

Bioassays of

Cape Canaveral Water Reclamation Facility

Brevard County

NPDES #FL0020541

Sampled January 30, 2006

April 2006

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

Cape Canaveral Water Reclamation Facility, 601 Thurm Boulevard, Cape Canaveral, Brevard County, Florida, NPDES #FL0020541. Effluent samples for this facility were collected on January 30, 2006.

Introduction

The Cape Canaveral Water Reclamation Facility is an advanced domestic wastewater treatment facility which uses the 5-stage Bardenpho process to treat wastewater. The facility has a design flow of 1.8 million gallons per day (MGD) average annual daily flow (AADF). The AADF from January 2005 through December 2005 was 0.665 MGD. The facility consists of a pretreatment system, anaerobic basins, anoxic basins, oxidation ditch, secondary anoxic basins, re-aeration basins, secondary clarifiers, tertiary filters and chemical feed facilities. Wastewater is disinfected by chlorination with sodium hyperchlorite and dechlorinated with sulfur dioxide. Residuals are treated by aerobic digestion then are belt-pressed for dewatering. Dewatered residuals are disposed of in a landfill. Treated effluent is discharged through Outfall D-001, which is approximately 152.5 m (500 feet) in length, at a depth of approximately 1.5 m (5 feet) into the Class III marine waters of the Banana River. The D-001 Outfall is located approximately at latitude 28º 23' 35" N and longitude 80º 37' 16" W.

The facility also has a 1.45 MGD AADF permitted capacity slow-rate public access reuse system (R-001). The AADF for the reuse system from January 2005 through December 2005 was 0.66 MGD. The reuse system includes an on-site 1.0 million gallon (MG) reclaimed water storage tank and a 5.0 MG reclaimed water storage tank at Cocoa Beach. The reclaimed water is used for irrigation of business, commercial and industrial parks, athletic complexes, parks, playgrounds, residential developments, highway medians, and rights-of-way.

The facility is not currently under any Administrative Orders or Consent Orders. The facility does not have any mixing zones. The facility had a permit violation for total nitrogen maximum in February 2005 (effluent concentration 9.07 mg/L, permitted limit 6.0 mg/L) (facility information provided by David Smicherko of FDEP Central District).

Methods

Samples were collected from the EFD-1 NPDES sampling point for Outfall D-001 by Phil Kane and Steve Kent (FDEP Central District) following DEP-SOP-001/01 FS 2400 Wastewater Sampling. All DEP SOP's are available on the web at: http://www.floridadep.org/labs/qa/sops.htm.

See Appendix 1 for the completed chain of custody form.

The 48-hour acute screening toxicity tests and Algal Growth Potential (AGP) test were performed following internal DEP SOP's TA07_01, TA07_02, and TA08_01 through TA08_09. All internal DEP SOP's are available on the web at: http://www.floridadep.org/labs/cgi-bin/sop/biosop.asp. While the 48-hour acute screening toxicity test does not reflect the permit required conditions, the Department uses it to provide reasonable assurance that the facility does not adversely affect waters of the state.

An additional AGP test was performed on a salinity adjusted aliquot of sample because the receiving water is classified as Class III marine. Sample salinity was increased to 7 parts per thousand to meet the minimum salinity requirements of the marine test species.

Toxicity Test Results

Tests were performed January 31 – February 2, 2006.

Ceriodaphnia dubia 48-hour acute screening bioassay –	LC_{50} > 100%, 0% mortality* in 100% sample at 48 hours
Cyprinella leedsi 48-hour acute screening bioassay –	LC_{50} > 100%, 0% mortality* in 100% sample at 48 hours

The bioassay sample was not acutely toxic to the *Ceriodaphnia dubia* and *Cyprinella leedsi* test organisms.

See Appendix 2 for bioassay bench sheets. See Appendix 3 for results of the last 20 standard reference toxicant (SRT) tests and bench sheets and statistical analyses of the SRT tests that correspond to these facility tests. See Appendix 4 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% mortality 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 AGP was 34.7 mg dry wt/L of the unicellular green alga, *Pseudokirchneriella subcapitata*, formerly known as *Selenastrum capricornutum*. Raschke and Shultz (1987) found that AGP values above 5.0 mg dry weight/L represent a "problem" threshold for fresh receiving waters, implying nutrient enrichment. The analytical chemistry suggests that the effluent is phosphorus-limited. The predicted AGP based on inorganic phosphorus concentrations was 9.46 (±20%) mg dry wt/L (Table 1; Miller et al. 1978).

The salinity-adjusted effluent AGP was 0.620 mg dry wt/L of the saltwater species *Dunaliella tertiolecta.* Raschke and Shultz found that AGP values above 10.0 mg dry weight/L represent a "problem" threshold for marine receiving waters, implying nutrient enrichment (personal communication with Ron Raschke USEPA Region 4 1987). One potential reason for such low growth in the salinity-adjusted sample is precipitation of enough orthophosphate by the added salts that the sample became extremely phosphorus-limited (Manahan 1994).

See Table 1 for AGP results.

Chemistry Results

Total residual chlorine was not detected in the bioassay sample in the laboratory. Total ammonia was detected at a concentration of 0.298 mg/L in the bioassay sample in the laboratory. The total ammonia concentration in the sample collected and preserved for chemical analysis was 0.35 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 zinc were detected in the effluent at levels that comply with Class III marine water quality criteria. Atrazine, copper, iron, and lead 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 5 for a complete list of chemical analyses performed.

Conclusion

The effluent sample collected from Outfall D-001 for this facility on January 30, 2006, was not acutely toxic to either test species during the acute screen 48-hour bioassays. Although the salinity adjusted effluent AGP result was less than the "problem" threshold for marine receiving waters, the unadjusted 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

Manahan, S. E. 1994. Environmental Chemistry, 6th edition. Lewis Publishers, USA. 811 pp.

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

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

Table 1. Measured and predicted algal growth potential (AGP; mg dry weight/L) of the freshwater species Psuedokirchneriella subcapitata *for total phosphorus (TP) and ortho phosphate (OP) limitation, the AGP (salinity adjusted) of the saltwater species* Dunaliella tertiolecta, *and ratios of nitrogen to phosphorus for samples collected from Cape Canaveral Water Reclamation Facility on January 30, 2006.*

Location	AGP (measured)	Predicted AGP (OP) ± 20%	Predicted AGP (TP) ± 20%	AGP (salinity adjusted)	Inorganic N:P ratio	Total N:P ratio
Effluent Samples	34.7	9.46 ± 1.892	27.52 ± 5.504	0.620 I	45.91	30.62

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

Table 2. Effluent limits, Class III Marine Criteria, and chemical and microbiological data for samples collected from Cape Canaveral Water Reclamation Facility on January 30, 2006.

Cape Canaveral WRF NPDES# FL0020541	Class III Marine Stds	Effluent Limits	Effluent Samples
Organic Constituents (µg/L)			
Atrazine	-	-	0.063 I
Metals (µg/L unless otherwise noted)			
Aluminum	≤ 1,500	-	81
Arsenic	≤ 50	-	4 U
Cadmium	≤ 9.3	-	0.05 U
Calcium (mg/L)	-	-	52.5
Chromium-III	-	-	2 U
Copper	≤ 3.7	-	0.53 I
Iron	≤ 300	-	30 I
Lead	≤ 8.5	-	0.29 I
Magnesium (mg/L)	-	-	16.1
Nickel	≤ 8.3	-	1 U
Selenium	≤ 71	-	0.5 U
Silver	≤ 2.3	-	0.025 U
Zinc	≤ 86	-	37
Nutrients (mg/L)			
Ortho-phosphate	-	-	0.022
Total Phosphorus	-	≤ 1 s	0.064 A
Ammonia	-	-	0.35 A
Unionized Ammonia	-	-	< 0.02 c
Nitrate+Nitrite	-	-	0.66
Total Kjeldahl Nitrogen	-	-	1.3 A
Organic Nitrogen	-	-	0.95 c
Total Nitrogen	-	≤ 6 s	1.96 c
General Physical and Chemical Parameters			
Dissolved Oxygen (mg/L)	≥ 4	≥ 5	10.9
pH (S.U.)	6.5-8.5	6.5-8.5	7.2
Conductivity (umhos/cm)	-	-	188
Temperature (C)	-	-	22.6
Chlorophyll *a* (µg/L)	-	-	0.85 U
Phaeophytin *a* (µg/L)	-	-	1.5 U
CBOD (mg/L)	-	≤ 10 s	1.5 AI
TSS (mg/L)	-	≤ 10 s	4 U
Flow (MGD)	-	≤ 1.80 a	0.665 a
Hardness (mg/L)	-	-	197.4 c
Total Residual Chlorine (mg/L)	≤ 0.01	≤ 0.01	≤ 0.01
Microbiology (# counts/100ml)			
Fecal Coliforms-Membrane Filter	≤ 800 s	≤ 86 s	-

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

a - Annual average

c - Calculated value

s - Single sample

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

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

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

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2006-01-30-12
Cape Canaveral

Customer: CEN-DIST

Project ID: FYI3

PMAS: 1143

SK 1-31-06 9:45

Requester: Shannan Gunnoe

Collected By: KANE, KENT

Sampling Agency: FDEP CENTRAL

Field Report Prepared By: Kane

Send Final Report To Phil Kane

Lab ID *	Location CAPE CANAVERAL WRF 601 THURM BOULEVARD CAPE CANAVERAL, FL 32920			☐ Comp ☑ Grab	Collection (begin) Date 1/30/06 Time 0845 Eastern Central		Collection (end) PK Date Time Eastern Central		Bottle Group(s)** A
	Field ID CAPE			Tot Res Chlorine (mg/L) 0.0 THERMO METER PK	Diss Oxygen (mg/L) 10.9		Storet Station Number		
	Matrix (Include type e.g. Salt, Fresh, etc) EFFLUENT	Temp (C) 22.6	pH 7.24	Sample Depth ☐ m ☑ ft	188	☐ Salinity (PPTh) ☑ Sp Conductance (umho/cm)	NPDES Number FL0020541		
	Latitude o ' "	Longitude o ' "		Comments					
Lab ID *	Location CAPE CANAVERAL WRF 601 THURM BOULEVARD CAPE CANAVERAL, FL 32920			☐ Comp ☑ Grab	Collection (begin) Date 1/30/06 Time 0915 Eastern Central		Collection (end) PK Date Time Eastern Central		Bottle Group(s)** B
	Field ID CAPEC			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)		Storet Station Number		
	Matrix (Include type e.g. Salt, Fresh, etc) BLANK	Temp (C)	pH	Sample Depth ☐ m ☐ ft		☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number FL0020541		
	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
KANE, KENT	1/30/06	DHL					SK	1-31-06 / 9:45 AM

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

1 BSY jug SK 1-31-06 12:00

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FDEP Biology Section - Acute Screen Bioassay Bench Sheets

Facility: Cape Canaveral (DW)
Address: 601 Thurm Blvd
City: Cape Canaveral County: Brevard
Contact/District: Dr. Phil Kane / Central
NPDES Permit #: FL FL0020541
LIMS Job #: TH-2006-01-3143 LIMS Sample #: 896218
Lims Data Entry: 2-3-06 BP Data Entry Verification: MF 2/3/06

Sample Collection: Date: 1-30-06 Time: 0845
Hold Time Start: Date: 1-30-06 Time: 0845

Comments:

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

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

Test 1 validation: Test 1: SOP TA 07_01
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No
Test 2 validation: Test 2: SOP TA 07_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: ____

Temperature Range °C
Incubator # 2 Range 24.7-26.3°C
Room B246 23.6-24.8°C
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
Bill Pardue
Erin Hollis
Marshall Faircloth
Sarah Pritchard
Jane Daniel
Nicole Hollandsworth
REVIEWER

Water Quality Parameters	20% DMW	Moderately Hard Water/ (Well Water)	Salt Water ASW NSW Test 1	Salt Water ASW NSW Test 2	Other:	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl2 (mg/L):	N/A	N/A	N/A	N/A		0.0	facility meter	P.Kane	SP
Lab Total Residual Cl2 (mg/L):	<0.03	<0.03				<0.03	HACH	EW/BP	MF
Alkalinity (mg/L as $CaCO_3$)	84	138.5				52.5	HACH	B	BP
Hardness (mg/L as $CaCO_3$)	86.5	131				183.5	HACH	B	BP
Total Ammonia (mg/L as N)	<0.017	<0.017				0.298	DENVER	MF	SP
Salinity (ppth)	<1	<1				<1	YSI (Metler)	MF	BP

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Appendix 2. Bench Sheets (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 896218 | Test #: 1 | Test Started: Date 1-31-06 Time: 1435
Organism: C. dubia | SOP #: TA 07_01 | Test Ended: Date 2-2-06 Time: 1200
Organism Batch: 6-06 | Diluent/ Batch: DMW 1-2-06
Organism Age: <24 hrs | Food: YCT P. subcapitata Artemia
Chamber Size: 30 mL | Batch: 5-05 8-05 —
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			
100%	A	A	5	5	5			
	B	B	5	5	5			
	C	C	5	5	5			
	D	D	5	5	5			
Organisms loaded by: MF		Checked by:	[redacted]	SP	MF			

Loading Verified by: S

Comments:

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

Test Results:

% mortality in 100% sample: 0

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

Screening Tests:

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

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

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Appendix 2. Bench Sheets (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 896218 Test #: 2 Test Started: Date 1.17.06 Time: 14:25

Organism: C. leedsi SOP #: TA 07_02 Test Ended: Date 22.06 Time: 1700

Organism Batch: 3-06 Diluent/ Batch: Well H_2O 1/30-06

Organism Age: 10 days Food: YCT *P. subcapitata* *Artemia*

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

Test Volume: 500 mL Feeding: (Prior to test) - Prior to renewal - Daily

Concentration	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Ctrl	A	C9	5	5	5			
	B	C10	5	5	5			
	C	C11	5	5	5			
	D	C12	5	5	5			
100%	A	C13	5	5	5			
	B	C14	5	5	5			
	C	C15	5	5	5			
	D	C16	5	5	5			
Organisms loaded by: JD Loading Verified by: SP		Checked by:	[redacted]	JD	JD			

Comments:

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

Test Results:

% mortality in 100% sample: 0

LC_{50}: >100 If Calculated: 95% CI______ Method:______

Screening Tests:

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

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

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FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 896218 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~~	B			
pH (S.U.)	8.4	|	8.2			
Temperature °C	24.5	|	24.6			
Dissolved Oxygen mg/L	7.9	|	7.7			
Conductivity (µmhos) mmhos	179	|	209			"
(initials) Measured by:	MF		MF			
(initials) Recorded by:	MF		MF			

Comments:

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	~~B~~	B			
pH (S.U.)	7.2	|	7.9			
Temperature °C	24.5	|	24.2			
Dissolved Oxygen mg/L	7.6	|	7.2			
Conductivity (µmhos) mmhos	1178	|	1346			
(initials) Measured by:	MF		MF			
(initials) Recorded by:	MF		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:

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FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 896218 **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.)	7.9	8.1	8.2			
Temperature °C	25.0	24.0	24.5			
Dissolved Oxygen mg/L	7.9	7.2	6.8			
Conductivity ~~µmhos~~ mmhos	271	273	285			
(initials) Measured by:	SP	B	JD			
(initials) Recorded by:	SP	B	JD			

Comments:

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C			
pH (S.U.)	7.1	7.6	7.8			
Temperature °C	24.8	24.2	24.5			
Dissolved Oxygen mg/L	7.9	6.7	6.8			
Conductivity ~~µmhos~~ mmhos	1179	1174	1276			
(initials) Measured by:	SP	B	JD			
(initials) Recorded by:	SP	B	JD			

Comments:

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

Comments:

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

Comments:

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Appendix 3. SRT Bench Sheets and Statistical Analysis

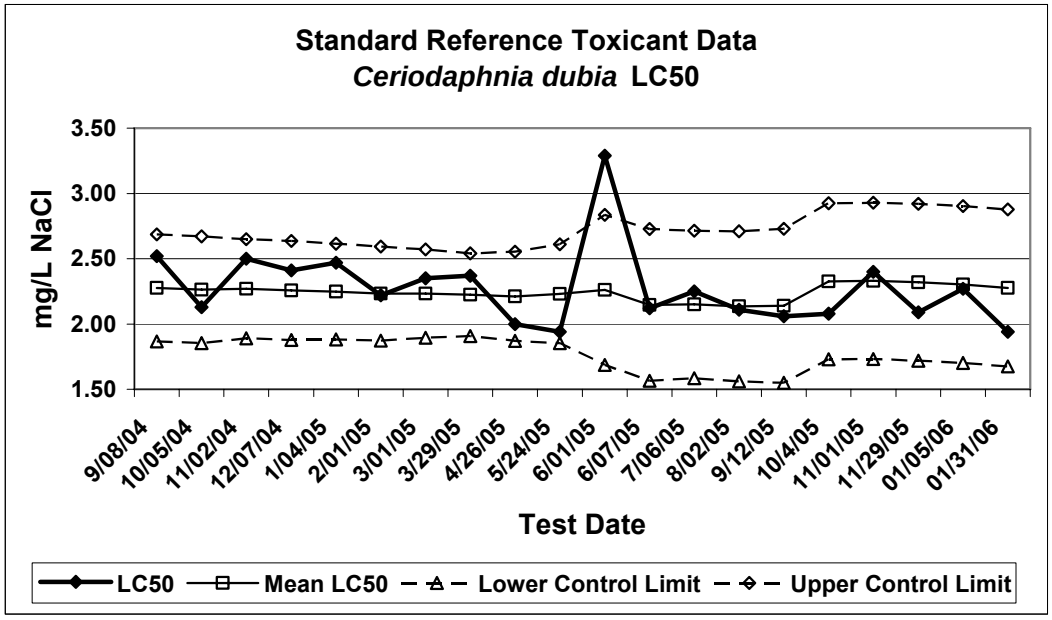
Florida Department of Environmental Protection
Bureau of Laboratories

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

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
7/20/04	2.60	2.30	0.20	1.90	2.69
8/10/04	2.47	2.29	0.20	1.89	2.69
9/08/04	2.52	2.28	0.21	1.87	2.69
10/05/04	2.13	2.26	0.20	1.85	2.67
11/02/04	2.50	2.27	0.19	1.89	2.65
12/07/04	2.41	2.26	0.19	1.88	2.64
1/04/05	2.47	2.25	0.18	1.88	2.61
2/01/05	2.22	2.23	0.18	1.87	2.59
3/01/05	2.35	2.23	0.17	1.89	2.57
3/29/05	2.37	2.22	0.16	1.91	2.54
4/26/05	2.00	2.21	0.17	1.87	2.55
5/24/05	1.94	2.23	0.19	1.85	2.61
6/01/05	3.29	2.26	0.29	1.69	2.84
6/07/05	2.12	2.15	0.29	1.57	2.73
7/06/05	2.25	2.15	0.28	1.58	2.72
8/02/05	2.11	2.14	0.29	1.56	2.71
9/12/05	2.06	2.14	0.29	1.55	2.73
10/4/05	2.08	2.33	0.30	1.73	2.93
11/01/05	2.40	2.33	0.30	1.73	2.93
11/29/05	2.09	2.32	0.30	1.72	2.92
01/05/06	2.27	2.30	0.30	1.70	2.90
01/31/06	1.94	2.28	0.30	1.68	2.88

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

CV = 13.20
EPA reference 75th quartile CV = 29%



Appendix 3. (continued)

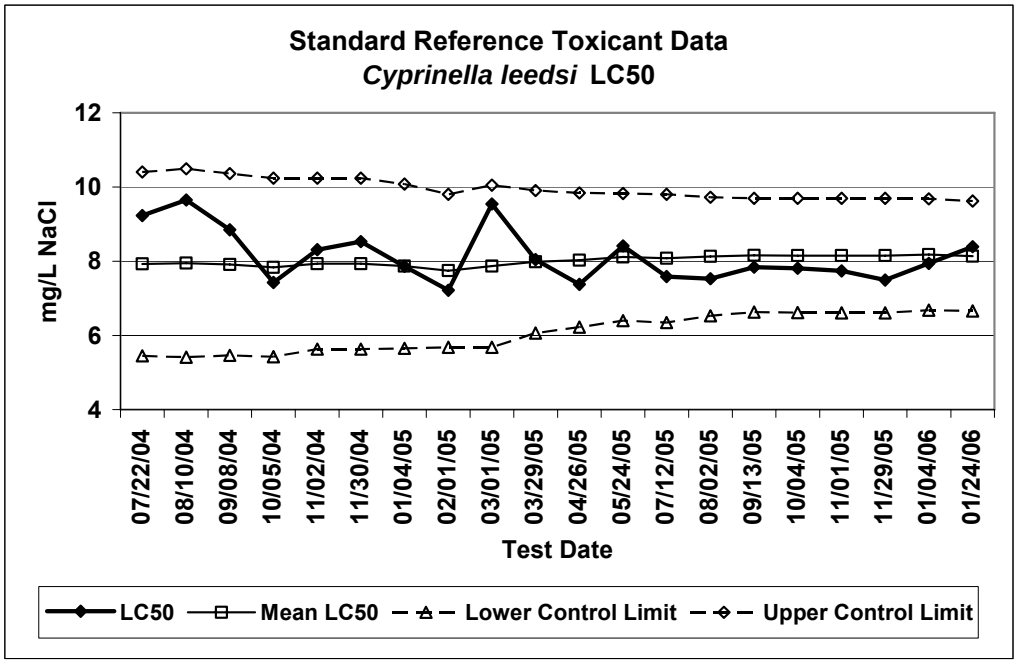
Florida Department of Environmental Protection
Bureau of Laboratories

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

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
05/24/04	7.42	7.88	1.20	5.49	10.27
06/22/04	9.19	7.91	1.23	5.46	10.36
07/22/04	9.23	7.93	1.24	5.45	10.41
08/10/04	9.65	7.95	1.27	5.41	10.49
09/08/04	8.85	7.91	1.22	5.46	10.36
10/05/04	7.43	7.83	1.20	5.43	10.24
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	6.68	9.68
01/24/06	8.39	8.14	0.74	6.66	9.62

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

CV = 9.09
EPA reference 75th quartile CV = 19%



Appendix 3. (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: Screening / Definitive
Static / Static Renewal

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

Test Beginning: Date: 1-31-06 Time: 1220
Test Ending: Date: 2-4-06 Time: 1200

Water Quality Parameters:	Diluent	Method
Total Residual Cl_2 (mg/L):	<0.03	Hach
Alkalinity (mg/L as $CaCO_3$):	84	Hach
Hardness (mg/L as CaCO3):	85.5	Hach
Total Ammonia (mg/L as N):	<0.07	Denver
Salinity (ppth):	<1	Mettler

Organism Batch #/ Age: 6-06 / <24 hrs
Feeding: (Prior to test) / Prior to renewal / Daily
Food: YCT P.*subcapitata* Artemia
Food Batch: 5-05 8.05 -
Chamber size: 30 mL
Test volume: 20 mL per replicate

Page 1 of 2

Conc. µg/L (g/L)	Rep.	Chamber#	Number Live 0 hr / 24 hr / 48 hr (~~48 hr / 72 hr / 96 hr~~)	pH (SU) 0 hr / 24 hr / 48 hr (~~48 hr / 72 hr / 96 hr~~)	Temperature (° C) 0 hr / 24 hr / 48 hr (~~48 hr / 72 hr / 96 hr~~)	D.O. (mg/l) 0 hr / 24 hr / 48 hr (~~48 hr / 72 hr / 96 hr~~)	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhom/cm) 0 hr / 24 hr / 48 hr (~~48 hr / 72 hr / 96 hr~~)
Control	A	A	5 / 5 / 5	8.1 / / 8.0	24.5 / / 24.8	7.8 / / 7.3	0.115 / / 0.192
	B	B	5 / 5 / 5				
	C	C	5 / 5 / 5				
	D	D	5 / 5 / 5				
1.5	A	A	5 / 5 / 5	8.0 / / 8.0	24.8 / / 24.6	7.7 / / 7.4	2.97 / / 3.33
	B	B	5 / 5 / 5				
	C	C	5 / 5 / 5				
	D	D	5 / 5 / 5				
2.0	A	A	5 / 5 / 4 [1D]	8.0 / / 8.0	24.8 / / 24.6	7.6 / / 7.4	3.93 / / 4.03
	B	B	5 / 5 / 0 [5D]				
	C	C	5 / 5 / 2 [2D]				
	D	D	5 / 5 / 3 [2D]				
2.5	A	A	5 / 5 / 0 [5D]	8.0 / / 8.0	24.7 / / 24.5	7.7 / / 7.4	4.74 / / 5.48
	B	B	5 / 4 [1D] / 0 [4D]				
	C	C	5 / 4 [1D] / 0 [4D]				
	D	D	5 / 4 [1D] / 0 [4D]				
3.0	A	A	5 / 4 [1D] / 0 [4D]	8.0 / / 8.0	24.5 / / 24.4	7.7 / / 7.2	5.62 / / 6.33
	B	B	5 / 5 / 0 [5D]				
	C	C	5 / 4 [1D] / 0 [4D]				
	D	D	5 / 4 [1D] / 0 [5D]				
4.0	A	A	5 / 0 [5D] / -	8.0 / /	24.4 / /	7.6 / /	7.39 / / -
	B	B	5 / 0 [5D] / -	/ 7.9 /	/ 24.6 /	/ 7.9 /	/ 8.10 /
	C	C	5 / 0 [5D] / -				
	D	D	5 / 0 [5D] / -				
	A						
	B						
	C						
	D						
Loaded / measured by:			MF / GP / BP/MF	MF / SV / MF	MF / GP / MF	MF / GP / MF	MF / GP / MF
Recorded by:			GP / GP / MF	MF / SV / MF	MF / GP / MF	MF / GP / MF	MF / GP / MF

Investigators' Signatures
Sarah Pinkard
Marshall Faircloth
Jason Tomal
Bill Pickles

Concentrations prepared by: MF
Loading verified by: JD
Light Intensity: 50-100 Ft. candles (yes) no)
Photoperiod: 16 hours Light / 8 hours dark (yes) no)
Temperature Range °C:
Incubator # 2 min. 24.2 max. 24.9 mean 24.5
Incubator # ____ min. ____ max. ____ mean ____
Room B246 min. 23.1 max. 25.0 mean 24.4

REVIEWER

Remarks: Test run for 96 hours to match duration of environmental sample test. 48 hour results placed in SRT data file - MF 2/21/06

Statistical Results: Method: Spearman-Karber
48 (96) hour LC50: 1.94
95% Confidence Interval: lower 1.84 upper 2.06

Revised 01/23/06

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Appendix 3. (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: Screening / Definitive
Static / Static Renewal

Diluent/ Batch#: DMW 12-06
Toxicant/ Batch# NaCl 1206

Test Beginning: Date: 1-31-06 Time: 1220
Test Ending: Date: 2-4-06 Time: 1200

Water Quality Parameters:	Diluent	Method
Total Residual Cl_2 (mg/L):	<0.03	Hach
Alkalinity (mg/L as $CaCO_3$):	84	Hach
Hardness (mg/L as CaCO3):	85.5	Hach
Total Ammonia (mg/L as N):	<0.097	Denver
Salinity (ppth):	<1	Mettler

Organism Batch #/ Age: 6-06 / <24 hrs
Feeding: (Prior to test) / Prior to renewal / Daily
Food: YCT *P.subcapitata* Artemia
Food Batch: 5-05 8-05 –
Chamber size: 30 mL
Test volume: 20 mL per replicate

Page 2 of 2

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	A	5	5	5	8.2		8.2	24.0		25.5	7.7		7.5	0.178		0.197
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
1.5	A	A	5	5	4	8.1		8.1	24.3		25.7	7.7		7.0	2.92		3.27
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	0	0												
2.0	A	A	4	0	0	8.0		8.2	24.7		25.6	7.6		7.2	3.85		5.30
	B	B	0	0	0												
	C	C	2	0	0												
	D	D	3	3	3												
2.5	A	A	–	–	–	8.0		–	24.8		–	7.5		–	4.74		–
	B	B	–	–	–												
	C	C	–	–	–												
	D	D	–	–	–												
3.0	A	A	–	–	–	8.0		–	25.0		–	7.6		–	5.63		–
	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	SP		MF	SP		MF	SP		MF	SP		MF
Recorded by:			MF	MF	MF	SP		ML	SP		MF	SP		MF	SP		ML

Investigators' Signatures
Laurel Buchanan
Marnie Fairfield
Brett Dubois
Nicole Wetherington
REVIEWER

Concentrations prepared by: SP
Loading verified by: MF for 30 mL of 96 hr cells 2/2/06
Light Intensity: 50-100 Ft. candles (yes) no)
Photoperiod: 16 hours Light / 8 hours dark (yes) no)
Temperature Range °C:
Incubator # 2 min. 24.7 max. 24.8 mean 24.5
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 23.1 max. 25.2 mean 24.4

Remarks: TAT run for 96 hours to match duration of environmental sample TAT. 48 hour results placed in SRT data file MF 2/21/06

Statistical Results: Method: Spearman-Karber
48 / 96 hour LC50: 1.67
95% Confidence Interval: lower 1.55 upper 1.79

Revised 01/23/06

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Appendix 3. (continued)

[redacted]

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: Screening / (Definitive)
Static / (Static Renewal)

Diluent/ Batch#: Well H_2O 1-23-06
Toxicant/ Batch#: NaCl 12-06

Test Beginning: Date: 1-24-06 Time: ~~8~~ 12:15
Test Ending: Date: 1-28-06 Time: 1230

Water Quality Parameters:		Diluent	Method
Total Residual Cl: (mg/L):		<0.03	Hach
Alkalinity (mg/L as $CaCO_3$):		143	Hach
Hardness (mg/L as CaCO3):		133	Hach
Total Ammonia (mg/L as N):		<0.017	Denver
Salinity (ppth):	21	~~22.0~~ 19	Mettler

MF Initial Lower 1-24-06

Organism Batch #/ Age: 2-06 / 3days
Feeding: ~~Prior to test~~ / Prior to renewal / Daily
Food: YCT P.*subcapitata* Artemia
Food Batch: — — GSL536-90
Chamber size: 1000 mL
Test volume: 500 mL per replicate

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Conc. ug/L (ppt)	Rep.	Chamber#	Number Live 0 hr / ~~48 hr~~	Number Live 24 hr / ~~72 hr~~	Number Live 48 hr / ~~96 hr~~	pH (SU) 0 hr / ~~48 hr~~	pH (SU) 24 hr / ~~72 hr~~	pH (SU) 48 hr / ~~96 hr~~	Temperature (° C) 0 hr / ~~48 hr~~	Temperature (° C) 24 hr / ~~72 hr~~	Temperature (° C) 48 hr / ~~96 hr~~	D.O. (mg/l) 0 hr / ~~48 hr~~	D.O. (mg/l) 24 hr / ~~72 hr~~	D.O. (mg/l) 48 hr / ~~96 hr~~	UNCORRECTED Cond. (mmhos/cm) 0 hr / ~~48 hr~~	UNCORRECTED Cond. (mmhos/cm) 24 hr / ~~72 hr~~	UNCORRECTED Cond. (mmhos/cm) 48 hr / ~~96 hr~~
Control	A	F13	10	10	10	8.0		8.3	24.6		24.1	8.4		6.5	0.272		2.309
	B	F14	10	10	10		8.1			24.7			7.3			0.323	
	C																
	D																
6.0	A	F15	10	10	10	7.8		8.1	24.6		24.0	8.2		5.9	10.7		11.01
	B	F16	10	9	9		8.0			24.8			7.3			11.0	
	C																
	D																
7.0	A	F17	10	10	10	7.9		8.1	24.7		24.1	8.4		6.0	12.5		12.51
	B	F18	10	9	9		8.0			24.7			7.2			12.5	
	C																
	D																
8.0	A	F19	10	9	6	7.9		8.1	24.8		24.7	8.4		6.9	14.2		~~14.31~~
	B	F20	10	7	7		8.0			24.8			7.1			14.0	
	C																
	D																
9.0	A	F21	10	9	~~4~~ 5	7.9		8.1	24.8		24.5	8.3		6.1	15.7		15.22
	B	F22	10	8	3		8.0			24.4			7.3			15.7	
	C																
	D																
10.0	A	F23	10	~~9~~ 10	0	7.8		8.1	24.8		24.1	8.4		6.3	17.3		17.09
	B	F24	10	8	2		8.0			24.5			7.3			16.9	
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			SP	B	SP	SP	SP	B	SP	B	B	SP	SP	B	SP	SP	B
Recorded by:			B	B	SP	SP	SP	B	SP	B	SP	SP	SP	B	SP	SP	B

Investigators' Signatures
Bruce Anderson
Jennifer Fruhwirth
Jessica Davis
Marshall Faircloth

Nicole Wilkerson
REVIEWER

Concentrations prepared by: MF
Loading verified by: B
Light Intensity: 50-100 Ft. candles (yes) no)
Photoperiod: 16 hours Light / 8 hours dark (yes) no)
Temperature Range °C:
Incubator = 2 min. 24.5 max. 25.1 mean 24.8
Incubator = ___ min. ___ max. ___ mean ___
Room B246 min. 22.9 max. 25.1 mean 24.0

Remarks:
(A) transcription error 36P SP
48 hr LC50 8.39 95% upper 8.71
95% confidence lower 8.06

Statistical Results: Method: Spearman-Karber
48 / (96) hour LC50: 7.94
95% Confidence Interval: lower 7.63 upper 8.27

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Appendix 3. (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: Screening / Definitive
Static / Static Renewal

Diluent/ Batch#: Well H2O 1-23-06
Toxicant/ Batch# NaCl 1.2-06

Test Beginning: Date: 1-24-06 Time: 1215
Test Ending: Date: 1-28-06 Time: 230

Water Quality Parameters:	Diluent	Method
Total Residual Cl$_2$ (mg/L):	<0.03	Hach
Alkalinity (mg/L as $CaCO_3$):	143	Hach
Hardness (mg/L as CaCO3):	133	Hach
Total Ammonia (mg/L as N):	<0.017	Denver
Salinity (ppth):	<1	Mettler

Organism Batch #/ Age: 2-06 13days
Feeding: Prior to test / Prior to renewal / Daily
Food: YCT P.subcapitata Artemia
Food Batch: - - GSL536-90
Chamber size: 1000 mL
Test volume: 500 mL per replicate

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Conc. µg/L	Rep.	Chamber#	Number Live 0 hr / 48 hr	Number Live 24 hr / 72 hr	Number Live 48 hr / 96 hr	pH (SU) 0 hr / 48 hr	pH (SU) 24 hr / 72 hr	pH (SU) 48 hr / 96 hr	Temperature (° C) 0 hr / 48 hr	Temperature (° C) 24 hr / 72 hr	Temperature (° C) 48 hr / 96 hr	D.O. (mg/l) 0 hr / 48 hr	D.O. (mg/l) 24 hr / 72 hr	D.O. (mg/l) 48 hr / 96 hr	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhom/cm) 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr
Control	A	F13	10	10	10		8.1			24.2			6.1			0.258	
	B	F211	10	10	10	8.2		8.3	24.1		24.4	8.0		7.5	0.265		0.390
	C																
	D																
60	A	F315	10	10	10		8.1			24.3			6.4			16.3	
	B	F16	8 TM	8	8	8.0		8.1	24.1		24.4	7.8		7.2	10.9		11.3
	C																
	D																
7.0	A	F17	10	10	9 D		8.1			24.2			6.8			12.7	
	B	F18	9	9	9	8.0		8.1	24.0		24.4	7.7		7.1	12.6		13.2
	C																
	D																
8.0	A	F19	6	6	2 4 D		8.0			24.2			6.8			14.3	
	B	F20	7	7	7	8.0		7.9	24.0		24.4	7.5		6.7	14.1		14.5
	C																
	D																
90	A	F21	3 4 D	3 D	1 D		4.1			24.3			6.6			15.5	
	B	F22	3	2 D	2	8.2		8.2	24.1		24.4	7.7		7.4	15.2		15.7
	C																
	D																
10.0	A	F23	-	-	-		8.1			24.7			6.7			17.4	
	B	F24	1	0 D	-	8.1		-	24.1		-	7.4		-	17.1		-
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			SP	JD	JD	SP	JD	JD	SP	JD	JD	SP	JD	JD	SP	JD	JD
Recorded by:			SP	JD	JD	SP	JD	JD	SP	JD	JD	SP	JD	JD	SP	JD	JD

Investigators' Signatures
Brent Pinkney
Sarah Pinchard
Marshall Faircloth
Jason Jarvis
Nicole Wellborn
REVIEWER

Renewal Concentrations prepared by: MF
Loading verified by: MF
Light Intensity: 50-100 Ft. candles (yes) no)
Photoperiod: 16 hours Light / 8 hours dark (yes) no)
Temperature Range °C:
Incubator # 2 min. 24.5 max. 25.1 mean 24.8
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 23.8 max. 25.1 mean 24.6

Remarks:
A) transcription error 3 SP
48 hour results placed in SRT datafile SP
48 hour LC50 8.37
95% Confidence level: lower 8.06, upper 8.74

Statistical Results: Method: Spearman-Karber
48 / (96) hour LC50: 7.94
95% Confidence Interval: lower 7.63 upper 8.27

Revised 01/23/06

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Appendix 3. (continued)

Ceriodaphnia dubia Acute Standard Reference Toxicant Test

START DATE: 01/31/06 END DATE: 02/02/06 DURATION: 48 H
TOXICANT : NaCl

RAW DATA: Concentration (ug/L)	Number Exposed	Mortalities
0.00	20	0
1.50	20	0
2.00	20	11
2.50	20	20
3.00	20	20
4.00	20	20

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: LC50: 1.94
95% LOWER CONFIDENCE: 1.84
95% UPPER CONFIDENCE: 2.06

Cyprinella leedsi Acute Standard Reference Toxicant Test

START DATE: 01/24/06 END DATE: 01/28/06 DURATION: 48 H
TOXICANT : NaCl

RAW DATA: Concentration (ug/L)	Number Exposed	Mortalities
0.00	20	0
6.00	20	1
7.00	20	1
8.00	20	7
9.00	20	14
10.00	20	19

SPEARMAN-KARBER TRIM: 5.00%

SPEARMAN-KARBER ESTIMATES: LC50: 8.39
95% LOWER CONFIDENCE: 8.06
95% UPPER CONFIDENCE: 8.74

Appendix 4. 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
1/24/2006	NA	Hydrosphere Research
Customer		**Order Prepared By**
FDEP Marshall Faircloth Biology Mail Stop 6515 2600 Blair Stone Road Tallahassee, Fl 32399-2400		Dustin Onash

Quantity	Description
200	M. bahia from Aquatic Indicators
300	M. beryllina from Aquatic Indicators
120	C. leedsi, #CL 1001, Hatched 1/21/2006

Appendix 4. (continued)

4569 Samuel Street
Sarasota, Florida
34233

NELAC Accredited

MBL
MARINCO
BIOASSAY
LABORATORY

TEL: (941) 925-3594
TEL: (800) 889-0384
FAX: (941) 922-3874
Email: lab@biologylab.com
Internet: biologylab.com

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 1/30/06

Shipped to: FDEP Attn: Marshall Faircloth

P.O. No: _____

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia					
Menidia beryllina					
Cyprinella leedsi	1400	4 Day	CHCLC131	25°C	
Pimephales promelas					

Packed by: Frank Gauvi

Shipped Via: FedEx

Notes: _____

Thank you for your order.

Appendix 5. Chemical Analyses performed on the effluent from the Cape Canaveral Water Reclamation Facility Outfall D-001, sampled on January 30, 2006.

Date Sampled	Field ID	Analysis	Component	Result	Units	Remark	MDL	PQL
01-30-06 08:45	CAPE	Bio-AGP/LimNut	Algal Growth Potential	34.7	mg DryWt/L		0.3	0.9
01-30-06 08:45	CAPE	Bio-AGP/LimNut	Algal Growth Potential-Salinity Adjusted	0.62	mg DryWt/L	I	0.3	0.9
01-30-06 08:45	CAPE	Bio-BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	1.5	mg/L	AI	0.2	2.0
01-30-06 08:45	CAPE	Bio-Chl-a	Chlorophyll-A, Monochromatic, Water	0.85	ug/L	U	0.85	2.6
01-30-06 08:45	CAPE	Bio-Chl-a	Phaeophytin-A, Monochromatic, Water	1.5	ug/L	U	1.5	4.5
01-30-06 08:45	CAPE	Bio-Toxicology	Bioassay-Acute-Screen-FW-C.dubia, LC50	100	LC50	L		
01-30-06 08:45	CAPE	Bio-Toxicology	Bioassay-Acute-Screen-FW-Fish, LC50	100	LC50	L		
01-30-06 08:45	CAPE	BNA-Water	1,2,4-Trichlorobenzene	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	1,2-Dichlorobenzene	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	1,3-Dichlorobenzene	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	1,4-Dichlorobenzene	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	2,4,6-Trichlorophenol	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	2,4-Dichlorophenol	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	2,4-Dimethylphenol	48	ug/L	U	48	190
01-30-06 08:45	CAPE	BNA-Water	2,4-Dinitrophenol	14	ug/L	U	14	57
01-30-06 08:45	CAPE	BNA-Water	2,4-Dinitrotoluene	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	2,6-Dinitrotoluene	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	2-Chloronaphthalene	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	2-Chlorophenol	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	2-Methyl-4,6-dinitrophenol	2.9	ug/L	U	2.9	11
01-30-06 08:45	CAPE	BNA-Water	2-Nitrophenol	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	3,3'-Dichlorobenzidine	38	ug/L	U	38	150
01-30-06 08:45	CAPE	BNA-Water	4,4'-DDD	1.4	ug/L	U	1.4	5.7
01-30-06 08:45	CAPE	BNA-Water	4,4'-DDE	1.4	ug/L	U	1.4	5.7
01-30-06 08:45	CAPE	BNA-Water	4,4'-DDT	1.4	ug/L	U	1.4	5.7
01-30-06 08:45	CAPE	BNA-Water	4-Bromophenyl phenyl ether	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	4-Chloro-3-methylphenol	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	4-Chlorophenyl phenyl ether	1.9	ug/L	U	1.9	7.6
01-30-06 08:45	CAPE	BNA-Water	4-Nitrophenol	14	ug/L	U	14	57
01-30-06 08:45	CAPE	BNA-Water	Acenaphthene	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	Acenaphthylene	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	Aldrin	1.4	ug/L	U	1.4	5.7
01-30-06 08:45	CAPE	BNA-Water	alpha-BHC	1.4	ug/L	U	1.4	5.7
01-30-06 08:45	CAPE	BNA-Water	Anthracene	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	Benzidine	95	ug/L	U	95	380
01-30-06 08:45	CAPE	BNA-Water	Benzo(a)anthracene	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	Benzo(a)pyrene	0.95	ug/L	U	0.95	3.8

Appendix 5. Chemical Analyses (continued)

Date Sampled	Field ID	Analysis	Component	Result	Units	Remark	MDL	PQL
01-30-06 08:45	CAPE	BNA-Water	Benzo(b)fluoranthene	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	Benzo(g,h,i)perylene	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	Benzo(k)fluoranthene	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	beta-BHC	1.4	ug/L	U	1.4	5.7
01-30-06 08:45	CAPE	BNA-Water	Bis(2-chloroethoxy)methane	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	Bis(2-chloroethyl)ether	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	Bis(2-chloroisopropyl)ether	2.9	ug/L	U	2.9	11
01-30-06 08:45	CAPE	BNA-Water	Bis(2-ethylhexyl)phthalate	14	ug/L	U	14	57
01-30-06 08:45	CAPE	BNA-Water	Butyl benzyl phthalate	4.8	ug/L	U	4.8	19
01-30-06 08:45	CAPE	BNA-Water	Chrysene	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	delta-BHC	1.4	ug/L	U	1.4	5.7
01-30-06 08:45	CAPE	BNA-Water	Dibenzo(a,h)anthracene	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	Dieldrin	1.4	ug/L	U	1.4	5.7
01-30-06 08:45	CAPE	BNA-Water	Diethyl phthalate	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	Dimethyl phthalate	48	ug/L	U	48	190
01-30-06 08:45	CAPE	BNA-Water	Di-n-butyl phthalate	4.8	ug/L	U	4.8	19
01-30-06 08:45	CAPE	BNA-Water	Di-n-octyl phthalate	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	Endosulfan I	3.8	ug/L	U	3.8	15
01-30-06 08:45	CAPE	BNA-Water	Endosulfan II	3.8	ug/L	U	3.8	15
01-30-06 08:45	CAPE	BNA-Water	Endosulfan sulfate	1.4	ug/L	U	1.4	5.7
01-30-06 08:45	CAPE	BNA-Water	Endrin	1.4	ug/L	U	1.4	5.7
01-30-06 08:45	CAPE	BNA-Water	Endrin aldehyde	3.8	ug/L	U	3.8	15
01-30-06 08:45	CAPE	BNA-Water	Fluoranthene	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	Fluorene	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	gamma-BHC	1.4	ug/L	U	1.4	5.7
01-30-06 08:45	CAPE	BNA-Water	Heptachlor	1.4	ug/L	U	1.4	5.7
01-30-06 08:45	CAPE	BNA-Water	Heptachlor epoxide	1.4	ug/L	U	1.4	5.7
01-30-06 08:45	CAPE	BNA-Water	Hexachlorobenzene	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	Hexachlorobutadiene	2.9	ug/L	U	2.9	11
01-30-06 08:45	CAPE	BNA-Water	Hexachlorocyclopentadiene	2.9	ug/L	UJ	2.9	11
01-30-06 08:45	CAPE	BNA-Water	Hexachloroethane	2.9	ug/L	U	2.9	11
01-30-06 08:45	CAPE	BNA-Water	Indeno(1,2,3-cd)pyrene	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	Isophorone	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	Naphthalene	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	Nitrobenzene	1.9	ug/L	U	1.9	7.6
01-30-06 08:45	CAPE	BNA-Water	N-Nitrosodimethylamine	1.9	ug/L	U	1.9	7.6
01-30-06 08:45	CAPE	BNA-Water	N-Nitrosodi-n-propylamine	1.9	ug/L	U	1.9	7.6
01-30-06 08:45	CAPE	BNA-Water	N-Nitrosodiphenylamine	2.9	ug/L	U	2.9	11

Appendix 5. Chemical Analyses (continued)

Date Sampled	Field ID	Analysis	Component	Result	Units	Remark	MDL	PQL
01-30-06 08:45	CAPE	BNA-Water	Pentachlorophenol	2.9	ug/L	U	2.9	11
01-30-06 08:45	CAPE	BNA-Water	Phenanthrene	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	Phenol	0.95	ug/L	U	0.95	3.8
01-30-06 08:45	CAPE	BNA-Water	Pyrene	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	1,2,4-Trichlorobenzene	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	1,2-Dichlorobenzene	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	1,3-Dichlorobenzene	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	1,4-Dichlorobenzene	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	2,4,6-Trichlorophenol	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	2,4-Dichlorophenol	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	2,4-Dimethylphenol	48	ug/L	U	48	190
01-30-06 09:10	BLANK	BNA-Water	2,4-Dinitrophenol	14	ug/L	U	14	57
01-30-06 09:10	BLANK	BNA-Water	2,4-Dinitrotoluene	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	2,6-Dinitrotoluene	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	2-Chloronaphthalene	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	2-Chlorophenol	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	2-Methyl-4,6-dinitrophenol	2.9	ug/L	U	2.9	11
01-30-06 09:10	BLANK	BNA-Water	2-Nitrophenol	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	3,3'-Dichlorobenzidine	38	ug/L	U	38	150
01-30-06 09:10	BLANK	BNA-Water	4,4'-DDD	1.4	ug/L	U	1.4	5.7
01-30-06 09:10	BLANK	BNA-Water	4,4'-DDE	1.4	ug/L	U	1.4	5.7
01-30-06 09:10	BLANK	BNA-Water	4,4'-DDT	1.4	ug/L	U	1.4	5.7
01-30-06 09:10	BLANK	BNA-Water	4-Bromophenyl phenyl ether	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	4-Chloro-3-methylphenol	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	4-Chlorophenyl phenyl ether	1.9	ug/L	U	1.9	7.6
01-30-06 09:10	BLANK	BNA-Water	4-Nitrophenol	14	ug/L	U	14	57
01-30-06 09:10	BLANK	BNA-Water	Acenaphthene	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	Acenaphthylene	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	Aldrin	1.4	ug/L	U	1.4	5.7
01-30-06 09:10	BLANK	BNA-Water	alpha-BHC	1.4	ug/L	U	1.4	5.7
01-30-06 09:10	BLANK	BNA-Water	Anthracene	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	Benzidine	95	ug/L	U	95	380
01-30-06 09:10	BLANK	BNA-Water	Benzo(a)anthracene	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	Benzo(a)pyrene	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	Benzo(b)fluoranthene	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	Benzo(g,h,i)perylene	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	Benzo(k)fluoranthene	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	beta-BHC	1.4	ug/L	U	1.4	5.7

Appendix 5. Chemical Analyses (continued)

Date Sampled	Field ID	Analysis	Component	Result	Units	Remark	MDL	PQL
01-30-06 09:10	BLANK	BNA-Water	Bis(2-chloroethoxy)methane	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	Bis(2-chloroethyl)ether	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	Bis(2-chloroisopropyl)ether	2.9	ug/L	U	2.9	11
01-30-06 09:10	BLANK	BNA-Water	Bis(2-ethylhexyl)phthalate	14	ug/L	U	14	57
01-30-06 09:10	BLANK	BNA-Water	Butyl benzyl phthalate	4.8	ug/L	U	4.8	19
01-30-06 09:10	BLANK	BNA-Water	Chrysene	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	delta-BHC	1.4	ug/L	U	1.4	5.7
01-30-06 09:10	BLANK	BNA-Water	Dibenzo(a,h)anthracene	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	Dieldrin	1.4	ug/L	U	1.4	5.7
01-30-06 09:10	BLANK	BNA-Water	Diethyl phthalate	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	Dimethyl phthalate	48	ug/L	U	48	190
01-30-06 09:10	BLANK	BNA-Water	Di-n-butyl phthalate	4.8	ug/L	U	4.8	19
01-30-06 09:10	BLANK	BNA-Water	Di-n-octyl phthalate	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	Endosulfan I	3.8	ug/L	U	3.8	15
01-30-06 09:10	BLANK	BNA-Water	Endosulfan II	3.8	ug/L	U	3.8	15
01-30-06 09:10	BLANK	BNA-Water	Endosulfan sulfate	1.4	ug/L	U	1.4	5.7
01-30-06 09:10	BLANK	BNA-Water	Endrin	1.4	ug/L	U	1.4	5.7
01-30-06 09:10	BLANK	BNA-Water	Endrin aldehyde	3.8	ug/L	U	3.8	15
01-30-06 09:10	BLANK	BNA-Water	Fluoranthene	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	Fluorene	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	gamma-BHC	1.4	ug/L	U	1.4	5.7
01-30-06 09:10	BLANK	BNA-Water	Heptachlor	1.4	ug/L	U	1.4	5.7
01-30-06 09:10	BLANK	BNA-Water	Heptachlor epoxide	1.4	ug/L	U	1.4	5.7
01-30-06 09:10	BLANK	BNA-Water	Hexachlorobenzene	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	Hexachlorobutadiene	2.9	ug/L	U	2.9	11
01-30-06 09:10	BLANK	BNA-Water	Hexachlorocyclopentadiene	2.9	ug/L	UJ	2.9	11
01-30-06 09:10	BLANK	BNA-Water	Hexachloroethane	2.9	ug/L	U	2.9	11
01-30-06 09:10	BLANK	BNA-Water	Indeno(1,2,3-cd)pyrene	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	Isophorone	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	Naphthalene	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	Nitrobenzene	1.9	ug/L	U	1.9	7.6
01-30-06 09:10	BLANK	BNA-Water	N-Nitrosodimethylamine	1.9	ug/L	U	1.9	7.6
01-30-06 09:10	BLANK	BNA-Water	N-Nitrosodi-n-propylamine	1.9	ug/L	U	1.9	7.6
01-30-06 09:10	BLANK	BNA-Water	N-Nitrosodiphenylamine	2.9	ug/L	U	2.9	11
01-30-06 09:10	BLANK	BNA-Water	Pentachlorophenol	2.9	ug/L	U	2.9	11
01-30-06 09:10	BLANK	BNA-Water	Phenanthrene	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	Phenol	0.95	ug/L	U	0.95	3.8
01-30-06 09:10	BLANK	BNA-Water	Pyrene	0.95	ug/L	U	0.95	3.8

Appendix 5. Chemical Analyses (continued)

Date Sampled	Field ID	Analysis	Component	Result	Units	Remark	MDL	PQL
01-30-06 08:45	CAPE	GC-Water	Alachlor	0.65	ug/L	U	0.65	2.6
01-30-06 08:45	CAPE	GC-Water	Ametryn	0.054	ug/L	U	0.054	0.22
01-30-06 08:45	CAPE	GC-Water	Atrazine	0.063	ug/L	I	0.054	0.22
01-30-06 08:45	CAPE	GC-Water	Azinphos Methyl	0.22	ug/L	U	0.22	0.88
01-30-06 08:45	CAPE	GC-Water	Bromacil	0.22	ug/L	U	0.22	0.88
01-30-06 08:45	CAPE	GC-Water	Butylate	0.22	ug/L	U	0.22	0.88
01-30-06 08:45	CAPE	GC-Water	Chlorpyrifos Ethyl	0.054	ug/L	U	0.054	0.22
01-30-06 08:45	CAPE	GC-Water	Chlorpyrifos Methyl	0.11	ug/L	U	0.11	0.44
01-30-06 08:45	CAPE	GC-Water	Diazinon	0.054	ug/L	UJ	0.054	0.22
01-30-06 08:45	CAPE	GC-Water	Ethion	0.054	ug/L	U	0.054	0.22
01-30-06 08:45	CAPE	GC-Water	Ethoprop	0.11	ug/L	U	0.11	0.44
01-30-06 08:45	CAPE	GC-Water	Fenamiphos	0.22	ug/L	U	0.22	0.88
01-30-06 08:45	CAPE	GC-Water	Fonofos	0.11	ug/L	U	0.11	0.44
01-30-06 08:45	CAPE	GC-Water	Hexazinone	0.11	ug/L	U	0.11	0.44
01-30-06 08:45	CAPE	GC-Water	Malathion	0.16	ug/L	UJ	0.16	0.64
01-30-06 08:45	CAPE	GC-Water	Metalaxyl	0.27	ug/L	U	0.27	1.1
01-30-06 08:45	CAPE	GC-Water	Metolachlor	0.54	ug/L	U	0.54	2.2
01-30-06 08:45	CAPE	GC-Water	Metribuzin	0.11	ug/L	U	0.11	0.44
01-30-06 08:45	CAPE	GC-Water	Mevinphos	0.22	ug/L	UJ	0.22	0.88
01-30-06 08:45	CAPE	GC-Water	Naled	0.86	ug/L	UJ	0.86	3.4
01-30-06 08:45	CAPE	GC-Water	Norflurazon	0.16	ug/L	U	0.16	0.64
01-30-06 08:45	CAPE	GC-Water	Parathion Ethyl	0.16	ug/L	U	0.16	0.64
01-30-06 08:45	CAPE	GC-Water	Parathion Methyl	0.11	ug/L	U	0.11	0.44
01-30-06 08:45	CAPE	GC-Water	Phorate	0.054	ug/L	U	0.054	0.22
01-30-06 08:45	CAPE	GC-Water	Prometryn	0.16	ug/L	U	0.16	0.64
01-30-06 08:45	CAPE	GC-Water	Simazine	0.054	ug/L	U	0.054	0.22
01-30-06 09:10	BLANK	GC-Water	Alachlor	0.57	ug/L	U	0.57	2.3
01-30-06 09:10	BLANK	GC-Water	Ametryn	0.048	ug/L	U	0.048	0.19
01-30-06 09:10	BLANK	GC-Water	Atrazine	0.048	ug/L	U	0.048	0.19
01-30-06 09:10	BLANK	GC-Water	Azinphos Methyl	0.19	ug/L	U	0.19	0.76
01-30-06 09:10	BLANK	GC-Water	Bromacil	0.19	ug/L	U	0.19	0.76
01-30-06 09:10	BLANK	GC-Water	Butylate	0.19	ug/L	U	0.19	0.76
01-30-06 09:10	BLANK	GC-Water	Chlorpyrifos Ethyl	0.048	ug/L	U	0.048	0.19
01-30-06 09:10	BLANK	GC-Water	Chlorpyrifos Methyl	0.095	ug/L	U	0.095	0.38
01-30-06 09:10	BLANK	GC-Water	Diazinon	0.048	ug/L	UJ	0.048	0.19
01-30-06 09:10	BLANK	GC-Water	Ethion	0.048	ug/L	U	0.048	0.19
01-30-06 09:10	BLANK	GC-Water	Ethoprop	0.095	ug/L	U	0.095	0.38
01-30-06 09:10	BLANK	GC-Water	Fenamiphos	0.19	ug/L	U	0.19	0.76

Appendix 5. Chemical Analyses (continued)

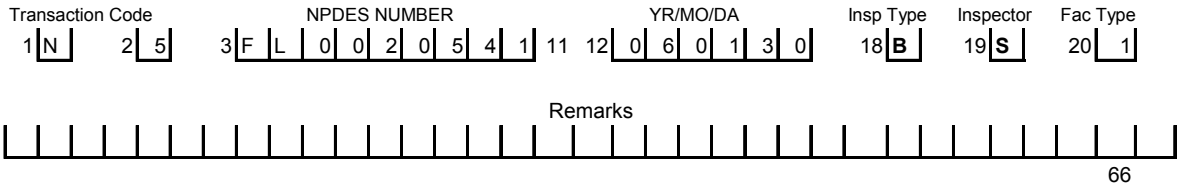
Date Sampled	Field ID	Analysis	Component	Result	Units	Remark	MDL	PQL
01-30-06 09:10	BLANK	GC-Water	Fonofos	0.095	ug/L	U	0.095	0.38
01-30-06 09:10	BLANK	GC-Water	Hexazinone	0.095	ug/L	U	0.095	0.38
01-30-06 09:10	BLANK	GC-Water	Malathion	0.14	ug/L	UJ	0.14	0.56
01-30-06 09:10	BLANK	GC-Water	Metalaxyl	0.24	ug/L	U	0.24	0.96
01-30-06 09:10	BLANK	GC-Water	Metolachlor	0.48	ug/L	U	0.48	1.9
01-30-06 09:10	BLANK	GC-Water	Metribuzin	0.095	ug/L	U	0.095	0.38
01-30-06 09:10	BLANK	GC-Water	Mevinphos	0.19	ug/L	UJ	0.19	0.76
01-30-06 09:10	BLANK	GC-Water	Naled	0.76	ug/L	UJ	0.76	3
01-30-06 09:10	BLANK	GC-Water	Norflurazon	0.14	ug/L	U	0.14	0.56
01-30-06 09:10	BLANK	GC-Water	Parathion Ethyl	0.14	ug/L	U	0.14	0.56
01-30-06 09:10	BLANK	GC-Water	Parathion Methyl	0.095	ug/L	U	0.095	0.38
01-30-06 09:10	BLANK	GC-Water	Phorate	0.048	ug/L	U	0.048	0.19
01-30-06 09:10	BLANK	GC-Water	Prometryn	0.14	ug/L	U	0.14	0.56
01-30-06 09:10	BLANK	GC-Water	Simazine	0.048	ug/L	U	0.048	0.19
01-30-06 08:45	CAPE	Metals-Water	Aluminum	81	ug/L		5	20
01-30-06 08:45	CAPE	Metals-Water	Arsenic	4	ug/L	U	4	16
01-30-06 08:45	CAPE	Metals-Water	Cadmium	0.05	ug/L	U	0.05	0.2
01-30-06 08:45	CAPE	Metals-Water	Calcium	52.5	mg/L		0.05	0.2
01-30-06 08:45	CAPE	Metals-Water	Chromium	2	ug/L	U	2	8
01-30-06 08:45	CAPE	Metals-Water	Copper	0.53	ug/L	I	0.25	1
01-30-06 08:45	CAPE	Metals-Water	Iron	30	ug/L	I	10	40
01-30-06 08:45	CAPE	Metals-Water	Lead	0.29	ug/L	I	0.075	0.3
01-30-06 08:45	CAPE	Metals-Water	Magnesium	16.1	mg/L		0.01	0.04
01-30-06 08:45	CAPE	Metals-Water	Nickel	1	ug/L	U	1	4
01-30-06 08:45	CAPE	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
01-30-06 08:45	CAPE	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
01-30-06 08:45	CAPE	Metals-Water	Zinc	37	ug/L		3	12
01-30-06 09:10	BLANK	Metals-Water	Aluminum	5	ug/L	U	5	20
01-30-06 09:10	BLANK	Metals-Water	Arsenic	4	ug/L	U	4	16
01-30-06 09:10	BLANK	Metals-Water	Cadmium	0.05	ug/L	U	0.05	0.2
01-30-06 09:10	BLANK	Metals-Water	Calcium	0.05	mg/L	U	0.05	0.2
01-30-06 09:10	BLANK	Metals-Water	Chromium	2	ug/L	U	2	8
01-30-06 09:10	BLANK	Metals-Water	Copper	0.25	ug/L	U	0.25	1
01-30-06 09:10	BLANK	Metals-Water	Iron	10	ug/L	U	10	40
01-30-06 09:10	BLANK	Metals-Water	Lead	0.075	ug/L	U	0.075	0.3
01-30-06 09:10	BLANK	Metals-Water	Magnesium	0.01	mg/L	U	0.01	0.04
01-30-06 09:10	BLANK	Metals-Water	Nickel	1	ug/L	U	1	4
01-30-06 09:10	BLANK	Metals-Water	Selenium	0.5	ug/L	U	0.5	2

Appendix 5. Chemical Analyses (continued)

Date Sampled	Field ID	Analysis	Component	Result	Units	Remark	MDL	PQL
01-30-06 09:10	BLANK	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
01-30-06 09:10	BLANK	Metals-Water	Zinc	3	ug/L	U	3	12
01-30-06 08:45	CAPE	Nutrients-Liquid	Ammonia-N	0.35	mg N/L	A	0.02	0.04
01-30-06 08:45	CAPE	Nutrients-Liquid	Kjeldahl Nitrogen	1.3	mg N/L	A	0.24	0.6
01-30-06 08:45	CAPE	Nutrients-Liquid	NO2NO3-N	0.66	mg N/L		0.04	0.1
01-30-06 08:45	CAPE	Nutrients-Liquid	O-Phosphate-P	0.022	mg P/L		0.004	0.01
01-30-06 08:45	CAPE	Nutrients-Liquid	Total-P	0.064	mg P/L	A	0.02	0.06
01-30-06 08:45	CAPE	Nutrients-Liquid	TSS	4	mg/L	U	4	16
01-30-06 09:10	BLANK	Nutrients-Liquid	Ammonia-N	0.01	mg N/L	U	0.01	0.02
01-30-06 09:10	BLANK	Nutrients-Liquid	Kjeldahl Nitrogen	0.08	mg N/L	U	0.08	0.2
01-30-06 09:10	BLANK	Nutrients-Liquid	NO2NO3-N	0.007	mg N/L	I	0.004	0.01
01-30-06 09:10	BLANK	Nutrients-Liquid	O-Phosphate-P	0.004	mg P/L	U	0.004	0.01
01-30-06 09:10	BLANK	Nutrients-Liquid	Total-P	0.02	mg P/L	U	0.02	0.06

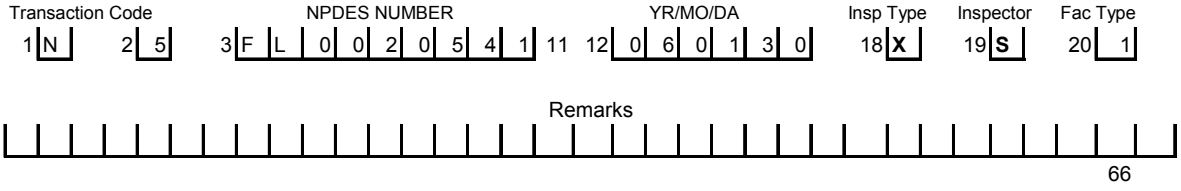
The Bioassay of Cape Canaveral Water Reclamation Facility effluent sampled on January 30, 2005. NPDES #FL0020541.

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



The Priority Pollutants Analysis of Cape Canaveral Water Reclamation Facility effluent sampled on January 30, 2005. NPDES #FL0020541.

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



Biological Analyses of Cape Canaveral Water Reclamation Facility effluent sampled on January 30, 2005. NPDES #FL0020541.

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

