

Bioassays of

Hollywood Southern Regional WWTF

Broward County

NPDES #FL0026255

Sampled October 31 – November 1, 2004

January 2005

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

Hollywood Southern Regional WWTF, City of Hollywood, 1621 North 14th Ave, Hollywood, Broward County, Florida, NPDES #FL0026255. Effluent samples for this facility were collected on October 31 - November 1, 2004.

Introduction

Hollywood Southern Regional Wastewater Treatment Facility has a design flow of 46.3 million gallons per day (MGD), an annual average daily flow (AADF) of 41.2 MGD (October 2003 - September 2004) for domestic discharge, and an AADF of 43.41 MGD (October 2003 - September 2004) for combined domestic and industrial discharge. The wastewater treatment system consists of mechanical bar screens, grit removal chambers, an influent pump station, an oxygenation system, clarifiers, and a chlorination system. The wastewater treatment system also includes an odor control system with scrubbers at the de-watering building, a residuals thickener facility, filter presses, and a lime-stabilization building. The facility doesn't actively dechlorinate the effluent but relies on chlorine dissipation as the effluent travels the 10,000 feet long outfall pipeline. Treated effluent from the facility is mixed, in a common mixing chamber, with treated effluents from both the Town of Davie WWTP and the Cooper City WWTP prior to entering the discharge pipeline. Combined effluent is discharged via an ocean outfall to the Class III waters of the Atlantic Ocean. The facility has a mixing zone, of 60 m^2 surface area, for total residual chlorine (TRC) chronic toxicity. The facility has additional mixing zones for iron, combined radium 226 and 228, and gross alpha activity, all of 853 m^2 surface area. The FDEP Water Facilities Database listed permit violations for TRC, flow, and total suspended solids (TSS). However, according to district personnel, TRC is currently a report only requirement, the flow limit was increased from 42 MGD AADF to 46.3 MGD AADF, thereby negating the violation, and TSS violations are being corrected via a consent decree requiring clarifier improvements (in progress).

The facility also has a 4.0 MGD AADF permitted capacity slow-rate public access land application system consisting of six (6) golf courses. The majority of the reuse water is taken from the influent (treated wastewater) from the Town of Davie WWTP and the Cooper City WWTP, resulting in very little wastewater from these two facilities in the ocean discharge stream (facility information provided by Mike Bechtold and Hubert Philoctete, FDEP Southeast District).

Methods

Bioassay grab samples were collected once every six hours for 24 hours and composite water chemistry samples were collected over that time period from the EFF-1 NPDES sampling point by Terry Davis (FDEP Southeast 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 toxicity tests and 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 salinity was adjusted from approximately three parts per thousand (ppth) to 22 ppth per permit conditions. The permit requires 96-hour definitive tests, but 96-hour acute tests using 30% sample concentration were run instead.

Toxicity Test Results

Tests were performed November 2-6, 2004.

Sample collected October 31, 2004, 1000 hours:

Americamysis bahia - 96-hr acute screening bioassay – LC_{50} > 30%, 5% mortality in 30% sample at 96 hours

Menidia beryllina - 96-hr acute screening bioassay – LC_{50} > 30%, 5% mortality in 30% sample at 96 hours

Sample collected October 31, 2004, 1555 hours:
Americamysis bahia - 96-hr acute screening bioassay – LC_{50} > 30%, 0% mortality in 30% sample at 96 hours

Menidia beryllina - 96-hr acute screening bioassay – LC_{50} > 30%, 5% mortality in 30% sample at 96 hours

Sample collected October 31, 2004, 2200 hours:
Americamysis bahia - 96-hr acute screening bioassay – LC_{50} > 30%, 0% mortality in 30% sample at 96 hours

Menidia beryllina - 96-hr acute screening bioassay – LC_{50} > 30%, 0% mortality in 30% sample at 96 hours

Sample collected November 1, 2004, 0400 hours:
Americamysis bahia - 96-hr acute screening bioassay – LC_{50} > 30%, 0% mortality in 30% sample at 96 hours

Menidia beryllina - 96-hr acute screening bioassay – LC_{50} > 30%, 0% mortality in 30% sample at 96 hours

Bioassay samples, at 30% concentration, 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 308 mg dry wt/L of *Dunaliella tertiolecta* (See Table 1 for AGP results and N:P ratios). 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).

Chemistry Results

Total residual chlorine (TRC) was detected in the field at 0.60, 0.58, 0.56, and 0.26 mg/L in the 100% concentration bioassay samples one through four, respectively (Table 2). TRC was also detected in the 100% bioassay samples received in the lab at 0.10, 0.09, 0.05, and 0.06 mg/L for samples one through four, respectively. These levels exceed the Class III Marine water quality criterion of 0.01 mg/L (62-302.530(19), F.A.C.). However, this facility has a mixing zone for TRC. TRC was not detected in any of the 30% diluted bioassay samples in the lab. Total ammonia was detected in the 100% concentration bioassay samples one through four in the laboratory, at 9.41, 14.2, 13.4, and 11.2 mg/L, respectively. Ammonia concentrations in the 30% diluted bioassay samples in the laboratory were 2.55, 3.30, 3.41, and 2.31 mg/L for samples one through four, respectively. The total ammonia concentration in the sample collected and preserved for chemical analysis was 14 mg/L. Based on the pH, salinity and temperature of the effluent as collected, the calculated unionized ammonia concentration was 0.039 mg/L.

Aluminum, silver, and zinc were detected in the effluent at levels that comply with Class III fresh water quality criteria. Copper, lead, and nickel were detected between the laboratory minimum detection limits (MDL) and practical quantitation limits (PQL). The effluent iron concentration (576 µg/L) exceeds the Class III Marine water quality criterion of 300 µg/L (62-302.530(39), F.A.C.). However, this facility has a mixing zone for iron.

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 EFF-1 for this facility on October 31-November 1, 2004, did not show acute toxicity to either test species during the 96-hour bioassays, at 30% effluent concentrations. The effluent AGP result exceeded the "problem" threshold for marine receiving waters. Total residual chlorine and iron concentrations in the effluent exceeded Class III Marine water quality criteria, but this facility has mixing zones for those constituents.

Table 1. Algal growth potential (AGP) of Dunaliella tertiolecta *for samples collected from the Hollywood Southern Regional WWTF on November 1, 2004.*

Location	AGP (measured)	Inorganic N:P ratio	Total N:P ratio
Effluent Samples	308	22.18	16.64

Table 2. Effluent limits, Class III Marine Criteria, and water quality data for samples collected from the Hollywood Southern Regional WWTF on November 1, 2004.

Hollywood Southern Regional WWTF	Class III Marine Standards	Effluent Limits	Effluent Composite Samples	Effluent Bioassay Sample 1	Effluent Bioassay Sample 2	Effluent Bioassay Sample 3	Effluent Bioassay Sample 4
Organic Constituents (µg/L)							
None Detected	-	-	-	-	-	-	-
Metals (µg/L unless otherwise noted)							
Aluminum	≤ 1500	-	47	-	-	-	-
Arsenic	≤ 50	-	22 U	-	-	-	-
Cadmium	≤ 9.3	-	0.075 U	-	-	-	-
Calcium (mg/L)	-	-	101	-	-	-	-
Chromium-III	-	-	2 U	-	-	-	-
Copper	≤ 3.7	≤ 2.9	2.8 I	-	-	-	-
Iron	≤ 300	*	576	-	-	-	-
Lead	≤ 8.5	-	0.28 I	-	-	-	-
Magnesium (mg/L)	-	-	83.1	-	-	-	-
Mercury	≤ 0.025	Report	0.12 U	-	-	-	-
Nickel	≤ 8.3	-	2.4 I	-	-	-	-
Selenium	≤ 71	-	0.5 U	-	-	-	-
Silver	≤ 2.3	≤ 2.3	0.092	-	-	-	-
Zinc	≤ 86	-	23	-	-	-	-
Nutrients (mg/L)							
Nitrate-N	-	-	0.43 AQ	-	-	-	-
Ortho-phosphate	-	-	0.66 Q	-	-	-	-
Total Phosphorus	-	Report	1 YQ	-	-	-	-
Ammonia	-	Report	14	-	-	-	-
Unionized Ammonia	-	-	0.039 c	-	-	-	-
Nitrate+Nitrite	-	Report	0.64	-	-	-	-
Total Kjeldahl Nitrogen	-	-	16 YQ	-	-	-	-
Organic Nitrogen	-	Report	2 c	-	-	-	-
Total Nitrogen	-	Report	16.64 c	-	-	-	-
General Physical and Chemical Parameters							
TSS (mg/L)	-	-	8 I	-	-	-	-
Cyanide (µg/L)	≤ 1.0	≤ 1.0	0.012 I	-	-	-	-
pH (S.U.)	6.5 - 8.5	6.0 - 8.5 s	-	6.5	6.63	6.62	6.78
Conductivity (umhos/cm)	-	-	-	5,856	4,718	-	-
Temperature (C)	-	-	-	28.85	29.5	27.7	27.9
CBOD (mg/L)	-	-	1.6 AQ	-	-	-	-
Hardness (mg/L)	-	-	594.4 c	-	-	-	-
Total Residual Chlorine (mg/L)	≤ 0.01	Report *	-	0.60	0.58	0.56	0.26

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

* Facility has mixing zones for iron and total residual chlorine

a - Annual average

c - calculated value

s - Single sample

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

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

Q - Sample held beyond normal holding time

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: Hollywood Southern Regional WWTF
Address: 1621 North 14th AVENUE
City: Hollywood **County:** Broward
Contact/District: Terry Davis – Hubert Philochete / Southeast
NPDES Permit #: FL 0026255
LIMS Job #: TLH-2004-11-02-07 **LIMS Sample #:** 79284/1

Sample Collection: Date: 10/~~07~~31/04 Time: ~~0400~~ 1000
Hold Time Start: Date: 11/01/04 Time: 0400
incorrect collection time recorded, corrected 11-4-04 MF
Sample: 1 of 4
Field ID 51-HW-1a
collected from 51-HW-1a

Comments: Control water is NSW diluted to 21.9 ppth salinity with well water MF 11-2-04
Sample run at 30% per Permit MF 11-2-04
Salinity of Sample adjusted by Dilution with NSW at 30.1 ppth salinity. MF 11/02/04
30% effluent concentration – test modified from definitive to screening TMF 11-2-04
11-2-04 Fish were loaded 10 per replicate rather than normal five, loader heard chronic rather than acute MF 11-2-04

Lims Data Entry: 11-10-04 MF
Data Entry Verification: 11/10/04 DN
Instructions (for below): Circle appropriate wording. If yes is circled complete blanks.
SOP# TA07 03/04 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 : (MF yes) (no) Initial DO: mg/L Final DO: mg/L Duration: minutes Rate: bubbles/min
Salinity adjusted (Test 1): (yes) no Initial Salinity: 3.1 Final Salinity: 22.0 Salts Hypersaline brine (Other)
Salinity adjusted (Test 2): (yes) no Initial Salinity: 3.1 Final Salinity: 22.0 Salts Hypersaline brine (Other)
Dechlorination: yes (no) mL of 0.025N Sodium Thiosulfate per liter of sample. Final TRC

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

Temperature Range °C
Incubator # 2 Range 25.8°C – 26.0°C
Room B246: 24.5°C - 24.8°C
Waterbath: N/A
Incubator #3 : 25.4°C - 25.5 °C

Investigators' Signatures
Christa Pegini
Sarah Pickard
Marshall Faircloth
Debra Nicholson
Robert Wharton
Nicole Wellenhoff
REVIEWER

(A) 100% sample for measurements – MF 11-15-04 (B) blended with NSW MF 11-15-04

Water Quality Parameters	20% DMW	Well Water	Salt Water ASW (NSW) Test 1	Salt Water ASW (NSW) Test 2	Moderately Hard Water	(A) Original Sample	Method	Measured by	Verified by	30% (B) Effluent
Field Total Residual Cl2 (mg/L):	N/A	N/A	N/A	N/A	N/A	0.60	—	T Davis	MF	Not measured
Lab Total Residual Cl2 (mg/L):			<0.03	<0.03		0.10	HACH	(R)	MF	<0.03
Alkalinity (mg/L as $CaCO_3$):			171	171		253	HACH	SP	DN	~~225~~ (C) 196
Hardness (mg/L as $CaCO_3$):			—	—		714	HACH	SP	DN	not measured
Total Ammonia (mg/L as N):			<0.068	<0.068		9.41	DENVER	DN	MF	2.55
Salinity (ppt):			21.9	21.9		3.1	YSI	MF	DN	22.0

(C) Calculated approximate value MF 11-15-04 corrected

V.2 2/26/04

FDEP Biology Section - - Bioassay Bench Sheet

Survival

LIMS Sample #: 792841 Test #: 1 Test Started: Date 11/02/04 Time: 1315

Organism: A. bahia Test Ended: Date 11-6-04 Time: 1030

Organism Batch: 297 Diluent/ Batch: NSW (A) ASW 1 1

Organism Age: 3 days Food: YCT P. subcapitata Artemia

Chamber Size 1000 mL Batch: 019404 25G

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

Concentration	Replicate	Chamber # (A)	0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
CTRL	A	A1 ~~C19~~ (DN)	5	5	5	5	5	5
	B	A2 ~~C20~~	5	5	5	5	5	5
	C	A3 ~~C21~~	5	5	5	5	5	5
	D	A4 ~~C22~~	5	5	5	5	5	5
30%	A	A5 ~~C23~~	5	5	5	5	5	5
	B	A6	5	5	4 (D)	4	4	4
	C	A7	5	5	5	5	5	5
	D	A8	5	5	5	5	5	5
Organisms loaded by: JD	Loading Verified by: SP	Checked by: (initials)	MF	JD	JD	MF	JD	MF

(A) wrong vessel # DN. 11/02/04

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

Comments: (A) NSW not ASW mf 11-4-04 (B) Tested at 30% concentration, mf 11-10-04

Test Results:

% mortality in 100% sample 5

LC_{50}: >100 30 (B) 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 #: 792841 **Test #:** 2 **Test Started: Date** 11/02/04 **Time:** 1340

Organism: M. beryllina **Test Ended: Date** 11/04/04 **Time:** 1030

Organism Batch: 33 **Diluent/ Batch:** ~~ASW~~ NSW (A) / 1

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

Chamber Size 1000 **mL** **Batch:** ___ ___ 01940425 G

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	10	10	10	10	10	10
	B	A10	10	10	10	10	10	10
	C	A11	10	10	10	10	10	10
	D	A12	10	10	10	10	10	10
30%	A	A13	10	10	9 10	(B) 9 ~~d~~ MF error	9	9
	B	A14	10	10	10	10	10	10
	C	A15	10	10	10	10	10	10
	D	A16	10	10	9 10	9	9	9
Organisms loaded by: JD		Checked by: (initials)	SA	JD	JD	MF	JD	MF

Loading Verified by: SA

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

Comments: (A) NSW NOT ASW MF 11-4-04 (B) D accidently written (repeating Before dead. MF 11-4-04 (C) Tested at 30% concentration MF 11-10-04

Test Results:

% mortality in 100% sample 5 %

LC_{50}: (C) > ~~100~~ 30 If Calculated: 95% CI ______ Method: ______

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

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

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Bioassay Parameters

LIMS Sample # : OM A 79284/ **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.)	8.1	8.1	7.9	8.2	8.0	7.8
Temperature °C	24.7	25.1	25.0	24.9	24.9	25.3
Dissolved Oxygen mg/L	7.2	6.9	5.3	6.2	6.5	5.0
Conductivity µmhos (mmhos)	34.6	35.0	34.7	34.0	34.8	35.6
(initials) Measured by:	MF	DN	MF	DN	DN	MF
(initials) Recorded by:	MF	DN	MF	DN	DN	MF

Comments:

Concentration 30%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	7.4	7.9	7.9	7.5	8.0	7.9
Temperature °C	24.5	25.0	25.0	25.1	25.9	25.1
Dissolved Oxygen mg/L	7.0	6.8	5.3	6.4	6.4	4.7
Conductivity µmhos (mmhos)	34.7	35.2	35.5	35.1	37.1	35.7
(initials) Measured by:	MF	DN	MF	DN	DN	MF
(initials) Recorded by:	MF	DN	MF	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:

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.1 2/24/04

Bioassay Parameters

LIMS Sample # : 792841 **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.)	8.1	8.0	8.0	8.2	7.9	7.7
Temperature °C	24.5	25.0	25.1	24.6	25.1	25.2
Dissolved Oxygen mg/L	7.1	6.2	5.5	6.3	5.7	4.8
Conductivity µmhos (mmhos)	34.7	34.3	34.8	34.0	35.0	36.2
(initials) Measured by:	MF	DN	MF	DN	DN	MF
(initials) Recorded by:	MF	DN	MF	DN	DN	MF

Comments:

Concentration 30%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	7.4	7.8	8.0	7.5	7.9	7.9
Temperature °C	24.4	25.1	24.9	24.9	24.7	25.6
Dissolved Oxygen mg/L	7.0	6.2	5.6	6.5	6.0	4.9
Conductivity µmhos (mmhos)	35.1	35.3	35.6	35.2	36.3	36.1
(initials) Measured by:	MF	DN	MF	DN	DN	MF
(initials) Recorded by:	MF	DN	MF	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:

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 Screen Bioassay Bench Sheets

Facility: Hollywood Southern Regional WWTF

Sample Collection: Date: 10-31-04 Time: 1555

Hold Time Start: Date: 11-01-04 Time: 0400

LIMS Job #: TLH-2004-11-02-07 **LIMS Sample #:** 792842

Sample: 2 of 4 Field ID S1-AW-1b collected from EFF-1

Lims Data Entry: 11-10-04 MF

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

Data Entry Verification: 10/11/04 DN

SOP# TA07 05/04

Comments: Control water is NSW diluted with well water to a salinity of 21.9 ppth. MF 11-2-04 Sample salinity adjusted by dilution with NSW of 30.1 ppth salinity. MF 11-2-04

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: 2.4 Final Salinity: 21.9 Salts Hypersaline brine (other)

Salinity adjusted (Test 2): (yes) no Initial Salinity: 2.4 Final Salinity: 21.9 Salts Hypersaline brine (other)

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

Water Quality Parameters	Original Sample	Method	Measured by	Verified by	30% Sample (A)
Field Total Residual Cl2 (mg/L):	0.58	—	T. Davis	MF	Not measured
Lab Total Residual Cl2 (mg/L):	0.09	HACH	[illegible]	MF	<0.03
Alkalinity (mg/L as $CaCO_3$):	253	HACH	SP	DN	~~225~~ (B) 196
Hardness (mg/L as $CaCO_3$):	5.76	HACH	SP	DN	Not measured
Total Ammonia (mg/L as N):	14.2	DENVER	DN	MF	3.30
Salinity (ppt):	2.4	YSI	MF	DN	21.9

(A) Blended with NSW MF 11-13-04

(B) Estimated Value MF 11-15-04 Corrected

FDEP Biology Section - - Bioassay Bench Sheet
Survival

LIMS Sample #: 792842 Test #: 1
Test Started: Date 11-2-04 Time: 1320
Organism: A. bahia
Test Ended: Date 11-6-04 Time: 1035
Organism Batch: 247 Diluent/ Batch: ~~ASW~~ NSW (A) 1 1
Organism Age: 3 days Food: YCT P. subcapitata Artemia
Chamber Size ~~500~~ mL/1000 Batch: - 01940425G
Test Volume ~~100~~ mL 500
Feeding: ~~Prior to test~~ - Prior to renewal - Daily

Concentration	Replicate	Chamber #	0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
CTRL	A	5 C9	5	5	5	5	5	5
	B	5 C10	5	5	5	5	5	5
	C	5 C11	5	5	5	5	5	5
	D	5 C12	5	5	5	5	5	5
30%	A	5 C13	5	5	5	5	5	5
	B	5 C14	5	5	5	5	5	5
	C	5 C15	5	5	5	5	5	5
	D	5 C16	5	5	5	5	5	5
Organisms loaded by: JD		Checked by:	JD	JD	JD	MF	JD	MF

Loading Verified by: SP (initials)

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

Comments: (A) NSW not ASW MF 11-4-04
(B) Tested at 30% concentration MF 11-10-04

Test Results:

% mortality in 100% sample 0

(B) LC_{50}: ~~>100~~ 30 If Calculated: 95% CI ____ Method: ____

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

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FDEP Biology Section - - Bioassay Bench Sheet

Survival

LIMS Sample #: 792842 **Test #:** 2 **Test Started: Date** 11-2-04 **Time:** 1345

Organism: M. beryllina **Test Ended: Date** 11-6-04 **Time:** 1035

Organism Batch: 33 **Diluent/ Batch:** ~~ASW~~ NSW(A) 1

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

Chamber Size 1000 **mL** **Batch:** ___ ___ 01940425G

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

Concentration	Replicate	Chamber #	Test Hour: 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
CTRL	A	C1	10	10	10	10	10	10
	B	C2	10	10	10	10	10	10
	C	C3	10	10	10	10	10	10
	D	C4	10	10	10	10	10	10
30%	A	C5	10	10	10	10	10	10
	B	C6	10	10	10	10	10	10
	C	C7	10	10	10	10	10	9 10
	D	C8	10	10	10	10	10	9 10
Organisms loaded by: JD Loading Verified by: SA		Checked by: (initials)	SA	JD	JD	MF	JD	MF

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

Comments: (A) NSW not ASW MF 11-4-04
(B) Tested at 30% Concentration MF 11-10-04

Test Results:

% mortality in 100% sample 5

(B) LC_{50}: >~~100~~30 If Calculated: 95% CI__________ Method:__________

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

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

V.1 2/23/04

Bioassay Parameters

LIMS Sample # : 792842 **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.)	8.1	8.0	8.0	8.2	8.0	7.8
Temperature °C	24.4	25.1	25.5	24.5	25.0	25.1
Dissolved Oxygen mg/L	7.1	7.0	5.4	6.2	6.1	5.2
Conductivity µmhos (mmhos)	34.6	34.7	34.8	34.0	34.7	35.0
(initials) Measured by:	MF	DN	MF	DN	DN	MF
(initials) Recorded by:	MF	DN	MF	DN	DN	MF

Comments:

Concentration 30%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	7.5	7.9	8.0	7.5	8.0	7.9
Temperature °C	24.5	25.1	24.9	25.5	25.8	25.2
Dissolved Oxygen mg/L	6.9	7.0	5.6	6.3	6.2	4.8
Conductivity µmhos (mmhos)	35.0	35.1	35.6	34.7	37.1	36.7
(initials) Measured by:	MF	DN	MF	DN	DN	MF
(initials) Recorded by:	MF	DN	MF	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:

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

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Bioassay Parameters

LIMS Sample # : 792842 **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.)	8.1	8.0	8.0	8.2	7.9	7.9
Temperature °C	24.5	24.7	26.3	24.8	24.7	25.2
Dissolved Oxygen mg/L	7.0	6.1	5.4	6.2	5.8	4.9
Conductivity µmhos (mmhos)	34.6	34.5	36.0	34.1	34.4	35.0
(initials) Measured by:	MF	DN	MF	DN	DN	MF
(initials) Recorded by:	MF	DN	MF	DN	DN	MF

Comments:

Concentration 30%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	7.5	7.9	8.0	7.6	7.9	7.8
Temperature °C	24.4	25.9	25.6	25.4	24.7	25.3
Dissolved Oxygen mg/L	6.9	6.4	5.6	6.4	5.9	4.6
Conductivity µmhos (mmhos)	34.7	35.2	35.9	35.1	36.4	35.4
(initials) Measured by:	MF	DN	MF	DN	DN	MF
(initials) Recorded by:	MF	DN	MF	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:

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

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[redacted]

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

Facility: Hollywood Southern Regional WWTF

Sample Collection: Date: 10-31-04 Time: 2200

Hold Time Start: Date: 11-1-04 Time: 0400

LIMS Job #: TLH-2004-11-02-07 **LIMS Sample #:** 792843

Sample: 3 of 4 Field ID S1-HW-1C collected AT EFF-L

Lims Data Entry: 11-10-04 MF

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

Data Entry Verification: 11/10/04 DN

SOP# TA07 031 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: Control water is NSW diluted with well water to a salinity of 21.9 ppth, MF 11-2-04
Sample salinity adjusted by dilution with NSW having a salinity of 30.1 ppth, MF 11-2-04
(A) alkalinity 260

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

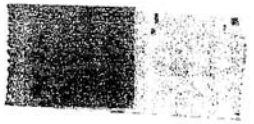
Salinity adjusted (Test 1): (yes) no Initial Salinity: 2.3 Final Salinity: 21.9 Salts Hypersaline brine (other)

Salinity adjusted (Test 2): (yes) no Initial Salinity: 2.3 Final Salinity: 21.9 Salts Hypersaline brine (other)

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

Water Quality Parameters	Original Sample	Method	Measured by	Verified by	30% Effluent (B)
Field Total Residual Cl2 (mg/L):	0.56	–	City of Hollywood Employee M. Macare	MF	Not measured
Lab Total Residual Cl2 (mg/L):	0.05	HACH	SP	MF	<0.03
Alkalinity (mg/L as $CaCO_3$):	~~269~~ (A)	HACH	SP	DN	~~234~~ (C) 199
Hardness (mg/L as $CaCO_3$):	544	HACH	SP	DN	Not measured
Total Ammonia (mg/L as N):	13.4	DENVER	DN	MF	3.41
Salinity (ppt):	2.3	YSI	MF	DN	21.9

(B) Blended with NSW MF 11-15-04
(C) Estimated value corrected MF 11-15-04



FDEP Biology Section - - Bioassay Bench Sheet

Survival

LIMS Sample #: 792843 Test #: 1 Test Started: Date 11-2-04 Time: 1325

Organism: C. bahia Test Ended: Date 11-6-04 Time: 1045

Organism Batch: 217 Diluent/ Batch: NSW (A) ASW / 1

Organism Age: 3 days Food: YCT *P. subcapitata* Artemia 0194825 G

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	A17	5	4 D	4	4	4	4
	B	A18	5	5	5	5	5	5
	C	A19	5	5	5	5	5	5
	D	A20	5	5	5	5	5	5
30%	A	A21	5	5	5	5	5	5
	B	A22	5	5	5	5	5	5
	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	JD	JD	ML
Loading Verified by:		(initials)						

Comments: (A) NSW not ASW MF 12-4-04
(B) Tested at 30% (concentration MF 11-10-04

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

Test Results:

% mortality in 100% sample 0

(B) LC_{50}: >100 30 If Calculated: 95% CI Method:

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

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

FDEP Biology Section - - Bioassay Bench Sheet

Survival

LIMS Sample #: 792843 Test #: 2 Test Started: Date 11-2-04 Time: 1350

Organism: M. beryllina NSW(A) Test Ended: Date 11-6-04 Time: 1045

Organism Batch: 33 Diluent/ Batch: ~~ASW~~ 1

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

Chamber Size 1000 mL Batch: ___ ___ 01940425G

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

Concentration	Replicate	Chamber #	0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
CTRL	A	C17	10	10	10	10	10	10
	B	C18	10	10	10	10	10	10
	C	C19	10	10	10	10	10	10
	D	C20	10	10	10	10	10	10
30%	A	C21	10	10	10	10	10	10
	B	C22	10	10	10	10	10	10
	C	C23	10	10	10	10	10	10
	D	C24	10	10	10	10	10	10
Organisms loaded by: JD		Checked by: (initials)	MF	JD	JD	JD	JD	MF

Loading Verified by: MF

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

Comments: (A) NSW NOT ASW MF 11-4-04
(B) tested at 30% concentration MF 11-10-04

Test Results:

% mortality in 100% sample 0

(B) LC_{50}: > ~~100~~ 30 If Calculated: 95% CI ______ Method: ______

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

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

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Bioassay Parameters

LIMS Sample # : CR Abahia 792843 **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.)	8.1	8.1	8.0	8.2	8.0	7.7
Temperature °C	24.4	25.1	24.7	24.5	25.3	24.9
Dissolved Oxygen mg/L	7.0	6.6	5.3	6.3	5.9	4.5
Conductivity µmhos (mmhos)	34.7	34.5	35.0	34.0	35.0	35.8
(initials) Measured by:	MF	VN	MF	DN	DN	MF
(initials) Recorded by:	MF	DN	MF	DN	DN	MF

Comments:

Concentration 30%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	7.5	7.9	7.9	7.6	7.9	7.9
Temperature °C	24.4	25.1	24.7	25.5	25.6	24.9
Dissolved Oxygen mg/L	7.0	6.2	5.3	6.4	5.5	4.6
Conductivity µmhos (mmhos)	34.9	34.9	35.3	34.9	35.0	36.0
(initials) Measured by:	MF	DN	MF	DN	DN	MF
(initials) Recorded by:	MF	DN	MF	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:

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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792843

Bioassay Parameters

LIMS Sample # : CP M.A. Brazileira **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.)	8.1	8.0	8.0	8.2	8.0	7.8
Temperature °C	24.4	24.9	24.4	24.6	25.7	24.7
Dissolved Oxygen mg/L	7.1	6.0	5.4	6.2	5.5	4.8
Conductivity µmhos (mmhos)	34.6	34.2	34.9	33.7	34.7	35.1
(initials) Measured by:	MF	DN	MF	DN	DN	MF
(initials) Recorded by:	MF	DN	MF	DN	DN	MF

Comments:

Concentration 30‰	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	7.5	7.9	8.0	7.7	7.9	7.8
Temperature °C	24.4	24.9	24.5	25.1	24.4	25.7
Dissolved Oxygen mg/L	7.0	6.1	5.6	6.4	5.8	4.7
Conductivity µmhos (mmhos)	35.0	35.0	35.6	35.0	35.8	36.2
(initials) Measured by:	MF	DN	MF	DN	DN	MF
(initials) Recorded by:	MF	DN	MF	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:

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 Screen Bioassay Bench Sheets

Facility: Hollywood Southern Regional WWTF

Sample Collection: Date: 11-1-04 Time: 0400

Hold Time Start: Date: 11-1-04 Time: 0400

LIMS Job #: TLH-2004-11-02-07 **LIMS Sample #:** 792844

Sample: 4 of 4 FieldID 51-HW-1d collected from EFF-1

Lims Data Entry: 11-10-04 MF
Instructions (for below): Circle appropriate wording. If yes is circled complete blanks.

Data Entry Verification: 11/16/04 DN

SOP# TA07 03/04

Comments: Control water is NSW diluted with well water to a salinity of 21.9 ppth. MF 11-2-04
Sample salinity adjusted by dilution with NSW having a salinity of 30.1 ppth. MF 11-2-04

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: 2.4 Final Salinity: 21.8 Salts Hypersaline brine (other)
Salinity adjusted (Test 2): (yes) no Initial Salinity: 2.4 Final Salinity: 21.8 Salts Hypersaline brine (other)
Dechlorination: yes (no) Sodium Thiosulfate added: ml/L

Water Quality Parameters	Original Sample	Method	Measured by	Verified by	30% Effluent (A)(C) MF incorrect letter 11-15-04
Field Total Residual Cl2 (mg/L):	(A) 1 mon 0.2	—	City of Hollywood analyst (B)	MF	Not measured
Lab Total Residual Cl2 (mg/L):	0.06	HACH	(B)	MF	<0.03
Alkalinity (mg/L as $CaCO_3$):	258	HACH	SB	DN	~~229~~ (D) 197
Hardness (mg/L as $CaCO_3$):	559	HACH	SB	DN	Not measured
Total Ammonia (mg/L as N):	11.2	DENVER	DN	MF	2.31
Salinity (ppt):	2.4	YSI	MF	DN	21.8

(A) Did not see value in correct space. MF 11-04-04
(B) signature not legible MF 11-04-04
(C) Blended with NSW MF 11-15-04
(D) Estimated value corrected MF 11-15-04

FDEP Biology Section - - Bioassay Bench Sheet

Survival

LIMS Sample #: 792844 Test #: 1 Test Started: Date 11-2-04 Time: 1330

Organism: A. bahia Test Ended: Date 11-6-04 Time: 1100

Organism Batch: 297 Diluent/ Batch: NSW (A) ASW / 1

Organism Age: 3days Food: YCT *P. subcapitata* *Artemia* 0194042SG

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	F1	5	5	5	5	5	5
	B	F2	5	5	5	5	5	5
	C	F3	5	5	5	5	5	5
	D	F4	5	5	5	5	5	5
30%	A	F5	5	5	5	5	5	5
	B	F6	5	5	5	5	5	5
	C	F7	5	5	5	5	5	5
	D	F8	5	5	5	5	5	5
Organisms loaded by: JD		Checked by: (initials)	JD	JD	JD	JD	JD	ML
Loading Verified by:								

Comments: (A) NSW not ASW MF 11-4-04
(B) tested at 30% concentration MF 11-10-04

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).

FDEP Biology Section - - Bioassay Bench Sheet

Survival

LIMS Sample #: 792844 **Test #:** 2 **Test Started: Date** 11-2-04 **Time:** 1355

Organism: M. beryllenic NSW (A) **Test Ended: Date** 11-6-04 **Time:** 1100

Organism Batch: 33 **Diluent/ Batch:** ~~ASW~~ 1

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

Chamber Size 1000 **mL** **Batch:** ___ ___ 01940425 G

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	F9	10	10	10	10	10	10 5 (B) MF-11-6-04 entry error
	B	F10	10	10	9 10	9	9	9 5
	C	F11	10	10	10	10	10	10 5
	D	F12	10	10	10	10	10	10 5
30%	A	F13	10	10	10	10	10	10 5
	B	F14	10	10	10	10	10	10 5
	C	F15	10	10	10	10	10	10 5
	D	F16	10	10	10	10	10	10 5
Organisms loaded by: JD		Checked by: (initials)	SA	JD	JD	JD	JD	MF

Loading Verified by: SA

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

Test Results:

(C) % mortality in 100% sample 0

LC_{50}: >100 30 If Calculated: 95% CI ______ Method: ______

Comments: (A) NSW not ASW MF 11-4-04
(B) wrote mysids in menidia space MF 11-6-04
(C) Tested at 30% concentration MF 11-10-04

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 # : CR A. ~~bahia~~ 792844 **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.)	8.1	8.0	8.0	8.2	7.9	7.8
Temperature °C	24.3	24.9	25.2	24.3	24.7	26.1
Dissolved Oxygen mg/L	7.1	6.8	5.6	6.1	6.6	4.5
Conductivity µmhos (mmhos)	34.6	34.8	35.4	34.4	34.3	35.7
(initials) Measured by:	MF	DN	MF	DN	DN	MF
(initials) Recorded by:	MF	DN	MF	DN	DN	MF

Comments:

Concentration 30%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	7.6	7.9	8.0	7.6	7.9	7.9
Temperature °C	24.3	25.1	25.2	25.2	25.3	25.7
Dissolved Oxygen mg/L	7.0	6.0	5.5	6.2	6.4	4.7
Conductivity µmhos (mmhos)	35.0	35.3	35.7	35.0	35.8	35.2
(initials) Measured by:	MF	DN	MF	DN	DN	MF
(initials) Recorded by:	MF	DN	MF	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:

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:

00019

V.1 2/24/04

LIMS Sample # : ~~CAP M. beryllina~~ 792844 Bioassay Parameters

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 GRC	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	8.0	8.0	8.2	7.8	7.8
Temperature °C	24.3	24.6	25.2	24.4	24.9	25.2
Dissolved Oxygen mg/L	7.1	6.5	5.6	6.4	5.6	4.8
Conductivity µmhos (mmhos)	34.6	34.5	35.4	34.1	34.3	34.6
(initials) Measured by:	MF	DN	MF	DN	DN	MF
(initials) Recorded by:	MF	DN	MF	DN	DN	MF

Comments:

Concentration 30%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	7.6	7.9	8.0	7.6	7.8	8.0
Temperature °C	24.3	25.0	25.3	25.1	25.3	26.5
Dissolved Oxygen mg/L	7.0	6.3	4.6	6.5	5.3	5.2
Conductivity µmhos (mmhos)	34.9	35.3	35.2	35.1	35.5	36.9
(initials) Measured by:	MF	DN	MF	DN	DN	MF
(initials) Recorded by:	MF	DN	MF	DN	DN	MF

Comments: A - MF100604 umol DO in pH space

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

Comments:

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

Comments:

V.1 2/24/04

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Appendix 2. Chemical Analyses performed on the effluent from the City of Hollywood WWTF, sampled on November 1, 2004.

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
10/31/2004 10:00	51-HW-2	Bio-AGP/LimNut	Algal Growth Potential	308	mg DryWt/L	A	0.3	0.9
10/31/2004 10:00	51-HW-2	Bio-BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	1.6	mg/L	AQ		
10/31/2004 10:00	51-HW-2	Bio-Chl-a	Chlorophyll-A, Monochromatic, Water	1.1	ug/L	UQ	1.1	3.2
10/31/2004 10:00	51-HW-2	Bio-Chl-a	Phaeophytin-A, Monochromatic, Water	1.1	ug/L	UQ	1.1	3.2
10/31/2004 10:00	51-HW-1A	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	30	LC50	L		
10/31/2004 10:00	51-HW-1A	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	30	LC50	L		
10/31/2004 15:55	51-HW-1B	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	30	LC50	L		
10/31/2004 15:55	51-HW-1B	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	30	LC50	L		
10/31/2004 22:00	51-HW-1C	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	30	LC50	L		
10/31/2004 22:00	51-HW-1C	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	30	LC50	L		
11/1/2004 4:00	51-HW-1D	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	30	LC50	L		
11/1/2004 4:00	51-HW-1D	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	30	LC50	L		
10/31/2004 10:00	51-HW-2	BNA-Water	1,2,4-Trichlorobenzene	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	1,2-Dichlorobenzene	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	1,3-Dichlorobenzene	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	1,4-Dichlorobenzene	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	2,4,6-Trichlorophenol	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	2,4-Dichlorophenol	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	2,4-Dimethylphenol	49	ug/L	U	49	190
10/31/2004 10:00	51-HW-2	BNA-Water	2,4-Dinitrophenol	15	ug/L	U	15	58
10/31/2004 10:00	51-HW-2	BNA-Water	2,4-Dinitrotoluene	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	2,6-Dinitrotoluene	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	2-Chloronaphthalene	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	2-Chlorophenol	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	2-Methyl-4,6-dinitrophenol	2.9	ug/L	U	2.9	12
10/31/2004 10:00	51-HW-2	BNA-Water	2-Nitrophenol	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	3,3'-Dichlorobenzidine	39	ug/L	U	39	160
10/31/2004 10:00	51-HW-2	BNA-Water	4,4'-DDD	1.5	ug/L	U	1.5	5.8
10/31/2004 10:00	51-HW-2	BNA-Water	4,4'-DDE	1.5	ug/L	U	1.5	5.8
10/31/2004 10:00	51-HW-2	BNA-Water	4,4'-DDT	1.5	ug/L	U	1.5	5.8
10/31/2004 10:00	51-HW-2	BNA-Water	4-Bromophenyl phenyl ether	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	4-Chloro-3-methylphenol	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	4-Chlorophenyl phenyl ether	1.9	ug/L	U	1.9	7.8
10/31/2004 10:00	51-HW-2	BNA-Water	4-Nitrophenol	15	ug/L	U	15	58
10/31/2004 10:00	51-HW-2	BNA-Water	Acenaphthene	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	Acenaphthylene	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	Aldrin	1.5	ug/L	U	1.5	5.8
10/31/2004 10:00	51-HW-2	BNA-Water	Anthracene	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	Benzidine	97	ug/L	U	97	390
10/31/2004 10:00	51-HW-2	BNA-Water	Benzo(a)anthracene	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	Benzo(a)pyrene	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	Benzo(b)fluoranthene	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	Benzo(g,h,i)perylene	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	Benzo(k)fluoranthene	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	Bis(2-chloroethoxy)methane	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	Bis(2-chloroethyl)ether	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	Bis(2-chloroisopropyl)ether	2.9	ug/L	U	2.9	12
10/31/2004 10:00	51-HW-2	BNA-Water	Bis(2-ethylhexyl)phthalate	15	ug/L	U	15	58
10/31/2004 10:00	51-HW-2	BNA-Water	Butyl benzyl phthalate	4.9	ug/L	U	4.9	19
10/31/2004 10:00	51-HW-2	BNA-Water	Chrysene	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	Di-n-butyl phthalate	4.9	ug/L	U	4.9	19
10/31/2004 10:00	51-HW-2	BNA-Water	Di-n-octyl phthalate	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	Dibenzo(a,h)anthracene	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	Dieldrin	1.5	ug/L	U	1.5	5.8
10/31/2004 10:00	51-HW-2	BNA-Water	Diethyl phthalate	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	Dimethyl phthalate	49	ug/L	U	49	190
10/31/2004 10:00	51-HW-2	BNA-Water	Endosulfan I	3.9	ug/L	U	3.9	16

10/31/2004 10:00	51-HW-2	BNA-Water	Endosulfan II	3.9	ug/L	U	3.9	16
10/31/2004 10:00	51-HW-2	BNA-Water	Endosulfan sulfate	1.5	ug/L	U	1.5	5.8
10/31/2004 10:00	51-HW-2	BNA-Water	Endrin	1.5	ug/L	UJ	1.5	5.8
10/31/2004 10:00	51-HW-2	BNA-Water	Endrin aldehyde	3.9	ug/L	U	3.9	16
10/31/2004 10:00	51-HW-2	BNA-Water	Fluoranthene	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	Fluorene	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	Heptachlor	1.5	ug/L	U	1.5	5.8
10/31/2004 10:00	51-HW-2	BNA-Water	Heptachlor epoxide	1.5	ug/L	U	1.5	5.8
10/31/2004 10:00	51-HW-2	BNA-Water	Hexachlorobenzene	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	Hexachlorobutadiene	2.9	ug/L	U	2.9	12
10/31/2004 10:00	51-HW-2	BNA-Water	Hexachlorocyclopentadiene	2.9	ug/L	U	2.9	12
10/31/2004 10:00	51-HW-2	BNA-Water	Hexachloroethane	2.9	ug/L	U	2.9	12
10/31/2004 10:00	51-HW-2	BNA-Water	Indeno(1,2,3-cd)pyrene	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	Isophorone	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	N-Nitrosodi-n-propylamine	1.9	ug/L	U	1.9	7.8
10/31/2004 10:00	51-HW-2	BNA-Water	N-Nitrosodimethylamine	1.9	ug/L	U	1.9	7.8
10/31/2004 10:00	51-HW-2	BNA-Water	N-Nitrosodiphenylamine	2.9	ug/L	U	2.9	12
10/31/2004 10:00	51-HW-2	BNA-Water	Naphthalene	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	Nitrobenzene	1.9	ug/L	U	1.9	7.8
10/31/2004 10:00	51-HW-2	BNA-Water	Pentachlorophenol	2.9	ug/L	U	2.9	12
10/31/2004 10:00	51-HW-2	BNA-Water	Phenanthrene	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	Phenol	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	Pyrene	0.97	ug/L	U	0.97	3.9
10/31/2004 10:00	51-HW-2	BNA-Water	alpha-BHC	1.5	ug/L	U	1.5	5.8
10/31/2004 10:00	51-HW-2	BNA-Water	beta-BHC	1.5	ug/L	U	1.5	5.8
10/31/2004 10:00	51-HW-2	BNA-Water	delta-BHC	1.5	ug/L	U	1.5	5.8
10/31/2004 10:00	51-HW-2	BNA-Water	gamma-BHC	1.5	ug/L	U	1.5	5.8
11/1/2004 11:00	51-HW-3	BNA-Water	1,2,4-Trichlorobenzene	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	1,2-Dichlorobenzene	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	1,3-Dichlorobenzene	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	1,4-Dichlorobenzene	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	2,4,6-Trichlorophenol	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	2,4-Dichlorophenol	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	2,4-Dimethylphenol	50	ug/L	U	50	200
11/1/2004 11:00	51-HW-3	BNA-Water	2,4-Dinitrophenol	15	ug/L	U	15	59
11/1/2004 11:00	51-HW-3	BNA-Water	2,4-Dinitrotoluene	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	2,6-Dinitrotoluene	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	2-Chloronaphthalene	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	2-Chlorophenol	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	2-Methyl-4,6-dinitrophenol	3	ug/L	U	3	12
11/1/2004 11:00	51-HW-3	BNA-Water	2-Nitrophenol	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	3,3'-Dichlorobenzidine	40	ug/L	U	40	160
11/1/2004 11:00	51-HW-3	BNA-Water	4,4'-DDD	1.5	ug/L	U	1.5	5.9
11/1/2004 11:00	51-HW-3	BNA-Water	4,4'-DDE	1.5	ug/L	U	1.5	5.9
11/1/2004 11:00	51-HW-3	BNA-Water	4,4'-DDT	1.5	ug/L	U	1.5	5.9
11/1/2004 11:00	51-HW-3	BNA-Water	4-Bromophenyl phenyl ether	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	4-Chloro-3-methylphenol	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	4-Chlorophenyl phenyl ether	2	ug/L	U	2	7.9
11/1/2004 11:00	51-HW-3	BNA-Water	4-Nitrophenol	15	ug/L	U	15	59
11/1/2004 11:00	51-HW-3	BNA-Water	Acenaphthene	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	Acenaphthylene	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	Aldrin	1.5	ug/L	U	1.5	5.9
11/1/2004 11:00	51-HW-3	BNA-Water	Anthracene	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	Benzidine	99	ug/L	U	99	400
11/1/2004 11:00	51-HW-3	BNA-Water	Benzo(a)anthracene	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	Benzo(a)pyrene	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	Benzo(b)fluoranthene	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	Benzo(g,h,i)perylene	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	Benzo(k)fluoranthene	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	Bis(2-chloroethoxy)methane	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	Bis(2-chloroethyl)ether	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	Bis(2-chloroisopropyl)ether	3	ug/L	U	3	12

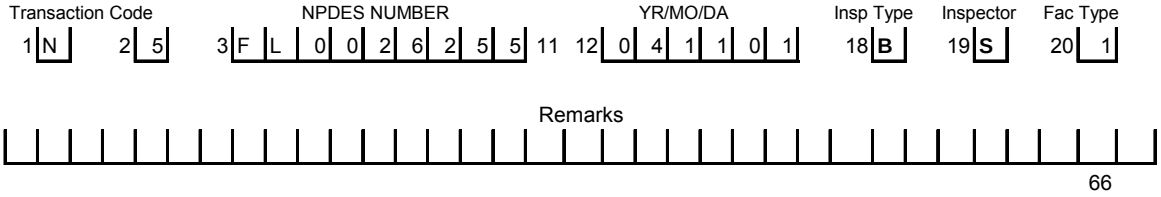
11/1/2004 11:00	51-HW-3	BNA-Water	Bis(2-ethylhexyl)phthalate	15	ug/L	U	15	59
11/1/2004 11:00	51-HW-3	BNA-Water	Butyl benzyl phthalate	5	ug/L	U	5	20
11/1/2004 11:00	51-HW-3	BNA-Water	Chrysene	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	Di-n-butyl phthalate	5	ug/L	U	5	20
11/1/2004 11:00	51-HW-3	BNA-Water	Di-n-octyl phthalate	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	Dibenzo(a,h)anthracene	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	Dieldrin	1.5	ug/L	U	1.5	5.9
11/1/2004 11:00	51-HW-3	BNA-Water	Diethyl phthalate	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	Dimethyl phthalate	50	ug/L	U	50	200
11/1/2004 11:00	51-HW-3	BNA-Water	Endosulfan I	4	ug/L	U	4	16
11/1/2004 11:00	51-HW-3	BNA-Water	Endosulfan II	4	ug/L	U	4	16
11/1/2004 11:00	51-HW-3	BNA-Water	Endosulfan sulfate	1.5	ug/L	U	1.5	5.9
11/1/2004 11:00	51-HW-3	BNA-Water	Endrin	1.5	ug/L	UJ	1.5	5.9
11/1/2004 11:00	51-HW-3	BNA-Water	Endrin aldehyde	4	ug/L	U	4	16
11/1/2004 11:00	51-HW-3	BNA-Water	Fluoranthene	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	Fluorene	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	Heptachlor	1.5	ug/L	U	1.5	5.9
11/1/2004 11:00	51-HW-3	BNA-Water	Heptachlor epoxide	1.5	ug/L	U	1.5	5.9
11/1/2004 11:00	51-HW-3	BNA-Water	Hexachlorobenzene	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	Hexachlorobutadiene	3	ug/L	U	3	12
11/1/2004 11:00	51-HW-3	BNA-Water	Hexachlorocyclopentadiene	3	ug/L	U	3	12
11/1/2004 11:00	51-HW-3	BNA-Water	Hexachloroethane	3	ug/L	U	3	12
11/1/2004 11:00	51-HW-3	BNA-Water	Indeno(1,2,3-cd)pyrene	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	Isophorone	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	N-Nitrosodi-n-propylamine	2	ug/L	U	2	7.9
11/1/2004 11:00	51-HW-3	BNA-Water	N-Nitrosodimethylamine	2	ug/L	U	2	7.9
11/1/2004 11:00	51-HW-3	BNA-Water	N-Nitrosodiphenylamine	3	ug/L	U	3	12
11/1/2004 11:00	51-HW-3	BNA-Water	Naphthalene	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	Nitrobenzene	2	ug/L	U	2	7.9
11/1/2004 11:00	51-HW-3	BNA-Water	Pentachlorophenol	3	ug/L	U	3	12
11/1/2004 11:00	51-HW-3	BNA-Water	Phenanthrene	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	Phenol	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	Pyrene	0.99	ug/L	U	0.99	4
11/1/2004 11:00	51-HW-3	BNA-Water	alpha-BHC	1.5	ug/L	U	1.5	5.9
11/1/2004 11:00	51-HW-3	BNA-Water	beta-BHC	1.5	ug/L	U	1.5	5.9
11/1/2004 11:00	51-HW-3	BNA-Water	delta-BHC	1.5	ug/L	U	1.5	5.9
11/1/2004 11:00	51-HW-3	BNA-Water	gamma-BHC	1.5	ug/L	U	1.5	5.9
10/31/2004 10:00	51-HW-2	GC-Water	Alachlor	0.6	ug/L	U	0.6	2.4
10/31/2004 10:00	51-HW-2	GC-Water	Ametryn	0.05	ug/L	U	0.05	0.2
10/31/2004 10:00	51-HW-2	GC-Water	Atrazine	0.062	ug/L	U	0.062	0.25
10/31/2004 10:00	51-HW-2	GC-Water	Azinphos Methyl	0.05	ug/L	U	0.05	0.2
10/31/2004 10:00	51-HW-2	GC-Water	Bromacil	0.2	ug/L	U	0.2	0.8
10/31/2004 10:00	51-HW-2	GC-Water	Butylate	0.2	ug/L	U	0.2	0.8
10/31/2004 10:00	51-HW-2	GC-Water	Chlorpyrifos Ethyl	0.05	ug/L	U	0.05	0.2
10/31/2004 10:00	51-HW-2	GC-Water	Chlorpyrifos Methyl	0.1	ug/L	U	0.1	0.4
10/31/2004 10:00	51-HW-2	GC-Water	Diazinon	0.05	ug/L	U	0.05	0.2
10/31/2004 10:00	51-HW-2	GC-Water	Ethion	0.05	ug/L	U	0.05	0.2
10/31/2004 10:00	51-HW-2	GC-Water	Ethoprop	0.1	ug/L	U	0.1	0.4
10/31/2004 10:00	51-HW-2	GC-Water	Fenamiphos	0.2	ug/L	U	0.2	0.8
10/31/2004 10:00	51-HW-2	GC-Water	Fonofos	0.1	ug/L	U	0.1	0.4
10/31/2004 10:00	51-HW-2	GC-Water	Hexazinone	0.1	ug/L	U	0.1	0.4
10/31/2004 10:00	51-HW-2	GC-Water	Malathion	0.15	ug/L	U	0.15	0.6
10/31/2004 10:00	51-HW-2	GC-Water	Metalaxyl	0.25	ug/L	U	0.25	1
10/31/2004 10:00	51-HW-2	GC-Water	Metolachlor	0.5	ug/L	U	0.5	2
10/31/2004 10:00	51-HW-2	GC-Water	Metribuzin	0.1	ug/L	U	0.1	0.4
10/31/2004 10:00	51-HW-2	GC-Water	Mevinphos	0.2	ug/L	U	0.2	0.8
10/31/2004 10:00	51-HW-2	GC-Water	Naled	0.8	ug/L	UJ	0.8	3.2
10/31/2004 10:00	51-HW-2	GC-Water	Norflurazon	0.1	ug/L	U	0.1	0.4
10/31/2004 10:00	51-HW-2	GC-Water	Parathion Ethyl	0.15	ug/L	U	0.15	0.6
10/31/2004 10:00	51-HW-2	GC-Water	Parathion Methyl	0.1	ug/L	U	0.1	0.4
10/31/2004 10:00	51-HW-2	GC-Water	Phorate	0.05	ug/L	U	0.05	0.2
10/31/2004 10:00	51-HW-2	GC-Water	Prometryn	0.15	ug/L	U	0.15	0.6

10/31/2004 10:00	51-HW-2	GC-Water	Simazine	0.05	ug/L	U	0.05	0.2
11/1/2004 11:00	51-HW-3	GC-Water	Alachlor	0.58	ug/L	U	0.58	2.3
11/1/2004 11:00	51-HW-3	GC-Water	Ametryn	0.049	ug/L	U	0.049	0.2
11/1/2004 11:00	51-HW-3	GC-Water	Atrazine	0.049	ug/L	U	0.049	0.2
11/1/2004 11:00	51-HW-3	GC-Water	Azinphos Methyl	0.049	ug/L	U	0.049	0.2
11/1/2004 11:00	51-HW-3	GC-Water	Bromacil	0.19	ug/L	U	0.19	0.76
11/1/2004 11:00	51-HW-3	GC-Water	Butylate	0.19	ug/L	U	0.19	0.76
11/1/2004 11:00	51-HW-3	GC-Water	Chlorpyrifos Ethyl	0.049	ug/L	U	0.049	0.2
11/1/2004 11:00	51-HW-3	GC-Water	Chlorpyrifos Methyl	0.097	ug/L	U	0.097	0.39
11/1/2004 11:00	51-HW-3	GC-Water	Diazinon	0.049	ug/L	U	0.049	0.2
11/1/2004 11:00	51-HW-3	GC-Water	Ethion	0.049	ug/L	U	0.049	0.2
11/1/2004 11:00	51-HW-3	GC-Water	Ethoprop	0.097	ug/L	U	0.097	0.39
11/1/2004 11:00	51-HW-3	GC-Water	Fenamiphos	0.19	ug/L	U	0.19	0.76
11/1/2004 11:00	51-HW-3	GC-Water	Fonofos	0.097	ug/L	U	0.097	0.39
11/1/2004 11:00	51-HW-3	GC-Water	Hexazinone	0.097	ug/L	U	0.097	0.39
11/1/2004 11:00	51-HW-3	GC-Water	Malathion	0.15	ug/L	U	0.15	0.6
11/1/2004 11:00	51-HW-3	GC-Water	Metalaxyl	0.24	ug/L	U	0.24	0.96
11/1/2004 11:00	51-HW-3	GC-Water	Metolachlor	0.49	ug/L	U	0.49	2
11/1/2004 11:00	51-HW-3	GC-Water	Metribuzin	0.097	ug/L	U	0.097	0.39
11/1/2004 11:00	51-HW-3	GC-Water	Mevinphos	0.19	ug/L	U	0.19	0.76
11/1/2004 11:00	51-HW-3	GC-Water	Naled	0.78	ug/L	UJ	0.78	3.1
11/1/2004 11:00	51-HW-3	GC-Water	Norflurazon	0.097	ug/L	U	0.097	0.39
11/1/2004 11:00	51-HW-3	GC-Water	Parathion Ethyl	0.15	ug/L	U	0.15	0.6
11/1/2004 11:00	51-HW-3	GC-Water	Parathion Methyl	0.097	ug/L	U	0.097	0.39
11/1/2004 11:00	51-HW-3	GC-Water	Phorate	0.049	ug/L	U	0.049	0.2
11/1/2004 11:00	51-HW-3	GC-Water	Prometryn	0.15	ug/L	U	0.15	0.6
11/1/2004 11:00	51-HW-3	GC-Water	Simazine	0.049	ug/L	U	0.049	0.2
10/31/2004 10:00	51-HW-2	Mercury-Water	Mercury	0.12	ug/L	U	0.12	0.5
11/1/2004 11:00	51-HW-3	Mercury-Water	Mercury	0.12	ug/L	U	0.12	0.5
10/31/2004 10:00	51-HW-2	Metals-Water	Aluminum	47	ug/L		5	20
10/31/2004 10:00	51-HW-2	Metals-Water	Arsenic	22	ug/L	U	22	88
10/31/2004 10:00	51-HW-2	Metals-Water	Cadmium	0.075	ug/L	U	0.075	0.3
10/31/2004 10:00	51-HW-2	Metals-Water	Calcium	101	mg/L		0.05	0.2
10/31/2004 10:00	51-HW-2	Metals-Water	Chromium	2	ug/L	U	2	8
10/31/2004 10:00	51-HW-2	Metals-Water	Copper	2.8	ug/L	I	0.75	3
10/31/2004 10:00	51-HW-2	Metals-Water	Iron	576	ug/L		10	40
10/31/2004 10:00	51-HW-2	Metals-Water	Lead	0.28	ug/L	I	0.075	0.3
10/31/2004 10:00	51-HW-2	Metals-Water	Magnesium	83.1	mg/L		0.02	0.08
10/31/2004 10:00	51-HW-2	Metals-Water	Nickel	2.4	ug/L	I	2	8
10/31/2004 10:00	51-HW-2	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
10/31/2004 10:00	51-HW-2	Metals-Water	Silver	0.092	ug/L		0.02	0.08
10/31/2004 10:00	51-HW-2	Metals-Water	Zinc	23	ug/L		3	12
11/1/2004 11:00	51-HW-3	Metals-Water	Aluminum	5	ug/L	U	5	20
11/1/2004 11:00	51-HW-3	Metals-Water	Arsenic	6	ug/L	U	6	24
11/1/2004 11:00	51-HW-3	Metals-Water	Cadmium	0.075	ug/L	U	0.075	0.3
11/1/2004 11:00	51-HW-3	Metals-Water	Calcium	0.05	mg/L	U	0.05	0.2
11/1/2004 11:00	51-HW-3	Metals-Water	Chromium	2	ug/L	U	2	8
11/1/2004 11:00	51-HW-3	Metals-Water	Copper	0.75	ug/L	U	0.75	3
11/1/2004 11:00	51-HW-3	Metals-Water	Iron	10	ug/L	U	10	40
11/1/2004 11:00	51-HW-3	Metals-Water	Lead	0.075	ug/L	U	0.075	0.3
11/1/2004 11:00	51-HW-3	Metals-Water	Magnesium	0.02	mg/L	U	0.02	0.08
11/1/2004 11:00	51-HW-3	Metals-Water	Nickel	2	ug/L	U	2	8
11/1/2004 11:00	51-HW-3	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
11/1/2004 11:00	51-HW-3	Metals-Water	Silver	0.02	ug/L	U	0.02	0.08
11/1/2004 11:00	51-HW-3	Metals-Water	Zinc	3	ug/L	U	3	12
10/31/2004 10:00	51-HW-2	Nutrients-Liquid	Ammonia-N	14	mg N/L		0.5	1
10/31/2004 10:00	51-HW-2	Nutrients-Liquid	Cyanide	0.012	mg CN/L	I	0.005	0.02
10/31/2004 10:00	51-HW-2	Nutrients-Liquid	Kjeldahl Nitrogen	16	mg N/L	YQ	0.6	2
10/31/2004 10:00	51-HW-2	Nutrients-Liquid	NO2NO3-N	0.64	mg N/L		0.04	0.1
10/31/2004 10:00	51-HW-2	Nutrients-Liquid	Nitrate-N	0.43	mg N/L	AQ	0.02	0.04
10/31/2004 10:00	51-HW-2	Nutrients-Liquid	O-Phosphate-P	0.66		Q	0.04	0.1
10/31/2004 10:00	51-HW-2	Nutrients-Liquid	TSS	8	mg/L	I	4	16

10/31/2004 10:00	51-HW-2	Nutrients-Liquid	Total-P	1	mg P/L	YQ	0.04	0.12
11/1/2004 11:00	51-HW-3	Nutrients-Liquid	Ammonia-N	0.01	mg N/L	U	0.01	0.02
11/1/2004 11:00	51-HW-3	Nutrients-Liquid	Cyanide	0.005	mg CN/L	U	0.005	0.02
11/1/2004 11:00	51-HW-3	Nutrients-Liquid	Kjeldahl Nitrogen	0.06	mg N/L	U	0.06	0.2
11/1/2004 11:00	51-HW-3	Nutrients-Liquid	NO2NO3-N	0.004	mg N/L	U	0.004	0.01
11/1/2004 11:00	51-HW-3	Nutrients-Liquid	Nitrate-N	0.02	mg N/L	U	0.02	0.04
11/1/2004 11:00	51-HW-3	Nutrients-Liquid	O-Phosphate-P	0.015			0.004	0.01
11/1/2004 11:00	51-HW-3	Nutrients-Liquid	Total-P	0.02	mg P/L	U	0.02	0.06

The Bioassay of Hollywood Southern Regional Wastewater Treatment Facility effluent sampled on November 1, 2004, NPDES #FL0026255.

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



The Priority Pollutants Analysis for Bioassay of Hollywood Southern Regional Wastewater Treatment Facility effluent sampled on November 1, 2004, NPDES #FL0026255.

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

