

Effluent Quality Assessment of

San Jose Wastewater Treatment Facility

Duval County

NPDES #FL0023663

Sampled March 12, 2007

June 2007

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

San Jose Wastewater Treatment Facility, 7128 Balboa Road, Jacksonville, Duval County, Florida 32217, NPDES #FL0023663. Effluent samples for this facility were collected on March 12, 2007.

Introduction

San Jose Wastewater Treatment Facility uses the complete-mix activated-sludge treatment process to treat domestic wastewater. The facility has a design flow of 2.25 million gallons per day (MGD) annual average daily flow (AADF). The AADF from March 1, 2006, through February 28, 2007, was 1.47 MGD. The flow during the sampling event was 1.24 MGD. The treatment system includes an influent bar screen and grit removal system, complete-mix aeration basins, secondary clarification, and an ultraviolet disinfection system. Disinfected effluent is discharged through Outfall D-001 to the Class III Marine waters of the St. Johns River. Outfall D-001 is located approximately at latitude 30º 14' 50" N and longitude 81º 37' 13" W. The outfall is a dual pipeline consisting of one 1,524 m (5,000 feet) long 0.38 m (15 inch) diameter vitrified-clay gravity pipeline that extends from the facility to approximately 76.2 m (250 feet) from the eastern shoreline. The second pipeline is a 1,524 m (5,000 feet) long 0.406 m (16 inch) diameter polyethylene force-main that also terminates approximately 76.2 m (250 feet) from the eastern shoreline. The terminus of both pipes is an upturned elbow. Discharge is at a depth of approximately 3.04 m (10 feet). Residuals are thickened and stabilized by aerobic digestion prior to being hauled to either the JEA Buckman Biosolids Disposal Facility or to a Class I or II solid waste landfill.

The facility currently has no Administrative Orders (AO) or Consent Orders (CO). All conditions of the OGC File No. 03-1538 Consent Order were met and the case was closed on November 6, 2003. The facility has no mixing zones. A review of discharge monitoring report (DMR) data for the period of October 2005 through November 2006 noted permit limit violations for total suspended solids (maximum of 66 mg/L, limit 60 mg/L) and also bio-chemical oxygen demand (maximum of 74 mg/L, limit 20 mg/L) in May 2006. (Facility information provided by Michael Bogin of FDEP Northeast District.)

Methods

Samples were collected from the EFF-1 NPDES sampling point (after final treatment, prior to discharge) for Outfall D-001 by Joseph Emery, Jennifer Paris, and Michael Bogin (FDEP Northeast District) following DEP-SOP-001/01 FS 2400 Wastewater Sampling. All DEP SOPs are available on the web at: http://www.floridadep.org/labs/qa/sops.htm.

See Appendix A for the completed chain of custody form.

The 48-hour acute screening toxicity tests and algal growth potential test were performed following internal DEP SOPs TA07_03, TA07_04, and TA08_01 through TA08_09. All internal DEP SOPs are available on the web at: http://www.floridadep.org/labs/cgi-bin/sop/biosop.asp. While the 48-hour acute screening toxicity test does not reflect the permit required conditions, the Department uses it to provide reasonable assurance that the facility does not adversely affect waters of the state.

The bioassay samples were salinity-adjusted per permit requirements from an apparent salinity of less than one (1) part per thousand (ppth) to approximately 20 ppth using 40 Fathoms® artificial sea salts. The salt controls used for these tests were prepared by salting well water with artificial sea salts to approximately 20 ppth salinity. The purpose of the salt control was to confirm that there was no effect of adding artificial sea salts to the sample. There was no mortality in the salt control of the *Americamysis bahia* test. There was 10% mortality in the salt control of the *Menidia beryllina* test.

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

Toxicity Test Results

Tests were performed March 13 - 15, 2007.

Americamysis bahia 48-hour acute screening bioassay –	LC_{50} > 100%, 0% mortality* in salinity adjusted 100% sample at 48-hours
Menidia beryllina 48-hour acute screening bioassay –	LC_{50} > 100%, 15% mortality* in salinity adjusted 100% sample at 48-hours

The bioassay samples were not acutely toxic to the test organisms.

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

*NOTE: In a 48-hour acute screening test of 100% effluent, mortality of <20% provides reasonable assurance that the effluent meets the acute toxicity criterion of Florida's Surface Water Quality Standards (Rule 62-302.500 (1)(a)4, F.A.C.). Mortality between 20-50% indicates low to moderate levels of toxicity, and further action may be required. Mortality of >50% provides reasonable assurance that the effluent fails to meet the minimum requirement to discharge to waters of the state (Rule 62-4.244(3)(a), F.A.C.).

Algal Growth Potential

The effluent Algal Growth Potential (AGP) was 380 mg dry wt/L of the unicellular green alga, *Pseudokirchneriella subcapitata*, formerly known as *Selenastrum capricornutum*. Raschke and Shultz (1987) found that AGP values above 5.0 mg dry weight/L represent a "problem" threshold for fresh receiving waters, implying nutrient enrichment. The analytical chemistry suggests that the effluent is nitrogen-limited. The predicted AGP based on inorganic nitrogen concentrations was 505.4 (±20%) mg dry wt/L (Table 1; Miller et al. 1978).

The effluent Algal Growth Potential (AGP) was 493 mg dry wt/L of the saltwater species *Dunaliella tertiolecta.* Raschke and Shultz found that AGP values above 10.0 mg dry weight/L represent a "problem" threshold for marine receiving waters, implying nutrient enrichment (personal communication with Ron Raschke USEPA Region 4, 1987).

See Table 1 for AGP results.

Chemistry Results

Total residual chlorine was not detected in the bioassay sample in the laboratory. Total ammonia was detected in the bioassay sample in the laboratory at a concentration of 8.61 mg/L. Based on the pH, salinity, and temperature of the bioassay sample, the calculated unionized ammonia concentration was 0.118 mg/L. The total ammonia concentration in the sample collected and preserved for chemical analysis was 9.3 mg/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was 0.126 mg/L.

Lead, silver, and zinc were detected in the effluent at levels that comply with Class III marine water quality criteria (62-302.530, F.A.C.). Atrazine and nickel were detected between the

laboratory method detection limits (MDL) and practical quantitation limits (PQL). The effluent copper concentration (5.51 µg/L) and the effluent iron concentration (471 µg/L) exceeded their respective Class III Marine water quality criteria of ≤ 3.7 µg/L (62-302.530(24), F.A.C.) and ≤ 300 µg/L (62-302.530(39), F.A.C.).

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 March 12, 2007, was not acutely toxic to either test species during the 48-hour acute screening bioassays. The effluent AGP result exceeded the "problem" threshold for both fresh and marine receiving waters, suggesting nutrient enrichment may be an issue. Effluent copper and iron exceeded Class III Marine water quality standards.

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 inorganic nitrogen (TSIN) and total nitrogen (TN) limitation, the AGP (salinity adjusted) of the saltwater species *Dunaliella tertiolecta* , and ratios of nitrogen to phosphorus for samples collected from the San Jose Wastewater Treatment Facility on March 12, 2007.

Location	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (TN) ± 20%	AGP (salinity adjusted)	Inorganic N:P ratio	Total N:P ratio
Effluent	380.0	505.4 ± 101.1	570.0 ± 114.0	493.0 A	8.3	6.8

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

Table 2. Effluent limits, Class III Criteria for predominantly marine waters and chemical and microbiological data for samples collected from the San Jose Wastewater Treatment Facility on March 12, 2007.

San Jose WWTF NPDES # FL0023663	Class III Stds	Effluent Limits	Effluent Grab Samples	
Organic Constituents (µg/L)				
Atrazine	-	-	0.13	I
Metals (µg/L unless otherwise noted)				
Aluminum	≤ 1500	-	121	
Arsenic	≤ 50	-	5	U
Cadmium	< 8.8	-	0.05	U
Calcium (mg/L)	-	-	64.9	
Chromium-III	-	-	0.3	U
Copper	≤ 3.7	-	5.51	
Iron	≤ 300	-	471	
Lead	≤ 8.5	-	2.63	
Magnesium (mg/L)	-	-	26.4	
Nickel	≤ 8.3	-	2.1	I
Selenium	≤ 71	-	0.5	U
Silver	≤ 2.3	-	0.12	
Zinc	≤ 86	-	35	
Nutrients (mg/L)				
Ortho-phosphate	-	Report	1.6	
Total Phosphorus	-	Report	2.2	
Total Ammonia	-	Report	9.3	
Un-ionized Ammonia	-	Report	0.126	c
Nitrate and Nitrite	-	Report	4	f
Total Kjeldahl Nitrogen	-	Report	11	
Organic Nitrogen	-	Report	1.7	c
Total Nitrogen	-	Report	15	c
General Physical and Chemical Parameters				
Dissolved Oxygen (mg/L)	≥ 4.0 s	Report	5.9	
pH (SU)	6.5 - 8.5 s	6.5 - 8.5 s	7.4	
Conductivity (µmhos/cm)	-	-	981	
Temperature °C	-	-	23.1	
Sample Depth	-	-	0.56	
Total Residual Chlorine (mg/L)	≤ 0.01	-	< 0.03	£
Total Suspended Solids (mg/L)	-	≤ 60.0 sp	16	
CBOD, 5 day (mg/L), N - inhibited	-	≤ 20.0 sp	4.4	A
Flow (MGD)	-	≤ 2.25	1.4672	a
Hardness (mg $CaCO_3$)	-	-	270.77	c
Microbiology (Number of counts/100ml)				
Fecal Coliforms	800 s	800 s	26	B*

Value exceeds the Class III Water Quality Criteria or permit limits

a - Annual average
c - Value is calculated
f - Analyte was detected in both sample and field blank
s - Single sample
t - Shall not exceed 29 NTUs above background
A - Value reported is the mean of two or more determinations
B - Results based on colony counts outside the acceptance range
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
U - Material analyzed for but not detected; value reported is the method detection limit
p - Permit limit is for a 24-hour flow proportioned composite sample
£ - Measured in FDEP bioassay laboratory
* - Analysis performed by FDEP Northeast District Laboratory

Appendix A. Chain of Custody form

NEDFS-01-06
1/19/07

Department of Environmental Protection Northeast District Field Sheet

Sample Source: Sun Jose WWTP RQ#: _____ Date 3-12-07 Page ___ of ___

Meter # 2 Acid Kit# 1 Ortho Kit # 2 Sampling Team Joe F, Jon B, + Michael B

LAB ID #	Site Name: Sun Jose Effluent	Field/Storet #:	Measured By:	Matrix***:

Time	Temp °C	Cond µohm cm^{-1}	Sal %	pH s.u.	DO mg/L	DO Sat %	Secchi m	WTR V ft/sec	Tide Ebb/Fld,LS/ HS	Total Depth	Sample Depth
9:55	23.12	981	0.48	7.36	5.90	69.2	—	—	~~0.50~~	0.95	0.56

Mode: ☐ Wading ☐ Shore ☐ Gas Motor ☐ Canoe ☐ Bridge ☐ Dock **Equipment:** ☑ Grab ☐ Horizontal Sampler ☐ Pole **Sampler** JE

Parameters / Method	Preserve*	Suite**	Initials
Preserved Nutrients: ☐ N/A ☐ All ☑ TKN ☑ NO_2-NO_3 ☑ NH_3 ☑ TOC ☑ TP	☑ Ice ☑ H_2SO_4 ☐ pH<2	A	
Filtered Nutrients: ☐ N/A ☑ oP ☐ Other: _____	☑ Ice ☑ 0.45µm flt	A	
BOD: ☐ N/A ☑ CBOD-Inhb ☐ BOD-Unin	☑ Ice	A	
Chlorophyll: ☐ N/A ☑ CHL-PPTN-W	☐ Ice	A	
Physical/Aggregate Properties: ☐ N/A ☐ All ☑ TSS ☐ Turbidity ☐ W-Cl-IC ☐ W-F ☐ W-SO_4-IC ☐ Color ☐ TDS ☐ Alk	☐ Ice	A	
Metals: ☐ N/A ☑ W-ICP ☐ W-FIAS ☐ W-ICPMS ☐ W-ICP-Tr	☑ Ice ☑ HNO_3 ☑ pH <2	A	
AGP/Other: ☐ N/A ☑ AA-AGP ☐ AA-Lim-Nut ☐ Other	☑ Ice	A	
Micro: ☐ N/A ☐ All ☑ T Coli ☑ F Coli	☑ Ice	A	

Comments and conditions: 9:55 - 10:05

LAB ID #	Site Name: Blank	Field/Storet #:	Measured By:	Matrix***:

Time	Temp °C	Cond µohm cm^{-1}	Sal %	pH s.u.	DO mg/L	DO Sat %	Secchi m	WTR V ft/sec	Tide Ebb/Fld,LS/ HS	Total Depth	Sample Depth

Mode: ☐ Wading ☐ Shore ☐ Gas Motor ☐ Canoe ☐ Bridge ☐ Dock **Equipment:** ☑ Grab ☐ Horizontal Sampler ☐ Pole **Sampler** _____

Parameters / Method	Preserve*	Suite**	Initials
Preserved Nutrients: ☐ N/A ☐ All ☑ TKN ☑ NO_2-NO_3 ☑ NH_3 ☑ TOC ☑ TP	☑ Ice ☑ H_2SO_4 ☑ pH <2	B	
Filtered Nutrients: ☐ N/A ☑ oP ☐ Other: _____	☑ Ice ☑ 0.45µm flt	B	
BOD: ☐ N/A ☐ CBOD-Inhb ☐ BOD-Unin	☐ Ice		
Chlorophyll: ☐ N/A ☐ CHL-PPTN-W	☐ Ice		
Physical/Aggregate Properties: ☐ N/A ☐ All ☐ TSS ☐ Turbidity ☐ W-Cl-IC ☐ W-F ☐ W-SO_4-IC ☐ Color ☐ TDS ☐ Alk	☐ Ice		
Metals: ☐ N/A ☑ W-ICP ☐ W-FIAS ☑ W-ICPMS ☐ W-ICP-Tr	☑ Ice ☐ HNO_3 ☑ pH <2	B	
AGP/Other: ☐ N/A ☐ AA-AGP ☐ AA-Lim-Nut ☐ Other	☐ Ice		
Micro: ☐ N/A ☐ All ☐ T Coli ☐ F Coli	☐ Ice		

Comments and conditions: 10:05 - 10:30

LAB ID #	Site Name:	Field/Storet #:	Measured By:	Matrix***:

Time	Temp °C	Cond µohm cm^{-1}	Sal %	pH s.u.	DO mg/L	DO Sat %	Secchi m	WTR V ft/sec	Tide Ebb/Fld,LS/ HS	Total Depth	Sample Depth

Mode: ☐ Wading ☐ Shore ☐ Gas Motor ☐ Canoe ☐ Bridge ☐ Dock **Equipment:** ☐ Grab ☐ Horizontal Sampler ☐ Pole **Sampler** _____

Parameters / Method	Preserve*	Suite**	Initials
Preserved Nutrients: ☐ N/A ☐ All ☐ TKN ☐ NO_2-NO_3 ☐ NH_3 ☐ TOC ☐ TP	☐ Ice ☐ H_2SO_4 ☐ pH<2		
Filtered Nutrients: ☐ N/A ☐ oP ☐ Other: _____	☐ Ice ☐ 0.45µm flt		
BOD: ☐ N/A ☐ CBOD-Inhb ☐ BOD-Unin	☐ Ice		
Chlorophyll: ☐ N/A ☐ CHL-PPTN-W	☐ Ice		
Physical/Aggregate Properties: : ☐ N/A ☐ All ☐ TSS ☐ Turbidity ☐ W-Cl-IC ☐ W-F ☐ W-SO_4-IC ☐ Color ☐ TDS ☐ Alk	☐ Ice		
Metals: ☐ N/A ☐ W-ICP ☐ W-FIAS ☐ W-ICPMS ☐ W-ICP-Tr	☐ Ice ☐ HNO_3 ☐ pH <2		
AGP/Other: ☐ N/A ☐ AA-AGP ☐ AA-Lim-Nut ☐ Other	☐ Ice		
Micro: ☐ N/A ☐ All ☐ T Coli ☐ F Coli	☐ Ice		

Comments and conditions:

*Preservatives: 1mL added per 500 mL sample unless otherwise noted; iced within 15 minutes ** J: samples run in Jacksonville Lab
***Matrix: SWF=Surface Water, Fresh SWS=Surface Water, Salt GW=Ground Water Sed=Sediment Other=Write In

Relinquished: Joseph C. Ey	Date: 11:33	Time: 3-12-07	Received: Tom E 03/13/07 8:50	☐ < 6°C ☐ on ice ☐ < 2 pH
Relinquished:	Date:	Time:	Received:	Shipping:

Took 1 BIOASSAY Jug MF 3-13-07 10:56

FDEP Biology Section - Acute Screen Bioassay Bench Sheets

Facility: San Jose WWTF

Address: 7128 BALBOA RD.

City: JACKSONVILLE County: DUVAL

Contact/District: JOE ELIERY / NORTHEAST

NPDES Permit #: FL 0023663

LIMS Job #: TLH-2007-03-13.19 21 MF 3-26-07

LIMS Sample #: 992331 3 MF 3-26-07

Lims Data Entry: MF 3-29-07

Data Entry Verification: BA 3-29-07

Sample Collection: Date: 3-12-07 Time: 0955

Hold Time Start: Date: 3-12-07 Time: 0955

Comments: MF
Initial sample ~~salinity~~ pH was 7.3 SU. After salinity adjusting, sample pH was 9.2 SU. pH was adjusted to 7.9 SU by the addition of 1N HCl (40 drops). Sample salinity adjusted to 20 parts per thousand by the addition of artificial sea salts. Salted control prepared by adding artificial sea salts to well water to approximate the salinity of the salted sample MF 3-13-07
~~Test~~ Salinity adjusted per permit conditions. Permitted tests are 4 in 24 acute screen. MF 3-29-07

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

Test Type: Screen
(Static) Static Renewal / Flow-through

Test Duration: (48) 96 Hours.

Light Intensity : 50 - 100 ft. candles.

Photoperiod : 16 hours light 8 hours dark.

Test 1 validation: **Test 1:** SOP TA 07_03
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No

Test 2 validation: **Test 2:** SOP TA 07_04
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No

Initial sample handling:

PH adjustment : (yes) no Initial pH: See comment NaOH N (HCl) N 40 (Drops) mL Final pH: 7.9

Aeration : yes (no) Initial DO: ____mg/L Final DO: ____mg/L Duration: ____minutes Rate: ~ ____bubbles/min

Salinity adjusted (Test 1): (yes) no Initial Salinity: 0.44 Final Salinity: ~20 (Salts) Hypersaline brine

Salinity adjusted (Test 2): (yes) no Initial Salinity: 0.44 Final Salinity: ~20 (Salts) Hypersaline brine

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

Temperature Range °C
Incubator # 12 Range 25.9-26.7
Room B246: 25.0-26.0
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
James Daniels
Patsy Nichols
Marshall Fairbeth
Brad Allen
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: Salt Control	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl_2 (mg/L):	N/A	N/A	N/A	N/A			NOT Measured (A)		MF
Lab Total Residual Cl_2 (mg/L):			<0.03		—	<0.03	HACH	BA	MF
Alkalinity (mg/L as $CaCO_3$):			104		389	182	HACH	MF	MF
Hardness (mg/L as $CaCO_3$):			—		—	950	HACH	MF	MF
Total Ammonia (mg/L as N):			<0.034		<0.034	8.161	DENVER	MF	MF
Salinity (ppth):			~20		~20	0.44	YSI (Mettler)	MF	MF

(A) Information not found on field sheet (sample submittal form) MF 3-26-07

V 1.4 9/12/05

Page 000016

Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 99233 ~~3~~ (3-26-07) Test #: 1 Test Started: Date 3-13-07 Time: 1500

Organism: A. bahia SOP #: TA 07_03 Test Ended: Date 3-15-07 Time: 1300

Organism Batch: 3-13-07 Diluent/ Batch: ASW / 3-7-07

Organism Age: 4 DAYS Food: YCT P. subcapitata (Artemia)

Chamber Size: 1000 mL Batch: — — 28-07-30-07 (3-29-07) 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	H1	5	5	5			
	B	H 2	5	5	5			
	C	H 3	5	5	5			
	D	H 4	5	5	5			
100%	A	H 5	5	5	5			
	B	H 6	5	5	5			
	C	H 7	5	5	5			
	D	H 8	5	5	5			
Salt Ctrl	A	H 9	5	5	5			
	B	H 10	5	5	5			
	C	H 11	5	5	5			
	D	H 12	5	5	5			
Organisms loaded by: ~~BA~~ (A) JD		Checked by:	[redacted]	JD	JD			

Loading Verified by: MF

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

Comments: (A) recorded wrong initials for loading. MF 3-13-07

Test aerated after 24 hours due to low D.O. - J.D.

Test Results:

% mortality in 100% sample: Ø %

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 000017

Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 992353 (3 MF 3-21-07) Test #: 2 Test Started: Date 3-13-07 Time: 2:55 (1455)
Organism: M. beryllina SOP #: TA 07_04 Test Ended: Date 3,15-07 Time: 1300
Organism Batch: 3-13-07 Diluent/ Batch: ASW 13-7-07
Organism Age: 11 Days Food: YCT P. subcapitata (Artemia)
Chamber Size: 1000 mL Batch: — — 28-07 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	H 13	5	5	5			
	B	H 14	5	5	5			
	C	H 15	5	5	5			
	D	H 16	5	5	5			
100%	A	H 17	5	5	5			
	B	H 18	5	4 ID (A)	4			
	C	H 19	5	3 ID	3			
	D	H 20	5	5	5			
S.H Ctrl	A	H 21	5	4 ID	4			
	B	H 22	5	5	5			
	C	H 23	5	4 ID	4			
	D	H 24	5	5	5			
Organisms loaded by: JD		Checked by:		JD	JD			
Loading Verified by: MF								

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

Comments:
(A) Specimen in 100% B was stuck to side of jar, dead. JD 3.14.07
10% mortality in Salt/Fl control - MF 3-26-07

Test Results:
% mortality in 100% sample: 15%
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 000018

FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 99233 3rd Test #: 1 of 2

TEST SOP #: TA07_03 Test Species: *Ceriodaphnia dubia* *Cyprinella leedsi* *Pimephales promelas* (*Americamysis bahia*) *Menidia beryllina* Other:_____

Concentration Ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C			
pH (S.U.)	8.3	8.2	8.2			
Temperature °C	24.4	24.8	24.2			
Dissolved Oxygen mg/L	6.9	6.1	6.4			
Conductivity µmhos (mmhos)	32.3	31.8	32.6			
(initials) Measured by:	JD	JD	JD			
(initials) Recorded by:	JD	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.)	8.8	8.0	8.2			
Temperature °C	JD 24.6	24.9	24.1			
Dissolved Oxygen mg/L	6.6	4.8	6.8			
Conductivity µmhos (mmhos)	31.8	31.5	32.0			
(initials) Measured by:	JD	JD	JD			
(initials) Recorded by:	JD	JD	JD			

Comments:

Concentration Salt Ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C			
pH (S.U.)	9.6	7.9	8.2			
Temperature °C	24.3	25.0	24.0			
Dissolved Oxygen mg/L	7.0	4.1	6.7			
Conductivity µmhos (mmhos)	32.0	32.4	32.7			
(initials) Measured by:	JD	JD	JD			
(initials) Recorded by:	JD	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:

000019

V 2.0 2/24/04

FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 99233 3rd **Test #:** 2 of 2

TEST SOP #: TA07_04 **Test Species:** *Ceriodaphnia dubia* *Cyprinella leedsi* *Pimephales promelas* *Americamysis bahia* *Menidia beryllina* Other:

Concentration Ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C			
pH (S.U.)	8.4	8.7	8.7			
Temperature °C	24.2	25.0	24.7			
Dissolved Oxygen mg/L	6.8	5.9	5.9			
Conductivity µmhos (mmhos)	32.1	32.7	33.1			
(initials) Measured by:	JD	JD	JD			
(initials) Recorded by:	JD	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.)	8.9	8.0	8.1			
Temperature °C	24.5	24.9	24.9			
Dissolved Oxygen mg/L	6.6	5.3	5.6			
Conductivity µmhos (mmhos)	31.9	31.7	32.7			
(initials) Measured by:	JD	JD	JD			
(initials) Recorded by:	JD	JD	JD			

Comments:

Concentration Salt ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C			
pH (S.U.)	9.6	8.0	8.0			
Temperature °C	24.3	25.1	25.2			
Dissolved Oxygen mg/L	7.1	5.1	5.5			
Conductivity µmhos (mmhos)	32.0	32.5	33.1			
(initials) Measured by:	JD	JD	JD			
(initials) Recorded by:	JD	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

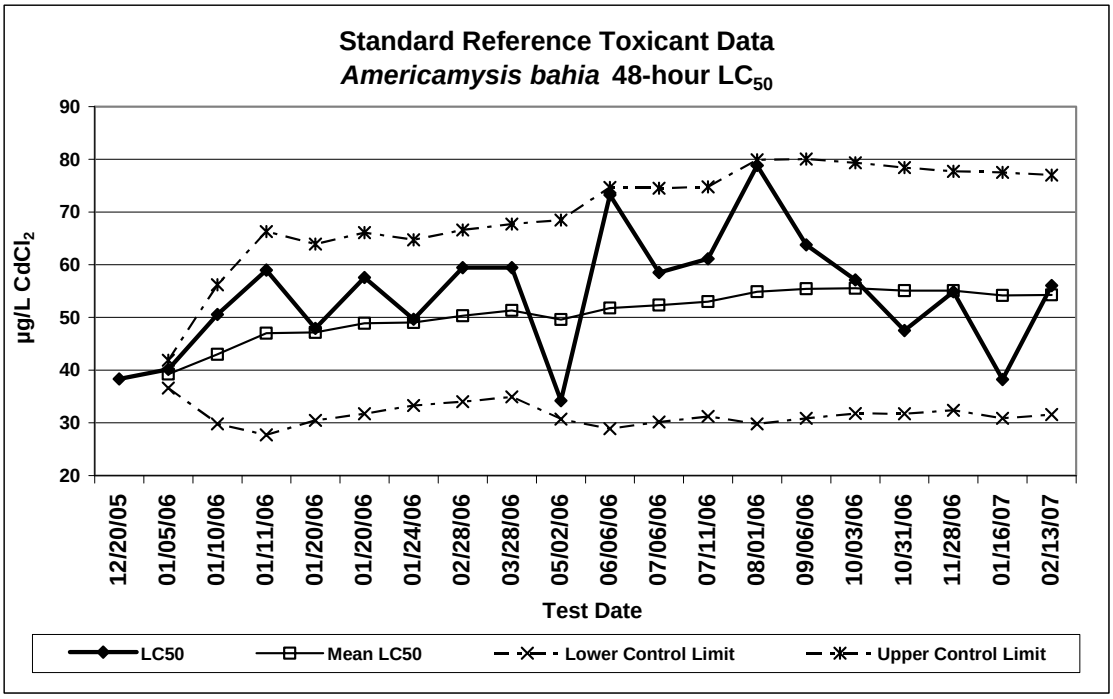
Florida Department of Environmental Protection
Bureau of Laboratories

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

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
12/20/05	38.30				
01/05/06	40.16	39.23	1.32	36.60	41.86
01/10/06	50.55	43.00	6.60	29.80	56.21
01/11/06	58.98	47.00	9.64	27.72	66.27
01/20/06	47.91	47.18	8.36	30.47	63.89
01/20/06	57.54	48.91	8.59	31.73	66.08
01/24/06	49.65	49.01	7.84	33.32	64.70
02/28/06	59.45	50.32	8.15	34.03	66.61
03/28/06	59.42	51.33	8.20	34.93	67.73
05/02/06	34.19	49.62	9.44	30.73	68.50
06/06/06	73.23	51.76	11.44	28.88	74.65
07/06/06	58.53	52.33	11.08	30.16	74.49
07/11/06	61.12	53.00	10.89	31.22	74.78
08/01/06	78.84	54.85	12.54	29.78	79.92
09/06/06	63.78	55.44	12.30	30.85	80.04
10/03/06	57.10	55.55	11.89	31.77	79.32
10/31/06	47.52	55.07	11.67	31.73	78.42
11/28/06	54.87	55.06	11.33	32.41	77.71
01/16/07	38.23	54.18	11.66	30.85	77.51
02/13/07	56.06	54.27	11.36	31.55	76.99

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

CV = 20.93
EPA reference 75th quartile CV = 26%



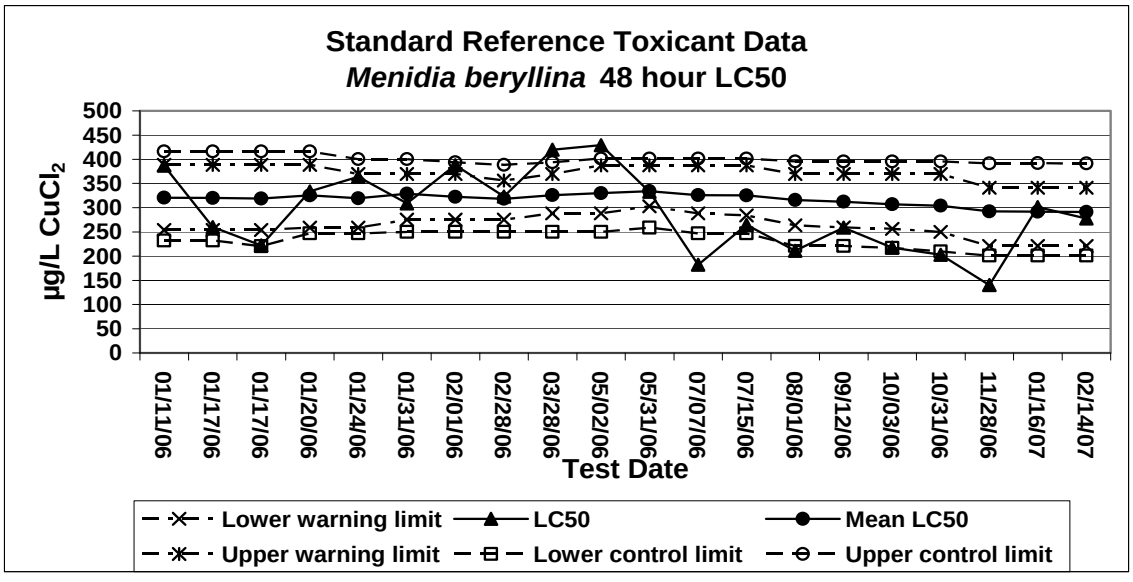
Appendix C. (continued)

Florida Department of Environmental Protection
Bureau of Laboratories

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

Date	LC50	Mean LC50	Lower control limit	Lower warning limit	Upper warning limit	Upper control limit
01/11/06	386.84	320.92	232.3	254.0	388.4	416.5
01/17/06	259.80	319.91	232.3	254.0	388.4	416.5
01/17/06	222.49	319.27	220.7	254.0	388.4	416.5
01/20/06	333.67	325.74	247.2	258.7	388.4	416.5
01/24/06	363.93	319.79	247.2	258.7	369.7	400.4
01/31/06	308.77	328.86	250.0	275.4	369.7	400.4
02/01/06	388.25	322.40	250.0	275.4	369.7	393.6
02/28/06	323.38	318.11	250.0	275.4	356.1	388.7
03/28/06	419.55	326.32	250.0	288.5	369.7	393.6
05/02/06	429.19	330.10	250.0	288.5	387.2	401.5
05/31/06	333.13	334.26	258.8	303.2	387.2	401.5
07/07/06	181.98	326.28	247.2	288.5	387.2	401.5
07/15/06	264.59	325.48	247.2	284.4	387.2	401.5
08/01/06	210.80	316.05	221.3	263.4	369.7	395.6
09/12/06	258.82	312.50	221.3	259.6	369.7	395.6
10/03/06	217.64	307.20	217.0	256.6	369.7	395.6
10/31/06	203.06	304.28	210.0	249.7	369.7	395.6
11/28/06	140.31	292.22	201.0	221.3	341.2	391.4
01/16/07	301.29	291.93	201.0	221.3	341.2	392.0
02/14/07	278.00	291.27	201.0	221.3	341.2	391.4

Means are of the last 20 SRT tests.
Upper warning and control limits are the 75th and 90th percentiles, respectively, of the past 20 LC50s.
Lower warning and control limits are the 25th and 10th percentiles, respectively, of the past 20 LC50s.
EPA reference 75th quartile CV = 21% **CV = 28.0***



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

Appendix C. (continued)

[redacted]

FDEP Biology Laboratory - 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: 48 hour non-renewal / (96 hour renewal)
Test Page 1 of 2

Diluent/ Batch #: ASW / 2.9.07
Toxicant/ Batch#: $CdCl_2$ / 2.12.07

Test Beginning: Date: 2.13.07 Time: 1130
Test Ending: Date: 2-17-07 Time: 12:50

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	0.03	Hach	BA
Alkalinity (mg/L as $CaCO_3$):	228	Hach	JD
Hardness (mg.L as $CaCO_3$):	—	Hach	—
Total Ammonia (mg/L as N):	<0.03	Denver	MF
Salinity (ppth):	~~30~~ 32	Mettler	BA

Organism Batch #/ Age: 2-13-07 / 5 days
Feeding: Prior to test / Prior to renewal (Daily)
Food: YCT *P.subcapitata* (Artemia) Lot # GSL-53E-40
Food Batch: — — 0hr 10-07 24hr 11-07 48hr 12-07 72hr 13-07
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc. µg/L mg/L	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 Conductivity µmhom/cm (mmhos/cm) 0 hr ~~48 hr~~	24 hr ~~72 hr~~	48 hr ~~96 hr~~
Control	A	D1	5	5	5	8.4			24.6			6.8			31.3		
	B	D2	5	5	5		8.2			25.1			5.4			31.6	
	C	D3	5	5	5			8.2			24.4			6.3			32.3
	D	D4	5	5	5												
20	A	D5	5	5	5	8.4			24.9			6.7			31.4		
	B	D6	5	5	5		8.2			24.7			5.0			31.9	
	C	D7	5	5	5			8.2			24.0			6.2			32.7
	D	D8	5	5	4[10]												
30	A	D9	5	5	5	8.4			24.9			6.9			31.3		
	B	D10	5	5	4[10]		8.2			24.7			5.1			32.2	
	C	D11	5	5	5			8.2			24.0			6.2			32.7
	D	D12	5	5	5												
45	A	D13	5	5	3[20]	8.4			24.5			6.9			31.3		
	B	D14	5	5	4[10]		8.3			24.4			5.4			31.6	
	C	D15	5	4[10]	3[10]			8.2			24.0			6.2			32.8
	D	D16	5	5	5												
67	A	D17	5	5	1[40]	8.4			24.6			6.9			31.2		
	B	D18	5	5	1[40]		8.3			24.0			5.7			31.8	
	C	D19	5	4[10]	0[40]			8.2			24.0			6.2			32.6
	D	D20	5	5	0[50]												
100	A	D21	5	3[20]	0[30]	8.4			24.5			6.9			31.2		
	B	D22	5	5	0[50]		8.3			24.0			5.6			31.8	7
	C	D23	5	5	0[50]			8.3			24.5			6.2			35.0
	D	D24	5	5	0[50]												
	A																
	B																
	C																
	D																
Loaded / measured by:			BA	JD	JD	JD	JD	BA	JD	JD	JD	JD	JD	BA	JD	JD	BA
Recorded by:			CA	JD	JD	JD	JD	CA	JD	JD	JD	JD	JD	BA	JD	JD	CA

Investigators' Signatures
James Daniels
Bude Anderson
Robert Richardson
Marshall Faircloth
Nicole Wetherington
REVIEWER

Concentrations prepared by: JD
Loading verified by: JD
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 24.5 max. 26.6 mean 25.7
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 23.3 max. 25.9 mean 24.6

Comments:

Statistics: Method: Spearman-Karber
(48) / 96 hour LC_{50}: 51.06
95% Confidence Interval: lower 46.05 upper 56.62

revised 08/24/06 SP

Appendix C. (continued)

FDEP Biology Laboratory - Acute SRT Bench Sheet

Test Organism: (Americamysis bahia) Menidia beryllina Hyalella azteca — Method from EPA-821-R-02-012
Method 2007.0 Method 2006.0 Method 100.1 EPA-600-R-99-064
Ceriodaphnia dubia Cyprinella leedsi Pimephales promelas Other: _____
Method 2002.0 Method 2000.0 Method 2000.0

Test Type: 48 hour non-renewal / (96 hour renewal)
Test Page 2 of 2

Diluent/ Batch #: ASW / 12.9.07
Toxicant/ Batch#: CdCl2 / 12.12.07

Test Beginning: Date: 2.13.07 Time: 1430
Test Ending: Date: 2-17-07 Time: 1250

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	20.03	Hach	BA
Alkalinity (mg/L as $CaCO_3$):	328	Hach	JD
Hardness (mg.L as $CaCO_3$):	—	Hach	—
Total Ammonia (mg/L as N):	<0.034	Denver	MF
Salinity (ppth):	≈10	Mettler	BA

Organism Batch #/ Age: 2-13-07I 0A 5 DAYS
Feeding: Prior to test / Prior to renewal (Daily)
Food: YCT P.subcapitata (Artemia: Lot # GSL-536-40)
Food Batch: — —
Chamber size: 1000 mL
Test volume: 500 mL per replicate

0hr 10-07 24hr 11-07 48hr 12-07 72hr 13-07

Conc. µg/L mg/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 Conductivity µmhom/cm (mmhos/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	D1	5	5	5			8.2			24.1			6.2			33.8
	B	D2	5	5	5												
	C	D3	5	5	5	8.4			24.4			6.9			31.7		
	D	D4	5	5	5		8.3			23.8			6.8			33.9	
20	A	D5	5	5	4 1D			8.2			23.8			6.3			33.4
	B	D6	5	5	5												
	C	D7	5	5	5	8.4			24.3			6.7			31.9		
	D	D8	4	4	4		8.2			23.9			6.1			33.3	
30	A	D9	5	4 (1D)	3 1D			8.2			24.6			6.2			34.2
	B	D10	4	4	2 2D MF												
	C	D11	5	4 (1D)	2 2D	8.4			24.2			7.0			31.9		
	D	D12	5	4 (1D)	0 4D		8.2			24.7			6.0			33.4	
45	A	D13	3	0 3D	—												
	B	D14	4	0 4D	—												
	C	D15	3	0 3D	—	8.4			24.2			7.1			31.8		
	D	D16	5	1 (4D)	0 1D		8.2	8.2		23.9	25.0		6.0	5.9		33.4	33.9
67	A	D17	1	0 1D	—		8.3			24.1			6.0			33.3	
	B	D18	1	0 1D	—	8.4			24.0			6.9			32.0		
	C	D19	—	—	—					MF (A) 24.1							
	D	D20	—	—	—												
100	A	D21	—	—	—					—							
	B	D22	—	—	—												
	C	D23	—	—	—												
	D	D24	—	—	—		—						—			—	
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	MF	MF	JD	PR	MF	JD	MF	MF	JD	PR	MF	JD	PR	MF
Recorded by:			JD	MF	MF	JD	PR	MF	JD	MF	MF	JD	PR	MF	JD	PR	MF

Investigators' Signatures
James Dennis
Brent Albritton
Patsy Chaila Q
Marshall Faircloth
Nicole Wellenstein
REVIEWER

Concentrations prepared by: JD
Loading verified by: JD
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 24.5 max. 26.6 mean 25.7
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 23.3 max. 35.9 mean 24.6

Comments: (A) recorded temperature in Drop space. Dissolve. It should be on the A rep space. MF 2-16-07

Statistics: Method: Spearman-Karber
48 (96) hour LC_{50}: 27.3
95% Confidence Interval: lower 24.98 upper 30.495

PAGE 000010

revised 08/24/06 SP

Appendix C. (continued)

FDEP Biology Laboratory - 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 — Method from EPA-821-R-02-012

Ceriodaphnia dubia Method 2002.0 *Cyprinella leedsi* Method 2000.0 *Pimephales promelas* Method 2000.0 *Other:* _____

Test Type: 48 hour non-renewal (96 hour renewal)

Test Page 1 of 2

Diluent/ Batch #: ASW / 2.9.07

Toxicant/ Batch#: $CoCl_2$ / 12.12.07

Test Beginning: Date: 2-13.07 (14 BA) Time: 11:00

Test Ending: Date: 2-15-07 Time: 10:30

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	BA
Alkalinity (mg/L as $CaCO_3$):	228	Hach	JD
Hardness (mg.L as $CaCO_3$):	—	Hach	—
Total Ammonia (mg/L as N):	<0.034	Denver	MF
Salinity (ppth):	29.0	Mettler	BA

Organism Batch #/ Age: 2-13-07/ 14 days

Feeding: (Prior to test) (Prior to renewal) Daily

Food: YCT *P.subcapitata* Artemia: Lot # GSL-58-40

Food Batch: — — 0hr 10-07 24hr — 48hr 12-07 72hr —

Chamber size: 1000 mL

Test volume: 500 mL per replicate

Conc. (µg/L) mg/L	Rep.	Chamber #	Number Live 0 hr	Number Live 24 hr	Number Live 48 hr	pH (SU) 0 hr	pH (SU) 24 hr	pH (SU) 48 hr	Temperature (° C) 0 hr	Temperature (° C) 24 hr	Temperature (° C) 48 hr	D.O. (mg/L) 0 hr	D.O. (mg/L) 24 hr	D.O. (mg/L) 48 hr	Uncorrected Conductivity µmhom/cm (mmhos/cm) 0 hr	Uncorrected Conductivity 24 hr	Uncorrected Conductivity 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	C1	10	10	8 (8.10)	8.4		8.2	24.2		24.3	6.2		6.5	31.2		32.5
	B	C2	10	10	10		8.3			25.6			6.4			32.3	
	C																
	D																
100	A	C3	10	10	10	8.4		8.2	24.6		24.3	6.5		6.7	31.4		33.6
	B	C4	10	10	10		8.3			24.9			6.1			32.2	
	C																
	D																
200	A	C5	10	9 (9.10)	8	8.4		8.2	25.0		24.1	6.7		6.7	31.4		33.3
	B	C6	10	10	10		8.3			25.0			6.1			32.3	
	C																
	D																
300	A	C7	10	6 (4.10)	6	8.4		8.3	25.3		24.5	6.8		6.9	31.4		33.4
	B	C8	10	4 (6.10)	3 (3.10)		8.3			25.2			6.1			32.3	
	C																
	D																
400	A	C9	10	3 (3.10)	1 (1.10)	8.4		8.3	25.5		24.3	6.8		6.9	31.3		33.5
	B	C10	10	1 (9.10)	1		8.3			25.2			6.2			32.1	
	C																
	D																
500	A	C11	10	1 (9.10)	0 (1.10)	8.4		8.3	24.0		24.2	6.7		7.1	31.4		33.5
	B	C12	10	0 (10.10)	—		8.3			25.2			6.4			32.2	
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	JD	BA	BA	BA	MF	BA	BA	BA	BA	BA	MF	BA	BA	MF
Recorded by:			JD	JD	BA	BA	BA	MF	BA	JD	PDV	BA	BA	MF	BA	BA	MF

Investigators' Signatures

James Daniel

Brian Hardee

Peter McNaille

Marshall Faircloth

Nikki Wellendorf

REVIEWER

Concentrations prepared by: PDV

Loading verified by: BA

Light Intensity: 50-100 Ft. candles

Photoperiod: 16 hours Light / 8 hours dark

Temperature Range °C:

Incubator # 2 min 24.5 max 26.6 mean 25.7

Incubator # ___ min ___ max ___ mean ___

Room B246 min 23.3 max 25.4 mean 24.6

Comments: (A) PH in peristaltic column MF 2-14-07.

Statistics: Method: Spearman-Karber

(48) / 96 hour LC_{50}: 278.08

95% Confidence Interval: lower 248.54 upper 310.96

PAGE 000007

revised 08/24/06 SP

Appendix C. (continued)

FDEP Biology Laboratory - 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: 48 hour non-renewal / (96 hour renewal)
Test Page 2 of 2

Diluent/ Batch #: 45H / 12907
Toxicant/ Batch#: CuCl2 / 12.12.07

Test Beginning: Date: 2-13-07 Time: 11:00
Test Ending: Date: 2-18-07 Time: 10:30

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	0.03	Hach	BA
Alkalinity (mg/L as $CaCO_3$):	229	Hach	JJ
Hardness (mg.L as $CaCO_3$):	—	Hach	—
Total Ammonia (mg/L as N):	0.034	Denver	MF
Salinity (ppth):	≈20	Mettler	BA

Organism Batch #/ Age: 2-13-07 / 1 day 4 hrs
Feeding: (Prior to test) / Prior to renewal / Daily
Food: YCT *P.subcapitata* (Artemia) Lot # GSL-536-40
Food Batch: — —
0hr 10-07 24hr — 48hr 12-07 72hr —
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc. (%) mg/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 Conductivity µmhom/cm (mmhos/cm) 0 hr 48 hr	Uncorrected Conductivity 24 hr 72 hr	Uncorrected Conductivity 48 hr 96 hr
Control	A	C1	10	10	10	8.3		8.2	24.1		24.4	6.6		5.9	32.1		32.6
	B	C2	10	9 10	9		8.2			24.3			5.8			32.5	
	C																
	D																
100	A	C3	10	10	10	8.4		8.2	24.0		24.4	6.9		5.9	32.8		32.7
	B	C4	10	10	10		8.2			24.2			5.8			32.4	
	C																
	D																
200	A	C5	8	8	8	8.4		8.2	24.0		24.3	6.8		5.9	32.7		32.7
	B	C6	10	10	10		8.2			24.6			5.8			32.4	
	C																
	D																
300	A	C7	6	6	6	8.4		8.2	24.1		24.5	6.9		6.0	32.6		32.7
	B	C8	3	3	3		8.2			24.1			5.7			32.5	
	C																
	D																
400	A	C9	1	1	1	8.4		8.2	24.0		24.3	6.9		6.1	32.1		32.4
	B	C10	1	0 10	—		8.3			24.0			5.8			32.4	
	C																
	D																
500	A	C11	—	—	—	—		—	—		—	—		—	—		—
	B	C12	—	—	—		—			—			—			—	
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			BA	MF	BA	MF	MF	BA	MF	MF	BA	MF	MF	BA	MF	MF	BA
Recorded by:			BA	MF	BA	MF	MF	BA	MF	MF	BA	MF	MF	BA	MF	MF	BA

Investigators' Signatures
Jana Denish
Blue Soucie
Patsy Michaels
Marshall Faircloth
Nicole Wellendorf
REVIEWER

Concentrations prepared by: PW
Loading verified by: BA
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 24.5 max. 26.6 mean 25.7
Incubator # ___ min. _____ max. _____ mean _____
Room B246 min. 23.3 max. 25.9 mean 24.6

Comments:

Statistics: Method: Spearman-Karber
48 / (96) hour LC_{50}: 279.18
95% Confidence Interval: lower 231.5 upper 309.89

PAGE 000008

revised 09/24/06 SP

Appendix C. (continued)

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

DATE: 02-13-07 DURATION: 48 hr. TOXICANT: CdCl2
SPECIES: ***Americamysis bahia***

RAW DATA: Concentration (ug/L)	Number Exposed	Mortalities
0	20	0
20	20	1
30	20	1
45	20	5
67	20	18
100	20	20

SPEARMAN-KARBER TRIM: 5.00%

SPEARMAN-KARBER ESTIMATES: **LC50: 51.06**
95% LOWER CONFIDENCE: 46.05
95% UPPER CONFIDENCE: 56.62

***Menidia Beryllina* Acute Standard Reference Toxicant Test**

DATE: 02-14-07 DURATION: 48 hr. TOXICANT: CdCl2
SPECIES: ***Menidia Beryllina***

RAW DATA: Concentration (ug/L)	Number Exposed	Mortalities
0	20	0
100	20	0
200	20	2
300	20	11
400	20	18
500	20	20

SPEARMAN-KARBER TRIM: 0.00%

SPEARMAN-KARBER ESTIMATES: **LC50: 278.00**
95% LOWER CONFIDENCE: 248.54
95% UPPER CONFIDENCE: 310.96

Appendix D. Test Organism Receipt(s)

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

NELAC Accredited

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 2/12/07

Shipped to: FDEP

P.O. No:

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia	150+	4 Days	MSO70208	25°C	~35‰
Menidia beryllina	150+	14 Days	SSO0131	25°C	~35‰
Cyprinella leedsi	150+	14 Days	CLC70131	25°C	
Pimephales promelas	150+	17 Days	FMC7AC3-1610	25°C	

Packed by: Frank Gaw

Shipped Via: FedEx

Notes:

Thank you for your order.

Appendix D. (continued)

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

NELAC Accredited

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 3/12/07

Shipped to: TSCP

P.O. No:

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia	150+	3 Days	MSD70329	25°C	~30‰
Menidia beryllina	150+	11 Days	SSD70301	25°C	~30‰
Cyprinella leedsi	150+	10 Days	CLD70309	25°C	
Pimephales promelas	150+	8 Days	FMD70304-1330	25°C	

Packed by: FrankGary.

Shipped Via: FedEx

Notes: Hawaiian Marine Imports #713-680-1117
or HW Marinemix

Thank you for your order.

Appendix E. Chemical Analyses performed on the effluent from the San Jose Wastewater Treatment Facility Outfall D-001, sampled on March 12, 2006.

Date_Sampled	Field_Sample_ID	Analysis Group	Component	Value	Qualifier	Units	MDL	PQL
3/12/2007 9:55	San Jose Effluent	AGP/LN	Algal Growth Potential	380		mg DryWt/L	0.3	0.9
3/12/2007 9:55	San Jose Effluent	AGP/LN	Algal Growth Potential-Salinity Adjusted	493	A	mg DryWt/L	3	3
3/12/2007 9:55	San Jose Effluent	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	4.4	A	mg/L	0.2	2
3/12/2007 9:55	San Jose Effluent	Chlorophyll/Grain Size/BOD	Chlorophyll-A, Monochromatic, Water	1.3	U	ug/L	1.3	4
3/12/2007 9:55	San Jose Effluent	Chlorophyll/Grain Size/BOD	Phaeophytin-A, Monochromatic, Water	2.3	U	ug/L	2.3	6.9
3/12/2007 9:55	San Jose Effluent	Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	100	L	LC50		
3/12/2007 9:55	San Jose Effluent	Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	100	L	LC50		
3/12/2007 9:55	San Jose Effluent	Metals	Aluminum	121		ug/L	4	16
3/12/2007 9:55	San Jose Effluent	Metals	Arsenic	5	U	ug/L	5	20
3/12/2007 9:55	San Jose Effluent	Metals	Calcium	64.9		mg/L	0.02	0.08
3/12/2007 9:55	San Jose Effluent	Metals	Chromium	0.3	U	ug/L	0.3	1.2
3/12/2007 9:55	San Jose Effluent	Metals	Iron	471		ug/L	5	20
3/12/2007 9:55	San Jose Effluent	Metals	Magnesium	26.4		mg/L	0.005	0.02
3/12/2007 9:55	San Jose Effluent	Metals	Nickel	2.1	I	ug/L	1	4
3/12/2007 9:55	San Jose Effluent	Metals	Zinc	35		ug/L	3	12
3/12/2007 9:55	San Jose Effluent	Metals	Cadmium	0.05	U	ug/L	0.05	0.2
3/12/2007 9:55	San Jose Effluent	Metals	Copper	5.51		ug/L	0.2	0.8
3/12/2007 9:55	San Jose Effluent	Metals	Lead	2.63		ug/L	0.2	0.8
3/12/2007 9:55	San Jose Effluent	Metals	Selenium	0.5	U	ug/L	0.5	2
3/12/2007 9:55	San Jose Effluent	Metals	Silver	0.12		ug/L	0.025	0.1
3/12/2007 9:55	San Jose Effluent	Nutrients	Ammonia-N	9.3		mg N/L	0.2	0.4
3/12/2007 9:55	San Jose Effluent	Nutrients	NO2NO3-N	4		mg N/L	0.04	0.1
3/12/2007 9:55	San Jose Effluent	Nutrients	O-Phosphate-P	1.6		mg P/L	0.08	0.2
3/12/2007 9:55	San Jose Effluent	Nutrients	Kjeldahl Nitrogen	11		mg N/L	0.4	1
3/12/2007 9:55	San Jose Effluent	Nutrients	Total-P	2.2		mg P/L	0.1	0.3
3/12/2007 9:55	San Jose Effluent	Nutrients	TSS	16		mg/L	4	16
3/12/2007 9:55	San Jose Effluent	Pesticides	Alachlor	0.6	U	ug/L	0.6	2.4
3/12/2007 9:55	San Jose Effluent	Pesticides	Ametryn	0.05	U	ug/L	0.05	0.2
3/12/2007 9:55	San Jose Effluent	Pesticides	Atrazine	0.13	I	ug/L	0.05	0.2
3/12/2007 9:55	San Jose Effluent	Pesticides	Azinphos Methyl	0.2	U	ug/L	0.2	0.8
3/12/2007 9:55	San Jose Effluent	Pesticides	Bromacil	0.2	U	ug/L	0.2	0.8

Appendix E. (continued)

Date_Sampled	Field_Sample_ID	Analysis Group	Component	Value	Qualifier	Units	MDL	PQL
3/12/2007 9:55	San Jose Effluent	Pesticides	Butylate	0.2	U	ug/L	0.2	0.8
3/12/2007 9:55	San Jose Effluent	Pesticides	Chlorpyrifos Ethyl	0.05	U	ug/L	0.05	0.2
3/12/2007 9:55	San Jose Effluent	Pesticides	Chlorpyrifos Methyl	0.1	U	ug/L	0.1	0.4
3/12/2007 9:55	San Jose Effluent	Pesticides	Diazinon	0.05	U	ug/L	0.05	0.2
3/12/2007 9:55	San Jose Effluent	Pesticides	Ethion	0.05	U	ug/L	0.05	0.2
3/12/2007 9:55	San Jose Effluent	Pesticides	Ethoprop	0.1	U	ug/L	0.1	0.4
3/12/2007 9:55	San Jose Effluent	Pesticides	Fenamiphos	0.2	U	ug/L	0.2	0.8
3/12/2007 9:55	San Jose Effluent	Pesticides	Fonofos	0.1	U	ug/L	0.1	0.4
3/12/2007 9:55	San Jose Effluent	Pesticides	Hexazinone	0.1	U	ug/L	0.1	0.4
3/12/2007 9:55	San Jose Effluent	Pesticides	Malathion	0.15	U	ug/L	0.15	0.6
3/12/2007 9:55	San Jose Effluent	Pesticides	Metalaxyl	0.25	U	ug/L	0.25	1
3/12/2007 9:55	San Jose Effluent	Pesticides	Metolachlor	0.5	U	ug/L	0.5	2
3/12/2007 9:55	San Jose Effluent	Pesticides	Metribuzin	0.1	U	ug/L	0.1	0.4
3/12/2007 9:55	San Jose Effluent	Pesticides	Mevinphos	0.2	U	ug/L	0.2	0.8
3/12/2007 9:55	San Jose Effluent	Pesticides	Naled	0.8	UJ	ug/L	0.8	3.2
3/12/2007 9:55	San Jose Effluent	Pesticides	Norflurazon	0.15	U	ug/L	0.15	0.6
3/12/2007 9:55	San Jose Effluent	Pesticides	Parathion Ethyl	0.15	U	ug/L	0.15	0.6
3/12/2007 9:55	San Jose Effluent	Pesticides	Parathion Methyl	0.1	U	ug/L	0.1	0.4
3/12/2007 9:55	San Jose Effluent	Pesticides	Phorate	0.05	U	ug/L	0.05	0.2
3/12/2007 9:55	San Jose Effluent	Pesticides	Prometryn	0.15	U	ug/L	0.15	0.6
3/12/2007 9:55	San Jose Effluent	Pesticides	Simazine	0.05	U	ug/L	0.05	0.2
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	1,2-Dichlorobenzene	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	1,3-Dichlorobenzene	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	1,4-Dichlorobenzene	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	2,4-Dichlorophenol	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	2,4-Dimethylphenol	49	U	ug/L	49	190
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	2,4-Dinitrophenol	15	U	ug/L	15	58
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	2,4-Dinitrotoluene	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	2,6-Dinitrotoluene	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	2-Chloronaphthalene	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	2-Chlorophenol	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	12

Appendix E. (continued)

Date_Sampled	Field_Sample_ID	Analysis Group	Component	Value	Qualifier	Units	MDL	PQL
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	2-Nitrophenol	0.97	UJ	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	3,3'-Dichlorobenzidine	39	UJ	ug/L	39	160
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	4,4'-DDD	1.5	U	ug/L	1.5	5.8
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	4,4'-DDE	1.5	U	ug/L	1.5	5.8
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	4,4'-DDT	1.5	U	ug/L	1.5	5.8
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.8
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	4-Nitrophenol	15	U	ug/L	15	58
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Acenaphthene	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Acenaphthylene	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Aldrin	1.5	U	ug/L	1.5	5.8
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Anthracene	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Benzidine	97	U	ug/L	97	390
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Benzo(a)anthracene	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Benzo(a)pyrene	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Benzo(b)fluoranthene	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Benzo(k)fluoranthene	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	12
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	15	U	ug/L	15	58
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Butyl benzyl phthalate	4.9	U	ug/L	4.9	19
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Chrysene	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Di-n-butyl phthalate	4.9	U	ug/L	4.9	19
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Di-n-octyl phthalate	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Dieldrin	1.5	U	ug/L	1.5	5.8
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Diethyl phthalate	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Dimethyl phthalate	49	U	ug/L	49	190
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Endosulfan I	3.9	U	ug/L	3.9	16
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Endosulfan II	3.9	U	ug/L	3.9	16
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Endosulfan sulfate	1.5	U	ug/L	1.5	5.8

Appendix E. (continued)

Date_Sampled	Field_Sample_ID	Analysis Group	Component	Value	Qualifier	Units	MDL	PQL
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Endrin	1.5	U	ug/L	1.5	5.8
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Endrin aldehyde	3.9	U	ug/L	3.9	16
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Fluoranthene	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Fluorene	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Heptachlor	1.5	U	ug/L	1.5	5.8
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Heptachlor epoxide	1.5	U	ug/L	1.5	5.8
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Hexachlorobenzene	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	12
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	UJ	ug/L	2.9	12
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	12
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Isophorone	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.8
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.8
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	12
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Naphthalene	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.8
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2.9	12
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Phenanthrene	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Phenol	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	Pyrene	0.97	U	ug/L	0.97	3.9
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	alpha-BHC	1.5	U	ug/L	1.5	5.8
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	beta-BHC	1.5	U	ug/L	1.5	5.8
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	delta-BHC	1.5	U	ug/L	1.5	5.8
3/12/2007 9:55	San Jose Effluent	Priority Organic Pollutants	gamma-BHC	1.5	U	ug/L	1.5	5.8
3/12/2007 9:55	San Jose Effluent	Nutrients	Dissolved Oxygen	5.9		mg/L		
3/12/2007 9:55	San Jose Effluent	Nutrients	Sample Depth	0.56		m		
3/12/2007 9:55	San Jose Effluent	Nutrients	Specific Conductance	981		umhos/cm		
3/12/2007 9:55	San Jose Effluent	Nutrients	Temperature	23.12		C		
3/12/2007 9:55	San Jose Effluent	Nutrients	pH	7.36		su		
3/12/2007 10:05	Blank	Metals	Aluminum	4	U	ug/L	4	16
3/12/2007 10:05	Blank	Metals	Arsenic	5	U	ug/L	5	20
3/12/2007 10:05	Blank	Metals	Calcium	0.02	U	mg/L	0.02	0.08
3/12/2007 10:05	Blank	Metals	Chromium	0.3	U	ug/L	0.3	1.2

Appendix E. (continued)

Date_Sampled	Field_Sample_ID	Analysis Group	Component	Value	Qualifier	Units	MDL	PQL
3/12/2007 10:05	Blank	Metals	Iron	5	U	ug/L	5	20
3/12/2007 10:05	Blank	Metals	Magnesium	0.005	U	mg/L	0.005	0.02
3/12/2007 10:05	Blank	Metals	Nickel	1	U	ug/L	1	4
3/12/2007 10:05	Blank	Metals	Zinc	3	U	ug/L	3	12
3/12/2007 10:05	Blank	Metals	Cadmium	0.05	U	ug/L	0.05	0.2
3/12/2007 10:05	Blank	Metals	Copper	0.2	U	ug/L	0.2	0.8
3/12/2007 10:05	Blank	Metals	Lead	0.2	U	ug/L	0.2	0.8
3/12/2007 10:05	Blank	Metals	Selenium	0.5	U	ug/L	0.5	2
3/12/2007 10:05	Blank	Metals	Silver	0.025	U	ug/L	0.025	0.1
3/12/2007 10:05	Blank	Nutrients	Ammonia-N	0.01	U	mg N/L	0.01	0.02
3/12/2007 10:05	Blank	Nutrients	NO2NO3-N	0.009	I	mg N/L	0.004	0.01
3/12/2007 10:05	Blank	Nutrients	O-Phosphate-P	0.004	U	mg P/L	0.004	0.01
3/12/2007 10:05	Blank	Nutrients	Kjeldahl Nitrogen	0.08	U	mg N/L	0.08	0.2
3/12/2007 10:05	Blank	Nutrients	Total-P	0.02	U	mg P/L	0.02	0.06
3/12/2007 10:05	Blank	Pesticides	Alachlor	0.57	U	ug/L	0.57	2.3
3/12/2007 10:05	Blank	Pesticides	Ametryn	0.048	U	ug/L	0.048	0.19
3/12/2007 10:05	Blank	Pesticides	Atrazine	0.048	U	ug/L	0.048	0.19
3/12/2007 10:05	Blank	Pesticides	Azinphos Methyl	0.19	U	ug/L	0.19	0.76
3/12/2007 10:05	Blank	Pesticides	Bromacil	0.19	U	ug/L	0.19	0.76
3/12/2007 10:05	Blank	Pesticides	Butylate	0.19	U	ug/L	0.19	0.76
3/12/2007 10:05	Blank	Pesticides	Chlorpyrifos Ethyl	0.048	U	ug/L	0.048	0.19
3/12/2007 10:05	Blank	Pesticides	Chlorpyrifos Methyl	0.095	U	ug/L	0.095	0.38
3/12/2007 10:05	Blank	Pesticides	Diazinon	0.048	U	ug/L	0.048	0.19
3/12/2007 10:05	Blank	Pesticides	Ethion	0.048	U	ug/L	0.048	0.19
3/12/2007 10:05	Blank	Pesticides	Ethoprop	0.095	U	ug/L	0.095	0.38
3/12/2007 10:05	Blank	Pesticides	Fenamiphos	0.19	U	ug/L	0.19	0.76
3/12/2007 10:05	Blank	Pesticides	Fonofos	0.095	U	ug/L	0.095	0.38
3/12/2007 10:05	Blank	Pesticides	Hexazinone	0.095	U	ug/L	0.095	0.38
3/12/2007 10:05	Blank	Pesticides	Malathion	0.14	U	ug/L	0.14	0.56
3/12/2007 10:05	Blank	Pesticides	Metalaxyl	0.24	U	ug/L	0.24	0.96
3/12/2007 10:05	Blank	Pesticides	Metolachlor	0.48	U	ug/L	0.48	1.9
3/12/2007 10:05	Blank	Pesticides	Metribuzin	0.095	U	ug/L	0.095	0.38
3/12/2007 10:05	Blank	Pesticides	Mevinphos	0.19	U	ug/L	0.19	0.76
3/12/2007 10:05	Blank	Pesticides	Naled	0.76	UJ	ug/L	0.76	3

Appendix E. (continued)

Date_Sampled	Field_Sample_ID	Analysis Group	Component	Value	Qualifier	Units	MDL	PQL
3/12/2007 10:05	Blank	Pesticides	Norflurazon	0.14	U	ug/L	0.14	0.56
3/12/2007 10:05	Blank	Pesticides	Parathion Ethyl	0.14	U	ug/L	0.14	0.56
3/12/2007 10:05	Blank	Pesticides	Parathion Methyl	0.095	U	ug/L	0.095	0.38
3/12/2007 10:05	Blank	Pesticides	Phorate	0.048	U	ug/L	0.048	0.19
3/12/2007 10:05	Blank	Pesticides	Prometryn	0.14	U	ug/L	0.14	0.56
3/12/2007 10:05	Blank	Pesticides	Simazine	0.048	U	ug/L	0.048	0.19
3/12/2007 10:05	Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	1,2-Dichlorobenzene	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	1,3-Dichlorobenzene	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	1,4-Dichlorobenzene	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	2,4-Dimethylphenol	48	U	ug/L	48	190
3/12/2007 10:05	Blank	Priority Organic Pollutants	2,4-Dinitrophenol	14	U	ug/L	14	58
3/12/2007 10:05	Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	2-Chlorophenol	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	12
3/12/2007 10:05	Blank	Priority Organic Pollutants	2-Nitrophenol	0.96	UJ	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38	UJ	ug/L	38	150
3/12/2007 10:05	Blank	Priority Organic Pollutants	4,4'-DDD	1.4	U	ug/L	1.4	5.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	4,4'-DDE	1.4	U	ug/L	1.4	5.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	4,4'-DDT	1.4	U	ug/L	1.4	5.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.7
3/12/2007 10:05	Blank	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	58
3/12/2007 10:05	Blank	Priority Organic Pollutants	Acenaphthene	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Acenaphthylene	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Aldrin	1.4	U	ug/L	1.4	5.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Anthracene	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Benzidine	96	U	ug/L	96	380
3/12/2007 10:05	Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.96	U	ug/L	0.96	3.8

Appendix E. (continued)

Date_Sampled	Field_Sample_ID	Analysis Group	Component	Value	Qualifier	Units	MDL	PQL
3/12/2007 10:05	Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	12
3/12/2007 10:05	Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	14	U	ug/L	14	58
3/12/2007 10:05	Blank	Priority Organic Pollutants	Butyl benzyl phthalate	4.8	U	ug/L	4.8	19
3/12/2007 10:05	Blank	Priority Organic Pollutants	Chrysene	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Di-n-butyl phthalate	4.8	U	ug/L	4.8	19
3/12/2007 10:05	Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Dieldrin	1.4	U	ug/L	1.4	5.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Diethyl phthalate	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Dimethyl phthalate	48	U	ug/L	48	190
3/12/2007 10:05	Blank	Priority Organic Pollutants	Endosulfan I	3.8	U	ug/L	3.8	15
3/12/2007 10:05	Blank	Priority Organic Pollutants	Endosulfan II	3.8	U	ug/L	3.8	15
3/12/2007 10:05	Blank	Priority Organic Pollutants	Endosulfan sulfate	1.4	U	ug/L	1.4	5.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Endrin	1.4	U	ug/L	1.4	5.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Endrin aldehyde	3.8	U	ug/L	3.8	15
3/12/2007 10:05	Blank	Priority Organic Pollutants	Fluoranthene	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Fluorene	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Heptachlor	1.4	U	ug/L	1.4	5.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Heptachlor epoxide	1.4	U	ug/L	1.4	5.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Hexachlorobenzene	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	12
3/12/2007 10:05	Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	U	ug/L	2.9	12
3/12/2007 10:05	Blank	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	12
3/12/2007 10:05	Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Isophorone	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.7
3/12/2007 10:05	Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.7
3/12/2007 10:05	Blank	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	12

Appendix E. (continued)

Date_Sampled	Field_Sample_ID	Analysis Group	Component	Value	Qualifier	Units	MDL	PQL
3/12/2007 10:05	Blank	Priority Organic Pollutants	Naphthalene	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.7
3/12/2007 10:05	Blank	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2.9	12
3/12/2007 10:05	Blank	Priority Organic Pollutants	Phenanthrene	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Phenol	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	Pyrene	0.96	U	ug/L	0.96	3.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	alpha-BHC	1.4	U	ug/L	1.4	5.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	beta-BHC	1.4	U	ug/L	1.4	5.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	delta-BHC	1.4	U	ug/L	1.4	5.8
3/12/2007 10:05	Blank	Priority Organic Pollutants	gamma-BHC	1.4	U	ug/L	1.4	5.8

The Bioassay of San Jose Wastewater Treatment Facility effluent sampled on March 12, 2007. NPDES #FL0023663.

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

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 2 3 6 6 3 11	12 0 7 0 3 1 2	18 **B**	19 **S**	20 1

Remarks

66

The Priority Pollutants Analysis of San Jose Wastewater Treatment Facility effluent sampled on March 12, 2007. NPDES #FL0023663.

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

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 2 3 6 6 3 11	12 0 7 0 3 1 2	18 **X**	19 **S**	20 1

Remarks

66

Biological Analyses of San Jose Wastewater Treatment Facility effluent sampled on March 12, 2007. NPDES #FL0023663.

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

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 2 3 6 6 3 11	12 0 7 0 3 1 2	18 **S**	19 **S**	20 1

Remarks

66