5		24.4	7.0		5.9	0.305		0.323
	B	D14	10	10	9 (D)		7.9			24.2			6.0			0.312	
	C																
	D																
6.0	A	D15	10	10	10	7.8		7.9	24.9		24.3	7.0		5.6	10.4		10.17
	B	D16	10	10	10		7.9			24.0			6.1			9.8	
	C																
	D																
7.0	A	D17	10	9 (D)	9	7.8		7.9	24.9		24.3	7.5		5.6	~~13.7~~ (B)	11.9	12.5
	B	D18	10	9 (D)	9		7.9			24.1			6.2		12.3 (A)		
	C																
	D																
8.0	A	D19	10	8 (D)	6 (D)	7.9		7.9	25.0		24.3	7.5		5.8	13.9		14.1
	B	D20	10	5 (D)	5		7.9			24.1			6.0			13.6	
	C																
	D																
9.0	A	D21	10	4 (D)	4	7.8		7.9	25.0		24.3	7.0		5.9	15.6		15.9
	B	D22	10	7 (D)	5 (D)		7.9			24.1			6.2			15.5	
	C																
	D																
10.0	A	D23	10	3 (D)	1 (D)	7.9		7.9	25.0		24.3	7.2		6.0	17.1		17.3
	B	D24	10	1 (D)	0 (D)		7.9			24.1			6.3			16.8	
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	JD	JD	JD	JD	BA	JD	JD	BA	JD	JD	BA	JD	JD	BA
Recorded by:			BA	JD	JD	JD	JD	BA	JD	JD	BA	JD	JD	BA	JD	2	BA

Investigators' Signatures
Bruce Anderson
James Daniels
Marshall Faircloth
Sarah Pankhurst
Nicole Wellenhoff
REVIEWER

Concentrations prepared by: BA
Loading verified by: BA
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 24.2 max. 26.6 mean 25.4
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 24.2 max. 24.9 mean 24.6

Remarks:
(B) Transcription error JD.

Statistical Results: 8.44 BA Method: Spearman-Karber
(68) 96 hour LC50: 5.13
95% Confidence Interval: lower 8.07 upper 8.82

Revised 03/21/06

Page 000062

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#: Well H2O 5-30-06
Toxicant/ Batch# NaCl 1-06

Test Beginning: Date: 5-31-06 Time: 1345
Test Ending: Date: 6-4-06 Time: 13:30

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	BA/FD
Alkalinity (mg/L as $CaCO_3$):	142	Hach	BA
Hardness (mg/L as CaCO3):	131	Hach	BD
Total Ammonia (mg/L as N):	< 0.317	Denver	MF
Salinity (ppth):	<1	Mettler	BA

Organism Batch #/ Age: 11-06 / 8 days
Feeding: (Prior to test) (Prior to renewal) / Daily
Food: YCT P.subcapitata Artemia
Food Batch: — — 651-534-40
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. (µmhos/cm) 0 hr / 24 hr / 48 hr		
			48 hr	72 hr	96 hr	48 hr	72 hr	96 hr	48 hr	72 hr	96 hr	48 hr	72 hr	96 hr	48 hr	72 hr	96 hr
Control	A	D13	10	10	9(0)	8.1	8.0		25.0	24.3		7.0	6.2		0.296	0.277	
	B	D14	9	9	9			8.3			24.5			6.7			0.303
	C																
	D																
6.6	A	D15	10	9(0)	9	8.0	7.9		24.9	24.2		7.1	6.0		10.5	10.3	
	B	D16	10	10	10			8.1			24.4			6.6			10.7
	C																
	D																
7.0	A	D17	9	9	9	8.0	7.9		24.9	24.3		7.1	6.0		12.3	12.6	
	B	D18	9	9	6			8.2			24.2			6.9			12.8
	C																
	D																
8.0	A	D19	6	6	6	8.0	7.9		24.8	24.5		6.5	6.0		13.7	14.1	
	B	D20	5	5	5			8.2			24.0			6.5			14.4
	C																
	D																
9.0	A	D21	4	4	4	8.0	8.0	8.2 (B)	24.9	24.5		6.8	6.1	6.7 (B)	15.7	15.3	16.2 (A)
	B	D22	5	4(0)	3(0)						24.0						
	C																
	D																
10.0	A	D23	1	1	1	8.0	8.0		24.8	24.5	24.2	7.0	6.2	6.7	17.2	17.4	17.8
	B	D24	0	—	—			8.2 (B)									
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	MF	JD	JD	MF	JD	JD	MF	JD	JD	MF	JD	JD	MF	JD
Recorded by:			JD	MF	JD	JD	MF	JD	JD	MF	JD	JD	MF	JD	JD	MF	JD

Investigators' Signatures
Bruce Goodwin
Jason Dimmitt
Marshall Faircloth
Jessica Kirkland
Nicole Wellendorf
REVIEWER

Concentrations prepared by: JD
Loading verified by: NA
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 24.2 max. 24.6 mean 24.4
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 24.2 max. 24.9 mean 24.6

Remarks: (A) measurements recorded in wrong space. MF for JD. 6/26/06. Personal communication.

Statistical Results: Method: Spearman-Karber
48 / 96 hour LC50: 8.43
95% Confidence Interval: lower 8.08 upper 8.79

Revised 02/21/06

Page 000063

Appendix C. (continued)

Ceriodaphnia dubia Acute Standard Reference Toxicant Test

DATE: 5-30-06 DURATION: 48 h TOXICANT : NaCl
SPECIES: *C.dubia*

RAW DATA:	Concentration (g/L)	Number Exposed	Mortalities
	0.00	20	0
	1.50	20	0
	2.00	20	0
	2.50	20	10
	3.00	20	20
	4.00	20	20

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: LC_{50}: 2.47
95% LOWER CONFIDENCE: 2.36
95% UPPER CONFIDENCE: 2.59

Cyprinella leedsi Acute Standard Reference Toxicant Test

DATE: 5-31-06 DURATION: 48 h TOXICANT : NaCl
SPECIES: *C .leedsi*

RAW DATA:	Concentration (g/L)	Number Exposed	Mortalities
	0.00	20	1
	6.00	20	0
	7.00	20	2
	8.00	20	9
	9.00	20	11
	10.00	20	19

SPEARMAN-KARBER TRIM: 5.13%

SPEARMAN-KARBER ESTIMATES: LC_{50}: 8.44
95% LOWER CONFIDENCE: 8.07
95% UPPER CONFIDENCE: 8.82

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

Appendix D. Test Organism Receipts

11842 Research Circle
Alachua, FL 32615
T: (386) 462-7889
F: (386) 462-7264
www.hydrosphere.net

HYDROSPHERE
research

Packaging List

Date	Customer Number	Order Shipped Via
5/30/2006	NA	Hydrosphere Research
Customer		**Order Prepared By**
FDEP Marshall Faircloth Biology Mail Stop 6515 2600 Blair Stone Road Tallahassee, Fl 32399-2400		D. Onash

Quantity	Description
150	P. promelas hatch date 05/23/06
150	C. leedsi hatch date 05/23/06

Appendix D. (continued)

11842 Research Circle
Alachua, FL 32615
T: (386) 462-7889
F: (386) 462-7264
www.hydrosphere.net

HYDROSPHERE
research

Packaging List

Date	Customer Number	Order Shipped Via
06/12/06	NA	Hydrosphere Research
Customer		**Order Prepared By**
FDEP Marshall Faircloth Biology Mail Stop 6515 2600 Blair Stone Road Tallahassee, Fl 32399-2400		D. Onash

Quantity	Description
100	C. leedsi hatch date 6/08/06
100	D. pulex adult #3113

Appendix E. Chemical Analyses performed on the effluent from the Wheelabrator North Broward Resource Recovery Facility Outfall D-001, sampled on June 12, 2006.

Date Sampled	Field ID	Analysis	Component	Result	Units	Remark	MDL	PQL
06/12/06 10:05	51-WB-1	Bio-AGP/LimNut	Algal Growth Potential	0.3	mg DryWt/L	U	0.3	0.9
06/12/06 10:05	51-WB-1	Bio-Chl-a	Chlorophyll-A, Monochromatic, Water	130	ug/L	A	3.4	10
06/12/06 10:05	51-WB-1	Bio-Chl-a	Phaeophytin-A, Monochromatic, Water	6	ug/L	U	6	18
06/12/06 10:05	51-WB-1	Bio-Toxicology	Bioassay-Acute-Screen-FW-C.dubia, LC50	100	LC50	L		
06/12/06 10:05	51-WB-1	Bio-Toxicology	Bioassay-Acute-Screen-FW-Fish, LC50	100	LC50	L		
06/12/06 10:05	51-WB-1	Bio-Toxicology	Bioassay-Acute-Screen-FW-Fish,LC50-pHadj	100	LC50	L		
06/12/06 10:05	51-WB-1	Bio-Toxicology	Bioassay-Acute-Scrn-FW-Cdubia,LC50-pHadj	100	LC50	L		
06/12/06 10:05	51-WB-1	BNA-Water	1,2,4-Trichlorobenzene	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	1,2-Dichlorobenzene	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	1,3-Dichlorobenzene	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	1,4-Dichlorobenzene	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	2,4,6-Trichlorophenol	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	2,4-Dichlorophenol	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	2,4-Dimethylphenol	49	ug/L	U	49	200
06/12/06 10:05	51-WB-1	BNA-Water	2,4-Dinitrophenol	15	ug/L	U	15	59
06/12/06 10:05	51-WB-1	BNA-Water	2,4-Dinitrotoluene	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	2,6-Dinitrotoluene	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	2-Chloronaphthalene	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	2-Chlorophenol	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	2-Methyl-4,6-dinitrophenol	2.9	ug/L	U	2.9	12
06/12/06 10:05	51-WB-1	BNA-Water	2-Nitrophenol	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	3,3'-Dichlorobenzidine	39	ug/L	U	39	160
06/12/06 10:05	51-WB-1	BNA-Water	4,4'-DDD	1.5	ug/L	U	1.5	5.9
06/12/06 10:05	51-WB-1	BNA-Water	4,4'-DDE	1.5	ug/L	U	1.5	5.9
06/12/06 10:05	51-WB-1	BNA-Water	4,4'-DDT	1.5	ug/L	UJ	1.5	5.9
06/12/06 10:05	51-WB-1	BNA-Water	4-Bromophenyl phenyl ether	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	4-Chloro-3-methylphenol	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	4-Chlorophenyl phenyl ether	2	ug/L	U	2	7.8
06/12/06 10:05	51-WB-1	BNA-Water	4-Nitrophenol	15	ug/L	U	15	59
06/12/06 10:05	51-WB-1	BNA-Water	Acenaphthene	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	Acenaphthylene	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	Aldrin	1.5	ug/L	U	1.5	5.9
06/12/06 10:05	51-WB-1	BNA-Water	alpha-BHC	1.5	ug/L	U	1.5	5.9
06/12/06 10:05	51-WB-1	BNA-Water	Anthracene	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	Benzidine	98	ug/L	U	98	390
06/12/06 10:05	51-WB-1	BNA-Water	Benzo(a)anthracene	0.98	ug/L	U	0.98	3.9

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Units	Remark	MDL	PQL
06/12/06 10:05	51-WB-1	BNA-Water	Benzo(a)pyrene	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	Benzo(b)fluoranthene	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	Benzo(g,h,i)perylene	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	Benzo(k)fluoranthene	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	beta-BHC	1.5	ug/L	U	1.5	5.9
06/12/06 10:05	51-WB-1	BNA-Water	Bis(2-chloroethoxy)methane	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	Bis(2-chloroethyl)ether	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	Bis(2-chloroisopropyl)ether	2.9	ug/L	U	2.9	12
06/12/06 10:05	51-WB-1	BNA-Water	Bis(2-ethylhexyl)phthalate	15	ug/L	U	15	59
06/12/06 10:05	51-WB-1	BNA-Water	Butyl benzyl phthalate	4.9	ug/L	U	4.9	20
06/12/06 10:05	51-WB-1	BNA-Water	Chrysene	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	delta-BHC	1.5	ug/L	U	1.5	5.9
06/12/06 10:05	51-WB-1	BNA-Water	Dibenzo(a,h)anthracene	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	Dieldrin	1.5	ug/L	U	1.5	5.9
06/12/06 10:05	51-WB-1	BNA-Water	Diethyl phthalate	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	Dimethyl phthalate	49	ug/L	U	49	200
06/12/06 10:05	51-WB-1	BNA-Water	Di-n-butyl phthalate	16	ug/L	U	16	65
06/12/06 10:05	51-WB-1	BNA-Water	Di-n-octyl phthalate	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	Endosulfan I	3.9	ug/L	U	3.9	16
06/12/06 10:05	51-WB-1	BNA-Water	Endosulfan II	3.9	ug/L	U	3.9	16
06/12/06 10:05	51-WB-1	BNA-Water	Endosulfan sulfate	1.5	ug/L	U	1.5	5.9
06/12/06 10:05	51-WB-1	BNA-Water	Endrin	1.5	ug/L	UJ	1.5	5.9
06/12/06 10:05	51-WB-1	BNA-Water	Endrin aldehyde	3.9	ug/L	U	3.9	16
06/12/06 10:05	51-WB-1	BNA-Water	Fluoranthene	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	Fluorene	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	gamma-BHC	1.5	ug/L	U	1.5	5.9
06/12/06 10:05	51-WB-1	BNA-Water	Heptachlor	1.5	ug/L	U	1.5	5.9
06/12/06 10:05	51-WB-1	BNA-Water	Heptachlor epoxide	1.5	ug/L	U	1.5	5.9
06/12/06 10:05	51-WB-1	BNA-Water	Hexachlorobenzene	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	Hexachlorobutadiene	2.9	ug/L	UJ	2.9	12
06/12/06 10:05	51-WB-1	BNA-Water	Hexachlorocyclopentadiene	2.9	ug/L	UJ	2.9	12
06/12/06 10:05	51-WB-1	BNA-Water	Hexachloroethane	2.9	ug/L	U	2.9	12
06/12/06 10:05	51-WB-1	BNA-Water	Indeno(1,2,3-cd)pyrene	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	Isophorone	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	Naphthalene	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	Nitrobenzene	2	ug/L	U	2	7.8
06/12/06 10:05	51-WB-1	BNA-Water	N-Nitrosodimethylamine	2	ug/L	U	2	7.8
06/12/06 10:05	51-WB-1	BNA-Water	N-Nitrosodi-n-propylamine	2	ug/L	U	2	7.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Units	Remark	MDL	PQL
06/12/06 10:05	51-WB-1	BNA-Water	N-Nitrosodiphenylamine	2.9	ug/L	UJ	2.9	12
06/12/06 10:05	51-WB-1	BNA-Water	Pentachlorophenol	2.9	ug/L	U	2.9	12
06/12/06 10:05	51-WB-1	BNA-Water	Phenanthrene	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	Phenol	0.98	ug/L	U	0.98	3.9
06/12/06 10:05	51-WB-1	BNA-Water	Pyrene	0.98	ug/L	U	0.98	3.9
06/12/06 10:30	51-WB-2	BNA-Water	1,2,4-Trichlorobenzene	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	1,2-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	1,3-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	1,4-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	2,4,6-Trichlorophenol	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	2,4-Dichlorophenol	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	2,4-Dimethylphenol	48	ug/L	U	48	190
06/12/06 10:30	51-WB-2	BNA-Water	2,4-Dinitrophenol	14	ug/L	U	14	58
06/12/06 10:30	51-WB-2	BNA-Water	2,4-Dinitrotoluene	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	2,6-Dinitrotoluene	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	2-Chloronaphthalene	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	2-Chlorophenol	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	2-Methyl-4,6-dinitrophenol	2.9	ug/L	U	2.9	12
06/12/06 10:30	51-WB-2	BNA-Water	2-Nitrophenol	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	3,3'-Dichlorobenzidine	38	ug/L	U	38	150
06/12/06 10:30	51-WB-2	BNA-Water	4,4'-DDD	1.4	ug/L	U	1.4	5.8
06/12/06 10:30	51-WB-2	BNA-Water	4,4'-DDE	1.4	ug/L	U	1.4	5.8
06/12/06 10:30	51-WB-2	BNA-Water	4,4'-DDT	1.4	ug/L	UJ	1.4	5.8
06/12/06 10:30	51-WB-2	BNA-Water	4-Bromophenyl phenyl ether	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	4-Chloro-3-methylphenol	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	4-Chlorophenyl phenyl ether	1.9	ug/L	U	1.9	7.7
06/12/06 10:30	51-WB-2	BNA-Water	4-Nitrophenol	14	ug/L	U	14	58
06/12/06 10:30	51-WB-2	BNA-Water	Acenaphthene	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	Acenaphthylene	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	Aldrin	1.4	ug/L	U	1.4	5.8
06/12/06 10:30	51-WB-2	BNA-Water	alpha-BHC	1.4	ug/L	U	1.4	5.8
06/12/06 10:30	51-WB-2	BNA-Water	Anthracene	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	Benzidine	96	ug/L	U	96	380
06/12/06 10:30	51-WB-2	BNA-Water	Benzo(a)anthracene	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	Benzo(a)pyrene	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	Benzo(b)fluoranthene	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	Benzo(g,h,i)perylene	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	Benzo(k)fluoranthene	0.96	ug/L	U	0.96	3.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Units	Remark	MDL	PQL
06/12/06 10:30	51-WB-2	BNA-Water	beta-BHC	1.4	ug/L	U	1.4	5.8
06/12/06 10:30	51-WB-2	BNA-Water	Bis(2-chloroethoxy)methane	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	Bis(2-chloroethyl)ether	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	Bis(2-chloroisopropyl)ether	2.9	ug/L	U	2.9	12
06/12/06 10:30	51-WB-2	BNA-Water	Bis(2-ethylhexyl)phthalate	34	ug/L	I	14	58
06/12/06 10:30	51-WB-2	BNA-Water	Butyl benzyl phthalate	4.8	ug/L	U	4.8	19
06/12/06 10:30	51-WB-2	BNA-Water	Chrysene	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	delta-BHC	1.4	ug/L	U	1.4	5.8
06/12/06 10:30	51-WB-2	BNA-Water	Dibenzo(a,h)anthracene	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	Dieldrin	1.4	ug/L	U	1.4	5.8
06/12/06 10:30	51-WB-2	BNA-Water	Diethyl phthalate	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	Dimethyl phthalate	48	ug/L	U	48	190
06/12/06 10:30	51-WB-2	BNA-Water	Di-n-butyl phthalate	16	ug/L	U	16	63
06/12/06 10:30	51-WB-2	BNA-Water	Di-n-octyl phthalate	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	Endosulfan I	3.8	ug/L	U	3.8	15
06/12/06 10:30	51-WB-2	BNA-Water	Endosulfan II	3.8	ug/L	U	3.8	15
06/12/06 10:30	51-WB-2	BNA-Water	Endosulfan sulfate	1.4	ug/L	U	1.4	5.8
06/12/06 10:30	51-WB-2	BNA-Water	Endrin	1.4	ug/L	UJ	1.4	5.8
06/12/06 10:30	51-WB-2	BNA-Water	Endrin aldehyde	3.8	ug/L	U	3.8	15
06/12/06 10:30	51-WB-2	BNA-Water	Fluoranthene	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	Fluorene	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	gamma-BHC	1.4	ug/L	U	1.4	5.8
06/12/06 10:30	51-WB-2	BNA-Water	Heptachlor	1.4	ug/L	U	1.4	5.8
06/12/06 10:30	51-WB-2	BNA-Water	Heptachlor epoxide	1.4	ug/L	U	1.4	5.8
06/12/06 10:30	51-WB-2	BNA-Water	Hexachlorobenzene	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	Hexachlorobutadiene	2.9	ug/L	UJ	2.9	12
06/12/06 10:30	51-WB-2	BNA-Water	Hexachlorocyclopentadiene	2.9	ug/L	UJ	2.9	12
06/12/06 10:30	51-WB-2	BNA-Water	Hexachloroethane	2.9	ug/L	U	2.9	12
06/12/06 10:30	51-WB-2	BNA-Water	Indeno(1,2,3-cd)pyrene	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	Isophorone	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	Naphthalene	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	Nitrobenzene	1.9	ug/L	U	1.9	7.7
06/12/06 10:30	51-WB-2	BNA-Water	N-Nitrosodimethylamine	1.9	ug/L	U	1.9	7.7
06/12/06 10:30	51-WB-2	BNA-Water	N-Nitrosodi-n-propylamine	1.9	ug/L	U	1.9	7.7
06/12/06 10:30	51-WB-2	BNA-Water	N-Nitrosodiphenylamine	2.9	ug/L	UJ	2.9	12
06/12/06 10:30	51-WB-2	BNA-Water	Pentachlorophenol	2.9	ug/L	U	2.9	12
06/12/06 10:30	51-WB-2	BNA-Water	Phenanthrene	0.96	ug/L	U	0.96	3.8
06/12/06 10:30	51-WB-2	BNA-Water	Phenol	0.96	ug/L	U	0.96	3.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Units	Remark	MDL	PQL
06/12/06 10:30	51-WB-2	BNA-Water	Pyrene	0.96	ug/L	U	0.96	3.8
06/12/06 10:05	51-WB-1	GC-Water	Alachlor	0.6	ug/L	UJ	0.6	2.4
06/12/06 10:05	51-WB-1	GC-Water	Ametryn	0.05	ug/L	U	0.05	0.2
06/12/06 10:05	51-WB-1	GC-Water	Atrazine	0.13	ug/L	IJ	0.05	0.2
06/12/06 10:05	51-WB-1	GC-Water	Azinphos Methyl	0.2	ug/L	U	0.2	0.8
06/12/06 10:05	51-WB-1	GC-Water	Bromacil	0.2	ug/L	U	0.2	0.8
06/12/06 10:05	51-WB-1	GC-Water	Butylate	0.2	ug/L	UJ	0.2	0.8
06/12/06 10:05	51-WB-1	GC-Water	Chlorpyrifos Ethyl	0.05	ug/L	U	0.05	0.2
06/12/06 10:05	51-WB-1	GC-Water	Chlorpyrifos Methyl	0.1	ug/L	UJ	0.1	0.4
06/12/06 10:05	51-WB-1	GC-Water	Diazinon	0.05	ug/L	UJ	0.05	0.2
06/12/06 10:05	51-WB-1	GC-Water	Ethion	0.05	ug/L	U	0.05	0.2
06/12/06 10:05	51-WB-1	GC-Water	Ethoprop	0.1	ug/L	U	0.1	0.4
06/12/06 10:05	51-WB-1	GC-Water	Fenamiphos	0.2	ug/L	U	0.2	0.8
06/12/06 10:05	51-WB-1	GC-Water	Fonofos	0.1	ug/L	UJ	0.1	0.4
06/12/06 10:05	51-WB-1	GC-Water	Hexazinone	0.1	ug/L	U	0.1	0.4
06/12/06 10:05	51-WB-1	GC-Water	Malathion	0.15	ug/L	U	0.15	0.6
06/12/06 10:05	51-WB-1	GC-Water	Metalaxyl	0.25	ug/L	U	0.25	1
06/12/06 10:05	51-WB-1	GC-Water	Metolachlor	0.5	ug/L	UJ	0.5	2
06/12/06 10:05	51-WB-1	GC-Water	Metribuzin	0.1	ug/L	U	0.1	0.4
06/12/06 10:05	51-WB-1	GC-Water	Mevinphos	0.2	ug/L	U	0.2	0.8
06/12/06 10:05	51-WB-1	GC-Water	Naled	0.8	ug/L	U	0.8	3.2
06/12/06 10:05	51-WB-1	GC-Water	Norflurazon	0.15	ug/L	U	0.15	0.6
06/12/06 10:05	51-WB-1	GC-Water	Parathion Ethyl	0.15	ug/L	UJ	0.15	0.6
06/12/06 10:05	51-WB-1	GC-Water	Parathion Methyl	0.1	ug/L	U	0.1	0.4
06/12/06 10:05	51-WB-1	GC-Water	Phorate	0.05	ug/L	U	0.05	0.2
06/12/06 10:05	51-WB-1	GC-Water	Prometryn	0.15	ug/L	UJ	0.15	0.6
06/12/06 10:05	51-WB-1	GC-Water	Simazine	0.05	ug/L	U	0.05	0.2
06/12/06 10:30	51-WB-2	GC-Water	Alachlor	0.58	ug/L	UJ	0.58	2.3
06/12/06 10:30	51-WB-2	GC-Water	Ametryn	0.048	ug/L	U	0.048	0.19
06/12/06 10:30	51-WB-2	GC-Water	Atrazine	0.048	ug/L	UJ	0.048	0.19
06/12/06 10:30	51-WB-2	GC-Water	Azinphos Methyl	0.19	ug/L	U	0.19	0.76
06/12/06 10:30	51-WB-2	GC-Water	Bromacil	0.19	ug/L	U	0.19	0.76
06/12/06 10:30	51-WB-2	GC-Water	Butylate	0.19	ug/L	UJ	0.19	0.76
06/12/06 10:30	51-WB-2	GC-Water	Chlorpyrifos Ethyl	0.048	ug/L	U	0.048	0.19
06/12/06 10:30	51-WB-2	GC-Water	Chlorpyrifos Methyl	0.096	ug/L	UJ	0.096	0.38
06/12/06 10:30	51-WB-2	GC-Water	Diazinon	0.048	ug/L	UJ	0.048	0.19
06/12/06 10:30	51-WB-2	GC-Water	Ethion	0.048	ug/L	U	0.048	0.19
06/12/06 10:30	51-WB-2	GC-Water	Ethoprop	0.096	ug/L	U	0.096	0.38

Appendix E. (continued)

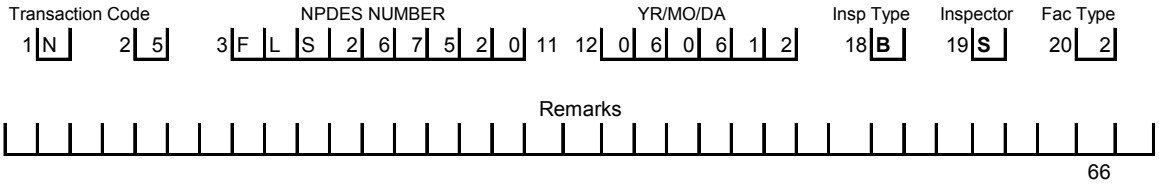
Date Sampled	Field ID	Analysis	Component	Result	Units	Remark	MDL	PQL
06/12/06 10:30	51-WB-2	GC-Water	Fenamiphos	0.19	ug/L	U	0.19	0.76
06/12/06 10:30	51-WB-2	GC-Water	Fonofos	0.096	ug/L	UJ	0.096	0.38
06/12/06 10:30	51-WB-2	GC-Water	Hexazinone	0.096	ug/L	U	0.096	0.38
06/12/06 10:30	51-WB-2	GC-Water	Malathion	0.14	ug/L	U	0.14	0.56
06/12/06 10:30	51-WB-2	GC-Water	Metalaxyl	0.24	ug/L	U	0.24	0.96
06/12/06 10:30	51-WB-2	GC-Water	Metolachlor	0.48	ug/L	UJ	0.48	1.9
06/12/06 10:30	51-WB-2	GC-Water	Metribuzin	0.096	ug/L	U	0.096	0.38
06/12/06 10:30	51-WB-2	GC-Water	Mevinphos	0.19	ug/L	U	0.19	0.76
06/12/06 10:30	51-WB-2	GC-Water	Naled	0.77	ug/L	U	0.77	3.1
06/12/06 10:30	51-WB-2	GC-Water	Norflurazon	0.14	ug/L	U	0.14	0.56
06/12/06 10:30	51-WB-2	GC-Water	Parathion Ethyl	0.14	ug/L	UJ	0.14	0.56
06/12/06 10:30	51-WB-2	GC-Water	Parathion Methyl	0.096	ug/L	U	0.096	0.38
06/12/06 10:30	51-WB-2	GC-Water	Phorate	0.048	ug/L	U	0.048	0.19
06/12/06 10:30	51-WB-2	GC-Water	Prometryn	0.14	ug/L	UJ	0.14	0.56
06/12/06 10:30	51-WB-2	GC-Water	Simazine	0.048	ug/L	U	0.048	0.19
06/12/06 10:05	51-WB-1	Metals-Water	Aluminum	596	ug/L		4	16
06/12/06 10:05	51-WB-1	Metals-Water	Arsenic	4.7	ug/L		0.5	2
06/12/06 10:05	51-WB-1	Metals-Water	Barium	35.8	ug/L		0.2	0.8
06/12/06 10:05	51-WB-1	Metals-Water	Cadmium	0.39	ug/L		0.05	0.2
06/12/06 10:05	51-WB-1	Metals-Water	Calcium	33.5	mg/L		0.02	0.08
06/12/06 10:05	51-WB-1	Metals-Water	Chromium	0.52	ug/L	I	0.3	1.2
06/12/06 10:05	51-WB-1	Metals-Water	Copper	4.88	ug/L		0.2	0.8
06/12/06 10:05	51-WB-1	Metals-Water	Iron	174	ug/L		5	20
06/12/06 10:05	51-WB-1	Metals-Water	Lead	13.5	ug/L		0.2	0.8
06/12/06 10:05	51-WB-1	Metals-Water	Magnesium	2.3	mg/L		0.005	0.02
06/12/06 10:05	51-WB-1	Metals-Water	Nickel	3.4	ug/L	I	1	4
06/12/06 10:05	51-WB-1	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
06/12/06 10:05	51-WB-1	Metals-Water	Silver	0.03	ug/L	I	0.025	0.1
06/12/06 10:05	51-WB-1	Metals-Water	Zinc	39.3	ug/L		1.5	6
06/12/06 10:30	51-WB-2	Metals-Water	Aluminum	4	ug/L	U	4	16
06/12/06 10:30	51-WB-2	Metals-Water	Arsenic	0.5	ug/L	U	0.5	2
06/12/06 10:30	51-WB-2	Metals-Water	Barium	0.2	ug/L	U	0.2	0.8
06/12/06 10:30	51-WB-2	Metals-Water	Cadmium	0.05	ug/L	U	0.05	0.2
06/12/06 10:30	51-WB-2	Metals-Water	Calcium	0.02	mg/L	U	0.02	0.08
06/12/06 10:30	51-WB-2	Metals-Water	Chromium	0.3	ug/L	U	0.3	1.2
06/12/06 10:30	51-WB-2	Metals-Water	Copper	0.2	ug/L	U	0.2	0.8
06/12/06 10:30	51-WB-2	Metals-Water	Iron	5	ug/L	U	5	20
06/12/06 10:30	51-WB-2	Metals-Water	Lead	0.2	ug/L	U	0.2	0.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Units	Remark	MDL	PQL
06/12/06 10:30	51-WB-2	Metals-Water	Magnesium	0.005	mg/L	U	0.005	0.02
06/12/06 10:30	51-WB-2	Metals-Water	Nickel	1	ug/L	U	1	4
06/12/06 10:30	51-WB-2	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
06/12/06 10:30	51-WB-2	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
06/12/06 10:30	51-WB-2	Metals-Water	Zinc	1.5	ug/L	U	1.5	6
06/12/06 10:05	51-WB-1	Nutrients-Liquid	Alkalinity	42	mg CaCO3/L		0.65	2.5
06/12/06 10:05	51-WB-1	Nutrients-Liquid	Ammonia-N	0.022	mg N/L		0.01	0.02
06/12/06 10:05	51-WB-1	Nutrients-Liquid	Cyanide	0.005	mg CN/L	U	0.005	0.02
06/12/06 10:05	51-WB-1	Nutrients-Liquid	Kjeldahl Nitrogen	3.9	mg N/L		0.08	0.2
06/12/06 10:05	51-WB-1	Nutrients-Liquid	NO2NO3-N	0.007	mg N/L	I	0.004	0.01
06/12/06 10:05	51-WB-1	Nutrients-Liquid	O-Phosphate-P	0.004	mg P/L	U	0.004	0.01
06/12/06 10:05	51-WB-1	Nutrients-Liquid	Organic Carbon	9.4	mg C/L		1	5
06/12/06 10:05	51-WB-1	Nutrients-Liquid	TDS	190	mg/L		15	60
06/12/06 10:05	51-WB-1	Nutrients-Liquid	Total-P	0.28	mg P/L		0.02	0.06
06/12/06 10:05	51-WB-1	Nutrients-Liquid	TSS	41	mg/L		7.7	31
06/12/06 10:30	51-WB-2	Nutrients-Liquid	Ammonia-N	0.01	mg N/L	U	0.01	0.02
06/12/06 10:30	51-WB-2	Nutrients-Liquid	Cyanide	0.005	mg CN/L	U	0.005	0.02
06/12/06 10:30	51-WB-2	Nutrients-Liquid	Kjeldahl Nitrogen	0.08	mg N/L	U	0.08	0.2
06/12/06 10:30	51-WB-2	Nutrients-Liquid	NO2NO3-N	0.008	mg N/L	I	0.004	0.01
06/12/06 10:30	51-WB-2	Nutrients-Liquid	O-Phosphate-P	0.004	mg P/L	U	0.004	0.01
06/12/06 10:30	51-WB-2	Nutrients-Liquid	Organic Carbon	1	mg C/L	U	1	5
06/12/06 10:30	51-WB-2	Nutrients-Liquid	Total-P	0.02	mg P/L	U	0.02	0.06
06/12/06 10:05	51-WB-1	Overflow	COD	63	mg/L			
06/12/06 10:05	51-WB-1	Overflow	Oil and Grease	1.7	mg/L	U		
06/12/06 10:30	51-WB-2	Overflow	COD	15	mg/L	U		
06/12/06 10:30	51-WB-2	Overflow	Oil and Grease	1.7	mg/L	U		

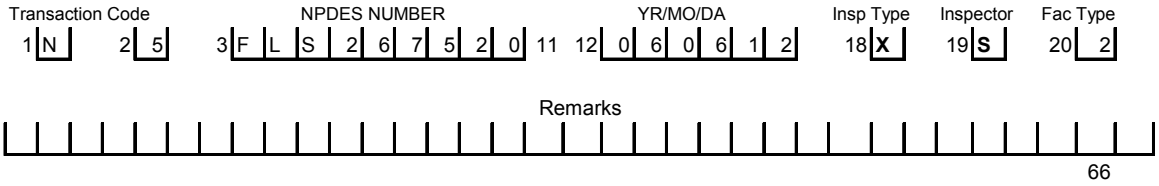
The Bioassay of Wheelabrator North Broward Resource Recovery Facility effluent sampled on June 12, 2006. NPDES #FLS267520.

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



The Priority Pollutants Analysis of Wheelabrator North Broward Resource Recovery Facility effluent sampled on June 12, 2006. NPDES #FLS267520.

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



Biological Analyses of Wheelabrator North Broward Resource Recovery Facility effluent sampled on June 12, 2006. NPDES #FLS267520.

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

