

Bioassays of

JEA District II Wastewater Treatment Facility

Duval County

NPDES #FL0026450

Sampled October 24-25, 2004

March 2005

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

Jacksonville Electric Authority District II Wastewater Treatment Facility, 1840 Cedar Bay Rd., Jacksonville, Duval County, Florida, NPDES #FL0026450. Effluent samples for this facility were collected on October 24-25, 2004

Introduction

The Jacksonville Electric Authority District II Wastewater Treatment Facility consists of two wastewater treatment plants (North Plant, aka Plant One, and South Plant, aka Plant Two) that provide secondary treatment of domestic waste. The facility has a design flow of 10 million gallons per day (MGD), with 5.0 MGD allotted to each of the treatment plants. The facility's annual average daily flow (AADF) for the period of August 2003 through July 2004 was 4.25 MGD. Each plant has the following treatment process units: a mechanical bar screen and a manually-cleaned bar screen in parallel, a primary clarifier, two anoxic zones, two equal-volume aeration trains, and two secondary clarifiers. The plants share a chlorine-contact chamber and a sludge-holding tank. Although a chlorine-contact chamber is available, an ultraviolet system is used for disinfection of effluent. Effluent discharges into the Class III Marine waters of the St. Johns River via discharge location D-001, which is approximately 600 feet in length and discharges at a depth of approximately 13 feet. The point of discharge is located approximately at latitude 30° 24' 29" N, longitude 81° 36' 25" W. This discharge has a 117-m radius mixing zone for total recoverable copper surrounding the outfall. This facility also discharges reclaimed water to a 19-acre pilot-scale hardwood tree demonstration project and an industrial reuse project at the Northside Generating Station at R-001 (facility information provided by Gloria Berges of FDEP Northeast District).

Methods

Bioassay grab samples were collected once every six hours for 24 hours and grab water chemistry samples were collected when the last bioassay sample was collected, on October 25, from the D-001 NPDES sampling point by Pat O'Connor and Eesa Ali (FDEP Northeast District) following DEP-SOP-001/01 FS 2400 Wastewater Sampling. All DEP SOP's are available on the web at: http://www.floridadep.org/labs/qa/sops.htm.

The 96-hr static-renewal toxicity tests and the algal growth potential test were performed following internal DEP SOP's TA07_03, TA07_04, and TA08_01 through TA08_07. All internal DEP SOP's are available on the web at: http://www.floridadep.org/labs/cgi-bin/sop/biosop.asp.

Sample #4 (first sample collected) was aerated for 20 minutes at ~100 bubbles/minute to reduce the dissolved oxygen from 9.9 mg/L to 7.1 mg/L.

Per permit conditions, bioassay sample salinity was adjusted from < 1 part per thousand (ppth) to 20 ppth with Forty Fathoms artificial sea salts. To ensure that there was no effect of adding artificial sea salts to the sample, salt controls were prepared by the addition of artificial sea salts to well water to match the salinity of the test solutions. There was insignificant mortality (5%) in the salinity-adjusted *Americamysis bahia* controls and there was no mortality in the salted *Menidia beryllina* controls.

Toxicity Test Results

Tests were performed October 26-30, 2004.

Sample #4 collected October 24, 2004, 1700 hours:

Americamysis bahia 96-hr acute screening bioassay –	LC_{50} > 100%, 10% mortality in 100% sample at 96 hours
Medidia beryllina 96-hr acute screening bioassay –	LC_{50} > 100%, 0% mortality in 100% sample at 96 hours

Sample #1 collected October 24, 2004, 2300 hours:

Americamysis bahia - 96-hr acute screening bioassay – LC_{50} > 100%, 0% mortality in 100% sample at 96 hours

Medidia beryllina - 96-hr acute screening bioassay – LC_{50} > 100%, 0% mortality in 100% sample at 96 hours

Sample #2 collected October 25, 2004, 0500 hours:

Americamysis bahia - 96-hr acute screening bioassay – LC_{50} > 100%, 5% mortality in 100% sample at 96 hours

Medidia beryllina - 96-hr acute screening bioassay – LC_{50} > 100%, 5% mortality in 100% sample at 96 hours

Sample #3 collected October 25, 2004, 1120 hours:

Americamysis bahia - 96-hr acute screening bioassay – LC_{50} > 100%, 5% mortality in 100% sample at 96 hours

Medidia beryllina - 96-hr acute screening bioassay – LC_{50} > 100%, 0% mortality in 100% sample at 96 hours

Bioassay samples did not show toxicity to the test organisms.

See Appendix 1 for bioassay bench sheets.

Algal Growth Potential

The effluent Algal Growth Potential (AGP) was 195 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 ratio of inorganic nitrogen to ortho-phosphate as determined by analytical chemistry suggests that the effluent is nitrogen-limited; however, the quantity of inorganic nitrogen and ortho-phosphate in the sample suggests that a secondary nutrient was limiting growth in the AGP test. The predicted AGP based on inorganic nitrogen concentrations was 495.52 (±20%) mg dry wt/L (Table 1; Miller et al. 1978).

The salinity-adjusted effluent AGP was 114 mg dry wt/L of *Dunaliella tertiolecta.* Raschke and Shultz found that AGP values above 10.0 mg dry weight/L represent a “problem” threshold for marine receiving waters, implying nutrient enrichment (personal communication with Ron Raschke USEPA Region 4 1987).

See Table 1 for AGP results.

Chemistry Results

Neither total residual chlorine nor total ammonia was detected in the bioassay sample in the laboratory. The total ammonia concentration in the sample collected and preserved for chemical analysis was 0.04 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, iron, and zinc were detected in the effluent at levels that comply with Class III fresh water quality criteria. Atrazine, lead, and nickel were detected between the laboratory minimum detection limits (MDL) and practical quantitation limits (PQL).

See Table 2 for results of analytes detected in the effluent, and corresponding limits.

See Appendix 2 for a complete list of chemical analyses performed.

Conclusion

The effluent samples collected from D-001 for this facility on October 24-25, 2004, did not show acute toxicity to either test species during the 96-hour bioassays. The effluent AGP results exceeded the "problem" threshold for fresh and marine receiving waters. Effluent water quality samples did not exceed any applicable water quality standards or exceed any permit conditions.

Literature Cited

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

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

Table 1. *Measured and predicted algal growth potential (AGP) for total soluble inorganic nitrogen (TSIN) limitation of* Pseudokirchneriella subcapitata *(measured) and AGP for* Dunaliella tertiolecta *(salinity adjusted) for the sample of effluent collected from the District II Wastewater Treatment Plant on October 25, 2004.*

Location	AGP (measured; mg dry wt/L)	Predicted AGP (TSIN; mg dry wt/L) ± 20%	Inorganic N:P ratio	Total N:P ratio	AGP (salinity adjusted; mg dry wt/L)
Effluent Samples	195	495.52 ± 99.104	1.98	2.01	114

Table 2. Effluent limits, Class III Marine Criteria, and chemical data for samples from District II WWTP collected on October 25, 2004.

JEA District II WWTP	Class III Marine Standards	Effluent Limits	Effluent Samples
Organic Constituents (µg/L)			
Atrazine	-	-	0.063 I
Dichlorobromomethane	≤ 22.0 a	≤ 22.0 a	-
Metals (µg/L unless otherwise noted)			
Aluminum	≤ 1500	-	22
Arsenic	≤ 50	-	6 U
Cadmium	≤ 9.3	-	0.075 U
Calcium (mg/L)	-	-	50.5
Chromium-III	-	-	2 U
Copper	≤ 3.7	≤ 8.91	2.2 U
Iron	≤ 300	-	155
Lead	≤ 8.5	-	0.18 I
Magnesium (mg/L)	-	-	22.7
Nickel	≤ 8.3	-	4 I
Selenium	≤ 71	-	0.5 U
Silver	≤ 2.3	-	0.02 U
Zinc	≤ 86	-	33
Nutrients (mg/L)			
Ortho-phosphate	-	Report	6.6
Total Phosphorus	-	Report	7.2
Ammonia	-	Report	0.04 A
Unionized Ammonia	-	-	<0.02 c
Nitrate+Nitrite	-	Report	13
Total Kjeldahl Nitrogen	-	Report	1.5
Organic Nitrogen	-	Report	1.5 c
Total Nitrogen	-	Report	14.5 c
General Physical and Chemical Parameters			
Dissolved Oxygen (mg/L)	≥ 4	-	6.7
pH (S.U.)	6.5 - 8.5	6.0 - 8.5	7.4
Conductivity (umhos/cm)	-	-	969
Temperature (C)	-	-	28.8
CBOD (mg/L)	-	60.0 s, 20.0 a	No Result*
TSS	-	60.0 s, 20.0 a	4 U
Hardness (mg/L)	-	-	219.6 c

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

* - CBOD reported as "No Result" due to a control failure in the analysis

a - Annual average

c - calculated value

s - Single sample

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

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

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

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

Facility: District II WWTF

Address: 1840 Cedar Bay Road

City: Jacksonville County: Duval

Contact/District: Pat O'Connor / Northeast

NPDES Permit #: FL 0026450

LIMS Job #: YCH-2084-10-26-66 LIMS Sample #: 791166

Lims Data Entry: MF 11-5-04 Data Entry Verification: 11-5-04 DN

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

SOP#07_03/04

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.

Initial sample handling:

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

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

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: <1 Final Salinity: ~20 (salts) Hypersaline brine

Salinity adjusted (Test 2): (yes) no Initial Salinity: <1 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)

MF used Civil Hour time

Sample Collection: Date: 10-24-04 Time: ~~1100~~ 2300

Hold Time Start: Date: 10-25-04 Time: 1120

Sample: 1 of 4

Comments: Sample salinity adjusted from <1ppth to ~20ppth per Permit requirements, forty fathoms artificial sea salts used. MF 10-27-04 note for all test parameters at 24 hours. The conductivity in all surrogate parameter cups WAS less than the original conductivity at 0 hours due to Room temperature cooling surrogate prior to conductivity measurements. Note Conductivity is last parameter measured. Surrogate cups cool rapidly when Room temperature is < test temperature MF 11-15-04

Room temperature was 23°C at 24 hours MF 11-15-04

Temperature Range °C

Incubator # 3 Range 24.6°C - 25.5°C

Room B246: 23.0°C - 25.0°C

Waterbath: N/A

Investigators' Signatures

Deanna Nicholson

Sarah Pritchard

Marshall Faircloth

James Trimmer

Kristy Brown

Nicole Wellendorf

REVIEWER

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Water Quality Parameters	20% DMW	Well Water	Salt Water (ASW) NSW Test 1	Salt Water (ASW) NSW Test 2	Moderately Hard Water	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl2 (mg/L):	N/A	N/A	N/A	N/A	N/A	~~<0.03~~ error	Not measured		MF
Lab Total Residual Cl2 (mg/L):			<0.03	<0.03		<0.03	HACH	SP	MF
Alkalinity (mg/L as $CaCO_3$):			276	276		276	HACH	SP	MF
Hardness (mg/L as $CaCO_3$):			--	--		227	HACH	SP	MF
Total Ammonia (mg/L as N):			<0.051	<0.051		<0.051	DENVER	DN	MF
Salinity (ppt):			~20‰	~20‰		<1	YSI	MF	DN

FDEP Biology Section - - Bioassay Bench Sheet
Survival

LIMS Sample #: 791166 Test #: 1 Test Started: Date 10/26/04 Time: 1300
Organism: A. bahia Test Ended: Date 10/30/04 Time: 1020
Organism Batch: 290 Diluent/ Batch: ASW / 49/50
Organism Age: 3 dys Food: YCT *P. subcapitata* (Artemia)
Chamber Size 1000 mL Batch: ___ ___ 01940256
Test Volume 500 mL Feeding: Prior to test (Prior to renewal) - Daily

Concentration	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
CTRL	A	H1	5	5	5	5	5	5
	B	H2	5	5	5	5	5	5
	C	H3	5	5	5	5	5	5
	D	H4	5	5	5	5	5	5
Salt CTRL	A	H5	5	5	5	5	4 D	4
	B	H6	5	5	5	5	5	5
	C	H7	5	5	5	5	5	5
	D	H8	5	5	5	5	5	5
100%	A	H9	5	5	5	5	5	5
	B	H10	5	5	5	5	5	5
	C	H11	5	5	5	5	5	5
	D	H12	5	5	5	5	5	5
Organisms loaded by: JD		Checked by:	JD	JD	JD	MF	JD	MF
Loading Verified by: DN		(initials)						

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

Comments:

Test Results:
% mortality in 100% sample 0
LC_{50}: >100 If Calculated: 95% CI ___ Method: ___

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

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FDEP Biology Section - - Bioassay Bench Sheet

Survival

LIMS Sample #: 791166 Test #: 2 Test Started: Date 10/26/04 Time: 1305

Organism: M. beryllina Test Ended: Date 10/30/04 Time: 1025

Organism Batch: 32 Diluent/ Batch: ASW 149/50

Organism Age: 13dys Food: YCT *P. subcapitata* (*Artemia*) 01940256

Chamber Size 1000 mL Batch: ___ ___

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	H13	5	5	5	5	5	5
	B	H14	5	5	5	5	5	5
	C	H15	5	5	4[D]	(B) 84	4	4
	D	H16	5	5	5	(C) 85	5	5
Salt CTRL	A	H21	5	5	5	5	5	5
	B	H22	5	5	5	5	5	5
	C	H23	5	5	5	5	5	5
	D	H24	5	5	5/@	5	5	5
100%	A	H17	5	5	5	5	5	5
	B	H18	5	5	5	5	5	5
	C	H19	5	5	5	5	5	5
	D	H20	5	5	5	5	5	5
Organisms loaded by: JD	Checked by:	JD	JD	JD	JD	MF	JD	MF
Loading Verified by: DN	(initials)							

Comments: (A) worms spot. J.D. (B)(C) recorded D in C & C in D MF 10-28-04

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

Test Results:

% mortality in 100% sample 0

LC_{50}: > 100 If Calculated: 95% CI ___ Method: ___

Screening Tests: Report LC50 as >100%, =100%, or <100%.

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

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Bioassay Parameters

LIMS Sample # : 791166 **Test # :** 1 **of** 2

TEST SOP: TA07 03 **Test Species:** *Ceriodaphnia dubia Cyprinella leedsi Pimephales promelas* (*Americamysis bahia*) *Menidia beryllina* Other:

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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.)	8.5	8.4	8.3	8.5	8.4	8.2
Temperature °C	24.5	24.3	24.2	24.0	25.3	24.4
Dissolved Oxygen mg/L	6.8	5.6	5.9	6.1	5.2	5.5
Conductivity µmhos (mmhos)	31.3	28.9	32.4	32.0	33.7	34.1
(initials) Measured by:	DN	DN	DN	DN	DN	MF
(initials) Recorded by:	JD/DN	(DN)/DN	DN	DN	DN	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.)	8.1	8.2	8.3	8.3	8.2	8.1
Temperature °C	24.8	24.4	25.0	24.1	24.9	24.3
Dissolved Oxygen mg/L	6.9	5.2	6.6	6.2	(A) ~~5.3~~ 5.0 DN	5.2
Conductivity µmhos (mmhos)	32.1	30.0	33.2	31.8	33.6	33.0
(initials) Measured by:	DN	DN	DN	DN	DN	MF
(initials) Recorded by:	/DN	(DN)/DN	DN	DN	DN	MF

Comments: (A) 1st Measurement was for Salt CTRL. D.O. For 100% @ 72 Hr = 5.0 mg/L, DN 10/29/04

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	8.5	8.3	8.2
Temperature °C	24.7	24.5	24.3	24.0	25.1	24.3
Dissolved Oxygen mg/L	6.9	5.7	5.9	6.0	5.3	5.5
Conductivity µmhos (mmhos)	32.3	29.5	33.4	32.2	32.8	33.5
(initials) Measured by:	DN	DN	DN	DN	DN	MF
(initials) Recorded by:	/DN	(DN)/DN	DN	DN	DN	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:	/DN					
(initials) Recorded by:	/DN					

Comments:

V.1 2/24/04

Bioassay Parameters

LIMS Sample #: 791166 **Test #:** 2 of 2

TEST SOP: TA07_ 04 **Test Species:** *Ceriodaphnia dubia* *Cyprinella leedsi* *Pimephales promelas* *Americamysis bahia* (*Menidia beryllina*) Other:

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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.)	8.5	8.5	8.4	8.5	8.4	8.3
Temperature °C	24.6	~~24.3~~ 24.6	25.1	24.0	24.1	24.8
Dissolved Oxygen mg/L	6.9	6.4	5.5	6.2	5.8	5.5
Conductivity µmhos (mmhos)	31.2	28.9	32.2	32.3	32.9	33.9
(initials) ~~Measured~~ by:	DN	DN	DN	DN	DN	MF
(initials) Recorded by:	DN	(DN) DN	DN	DN	DN	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.)	8.1	8.2	8.3	8.2	8.2	8.2
Temperature °C	24.8	24.5	24.7	24.0	24.6	24.0
Dissolved Oxygen mg/L	6.9	6.0	5.0	5.7	5.0	6.1
Conductivity µmhos (mmhos)	32.2	30.2	33.1	31.8	32.5	33.5
(initials) Measured by:	DN	DN	DN	DN	DN	MF
(initials) Recorded by:	DN	(DN) DN	DN	DN	DN	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	8.5	8.4	8.5	8.4	8.2
Temperature °C	24.8	24.2	~~25.8~~ (A) 24.5	24.0	24.7	24.2
Dissolved Oxygen mg/L	6.9	6.4	5.6	6.2	6.0	6.0
Conductivity µmhos (mmhos)	32.2	30.0	33.1	32.0	33.3	34.1
(initials) Measured by:	DN	DN	DN	DN	DN	MF
(initials) Recorded by:	DN	(DN) DN	DN	DN	DN	MF

Comments: (A) 24.5

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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[redacted]

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

Facility: District II WWTF

Sample Collection: Date: 10-25-04 Time: 0500

Hold Time Start: Date: 10-25-04 Time: 1120

LIMS Job #: TLH-2004-10-26-66 **LIMS Sample #:** 791167

Sample: 2 of 4

Lims Data Entry: MF 11-5-04
Instructions (for below): Circle appropriate wording. If yes is circled complete blanks.

Data Entry Verification: 11-5-04 DN

SOP#07_03/04

Comments: Sample salinity adjusted from <1 ppth to ~20 ppth with Forty fathoms Artificial Seasalts per Permit requirement. MF 10-27-04

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

Test 2 validation:
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: <1 Final Salinity: ~20ppt (Salts) Hypersaline brine
Salinity adjusted (Test 2): (yes) no Initial Salinity: <1 Final Salinity: ~20ppt (Salts) Hypersaline brine
Dechlorination: yes (no) Sodium Thiosulfate added: ml/L

Water Quality Parameters	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl2 (mg/L):	Not measured		~~SP~~	MF
Lab Total Residual Cl2 (mg/L):	<0.03	HACH	SP	MF
Alkalinity (mg/L as $CaCO_3$):	267	HACH	SP	MF
Hardness (mg/L as $CaCO_3$):	230	HACH	SP	MF
Total Ammonia (mg/L as N):	<0.051	DENVER	DN	MF
Salinity (ppt):	<1	YSI	MF	DN

[redacted]

FDEP Biology Section - - Bioassay Bench Sheet

Survival

LIMS Sample #: 791167 Test #: 1 Test Started: Date 10/26/04 Time: 1315

Organism: A. bahia Test Ended: Date 10/31/04 Time: 1030

Organism Batch: 290 Diluent/ Batch: ASW / 49/50

Organism Age: 3dys Food: YCT *P. subcapitata* Artemia

Chamber Size 1000 mL Batch: ___ ___ 0194026

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	A9	5	5	5	5	5	5
	B	A10	5	5	5	5	5	5
	C	A11	5	5	4 10	4	4	4
	D	A12	5	5	5	5	5	5
Salt CTRL	A	G13	5	5	5	5	5	5
	B	G14	5	5	4 10	4	4	4
	C	G15	5	5	5	5	5	5
	D	G16	5	5	5	5	5	5
100%	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	4 10	4	4	4	4
Organisms loaded by: JD		Checked by:	JD	JD	JD	MF	JD	MF
Loading Verified by: PN		(initials)						

Comments:

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

Test Results:

% mortality in 100% sample 5

LC_{50}: >100 If Calculated: 95% CI ___ Method: ___

Screening Tests: Report LC50 as >100%, =100%, or <100%.

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

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FDEP Biology Section - - Bioassay Bench Sheet

Survival

LIMS Sample #: 791167 Test #: 2 Test Started: Date 10/26/04 Time: 1315 (2 MF time error)

Organism: M. beryllina Test Ended: Date 10/31/04 Time: 1035

Organism Batch: 32 Diluent/ Batch: ASW 1 49/50

Organism Age: 13 dys Food: YCT *P. subcapitata* Artemia

Chamber Size 1000 mL Batch: ___ ___ 0194025G

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	A17	5	4[1]	4	4	4	4
	B	A18	5	4[1]	4	4	4	4
	C	A19	5	5	5	5	5	5
	D	A20	5	5	5	5	5	5
Salt CTRL	A	G17	5	5	5	5	5	5
	B	G18	5	5	5	5	5	5
	C	G19	5	5	5	5	5	5
	D	G20	5	5	5	5	5	5
100 %	A	A21	5	5	5	5	5	5
	B	A22	5	5	5	5	4[1]	4
	C	A23	5	5	5	5	5	5
	D	A24	5	5	5	5	5	5
Organisms loaded by: JD		Checked by:	JD	JD	JD	MF	JD	MF
Loading Verified by: DN		(initials)						

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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Bioassay Parameters

LIMS Sample # : 791167 **Test # :** 1 **of** 2

TEST SOP: TA07_ 03 **Test Species:** *Ceriodaphnia dubia Cyprinella leedsi Pimephales promelas Americamysis bahia Menidia beryllina* Other:_____

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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.)	8.5	8.4	8.4	8.5	8.4	8.3
Temperature °C	24.6	25.7	25.2	24.0	24.0	24.0
Dissolved Oxygen mg/L	6.7	5.4	6.0	5.5	6.2	6.3
Conductivity µmhos (mmhos)	31.1	28.8	33.5	32.2	33.2	33.7
(initials) Measured by:	DN	DN	DN	DN	DN	MF
(initials) Recorded by:	DN	RW DN	DN	DN	DN	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.)	8.2	8.3	8.3	8.2	8.2	8.2
Temperature °C	24.6	24.3	24.8	24.6	24.1	24.7
Dissolved Oxygen mg/L	6.9	5.9	6.1	5.6	5.6	5.8
Conductivity µmhos (mmhos)	32.1	29.8	33.3	32.0	32.5	33.6
(initials) Measured by:	DN	DN	DN	DN	DN	MF
(initials) Recorded by:	DN	RW DN	DN	DN	DN	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	8.5	8.4	8.5	8.4	8.2
Temperature °C	24.8	25.3	24.6	24.3	24.2	24.6
Dissolved Oxygen mg/L	6.8	5.9	6.0	5.5	5.7	6.0
Conductivity µmhos (mmhos)	32.3	29.8	33.7	32.2	33.3	33.7
(initials) Measured by:	DN	DN	DN	DN	DN	MF
(initials) Recorded by:	DN	RW DN	DN	DN	DN	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.1 2/24/04

[redacted]

Bioassay Parameters

LIMS Sample # : 791167 Test # : 2 of 2

TEST SOP: TA07_ 04 Test Species: *Ceriodaphnia dubia* *Cyprinella leedsi* *Pimephales promelas*

V.1 2/24/04 *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.)	8.5	8.5	8.4	8.5	8.4	8.3
Temperature °C	24.6	24.4	24.2	24.1	24.1	24.3
Dissolved Oxygen mg/L	6.8	6.4	6.0	5.8	6.2	5.9
Conductivity µmhos (mmhos)	31.4	29.2	32.5	32.3	33.8	33.8
(initials) Measured by:	DN	DN	DN	DN	DN	MF
(initials) Recorded by:	IDN	EW/DN	DN	DN	DN	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.)	8.2	8.3	8.3	8.2	8.2	8.3
Temperature °C	24.6	25.7	24.3	24.0	24.5	25.0
Dissolved Oxygen mg/L	6.9	5.6	5.6	5.9	5.6	6.0
Conductivity µmhos (mmhos)	32.0	30.1	34.0	32.3	32.6	33.2
(initials) Measured by:	DN	DN	DN	DN	DN	MF
(initials) Recorded by:	IDN	EW/DN	DN	DN	DN	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	8.5	8.4	8.5	8.4	8.3
Temperature °C	24.7	24.2	24.6	24.1	24.4	24.6
Dissolved Oxygen mg/L	6.8	6.4	6.1	5.8	5.9	6.1
Conductivity µmhos (mmhos)	32.3	30.0	34.3	32.6	33.2	33.5
(initials) Measured by:	DN	DN	DN		DN	MF
(initials) Recorded by:	IDN	EW/DN	DN	DN	DN	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:	DN					
(initials) Recorded by:	IDN					

Comments:

V.1 2/24/04

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

Facility: District II WWTF

Sample Collection: Date: 10-25-04 Time: 1120

Hold Time Start: Date: 10-25-04 Time: 1120

LIMS Job #: TLH-2004-10-26-66 **LIMS Sample #:** 79168 **Sample:** 3 of 4

Lims Data Entry: MF 11-5-04
Instructions (for below): Circle appropriate wording. If yes is circled complete blanks.

Data Entry Verification: 11-5-04 DN

SOP #07_03/04

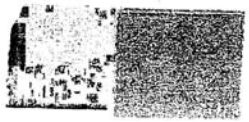
Comments: Sample salinity adjust from <1 ppth to ~20 ppth with Forty Fathoms artificial Seasalts per permit requirements. MF 10-27-04

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

Test 2 validation:
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: <1 Final Salinity: ~20ppth (Salts) Hypersaline brine
Salinity adjusted (Test 2): (yes) no Initial Salinity: <1 Final Salinity: ~20ppth (Salts) Hypersaline brine
Dechlorination: yes (no) Sodium Thiosulfate added: ml/L

Water Quality Parameters	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl2 (mg/L):	Not Measured			MF
Lab Total Residual Cl2 (mg/L):	<0.03	HACH	SP	MF
Alkalinity (mg/L as $CaCO_3$):	277	HACH	SP	MF
Hardness (mg/L as $CaCO_3$):	230	HACH	SP	MF
Total Ammonia (mg/L as N):	<0.051	DENVER	DN	MF
Salinity (ppt):	<1	YSI	MF	DN



FDEP Biology Section - - Bioassay Bench Sheet
Survival

LIMS Sample #: 791168 (791166 D.N.) Test #: 1 Test Started: Date 10/26/04 Time: 1320
Organism: A. bahia Test Ended: Date 10/30/04 Time: 1040
Organism Batch: 290 Diluent/ Batch: ASW / 49/50
Organism Age: 3 dys Food: YCT *P. subcapitata* (Artemia 0194025G)
Chamber Size 1000 mL Batch: ___ ___
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	5	5
	B	B2	5	5	5	5	5	5
	C	B3	5	5	5	5	5	5
	D	B4	5	5	5	5	5	5
Salt CTRL	A	C17	5	5	5	5	5	5
	B	C18	5	5	5	5	5	5
	C	C19	5	5	5	5	5	5
	D	C20	5	4[10]	4	4	4	4
100%	A	B5	5	5	5	5	5	5
	B	B6	5	5	5	5	5	5
	C	B7	5	5	5	5	5	5
	D	B8	5	4[10]	4	4	4	4

Organisms loaded by: JD Checked by: JD JO MF MF JD MF
Loading Verified by: (initials)
Comments:

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

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

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

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FDEP Biology Section - - Bioassay Bench Sheet

Survival

LIMS Sample #: 791168 Test #: 2 Test Started: Date 10/26/04 Time: 1330

Organism: M. beryllina Test Ended: Date 10/30/04 Time: 1045

Organism Batch: 32 Diluent/ Batch: ACW1 49/50

Organism Age: 13 dys Food: YCT P. subcapitata Artemia

Chamber Size 1000 mL Batch: ___ ___ 01940256

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	B9	5	5	5	5	5	5
	B	B10	5	5	5	5	5	5
	C	B11	5	5	5	5	5	5
	D	B12	5	5	5	5	5	5
Salt CTRL	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	~~4 1D~~ (A) 5	5	5	5	5
100%	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	~~4 1D~~ (B) 5	5	5	5	5
Organisms loaded by: JO Loading Verified by: SP		Checked by: (initials)	JO	JO	MF	MF	JO	MF

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

Comments: A+B Transcription error

Test Results:

% mortality in 100% sample 0

LC_{50}: >100 If Calculated: 95% CI ____________ Method: ____________

Screening Tests: Report LC50 as >100%, =100%, or <100%.

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

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Bioassay Parameters

LIMS Sample # : 791168 Test # : 1 of 2

TEST SOP: TA07_ 03 Test Species: *Ceriodaphnia dubia* *Cyprinella leedsi* *Pimephales promelas* *Americamysis bahia* *Menidia beryllina* Other:

V.1 2/24/04

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.)	8.5	8.4	8.3	8.5	8.4	8.3
Temperature °C	24.7	24.2	24.1	24.5	24.3	25.1
Dissolved Oxygen mg/L	6.9	5.4	(B) ~~6.7~~	6.1	6.1	5.3
Conductivity µmhos (mmhos)	31.8	29.6	33.2	32.6	33.9	35.2
(initials) Measured by:	DN	DN	DN	DN	DN	MF
(initials) Recorded by:	DN	(DN)	DN	DN	DN	MF

Comments: DN (B) 6.1 = D.O @ 48 Hr. DN 10/25/04

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.)	8.1	8.2	8.3	8.2	8.2	8.3
Temperature °C	24.8	24.2	24.0	24.6	24.3	24.0
Dissolved Oxygen mg/L	(A) ~~7.0~~	5.6	(B) ~~6.2~~	6.0	4.9	5.6
Conductivity µmhos (mmhos)	32.0	30.2	33.4	31.8	32.3	33.0
(initials) Measured by:	DN	DN	DN	DN	DN	MF
(initials) Recorded by:	DN	(DN)	DN	DN	DN	MF

Comments: (A) Temp recorded in D.O. cell, D.O. = 6.9 mg/L for 0 Hr, Rep A. D.N. 10/26/04.

(B) D.O. = 5.6 @ 48 Hr. DN 10/28/04

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	8.5	8.4	8.3
Temperature °C	24.8	24.6	24.1	24.2	24.2	24.0
Dissolved Oxygen mg/L	6.9	5.5	(B) ~~6.7~~	6.0	5.3	5.6
Conductivity µmhos (mmhos)	32.2	29.8	34.2	32.6	33.2	33.3
(initials) Measured by:	DN	DN	DN	DN	DN	MF
(initials) Recorded by:	DN	(DN)	DN	DN	DN	MF

Comments: DN (B) D.O. = 6.1 @ 48 Hr. DN 10/28/04

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.1 2/24/04

Bioassay Parameters

LIMS Sample # : 791168 **Test # :** 2 of 2

TEST SOP: TA07_ 04 **Test Species:** *Ceriodaphnia dubia Cyprinella leedsi Pimephales promelas Americamysis bahia Menidia beryllina* Other:_____

V.1 2/24/04

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.)	8.5	8.5	8.3	8.4	8.4	8.4
Temperature °C	24.9	24.0	24.6	24.2	25.2	24.2
Dissolved Oxygen mg/L	6.8	6.0	6.0	5.7	6.1	5.4
Conductivity µmhos mmhos	32.0	29.7	33.9	32.8	34.3	34.1
(initials) Measured by:	DN	DN	DN	DN	DN	MF
(initials) Recorded by:	DN	RW/DN	DN	DN	DN	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.)	8.1	8.2	8.4	8.2	8.2	8.3
Temperature °C	24.8	25.0	24.1	24.7	24.5	24.3
Dissolved Oxygen mg/L	6.8	5.8	5.7	6.0	5.9	6.0
Conductivity µmhos mmhos	32.1	30.1	33.8	31.8	32.1	33.9
(initials) Measured by:	DN	DN	DN	DN	DN	MF
(initials) Recorded by:	DN	RW/DN	DN	DN	DN	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	8.5	8.3	8.5	8.4	8.3
Temperature °C	24.8	24.5	24.1	24.3	24.5	25.4
Dissolved Oxygen mg/L	6.8	6.2	6.0	5.9	6.0	6.0
Conductivity µmhos mmhos	32.3	30.0	33.5	32.2	33.0	33.3
(initials) Measured by:	DN	DN	DN	DN	DN	MF
(initials) Recorded by:	DN	RW/DN	DN	DN	DN	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.1 2/24/04

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

Facility: District II WWTF

Sample Collection: Date: 10-24-04 Time: 1700

Hold Time Start: Date: 10-25-04 Time: 1120

Sample: 4 of 4

LIMS Job #: TLH-2004-10-26-66 **LIMS Sample #:** 791165

Lims Data Entry: MF 11-5-04

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

Data Entry Verification: 11-5-04 DN

SOP# 07_03/_04

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

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

Comments: Sample salted with 40 fathoms artificial seasalts to 20ppth (from <1ppth) per permit requirements. Sample aerated to reduce initial DO from 9.9mg/L, MF 10-27-04

Initial sample handling:

PH adjustment: yes (no) Initial pH NaOH N HCl N Drops mL Final pH

Aeration: (yes) no Initial DO: 9.9 mg/L Final DO: 7.1 mg/L Duration: 20 minutes Rate: ~100 bubbles/min

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

Salinity adjusted (Test 2): (yes) no Initial Salinity: <1 Final Salinity: ~20 (Salts) Hypersaline brine

Dechlorination: yes (no) Sodium Thiosulfate added: ml/L

Water Quality Parameters	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl2 (mg/L):	Not measured		—	MF
Lab Total Residual Cl2 (mg/L):	0.04	HACH	SP	MF
Alkalinity (mg/L as $CaCO_3$):	276	HACH	SP	MF
Hardness (mg/L as $CaCO_3$):	222	HACH	SP	MF
Total Ammonia (mg/L as N):	<0.051	DENVER	DN	MF
Salinity (ppt):	<1	YSI	MF	DN

FDEP Biology Section - - Bioassay Bench Sheet

Survival

LIMS Sample #: 791165 Test #: 1 Test Started: Date 10/26/04 Time: 1340

Organism: A. bahia Test Ended: Date 10/30/04 Time: 1050

Organism Batch: 290 Diluent/ Batch: ASW 149/50

Organism Age: 3 dys Food: YCT *P. subcapitata* (*Artemia*)

Chamber Size 1000 mL Batch: ___ ___ ___

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	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
Salt 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	③ ✗ 4D	4	4	4	4
100 %	A	B21	5	② ✗ 4D	4	4	4	4
	B	B22	5	5	5	5	5	5
	C	B23	5	5	5	5	5	5
	D	B24	5	4D	4	4	4	4
Organisms loaded by: JD		Checked by: (initials)	JD	JD	MF	MF	JD	MF
Loading Verified by: SP								

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

Comments: ① + ② Transcription error

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 Bench Sheet

Survival

LIMS Sample #: 791165 Test #: 2 Test Started: Date 10/26/04 Time: 1355

Organism: M. beryllina Test Ended: Date 10/30/04 Time: 1055

Organism Batch: 32 Diluent/ Batch: ASW1 49/50

Organism Age: 13 dys Food: YCT *P. subcapitata* (Artemia)

Chamber Size 1000 mL Batch: ___ ___ ___

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	(D) ~~4~~ 5	5	5	5	5
	B	C2	5	(D) ~~4~~ 5	5	5	5	5
	C	C3	5	5	5	5	5	5
	D	C4	5	5	5	5	5	5
Salt CTRL	A	C5	5	5	5	5	5	5
	B	C6	5	5	5	5	5	5
	C	C7	5	5	5	5	5	5
	D	C8	5	5	5	5	5	5
100 %	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	MF	MF	JD	MF	
Loading Verified by:		(initials)						

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

Comments: (D) transcription error.

Test Results:

% mortality in 100% sample 0

LC_{50}: >100 If Calculated: 95% CI ___ Method: ___

Screening Tests: Report LC50 as >100%, =100%, or <100%.

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

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V.1 2/23/04

Bioassay Parameters

LIMS Sample # : 791165 **Test # :** 1 **of** 2

TEST SOP: TA07_ 03 **Test Species:** *Ceriodaphnia dubia Cyprinella leedsi Pimephales promelas Americamysis bahia Menidia beryllina* Other:_____

V.1 2/24/04

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.)	8.5	8.4	8.3	8.5	8.4	8.3
Temperature °C	24.9	24.5	24.0	24.5	24.2	25.3
Dissolved Oxygen mg/L	6.9	5.7	5.9	5.6	(A) 6.1	5.6
Conductivity µmhos (mmhos)	31.4	29.6	32.8	32.5	33.6	34.3
(initials) Measured by:	SD/DN	DN	DN	DN	DN	MF
(initials) Recorded by:	SD/DN	RW/DN	DN	DN	DN	MF

Comments:

(A) Rechecked D.O. for CTRL and Salt CTRL @ 72 Hr and measured 6.1 mg/L . D.N. 10/26/04

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.)	8.3	8.3	8.4	8.2	8.2	8.3
Temperature °C	24.7	24.2	24.6	24.7	24.5	25.6
Dissolved Oxygen mg/L	7.1	5.8	5.5	6.0	5.6	6.0
Conductivity µmhos (mmhos)	32.1	29.8	32.9	31.6	32.6	32.7
(initials) Measured by:	SD/DN	DN	DN	DN	DN	MF
(initials) Recorded by:	SD/DN	RW/DN	DN	DN	DN	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	8.4	8.4	8.5	8.4	8.3
Temperature °C	24.9	24.7	24.2	24.2	24.3	24.0
Dissolved Oxygen mg/L	6.9	5.7	5.8	5.6	6.1	5.9
Conductivity µmhos (mmhos)	32.1	29.9	33.0	32.2	33.5	35.0
(initials) Measured by:	SD/DN	DN	DN	DN	DN	MF
(initials) Recorded by:	SD/DN	RW/DN	DN	DN	DN	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:	DN					
(initials) Recorded by:	/DN					

Comments:

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Bioassay Parameters

LIMS Sample # : 791165 **Test # :** 2 of 2

TEST SOP: TA07_ 04 **Test Species:** *Ceriodaphnia dubia* *Cyprinella leedsi* *Pimephales promelas* *Americamysis bahia* *Menidia beryllina* Other:

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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.)	8.5	8.5	8.4	8.5	7.9	8.4
Temperature °C	24.9	24.1	24.3	24.1	24.3	24.0
Dissolved Oxygen mg/L	6.9	6.4	5.8	6.2	6.4	5.9
Conductivity µmhos (mmhos)	31.9	29.2	33.1	32.5	34.2	34.4
(initials) Measured by:	DN	DN	DN	DN	DN	MF
(initials) Recorded by:	DN	DN/DN	DN	DN	DN	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.)	8.3	8.1	8.4	8.3	7.9	8.3
Temperature °C	24.6	24.7	24.3	24.6	24.0	24.2
Dissolved Oxygen mg/L	7.1	6.0	5.6	6.4	6.0	6.0
Conductivity µmhos (mmhos)	32.1	29.9	33.1	31.6	32.9	33.5
(initials) Measured by:	DN	DN	DN	DN	DN	MF
(initials) Recorded by:	DN	DN/DN	DN	DN	DN	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	8.5	8.4	8.4	(A)	8.3
Temperature °C	24.9	24.7	24.5	24.2	24.3	25.0
Dissolved Oxygen mg/L	6.9	6.4	5.8	6.3	6.2	6.1
Conductivity µmhos (mmhos)	32.3	30.0	33.3	32.3	33.6	34.1
(initials) Measured by:	DN/DN	DN	DN	DN	DN	MF
(initials) Recorded by:	DN/DN	DN/DN	DN	DN	DN	MF

Comments: (A) pH @ 72 hr not taken due to technician error. D.N. 11/15/04.

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.1 2/24/04

Appendix 2. Chemical Analyses performed on the effluent from the JEA District IIWWTF Outfall D-001, sampled on October 24-25, 2004.

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
10/25/2004 11:20	FINAL EFFLUENT	Bio-AGP/LimNut	Algal Growth Potential	195	mg DryWt/L		0.3	0.9
10/25/2004 11:20	FINAL EFFLUENT	Bio-AGP/LimNut	Algal Growth Potential-Salinity Adjusted	114	mg DryWt/L		0.3	0.9
10/25/2004 11:20	FINAL EFFLUENT	Bio-BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	No Result	mg/L			
10/25/2004 11:20	FINAL EFFLUENT	Bio-Chl-a	Chlorophyll-A, Monochromatic, Water	0.85	ug/L	U	0.85	2.6
10/25/2004 11:20	FINAL EFFLUENT	Bio-Chl-a	Phaeophytin-A, Monochromatic, Water	0.85	ug/L	U	0.85	2.6
10/24/2004 17:00	FINAL EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	100	LC50	L		
10/24/2004 17:00	FINAL EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	100	LC50	L		
10/24/2004 23:00	FINAL EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	100	LC50	L		
10/24/2004 23:00	FINAL EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	100	LC50	L		
10/25/2004 5:00	FINAL EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	100	LC50	L		
10/25/2004 5:00	FINAL EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	100	LC50	L		
10/25/2004 11:20	FINAL EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	100	LC50	L		
10/25/2004 11:20	FINAL EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	100	LC50	L		
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	1,2,4-Trichlorobenzene	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	1,2-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	1,3-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	1,4-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	2,4,6-Trichlorophenol	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	2,4-Dichlorophenol	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	2,4-Dimethylphenol	48	ug/L	U	48	190
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	2,4-Dinitrophenol	14	ug/L	U	14	58
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	2,4-Dinitrotoluene	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	2,6-Dinitrotoluene	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	2-Chloronaphthalene	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	2-Chlorophenol	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	2-Methyl-4,6-dinitrophenol	2.9	ug/L	U	2.9	12
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	2-Nitrophenol	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	3,3'-Dichlorobenzidine	38	ug/L	U	38	150
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	4,4'-DDD	1.4	ug/L	U	1.4	5.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	4,4'-DDE	1.4	ug/L	U	1.4	5.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	4,4'-DDT	1.4	ug/L	U	1.4	5.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	4-Bromophenyl phenyl ether	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	4-Chloro-3-methylphenol	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	4-Chlorophenyl phenyl ether	1.9	ug/L	U	1.9	7.7
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	4-Nitrophenol	14	ug/L	U	14	58
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Acenaphthene	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Acenaphthylene	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Aldrin	1.4	ug/L	U	1.4	5.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Anthracene	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Benzidine	96	ug/L	U	96	380
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Benzo(a)anthracene	0.96	ug/L	U	0.96	3.8

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Benzo(a)pyrene	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Benzo(b)fluoranthene	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Benzo(g,h,i)perylene	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Benzo(k)fluoranthene	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Bis(2-chloroethoxy)methane	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Bis(2-chloroethyl)ether	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Bis(2-chloroisopropyl)ether	2.9	ug/L	U	2.9	12
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Bis(2-ethylhexyl)phthalate	14	ug/L	U	14	58
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Butyl benzyl phthalate	4.8	ug/L	U	4.8	19
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Chrysene	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Di-n-butyl phthalate	4.8	ug/L	U	4.8	19
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Di-n-octyl phthalate	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Dibenzo(a,h)anthracene	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Dieldrin	1.4	ug/L	U	1.4	5.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Diethyl phthalate	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Dimethyl phthalate	48	ug/L	U	48	190
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Endosulfan I	3.8	ug/L	U	3.8	15
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Endosulfan II	3.8	ug/L	U	3.8	15
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Endosulfan sulfate	1.4	ug/L	U	1.4	5.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Endrin	1.4	ug/L	UJ	1.4	5.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Endrin aldehyde	3.8	ug/L	U	3.8	15
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Fluoranthene	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Fluorene	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Heptachlor	1.4	ug/L	U	1.4	5.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Heptachlor epoxide	1.4	ug/L	U	1.4	5.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Hexachlorobenzene	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Hexachlorobutadiene	2.9	ug/L	U	2.9	12
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Hexachlorocyclopentadiene	2.9	ug/L	U	2.9	12
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Hexachloroethane	2.9	ug/L	U	2.9	12
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Indeno(1,2,3-cd)pyrene	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Isophorone	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	N-Nitrosodi-n-propylamine	1.9	ug/L	U	1.9	7.7
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	N-Nitrosodimethylamine	1.9	ug/L	U	1.9	7.7
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	N-Nitrosodiphenylamine	2.9	ug/L	U	2.9	12
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Naphthalene	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Nitrobenzene	1.9	ug/L	U	1.9	7.7
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Pentachlorophenol	2.9	ug/L	U	2.9	12
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Phenanthrene	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Phenol	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	Pyrene	0.96	ug/L	U	0.96	3.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	alpha-BHC	1.4	ug/L	U	1.4	5.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	beta-BHC	1.4	ug/L	U	1.4	5.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	delta-BHC	1.4	ug/L	U	1.4	5.8
10/25/2004 10:55	EQUIPMENT BLANK	BNA-Water	gamma-BHC	1.4	ug/L	U	1.4	5.8

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	1,2,4-Trichlorobenzene	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	1,2-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	1,3-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	1,4-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	2,4,6-Trichlorophenol	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	2,4-Dichlorophenol	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	2,4-Dimethylphenol	48	ug/L	U	48	190
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	2,4-Dinitrophenol	14	ug/L	U	14	58
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	2,4-Dinitrotoluene	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	2,6-Dinitrotoluene	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	2-Chloronaphthalene	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	2-Chlorophenol	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	2-Methyl-4,6-dinitrophenol	2.9	ug/L	U	2.9	12
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	2-Nitrophenol	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	3,3'-Dichlorobenzidine	38	ug/L	U	38	150
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	4,4'-DDD	1.4	ug/L	U	1.4	5.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	4,4'-DDE	1.4	ug/L	U	1.4	5.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	4,4'-DDT	1.4	ug/L	U	1.4	5.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	4-Bromophenyl phenyl ether	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	4-Chloro-3-methylphenol	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	4-Chlorophenyl phenyl ether	1.9	ug/L	U	1.9	7.7
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	4-Nitrophenol	14	ug/L	U	14	58
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Acenaphthene	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Acenaphthylene	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Aldrin	1.4	ug/L	U	1.4	5.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Anthracene	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Benzidine	96	ug/L	U	96	380
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Benzo(a)anthracene	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Benzo(a)pyrene	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Benzo(b)fluoranthene	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Benzo(g,h,i)perylene	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Benzo(k)fluoranthene	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Bis(2-chloroethoxy)methane	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Bis(2-chloroethyl)ether	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Bis(2-chloroisopropyl)ether	2.9	ug/L	U	2.9	12
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Bis(2-ethylhexyl)phthalate	14	ug/L	U	14	58
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Butyl benzyl phthalate	4.8	ug/L	U	4.8	19
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Chrysene	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Di-n-butyl phthalate	4.8	ug/L	U	4.8	19
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Di-n-octyl phthalate	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Dibenzo(a,h)anthracene	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Dieldrin	1.4	ug/L	U	1.4	5.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Diethyl phthalate	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Dimethyl phthalate	48	ug/L	U	48	190

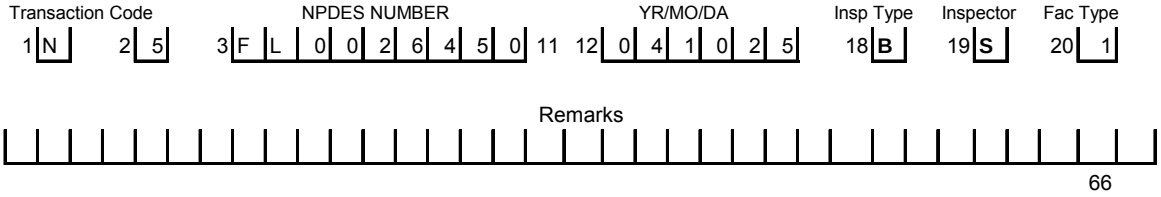
Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Endosulfan I	3.8	ug/L	U	3.8	15
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Endosulfan II	3.8	ug/L	U	3.8	15
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Endosulfan sulfate	1.4	ug/L	U	1.4	5.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Endrin	1.4	ug/L	UJ	1.4	5.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Endrin aldehyde	3.8	ug/L	U	3.8	15
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Fluoranthene	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Fluorene	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Heptachlor	1.4	ug/L	U	1.4	5.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Heptachlor epoxide	1.4	ug/L	U	1.4	5.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Hexachlorobenzene	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Hexachlorobutadiene	2.9	ug/L	U	2.9	12
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Hexachlorocyclopentadiene	2.9	ug/L	U	2.9	12
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Hexachloroethane	2.9	ug/L	U	2.9	12
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Indeno(1,2,3-cd)pyrene	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Isophorone	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	N-Nitrosodi-n-propylamine	1.9	ug/L	U	1.9	7.7
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	N-Nitrosodimethylamine	1.9	ug/L	U	1.9	7.7
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	N-Nitrosodiphenylamine	2.9	ug/L	U	2.9	12
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Naphthalene	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Nitrobenzene	1.9	ug/L	U	1.9	7.7
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Pentachlorophenol	2.9	ug/L	U	2.9	12
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Phenanthrene	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Phenol	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	Pyrene	0.96	ug/L	U	0.96	3.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	alpha-BHC	1.4	ug/L	U	1.4	5.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	beta-BHC	1.4	ug/L	U	1.4	5.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	delta-BHC	1.4	ug/L	U	1.4	5.8
10/25/2004 11:20	FINAL EFFLUENT	BNA-Water	gamma-BHC	1.4	ug/L	U	1.4	5.8
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Alachlor	0.58	ug/L	U	0.58	2.3
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Ametryn	0.048	ug/L	U	0.048	0.19
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Atrazine	0.048	ug/L	U	0.048	0.19
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Azinphos Methyl	0.048	ug/L	U	0.048	0.19
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Bromacil	0.19	ug/L	U	0.19	0.76
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Butylate	0.19	ug/L	U	0.19	0.76
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Chlorpyrifos Ethyl	0.048	ug/L	U	0.048	0.19
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Chlorpyrifos Methyl	0.096	ug/L	U	0.096	0.38
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Diazinon	0.048	ug/L	U	0.048	0.19
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Ethion	0.048	ug/L	U	0.048	0.19
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Ethoprop	0.096	ug/L	U	0.096	0.38
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Fenamiphos	0.19	ug/L	U	0.19	0.76
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Fonofos	0.096	ug/L	UJ	0.096	0.38
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Hexazinone	0.096	ug/L	U	0.096	0.38
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Malathion	0.14	ug/L	U	0.14	0.56
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Metalaxyl	0.24	ug/L	U	0.24	0.96

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Metolachlor	0.48	ug/L	U	0.48	1.9
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Metribuzin	0.096	ug/L	U	0.096	0.38
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Mevinphos	0.19	ug/L	U	0.19	0.76
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Naled	0.77	ug/L	UJ	0.77	3.1
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Norflurazon	0.096	ug/L	U	0.096	0.38
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Parathion Ethyl	0.14	ug/L	UJ	0.14	0.56
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Parathion Methyl	0.096	ug/L	U	0.096	0.38
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Phorate	0.048	ug/L	U	0.048	0.19
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Prometryn	0.14	ug/L	U	0.14	0.56
10/25/2004 10:55	EQUIPMENT BLANK	GC-Water	Simazine	0.048	ug/L	U	0.048	0.19
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Alachlor	0.58	ug/L	U	0.58	2.3
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Ametryn	0.049	ug/L	U	0.049	0.2
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Atrazine	0.063	ug/L	I	0.049	0.2
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Azinphos Methyl	0.049	ug/L	U	0.049	0.2
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Bromacil	0.19	ug/L	U	0.19	0.76
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Butylate	0.19	ug/L	U	0.19	0.76
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Chlorpyrifos Ethyl	0.049	ug/L	U	0.049	0.2
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Chlorpyrifos Methyl	0.097	ug/L	U	0.097	0.39
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Diazinon	0.049	ug/L	U	0.049	0.2
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Ethion	0.049	ug/L	U	0.049	0.2
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Ethoprop	0.097	ug/L	U	0.097	0.39
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Fenamiphos	0.19	ug/L	U	0.19	0.76
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Fonofos	0.097	ug/L	UJ	0.097	0.39
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Hexazinone	0.097	ug/L	U	0.097	0.39
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Malathion	0.15	ug/L	U	0.15	0.6
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Metalaxyl	0.24	ug/L	U	0.24	0.96
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Metolachlor	0.49	ug/L	U	0.49	2
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Metribuzin	0.097	ug/L	U	0.097	0.39
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Mevinphos	0.19	ug/L	U	0.19	0.76
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Naled	0.78	ug/L	UJ	0.78	3.1
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Norflurazon	0.097	ug/L	U	0.097	0.39
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Parathion Ethyl	0.15	ug/L	UJ	0.15	0.6
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Parathion Methyl	0.097	ug/L	U	0.097	0.39
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Phorate	0.049	ug/L	U	0.049	0.2
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Prometryn	0.15	ug/L	U	0.15	0.6
10/25/2004 11:20	FINAL EFFLUENT	GC-Water	Simazine	0.049	ug/L	U	0.049	0.2
10/25/2004 10:55	EQUIPMENT BLANK	Metals-Water	Aluminum	5	ug/L	U	5	20
10/25/2004 10:55	EQUIPMENT BLANK	Metals-Water	Arsenic	6	ug/L	U	6	24
10/25/2004 10:55	EQUIPMENT BLANK	Metals-Water	Cadmium	0.075	ug/L	U	0.075	0.3
10/25/2004 10:55	EQUIPMENT BLANK	Metals-Water	Calcium	0.05	mg/L	U	0.05	0.2
10/25/2004 10:55	EQUIPMENT BLANK	Metals-Water	Chromium	2	ug/L	U	2	8
10/25/2004 10:55	EQUIPMENT BLANK	Metals-Water	Copper	0.75	ug/L	U	0.75	3
10/25/2004 10:55	EQUIPMENT BLANK	Metals-Water	Iron	10	ug/L	U	10	40
10/25/2004 10:55	EQUIPMENT BLANK	Metals-Water	Lead	0.075	ug/L	U	0.075	0.3

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
10/25/2004 10:55	EQUIPMENT BLANK	Metals-Water	Magnesium	0.02	mg/L	U	0.02	0.08
10/25/2004 10:55	EQUIPMENT BLANK	Metals-Water	Nickel	2	ug/L	U	2	8
10/25/2004 10:55	EQUIPMENT BLANK	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
10/25/2004 10:55	EQUIPMENT BLANK	Metals-Water	Silver	0.02	ug/L	U	0.02	0.08
10/25/2004 10:55	EQUIPMENT BLANK	Metals-Water	Zinc	8.4	ug/L	I	3	12
10/25/2004 11:20	FINAL EFFLUENT	Metals-Water	Aluminum	22	ug/L		5	20
10/25/2004 11:20	FINAL EFFLUENT	Metals-Water	Arsenic	6	ug/L	U	6	24
10/25/2004 11:20	FINAL EFFLUENT	Metals-Water	Cadmium	0.075	ug/L	U	0.075	0.3
10/25/2004 11:20	FINAL EFFLUENT	Metals-Water	Calcium	50.5	mg/L		0.05	0.2
10/25/2004 11:20	FINAL EFFLUENT	Metals-Water	Chromium	2	ug/L	U	2	8
10/25/2004 11:20	FINAL EFFLUENT	Metals-Water	Copper	2.2	ug/L	U	2.2	8.8
10/25/2004 11:20	FINAL EFFLUENT	Metals-Water	Iron	155	ug/L		10	40
10/25/2004 11:20	FINAL EFFLUENT	Metals-Water	Lead	0.18	ug/L	I	0.075	0.3
10/25/2004 11:20	FINAL EFFLUENT	Metals-Water	Magnesium	22.7	mg/L		0.02	0.08
10/25/2004 11:20	FINAL EFFLUENT	Metals-Water	Nickel	4	ug/L	I	2	8
10/25/2004 11:20	FINAL EFFLUENT	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
10/25/2004 11:20	FINAL EFFLUENT	Metals-Water	Silver	0.02	ug/L	U	0.02	0.08
10/25/2004 11:20	FINAL EFFLUENT	Metals-Water	Zinc	33	ug/L		3	12
10/25/2004 10:55	EQUIPMENT BLANK	Nutrients-Liquid	Ammonia-N	0.01	mg N/L	U	0.01	0.02
10/25/2004 10:55	EQUIPMENT BLANK	Nutrients-Liquid	Kjeldahl Nitrogen	0.06	mg N/L	U	0.06	0.2
10/25/2004 10:55	EQUIPMENT BLANK	Nutrients-Liquid	NO2NO3-N	0.004	mg N/L	U	0.004	0.01
10/25/2004 10:55	EQUIPMENT BLANK	Nutrients-Liquid	O-Phosphate-P	0.004	mg P/L	U	0.004	0.01
10/25/2004 10:55	EQUIPMENT BLANK	Nutrients-Liquid	Total-P	0.02	mg P/L	U	0.02	0.06
10/25/2004 11:20	FINAL EFFLUENT	Nutrients-Liquid	Ammonia-N	0.04	mg N/L	A	0.01	0.02
10/25/2004 11:20	FINAL EFFLUENT	Nutrients-Liquid	Kjeldahl Nitrogen	1.5	mg N/L		0.12	0.4
10/25/2004 11:20	FINAL EFFLUENT	Nutrients-Liquid	NO2NO3-N	13	mg N/L		0.4	1
10/25/2004 11:20	FINAL EFFLUENT	Nutrients-Liquid	O-Phosphate-P	6.6	mg P/L		0.4	1
10/25/2004 11:20	FINAL EFFLUENT	Nutrients-Liquid	TSS	4	mg/L	U	4	16
10/25/2004 11:20	FINAL EFFLUENT	Nutrients-Liquid	Total-P	7.2	mg P/L		0.4	1.2

The Bioassay of JEA District II effluent sampled on October 24-25, 2004, NPDES #FL0026450.

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



The Priority Pollutants Analysis for Bioassay of JEA District II effluent sampled on October 24-25, 2004, NPDES #FL0026450.

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

