

Bioassays of

Monterey Wastewater Treatment Facility

Duval County

NPDES #FL0023604

Sampled July 31, 2006

October 2006

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

Monterey Wastewater Treatment Facility, 5802 Harris Street, Jacksonville, Duval County, Florida, NPDES #FL0023604. Effluent samples for this facility were collected on July 31, 2006.

Introduction

The Monterey Wastewater Treatment Facility is a Sequencing Batch Reactor (SBR) domestic wastewater treatment facility with a design flow of 3.6 million gallons per day (MGD) annual average daily flow (AADF). The annual average daily flow (AADF) from August 1, 2005, through July 31, 2006, was 2.0497 MGD. The facility consists of four SBR cells with a total volume of 3.71 million gallons, an ultraviolet disinfection system, and a 6,100 gallon per minute effluent pumping station. Treated effluent is discharged to the Class III Marine waters of the St. Johns River at discharge location D-001 from an outfall which is approximately 222.5 m (730 feet) in length and discharges at a depth of approximately 3.27 m (10.74 feet). The point of discharge is located approximately at latitude 30º 19' 45" N and longitude 81º 36' 10" W. Residuals are treated to Class B Standards for use or disposal by land application, in a Class 1 or Class II solid-waste landfill, or at the Buckman Residuals Management Facility.

There are no outstanding Administrative Orders or Consent Orders for this facility. The facility has a mixing zone for acute toxicity with an area of 1,929 m^2. The mixing zone begins 40 meters from the eastern shoreline of the St. Johns River and extends 182 meters along the axis of the diffuser pipe (D-001). The width of the mixing zone is 10.6 meters (5.6 meters to either side of the axis of the diffuser pipe). The facility had permit exceedances for fecal coliforms in July 2005, September 2005, and March 2006. A Level I Water Quality Based Effluent Limit (WQBEL) study performed in 2002 raised concerns about effluent pH and pesticide concentrations. As a result of the study, the effluent pH monitoring procedure was changed. The pesticide issue was addressed by the addition of a specific condition in the current permit and the mixing zone for toxicity. Semi-annual 96-hour acute screening toxicity bioassays performed on the effluent from 2002 – 2006 did not show toxicity to either test species (*Americamysis bahia* and *Menidia beryllina*). (Facility information provided by Chet McGhee of FDEP Northeast District).

Methods

Samples were collected from the EFF-1 NPDES sampling point for Outfall D-001 by Chet McGhee and Joe Emery (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 96-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.

The bioassay samples used in these tests were diluted to 30% concentration with artificial seawater of 20 parts per thousand (ppth) salinity. The 30% effluent samples were then salinity-adjusted to approximately 20 ppth using artificial sea salts (40 Fathoms® Bioassay Laboratory Grade Marine Mix) per permit requirements. The salt control used for this test was prepared by diluting well water to 30% concentration with artificial seawater then salting this solution with artificial sea salts to an approximate salinity of 20 ppth. The purpose of the salt control was to confirm that there was no effect of adding artificial sea salts to the sample. Mortality in the salt controls was not greater than 10% for either test species.

The salinity of an aliquot of the AGP sample was increased from approximately 0.5 ppth to 7 ppth to meet the minimum salinity requirements of the marine test species.

Toxicity Test Results

Tests were performed August 1 - 5, 2006.

Americamysis bahia 96-hour acute screening bioassay –	LC_{50} > 30%, 0% mortality in100% sample at 48 hours
Menidia beryllina 96-hour acute screening bioassay –	LC_{50} > 30%, 0% mortality in100% sample at 48 hours

The bioassay sample was 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.

Algal Growth Potential

The effluent Algal Growth Potential (AGP) was 29.7 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 nitrogen limited. The predicted AGP based on inorganic nitrogen concentrations was 20.52 (±20%) mg dry wt/L (Table 1; Miller et al. 1978).

The effluent Algal Growth Potential (AGP) was 7.89 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 in the bioassay sample in the laboratory at a concentration of 0.05 mg/L. The total ammonia concentration in the sample collected and preserved for chemical analysis was 0.19 mg/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was < 0.02 mg/L.

Aluminum, copper, iron, and zinc were detected in the effluent at levels that comply with Class III fresh water quality criteria (62-302.530, F.A.C.). Atrazine, arsenic, lead, and nickel were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL).

The concentration of total coliform bacteria (2,700 counts/100 mL) exceeded the Class III Marine water quality criteria (≤ 2,400 counts/100 mL) for total coliform bacteria (62-302.530(7), 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 July 31, 2006 was not acutely toxic to either test species during the 96-hour acute screen 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 total coliform bacteria exceeded the Class III Marine water quality criterion.

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 nitrogen (TN) and total soluble inorganic nitrogen (TSIN) limitation, the AGP (salinity adjusted) of the saltwater species* Dunaliella tertiolecta*, and ratios of nitrogen to phosphorus for samples collected from Monterey Wastewater Treatment Facility on July 31, 2006.*

Location	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (TN) ± 20%	AGP (salinity adjusted)	Inorganic N:P ratio	Total N:P ratio
Effluent Samples	29.7	20.52 ± 4.104	47.5 ± 9.5	7.89 A	0.22	0.48

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

Table 2. Effluent limits, Class III Marine Criteria, and chemical and microbiological data for samples collected from the Monterey Wastewater Treatment Facility on July 31, 2006.

Monterey Wastewater Treatment Facility NPDES # FL0023604	Class III Marine Stds	Effluent Limits	Effluent Samples
Organic Constituents (µg/L)			
Atrazine	-	-	0.096 I
Metals (µg/L unless otherwise noted)			
Aluminum	≤ 1,500	-	29
Arsenic	≤ 50	-	0.53 I
Cadmium	≤ 9.3	-	0.05 U
Calcium (mg/L)	-	-	76.2
Chromium-III	-	-	0.3 U
Copper	≤ 3.7	-	1.21 f
Iron	≤ 300	-	98
Lead	≤ 8.5	-	0.71 I
Magnesium (mg/L)	-	-	29.7
Nickel	≤ 8.3	-	1.6 I
Selenium	≤ 71	-	0.5 U
Silver	≤ 2.3	-	0.025 U
Zinc	≤ 86	-	32
Nutrients (mg/L)			
Ortho-phosphate	-	Report	2.4
Total Phosphorus	-	Report	2.6 A
Ammonia	-	Report	0.19
Unionized Ammonia	-	-	≤ 0.02 c
Nitrate+Nitrite	-	Report	0.35
Total Kjeldahl Nitrogen	-	Report	0.9 A
Organic Nitrogen	-	Report	0.71 c
Total Nitrogen	-	Report	1.25 c
General Physical and Chemical Parameters			
TSS (mg/L)	-	≤ 60 s	4 U
Dissolved Oxygen (mg/L)	≥ 4	≥ 1.5	5.1
pH (S.U.)	6.5 - 8.5	6.0 - 8.5	7.2
Conductivity (umhos/cm)	-	-	981
Temperature (C)	-	-	31.1
CBOD (mg/L)	-	≤ 60 s	1.2 AI
Flow (MGD)	-	3.6	2.0497 a
Hardness (mg/L)	-	-	312.6 c
Microbiology (# counts/100ml)			
Fecal Coliforms *	≤ 800 s	≤ 800 s	330
Total Coliforms *	≤ 2,400 s	-	2,700

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

a - Annual average

c - Calculated value

f - Copper was detected in field blank at a concentration of 0.22 I µg/L

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 limi

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

* - Analyses conducted at the DEP Northeast District Lab

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Request Number: RQ-2006-07-31-32
Monterey WWTF

Event ID *

Requester: Shannan Bogdanov
Field Report Prepared By:

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

Project ID: FYI3
Sampling Agency: FDEP NED

PMAS: 1143

Lab ID *	Location: Monterey WWTF			☐ Comp ☒ Grab	Collection (begin) Date 7/31/06 Time 950 (Eastern) Central		Collection (end) Date 7/31/06 Time 1005 (Eastern) Central		Bottle Group(s)**	1BSH 8-1-06 1015 SH
	Field ID: Effluent			Tot Res Chlorine (mg/L): 0	Diss Oxygen (mg/L): 5.11		Storet Station Number		A & C	
	Matrix (Include type e.g. Salt, Fresh, etc): Wastewater effluent	Temp (C): 31.07	pH: 7.17	Sample Depth: 1 ☐ m ☒ ft	981	☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm)	NPDES Number			
	Latitude o ' "	Longitude o ' "		Comments						
Lab ID *	Location: Monterey WWTF			☐ Comp ☒ Grab	Collection (begin) Date 7/31/06 Time 1005 (Eastern) Central		Collection (end) Date 7/31/06 Time 1015 (Eastern) Central		Bottle Group(s)**	
	Field ID: field blank			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)		Storet Station Number		B	
	Matrix (Include type e.g. Salt, Fresh, etc)	Temp (C)	pH	Sample Depth ☐ m ☐ ft		☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number			
	Latitude o ' "	Longitude o ' "		Comments						
Lab ID *	Location			☐ Comp ☐ Grab	Collection (begin) Date Time Eastern Central		Collection (end) Date Time Eastern Central		Bottle Group(s)**	
	Field ID			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)		Storet Station Number			
	Matrix (Include type e.g. Salt, Fresh, etc)	Temp (C)	pH	Sample Depth ☐ m ☐ ft		☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number			
	Latitude o ' "	Longitude o ' "		Comments						
Lab ID *	Location			☐ Comp ☐ Grab	Collection (begin) Date Time Eastern Central		Collection (end) Date Time Eastern Central		Bottle Group(s)**	
	Field ID			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)		Storet Station Number			
	Matrix (Include type e.g. Salt, Fresh, etc)	Temp (C)	pH	Sample Depth ☐ m ☐ ft		☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number			
	Latitude o ' "	Longitude o ' "		Comments						

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
			Tom E	9:00 8/1/06				

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

FDEP Biology Section - Acute Screen Bioassay Bench Sheets

Facility: Monterey Wastewater Treatment Facility
Address: 5802 Harris Street
City: Jacksonville County: Duval
Contact/District: Chet McGahee / Northeast District
NPDES Permit #: FL 0026004
LIMS Job #: TLH-2006-08-01-09 LIMS Sample #: 940703
Lims Data Entry: 8-8-06 Data Entry Verification: 8-9-06 MF

Sample Collection: Date: 7-31-06 Time: 0950
Hold Time Start: Date: 7-31-06 Time: 0950

Comments:
(A) Salinity after 30% dilution and salt adjustment per permit language SP
(B) Correct value <0.034
The test concentration was prepared by diluting effluent to 30% volume with 20 ppth (parts per thousand) salinity artificial seawater. this concentration was then salted to a salinity of 20ppth by the addition of artificial seasalts. MF 8/14/06

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

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

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

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

Initial sample handling:
PH adjustment : yes (no) Initial pH: ____ NaOH N HCl N ____ Drops 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: 0.49 Final Salinity: ~20 (A) (Salts) Hypersaline brine
Salinity adjusted (Test 2): (yes) no Initial Salinity: 0.49 Final Salinity: ~20 (Salts) Hypersaline brine
Dechlorination: yes (no) ____mL of 0.025N Sodium Thiosulfate per liter of sample. Final TRC: ____

Sample Validation:
Temperature: Shipped ≤6°C (Yes) No Hand Delivered: Cooling (received °C < collected °C) Yes No
Holding Time: ≤36 Hours (Yes) No (Composite-end of collection; grab-when collected; 4 in 24 - time last sample collected)

Temperature Range °C
Incubator # 2 Range 24.2-26.3
Room B246: 24.9-25.7
Waterbath: N/A

Saltwater
The ~~Diluent~~ mix was prepared by diluting well water to 30% volume with 20ppth salinity ASW Then salting this concentration to 20 ppth salinity with artificial seasalts. MF 8-14-06

Investigators' Signatures
Sarah Pinchard
Bruce Barker
Marshall Faircloth
James Finch
Nigel 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: 30% salt adjusted	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl_2 (mg/L):	N/A	N/A	N/A	N/A	N/A	not measured	—	SP	
Lab Total Residual Cl_2 (mg/L):			<0.03	<0.03	<0.03	<0.03	HACH	JD	BA
Alkalinity (mg/L as $CaCO_3$):			186	186	193	185	HACH	JD	BA
Hardness (mg/L as $CaCO_3$):			—	—	—	372	HACH	JD	BA
Total Ammonia (mg/L as N):			~~<0.034~~ (B)	<0.034	<0.034	0.050	DENVER	SP	BA
Salinity (ppth):			~20	~20	~20	0.49	YSI / Mettler	SP	BA

V 1.4 9/12/05

Appendix B. Bench Sheets

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 940203 Test #: 1 Test Started: Date 8-1-06 Time: 1300

Organism: ~~Mysidopsis bahia~~ A. bahia SOP #: TA 07_03 Test Ended: Date 8-5-06 Time: 1100

Organism Batch: 24-06 Diluent/ Batch: ASW 15-06

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

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

Test Volume: 500 mL Feeding: ~~Prior to test~~ ~~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	C1	5	5	5	5	5	5
	B	C2	5	5	5	5	5	5
	C	C3	5	5	5	5	5	5
	D	C4	5	4 ID	4	4	4	4
Salt CTRL	A	C5	5	5	5	5	5	5
	B	C6	5	4 ID	4	4	4	4
	C	C7	5	5	5	5	5	5
	D	C8	5	5	5	5	5	5
30%	A	C9	5	5	5	5	5	5
	B	C10	5	5	5	5	5	5
	C	C11	5	5	5	5	5	5
	D	C12	5	5	5	5	5	5
Organisms loaded by: JD	Checked by:		JD	JD	JD	JD	MF	
Loading Verified by: SP								

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

Comments:

Test Results:

% mortality in 100% sample: 0

LC_{50}: >100 >30 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 000002

Appendix B. Bench Sheets

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 940203 Test #: 2 Test Started: Date 8-1-06 Time: 1340
Organism: M. bahia Test Ended: Date 8-5-06 Time: 1100
Organism Batch: 24-06 Diluent/ Batch: ASW / 15-06
Organism Age: 13 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	C13	5	5	5	5	5	5
	B	C14	5	5	5	5	5	5
	C	C15	5	5	5	5	5	5
	D	C16	5	5	5	5	5	5
Salt CTRL	A	C17	5	5	5	5	5	5
	B	C18	5	4D	4	4	4	4
	C	C19	5	5	5	5	4D	4
	D	C20	5	5	5	5	5	5
30%	A	C21	5	5	5	5	5	5
	B	C22	5	5	5	5	5	5
	C	C23	5	5	5	5	5	5
	D	C24	5	5	5	5	5	5
Organisms loaded by: BP		Checked by:		JD	JD	JD	JD	ML
Loading Verified by: JD								

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

Comments:

Test Results:
% mortality in 100% sample: Ø
LC_{50}: ~~>100~~ >30 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 000003

FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 940203 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	C	D	A
pH (S.U.)	8.2	8.2	7.9	8.2	8.0	7.8
Temperature °C	24.8	24.6	25.0	24.4	24.4	24.5
Dissolved Oxygen mg/L	6.8	5.3	4.0	6.0	5.4	4.9
Conductivity µmhos (mmhos)	32.0	31.7	31.2	31.7	31.3	32.0
(initials) Measured by:	SP	JD	JD	SP	JD	MF
(initials) Recorded by:	SP	JD	JD	SP	JD	MF

Comments:

Concentration Salt CTRL	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.4	8.3	8.0	8.3	8.1	7.9
Temperature °C	24.3	24.8	25.0	24.5	24.5	24.9
Dissolved Oxygen mg/L	6.5	5.2	4.3	5.8	5.0	4.8
Conductivity µmhos (mmhos)	32.5	32.9	33.4	32.4	32.2	32.8
(initials) Measured by:	SP	JD	JD	SP	JD	MF
(initials) Recorded by:	SP	JD	JD	SP	JD	MF

Comments:

Concentration 30%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.4	8.3	8.0	8.3	8.1	7.9
Temperature °C	25.0	24.1	24.9	24.6	24.5	24.8
Dissolved Oxygen mg/L	6.5	5.1	4.4	5.8	4.7	4.8
Conductivity µmhos (mmhos)	32.6	32.9	32.4	32.4	32.7	32.8
(initials) Measured by:	SP	JD	JD	SP	JD	MF
(initials) Recorded by:	SP	JD	JD	SP	JD	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:

000004

V 2.0 2/24/04

FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 940203 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	C	D	A
pH (S.U.)	8.3	8.3	8.2	8.3	8.2	8.1
Temperature °C	24.7	25.0	24.7	24.5	24.8	24.9
Dissolved Oxygen mg/L	6.8	5.1	5.2	5.8	4.7	5.5
Conductivity µmhos mmhos	31.4	32.0	32.4	31.5	31.8	32.2
(initials) Measured by:	[illegible]	JD	JD	[illegible]	JD	MF
(initials) Recorded by:	[illegible]	JD	JD	[illegible]	JD	MF

Comments:

Concentration Salt CTRL	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.4	8.4	8.3	8.4	8.2	8.2
Temperature °C	24.8	24.8	24.6	24.5	24.8	24.7
Dissolved Oxygen mg/L	6.7	5.2	5.4	5.9	4.7	5.8
Conductivity µmhos mmhos	32.1	32.7	32.1	32.2	32.4	32.7
(initials) Measured by:	[illegible]	JD	JD	[illegible]	JD	MF
(initials) Recorded by:	[illegible]	JD	JD	[illegible]	JD	MF

Comments:

Concentration 30‰	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.4	8.4	8.3	8.4	8.2	8.2
Temperature °C	25.1	24.8	24.7	24.5	25.1	24.3
Dissolved Oxygen mg/L	6.7	5.3	5.5	6.0	4.8	5.8
Conductivity µmhos mmhos	32.4	33.1	33.2	32.4	32.6	32.7
(initials) Measured by:	[illegible]	JD	JD	[illegible]	JD	MF
(initials) Recorded by:	[illegible]	JD	JD	[illegible]	JD	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:

V 2.0 2/24/04

Page 000005

Appendix C. SRT Bench Sheets and Statistical Analysis

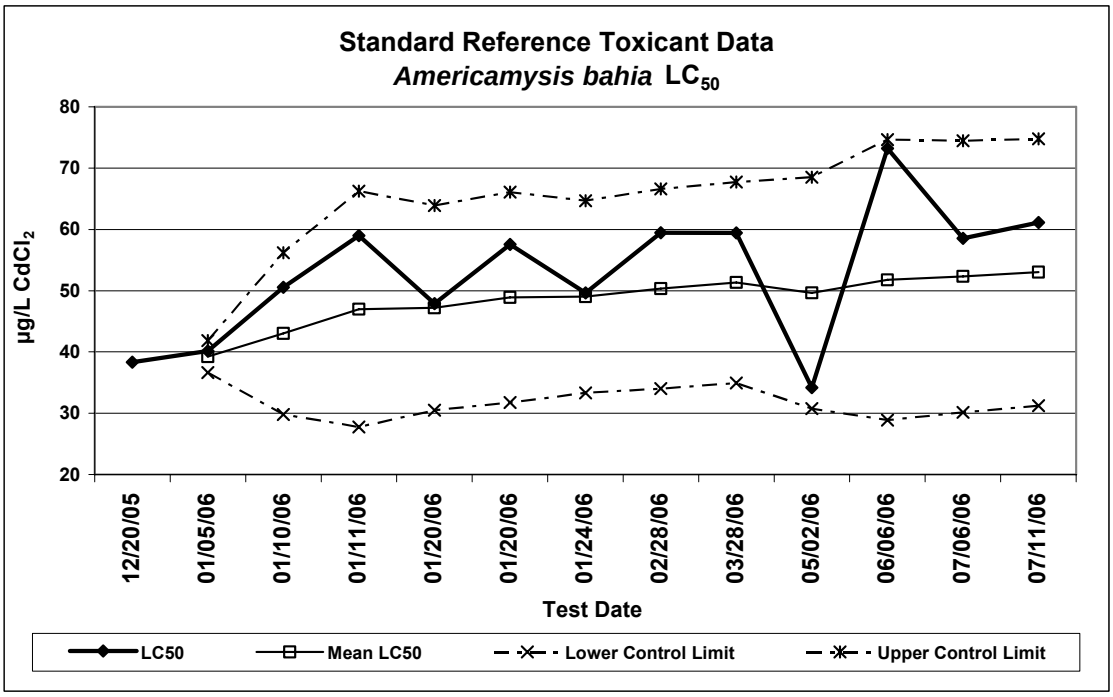
Florida Department of Environmental Protection
Bureau of Laboratories

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

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

CV = 20.54
EPA reference 75th quartile CV = 26%



*Fewer than 20 points are charted due to recent initiation of SRT testing using $CdCl_2$.

Appendix C. (continued)

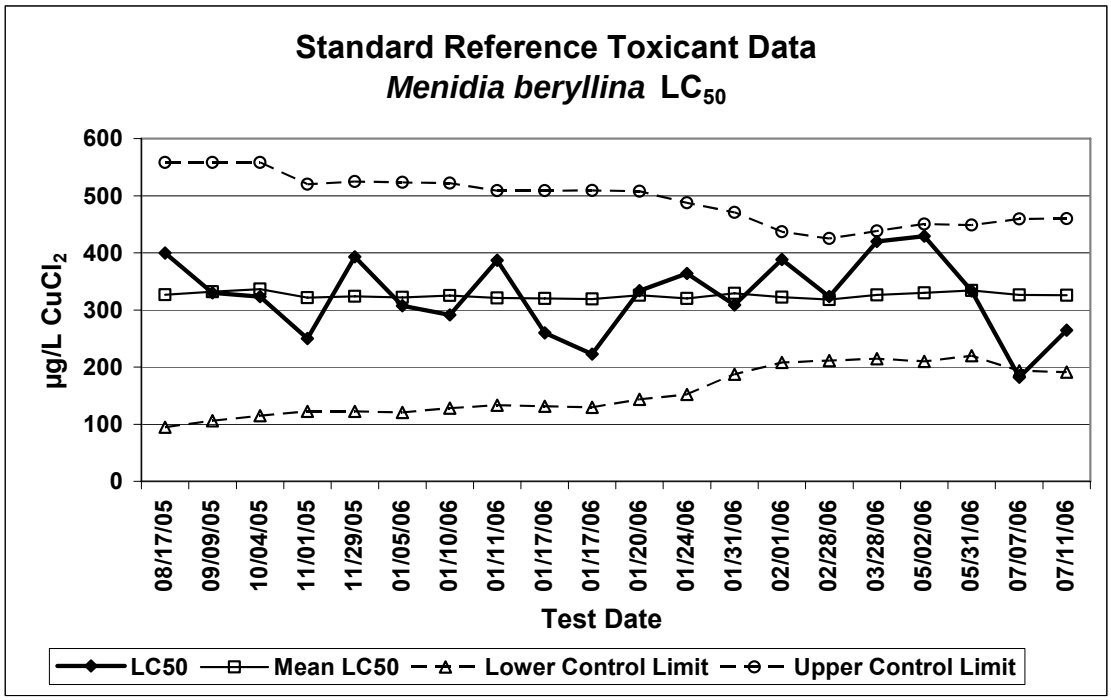
Florida Department of Environmental Protection
Bureau of Laboratories

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

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
08/17/05	399.46	326.40	115.88	94.63	558.16
09/09/05	329.88	331.94	113.09	105.75	558.13
10/04/05	323.49	336.45	110.73	115.00	557.90
11/01/05	250.00	321.21	99.50	122.21	520.21
11/29/05	392.98	323.59	100.67	122.25	524.94
01/05/06	307.20	321.88	100.64	120.60	523.16
01/10/06	291.06	325.02	98.52	127.97	522.07
01/11/06	386.84	320.92	93.81	133.29	508.54
01/17/06	259.80	319.91	94.38	131.15	508.67
01/17/06	222.49	319.27	95.03	129.21	509.32
01/20/06	333.67	325.74	91.10	143.54	507.95
01/24/06	363.93	319.79	83.89	152.01	487.58
01/31/06	308.77	328.86	70.76	187.34	470.39
02/01/06	388.25	322.40	57.22	207.96	436.83
02/28/06	323.38	318.11	53.47	211.18	425.04
03/28/06	419.55	326.32	55.87	214.58	438.07
05/02/06	429.19	330.10	60.20	209.69	450.51
05/31/06	333.13	334.26	57.18	219.91	448.61
07/07/06	181.98	326.28	66.48	193.32	459.25
07/11/06	264.59	325.48	67.16	191.17	459.79

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

CV = 20.63
EPA reference 75th quartile CV = 21%



Appendix C. (continued)

FDEP Biology Section - Acute SRT Bench Sheet

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

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

Diluent/ Batch#: ASW 13-00
Toxicant/ Batch# CdCl2 / 9-06

Test Beginning: Date: 7-11-06 Time: 1315
Test Ending: Date: 7-15-06 Time: 1210

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	SR
Alkalinity (mg/L as $CaCO_3$):	184	Hach	BA
Hardness (mg/L as CaCO3):	—	Hach	—
Total Ammonia (mg/L as N):	<0.034	Denver	MF
Salinity (ppth):	21.1	Mettler	SR

Organism Batch #/ Age: 21-060 5 days
Feeding: (Prior to test) Prior to renewal (Daily)
Food: YCT — P.subcapitata — Artemia GSL 536-90
Food Batch: — — —
Chamber size: 400 mL
Test volume: 250 mL per replicate

Conc. µg/L g/L	Rep.	Chamber#	Number Live 0 hr ~~48 hr~~	Number Live 24 hr ~~72 hr~~	Number Live 48 hr ~~96 hr~~	pH (SU) 0 hr ~~48 hr~~	pH (SU) 24 hr ~~72 hr~~	pH (SU) 48 hr ~~96 hr~~	Temperature (° C) 0 hr ~~48 hr~~	Temperature (° C) 24 hr ~~72 hr~~	Temperature (° C) 48 hr ~~96 hr~~	D.O. (mg/l) 0 hr ~~48 hr~~	D.O. (mg/l) 24 hr ~~72 hr~~	D.O. (mg/l) 48 hr ~~96 hr~~	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhom/cm) 0 hr ~~48 hr~~	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhom/cm) 24 hr ~~72 hr~~	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhom/cm) 48 hr ~~96 hr~~
Control	A	25	5	5	5	8.3		8.0	24.1			6.7			33.9		35.4
	B	26	5	4D	4		8.1	SR		24.2			5.4			35.0	
	C	27	5	5	4D			8.0			25.3			5.7			35.4
	D	28	5	5	5												
20	A	29	5	5	4D	8.3			24.5			6.6			34.2		
	B	30	5	5	5		8.1			24.5			5.5			34.5	
	C	31	5	5	5			7.9			24.2			5.6			36.5
	D	32	5	5	5												
30	A	33	5	5	4D	8.3			24.7			6.6			34.1		
	B	34	5	5	4D		8.2			24.5			5.6			34.4	
	C	35	5	5	4D			7.4			24.3			5.5			36.9
	D	36	5	5	5												
45	A	37	5	5	4D	8.3			24.8			6.6			34.0		
	B	38	5	5	5		8.2			24.4			5.7			34.3	
	C	39	5	4D	4			8.0			24.1			5.5			37.3
	D	40	5	5	4D												
60	A	41	5	3D	3	8.4			24.8			6.6			33.9		
	B	42	5	5	0D		8.2			24.4			5.9			34.6	
	C	43	5	5	1D			8.0			24.1			5.7			36.8
	D	44	5	5	4D												
100	A	45	5	0D	—	8.4			25.0			6.6			33.9		
	B	46	5	3D	0D		8.2			24.2			6.0			34.7	
	C	47	5	2D	0D			8.1			24.1			5.8			36.4
	D	48	5	3D	0D												
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	JD	JD	BA	BA	BA	BA	BA	JD/SP	BA	BA	BA	BA	BA	BA
Recorded by:			BA	JD	JD	BA	BA	BA	BA	BA	JD/SP	BA	BA	BA	BA	BA	BA

Investigators' Signatures
Marshall Grimley
Sarah Pritchard
Bruce Anderson
Jamie Daniel
Nicole Wetterhof
REVIEWER

Concentrations prepared by: JD
Loading verified by: BA
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 23.9 max. 25.6 mean 24.5
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 23.6 max. 24.2 mean 23.9

Remarks:

Statistical Results: Method: Spearman-Karber
(48)/ 96 hour LC50: 61.12
95% Confidence Interval: lower 54.61 upper 68.41

Revised 02/21/06

Page 000002

Appendix C. (continued)

FDEP Biology Section - Acute SRT Bench Sheet

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

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

Diluent/ Batch#: ASW 113-06
Toxicant/ Batch# CdCl2 1-9-06

Test Beginning: Date: 7-11-06 Time: 1315
Test Ending: Date: 7-15-06 Time: 1210

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	SP
Alkalinity (mg/L as $CaCO_3$):	184	Hach	BA
Hardness (mg/L as CaCO3):	—	Hach	—
Total Ammonia (mg/L as N):	<0.034	Denver	MF
Salinity (ppth):	31.1	Mettler	SP

Organism Batch #/ Age: 21-06 15 days
Feeding: (Prior to test) Prior to renewal (Daily)
Food: YCT P.subcapitata Artemia
Food Batch: — — GSL5360-90
Chamber size: 400 mL
Test volume: 250 mL per replicate

Conc. (~~PPT~~) g/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 Cond (mmhos/cm) Cond. (µmhom/cm) ~~0 hr~~ 48 hr	~~24 hr~~ 72 hr	~~48 hr~~ 96 hr
Control	A	25	5	5	5	8.3			24.1			7.4			33.8		
	B	26	4	4	4												
	C	27	4	4	4			8.1			25.0			5.8			36.0
	D	28	5	5	5		8.2			24.2			6.6			35.2	
20	A	29	4	4	4	8.3			24.8			7.2			34.1		
	B	30	5	5	5												
	C	31	5	5	5			8.1		24.5	25.1			5.2			36.2
	D	32	5	5	5		8.2			24.5 DA			6.3			35.2	
30	A	33	4	3 1D	3	8.3			24.8			6.9			34.2		
	B	34	4	4	4												
	C	35	4	4	4			8.1			25.0			5.2			35.9
	D	36	5	4 1D	4		8.2			24.5			6.3			34.8	
45	A	37	4	2 2D	2	8.3			24.7			6.8			34.0		
	B	38	5	4 1D	3 1D												
	C	39	4	3 1D	2 1D			8.1			24.9			5.3			35.4
	D	40	4	3 1D	3		8.2			24.4			6.1			34.7	
60	A	41	3	1 2D	0 1D	8.3			24.6			6.8			33.8		
	B	42	—	—	—												
	C	43	1	1	0 1D			8.2			24.7			5.9			37.9
	D	44	4	3 1D	0 3D		8.2			24.6			6.7			34.4	
100	A	45	—	—	—	—			—			—			—		
	B	46	—	—	—												
	C	47	—	—	—			—			—			—			—
	D	48	—	—	—		—			—			—			—	
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	BA	SP	BA	BA	SP	BA	BA	SP	BA	BA	SP	BA	BA	SP
Recorded by:			JD	DA	SP	BA	BA	SP	BA	BA	SP	BA	BA	SP	BA	DA	SP

Investigators' Signatures
Marshall Faircloth
Jacob Pritchard
Barry Atterson
James Pond

Nicole Wellenhoff
REVIEWER

Concentrations prepared by: SP
Loading verified by: JD
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 23.9 max. 25.6 mean 24.5
Incubator # ____ min. ____ max. ____ mean ____
Room B246 min. 23.6 max. 24.2 mean 23.9

Remarks:

Statistical Results: Method: Spearman-Karber
48 (96) hour LC50: 41.04
95% Confidence Interval: lower 36.95 upper 45.58

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Page 000003

Appendix C. (continued)

FDEP Biology Section - Acute SRT Bench Sheet

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

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

Diluent/ Batch#: ASW 1 13-06
Toxicant/ Batch# CuCl2 1 8-06

Test Beginning: Date: 7-11-06 Time: 1330
Test Ending: Date: 7-15-06 Time: 1200

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	SP
Alkalinity (mg/L as $CaCO_3$):	184	Hach	BA
Hardness (mg/L as CaCO3):	–	Hach	–
Total Ammonia (mg/L as N):	<0.034	Denver	MF
Salinity (ppth):	21.1	Mettler	BA

Organism Batch #/ Age: 21-06 / 14 days
Feeding: (Prior to test) / Prior to renewal / Daily
Food: YCT P.*subcapitata* Artemia
Food Batch: — — GSL 5360-90
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc. µg/L g/L	Rep.	Chamber#	Number Live 0 hr / 48 hr	Number Live 24 hr / 72 hr	Number Live 48 hr / 96 hr	pH (SU) 0 hr / 48 hr	pH (SU) 24 hr / 72 hr	pH (SU) 48 hr / 96 hr	Temperature (° C) 0 hr / 48 hr	Temperature (° C) 24 hr / 72 hr	Temperature (° C) 48 hr / 96 hr	D.O. (mg/l) 0 hr / 48 hr	D.O. (mg/l) 24 hr / 72 hr	D.O. (mg/l) 48 hr / 96 hr	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhom/cm) 0 hr / 48 hr	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhom/cm) 24 hr / 72 hr	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhom/cm) 48 hr / 96 hr
Control	A	C13	10	9 1D	9	8.3		8.1	24.4		24.4	6.6		6.9	34.3		35.6
	B	C19	10	9 1D	9		8.1			24.7			5.4			33.8	
	C										24						
	D																
31.25	A	C15	10	8 1D	8	8.3		8.1	24.4		25.2	6.5		6.1	34.1		35.2
	B	C16	10	10	10		8.1			25.1			5.4			34.3	
	C																
	D																
62.5	A	C17	10	9 1D	9	8.3		8.1	24.5		25.2	6.5		6.0	34.1		34.9
	B	C18	10	10	10		8.1			25.1			5.4			34.1	
	C																
	D																
125	A	C19	10	8 1D	8	8.3		8.1	24.5		25.0	6.5		6.1	34.1		35.2
	B	C20	10	10	10		8.1			25.1			5.4			34.1	
	C																
	D																
250	A	C21	10	9 1D	8 1D	8.3		8.1	24.5		25.6	6.5		6.1	33.8		35.0
	B	C22	10	3 7D	3		8.2			25.0			5.4			33.8	
	C																
	D																
500	A	C23	10	0 10D	–	8.4		–	24.7		–	6.5		–	33.9		–
	B	C24	10	0 10D	–		8.2			25.4			5.5			34.3	
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	JD	JD	BA	BA	BA	BA	BA	JD/SR	BA	BA	BA	BA	BA	BA
Recorded by:			JD	JD	JD	BA	BA	BA	BA	BA	JD/SR	BA	BA	BA	BA	BA	BA

Investigators' Signatures
Sarah Predmore
Marshall Brownell
Bruce Robertson
James Daniel
Nicole Wellendorf
REVIEWER

Concentrations prepared by: JD
Loading verified by: BA
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 23.4 max. 25.6 mean 24.5
Incubator # ____ min. ____ max. ____ mean ____
Room B246 min. 23.6 max. 24.2 mean 23.9

Remarks:

Statistical Results: Method: Spearman-Karber
(24) / 96 hour LC50: 264.59
95% Confidence Interval: lower 226.05 upper 309.69

Revised 02/21/06

Page 000004

Appendix C. (continued)

FDEP Biology Section - Acute SRT Bench Sheet

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

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

Diluent/ Batch#: ASW / 13-06
Toxicant/ Batch# CuCl2 / 8-06

Test Beginning: Date: 7-11-06 Time: 1330
Test Ending: Date: 7-15-06 Time: 1200

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	SP
Alkalinity (mg/L as $CaCO_3$):	184	Hach	BA
Hardness (mg/L as CaCO3):	—	Hach	—
Total Ammonia (mg/L as N):	<0.034	Denver	MF
Salinity (ppth):	27.1	Mettler	BA

Organism Batch #/ Age: 21-06 / 14 days
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

Conc. (ug/l) g/L	Rep.	Chamber#	Number Live 0 hr / 48 hr	Number Live 24 hr / 72 hr	Number Live 48 hr / 96 hr	pH (SU) 0 hr / 48 hr	pH (SU) 24 hr / 72 hr	pH (SU) 48 hr / 96 hr	Temperature (° C) 0 hr / 48 hr	Temperature (° C) 24 hr / 72 hr	Temperature (° C) 48 hr / 96 hr	D.O. (mg/l) 0 hr / 48 hr	D.O. (mg/l) 24 hr / 72 hr	D.O. (mg/l) 48 hr / 96 hr	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhos/cm) 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr
Control	A	C13	9	9	9	8.2			24.5			6.7			34.4		
	B	C14	9	9	9		8.1	8.1			24.6		5.3	5.8			34.7
	C										~~24.6~~ SP			~~5.8~~ SP			~~34.7~~ SP
	D								(A) 24.7							(A) 34.5	
31.25	A	C15	8	8	8	8.3			24.3			6.6			34.6		
	B	C16	10	10	10		8.1	8.1			24.6		5.2	5.9			35.4
	C										~~24.6~~ SP			~~5.9~~ SP			~~35.4~~ SP
	D								(A) 24.6							(A) 34.6	
62.5	A	C17	9	9	9	8.3			24.3			6.6			34.6		
	B	C18	10	10	10		8.1	8.1			24.9		5.3	5.9			35.4
	C										~~24.9~~ SP			~~5.8~~ SP			~~35.4~~ SP
	D								(A) 24.6							(A) 34.8	
125	A	C19	8	8	7/10	8.3			24.3			6.6			34.7		
	B	C20	10	10	10		8.1	8.2			24.7		5.4	5.9			35.4
	C										~~24.7~~ SP						~~35.4~~ SP
	D								(A) 24.7							(A) 34.8	
250	A	C21	8	8	8	8.3			24.4			6.6			34.4		
	B	C22	3	3	3		8.1	8.2			24.5		5.5	6.1			35.2
	C										~~24.5~~ SP						~~35.2~~ SP
	D								(A) 24.6							(A) 34.6	
500	A	C23	—	—	—	—			—			—			—		
	B	C24	—	—	—		—	—		—	—		—	—		—	—
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	SP	SP	BA	BA	SP	BA	BA	SP	BA	BA	SP	BA	BA	SP
Recorded by:			JD	SP	SP	BA	BA	SP	BA	BA	SP	BA	BA	SP	BA	BA	SP

Investigators' Signatures
Marshall Faircloth
Jarad Pritchard
Bruce McLendon
James Daniel
REVIEWER

Concentrations prepared by: BA/SP
Loading verified by: N/A
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 23.1 max. 23.6 mean 24.5
Incubator # ____ min. ____ max. ____ mean ____
Room B246 min. 23.6 max. 24.2 mean 23.9

Remarks: (A) Parameters ~~DO~~ Cond & temp @ 72h taken from rep "B" - BA -

Statistical Results: Method: Spearman-Karber
48 / 96 hour LC50: 259.77
95% Confidence Interval: lower 214.54 upper 302.55

Revised 02/21/06

Page 000005

Appendix C. (continued)

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

DATE: 7-11-06 DURATION: 96 h TOXICANT : $CdCl_2$
SPECIES: *A. bahia*

RAW DATA: --- ----	Concentration (ug/L)	Number Exposed	Mortalities
	.00	20	2
	20.00	20	1
	30.00	20	5
	45.00	20	10
	60.00	20	20
	100.00	20	20

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: LC_{50}: 41.04
95% LOWER CONFIDENCE: 36.95
95% UPPER CONFIDENCE: 45.58

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

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

DATE: 7-11-06 DURATION: 96 h TOXICANT : $CuCl_2$
SPECIES: *M. beryllina*

RAW DATA: --- ----	Concentration (ug/L)	Number Exposed	Mortalities
	.00	20	2
	31.25	20	2
	62.50	20	1
	125.00	20	3
	250.00	20	9
	500.00	20	20

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: LC_{50}: 254.77
95% LOWER CONFIDENCE: 214.54
95% UPPER CONFIDENCE: 302.55

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

Appendix D. Test Organism Receipt

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: 7/31/06

Shipped to: FDEP

P.O. No: _____

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia	250+	4 Days	MSO60727	25°C	~30‰
Menidia beryllina	250+	12 Days	SSO60719	25°C	~30‰
Cyprinella leedsi	120+	12 Days	CL060719	25°C	
Pimephales promelas	120+	7 Days	PM060714-1600	25°C	

Packed by: Frank Gauj

Shipped Via: FedEx

Notes: _____

Thank you for your order.

Appendix D. Test Organism Receipt

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: 7/10/06

Shipped to: FDEP

P.O. No: _____

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia	400+	4 Days	M506070c	25°C	19.5‰
Menidia beryllina	400+	13 Days	S506c6d7	25°C	19.0‰
Cyprinella leedsi	400+	11 Days	CL06061	25°C	
Pimephales promelas	400+	10 Days	FM06030-1050	25°C	

Packed by: Frank Gary

Shipped Via: FedEx

Notes: _____

Thank you for your order.

Gary

Appendix E. Chemical Analyses performed on the effluent from the Monterey Wastewater Treatment Plant Outfall D-001, sampled on July 31, 2006.

DATE SAMPLED	FIELD ID	ANALYSIS GROUP	COMPONENT	RESULT	UNITS	REMARK	MDL	PQL
7/31/2006 9:50	EFFLUENT	Bio-AGP/LimNut	Algal Growth Potential	29.7	mg DryWt/L		0.3	0.9
7/31/2006 9:50	EFFLUENT	Bio-AGP/LimNut	Algal Growth Potential-Salinity Adjusted	7.89	mg DryWt/L	A	3	3
7/31/2006 9:50	EFFLUENT	Bio-BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	1.2	mg/L	AI	0.2	2.0
7/31/2006 9:50	EFFLUENT	Bio-Chl-a	Chlorophyll-A, Monochromatic, Water	0.85	ug/L	U	0.85	2.6
7/31/2006 9:50	EFFLUENT	Bio-Chl-a	Phaeophytin-A, Monochromatic, Water	1.5	ug/L	U	1.5	4.5
7/31/2006 9:50	EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	30	LC50	L		
7/31/2006 9:50	EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	30	LC50	L		
7/31/2006 9:50	EFFLUENT	BNA-Water	1,2,4-Trichlorobenzene	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	1,2-Dichlorobenzene	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	1,3-Dichlorobenzene	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	1,4-Dichlorobenzene	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	2,4,6-Trichlorophenol	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	2,4-Dichlorophenol	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	2,4-Dimethylphenol	51	ug/L	U	51	200
7/31/2006 9:50	EFFLUENT	BNA-Water	2,4-Dinitrophenol	15	ug/L	UJ	15	61
7/31/2006 9:50	EFFLUENT	BNA-Water	2,4-Dinitrotoluene	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	2,6-Dinitrotoluene	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	2-Chloronaphthalene	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	2-Chlorophenol	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	2-Methyl-4,6-dinitrophenol	3.1	ug/L	U	3.1	12
7/31/2006 9:50	EFFLUENT	BNA-Water	2-Nitrophenol	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	3,3'-Dichlorobenzidine	41	ug/L	UJ	41	160
7/31/2006 9:50	EFFLUENT	BNA-Water	4,4'-DDD	1.5	ug/L	U	1.5	6.1
7/31/2006 9:50	EFFLUENT	BNA-Water	4,4'-DDE	1.5	ug/L	U	1.5	6.1
7/31/2006 9:50	EFFLUENT	BNA-Water	4,4'-DDT	1.5	ug/L	UJ	1.5	6.1
7/31/2006 9:50	EFFLUENT	BNA-Water	4-Bromophenyl phenyl ether	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	4-Chloro-3-methylphenol	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	4-Chlorophenyl phenyl ether	2	ug/L	U	2	8.2
7/31/2006 9:50	EFFLUENT	BNA-Water	4-Nitrophenol	15	ug/L	UJ	15	61
7/31/2006 9:50	EFFLUENT	BNA-Water	Acenaphthene	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Acenaphthylene	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Aldrin	1.5	ug/L	U	1.5	6.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Anthracene	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Benzidine	100	ug/L	U	100	410
7/31/2006 9:50	EFFLUENT	BNA-Water	Benzo(a)anthracene	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Benzo(a)pyrene	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Benzo(b)fluoranthene	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Benzo(g,h,i)perylene	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Benzo(k)fluoranthene	1	ug/L	U	1	4.1

Appendix E. Continued

DATE SAMPLED	FIELD ID	ANALYSIS GROUP	COMPONENT	RESULT	UNITS	REMARK	MDL	PQL
7/31/2006 9:50	EFFLUENT	BNA-Water	Bis(2-chloroethoxy)methane	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Bis(2-chloroethyl)ether	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Bis(2-chloroisopropyl)ether	3.1	ug/L	U	3.1	12
7/31/2006 9:50	EFFLUENT	BNA-Water	Bis(2-ethylhexyl)phthalate	15	ug/L	U	15	61
7/31/2006 9:50	EFFLUENT	BNA-Water	Butyl benzyl phthalate	5.1	ug/L	U	5.1	20
7/31/2006 9:50	EFFLUENT	BNA-Water	Chrysene	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Di-n-butyl phthalate	5.1	ug/L	U	5.1	20
7/31/2006 9:50	EFFLUENT	BNA-Water	Di-n-octyl phthalate	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Dibenzo(a,h)anthracene	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Dieldrin	1.5	ug/L	U	1.5	6.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Diethyl phthalate	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Dimethyl phthalate	51	ug/L	U	51	200
7/31/2006 9:50	EFFLUENT	BNA-Water	Endosulfan I	4.1	ug/L	U	4.1	16
7/31/2006 9:50	EFFLUENT	BNA-Water	Endosulfan II	4.1	ug/L	U	4.1	16
7/31/2006 9:50	EFFLUENT	BNA-Water	Endosulfan sulfate	1.5	ug/L	UJ	1.5	6.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Endrin	1.5	ug/L	UJ	1.5	6.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Endrin aldehyde	4.1	ug/L	U	4.1	16
7/31/2006 9:50	EFFLUENT	BNA-Water	Fluoranthene	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Fluorene	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Heptachlor	1.5	ug/L	U	1.5	6.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Heptachlor epoxide	1.5	ug/L	U	1.5	6.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Hexachlorobenzene	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Hexachlorobutadiene	3.1	ug/L	UJ	3.1	12
7/31/2006 9:50	EFFLUENT	BNA-Water	Hexachlorocyclopentadiene	3.1	ug/L	UJ	3.1	12
7/31/2006 9:50	EFFLUENT	BNA-Water	Hexachloroethane	3.1	ug/L	U	3.1	12
7/31/2006 9:50	EFFLUENT	BNA-Water	Indeno(1,2,3-cd)pyrene	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Isophorone	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	N-Nitrosodi-n-propylamine	2	ug/L	U	2	8.2
7/31/2006 9:50	EFFLUENT	BNA-Water	N-Nitrosodimethylamine	2	ug/L	U	2	8.2
7/31/2006 9:50	EFFLUENT	BNA-Water	N-Nitrosodiphenylamine	3.1	ug/L	U	3.1	12
7/31/2006 9:50	EFFLUENT	BNA-Water	Naphthalene	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Nitrobenzene	2	ug/L	U	2	8.2
7/31/2006 9:50	EFFLUENT	BNA-Water	Pentachlorophenol	3.1	ug/L	U	3.1	12
7/31/2006 9:50	EFFLUENT	BNA-Water	Phenanthrene	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Phenol	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	Pyrene	1	ug/L	U	1	4.1
7/31/2006 9:50	EFFLUENT	BNA-Water	alpha-BHC	1.5	ug/L	U	1.5	6.1
7/31/2006 9:50	EFFLUENT	BNA-Water	beta-BHC	1.5	ug/L	U	1.5	6.1
7/31/2006 9:50	EFFLUENT	BNA-Water	delta-BHC	1.5	ug/L	U	1.5	6.1
7/31/2006 9:50	EFFLUENT	BNA-Water	gamma-BHC	1.5	ug/L	U	1.5	6.1

Appendix E. Continued

DATE SAMPLED	FIELD ID	ANALYSIS GROUP	COMPONENT	RESULT	UNITS	REMARK	MDL	PQL
7/31/2006 9:50	EFFLUENT	GC-Water	Alachlor	0.61	ug/L	U	0.61	2.4
7/31/2006 9:50	EFFLUENT	GC-Water	Ametryn	0.051	ug/L	U	0.051	0.2
7/31/2006 9:50	EFFLUENT	GC-Water	Atrazine	0.096	ug/L	I	0.051	0.2
7/31/2006 9:50	EFFLUENT	GC-Water	Azinphos Methyl	0.2	ug/L	U	0.2	0.8
7/31/2006 9:50	EFFLUENT	GC-Water	Bromacil	0.2	ug/L	U	0.2	0.8
7/31/2006 9:50	EFFLUENT	GC-Water	Butylate	0.2	ug/L	UJ	0.2	0.8
7/31/2006 9:50	EFFLUENT	GC-Water	Chlorpyrifos Ethyl	0.051	ug/L	U	0.051	0.2
7/31/2006 9:50	EFFLUENT	GC-Water	Chlorpyrifos Methyl	0.1	ug/L	U	0.1	0.4
7/31/2006 9:50	EFFLUENT	GC-Water	Diazinon	0.051	ug/L	U	0.051	0.2
7/31/2006 9:50	EFFLUENT	GC-Water	Ethion	0.051	ug/L	U	0.051	0.2
7/31/2006 9:50	EFFLUENT	GC-Water	Ethoprop	0.1	ug/L	U	0.1	0.4
7/31/2006 9:50	EFFLUENT	GC-Water	Fenamiphos	0.2	ug/L	U	0.2	0.8
7/31/2006 9:50	EFFLUENT	GC-Water	Fonofos	0.1	ug/L	U	0.1	0.4
7/31/2006 9:50	EFFLUENT	GC-Water	Hexazinone	0.1	ug/L	U	0.1	0.4
7/31/2006 9:50	EFFLUENT	GC-Water	Malathion	0.15	ug/L	U	0.15	0.6
7/31/2006 9:50	EFFLUENT	GC-Water	Metalaxyl	0.26	ug/L	U	0.26	1
7/31/2006 9:50	EFFLUENT	GC-Water	Metolachlor	0.51	ug/L	U	0.51	2
7/31/2006 9:50	EFFLUENT	GC-Water	Metribuzin	0.1	ug/L	U	0.1	0.4
7/31/2006 9:50	EFFLUENT	GC-Water	Mevinphos	0.2	ug/L	U	0.2	0.8
7/31/2006 9:50	EFFLUENT	GC-Water	Naled	0.82	ug/L	U	0.82	3.3
7/31/2006 9:50	EFFLUENT	GC-Water	Norflurazon	0.15	ug/L	U	0.15	0.6
7/31/2006 9:50	EFFLUENT	GC-Water	Parathion Ethyl	0.15	ug/L	U	0.15	0.6
7/31/2006 9:50	EFFLUENT	GC-Water	Parathion Methyl	0.1	ug/L	U	0.1	0.4
7/31/2006 9:50	EFFLUENT	GC-Water	Phorate	0.051	ug/L	U	0.051	0.2
7/31/2006 9:50	EFFLUENT	GC-Water	Prometryn	0.15	ug/L	U	0.15	0.6
7/31/2006 9:50	EFFLUENT	GC-Water	Simazine	0.051	ug/L	U	0.051	0.2
7/31/2006 9:50	EFFLUENT	Metals-Water	Aluminum	29	ug/L		4	16
7/31/2006 9:50	EFFLUENT	Metals-Water	Arsenic	0.53	ug/L	I	0.5	2
7/31/2006 9:50	EFFLUENT	Metals-Water	Cadmium	0.05	ug/L	U	0.05	0.2
7/31/2006 9:50	EFFLUENT	Metals-Water	Calcium	76.2	mg/L		0.02	0.08
7/31/2006 9:50	EFFLUENT	Metals-Water	Chromium	0.3	ug/L	U	0.3	1.2
7/31/2006 9:50	EFFLUENT	Metals-Water	Copper	1.21	ug/L		0.2	0.8
7/31/2006 9:50	EFFLUENT	Metals-Water	Iron	98	ug/L		5	20
7/31/2006 9:50	EFFLUENT	Metals-Water	Lead	0.71	ug/L	I	0.2	0.8
7/31/2006 9:50	EFFLUENT	Metals-Water	Magnesium	29.7	mg/L		0.005	0.02
7/31/2006 9:50	EFFLUENT	Metals-Water	Nickel	1.6	ug/L	I	1	4
7/31/2006 9:50	EFFLUENT	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
7/31/2006 9:50	EFFLUENT	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
7/31/2006 9:50	EFFLUENT	Metals-Water	Zinc	32	ug/L		3	12
7/31/2006 9:50	EFFLUENT	Nutrients-Liquid	Ammonia-N	0.19	mg N/L		0.02	0.04

Appendix E. Continued

DATE SAMPLED	FIELD ID	ANALYSIS GROUP	COMPONENT	RESULT	UNITS	REMARK	MDL	PQL
7/31/2006 9:50	EFFLUENT	Nutrients-Liquid	Kjeldahl Nitrogen	0.9	mg N/L	A	0.16	0.4
7/31/2006 9:50	EFFLUENT	Nutrients-Liquid	NO2NO3-N	0.35	mg N/L		0.02	0.05
7/31/2006 9:50	EFFLUENT	Nutrients-Liquid	O-Phosphate-P	2.4	mg P/L		0.08	0.2
7/31/2006 9:50	EFFLUENT	Nutrients-Liquid	TSS	4	mg/L	U	4	16
7/31/2006 9:50	EFFLUENT	Nutrients-Liquid	Total-P	2.6	mg P/L	A	0.2	0.6
7/31/2006 10:05	FIELD BLANK	BNA-Water	1,2,4-Trichlorobenzene	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	1,2-Dichlorobenzene	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	1,3-Dichlorobenzene	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	1,4-Dichlorobenzene	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	2,4,6-Trichlorophenol	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	2,4-Dichlorophenol	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	2,4-Dimethylphenol	51	ug/L	U	51	200
7/31/2006 10:05	FIELD BLANK	BNA-Water	2,4-Dinitrophenol	15	ug/L	UJ	15	61
7/31/2006 10:05	FIELD BLANK	BNA-Water	2,4-Dinitrotoluene	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	2,6-Dinitrotoluene	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	2-Chloronaphthalene	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	2-Chlorophenol	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	2-Methyl-4,6-dinitrophenol	3	ug/L	U	3	12
7/31/2006 10:05	FIELD BLANK	BNA-Water	2-Nitrophenol	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	3,3'-Dichlorobenzidine	40	ug/L	UJ	40	160
7/31/2006 10:05	FIELD BLANK	BNA-Water	4,4'-DDD	1.5	ug/L	U	1.5	6.1
7/31/2006 10:05	FIELD BLANK	BNA-Water	4,4'-DDE	1.5	ug/L	U	1.5	6.1
7/31/2006 10:05	FIELD BLANK	BNA-Water	4,4'-DDT	1.5	ug/L	UJ	1.5	6.1
7/31/2006 10:05	FIELD BLANK	BNA-Water	4-Bromophenyl phenyl ether	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	4-Chloro-3-methylphenol	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	4-Chlorophenyl phenyl ether	2	ug/L	U	2	8.1
7/31/2006 10:05	FIELD BLANK	BNA-Water	4-Nitrophenol	15	ug/L	UJ	15	61
7/31/2006 10:05	FIELD BLANK	BNA-Water	Acenaphthene	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	Acenaphthylene	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	Aldrin	1.5	ug/L	U	1.5	6.1
7/31/2006 10:05	FIELD BLANK	BNA-Water	Anthracene	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	Benzidine	100	ug/L	U	100	400
7/31/2006 10:05	FIELD BLANK	BNA-Water	Benzo(a)anthracene	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	Benzo(a)pyrene	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	Benzo(b)fluoranthene	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	Benzo(g,h,i)perylene	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	Benzo(k)fluoranthene	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	Bis(2-chloroethoxy)methane	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	Bis(2-chloroethyl)ether	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	Bis(2-chloroisopropyl)ether	3	ug/L	U	3	12

Appendix E. Continued

DATE SAMPLED	FIELD ID	ANALYSIS GROUP	COMPONENT	RESULT	UNITS	REMARK	MDL	PQL
7/31/2006 10:05	FIELD BLANK	BNA-Water	Bis(2-ethylhexyl)phthalate	15	ug/L	U	15	61
7/31/2006 10:05	FIELD BLANK	BNA-Water	Butyl benzyl phthalate	5.1	ug/L	U	5.1	20
7/31/2006 10:05	FIELD BLANK	BNA-Water	Chrysene	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	Di-n-butyl phthalate	5.1	ug/L	U	5.1	20
7/31/2006 10:05	FIELD BLANK	BNA-Water	Di-n-octyl phthalate	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	Dibenzo(a,h)anthracene	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	Dieldrin	1.5	ug/L	U	1.5	6.1
7/31/2006 10:05	FIELD BLANK	BNA-Water	Diethyl phthalate	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	Dimethyl phthalate	51	ug/L	U	51	200
7/31/2006 10:05	FIELD BLANK	BNA-Water	Endosulfan I	4	ug/L	U	4	16
7/31/2006 10:05	FIELD BLANK	BNA-Water	Endosulfan II	4	ug/L	U	4	16
7/31/2006 10:05	FIELD BLANK	BNA-Water	Endosulfan sulfate	1.5	ug/L	UJ	1.5	6.1
7/31/2006 10:05	FIELD BLANK	BNA-Water	Endrin	1.5	ug/L	UJ	1.5	6.1
7/31/2006 10:05	FIELD BLANK	BNA-Water	Endrin aldehyde	4	ug/L	U	4	16
7/31/2006 10:05	FIELD BLANK	BNA-Water	Fluoranthene	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	Fluorene	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	Heptachlor	1.5	ug/L	U	1.5	6.1
7/31/2006 10:05	FIELD BLANK	BNA-Water	Heptachlor epoxide	1.5	ug/L	U	1.5	6.1
7/31/2006 10:05	FIELD BLANK	BNA-Water	Hexachlorobenzene	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	Hexachlorobutadiene	3	ug/L	UJ	3	12
7/31/2006 10:05	FIELD BLANK	BNA-Water	Hexachlorocyclopentadiene	3	ug/L	UJ	3	12
7/31/2006 10:05	FIELD BLANK	BNA-Water	Hexachloroethane	3	ug/L	U	3	12
7/31/2006 10:05	FIELD BLANK	BNA-Water	Indeno(1,2,3-cd)pyrene	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	Isophorone	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	N-Nitrosodi-n-propylamine	2	ug/L	U	2	8.1
7/31/2006 10:05	FIELD BLANK	BNA-Water	N-Nitrosodimethylamine	2	ug/L	U	2	8.1
7/31/2006 10:05	FIELD BLANK	BNA-Water	N-Nitrosodiphenylamine	3	ug/L	U	3	12
7/31/2006 10:05	FIELD BLANK	BNA-Water	Naphthalene	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	Nitrobenzene	2	ug/L	U	2	8.1
7/31/2006 10:05	FIELD BLANK	BNA-Water	Pentachlorophenol	3	ug/L	U	3	12
7/31/2006 10:05	FIELD BLANK	BNA-Water	Phenanthrene	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	Phenol	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	Pyrene	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	BNA-Water	alpha-BHC	1.5	ug/L	U	1.5	6.1
7/31/2006 10:05	FIELD BLANK	BNA-Water	beta-BHC	1.5	ug/L	U	1.5	6.1
7/31/2006 10:05	FIELD BLANK	BNA-Water	delta-BHC	1.5	ug/L	U	1.5	6.1
7/31/2006 10:05	FIELD BLANK	BNA-Water	gamma-BHC	1.5	ug/L	U	1.5	6.1
7/31/2006 10:05	FIELD BLANK	GC-Water	Alachlor	0.61	ug/L	U	0.61	2.4
7/31/2006 10:05	FIELD BLANK	GC-Water	Ametryn	0.051	ug/L	U	0.051	0.2
7/31/2006 10:05	FIELD BLANK	GC-Water	Atrazine	0.051	ug/L	U	0.051	0.2

Appendix E. Continued

DATE SAMPLED	FIELD ID	ANALYSIS GROUP	COMPONENT	RESULT	UNITS	REMARK	MDL	PQL
7/31/2006 10:05	FIELD BLANK	GC-Water	Azinphos Methyl	0.2	ug/L	U	0.2	0.8
7/31/2006 10:05	FIELD BLANK	GC-Water	Bromacil	0.2	ug/L	U	0.2	0.8
7/31/2006 10:05	FIELD BLANK	GC-Water	Butylate	0.2	ug/L	UJ	0.2	0.8
7/31/2006 10:05	FIELD BLANK	GC-Water	Chlorpyrifos Ethyl	0.051	ug/L	U	0.051	0.2
7/31/2006 10:05	FIELD BLANK	GC-Water	Chlorpyrifos Methyl	0.1	ug/L	U	0.1	0.4
7/31/2006 10:05	FIELD BLANK	GC-Water	Diazinon	0.051	ug/L	U	0.051	0.2
7/31/2006 10:05	FIELD BLANK	GC-Water	Ethion	0.051	ug/L	U	0.051	0.2
7/31/2006 10:05	FIELD BLANK	GC-Water	Ethoprop	0.1	ug/L	U	0.1	0.4
7/31/2006 10:05	FIELD BLANK	GC-Water	Fenamiphos	0.2	ug/L	U	0.2	0.8
7/31/2006 10:05	FIELD BLANK	GC-Water	Fonofos	0.1	ug/L	U	0.1	0.4
7/31/2006 10:05	FIELD BLANK	GC-Water	Hexazinone	0.1	ug/L	U	0.1	0.4
7/31/2006 10:05	FIELD BLANK	GC-Water	Malathion	0.15	ug/L	U	0.15	0.6
7/31/2006 10:05	FIELD BLANK	GC-Water	Metalaxyl	0.26	ug/L	U	0.26	1
7/31/2006 10:05	FIELD BLANK	GC-Water	Metolachlor	0.51	ug/L	U	0.51	2
7/31/2006 10:05	FIELD BLANK	GC-Water	Metribuzin	0.1	ug/L	U	0.1	0.4
7/31/2006 10:05	FIELD BLANK	GC-Water	Mevinphos	0.2	ug/L	U	0.2	0.8
7/31/2006 10:05	FIELD BLANK	GC-Water	Naled	0.82	ug/L	U	0.82	3.3
7/31/2006 10:05	FIELD BLANK	GC-Water	Norflurazon	0.15	ug/L	U	0.15	0.6
7/31/2006 10:05	FIELD BLANK	GC-Water	Parathion Ethyl	0.15	ug/L	U	0.15	0.6
7/31/2006 10:05	FIELD BLANK	GC-Water	Parathion Methyl	0.1	ug/L	U	0.1	0.4
7/31/2006 10:05	FIELD BLANK	GC-Water	Phorate	0.051	ug/L	U	0.051	0.2
7/31/2006 10:05	FIELD BLANK	GC-Water	Prometryn	0.15	ug/L	U	0.15	0.6
7/31/2006 10:05	FIELD BLANK	GC-Water	Simazine	0.051	ug/L	U	0.051	0.2
7/31/2006 10:05	FIELD BLANK	Metals-Water	Aluminum	4	ug/L	U	4	16
7/31/2006 10:05	FIELD BLANK	Metals-Water	Arsenic	0.5	ug/L	U	0.5	2
7/31/2006 10:05	FIELD BLANK	Metals-Water	Cadmium	0.05	ug/L	U	0.05	0.2
7/31/2006 10:05	FIELD BLANK	Metals-Water	Calcium	0.02	mg/L	U	0.02	0.08
7/31/2006 10:05	FIELD BLANK	Metals-Water	Chromium	0.3	ug/L	U	0.3	1.2
7/31/2006 10:05	FIELD BLANK	Metals-Water	Copper	0.22	ug/L	I	0.2	0.8
7/31/2006 10:05	FIELD BLANK	Metals-Water	Iron	5	ug/L	U	5	20
7/31/2006 10:05	FIELD BLANK	Metals-Water	Lead	0.2	ug/L	U	0.2	0.8
7/31/2006 10:05	FIELD BLANK	Metals-Water	Magnesium	0.005	mg/L	U	0.005	0.02
7/31/2006 10:05	FIELD BLANK	Metals-Water	Nickel	1	ug/L	U	1	4
7/31/2006 10:05	FIELD BLANK	Metals-Water	Selenium	0.5	ug/L	U	0.5	2

Appendix E. Continued

DATE SAMPLED	FIELD ID	ANALYSIS GROUP	COMPONENT	RESULT	UNITS	REMARK	MDL	PQL
7/31/2006 10:05	FIELD BLANK	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
7/31/2006 10:05	FIELD BLANK	Metals-Water	Zinc	3	ug/L	U	3	12
7/31/2006 10:05	FIELD BLANK	Nutrients-Liquid	Ammonia-N	0.01	mg N/L	U	0.01	0.02
7/31/2006 10:05	FIELD BLANK	Nutrients-Liquid	Kjeldahl Nitrogen	0.08	mg N/L	U	0.08	0.2
7/31/2006 10:05	FIELD BLANK	Nutrients-Liquid	NO2NO3-N	0.004	mg N/L	U	0.004	0.01
7/31/2006 10:05	FIELD BLANK	Nutrients-Liquid	O-Phosphate-P	0.004	mg P/L	U	0.004	0.01
7/31/2006 10:05	FIELD BLANK	Nutrients-Liquid	Total-P	0.02	mg P/L	U	0.02	0.06

The Bioassay of Monterey Wastewater Treatment Plant effluent sampled on July 31, 2006. NPDES #FL0023604.

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 0 4 11	12 0 6 0 7 3 1	18 **B**	19 **S**	20 1

Remarks

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The Priority Pollutants Analysis of Monterey Wastewater Treatment Plant effluent sampled on July 31, 2006. NPDES #FL0023604.

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 0 4 11	12 0 6 0 7 3 1	18 **X**	19 **S**	20 1

Remarks

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Biological Analyses of Monterey Wastewater Treatment Plant effluent sampled on July 31, 2006. NPDES #FL0023604.

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 0 4 11	12 0 6 0 7 3 1	18 **S**	19 **S**	20 1

Remarks

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