

Bioassays of

Neptune Beach Wastewater Treatment Facility

Duval County

NPDES #FL0020427

Sampled June 4 and 5, 2006

July 2006

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

Neptune Beach Wastewater Treatment Facility, 2010 Forest Avenue, Neptune Beach, Duval County, Florida, NPDES #FL0020427. Effluent samples for this facility were collected on June 4 and 5, 2006.

Introduction

The Neptune Beach Wastewater Treatment Facility is a domestic wastewater treatment facility. The facility has a design flow of 1.50 million gallons per day (MGD) annual average daily flow (AADF). The AADF from May 2005 – April 2006 was 0.644 MGD. The facility consists of two plants with a common influent system. Plant #1 is a 0.90 MGD AADF design flow contact-stabilization treatment plant consisting of influent bar screens, grit removal, a contact tank, a stabilization tank, two secondary clarifiers, and an aerobic digester. Plant #2 is a 0.60 MGD AADF package plant consisting of a contact tank, stabilization tank, and a secondary clarifier. The combined effluent from both plants is disinfected with sodium hypochlorite and dechlorinated with sodium bisulfite prior to being conveyed to two flow stabilization tanks thence pumped to the common beaches outfall (D-001). Domestic wastewater residuals are dewatered with a residual belt-press and transported to an approved landfill for disposal. The common beaches outfall, located at Sherman Point, is approximately 70.1 m (230 feet) in length and discharges at an approximate depth of 2.4 m (8 feet) into the Class III marine waters of the St. Johns River. The outfall is located at approximately latitude 30º 22' 59' N, longitude 81º 26' 20" W. This outfall also serves the Atlantic Beach WWTP and the Jacksonville Beach WWTP. The samples for this facility were collected prior to co-joining with effluent from the other facilities.

The facility has an Administrative Order (AO 066 NE), which addresses exceedences of copper. The facility was to meet the requirement of ≤ 2.9 µg/L (currently 3.7 µg/L) total recoverable copper by December 1, 2003. According to DMR data, this goal has not been achieved. The facility has a mixing zone for total recoverable copper. The size of the mixing zone is 91,570 m^2. The total recoverable copper limit for the mixing zone is 15 µg/L. During the past year (February 2005), the facility exceeded the maximum limit (60 mg/L) for total suspended solids at monitoring location EFA-1. (Facility information provided by Joseph Emery of FDEP Northeast District.)

Methods

Samples were collected from the EFD-1 NPDES sampling point for Outfall D-001 by 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. Bioassays were performed on each of four samples which were collected over a 24-hour period (one sample every six hours).

The bioassay samples were salinity adjusted from an apparent salinity of approximately 0.5 parts per thousand (ppth) to approximately 20 ppth using 40 Fathoms® artificial sea salts per permit requirements. The salt control used for this test was prepared by diluting 20 ppth artificial seawater (ASW) with well water to an approximate salinity of 0.5 ppth, and then salting this solution with artificial sea salts to approximately 20 ppth salinity. The purpose of the salt controls was to confirm that there was no effect of adding artificial sea salts to the sample. There was 10% mortality in the salt control for the *A. bahia* bioassay for sample three (3) and 15% mortality in the salt control for the *M. beryllina* bioassay for sample one (1); there was no mortality in the other salt controls.

Both freshwater and saltwater AGP tests were performed on the effluent. The salinity of the saltwater AGP test was adjusted to 7 ppth to meet the minimum salinity requirements of the test species.

Toxicity Test Results

Tests were performed June 6 -10, 2006.

Americamysis bahia 96-hour acute screening bioassay 1 –	LC_{50} > 100%, 20% mortality in 100% sample at 96 hours
Menidia beryllina 96-hour acute screening bioassay 1 –	No Result (Control failure)*
Americamysis bahia 96-hour acute screening bioassay 2 –	LC_{50} > 100%, 20% mortality in 100% sample at 96 hours
Menidia beryllina 96-hour acute screening bioassay 2 –	LC_{50} > 100%, 20% mortality in 100% sample at 96 hours
Americamysis bahia 96-hour acute screening bioassay 3 –	LC_{50} > 100%, 15% mortality in 100% sample at 96 hours
Menidia beryllina 96-hour acute screening bioassay 3 –	LC_{50} > 100%, 5% mortality in 100% sample at 96 hours
Americamysis bahia 96-hour acute screening bioassay 4 –	LC_{50} > 100%, 5% mortality in 100% sample at 96 hours
Menidia beryllina 96-hour acute screening bioassay 4 –	LC_{50} > 100%, 10% mortality in 100% sample at 96 hours

*The *M. beryllina* bioassay for sample one (1) was invalidated due to excess control mortality.

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

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 197 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 646 (±20%) mg dry wt/L (Table 1; Miller et al. 1978).

The effluent salinity-adjusted Algal Growth Potential (AGP) was 929 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).

The greater dry weight obtained in the saltwater AGP test can be partially attributed to greater weight production per unit of nutrient in the saltwater test species (Maloney et al, 1974) when compared to the freshwater test species. Other undetermined factors also likely attributed to the dry weight differential.

See Table 1 for AGP results.

Chemistry Results

Total residual chlorine was not detected in the bioassay sample in the laboratory. The total ammonia concentration in the bioassay sample in the laboratory was 5.94. The total ammonia concentration in the sample collected and preserved for chemical analysis was 5 mg/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was 0.14 mg/L.

Aluminum, iron, and zinc were detected in the effluent at levels that comply with Class III marine water quality criteria. Atrazine, cadmium III, chromium, lead, and silver were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL). Chromium, copper, and zinc were also detected in the equipment blank between the laboratory MDLs and PQLs. The effluent copper concentration (7.3 µg/L) exceeded the Class III marine criterion of ≤ 3.7 µg/L (62-302.530(24), F.A.C.), but did not exceed the permitted mixing zone limit of 15 µg/L.

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 samples collected from Outfall D-001 for this facility on June 4 and 5, 2006, were not acutely toxic to either test species during the 96-hour acute screen bioassays. The effluent AGP result greatly exceeded the "problem" threshold for both fresh and marine receiving waters, suggesting nutrient enrichment may be an issue. The effluent copper concentration exceeded the Class III marine water quality criterion, but did not exceed the permitted mixing zone limit.

Literature Cited

Maloney, T. E., W. E. Miller, and D. T. Specht. 1974. The Marine Algal Assay Procedure: Bottle Test. National Environmental Research Center Office of Research and Development. U. S. EPA, Corvallis, Oregon. 43 p.

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 soluble nitrogen (TSIN) and total nitrogen (TN) limitation, the salt adjusted AGP for the saltwater species* Dunaliella tertiolecta*, and ratios of nitrogen to phosphorus for samples collected from Neptune Beach Wastewater Treatment Facility on June 5, 2006.*

Location	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (TN) ± 20%	AGP (salt adjusted)	Inorganic N:P ratio	Total N:P ratio
Effluent Samples	197	646 ± 129.2	900.6 ± 180.12	929	4.25	5.39

Table 2. Effluent limits, Class III Marine Criteria and chemical and microbiological data for samples collected from Neptune Beach Wastewater Treatment Facility on June 5, 2006.

Neptune Beach WWTF NPDES# FL0020427	Class III Marine Stds	Effluent Limits	Effluent Samples
Organic Constituents (µg/L)			
Atrazine	-	-	0.14 l
Metals (µg/L unless otherwise noted)			
Aluminum	≤ 1,500	-	22
Arsenic	≤ 50	-	0.5 U
Cadmium	≤ 9.3	-	0.062 l
Calcium (mg/L)	-	-	66
Chromium-III	-	-	0.51 lf
Copper	≤ 3.7	≤ 15 p	7.3 f
Iron	≤ 300	-	45
Lead	≤ 8.5	-	0.56 l
Magnesium (mg/L)	-	-	29.8 f
Nickel	≤ 8.3	-	1 U
Selenium	≤ 71	-	0.5 U
Silver	≤ 2.3	-	0.048 l
Zinc	≤ 86	-	52.7 f
Nutrients (mg/L)			
Ortho-phosphate	-	Report p	4
Total Phosphorus	-	Report p	4.4
Ammonia	-	Report p	5
Unionized Ammonia	-	-	0.14 c
Nitrate+Nitrite	-	Report p	17
Total Kjeldahl Nitrogen	-	Report p	6.7
Organic Nitrogen	-	-	6.7 c
Total Nitrogen	-	Report p	23.7 c
General Physical and Chemical Parameters			
Dissolved Oxygen (mg/L)	≥ 4	≥ 4	7.5
CBOD (mg/L)	-	≤ 60 ps	1.6 Al
pH (S.U.)	6.5-8.5	6.5-8.5 p	7.5
Temperature (C)	-	-	28.2
Field Specific Conductance (umhos/cm)	-	-	1058
TSS (mg/L)	-	≤ 60 ps	4 U
Chlorophyll-A (µg/L)	-	-	0.85 U
Phaeophytin-A (µg/L)	-	-	1.5 U
Total Residual Chlorine (mg/L)	≤ 0.01	≤ 0.01	≤ 0.03 e
Flow (MGD)	-	≤ 1.50 ap	0.644 a
Hardness (mg/L)	-	-	287.5 c
Microbiology (# counts/100ml)			
Fecal Coliforms-Membrane Filter	≤ 800 s	≤ 800 s	4 B*
Total Coliforms	≤ 2,400 s	-	54 AB*

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

a - Annual average

c - Calculated value

e - measurement from bioassay sample in the lab

f - Chromium III, copper, magnesium, and zinc were detected in the field blank between the laboratory MDL and PQL

p - permited sampling point for this limit is EFA-1

s - Single sample

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

B - Results based on colony counts outside the acceptable 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 minimum detection limit

* - Data provided by FL DEP Northeast District chemistry lab

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Request Number: RQ-2006-06-05-29
Neptune Beach WWTF

Event ID *

Requester: Shannan Bogdanov
Field Report Prepared By: Tom Kallemeyn

Customer: NE-DIST
Collected By: Joe Emory
Send Final Report To Melissa Long

Project ID: FYI3
Sampling Agency: NEP DEP

PMAS: 1143

Lab ID *	Location	Comp / Grab	Collection (begin) Eastern Central	Collection (end) Eastern Central	Bottle Group(s)**
	Neptune Beach WWTF final Effluent	☐ Comp ☒ Grab	Date 6/4/06 Time 1813	Date Time	A
	Field ID	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L) 7.41	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc)	Temp (C)	pH 7.66	Sample Depth ☐ m ☐ ft	584 ☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm)	NPDES Number
	Latitude o ' "	Longitude o ' "	Comments Tox only		

Lab ID *	Location	Comp / Grab	Collection (begin) Eastern Central	Collection (end) Eastern Central	Bottle Group(s)**
	Neptune Beach WWTF final Effluent	☐ Comp ☒ Grab	Date 6/5/06 Time 0010	Date Time	A
	Field ID	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L) 7.57	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc)	Temp (C) 28.3	pH 7.56	Sample Depth ☐ m ☐ ft	1091 ☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm)	NPDES Number
	Latitude o ' "	Longitude o ' "	Comments Tox only		

Lab ID *	Location	Comp / Grab	Collection (begin) Eastern Central	Collection (end) Eastern Central	Bottle Group(s)**
	Neptune Beach WWTF final Effluent	☐ Comp ☒ Grab	Date 6/5/06 Time 0600	Date Time	A
	Field ID	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L) 7.53	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) Eastern Central	Collection (end) Eastern Central	Bottle Group(s)**
	Neptune Beach WWTF final Effluent	☐ Comp ☒ Grab	Date 6/5/06 Time 1145	Date Time	A
	Field ID	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L) 7.52	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc)	Temp (C) 28.2	pH 7.52	Sample Depth ☐ m ☐ ft	1057 ☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm)	NPDES Number
	Latitude o ' "	Longitude o ' "	Comments 8 bottles 1030 6600 Jenn Dunn		

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
T Kallemeyn	6/5/4	DHL	Tom E	6/6/06 8:30				

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2006-~~05-01-15~~ 2006-06-05-29
SUWPO1

Requester: Lee Banks
Field Report Prepared By: Tom Kallemeyn

Customer: NE-DIST
Collected By: Joe Emerson
Send Final Report To Lee Banks

Project ID: SMP
Sampling Agency: NED

PMAS:

Lab ID *	Location			Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	Equipment Blank			☐ Comp ☑ Grab	Date 6/5/06 Time 12.00 Central		B
	Field ID			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc) DI	Temp (C)	pH 6.78	Sample Depth ☐ m ☐ ft 2	☐ 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			

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
K-Hemeyn	6/5/06 14.00	DHL	Tom E	6/6/06 8.30				

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

FDEP Biology Section - Acute Screen 4/24 Bioassay Bench Sheets

Facility: Neptune Beach WWTF
Address: 2010 Forest Avenue
City: Neptune Beach County: Duval
Contact/District: Tom Kallemeyn / Northeast District
NPDES Permit #: FL 0020427
LIMS Job # TLH-2006-06-06-08 LIMS Sample #: 927112
Lims Data Entry: 6/16/06 MF Data Entry Verification: 6-16-06 JD

Sample Collection: Date: 6-4-06 Time: 1813
Hold Time Start: Date: 6-5-06 Time: 1145
Sample: 1 of 4

Comments: SAmple salinity adjusted To 20 parts per thousand per Permit requirements, Salt control prepared by adding well water with Artificial sea salts to match approximate salinity of test sample MF 6-06-06
Fish Test Invalidated at 72 hours due to 15% control mortality. NCR 2095 created. MF 6-16-06 (for SAmple 1 of 4) MF 6/20/06

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

Test Type: ~~Definitive~~ 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) 85%
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: 0.5 Final Salinity: ~20 (Salts) Hypersaline brine
Salinity adjusted (Test 2) (yes) no Initial Salinity: 0.5 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 Inc 2 / Inc 3
* Incubator # 2/3 Range 25.7-27.2 / 25.5-25.9
Room B246: 23.7-25.1
Waterbath: N/A
A.bahia were kept in Incubator 2
M.beryllina were kept in Incubator 3

Investigators' Signatures
Sarah Pickard
Erin Lee
Marshall Faircloth
Brad Acuna
Jessie Davis
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	Method	Measured by	Verified by
Field Total Residual Cl2 (mg/L):	N/A	N/A	N/A	N/A	N/A	not measured	–	–	SP
Lab Total Residual Cl2 (mg/L):			<0.03	<0.03	<0.03	<0.03	HACH	EW	MF
Alkalinity (mg/L as $CaCO_3$):			166	166	201	140	HACH	SP	BA
Hardness (mg/L as $CaCO_3$):			–	–	–	292	HACH	SP	BA
Total Ammonia (mg/L as N):			<0.034	<0.034	<0.034	5.94	DENVER	MF	BA
Salinity (ppt):			~20	~20	~20	0.5	YSI (Mettler)	SP/MF	MF 6/16

V2.0 4/12/05

Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 927112 Test #: 1 Test Started: Date 6-6-06 Time: 1315
Organism: A.bahia SOP #: TA 07_03 Test Ended: Date 6-10-06 Time: 1150
Organism Batch: 18-06 Diluent/ Batch: ASW 1.11-06
Organism Age: 4 days Food: YCT P. subcapitata Artemia
Chamber Size: 400 mL Batch: — — GSL-536-90
Test Volume: 250 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	Tox 1	5	5	5	5	5	5
	B	Tox 2	5	5	5	5	5	5
	C	Tox 3	5	5	5	5	5	5
	D	Tox 4	5	5	5	5	5	4D
Salt CTRL	A	Tox 5	5	5	5	5	5	5
	B	Tox 6	5	5	5	5	5	5
	C	Tox 7	5	5	5	5	5	5
	D	Tox 8	5	5	5	5	5	5
100%	A	Tox 9	5	5	5	5	5	4D
	B	Tox 10	5	5	5	5	5	4D
	C	Tox 11	5	5	5	4D	4	3D
	D	Tox 12	5	5	5	5	5	5
Organisms loaded by: JD	Checked by:		JD	SP	JD	JD	JD	
Loading Verified by: BA								

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

Comments:

Test Results:
% mortality in 100% sample: 20%
LC_{50}: >100 If Calculated: 95% CI _____ Method: _____

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

V 2.1 11/01/2005

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Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 927112 Test #: 2 Test Started: Date 6-6-06 Time: 1340
Organism: H. beryllina SOP #: TA 07_04 Test Ended: Date 6/10-06 Time: 1150
Organism Batch: 19-06 Diluent/ Batch: AQW / 11-06
Organism Age: 13days 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	B1	5	5	5 5	(B) 5 (B)	5	5
	B	B2	5	4 ID	3 ID 4	4	3 ID	3
	C	B3	5	5	4 ID 5	5	4 ID	4
	D	B4	5	5	5 5	5	5	5
Salt CTRL	A	B5	5	5	5 5	5	5	5
	B	B6	5	5	5 5	5	5	5
	C	B7	5	5	5 5	5	5	5
	D	B8	5	4 ID	3 ID 4	4	3 ID	2 ID
100%	A	B9	5	5	4 ID 5	5	4 ID	4
	B	B10	5	5	5 5	5	5	5
	C	B11	5	3 2D	3 3	3	3	3
	D	B12	5	4 ID	4 4	4	4	4
					(A) mf wrote 72 hour in 48 hour space 6-9-06			
					See Comment below			

Organisms loaded by: BP Checked by: [redacted] JD MF MF MF JD
Loading Verified by: JD

Comments: (A) mortality/survival not properly recorded at 48 hours. Corrective action/training taken. MF 6/9/06
(B) 48 BR = 48 AR mortality-survival data recorded from 72 hour data MF 6/9/06

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

Test Results: No Result
% mortality in 100% sample: 20
LC_{50}: No Result If Calculated: 95% CI _____ Method: _____
Screening Tests: No Result
Report LC50 as >100%, =100%, or <100%.
Substitue highest test concentration used if other than 100% (example: Ocean outfall tested at 30% concentration).

Test invalided at 72 hours as control mortality (15%) 10% allowed, MF 6/10/06
NCR 2095 MF 6/16/06

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FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 927112 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.)	8.3	8.2	7.9	8.3	8.0	7.8
Temperature °C	~~23~~ 24.0	24.0	24.9	24.1	24.0	24.2
Dissolved Oxygen mg/L	6.6	5.6	6.6	5.7	5.4	4.1
Conductivity µmhos (mmhos)	33.1	34.0	34.0	32.7	35.1	34.6
(initials) Measured by:	BA	JD/ES	/BA	BA	BA	MF
(initials) Recorded by:	BA	JD/ES	/BA	BA	BA	MF

Comments:

Concentration Salt Control	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.)	8.5	8.2	8.0	8.3	8.0	8.0
Temperature °C	24.0	24.5	24.6	24.3	24.1	24.1
Dissolved Oxygen mg/L	6.1	4.9	6.0	5.7	5.5	4.2
Conductivity µmhos (mmhos)	32.0	32.6	32.9	32.1	33.8	34.4
(initials) Measured by:	BA	JD/ES	JD/BA	BA	BA	MF
(initials) Recorded by:	BA	JD/ES	JD/BA	BA	BA	MF

Comments:

Concentration 100%	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.)	8.5	8.1	8.0	8.4	8.1	7.9
Temperature °C	24.5	24.0	24.1	24.4	24.4	24.6
Dissolved Oxygen mg/L	7.6	6.0	5.3	6.0	5.3	4.6
Conductivity µmhos (mmhos)	32.1	32.7	32.7	32.4	33.5	34.2
(initials) Measured by:	BA	JD/ES	JD/BA	BA	BA	MF
(initials) Recorded by:	BA	JD/ES	JD/BA	BA	BA	MF

Comments:

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

Comments:

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V 2.0 2/24/04

FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 92712 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	8.2	8.1	8.3	8.1	8.1
Temperature °C	24.0	24.5	24.0	24.1	24.8	24.9
Dissolved Oxygen mg/L	6.6	6.7	6.3	6.0	5.6	6.1
Conductivity µmhos (mmhos)	32.9	33.1	33.7	33.1	34.9	34.4
(initials) Measured by:	BA	BA/CSB	BA	BA	BA	MF
(initials) Recorded by:	BA	JD/CSB	BA	BA	BA	MF

Comments: Parameters measured at 96 hours & through test had been terminated at 72 hours MF 6-10-06

Concentration Salt Control	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.)	8.5	8.4	8.3	8.4	8.2	8.2
Temperature °C	24.0	24.2	24.3	24.1	25.8	25.3
Dissolved Oxygen mg/L	6.6	6.0	6.1	6.4	5.4	6.2
Conductivity µmhos (mmhos)	31.9	32.3	32.6	32.1	33.6	34.2
(initials) Measured by:	BA	JD/CSB	BA	BA	BA	MF
(initials) Recorded by:	BA	JD/CSB	BA	BA	BA	MF

Comments:

Concentration 100%	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.)	8.5	8.3	8.3	8.5	8.2	8.2
Temperature °C	24.6	24.1	24.7	24.5	25.9	25.7
Dissolved Oxygen mg/L	6.7	6.1	6.0	6.5	5.3	6.2
Conductivity µmhos (mmhos)	32.1	32.3	32.5	32.4	33.1	33.7
(initials) Measured by:	BA	JD/CSB	BA	BA	BA	MF
(initials) Recorded by:	BA	JD/CSB	BA	BA	BA	MF

Comments:

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

Comments:

V 2.0 2/24/04

FDEP Biology Section - Acute Screen 4/24 Bioassay Bench Sheets

Facility: Neptune Beach WWTF

Address: 2010 Forest Avenue

City: Neptune Beach County: Duval

Contact/District: Tom Kallemeyn / Northeast District

NPDES Permit #: FL 0020427

LIMS Job # TLH-2006-06-06-08 LIMS Sample #: 927113

Lims Data Entry: 6-16-06 MZ Data Entry Verification: 6-16-06 JD

Sample Collection: Date: 6-5-06 Time: 0010

Hold Time Start: Date: ~~6-6-06~~ 6-5-06 Time: 1145

Sample: 2 of 4

Comments: Sample salinity adjusted by addition of artificial seasalts per permit requirements. Salt Control prepared by salting well water with artificial seasalts to match approximate salinity of test sample mF 6-06-06

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

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

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

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: 0.5 Final Salinity: ~20 (Salts) Hypersaline brine

Salinity adjusted (Test 2): (yes) no Initial Salinity: 0.5 Final Salinity: ~20 (Salts) Hypersaline brine

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

Sample Validation:

Temperature: Shipped ≤6°C (Yes) No Hand Delivered: Cooling (received °C < collected °C) Yes No

Holding Time: ≤36 Hours (Yes) No (Composite-end of collection; grab-when collected; 4 in 24 - time last sample collected)

Investigators' Signatures

Neal Michaud

Eric Irby

Paul Anderson

James Daniels

Marbeth Faircloth

Nicole Wellendorf

REVIEWER

Water Quality Parameters	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl2 (mg/L):	not measured		–	SP
Lab Total Residual Cl2 (mg/L):	20.03	HACH	EW	mF
Alkalinity (mg/L as $CaCO_3$):	148	HACH	SP	BA
Hardness (mg/L as $CaCO_3$):	204	HACH	SP	BA
Total Ammonia (mg/L as N):	6.30	DENVER	mF	BA
Salinity (ppt):	0.5	YSI / (Mettler)	SP	mF

V 2.0 4/12/05

Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 927113 Test #: 1 Test Started: Date 6-6-06 Time: 1320
Organism: A. bahia SOP #: TA 07_03 Test Ended: Date 6-10-06 Time: 1130
Organism Batch: 18-06 Diluent/ Batch: ASW 1 11-06
Organism Age: 4 days Food: YCT P. subcapitata Artemia
Chamber Size: 400 mL Batch: — — GSL-536-90
Test Volume: 250 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	Tox 13	5	5	5	5	5	5
	B	Tox 14	5	5	5	5	5	5
	C	Tox 15	5	5	5	5	5	5
	D	Tox 16	5	5	5	5	5	5
Salt CTRL	A	Tox 17	5	5	5	5	5	5
	B	Tox 18	5	5	5	5	5	5
	C	Tox 19	5	5	5	5	5	5
	D	Tox 20	5	5	5	5	5	5
100%	A	Tox 21	5	5	5	5	5	5
	B	Tox 22	5	5	5	5	5	4
	C	Tox 23	5	5	5	5	5	2
	D	Tox 24	5	5	5	5	5	5
Organisms loaded by: JD	Checked by:		JD	JD	JD	JD	JD	
Loading Verified by: BA								

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

Comments:

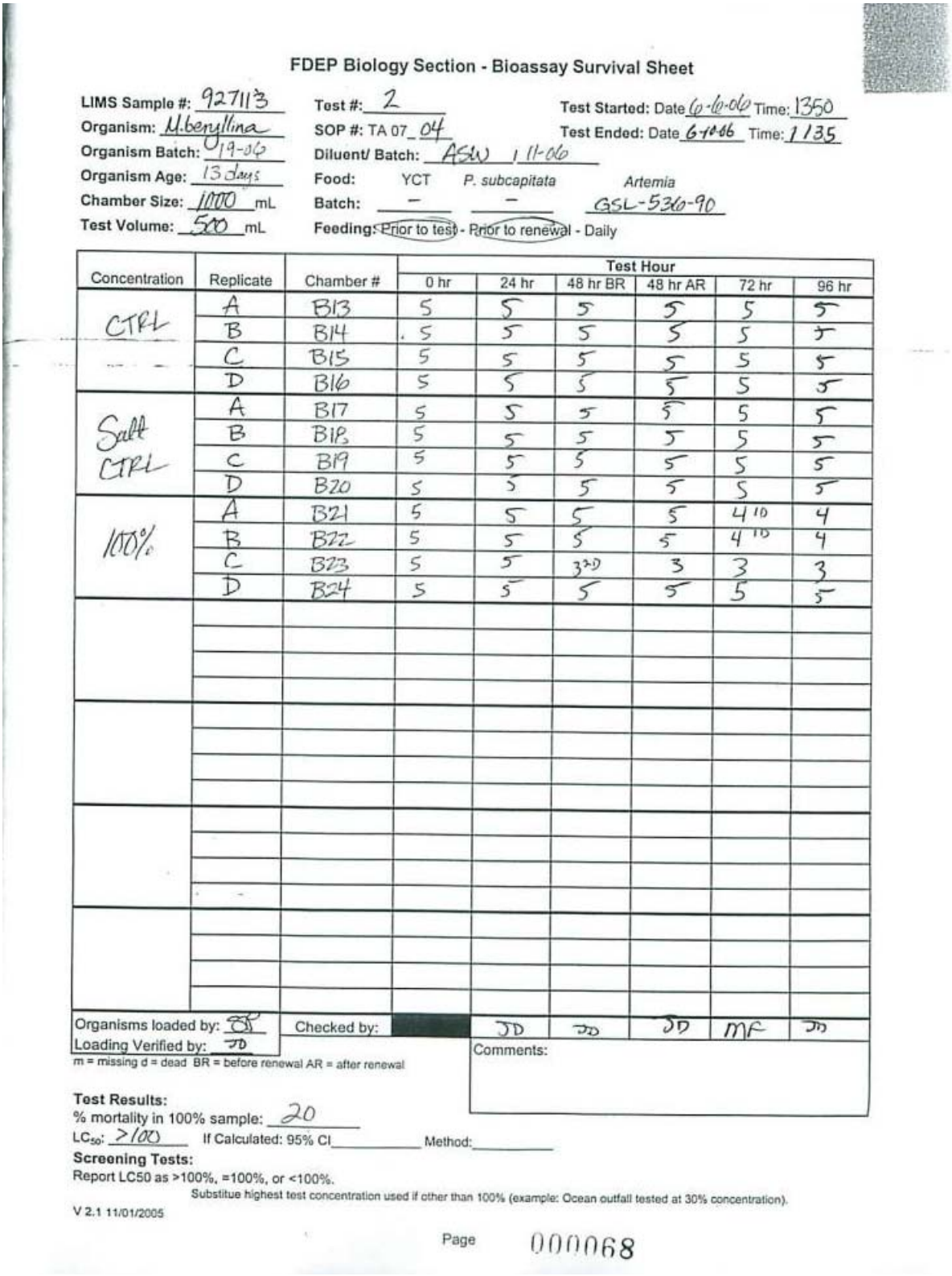
Test Results:
% mortality in 100% sample: 20
LC_{50}: >100 If Calculated: 95% CI _____ Method: _____

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

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Appendix B. (continued)



FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 927113 Test #: 2 Test Started: Date 6-10-06 Time: 1350
Organism: M.beryllina SOP #: TA 07_04 Test Ended: Date 6-16-06 Time: 1135
Organism Batch: 19-06 Diluent/ Batch: ASW 1 11-06
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	B13	5	5	5	5	5	5
	B	B14	5	5	5	5	5	5
	C	B15	5	5	5	5	5	5
	D	B16	5	5	5	5	5	5
Salt CTRL	A	B17	5	5	5	5	5	5
	B	B18	5	5	5	5	5	5
	C	B19	5	5	5	5	5	5
	D	B20	5	5	5	5	5	5
100%	A	B21	5	5	5	5	4 ID	4
	B	B22	5	5	5	5	4 ID	4
	C	B23	5	5	3 2D	3	3	3
	D	B24	5	5	5	5	5	5

Organisms loaded by: [redacted] Checked by: [redacted] JD JD JD MF JD
Loading Verified by: JD

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

Comments:

Test Results:
% mortality in 100% sample: 20
LC_{50}: >100 If Calculated: 95% CI_____ Method:_____

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

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FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 927113 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.)	8.3	8.0	7.8	8.3	8.1	7.9
Temperature °C	24.0	24.0	24.5	24.0	24.0	24.0
Dissolved Oxygen mg/L	6.2	5.3	5.0	6.0	5.0	4.1
Conductivity µmhos (mmhos)	33.1	33.8	33.9	32.5	34.0	34.3
(initials) Measured by:	BA	JD/KS	JD/BA	BA	BA	MF JD
(initials) Recorded by:	BA	JD/KS	JD/BA	BA	BA	MF 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	C	D	A
pH (S.U.)	8.5	8.2	8.0	8.3	8.1	8.0
Temperature °C	24.0	24.1	24.3	24.0	24.2	24.1
Dissolved Oxygen mg/L	6.5	5.4	4.8	5.8	4.9	4.0
Conductivity µmhos (mmhos)	32.1	33.2	32.5	32.6	33.9	34.0 (A)
(initials) Measured by:	BA	JD/KS	JD/BA	BA	BA	MF JD
(initials) Recorded by:	BA	JD/KS	JD/BA	BA	BA	MF JD

Comments:

(A) pH recorded in Conductivity space. Conductivity at 96 hr not recorded. MF 6-21-06

Concentration 100%	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.)	8.5	8.2	8.1	8.4	8.1	8.0
Temperature °C	24.2	24.1	24.4	24.1	24.0	24.2
Dissolved Oxygen mg/L	6.8	5.6	4.7 4.7 DA	5.9	5.1	4.4
Conductivity µmhos (mmhos)	32.1	33.2	33.4	32.1	33.6	34.5
(initials) Measured by:	BA	JD/KS	JD/BA	BA	BA	MF JD
(initials) Recorded by:	BA	JD/KS	JD/BA	BA	BA	MF 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:

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FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 927113 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	8.1	8.3	8.2	8.2
Temperature °C	24.0	24.0	24.4	24.0	24.5	24.3
Dissolved Oxygen mg/L	6.3	6.0	6.7	6.1	5.4	6.4
Conductivity µmhos (mmhos)	33.2	33.4	33.4	32.8	33.9	34.0
(initials) Measured by:	BA	JD/KSP	BA	BA	BA	MF/JD
(initials) Recorded by:	BA	JD/KSP	BA	BA	BA	MF/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	C	D	A
pH (S.U.)	8.5	8.4	8.3	8.4	8.2	8.2
Temperature °C	24.0	24.1	24.3	24.0	24.5	24.4
Dissolved Oxygen mg/L	6.1	6.1	6.5	6.3	5.4	6.3
Conductivity µmhos (mmhos)	32.2	32.5	32.3	32.0	33.1	33.7
(initials) Measured by:	BA	JD/KSP	BA	BA	BA	MF/JD
(initials) Recorded by:	BA	JD/KSP	BA	BA	BA	MF/JD

Comments:

Concentration 100%	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.)	8.5	8.3	8.3	8.4	8.2	8.2
Temperature °C	24.1	24.0	24.1	24.1	24.8	24.1
Dissolved Oxygen mg/L	6.8	6.0	6.0	6.3	5.4	6.3
Conductivity µmhos (mmhos)	32.1	32.6	32.5	32.0	32.9	33.7
(initials) Measured by:	BA	JD/KSP	BA	BA	BA	MF/JD
(initials) Recorded by:	BA	JD/KSP	BA	BA	BA	MF/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

FDEP Biology Section - Acute Screen 4/24 Bioassay Bench Sheets

Facility: Neptune Beach WWTF

Address: 2010 Forest Avenue

City: Neptune Beach County: Duval

Contact/District: Tom Kallemeyn/Northeast District

NPDES Permit #: FL 0020427

LIMS Job # TLH-2006-06-06-08 LIMS Sample #: 927114

Lims Data Entry: 6-16-06 MC Data Entry Verification: 6-16-06 JD

Sample Collection: Date: 6-5-06 Time: 0600

Hold Time Start: Date: 6-5-06 Time: 1145

Sample: 3 of 4

Comments: Sample salinity adjusted by addition of artificial seasalts per permit conditions. Salt control prepared by salting well water with artificial seasalts to match approximate salinity of test sample MF 6-6-06

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

Test 1 validation:
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No
Test 1: SOP TA 07_ 03

Test 2 validation:
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No
Test 2: SOP TA 07_ 04

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: 0.5 Final Salinity: ~20 (Salts) Hypersaline brine

Salinity adjusted (Test 2): (yes) no Initial Salinity: 0.5 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)

Investigators' Signatures

Sarah Pritchard

Erin Levy

Brady Alembus

James Daniels

Marshall Faircloth

Nicole Wellendorf

REVIEWER

Water Quality Parameters	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl2 (mg/L):	not measured	—	—	—
Lab Total Residual Cl2 (mg/L):	<0.03	HACH	EW	MC
Alkalinity (mg/L as $CaCO_3$):	151	HACH	SP	BA
Hardness (mg/L as $CaCO_3$):	285 mg	HACH	SP	BA
Total Ammonia (mg/L as N):	(A) 5.8 X2	DENVER	MF	BA
Salinity (ppt):	0.5	YSI (Mettler)	SP	MF

(A) 5.62 mg/L MF 6-6-06

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Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 927114 Test #: 1 Test Started: Date 10-6-06 Time: 1330
Organism: A. bahia SOP #: TA 07_03 Test Ended: Date 10-10-06 Time: 1200
Organism Batch: 18-06 Diluent/ Batch: ASW 11-06
Organism Age: 4 days Food: YCT P. subcapitata Artemia
Chamber Size: 400 mL Batch: - - GSL-536-90
Test Volume: 250 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	Tox 25	5	5	5	5	5	5
	B	Tox 26	5	5	5	5	5	5
	C	Tox 27	5	5	5	5	5	5
	D	Tox 28	5	5	5	5	5	5
Salt CTRL	A	Tox 29	5	5	5	5	5	5
	B	Tox 30	5	5	5	5	5	5
	C	Tox 31	5	5	5	4D	4	4
	D	Tox 32	5	5	5	5	5	4D
100%	A	Tox 33	5	5	5	5	5	5
	B	Tox 34	5	5	5	5	5	5
	C	Tox 35	5	5	4D	4	4	4
	D	Tox 36	5	5	5	4D	4	3D
Organisms loaded by: JD	Checked by:		JD	JD	JD	JD	JD	
Loading Verified by: BA								

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

Comments:

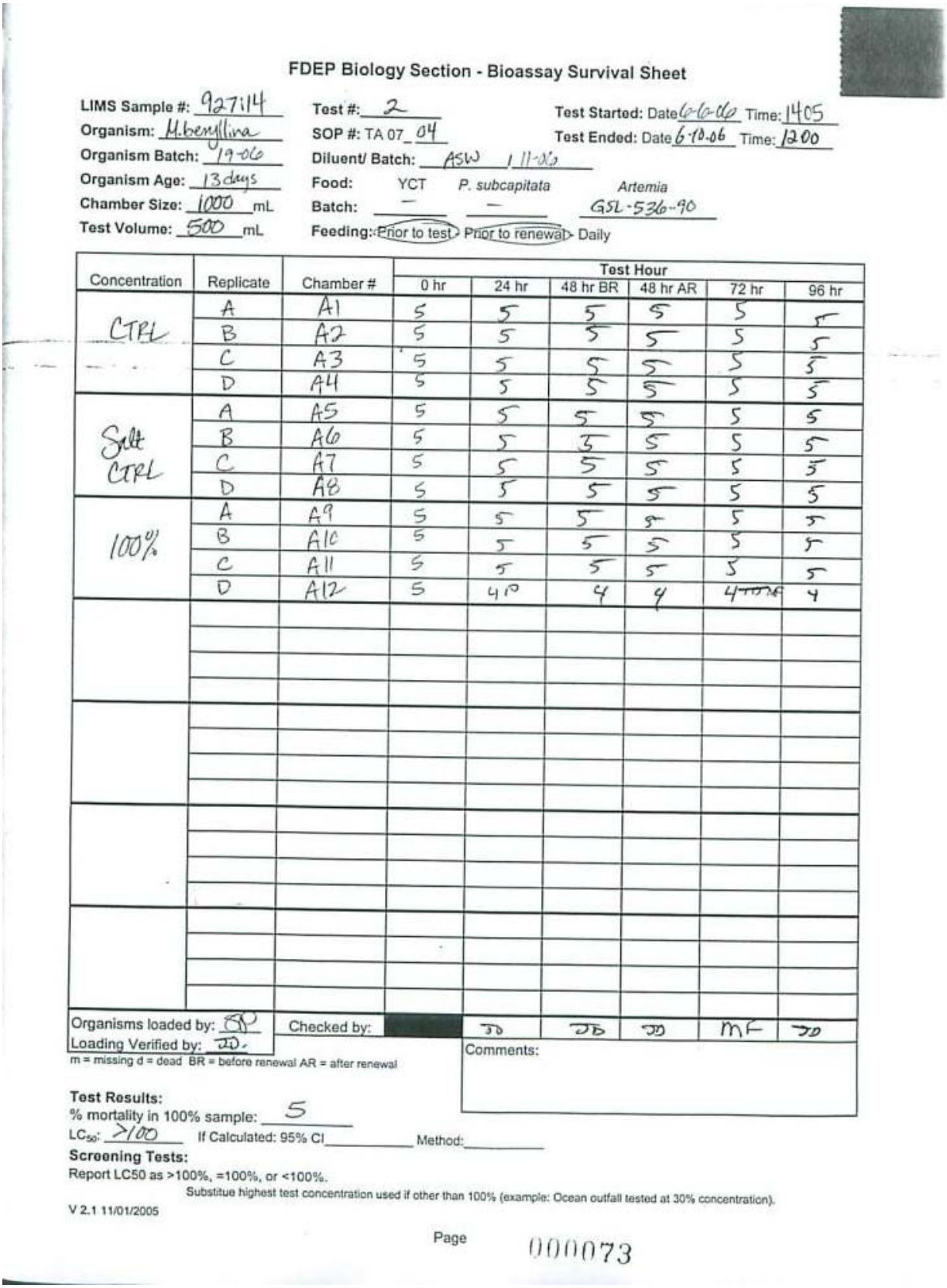
Test Results:
% mortality in 100% sample: 15
LC_{50}: >100 If Calculated: 95% CI _____ Method: _____

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).

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Appendix B. (continued)



FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 92714 Test #: 2 Test Started: Date 6-6-06 Time: 1405
Organism: M. beryllina SOP #: TA 07_04 Test Ended: Date 6-10-06 Time: 1200
Organism Batch: 19-06 Diluent/ Batch: ASW 1-11-06
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	A1	5	5	5	5	5	5
	B	A2	5	5	5	5	5	5
	C	A3	5	5	5	5	5	5
	D	A4	5	5	5	5	5	5
Salt CTRL	A	A5	5	5	5	5	5	5
	B	A6	5	5	5	5	5	5
	C	A7	5	5	5	5	5	5
	D	A8	5	5	5	5	5	5
100%	A	A9	5	5	5	5	5	5
	B	A10	5	5	5	5	5	5
	C	A11	5	5	5	5	5	5
	D	A12	5	4	4	4	4	4
Organisms loaded by: SP	Checked by: [redacted]		JD	JD	JD	MF	JD	
Loading Verified by: JD								

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

Comments:

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

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

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FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 927114 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.)	8.3	8.1	7.9	8.3	8.0	8.0
Temperature °C	24.0	24.0	25.0	24.0	24.2	24.1
Dissolved Oxygen mg/L	6.4	5.4	5.4	6.6	4.6	4.7
Conductivity µmhos (mmhos)	33.2	33.7	34.0	32.6	34.0	34.4
(initials) Measured by:	BA	JP/ES	JP/BA	BA	BA	MF
(initials) Recorded by:	BA	JP/ES	JP/BA	BA	BA	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.)	8.5	8.2	8.0	8.3	8.1	8.0
Temperature °C	24.0	24.0	25.0	24.0	24.1	24.3
Dissolved Oxygen mg/L	6.7	5.4	5.3	6.3	4.6	4.6
Conductivity µmhos (mmhos)	32.2	33.0	33.1	32.4	33.2	33.9
(initials) Measured by:	BA	JP/ES	JP/BA	BA	BA	MF
(initials) Recorded by:	BA	JP/ES	JP/BA	BA	BA	MF

Comments:

Concentration 100%	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.)	8.5	8.2	8.0	8.4	8.1	8.0
Temperature °C	24.0	24.3	24.3	24.1	24.1	24.7
Dissolved Oxygen mg/L	6.8	5.4	5.2	6.5	4.8	4.6
Conductivity µmhos (mmhos)	32.2	32.6	34.7	32.3	32.9	33.7
(initials) Measured by:	BA	JP/ES	JP/BA	BA	BA	MF
(initials) Recorded by:	BA	JP/ES	JP/BA	BA	BA	MF

Comments:

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

Comments:

000074

V 2.0 2/24/04

FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 92714 **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	8.3	8.3
Temperature °C (A)	6.5	24.0	24.6	24.3	24.7	24.7
Dissolved Oxygen mg/L (A) (B)	24. ~~24.0~~ 6.2		6.1	6.7	6.0	6.8
Conductivity µmhos (mmhos)	33.0	32.9	33.4	32.8	33.7	34.0
(initials) Measured by:	BA	JP/SP	BA	BA	BA	MF/JP
(initials) Recorded by:	BA	JP/SP	BA	BA	BA	MF/JP

Comments: (A) Temp & DO switched BA
(B) transcription error SP

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.)	8.5	8.4	8.3	8.4	8.3	8.3
Temperature °C	24.0	24.1	24.5	24.3	25.3	24.5
Dissolved Oxygen mg/L	6.6	5.8	6.1	6.7	6.0	6.8
Conductivity µmhos (mmhos)	32.2	32.4	32.6	32.1	33.3	33.3
(initials) Measured by:	BA	JP/SP	BA	BA	BA	MF/JP
(initials) Recorded by:	BA	JP/SP	BA	BA	BA	MF/JP

Comments:

Concentration 100%	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.)	8.5	8.4	8.3	8.4	8.3	8.3
Temperature °C	24.0	24.0	24.4	24.4	24.7	24.4
Dissolved Oxygen mg/L	6.8	5.9	6.0	6.6	6.0	6.8
Conductivity µmhos (mmhos)	32.2	32.4	32.1	32.2	33.1	33.2
(initials) Measured by:	BA	JP/SP	BA	BA	BA	MF/JD
(initials) Recorded by:	BA	JP/SP	BA	BA	BA	MF/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

FDEP Biology Section - Acute Screen 4/24 Bioassay Bench Sheets

Facility: Neptune Beach WWTF

Address: 2010 Forest Avenue

City: Neptune Beach County: Duval

Contact/District: Tom Kallemeyn / North-east District

NPDES Permit #: FL 0020427

LIMS Job #: TLH-2006-06-06-08 LIMS Sample #: 927111

Lims Data Entry: 6-16-06 mf Data Entry Verification: 6-16-06 JO

Sample Collection: Date: 6-5-06 Time: 1145

Hold Time Start: Date: 6-5-06 Time: 1145

Sample: 4 of 4

Comments: Sample salinity adjusted by addition of artificial seasalts per permit conditions. Salt water prepared by adding well water with artificial seasalts to match approximate salinity of test sample mf 6-6-06

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

Test 1 validation:
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No
Test 1: SOP TA 07_ 03

Test 2 validation:
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No
Test 2: SOP TA 07_ 04

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: 0.5 Final Salinity: ~20 (Salts) Hypersaline brine

Salinity adjusted (Test 2): (yes) no Initial Salinity: 0.5 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)

Investigators' Signatures

Sarah Pritchard

Eric Lopp

Brad Schuler

James Daniels

Marshall Faircloth

Nicole Wellenhof

REVIEWER

Water Quality Parameters	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl2 (mg/L):	not measured		—	SP
Lab Total Residual Cl2 (mg/L):	<0.03	HACH	EW	MF
Alkalinity (mg/L as $CaCO_3$):	140	HACH	SP	BA
Hardness (mg/L as $CaCO_3$):	289	HACH	SP	BA
Total Ammonia (mg/L as N):	4.40	DENVER	MF	BA
Salinity (ppt):	0.5	YSI (Mettler)	SP	MF

V 2.0 4/12/05

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Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 927111 Test #: 1 Test Started: Date 6-6-06 Time: 1340
Organism: A. bahia SOP #: TA 07_03 Test Ended: Date 6-10-06 Time: 1210
Organism Batch: 18-060 Diluent/ Batch: ASW / 11-06
Organism Age: 4 days Food: YCT P. subcapitata Artemia
Chamber Size: 400 mL Batch: – – GSL-536-90
Test Volume: 250 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	Tox 37	5	5	5	5	5	5
	B	Tox 38	5	5	5	5	5	5
	C	Tox 39	5	5	5	5	5	5
	D	Tox 40	5	5	5	5	5	5
Salt CTRL	A	Tox 41	5	5	5	5	5	5
	B	Tox 42	5	5	5	5	5	5
	C	Tox 43	5	5	5	5	5	5
	D	Tox 44	5	5	5	5	5	5
100%	A	Tox 45	5	5	5	5	5	5
	B	Tox 46	5	5	5	5	5	5
	C	Tox 47	5	5	5	5	5	5
	D	Tox 48	5	4[D]	4	4	4	4
Organisms loaded by: JD		Checked by: [redacted]		SP	JD	JD	JD	JD
Loading Verified by: BA								

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

Comments:

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

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

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Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 927111 Test #: 2 Test Started: Date 6-6-06 Time: 1415
Organism: M. beryllina SOP #: TA 07_04 Test Ended: Date 6-10-06 Time: 1230
Organism Batch: 19-06 Diluent/ Batch: ASW / 11-80
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	A13	5	5	5	5	5	5
	B	A14	5	5	5	5	5	5
	C	A15	5	5	5	5	5	5
	D	A16	5	5	5	5	4 ID	4
Salt CTRL	A	A17	5	5	5	5	5	5
	B	A18	5	5	5	5	5	5
	C	A19	5	5	5	5	5	5
	D	A20	5	5	5	5	5	5
100%	A	A21	5	5	5	5	4 ID	4
	B	A22	5	5	5	5	5	5
	C	A~~22~~23 SA	5	5	5	5	4 ID	4
	D	A24	5	5	5	5	5	5
Organisms loaded by: [illegible]		Checked by: [redacted]	JD	JD	JD	MF	JD	
Loading Verified by: JD								

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

Comments:

Test Results:
% mortality in 100% sample: 10
LC_{50}: >100 If Calculated: 95% CI_____ Method:_____

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

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FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 927111 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.)	8.3	8.0	7.9	8.2	7.9	7.9
Temperature °C	24.0	24.1	24.4	24.6	24.4	24.3
Dissolved Oxygen mg/L	6.4	5.5	5.0	6.4	4.6	4.9
Conductivity µmhos (mmhos)	32.9	33.7	33.6	32.5	34.3	34.9
(initials) Measured by:	BA	JP/KS	JP / BA	BA/BA	BA	MK / JP
(initials) Recorded by:	BA	JP/KS	JP / BA	BA	BA	MK / JP

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.)	8.5	8.2	8.1	8.3	8.1	8.0
Temperature °C	24.0	24.0	24.1	24.0	24.3	24.0
Dissolved Oxygen mg/L	6.7	5.5	4.9	6.2	4.6	4.5
Conductivity µmhos (mmhos)	32.1	32.9	32.8	32.2	33.2	34.1
(initials) Measured by:	BA	JP/KS	JP/BA	BA	BA	MK / JP
(initials) Recorded by:	BA	JP/KS	JP/BA	BA	BA	MK / JP

Comments:

Concentration 100%	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.)	8.5	8.1	8.1	8.4	8.1	8.0
Temperature °C	24.6	24.7	25.0	24.0	24.3	24.0
Dissolved Oxygen mg/L	6.8	5.4	5.1	6.3	4.8	4.6
Conductivity µmhos (mmhos)	32.2	32.7	32.9	32.2	33.6	34.1
(initials) Measured by:	BA	JP/KS	JP/BA	BA	BA	MK / JP
(initials) Recorded by:	BA	JP/KS	JP/BA	BA	BA	MK / JP

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:

000079

V 2.0 2/24/04

FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 927111 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	8.2	8.2	8.4	8.2	8.2
Temperature °C	24.0	24.2	24.3	24.0	24.0	23.9
Dissolved Oxygen mg/L	6.7	6.2	5.7	6.1	5.9	6.7
Conductivity µmhos (mmhos)	33.0	32.9	33.9	23.0	33.9	34.8
(initials) Measured by:	BA	JP/ESP	BA	BA	BA	MC/JP
(initials) Recorded by:	BA	JP/ESP	BA	BA	BA	MC/JP

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.)	8.5	8.4	8.3	8.4	8.2	8.2
Temperature °C	24.0	24.1	24.5	24.0	24.0	24.3
Dissolved Oxygen mg/L	6.9	5.9	5.9	6.4	5.7	6.3
Conductivity µmhos (mmhos)	32.2	32.7	32.9	32.3	331	33.3
(initials) Measured by:	BA	JP/ESP	BA	BA	BA	MC/JP
(initials) Recorded by:	BA	JP/ESP	BA	BA	BA	MC/JP

Comments:

Concentration 100%	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.)	8.5	8.4	8.3	8.4	8.2	8.2
Temperature °C	24.1	24.0	24.3	24.4	24.3	24.9
Dissolved Oxygen mg/L	7.0	6.0	6.0	6.5	5.7	MC 6.4
Conductivity µmhos (mmhos)	32.2	32.5	32.8	32.5	33.3	33.5 6.4
(initials) Measured by:	BA	JP/ESP	BA	BA	BA	MC/JP
(initials) Recorded by:	BA	JP/ESP	BA	BA	BA	MC/JP

Reviewed by: MC 6/19/06

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

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Appendix C. SRT Bench Sheets and Statistical Analysis

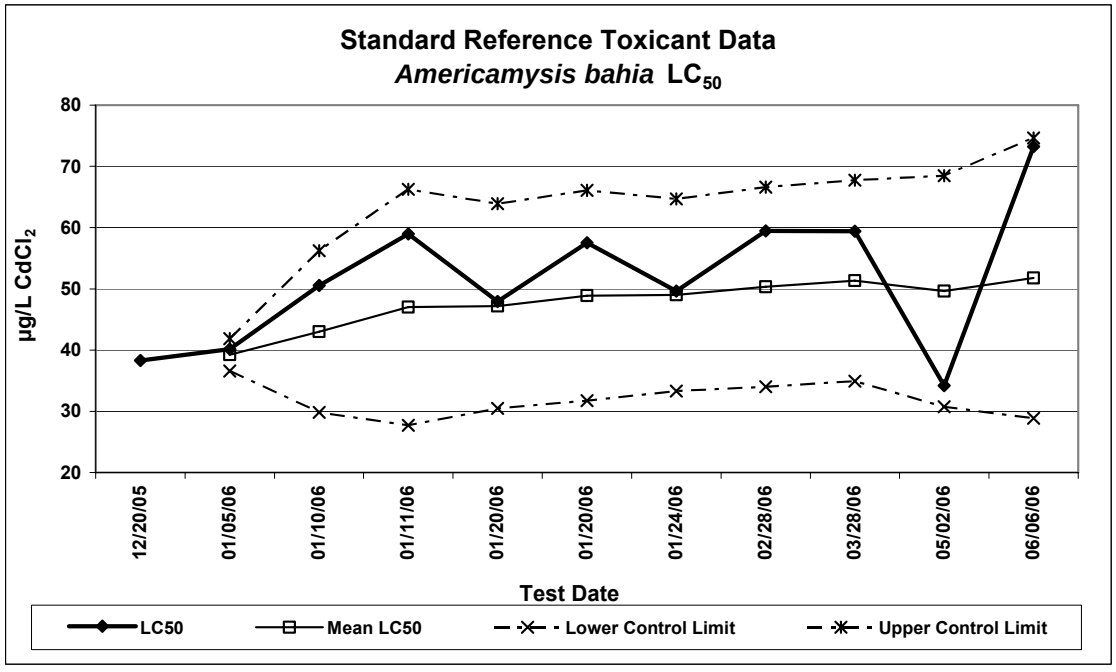
Florida Department of Environmental Protection
Bureau of Laboratories

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

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

CV = 22.11
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)

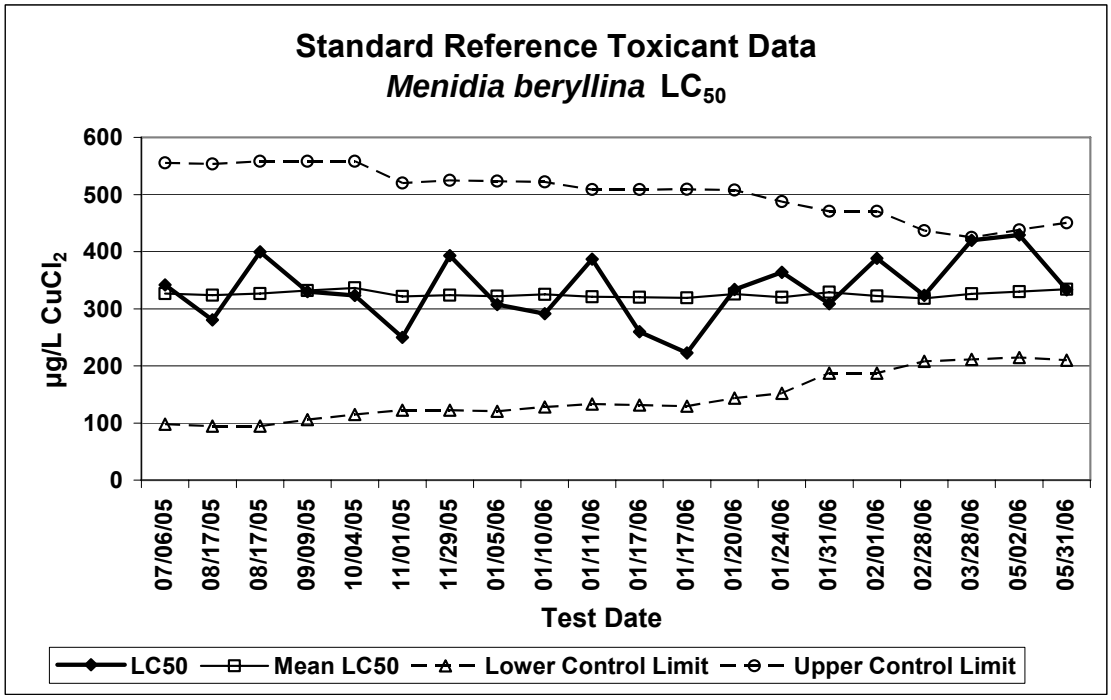
Florida Department of Environmental Protection
Bureau of Laboratories

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
07/06/05	341.51	326.46	114.33	97.80	555.12
08/17/05	280.62	324.00	114.78	94.43	553.56
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	187.34	470.39
02/28/06	323.38	318.11	53.47	207.96	436.83
03/28/06	419.55	326.32	55.87	211.18	425.04
05/02/06	429.19	330.10	58.74	214.58	438.07
05/31/06	333.13	334.26	57.18	209.69	450.51

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

CV = 17.11
EPA reference 75th quartile CV = 21%



Appendix C. (continued)

[redacted]

FDEP Biology Section - Acute SRT Bench Sheet

Test Organism: (Americamysis bahia) Menidia beryllina Hyalella azteca
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

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

Diluent/ Batch#: ASW / 11-06
Toxicant/ Batch# Cadmium / 7-06 ($CdCl_2$)

Test Beginning: Date: 6-6-06 Time: 1210
Test Ending: Date: 6-10-06 Time: 1110

Organism Batch #/ Age: 18-06 / 4 days
Feeding: Prior to test / Prior to renewal / (Daily)
Food: YCT P.subcapitata Artemia
Food Batch: — — GSL-536-90
Chamber size: 400 mL
Test volume: 250 mL per replicate

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	EW
Alkalinity (mg/L as $CaCO_3$):	1600	Hach	SR
Hardness (mg/L as CaCO3):	—	Hach	—
Total Ammonia (mg/L as N):	<0.034	Denver	MF
Salinity (ppth):	20.32	Mettler	BA

Conc. µg/L g/L	Rep.	Chamber#	Number Live 0 hr / 48 hr	Number Live 24 hr / 72 hr	Number Live 48 hr / 96 hr	pH (SU) 0 hr / 48 hr	pH (SU) 24 hr / 72 hr	pH (SU) 48 hr / 96 hr	Temperature (° C) 0 hr / 48 hr	Temperature (° C) 24 hr / 72 hr	Temperature (° C) 48 hr / 96 hr	D.O. (mg/l) 0 hr / 48 hr	D.O. (mg/l) 24 hr / 72 hr	D.O. (mg/l) 48 hr / 96 hr	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhos/cm) 0 hr / 48 hr	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhos/cm) 24 hr / 72 hr	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhos/cm) 48 hr / 96 hr
Control	A	Tox 108	5	5	5	8.3			24.4		24	7.0			32.9		
	B	Tox 109	5	5	5		8.1			24.3			5.8			33.3	
	C	Tox 110	5	5	5			7.9			24.0			4.7			33.7
	D	Tox 111	5	5	4 1D												
20	A	Tox 112	5	5	5	8.3			24.5		24	7.0			32.9		
	B	Tox 113	5	5	5		8.1			24.2			5.2			33.2	
	C	Tox 114	5	5	5			7.9			24.0			4.5			33.6
	D	Tox 116	5	5	5												
30	A	Tox 117	5	5	5	8.3			24.5			6.9			32.9		
	B	Tox 118	5	5	5		8.1			24.2			5.2			33.2	
	C	Tox 119	5	5	5			8.0			24.0			4.3			33.6
	D	Tox 120	5	5	5												
45	A	Tox 121	5	5	5	8.3			24.5			7.0			32.9		
	B	Tox 122	5	5	5		7.9			24.2			4.4			33.2	
	C	Tox 123	5	5	5			8.0			24.0			4.5			33.5
	D	Tox 124	5	5	5												
60	A	Tox 127	5	5	3 2D	8.3			24.5			7.0			32.9		
	B	Tox 128	5	5	2 3D		7.9			24.2			4.7			33.5	
	C	Tox 130	5	5	4 1D			8.0			24.0			4.7			~~33.5~~ 33.7
	D	Tox 132	5	5	3 2D												BA
100	A	Tox 135	5	4 1D	0 4D	8.3			24.5			7.0			32.9		
	B	Tox 136	5	5	1 4D		8.1			24.3			5.3			33.3	
	C	Tox 137	5	5	2 3D			8.0			24.0			4.8			33.7
	D	Tox 138	5	5	0 5D												
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	JD	BA	MF	SR	BA	MF	JD	BA	MF	SR	BA	MF	SR	BA
Recorded by:			SR	JD	BA	MF	SR	BA	MF	JD	BA	MF	SR	BA	MF	SR	BA

Investigators' Signatures
Sarah Richard
Marshall Faircloth
James Danch
Basil Alexander
Nicole Wellendt
REVIEWER

Concentrations prepared by: MF
Loading verified by: SR
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 25.7 max. 27.3 mean 26.5
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 24.3 max. 25.1 mean 24.7

Remarks:

Statistical Results: Method: Spearman-Karber
(48) 96 hour LC50: 73.23
95% Confidence Interval: lower 63.52 upper 84.43

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Appendix C. (continued)

FDEP Biology Section - Acute SRT Bench Sheet

Test Organism: (Americamysis bahia) Menidia beryllina Hyalella azteca
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

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

Diluent/ Batch#: ASW / 11-06
Toxicant/ Batch# Cadmium / 7-06
$CdCl_2$

Test Beginning: Date: 6-6-06 Time: 1210
Test Ending: Date: 6-10-06 Time: 1110

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	fw
Alkalinity (mg/L as $CaCO_3$):	160	Hach	BA
Hardness (mg/L as CaCO3):	–	Hach	–
Total Ammonia (mg/L as N):	<0.074	Denver	MF
Salinity (ppth):	20.32	Mettler	BA

Organism Batch #/ Age: 18-06 / 4 days
Feeding: Prior to test / Prior to renewal / (Daily)
Food: YCT P.subcapitata Artemia
Food Batch: – – GSL-536-90
Chamber size: 400 mL
Test volume: 250 mL per replicate

Conc. µg/L g/L	Rep.	Chamber#	Number Live 0 hr	24 hr	48 hr	pH (SU) 0 hr	24 hr	48 hr	Temperature (° C) 0 hr	24 hr	48 hr	D.O. (mg/l) 0 hr	24 hr	48 hr	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhom/cm) 0 hr	24 hr	48 hr
			48 hr	72 hr	96 hr	48 hr	72 hr	96 hr	48 hr	72 hr	96 hr	48 hr	72 hr	96 hr	48 hr	72 hr	96 hr
Control	A	Tox 108	5	5	5	8.2		7.9	24.1		24.2	5.8		4.9	33.0		337
	B	Tox 109	5	5	5					24.0						33	
	C	Tox 110	5	5	5												
	D	Tox 111	4	4	4		8.0			24.0			5.1			345	
20	A	Tox 112	5	5	5	8.2		7.9	24.2		24.3	5.8		4.7	32.9		34.3
	B	Tox 113	5	5	5												
	C	Tox 114	5	5	4 10												
	D	Tox 116	5	5	5		8.0			24.3			4.9			338	
30	A	Tox 117	5	4 10	4	8.2		8.0	24.2		24.0	5.9		5.0	32.8		339
	B	Tox 118	5	4 10	4												
	C	Tox 119	5	4 10	3 10												
	D	Tox 120	5	5	5		7.9			24.2			4.8			334	
45	A	Tox 121	5	4 10	2 20	8.2		8.0	24.1		24.4	6.1		5.1	33.0		338
	B	Tox 122	5	4 10	3 10												
	C	Tox 123	5	5	3 20												
	D	Tox 124	5	4 10	1 30		8.0			24.2			4.6			33.8	
67	A	Tox 127	3	1 20	0 10	8.2		8.0	24.1		24.3	6.0		5.0	33.1		339
	B	Tox 128	2	2	1 10												
	C	Tox 130	4	0 40	–												
	D	Tox 132	3	2 10	0 20		8.0			24.2			4.7			339	
100	A	Tox 135	–	–	–	8.2		–	24.0		–	5.9		–	33.0		–
	B	Tox 136	1	0 10	–												
	C	Tox 137	2	0 20	–		8.0			24.2			5.0			34.0	
	D	Tox 138	–	–	–												
	A																
	B																
	C																
	D																
Loaded / measured by:			BA	MF	MF	BA	BA	MF	BA	BA	MF	BA	BA	MF	BA	BA	MF
Recorded by:			BA	MF	MF	BA	BA	MF	BA	BA	MF	BA	BA	MF	BA	BA	MF

Investigators' Signatures
Laurel Fieldsend
Bruce Ahrenholz
Marshall Faircloth
Angela Wellendorf
REVIEWER

Concentrations prepared by: MF
Loading verified by: BA
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 25.7 max. 27.3 mean 26.5
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min 24.3 max. 25.1 mean 24.7

Remarks:

Statistical Results: Method: Spearman-Karber
48 / (96) hour LC50: 42.57
95% Confidence Interval: lower 37.82 upper 47.92

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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 / 11-06
Toxicant/ Batch# $CuCl_2$ / 5-06

Test Beginning: Date: 5-31-06 Time: 13:30
Test Ending: Date: ~~6-4-06~~ 6-5-06 Time: 13:00

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	GR
Alkalinity (mg/L as $CaCO_3$):	219	Hach	~~BPA~~
Hardness (mg/L as CaCO3):	—	Hach	—
Total Ammonia (mg/L as N):	<0.017	Denver	MF
Salinity (ppth):	20.53	Mettler	BA

Organism Batch #/ Age: 18-06 / 10 days
Feeding: (Prior to test) (Prior to renewal) Daily
Food: YCT P.*subcapitata* Artemia
Food Batch: — — GSL-536-96
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc. ‰	Rep.	Chamber#	Number Live 0 hr ~~48 hr~~	Number Live 24 hr ~~72 hr~~	Number Live 48 hr ~~96 hr~~	pH (SU) 0 hr ~~48 hr~~	pH (SU) 24 hr ~~72 hr~~	pH (SU) 48 hr 96 hr	Temperature (° C) 0 hr ~~48 hr~~	Temperature (° C) 24 hr ~~72 hr~~	Temperature (° C) 48 hr ~~96 hr~~	D.O. (mg/l) 0 hr ~~48 hr~~	D.O. (mg/l) 24 hr ~~72 hr~~	D.O. (mg/l) 48 hr ~~96 hr~~	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhos/cm) 0 hr ~~48 hr~~	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhos/cm) 24 hr ~~72 hr~~	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhos/cm) 48 hr 96 hr
Control	A	D1	10	10	10	8.3		8.3	24.6		24.0	6.8		6.3	36.9		39.1
	B	D2	10	10	10		7.8			24.4			4.2			32.9	
	C																
	D																
100	A	D3	10	10	10	8.3		8.3	24.8		24.0	6.6		6.4	32.3		33.4
	B	D4	10	10	10		8.0			24.9			4.2	6		33.1	
	C																
	D																
200	A	D5	10	10	9[10]	8.3		8.3	24.7		24.0	6.8		6.6	32.4		33.5
	B	D6	10	10	9[10]		8.1			24.8			4.1			33.0	
	C																
	D																
300	A	D7	10	10	10	8.3		8.3	24.7		24.0	6.8		6.5	32.3		34.0
	B	D8	10	9[10]	7[10]		8.1			24.6			4.3			32.9	
	C																
	D																
400	A	D9	10	9[10]	1[10]	8.3		8.3	24.6		24.0	6.8		6.6	32.3		33.9
	B	D10	10	9[10]	8[10]		8.1			24.4			4.3			32.8	
	C		~~10~~														
	D																
500	A	D11	10	6[40]	2[40]	8.3		8.3	24.7		24.0	6.8		6.7	32.2		33.8
	B	D12	10	6[40]	0[40]		8.1			24.3			4.6			32.8	
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	JD	JD	JD	BA	BA	JD	JD	BA	JD	BA	DA	JD	BA	BA
Recorded by:			BA	JD	JD	JD	BA	BA	JD	JD	BA	JD	BA	BA	JD	BA	BA

Investigators' Signatures
Brad Hardin
Jason Dasich
Erin Kenny
Marlon Franklin
Ann Cannon
Nicole Wilkerdorf
REVIEWER

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

Remarks:
Test aerated at 24 hours.
MF 6/1/06

Statistical Results: Method: Spearman-Karber
96 hour LC50: 333.13
95% Confidence Interval: lower 305.03 upper 363.82

Revised 02/21/06

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Appendix C. (continued)

FDEP Biology Section - Acute SRT Bench Sheet

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

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

Diluent/ Batch#: ASW / 11-06
Toxicant/ Batch# CuCl2 / 5-06

Test Beginning: Date: 5-31-06 Time: 13:30
Test Ending: Date: 6-5-06 Time: 13:00

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	BA
Alkalinity (mg/L as $CaCO_3$):	2.19	Hach	~~BA~~ BA
Hardness (mg/L as CaCO3):	—	Hach	—
Total Ammonia (mg/L as N):	<0.017	Denver	MF
Salinity (ppth):	20.53	Mettler	BA

Organism Batch #/ Age: 18-06 / 10 hrs
Feeding: (Prior to test) (Prior to renewal) / Daily
Food: YCT P.subcapitata Artemia
Food Batch: — — 651-536-90
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc. (PPB) g/L	Rep.	Chamber#	Number Live ~~0 hr~~	~~24 hr~~	~~48 hr~~	pH (SU) ~~0 hr~~	~~24 hr~~	~~48 hr~~	Temperature (° C) ~~0 hr~~	~~24 hr~~	~~48 hr~~	D.O. (mg/l) ~~0 hr~~	~~24 hr~~	~~48 hr~~	UNCORRECTED Cond. (mmhos/cm) Cond. (umhom/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	10	10(BA)	10	8.3	8.4		24.5	24.2		7.0	7.0		53.0	32.5	
	B	D2	10	MF 9 10	10			8.3			24.1			6.9			33.5
	C	~~D3 BA~~															
	D			MF													
100	A	D3	10	9 10	10	8.3	8.4		24.4	24.1		6.7	6.6		33.0	33.4	
	B	D4	10	10	10			8.3			24.0			6.7			33.8
	C																
	D																
200	A	D5	9	9	8 10	8.3	8.4		~~33.1~~	24.0		6.7	7.0		~~24.9~~	33.1	
	B	D6	9	9	9			8.3	24.4 BA		24.0			6.6	32.1 BA		33.7
	C																
	D																
300	A	D7	10	10 BA MF	10	8.3	8.4		24.3	24.2		6.7	7.2		33.2	33.6	
	B	D8	7	6 5 10	5 10			8.4			24.0			6.7			34.0
	C	~~D9 BA~~															
	D																
400	A	D9	1	MF 1	1	8.4	8.4	8.4	24.3	24.2	24.1	6.6	7.2	6.8	33.0	33.4	33.8
	B	D10	0	~~4~~ MF	—												
	C																
	D																
500	A	D11	2	−1	1	8.4	8.4 (6)	8.4	29.3	24.3	24.2	6.6	7.3	6.8	33.1	—	33.9
	B	D12	0	—	—		8.4 (6)			24.3 (6)			7.3 (6)			33.3 (6)	
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			MF	MF	JD	BA	MF	JD	BA	MF	JD	BA	MF	JD	BA	MF	JD
Recorded by:			MF	MF	JD	DR	MF	JD	BA	MF	JD	BA	MF	JD	BA	MF	JD

Investigators' Signatures
Bruce Stanley
Marshall Faircloth
James Arnold
Steve Unger
Nigel Netterfield
REVIEWER

Concentrations prepared by: JD
Loading verified by: NA
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 24.2 max. 24.6 mean 25.4
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 24.2 max. 24.8 mean 24.6

Remarks: (A) 72 hour number Live-recorded Cheeks in M. beryllina space. MF 6-3-06
(6) recorded phys-chem parameters in B space, should be in A space MF 6-3-06

Statistical Results: Method: Spearman-Karber
48 / (96) hour LC50: 305.64
95% Confidence Interval: lower 271.5 upper 344.06

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Appendix C. (continued)

Americamysis bahia Acute Standard Reference Toxicant test

DATE: 6-6-06 DURATION: 96 h TOXICANT : CdCl2
SPECIES: *A.bahia*

RAW DATA:	Concentration (ug/L)	Number Exposed	Mortalities
	0.00	20	1
	20.00	20	1
	30.00	20	4
	45.00	20	11
	67.00	20	19
	100.00	20	20

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: LC_{50}: 42.57
95% LOWER CONFIDENCE: 37.82
95% UPPER CONFIDENCE: 47.92

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

Menidia beryllina Acute Standard Reference Toxicant test

DATE: 5-31-06 DURATION: 96 h TOXICANT: CuCl2
SPECIES: *M.beryllina*

RAW DATA:	Concentration (ug/L)	Number Exposed	Mortalities
	0.00	20	0
	100.00	20	0
	200.00	20	3
	300.00	20	5
	400.00	20	19
	500.00	20	19

SPEARMAN-KARBER TRIM: 5.00%

SPEARMAN-KARBER ESTIMATES: LC_{50}: 305.64
95% LOWER CONFIDENCE: 271.51
95% UPPER CONFIDENCE: 344.06

Appendix D. Test Organism Receipts

Aquatic Indicators, Inc.

P.O. Box 632 • St. Augustine, FL 32085-0632 • (904) 829-2780

Date 5-30-06

Species:

1. M. bahia
2. M. berylling
3.

Total Supplied:

1. 150
2. 150
3.

Brood Description:

1. EBA
2. EBA
3.

Age:

1. 2 days
2. 9 days
3.

Environmental Regime	Feeding:	Zooplankton Artemia NH	Photo:	L 16	D 8
P.H.: 8.1	Temp:	25°C	Salinity:	20‰	

Comments:

Thanks.

Appendix D. (continued)

1300 Blue Spruce Drive, Suite C
Fort Collins, Colorado 80524

Toll Free: 800/331-5916
Tel: 970/484-5091 Fax:970/484-251

ORGANISM HISTORY

DATE: 6/5/06

SPECIES: Americamysis bahia (formerly Mysidopsis)

AGE: 3 day

LIFE STAGE: Juvenile

HATCH DATE: 6/2/06

BEGAN FEEDING: Immediately

FOOD: Artemia

Water Chemistry Record:	Current	Range
TEMPERATURE:	24°C	23-25°C
SALINITY/CONDUCTIVITY:	30 ppt	21-30 ppt
TOTAL HARDNESS (as $CaCO_3$):	--	--
TOTAL ALKALINITY (as $CaCO_3$):	145 mg/l	95-160 mg/l
pH:	8.18	7.98-8.38

Comments:

Facility Supervisor

Aquatic BioSystems, Inc • Quality Research Organisms

Appendix D. (continued)

1300 Blue Spruce Drive, Suite C
Fort Collins, Colorado 80524

Toll Free: 800/331-5916
Tel: 970/484-5091 Fax:970/484-251

ORGANISM HISTORY

DATE: 6/5/06

SPECIES: Menidia beryllina

AGE: 12 day

LIFE STAGE: Larvae

HATCH DATE: 5/24/06

BEGAN FEEDING: Immediately

FOOD: Rotifers, Artemia

Water Chemistry Record:	Current	Range
TEMPERATURE:	24 °C	23-26 °C
SALINITY/CONDUCTIVITY:	22 ppt	22-28 ppt
TOTAL HARDNESS (as $CaCO_3$):	--	--
TOTAL ALKALINITY (as $CaCO_3$):	135 mg/l	95-180 mg/l
pH:	8.28	7.79-8.36

Comments:

Facility Supervisor

Appendix E. Chemical Analyses performed on the effluent from the Neptune Beach Wastewater Treatment Facility Outfall D-001, sampled on June 4 and 5, 2006.

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
06/05/06 11:45	FINAL EFFLUENT	Bio-AGP/LimNut	Algal Growth Potential	197	mg DryWt/L		0.3	0.9
06/05/06 11:45	FINAL EFFLUENT	Bio-AGP/LimNut	Algal Growth Potential-Salinity Adjusted	929	mg DryWt/L		3	3
06/05/06 11:45	FINAL EFFLUENT	Bio-BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	1.6	mg/L	AI	0.2	2.0
06/05/06 11:45	FINAL EFFLUENT	Bio-Chl-a	Chlorophyll-A, Monochromatic, Water	0.85	ug/L	U	0.85	2.6
06/05/06 11:45	FINAL EFFLUENT	Bio-Chl-a	Phaeophytin-A, Monochromatic, Water	1.5	ug/L	U	1.5	4.5
06/04/06 18:13	FINAL EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	No Result	LC50			
06/05/06 00:10	FINAL EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	100	LC50	L		
06/05/06 06:00	FINAL EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	100	LC50	L		
06/05/06 11:45	FINAL EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	100	LC50	L		
06/04/06 18:13	FINAL EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	100	LC50	L		
06/05/06 00:10	FINAL EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	100	LC50	L		
06/05/06 06:00	FINAL EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	100	LC50	L		
06/05/06 11:45	FINAL EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	100	LC50	L		
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	1,2,4-Trichlorobenzene	5.4	ug/L	U	5.4	22
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	1,2-Dichlorobenzene	5.4	ug/L	U	5.4	22
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	1,3-Dichlorobenzene	5.4	ug/L	U	5.4	22
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	1,4-Dichlorobenzene	5.4	ug/L	U	5.4	22
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	2,4,6-Trichlorophenol	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	2,4-Dichlorophenol	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	2,4-Dimethylphenol	54	ug/L	U	54	220
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	2,4-Dinitrophenol	11	ug/L	UJ	11	43
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	2,4-Dinitrotoluene	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	2,6-Dinitrotoluene	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	2-Chloronaphthalene	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	2-Chlorophenol	5.4	ug/L	U	5.4	22
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	2-Methyl-4,6-dinitrophenol	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	2-Nitrophenol	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	3,3'-Dichlorobenzidine	110	ug/L	U	110	430
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	4,4'-DDD	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	4,4'-DDE	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	4,4'-DDT	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	4-Bromophenyl phenyl ether	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	4-Chloro-3-methylphenol	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	4-Chlorophenyl phenyl ether	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	4-Nitrophenol	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Acenaphthene	1.8	ug/L	U	1.8	7.2

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Acenaphthylene	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Aldrin	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	alpha-BHC	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Anthracene	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Benzidine	39	ug/L	U	39	160
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Benzo(a)anthracene	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Benzo(a)pyrene	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Benzo(b)fluoranthene	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Benzo(g,h,i)perylene	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Benzo(k)fluoranthene	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	beta-BHC	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Bis(2-chloroethoxy)methane	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Bis(2-chloroethyl)ether	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Bis(2-chloroisopropyl)ether	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Bis(2-ethylhexyl)phthalate	11	ug/L	U	11	43
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Butyl benzyl phthalate	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Chrysene	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	delta-BHC	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Dibenzo(a,h)anthracene	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Dieldrin	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Diethyl phthalate	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Dimethyl phthalate	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Di-n-butyl phthalate	11	ug/L	U	11	43
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Di-n-octyl phthalate	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Endosulfan I	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Endosulfan II	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Endosulfan sulfate	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Endrin	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Endrin aldehyde	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Fluoranthene	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Fluorene	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	gamma-BHC	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Heptachlor	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Heptachlor epoxide	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Hexachlorobenzene	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Hexachlorobutadiene	5.4	ug/L	U	5.4	22
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Hexachlorocyclopentadiene	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Hexachloroethane	5.4	ug/L	U	5.4	22

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Indeno(1,2,3-cd)pyrene	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Isophorone	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Naphthalene	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Nitrobenzene	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	N-Nitrosodimethylamine	11	ug/L	U	11	43
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	N-Nitrosodi-n-propylamine	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	N-Nitrosodiphenylamine	1.8	ug/L	UJ	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Pentachlorophenol	1.8	ug/L	UJ	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Phenanthrene	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Phenol	1.8	ug/L	U	1.8	7.2
06/05/06 11:45	FINAL EFFLUENT	BNA-Water	Pyrene	1.8	ug/L	U	1.8	7.2
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	1,2,4-Trichlorobenzene	5.3	ug/L	U	5.3	21
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	1,2-Dichlorobenzene	5.3	ug/L	U	5.3	21
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	1,3-Dichlorobenzene	5.3	ug/L	U	5.3	21
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	1,4-Dichlorobenzene	5.3	ug/L	U	5.3	21
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	2,4,6-Trichlorophenol	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	2,4-Dichlorophenol	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	2,4-Dimethylphenol	53	ug/L	U	53	210
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	2,4-Dinitrophenol	11	ug/L	UJ	11	42
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	2,4-Dinitrotoluene	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	2,6-Dinitrotoluene	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	2-Chloronaphthalene	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	2-Chlorophenol	5.3	ug/L	U	5.3	21
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	2-Methyl-4,6-dinitrophenol	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	2-Nitrophenol	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	3,3'-Dichlorobenzidine	110	ug/L	U	110	420
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	4,4'-DDD	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	4,4'-DDE	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	4,4'-DDT	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	4-Bromophenyl phenyl ether	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	4-Chloro-3-methylphenol	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	4-Chlorophenyl phenyl ether	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	4-Nitrophenol	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Acenaphthene	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Acenaphthylene	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Aldrin	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	alpha-BHC	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Anthracene	1.8	ug/L	U	1.8	7.1

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Benzidine	38	ug/L	U	38	150
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Benzo(a)anthracene	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Benzo(a)pyrene	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Benzo(b)fluoranthene	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Benzo(g,h,i)perylene	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Benzo(k)fluoranthene	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	beta-BHC	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Bis(2-chloroethoxy)methane	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Bis(2-chloroethyl)ether	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Bis(2-chloroisopropyl)ether	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Bis(2-ethylhexyl)phthalate	11	ug/L	U	11	42
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Butyl benzyl phthalate	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Chrysene	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	delta-BHC	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Dibenzo(a,h)anthracene	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Dieldrin	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Diethyl phthalate	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Dimethyl phthalate	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Di-n-butyl phthalate	11	ug/L	U	11	42
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Di-n-octyl phthalate	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Endosulfan I	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Endosulfan II	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Endosulfan sulfate	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Endrin	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Endrin aldehyde	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Fluoranthene	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Fluorene	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	gamma-BHC	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Heptachlor	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Heptachlor epoxide	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Hexachlorobenzene	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Hexachlorobutadiene	5.3	ug/L	U	5.3	21
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Hexachlorocyclopentadiene	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Hexachloroethane	5.3	ug/L	U	5.3	21
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Indeno(1,2,3-cd)pyrene	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Isophorone	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Naphthalene	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Nitrobenzene	1.8	ug/L	U	1.8	7.1

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	N-Nitrosodimethylamine	11	ug/L	U	11	42
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	N-Nitrosodi-n-propylamine	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	N-Nitrosodiphenylamine	1.8	ug/L	UJ	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Pentachlorophenol	1.8	ug/L	UJ	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Phenanthrene	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Phenol	1.8	ug/L	U	1.8	7.1
06/05/06 12:00	EQUIPMENT BLANK	BNA-Water	Pyrene	1.8	ug/L	U	1.8	7.1
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Alachlor	0.6	ug/L	UJ	0.6	2.4
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Ametryn	0.05	ug/L	U	0.05	0.2
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Atrazine	0.14	ug/L	I	0.05	0.2
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Azinphos Methyl	0.2	ug/L	U	0.2	0.8
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Bromacil	0.2	ug/L	U	0.2	0.8
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Butylate	0.2	ug/L	UJ	0.2	0.8
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Chlorpyrifos Ethyl	0.05	ug/L	U	0.05	0.2
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Chlorpyrifos Methyl	0.1	ug/L	UJ	0.1	0.4
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Diazinon	0.05	ug/L	UJ	0.05	0.2
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Ethion	0.05	ug/L	U	0.05	0.2
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Ethoprop	0.1	ug/L	U	0.1	0.4
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Fenamiphos	0.2	ug/L	U	0.2	0.8
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Fonofos	0.1	ug/L	UJ	0.1	0.4
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Hexazinone	0.1	ug/L	U	0.1	0.4
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Malathion	0.15	ug/L	U	0.15	0.6
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Metalaxyl	0.25	ug/L	U	0.25	1
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Metolachlor	0.5	ug/L	U	0.5	2
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Metribuzin	0.1	ug/L	U	0.1	0.4
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Mevinphos	0.2	ug/L	U	0.2	0.8
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Naled	0.8	ug/L	UJ	0.8	3.2
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Norflurazon	0.15	ug/L	U	0.15	0.6
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Parathion Ethyl	0.15	ug/L	UJ	0.15	0.6
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Parathion Methyl	0.1	ug/L	U	0.1	0.4
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Phorate	0.05	ug/L	U	0.05	0.2
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Prometryn	0.15	ug/L	UJ	0.15	0.6
06/05/06 11:45	FINAL EFFLUENT	GC-Water	Simazine	0.05	ug/L	U	0.05	0.2
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Alachlor	0.59	ug/L	UJ	0.59	2.4
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Ametryn	0.049	ug/L	U	0.049	0.2
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Atrazine	0.049	ug/L	U	0.049	0.2
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Azinphos Methyl	0.2	ug/L	U	0.2	0.8
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Bromacil	0.2	ug/L	U	0.2	0.8

Appendix E. (continued)

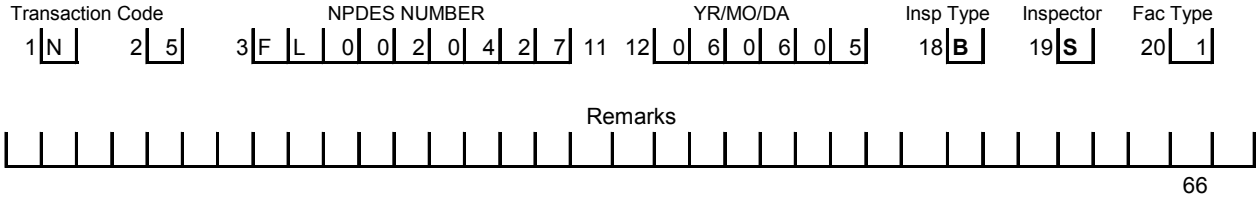
Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Butylate	0.2	ug/L	UJ	0.2	0.8
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Chlorpyrifos Ethyl	0.049	ug/L	U	0.049	0.2
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Chlorpyrifos Methyl	0.098	ug/L	UJ	0.098	0.39
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Diazinon	0.049	ug/L	UJ	0.049	0.2
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Ethion	0.049	ug/L	U	0.049	0.2
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Ethoprop	0.098	ug/L	U	0.098	0.39
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Fenamiphos	0.2	ug/L	U	0.2	0.8
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Fonofos	0.098	ug/L	UJ	0.098	0.39
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Hexazinone	0.098	ug/L	U	0.098	0.39
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Malathion	0.15	ug/L	U	0.15	0.6
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Metalaxyl	0.25	ug/L	U	0.25	1
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Metolachlor	0.49	ug/L	U	0.49	2
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Metribuzin	0.098	ug/L	U	0.098	0.39
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Mevinphos	0.2	ug/L	U	0.2	0.8
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Naled	0.78	ug/L	UJ	0.78	3.1
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Norflurazon	0.15	ug/L	U	0.15	0.6
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Parathion Ethyl	0.15	ug/L	UJ	0.15	0.6
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Parathion Methyl	0.098	ug/L	U	0.098	0.39
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Phorate	0.049	ug/L	U	0.049	0.2
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Prometryn	0.15	ug/L	UJ	0.15	0.6
06/05/06 12:00	EQUIPMENT BLANK	GC-Water	Simazine	0.049	ug/L	U	0.049	0.2
06/05/06 11:45	FINAL EFFLUENT	Metals-Water	Aluminum	22	ug/L		4	16
06/05/06 11:45	FINAL EFFLUENT	Metals-Water	Arsenic	0.5	ug/L	U	0.5	2
06/05/06 11:45	FINAL EFFLUENT	Metals-Water	Cadmium	0.062	ug/L	I	0.05	0.2
06/05/06 11:45	FINAL EFFLUENT	Metals-Water	Calcium	66	mg/L		0.02	0.08
06/05/06 11:45	FINAL EFFLUENT	Metals-Water	Chromium	0.51	ug/L	I	0.3	1.2
06/05/06 11:45	FINAL EFFLUENT	Metals-Water	Copper	7.3	ug/L		0.2	0.8
06/05/06 11:45	FINAL EFFLUENT	Metals-Water	Iron	45	ug/L		5	20
06/05/06 11:45	FINAL EFFLUENT	Metals-Water	Lead	0.56	ug/L	I	0.2	0.8
06/05/06 11:45	FINAL EFFLUENT	Metals-Water	Magnesium	29.8	mg/L		0.005	0.02
06/05/06 11:45	FINAL EFFLUENT	Metals-Water	Nickel	1	ug/L	U	1	4
06/05/06 11:45	FINAL EFFLUENT	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
06/05/06 11:45	FINAL EFFLUENT	Metals-Water	Silver	0.048	ug/L	I	0.025	0.1
06/05/06 11:45	FINAL EFFLUENT	Metals-Water	Zinc	52.7	ug/L		1.5	6
06/05/06 12:00	EQUIPMENT BLANK	Metals-Water	Aluminum	4	ug/L	U	4	16
06/05/06 12:00	EQUIPMENT BLANK	Metals-Water	Arsenic	0.5	ug/L	U	0.5	2
06/05/06 12:00	EQUIPMENT BLANK	Metals-Water	Cadmium	0.15	ug/L	U	0.15	0.6
06/05/06 12:00	EQUIPMENT BLANK	Metals-Water	Calcium	0.02	mg/L	U	0.02	0.08

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
06/05/06 12:00	EQUIPMENT BLANK	Metals-Water	Chromium	0.8	ug/L	I	0.3	1.2
06/05/06 12:00	EQUIPMENT BLANK	Metals-Water	Copper	0.35	ug/L	I	0.2	0.8
06/05/06 12:00	EQUIPMENT BLANK	Metals-Water	Iron	5	ug/L	U	5	20
06/05/06 12:00	EQUIPMENT BLANK	Metals-Water	Lead	0.2	ug/L	U	0.2	0.8
06/05/06 12:00	EQUIPMENT BLANK	Metals-Water	Magnesium	0.015	mg/L	I	0.005	0.02
06/05/06 12:00	EQUIPMENT BLANK	Metals-Water	Nickel	1	ug/L	U	1	4
06/05/06 12:00	EQUIPMENT BLANK	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
06/05/06 12:00	EQUIPMENT BLANK	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
06/05/06 12:00	EQUIPMENT BLANK	Metals-Water	Zinc	2.8	ug/L	I	1.5	6
06/05/06 11:45	FINAL EFFLUENT	Nutrients-Liquid	Ammonia-N	5	mg N/L		0.5	1
06/05/06 11:45	FINAL EFFLUENT	Nutrients-Liquid	Kjeldahl Nitrogen	6.7	mg N/L	J	0.16	0.4
06/05/06 11:45	FINAL EFFLUENT	Nutrients-Liquid	NO2NO3-N	17	mg N/L		0.16	0.4
06/05/06 11:45	FINAL EFFLUENT	Nutrients-Liquid	O-Phosphate-P	4	mg P/L		0.08	0.2
06/05/06 11:45	FINAL EFFLUENT	Nutrients-Liquid	Specific_Conductance	1.06E+03	umhos/cm		2	8
06/05/06 11:45	FINAL EFFLUENT	Nutrients-Liquid	Total-P	4.4	mg P/L		0.2	0.6
06/05/06 11:45	FINAL EFFLUENT	Nutrients-Liquid	TSS	4	mg/L	U	4	16
06/05/06 12:00	EQUIPMENT BLANK	Nutrients-Liquid	Ammonia-N	0.01	mg N/L	U	0.01	0.02
06/05/06 12:00	EQUIPMENT BLANK	Nutrients-Liquid	Kjeldahl Nitrogen	0.08	mg N/L	U	0.08	0.2
06/05/06 12:00	EQUIPMENT BLANK	Nutrients-Liquid	NO2NO3-N	0.004	mg N/L	U	0.004	0.01
06/05/06 12:00	EQUIPMENT BLANK	Nutrients-Liquid	O-Phosphate-P	0.004	mg P/L	U	0.004	0.01
06/05/06 12:00	EQUIPMENT BLANK	Nutrients-Liquid	Total-P	0.02	mg P/L	U	0.02	0.06

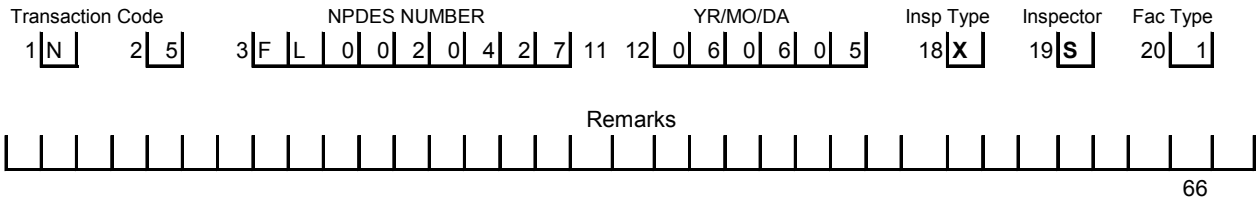
The Bioassay of Neptune Beach Wastewater Facility effluent sampled on June 4 and 5, 2006. NPDES #FL0020427.

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



The Priority Pollutants Analysis of Neptune Beach Wastewater Facility effluent sampled on June 5, 2006. NPDES #FL0020427.

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



Biological Analyses of Neptune Beach Wastewater Facility effluent sampled on June 5, 2006. NPDES #FL0020427.

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

