

Effluent Quality Assessment

Gulfstream Park Reverse Osmosis (R.O.) Concentrate Detention Pond Discharge Facility

Broward County

NPDES #FL0384941

Sampled May 18, 2009

August 2009

Biology Section
Bureau of Laboratories
Division of Environmental Assessment and Restoration

Quality Manual No. 870346G
NELAC Certification No. E31780

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Gulfstream Park Reverse Osmosis (R.O.) Concentrate Detention Pond Discharge Facility, 901 S. Federal Highway, Hallandale, Broward County, Florida, 33009. NPDES #FL0384941. Effluent grab samples for bioassay and chemical analyses for this facility were collected on May 18, 2009.

Introduction

Gulfstream Park Reverse Osmosis (R.O.) Concentrate Detention Pond Discharge Facility is a water treatment plant which uses the Reverse Osmosis process to produce irrigation quality water. (See Appendixes F and G for detailed facility information provided by Lisa Gatch of FDEP Southeast District.)

Methods

Samples were collected from the EFF-02 NPDES sampling point for Outfall D-002 by Terry Davis and Victor Faconti (FDEP Southeast District) following DEP-SOP-001/01 FS 2400 Wastewater Sampling. All DEP SOPs are available on the web at: http://www.floridadep.org/labs/qa/sops.htm.

See Appendix A for the completed chain of custody form.

The 48-hour acute screening toxicity tests and algal growth potential test were performed following internal DEP SOPs TA07_03, TA07_04, and TA08_01 through TA08_09. All internal DEP SOPs are available on the web at: http://www.floridadep.org/labs/cgi-bin/sop/biosop.asp.

Results and Discussion

- **Toxicity Test Results**

  Tests were performed May 19 - 21, 2009.

  Americamysis bahia 48-hour acute definitive bioassay – LC_{50} > 100%, 0% mortality in 100% sample at 48 hours

  Menidia beryllina 48-hour acute definitive bioassay – LC_{50} > 100%, 0% mortality in 100% sample at 48 hours

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

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

- **Algal Growth Potential**

  The effluent Algal Growth Potential (AGP) was 3.0 U (U - Material was analyzed for but not detected; the report value is the minimum detection limit) mg dry wt/L of the saltwater species *Dunaliella tertiolecta.* Raschke and Schultz found that AGP values above 10.0 mg dry weight/L represent a “problem” threshold for marine receiving waters, implying nutrient enrichment (personal communication, Marshall Faircloth, et. al. FDEP, with Ron Raschke USEPA Region 4 1987). The ratio (0.3:1) of inorganic nitrogen to ortho-phosphate in the effluent suggests that the effluent is nitrogen-limited; whereas, the ratio (11.1:1) of total nitrogen to total phosphorus suggests that the effluent is co-limited by both nitrogen and phosphorus (Maloney et al. 1978).

  See Table 1 for AGP results.

- **Chemistry Results**

  Total residual chlorine and total ammonia were not detected in the bioassay sample in the laboratory. Total ammonia was not detected in the effluent sample collected and preserved for chemical analysis; therefore, an unionized ammonia concentration could not be calculated.

  Arsenic, copper, chlorophyll *a*, phaeophytin, fluoride, total alpha, Radium 226 + Radium 228 and total suspended solids were detected in the effluent. Aluminum, chromium, nickel, selenium and zinc were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL).

  See Table 2 for results of analytes detected in the effluent, and corresponding limits. See Appendix E for a complete list of chemical analyses performed.

Conclusion

The effluent sample collected from the EFF-02 NPDES sampling point for Outfall D-002 for this facility on May 18, 2009, was not acutely toxic to either test species during the 48-hour acute screening bioassays. The effluent AGP result was less than the "problem" threshold for marine receiving waters. Effluent water quality samples did not exceed any applicable water quality standards or violate any permit conditions.

Literature Cited

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

Table 1. Measured algal growth potential (AGP; mg dry weight/L) of the saltwater species *Dunaliella tertiolecta* and ratios of nitrogen to phosphorus for samples collected from the Gulfstream Park Reverse Osmosis (R. O.) Concentrate Detention Pond Discharge Facility on May 18, 2009.

Gulfstream Park Reverse Osmosis (R.O.) Concentrate Detention Pond Discharge Facility			
Location	**AGP (measured)**	**Inorganic N:P ratio**	**Total N:P ratio**
Effluent	3.0 AU	0.3	11.1

Table 2. Effluent limits, Class III Criteria for predominantly marine waters and chemical data for samples collected from the Gulfstream Park Reverse Osmosis (R.O.) Concentrate Detention Pond Discharge Facility on May 18, 2009.

Gulfstream Park Reverse Osmosis (R.O.) Concentrate Detention Pond Discharge Facility NPDES# FL0384941	Class III Criteria	Effluent Limits	Effluent	
Organic Constituents (µg/L)				
None Detected	-	-	None Detected	
Metals (µg/L unless otherwise noted)				
Aluminum	≤ 1500	-	220	I
Arsenic	≤ 50	-	2.07	
Cadmium	≤ 8.8	-	0.03	U
Calcium (mg/L)	-	-	295	
Chromium-III	-	-	0.35	I
Copper	≤ 3.7	-	0.92	
Iron	≤ 300	Report	90	U
Mercury	≤ 0.025	Report	-	
Lead	≤ 8.5	-	0.6	U
Magnesium (mg/L)	-	-	722	
Nickel	≤ 8.3	-	0.42	I
Selenium	≤ 71	-	0.23	I
Silver	≤ 2.3	-	0.025	U
Zinc	≤ 86	-	19	I
Nutrients (mg/L)				
Ortho-phosphate	-	-	0.063	
Total Phosphorus	-	Report	0.1	
Total Ammonia	-	-	0.01	U
Un-ionized Ammonia	-	Report	≤ 0.02	c
Nitrate and Nitrite	-	-	0.011	
Total Kjeldahl Nitrogen	-	-	1.1	
Organic Nitrogen	-	-	1.105	c
Total Nitrogen	-	Report	1.111	c
General Physical and Chemical Parameters				
Dissolved Oxygen (mg/L)	≥ 4.0	-	7.0	
pH (SU)	6.5 - 8.5	Report	7.4	
Conductivity (µmhos/cm)	-	Report	30910	
Temperature (°C)	-	-	28.3	
Salinity	-	-	17.9	c
Sample Depth (m)	-	-	0.1	
Total Residual Chlorine (mg/L)	≤ 0.01	-	0.03	£UQ
Chlorophyll *a* (µg/L) - Corrected	-	-	16	
Phaeophytin (µg/L)	-	-	3.7	
Total Suspended Solids (mg/L)	-	-	25	
Turbidity (NTU)	< 29 t	Report	3.3	
Fluoride (mg/L)	≤ 5.0	Report	0.82	
Alpha, Total (pCi/L)	≤ 15	Report	2.4	
Alpha-Counting Error (pCi/L)	-	-	1	
Radium 226 (pCi/L)	-	-	1.8	
Radium 226-Counting Error (pCi/L)	-	-	0.4	
Radium 228 (pCi/L)	-	-	0.8	U
Radium 228-Counting Error (pCi/L)	-	-	0.6	
Radium 226 + 228 (pCi/L)	≤ 5	Report	1.8	c
Flow (MGD)	-	Report	Report	
Hardness (mg $CaCO_3$)	-	-	3709.81	c

Value exceeds the Class III Water Quality Criteria or permit limits

a - Annual average

c - Value is calculated

t - Shall not exceed 29 NTUs above background

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 method detection limit

£ - Analysis performed in Bioassay Laboratory.

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2009-05-18-39
Gulfstream Park R.O. Conc Pond Discharge

Requester: Jennifer Paris
Field Report Prepared By: T. Davis
Collected By: T. Davis / V. Faconti
Send Final Report To ~~Linda Brien~~ T. Davis
Sampling Agency: Southeast District

Customer: SE-DIST
Project ID: FYI3
PMAS: 1143

Lab ID *	Location			Comp / Grab	Collection (begin) Date	Time	Eastern Central	Collection (end) Date	Time	Eastern Central	Bottle Group(s)**
	D-002			☐ Comp ☒ Grab	8 May 09	1030					A
	Field ID: S1-GP-1			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L): 98.8 %			Storet Station Number			
	Matrix (Include type e.g. Salt, Fresh, etc): water	Temp (C): 28.26	pH: 7.36	Sample Depth: .1 ☒ m ☐ ft	30,910			☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number		
	Latitude o ' "	Longitude o ' "		Comments							

Lab ID *	Location			Comp / Grab	Collection (begin) Date	Time	Eastern Central	Collection (end) Date	Time	Eastern Central	Bottle Group(s)**
	Blank			☐ Comp ☐ Grab	8 May 09	1050					B
	Field ID: S1-GP-2			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)			Storet Station Number			
	Matrix (Include type e.g. Salt, Fresh, etc): water D.I.	Temp (C)	pH	Sample Depth: .1 ☒ m ☐ ft				☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number		
	Latitude o ' "	Longitude o ' "		Comments							

Lab ID *	Location			Comp / Grab	Collection (begin) Date	Time	Eastern Central	Collection (end) Date	Time	Eastern Central	Bottle Group(s)**
				☐ Comp ☐ Grab							
	Field ID			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)			Storet Station Number			
	Matrix (Include type e.g. Salt, Fresh, etc)	Temp (C)	pH	Sample Depth ☐ m ☐ ft				☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number		
	Latitude o ' "	Longitude o ' "		Comments							

Lab ID *	Location			Comp / Grab	Collection (begin) Date	Time	Eastern Central	Collection (end) Date	Time	Eastern Central	Bottle Group(s)**
				☐ Comp ☐ Grab							
	Field ID			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)			Storet Station Number			
	Matrix (Include type e.g. Salt, Fresh, etc)	Temp (C)	pH	Sample Depth ☐ m ☐ ft				☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number		
	Latitude o ' "	Longitude o ' "		Comments: 2 biossay Rec'd in Tox by JD 10:43 5/9/09							

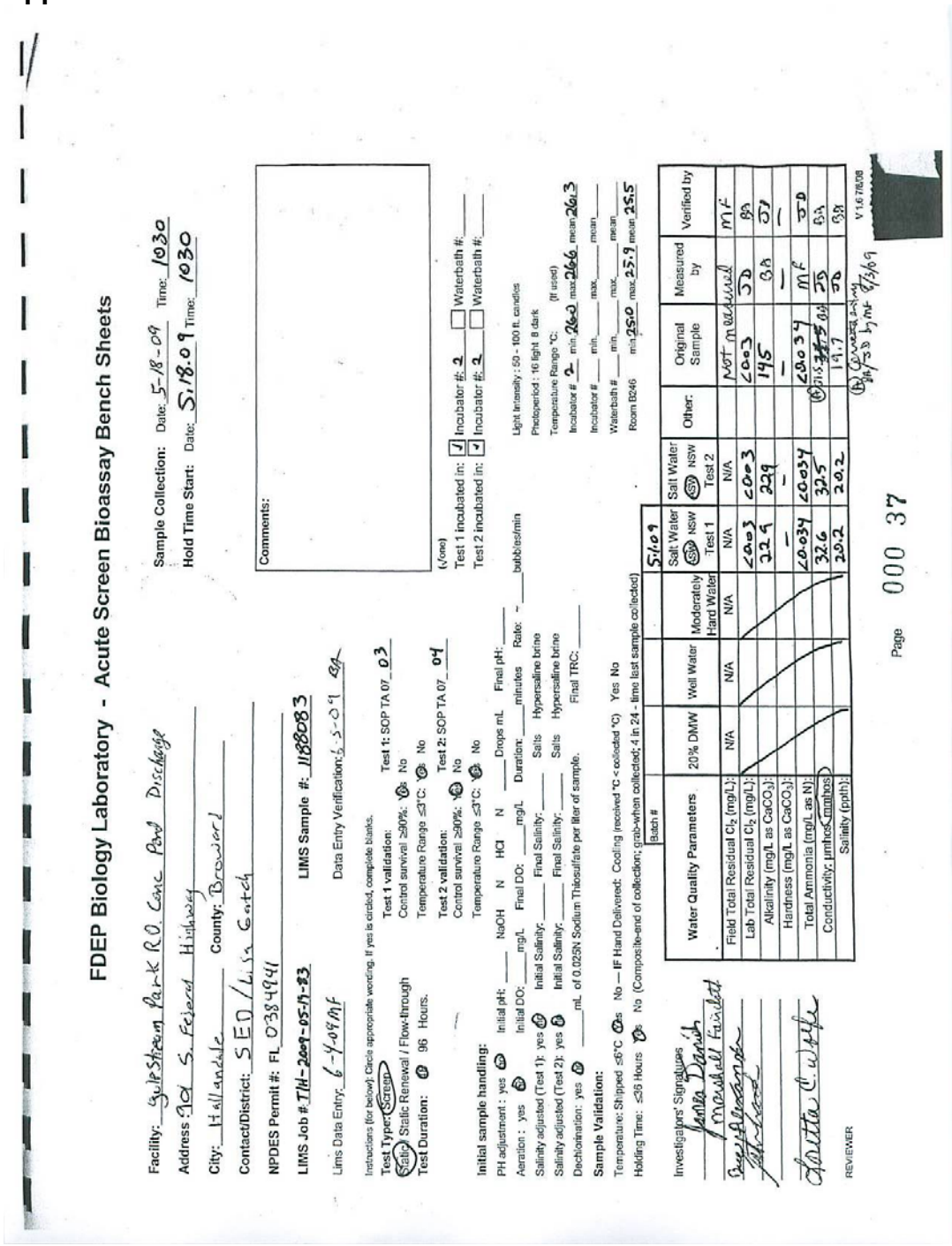
Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
T Davis	10 May/1400		Tahmouna Ebrahim	05/19/09 9:35				

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

Appendix B. Bench Sheets



FDEP Biology Laboratory - Acute Screen Bioassay Bench Sheets

Facility: Gulfstream Park RO Conc Pond Discharge
Address 901 S. Federal Highway
City: Hallandale County: Broward
Contact/District: SED / Lisa Gatch
NPDES Permit #: FL 0384941
LIMS Job #: TH-2009-05-11-83 LIMS Sample #: 1188083
Limis Data Entry: 6-4-09 MF Data Entry Verification: 6-5-09 GA

Sample Collection: Date: 5-18-09 Time: 1030
Hold Time Start: Date: 5.18.09 Time: 1030

Comments:

Instructions (for below): Circle appropriate wording. If yes is circled, complete blanks.
Test Type: (Screen) Static Static Renewal / Flow-through
Test Duration: (96) 96 Hours.

Test 1 validation: Test 1: SOP TA 07_03
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No
Test 2 validation: Test 2: SOP TA 07_04
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No

(Zone)
Test 1 incubated in: [✓] Incubator #: 2 [ ] Waterbath #:
Test 2 incubated in: [✓] Incubator #: 2 [ ] Waterbath #:

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: ___ Final Salinity: ___ Salts Hypersaline brine
Salinity adjusted (Test 2): yes (no) Initial Salinity: ___ Final Salinity: ___ Salts Hypersaline brine
Dechlorination: yes (no) ___ mL of 0.025N Sodium Thiosulfate per liter of sample. Final TRC: ___

Light Intensity : 50 - 100 ft. candles
Photoperiod : 16 light 8 dark
Temperature Range °C: (if used)
Incubator # 2 min 26.0 max 26.6 mean 26.3
Incubator # ___ min ___ max ___ mean ___
Waterbath # ___ min ___ max ___ mean ___
Room B246 min 25.0 max 25.9 mean 25.5

Sample Validation:
Temperature: Shipped ≤6°C (Yes) No — IF 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)

Water Quality Parameters	batch #					5.18.09				
	20% DMW	Well Water	Moderately Hard Water	Salt Water (SSW) NSW Test 1	Salt Water (SSW) NSW Test 2	Other:	Original Sample	Measured by	Verified by
Field Total Residual Cl_2 (mg/L):	N/A	N/A	N/A	N/A	N/A		not measured	MF	
Lab Total Residual Cl_2 (mg/L):				<0.03	<0.03		<0.03	SD	BS
Alkalinity (mg/L as $CaCO_3$):				22.9	22.9		19.5	BS	SD
Hardness (mg/L as $CaCO_3$):				—	—		—	—	—
Total Ammonia (mg/L as N):				<0.034	<0.034		<0.034	MF	SD
Conductivity: µmhos (mmhos)				32.6	32.5		32.5 ppt	35	BS
Salinity (ppth):				20.2	20.2		19.7	20	BS

Investigators' Signatures
Sonia Danish
Meshell Fairchild
Sergio Alcazar
Lisa Gatch
Anita C. Wolfe

REVIEWER

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Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 1188083 Test #: 1 SOP#:TA 07 03 Test Started: Date 5-19-09 Time: 1300
Organism/Batch/Age: Americamysis bahia / 5.19.09 / 5days Test Ended: Date 5-21-09 Time: 1330
Chamber/Test Volume: 400 / 300 ml Diluent/ Batch: ASW / 5.1.09 Test Duration: 48 hr 96 hr
Food/Batch: ☐ YCT ☐ P.sub
☒ Artemia Lot# 239338 Batch #: 0hr 68-09 24hr 69-09 48hr 72hr
Feeding: ☑ Prior to Test ☐ Prior to Renewal ☑ 0 hr ☑ 24 hr ☐ 48 hr ☐ 72 hr

Concentration	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Control	A	Tox 1	5	5	5			
	B	Tox 2	5	5	5			
	C	Tox 3	5	5	5			
	D	Tox 4	5	5	5			
100%	A	Tox 5	5	5	5			
	B	Tox 6	5	5	5			
	C	Tox 7	5	5	5			
	D	Tox 8	5	5	5			
			mf	~~5~~	~~5~~			

Loaded/Verified by: JD / JW Checked by:
m = missing d = dead BR/AR = Before/After Renewal
Test Results:
Screening Tests: Report LC50 as >100%, =100%, or <100%.
% mortality in 100% sample: Ø LC50: > 100%
If Calculated: 95% CI_____ Method_____
Substitue highest test concentration used if other than 100% (example: Ocean outfall tested at 30% concentration).

Comments:

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Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 1188083 Test #: 2 SOP#:TA 07 04 Test Started: Date 5-19-09 Time: 1320
Organism/Batch/Age: Menidia beryllina/ 5.19.09 / 13days Test Ended: Date 5-24-09 Time: 1330
Chamber/Test Volume: 1000 mL/ 500 ml Diluent/ Batch: ASW / 5.1.09 Test Duration: 48 hr 96 hr
Food/Batch: ☐ YCT_____ ☐ P.sub_____ 68.09 JD (68.09 is correct)
☑ Artemia Lot# 38435 Batch #: 0hr 68-09 24hr_____ 48hr_____ 72hr_____
Feeding: ☑ Prior to Test ☐ Prior to Renewal ☑ 0 hr ☐ 24 hr ☐ 48 hr ☐ 72 hr

Concentration	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Control	A	D1	5	5	5			
	B	D2	5	5	5			
	C	D3	5	5	5			
	D	D4	5	5	5			
100%	A	D5	5	5	5			
	B	D6	5	5	5			
	C	D7	5	5	5			
	D	D8	5	5	5			

Loaded/Verified by: JD / JW Checked by: MF
m = missing d = dead BR/AR = Before/After Renewal
Test Results:
Screening Tests: Report LC50 as >100%, =100%, or <100%.
% mortality in 100% sample: 0 LC50: >100%
If Calculated: 95% CI_____ Method_____
Substitue highest test concentration used if other than 100% (example: Ocean outfall tested at 30% concentration).

Comments:

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Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1188083 Test #: 1 of 2

TEST SOP #: TA07_03 Test Species: ☐ *Ceriodaphnia dubia* ☐ *Cyprinella leedsi* ☐ *Pimephales promelas*

Test aerated: yes (no) (circle one) Check 1: ☑ *Americamysis bahia* ☐ *Menidia beryllina* ☐ Other:

Concentration Control	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C			
pH (S.U.)	8.3	8.4	8.1			
Temperature °C	25.7	24.9	25.1			
Dissolved Oxygen mg/L aerate if < 4	6.6	6.1	5.5			
Conductivity µmhos (mmhos)	32.6	32.8	33.6			
Salinity ppth	20.2	20.6	21.1			
(initials) Measured by:	MF	JS	JS			
(initials) Recorded by:	MF	JS	JS			

Comments:

Salinity only needs measuring if saltwater.

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C			
pH (S.U.)	8.0	8.2	8.1			
Temperature °C	25.4	24.1	24.9			
Dissolved Oxygen mg/L aerate if < 4	6.7	6.1	5.9			
Conductivity µmhos (mmhos)	31.3	32.2	33.5			
Salinity ppth	19.7	20.1	21.0			
(initials) Measured by:	MF	JS	JS			
(initials) Recorded by:	MF	JS	JS			

Comments: 40

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FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1188083 **Test #:** 2 of 2

TEST SOP #: TA07_04 **Test Species:** ☐ *Ceriodaphnia dubia* ☐ *Cyprinella leedsi* ☐ *Pimephales promelas*

Test aerated: yes (no) (circle one) Check 1: ☐ *Americamysis bahia* ☑ *Menidia beryllina* ☐ Other:_____

Concentration: Control	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C			
pH (S.U.)	8.3	8.3	8.1			
Temperature °C	25.7	24.5	24.5			
Dissolved Oxygen mg/L aerate if < 4	6.6	6.1	6.0			
Conductivity µmhos (mmhos)	32.5	33.6	33.9			
Salinity ppth	20.2	20.4	21.3			
(initials) Measured by:	MF	~~JS~~	~~JS~~			
(initials) Recorded by:	MF	~~JS~~	~~JS~~			

Comments:

Concentration: 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C			
pH (S.U.)	8.0	8.2	8.1			
Temperature °C	25.4	24.3	24.6			
Dissolved Oxygen mg/L aerate if < 4	6.7	5.9	6.0			
Conductivity µmhos (mmhos)	31.5	32.2	32.7			
Salinity ppth	19.7	20.1	20.5			
(initials) Measured by:	MF	~~JS~~	~~JS~~			
(initials) Recorded by:	MF	~~JS~~	~~JS~~			

Comments:

Salinity only needs measuring if saltwater.

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 aerate if < 4						
Conductivity µmhos mmhos						
Salinity ppth						
(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 aerate if < 4						
Conductivity µmhos mmhos						
Salinity ppth						
(initials) Measured by:						
(initials) Recorded by:						

Comments:

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Appendix B. (continued)

Bioassay Instrument ID

Test ID: Gulfstream Park RO Dates: 5-19-09 5-21-09

METER / DEVICE	ID	SOP	Parameter	Method	√used
YSI Model 58 Dissolved Oxygen Meter	90H018262	TA06_04	Dissolved Oxygen	SM 4500 O G	✓
Accumet AR-10 pH Meter	93312105	TA06_23	pH	SM 4500 H+	✓
Mettler-Toledo SevenMulti Conductivity Meter	SN 1225117049 Probe H04257	TA06_25	Conductivity Salinity	SM 2510 B SM 2520 B	✓ ✓
Denver Model 225 ISE with ammonia probe	SN K01377	TA06_17	Ammonia	SM 4500 NH3 F	✓
Thermometer (DO probe)	YSI 5750 SN 05J1720	TA06_05	Temperature	SM-2530B modified DEP SOP-001/01 FT1400	✓
Hach Pocket Colorimeter II	05050C026378	TA06_22	Total Residual Chlorine	EPA 330.5 SM 4500 CL G	✓
Alkalinity (Hach Kit)	No SN	TA06_08	Alkalinity	SM 2320 B	(not measured.) incorrectly marked. alkalinity was measured; hardness was not measured. MF 6/8/09
Hardness (Hach Kit)	No SN	TA06_09	Hardness	SM 2340 C	ND ✓
OHAUS Balance 250D	1125481084	TA06_21 TA06_27	Weight	-	
S-Weights	BIO-S-WEIGHTS-01	NA	Balance check	-	

SM-2530B modified to allow use of electronic and non-mercury filled thermometers.
Insert other device information in blank spaces(if used). Test ID = Facility or SRTs (acute SRT--Chronic SRT)

entered by Marshall Faircloth

V 1.1 6/12/08 MF

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Appendix C. SRT Bench Sheets and Statistical Analysis

Florida Department of Environmental Protection
Bureau of Laboratories

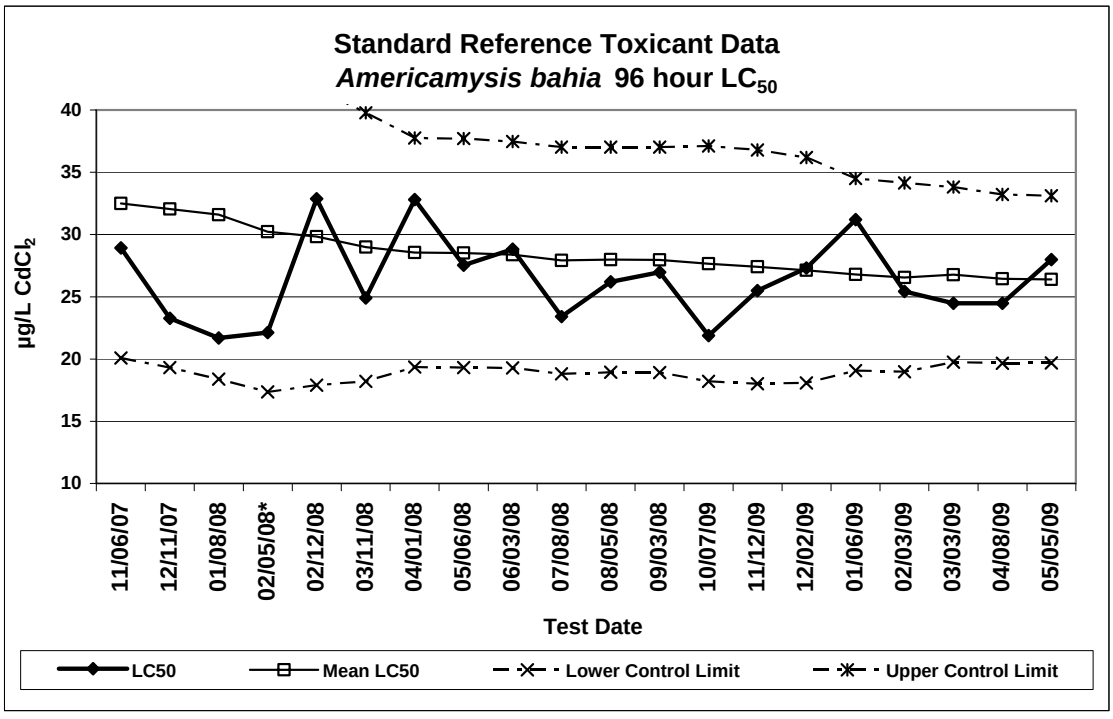
Standard Reference Toxicant (SRT) Test Data - 96-hour Acute Toxicity
Americamysis bahia (mysid shrimp) - Cadmium Chloride ($CdCl_2$)

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
11/06/07	28.93	32.50	6.21	20.08	44.91
12/11/07	23.28	32.06	6.38	19.30	44.81
01/08/08	21.69	31.59	6.60	18.38	44.79
02/05/08*	22.13	30.23	6.44	17.35	43.12
02/12/08	32.87	29.83	5.96	17.90	41.76
03/11/08	24.89	29.00	5.39	18.22	39.78
04/01/08	32.81	28.56	4.60	19.36	37.75
05/06/08	27.55	28.52	4.60	19.31	37.72
06/03/08	28.81	28.37	4.54	19.29	37.46
07/08/08	23.40	27.91	4.56	18.80	37.03
08/05/08	26.21	27.98	4.52	18.93	37.03
09/03/08	26.98	27.96	4.53	18.91	37.02
10/07/09	21.89	27.66	4.73	18.21	37.11
11/12/09	25.50	27.40	4.69	18.01	36.78
12/02/09	27.31	27.13	4.53	18.07	36.20
01/06/09	31.20	26.79	3.86	19.07	34.50
02/03/09	25.44	26.56	3.79	18.97	34.15
03/03/09	24.49	26.78	3.52	19.75	33.81
04/08/09	24.49	26.45	3.39	19.66	33.23
05/05/09	27.98	26.39	3.36	19.68	33.10

CV = 12.73

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

EPA reference 75th quartile CV = 26%



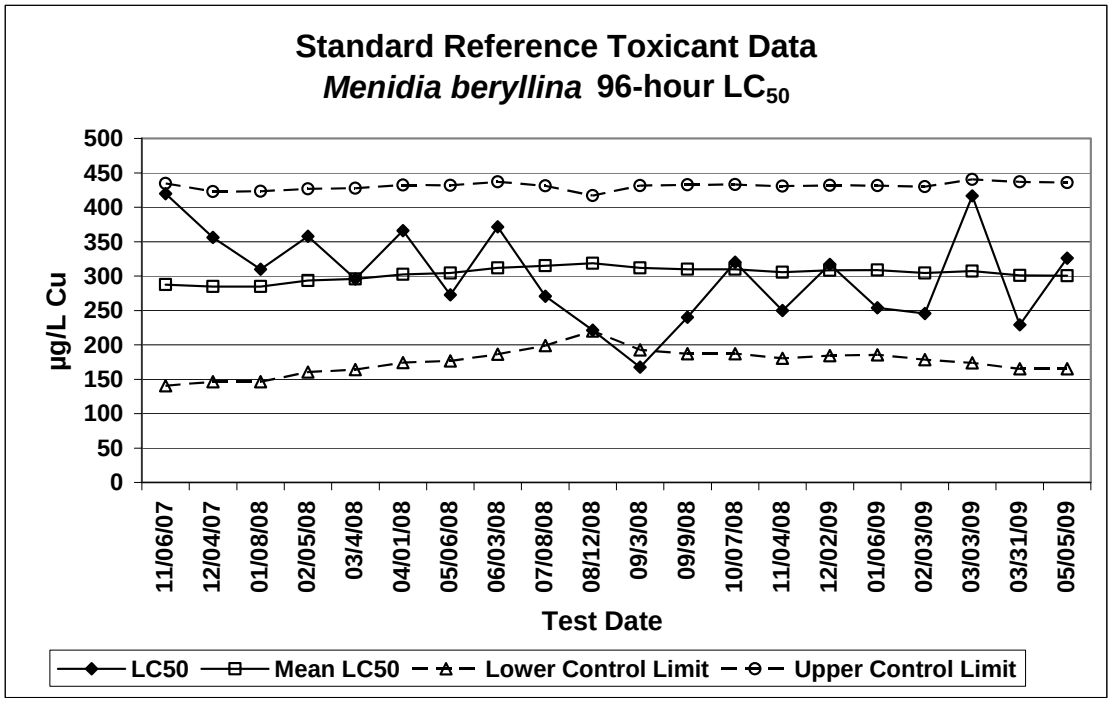
Appendix C. (continued)

Florida Department of Environmental Protection
Bureau of Laboratories

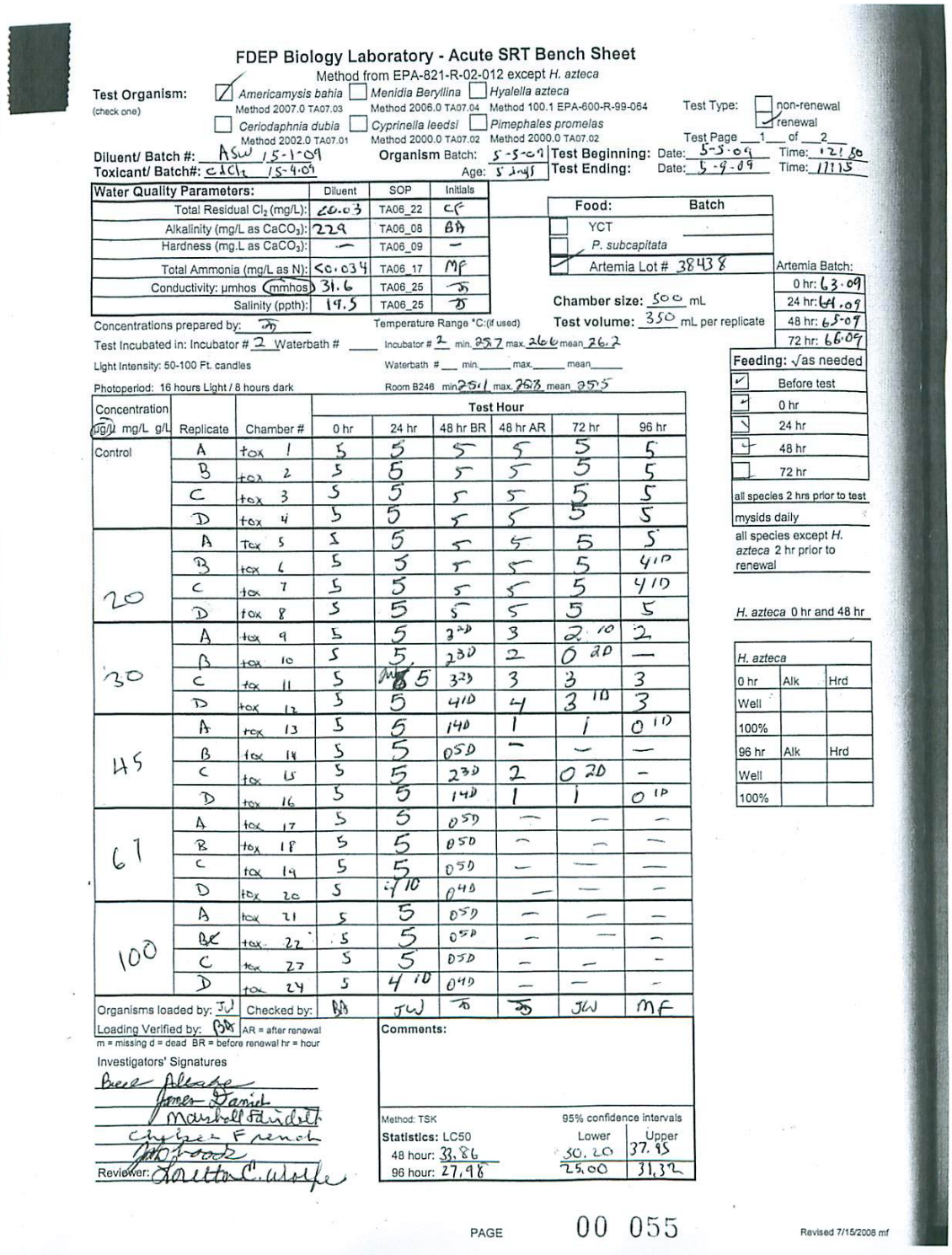
Standard Reference Toxicant (SRT) Test Data - 96-hour Acute Toxicity
Menidia beryllina (inland silverside) - Copper Chloride ($CuCl_2$) as Cu

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
11/06/07	419.55	287.50	73.50	140.50	434.51
12/04/07	356.02	284.51	69.07	146.36	422.65
01/08/08	309.80	284.71	69.14	146.43	423.00
02/05/08	357.47	293.49	66.51	160.48	426.50
03/4/08	295.52	295.53	65.88	163.77	427.28
04/01/08	365.9	302.28	64.49	174.29	432.27
05/06/08	272.5	304.29	63.81	176.66	431.91
06/03/08	371.38	311.63	62.59	186.45	436.80
07/08/08	270.47	315.01	58.07	198.87	431.14
08/12/08	221.17	318.46	49.27	219.93	416.99
09/3/08	167.46	311.77	59.70	192.36	431.18
09/9/08	240.07	309.81	61.44	186.93	432.70
10/07/08	319.95	310.00	61.47	187.06	432.94
11/04/08	249.81	305.57	62.50	180.57	430.57
12/02/09	316.79	308.13	61.82	184.48	431.78
01/06/09	253.83	308.45	61.51	185.44	431.46
02/03/09	245.51	304.15	62.80	178.55	429.74
03/03/09	416.64	307.01	66.63	173.74	440.27
03/31/09	228.94	300.89	67.96	164.97	436.80
05/05/09	326.07	300.24	67.64	164.97	435.52

CV = 22.53
EPA reference 75th quartile CV = 21%



Appendix C. (continued)



FDEP Biology Laboratory - Acute SRT Bench Sheet

Method from EPA-821-R-02-012 except *H. azteca*

Test Organism: (check one) ☑ *Americamysis bahia* Method 2007.0 TA07.03 ☐ *Menidia Beryllina* Method 2006.0 TA07.04 ☐ *Hyalella azteca* Method 100.1 EPA-600-R-99-064 ☐ *Ceriodaphnia dubia* Method 2002.0 TA07.01 ☐ *Cyprinella leedsi* Method 2000.0 TA07.02 ☐ *Pimephales promelas* Method 2000.0 TA07.02

Test Type: ☐ non-renewal ☑ renewal

Test Page 1 of 2

Diluent/ Batch #: ASW 15-1-09 Organism Batch: 5-5-09 Test Beginning: Date: 5-5-09 Time: 12:50

Toxicant/ Batch#: $CdCl_2$ 15-4-09 Age: 5 days Test Ending: Date: 5-9-09 Time: 11:15

Water Quality Parameters:	Diluent	SOP	Initials
Total Residual Cl_2 (mg/L):	<0.03	TA06_22	CF
Alkalinity (mg/L as $CaCO_3$):	229	TA06_08	BA
Hardness (mg.L as $CaCO_3$):	—	TA06_09	—
Total Ammonia (mg/L as N):	<0.034	TA06_17	MF
Conductivity: µmhos (mmhos)	31.6	TA06_25	JS
Salinity (ppth):	19.5	TA06_25	JS

Food:	Batch
☐ YCT	
☐ *P. subcapitata*	
☑ Artemia Lot # 3843 8	

Artemia Batch:
0 hr: 63.09
24 hr: 64.09
48 hr: 65.09
72 hr: 66.09

Chamber size: 500 mL

Test volume: 350 mL per replicate

Concentrations prepared by: JW

Temperature Range °C:(if used)

Test Incubated in: Incubator # 2 Waterbath # ____ Incubator # 2 min. 25.7 max. 26.6 mean 26.2

Light Intensity: 50-100 Ft. candles Waterbath # ___ min. ____ max. ____ mean ____

Photoperiod: 16 hours Light / 8 hours dark Room B246 min 25.1 max. 25.3 mean 25.5

Feeding: √as needed

☑	Before test
☑	0 hr
☑	24 hr
☑	48 hr
☐	72 hr

all species 2 hrs prior to test

mysids daily

all species except *H. azteca* 2 hr prior to renewal

H. azteca 0 hr and 48 hr

Concentration µg/L mg/L g/L	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Control	A	tox 1	5	5	5	5	5	5
	B	tox 2	5	5	5	5	5	5
	C	tox 3	5	5	5	5	5	5
	D	tox 4	5	5	5	5	5	5
20	A	Tox 5	5	5	5	5	5	5
	B	tox 6	5	5	5	5	5	4 1D
	C	tox 7	5	5	5	5	5	4 1D
	D	tox 8	5	5	5	5	5	5
30	A	tox 9	5	5	3 2D	3	2 1D	2
	B	tox 10	5	5	2 3D	2	0 2D	—
	C	tox 11	5	5	3 2D	3	3	3
	D	tox 12	5	5	4 1D	4	3 1D	3
45	A	tox 13	5	5	1 4D	1	1	0 1D
	B	tox 14	5	5	0 5D	—	—	—
	C	tox 15	5	5	2 3D	2	0 2D	—
	D	tox 16	5	5	1 4D	1	1	0 1D
67	A	tox 17	5	5	0 5D	—	—	—
	B	tox 18	5	5	0 5D	—	—	—
	C	tox 19	5	5	0 5D	—	—	—
	D	tox 20	5	4 1D	0 4D	—	—	—
100	A	tox 21	5	5	0 5D	—	—	—
	B	tox 22	5	5	0 5D	—	—	—
	C	tox 23	5	5	0 5D	—	—	—
	D	tox 24	5	4 1D	0 4D	—	—	—
Organisms loaded by: JW	Checked by:	BA	JW	JS	JS	JW	MF	

H. azteca		
0 hr	Alk	Hrd
Well		
100%		
96 hr	Alk	Hrd
Well		
100%		

Loading Verified by: BA AR = after renewal

m = missing d = dead BR = before renewal hr = hour

Investigators' Signatures

Brian Allaire

James Davis

Marshall Faircloth

Chyler French

JW Woods

Reviewer: Loretta C. Wolfe

Comments:

Method: TSK

Statistics: LC50	95% confidence intervals Lower	Upper
48 hour: 33.86	30.20	37.95
96 hour: 27.98	25.00	31.32

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Revised 7/15/2008 mf

Appendix C. (continued)

FDEP Biology Laboratory - Acute SRT Bench Sheet
0-96 hour parameters

Methods from EPA-821-R-02-012 except *H. azteca* — Test Page 2 of 2

Test Organism: (check one)
- ☑ *Americamysis bahia* Method 2007.0 TA07.03
- ☐ *Menidia Beryllina* Method 2006.0 TA07.04
- ☐ *Hyalella azteca* Method 100.1 EPA-600-R-99-064
- ☐ *Ceriodaphnia dubia* Method 2002.0 TA07.01
- ☐ *Cyprinella leedsi* Method 2000.0 TA07.02
- ☐ *Pimephales promelas* Method 2000.0 TA07.02

Test Beginning: Date: 5-5-09 Time: 12:50
Test Ending: Date: 5-9-09 Time: 11:15

Test Type: ☐ non-renewal ☑ renewal

hr = hour AR = after renewal BR = before renewal

Concentration (µg/l) mg/L g/L	Replicate	Test Hour	pH (SU)	Temperature (° C)	Dissolved Oxygen (mg/L)	Conductivity ☐ µmhos ☑ mmhos	Salinity (ppth)
Control	A	0 hr	8.4	24.0	6.9	31.6	19.5
	B	24 hr	8.3	24.5	5.1	33.3	20.6
	C	48 hr BR	8.1	25.5	4.6	33.5	20.7
	C	48 hr AR	8.4	24.2	6.6	32.0	20.3
	D	72 hr	8.2	25.5	6.4	32.6	20.2
	A	96 hr	8.1	25.1	5.0	33.4	20.2
20	A	0 hr	8.4	24.0	6.8	32.0	19.9
	B	24 hr	8.3	24.5	5.1	33.6	20.9
	C	48 hr BR	8.1	25.3	5.0	33.8	21.2
	C	48 hr AR	8.3	24.3	6.5	32.6	20.7
	D	72 hr	8.2	25.3	6.1	32.6	20.3
	A	96 hr	8.1	24.6	5.2	33.8	20.8
30	A	0 hr	8.4	24.2	6.9	32.1	19.9
	B	24 hr	8.3	24.7	5.0	33.4	20.9
	C	48 hr BR	8.1	25.0	5.0	33.6	21.1
	C	48 hr AR	8.3	24.7	6.4	32.8	20.6
	D	72 hr	8.2	25.4	4.9	32.7	20.4
	A	96 hr	8.1	24.7	5.1	32.9	20.4
45	A	0 hr	8.4	24.2	7.0	32.0	19.9
	B	24 hr	8.3	24.8	5.2	33.3	20.9
	C	48 hr BR	8.1	25.4	5.0	33.9	21.2
	C	48 hr AR	8.4	24.7	6.4	32.5	20.4
	D	72 hr	8.2	25.3	5.3	32.7	20.5
	A	96 hr	8.1	24.7	5.3	333	20.7
67	A	0 hr	8.4	24.3	7.0	31.9	19.9
	B	24 hr	8.3	24.6	5.3	33.2	20.8
	C	48 hr BR	8.1	25.2	5.1	33.1	20.6
	—	48 hr AR	—	—	—	—	—
	—	72 hr	—	—	—	—	—
	—	96 hr	—	—	—	—	—
100	A	0 hr	8.4	24.4	7.0	31.9	19.8
	B	24 hr	8.3	24.3	5.5	32.9	20.6
	C	48 hr BR	8.1	25.2	5.3	33.2	20.8
	—	48 hr AR	—	—	—	—	—
	—	72 hr	—	—	—	—	—
	—	96 hr	—	—	—	—	—

Investigators Signatures
Brett Alford
Chelsea French
James Daniels
Marshall Faircloth
Reviewed By: Loretta C. Ludwig

Measured by:
0 hr: JA/SW
24 hr: JW/JA
48 hr BR: JA/JA
48 hr AR: JA/JA
72 hr: JW/SW
96 hr: MF

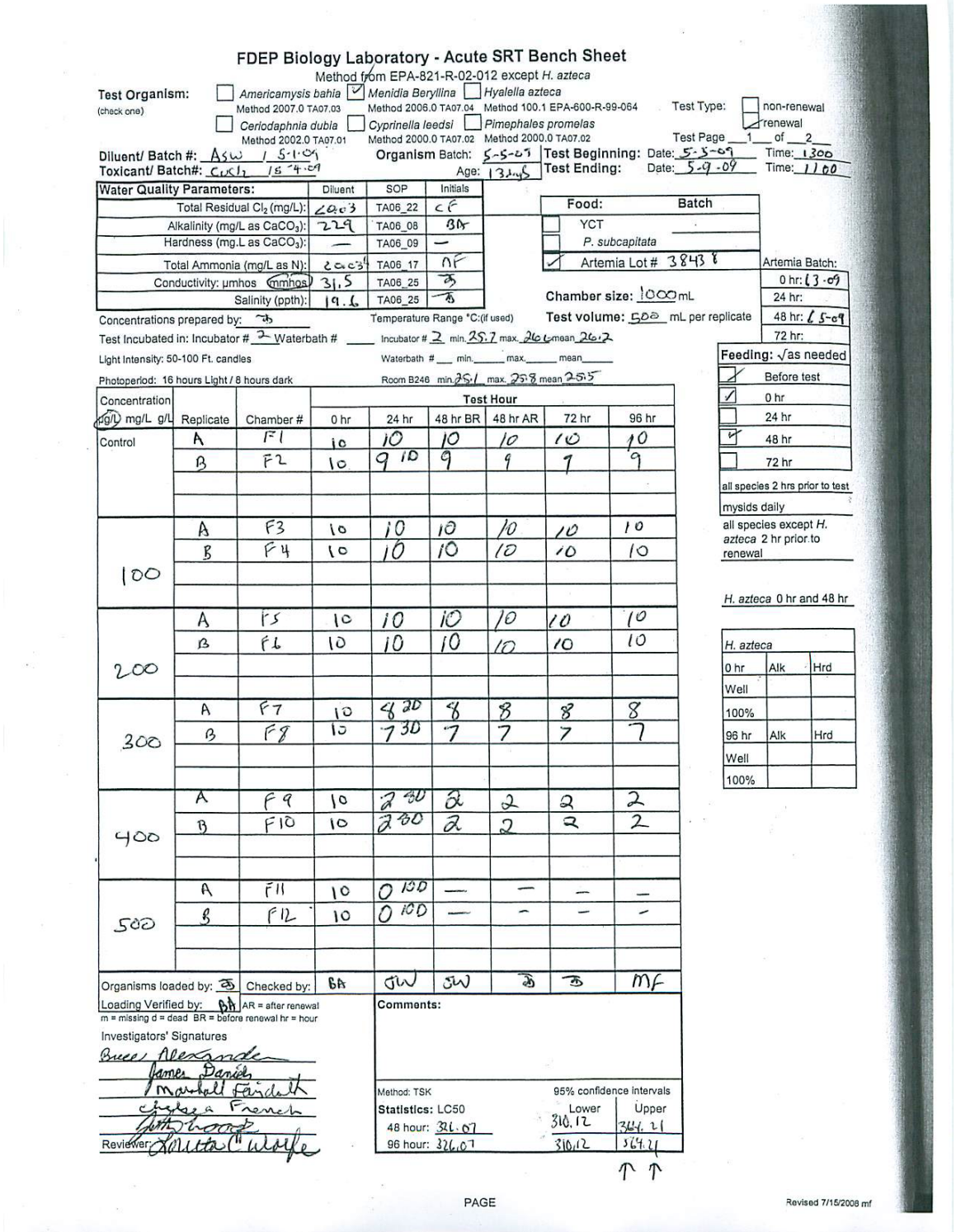
Measure/record salinity for marine tests

Comments:

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Revised 07/15/2008 MF

Appendix C. (continued)



FDEP Biology Laboratory - Acute SRT Bench Sheet

Method from EPA-821-R-02-012 except *H. azteca*

Test Organism: (check one) ☐ *Americamysis bahia* Method 2007.0 TA07.03 ☑ *Menidia Beryllina* Method 2006.0 TA07.04 ☐ *Hyalella azteca* Method 100.1 EPA-600-R-99-064 ☐ *Ceriodaphnia dubia* Method 2002.0 TA07.01 ☐ *Cyprinella leedsi* Method 2000.0 TA07.02 ☐ *Pimephales promelas* Method 2000.0 TA07.02

Test Type: ☐ non-renewal ☑ renewal

Test Page 1 of 2

Diluent/ Batch #: ASW 1 5-1-09

Toxicant/ Batch#: $CuSO_4$ 15-4-09

Organism Batch: 5-5-09 Age: 13 hrs

Test Beginning: Date: 5-5-09 Time: 1300

Test Ending: Date: 5-9-09 Time: 1100

Water Quality Parameters:	Diluent	SOP	Initials
Total Residual Cl_2 (mg/L):	<0.03	TA06_22	CF
Alkalinity (mg/L as $CaCO_3$):	229	TA06_08	BA
Hardness (mg.L as $CaCO_3$):	—	TA06_09	—
Total Ammonia (mg/L as N):	<0.03	TA06_17	MF
Conductivity: µmhos (mmhos)	31.5	TA06_25	JB
Salinity (ppth):	19.6	TA06_25	JB

Food:	Batch
☐ YCT	
☐ *P. subcapitata*	
☑ Artemia Lot #	3843 8

Artemia Batch:

0 hr: 13-09

24 hr:

48 hr: 15-09

72 hr:

Chamber size: 1000 mL

Test volume: 500 mL per replicate

Concentrations prepared by: JB

Temperature Range °C:(if used)

Test Incubated in: Incubator # 2 Waterbath # ____ Incubator # 2 min. 25.7 max. 26.6 mean 26.2

Light Intensity: 50-100 Ft. candles Waterbath # ___ min. ____ max. ____ mean ____

Photoperiod: 16 hours Light / 8 hours dark Room B246 min. 25.1 max. 25.8 mean 25.5

Feeding: √as needed

☑	Before test
☑	0 hr
☐	24 hr
☑	48 hr
☐	72 hr

all species 2 hrs prior to test

mysids daily

all species except *H. azteca* 2 hr prior to renewal

H. azteca 0 hr and 48 hr

H. azteca		
0 hr	Alk	Hrd
Well		
100%		
96 hr	Alk	Hrd
Well		
100%		

Concentration µg/L mg/L g/L	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Control	A	F1	10	10	10	10	10	10
	B	F2	10	9 10	9	9	7	9
100	A	F3	10	10	10	10	10	10
	B	F4	10	10	10	10	10	10
200	A	F5	10	10	10	10	10	10
	B	F6	10	10	10	10	10	10
300	A	F7	10	8 10	8	8	8	8
	B	F8	10	7 10	7	7	7	7
400	A	F9	10	2 10	2	2	2	2
	B	F10	10	2 10	2	2	2	2
500	A	F11	10	0 10	—	—	—	—
	B	F12	10	0 10	—	—	—	—
Organisms loaded by: JB		Checked by:	BA	JW	JW	JB	JB	MF

Loading Verified by: BA AR = after renewal

m = missing d = dead BR = before renewal hr = hour

Investigators' Signatures

Bruce Alexander

James Daniels

Marbell Faircloth

Chelsea French

Reviewer: Loretta C. Wolfe

Comments:

Method: TSK

Statistics: LC50	95% confidence intervals Lower	Upper
48 hour: 326.07	310.12	364.21
96 hour: 326.07	310.12	364.21

↑ ↑

PAGE

Revised 7/15/2008 mf

Appendix C. (continued)

FDEP Biology Laboratory - Acute SRT Bench Sheet
0-96 hour parameters

Methods from EPA-821-R-02-012 except *H. azteca* — Test Page 2 of 2

Test Organism: (check one)
- ☐ *Americamysis bahia* Method 2007.0 TA07.03
- ☑ *Menidia Beryllina* Method 2006.0 TA07.04
- ☐ *Hyalella azteca* Method 100.1 EPA-600-R-99-064
- ☐ *Ceriodaphnia dubia* Method 2002.0 TA07.01
- ☐ *Cyprinella leedsi* Method 2000.0 TA07.02
- ☐ *Pimephales promelas* Method 2000.0 TA07.02

Test Beginning: Date: 5-5-09 Time: 1300
Test Ending: Date: 5-9-09 Time: 1100

Test Type: ☐ non-renewal ☑ renewal

hr = hour AR = after renewal BR = before renewal

Concentration (µg/L mg/L g/L)	Replicate	Test Hour	pH (SU)	Temperature (° C)	Dissolved Oxygen (mg/L)	Conductivity ☐ µmhos ☑ mmhos	Salinity (ppth)
Control	A	0 hr	8.4	24.0	6.8	31.5	19.6
	B	24 hr	8.3	24.7	5.6	33.0	20.6
	A	48 hr BR	8.3	25.5	6.0	32.8	20.4
	A	48 hr AR	8.4	24.5	6.6	32.4	20.4
	B	72 hr	8.3	24.7	5.7	32.5	20.0
	A	96 hr	8.3	24.8	6.3	32.3	20.4
100	A	0 hr	8.4	24.0	7.0	31.9	19.9
	B	24 hr	8.3	24.6	5.4	33.0	20.8
	A	48 hr BR	8.2	25.1	5.5	33.3	21.0
	A	48 hr AR	8.4	24.5	6.6	33.0	20.6
	B	72 hr	8.3	25.5	5.8	32.8	20.5
	A	96 hr	8.2	25.4	6.1	32.8	20.7
200	A	0 hr	8.4	24.2	7.0	32.2	24.1 19.7 cF
	B	24 hr	8.3	24.6	5.9	33.3	20.8
	A	48 hr BR	8.2	25.3 ~~6.7~~ 6.1		33.4	20.9
	A	48 hr AR	8.4	24.4	6.6	33.0	20.6
	B	72 hr	8.3	25.1	5.9	32.1	20.2
	A	96 hr	8.3	25.1	6.0	32.7	20.4
300	A	0 hr	8.4	~~8.2~~ 24.5	7.0	32.2	19.9 SD-19.9
	B	24 hr	8.3	24.7	6.0	33.3	20.8
	A	48 hr BR	8.2	25.2	6.0	33.3	20.9
	A	48 hr AR	8.4	24.4	6.6	33.0	20.5
	B	72 hr	8.3	25.0	5.9	32.3	20.2
	A	96 hr	8.3	25.2	6.1	33.0	20.6
400	A	0 hr	8.4	24.7	7.0	32.3	20.0
	B	24 hr	8.3	25.0	4.9	33.3	20.8
	A	48 hr BR	8.2	25.8	6.0	33.6	21.0
	A	48 hr AR	8.4	24.5	6.6	32.6	20.3
	B	72 hr	8.3	25.2	5.8	32.2	20.2
	A	96 hr	8.3	25.1	6.4	32.4	20.3
500	A	0 hr	8.5	24.5	7.0	~~32.2~~ 32.2	20.1
	B	24 hr	8.3	25.1	5.3	33.3	20.8
—	—	48 hr BR	—	—	—	—	—
—	—	48 hr AR	—	—	—	—	—
—	—	72 hr	—	—	—	—	—
—	—	96 hr	—	—	—	—	—

Investigators Signatures
Bruce Alexander
James Daniels
Marshall Faircloth
Chelsea French
John Brooks
Reviewed By: Loretta Colvin

Measured by:
0 hr: JD/SW
24 hr: CW/JB
48 hr BR: SW/JB
48 hr AR: JD/SW
72 hr: JB/JD
96 hr: MF

Measure/record salinity for marine tests

Comments:

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Revised 07/15/2008 MF

Appendix C. (continued)

Americamysis bahia **Acute Standard Reference Toxicant Test**

DATE: 5-5-09 DURATION: 96 hr TOXICANT: $CdCl_2$
SPECIES: *Americamysis bahia*

RAW DATA: Concentration (ug/L)	Number Exposed	Mortalities
.00	20	0
20.00	20	2
30.00	20	12
45.00	20	20
67.00	20	20
100.00	20	20

SPEARMAN-KARBER TRIM: 10.00%

SPEARMAN-KARBER ESTIMATES: LC50: 27.98
95% LOWER CONFIDENCE: 25.00
95% UPPER CONFIDENCE: 31.32

Menidia beryllina **Acute Standard Reference Toxicant Test**

DATE: 5-5-09 DURATION: 96 hr TOXICANT: $CuCl_2$
SPECIES: *Menidia beryllina*

RAW DATA: Concentration (µg/L)	Number Exposed	Mortalities
.00	20	1
100.00	20	0
200.00	20	0
300.00	20	5
400.00	20	16
500.00	20	20

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: LC50: 336.07
95% LOWER CONFIDENCE: 310.12
95% UPPER CONFIDENCE: 364.21

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

Appendix D. Test Organism Receipt(s)

MARINCO BIOASSAY LABORATORY
The Aquatic Toxicology Specialists

NELAP Certification # E84191

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 5/4/09

Shipped to: FDEP

P.O. No:

Species	Quantity	Age	Brood Number	Temp.	pH	Salinity
Mysidopsis bahia	200	4 DAYS	MS090430	25°C	7.9	20‰
Menidia beryllina	200	12 DAYS	SS090422	25°C	7.9	20‰
						Hardness
Cyprinella leedsi	150	12 DAYS	CL090422	25°C	7.8	80mg/L
Pimephales promelas	150	8 DAYS	FM090426	25°C	7.8	80mg/L

Packed by:

Shipped Via: FedEx

Notes:

Thank you for your order.

4569 Samuel Street · Sarasota, FL 34233 · Tel: 941-925-3594 · Fax: 941-922-3874 · Web: www.biologylab.com

Appendix D. (continued)

MARINCO BIOASSAY LABORATORY
The Aquatic Toxicology Specialists

NELAP Certification # E84191

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 5/18/09

Shipped to: FDEP

P.O. No: _____

Species	Quantity	Age	Brood Number	Temp.	pH	Salinity
Mysidopsis bahia	100	4DAYS	MS090508 14 (5/18/09)	25°C	7.9	15‰
Menidia beryllina	100	12DAYS	BS090506	25°C	7.9	15‰
						Hardness
Cyprinella leedsi	100	9DAYS	CL090509	25°C	7.8	80mg/L
Pimephales promelas						

Packed by: DC

Shipped Via: FedEx

Notes: _____

Thank you for your order.

4569 Samuel Street · Sarasota, FL 34233 · Tel: 941-925-3594 · Fax: 941-922-3874 · Web: www.biologylab.com

Appendix E. Chemical Analyses performed on the effluent from the Gulfstream Park Reverse Osmosis (R.O.) Concentrate Detention Pond Discharge Facility Outfall D-002, sampled on May 18, 2009.

Date	Field ID	Analyses	Component	Results	Remark	Units	MDL	PQL
5/18/2009 10:30	Effluent	AGP/LN	Algal Growth Potential	3	AU	mg DryWt/L	3	3
5/18/2009 10:30	Effluent	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	16		ug/L	0.55	1.7
5/18/2009 10:30	Effluent	Chlorophyll/Grain Size/BOD	Phaeophytin-a	3.7		ug/L	0.4	1.2
5/18/2009 10:30	Effluent	Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	100	L	LC50		
5/18/2009 10:30	Effluent	Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	100	L	LC50		
5/18/2009 10:30	Effluent	Metals	Silver	0.025	U	ug/L	0.025	0.1
5/18/2009 10:30	Effluent	Metals	Arsenic	2.07		ug/L	0.25	1
5/18/2009 10:30	Effluent	Metals	Iron	90	U	ug/L	90	360
5/18/2009 10:30	Effluent	Metals	Chromium	0.35	I	ug/L	0.3	1.2
5/18/2009 10:30	Effluent	Metals	Selenium	0.23	I	ug/L	0.2	0.8
5/18/2009 10:30	Effluent	Metals	Aluminum	220	I	ug/L	180	720
5/18/2009 10:30	Effluent	Metals	Lead	0.6	U	ug/L	0.6	2.4
5/18/2009 10:30	Effluent	Metals	Calcium	295		mg/L	0.22	0.9
5/18/2009 10:30	Effluent	Metals	Zinc	19	I	ug/L	15	60
5/18/2009 10:30	Effluent	Metals	Cadmium	0.03	U	ug/L	0.03	0.12
5/18/2009 10:30	Effluent	Metals	Nickel	0.42	I	ug/L	0.25	1
5/18/2009 10:30	Effluent	Metals	Magnesium	722		mg/L	2	8
5/18/2009 10:30	Effluent	Metals	Copper	0.92		ug/L	0.5	0.5
5/18/2009 10:30	Effluent	Nutrients	Fluoride	0.82		mg F/L	0.25	0.5
5/18/2009 10:30	Effluent	Nutrients	O-Phosphate-P	0.063		mg P/L	0.008	0.02
5/18/2009 10:30	Effluent	Nutrients	Turbidity	3.3		NTU	0.1	0.1
5/18/2009 10:30	Effluent	Nutrients	TSS	25		mg/L	4	16
5/18/2009 10:30	Effluent	Nutrients	NO2NO3-N	0.011		mg N/L	0.004	0.01
5/18/2009 10:30	Effluent	Nutrients	Ammonia-N	0.01	U	mg N/L	0.01	0.02
5/18/2009 10:30	Effluent	Nutrients	Total-P	0.1		mg P/L	0.008	0.02
5/18/2009 10:30	Effluent	Nutrients	Kjeldahl Nitrogen	1.1		mg N/L	0.16	0.4
5/18/2009 10:30	Effluent	Overflow	Radium 228	0.8	U	pCi/L		
5/18/2009 10:30	Effluent	Overflow	Radium 226	1.8		pCi/L		
5/18/2009 10:30	Effluent	Overflow	Alpha, Total	2.4		pCi/L		
5/18/2009 10:30	Effluent	Overflow	Alpha-Counting Error	1		pCi/L		
5/18/2009 10:30	Effluent	Overflow	Radium 226-Counting Error	0.4		pCi/L		
5/18/2009 10:30	Effluent	Overflow	Radium 228-Counting Error	0.6		pCi/L		
5/18/2009 10:30	Effluent	Pesticides	Atrazine	0.05	U	ug/L	0.05	0.2

Appendix E. (continued)

Date	Field ID	Analyses	Component	Results	Remark	Units	MDL	PQL
5/18/2009 10:30	Effluent	Pesticides	Diazinon	0.05	U	ug/L	0.05	0.2
5/18/2009 10:30	Effluent	Pesticides	Fenamiphos	0.2	U	ug/L	0.2	0.8
5/18/2009 10:30	Effluent	Pesticides	Malathion	0.15	U	ug/L	0.15	0.6
5/18/2009 10:30	Effluent	Pesticides	Metalaxyl	0.25	U	ug/L	0.25	1
5/18/2009 10:30	Effluent	Pesticides	Aldrin	0.01	U	ug/L	0.01	0.04
5/18/2009 10:30	Effluent	Pesticides	DDD-p,p'	0.02	U	ug/L	0.02	0.08
5/18/2009 10:30	Effluent	Pesticides	DDE-p,p'	0.02	U	ug/L	0.02	0.08
5/18/2009 10:30	Effluent	Pesticides	DDT-p,p'	0.03	U	ug/L	0.03	0.12
5/18/2009 10:30	Effluent	Pesticides	Endrin	0.05	U	ug/L	0.05	0.2
5/18/2009 10:30	Effluent	Pesticides	Heptachlor Epoxide	0.02	U	ug/L	0.02	0.08
5/18/2009 10:30	Effluent	Pesticides	Azinphos Methyl	0.2	UJ	ug/L	0.2	0.8
5/18/2009 10:30	Effluent	Pesticides	Bromacil	0.2	UJ	ug/L	0.2	0.8
5/18/2009 10:30	Effluent	Pesticides	Metribuzin	0.1	U	ug/L	0.1	0.4
5/18/2009 10:30	Effluent	Pesticides	Endosulfan I	0.02	U	ug/L	0.02	0.08
5/18/2009 10:30	Effluent	Pesticides	Endosulfan Sulfate	0.02	U	ug/L	0.02	0.08
5/18/2009 10:30	Effluent	Pesticides	Ametryn	0.05	U	ug/L	0.05	0.2
5/18/2009 10:30	Effluent	Pesticides	Butylate	0.2	U	ug/L	0.2	0.8
5/18/2009 10:30	Effluent	Pesticides	Chlorpyrifos Methyl	0.1	U	ug/L	0.1	0.4
5/18/2009 10:30	Effluent	Pesticides	Ethoprop	0.1	U	ug/L	0.1	0.4
5/18/2009 10:30	Effluent	Pesticides	Norflurazon	0.15	U	ug/L	0.15	0.6
5/18/2009 10:30	Effluent	Pesticides	Simazine	0.05	U	ug/L	0.05	0.2
5/18/2009 10:30	Effluent	Pesticides	Beta-BHC	0.01	U	ug/L	0.01	0.04
5/18/2009 10:30	Effluent	Pesticides	Hexazinone	0.1	UJ	ug/L	0.1	0.4
5/18/2009 10:30	Effluent	Pesticides	Metolachlor	0.5	U	ug/L	0.5	2
5/18/2009 10:30	Effluent	Pesticides	Phorate	0.05	U	ug/L	0.05	0.2
5/18/2009 10:30	Effluent	Pesticides	Prometryn	0.15	U	ug/L	0.15	0.6
5/18/2009 10:30	Effluent	Pesticides	Alpha-BHC	0.01	U	ug/L	0.01	0.04
5/18/2009 10:30	Effluent	Pesticides	Chlordane	0.2	U	ug/L	0.2	0.8
5/18/2009 10:30	Effluent	Pesticides	Endrin Aldehyde	0.02	U	ug/L	0.02	0.08
5/18/2009 10:30	Effluent	Pesticides	Dieldrin	0.02	U	ug/L	0.02	0.08
5/18/2009 10:30	Effluent	Pesticides	Parathion Methyl	0.1	U	ug/L	0.1	0.4
5/18/2009 10:30	Effluent	Pesticides	Alachlor	0.6	U	ug/L	0.6	2.4
5/18/2009 10:30	Effluent	Pesticides	Methoxychlor	0.05	U	ug/L	0.05	0.2
5/18/2009 10:30	Effluent	Pesticides	Naled	0.8	U	ug/L	0.8	3.2

Appendix E. (continued)

Date	Field ID	Analyses	Component	Results	Remark	Units	MDL	PQL
5/18/2009 10:30	Effluent	Pesticides	Ethion	0.05	U	ug/L	0.05	0.2
5/18/2009 10:30	Effluent	Pesticides	Gamma-BHC	0.01	U	ug/L	0.01	0.04
5/18/2009 10:30	Effluent	Pesticides	Chlorpyrifos Ethyl	0.05	U	ug/L	0.05	0.2
5/18/2009 10:30	Effluent	Pesticides	Toxaphene	0.75	U	ug/L	0.75	3
5/18/2009 10:30	Effluent	Pesticides	Heptachlor	0.01	U	ug/L	0.01	0.04
5/18/2009 10:30	Effluent	Pesticides	Endosulfan II	0.02	U	ug/L	0.02	0.08
5/18/2009 10:30	Effluent	Pesticides	Delta-BHC	0.01	U	ug/L	0.01	0.04
5/18/2009 10:30	Effluent	Pesticides	Parathion Ethyl	0.15	U	ug/L	0.15	0.6
5/18/2009 10:30	Effluent	Pesticides	Fonofos	0.1	U	ug/L	0.1	0.4
5/18/2009 10:30	Effluent	Pesticides	Mevinphos	0.2	U	ug/L	0.2	0.8
5/18/2009 10:30	Effluent	Priority Organic Pollutants	2,4-Dinitrotoluene	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Butyl benzyl phthalate	4.8	U	ug/L	4.8	19
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Di-n-octyl phthalate	0.97	UJ	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	2,6-Dinitrotoluene	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.7
5/18/2009 10:30	Effluent	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	58
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Acenaphthene	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Chrysene	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Fluoranthene	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Fluorene	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.7
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Pyrene	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	2,4-Dichlorophenol	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	2,4-Dinitrophenol	14	U	ug/L	14	58
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Anthracene	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Benzo(a)anthracene	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Benzo(a)pyrene	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Diethyl phthalate	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Hexachlorobenzene	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2.9	12

Appendix E. (continued)

Date	Field ID	Analyses	Component	Results	Remark	Units	MDL	PQL
5/18/2009 10:30	Effluent	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	12
5/18/2009 10:30	Effluent	Priority Organic Pollutants	2-Nitrophenol	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Dimethyl phthalate	9.7	U	ug/L	9.7	39
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	UJ	ug/L	2.9	12
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Isophorone	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.7
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Naphthalene	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	2-Chloronaphthalene	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Benzidine	97	U	ug/L	97	390
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Benzo(b)fluoranthene	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	12
5/18/2009 10:30	Effluent	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	12
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.7
5/18/2009 10:30	Effluent	Priority Organic Pollutants	3,3'-Dichlorobenzidine	39	UJ	ug/L	39	150
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Benzo(k)fluoranthene	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Phenol	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	2,4-Dimethylphenol	9.7	U	ug/L	9.7	39
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Acenaphthylene	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	12
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	14	U	ug/L	14	58
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	12
5/18/2009 10:30	Effluent	Priority Organic Pollutants	2-Chlorophenol	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Di-n-butyl phthalate	4.8	U	ug/L	4.8	19
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Priority Organic Pollutants	Phenanthrene	0.97	U	ug/L	0.97	3.9
5/18/2009 10:30	Effluent	Field Parameter	Sample Depth	0.1		m		
5/18/2009 10:30	Effluent	Field Parameter	Specific Conductance	30910		umhos/cm		
5/18/2009 10:30	Effluent	Field Parameter	Temperature	28.26		C		
5/18/2009 10:30	Effluent	Field Parameter	pH	7.36				
5/18/2009 10:30	Effluent	Field Parameter	Dissolved Oxygen	7		mg/L		

Appendix E. (continued)

Date	Field ID	Analyses	Component	Results	Remark	Units	MDL	PQL
5/18/2009 10:50	Blank	Metals	Nickel	0.25	U	ug/L	0.25	1
5/18/2009 10:50	Blank	Metals	Chromium	0.3	U	ug/L	0.3	1.2
5/18/2009 10:50	Blank	Metals	Silver	0.025	U	ug/L	0.025	0.1
5/18/2009 10:50	Blank	Metals	Lead	0.2	U	ug/L	0.2	0.8
5/18/2009 10:50	Blank	Metals	Cadmium	0.03	U	ug/L	0.03	0.12
5/18/2009 10:50	Blank	Metals	Zinc	5	U	ug/L	5	20
5/18/2009 10:50	Blank	Metals	Aluminum	60	U	ug/L	60	240
5/18/2009 10:50	Blank	Metals	Arsenic	0.25	U	ug/L	0.25	1
5/18/2009 10:50	Blank	Metals	Magnesium	0.04	U	mg/L	0.04	0.16
5/18/2009 10:50	Blank	Metals	Selenium	0.2	U	ug/L	0.2	0.8
5/18/2009 10:50	Blank	Metals	Iron	30	U	ug/L	30	120
5/18/2009 10:50	Blank	Metals	Calcium	0.075	U	mg/L	0.075	0.3
5/18/2009 10:50	Blank	Metals	Copper	0.5	U	ug/L	0.5	0.5
5/18/2009 10:50	Blank	Nutrients	NO2NO3-N	0.012		mg N/L	0.004	0.01
5/18/2009 10:50	Blank	Nutrients	Fluoride	0.05	U	mg F/L	0.05	0.1
5/18/2009 10:50	Blank	Nutrients	Total-P	0.004	U	mg P/L	0.004	0.01
5/18/2009 10:50	Blank	Nutrients	Ammonia-N	0.01	U	mg N/L	0.01	0.02
5/18/2009 10:50	Blank	Nutrients	Kjeldahl Nitrogen	0.08	U	mg N/L	0.08	0.2
5/18/2009 10:50	Blank	Nutrients	O-Phosphate-P	0.004	U	mg P/L	0.004	0.01
5/18/2009 10:50	Blank	Overflow	Radium 226-Counting Error	0.2		pCi/L		
5/18/2009 10:50	Blank	Overflow	Radium 226	0.2	U	pCi/L		
5/18/2009 10:50	Blank	Overflow	Alpha-Counting Error	0.5		pCi/L		
5/18/2009 10:50	Blank	Overflow	Radium 228	0.8	U	pCi/L		
5/18/2009 10:50	Blank	Overflow	Alpha, Total	0.7	U	pCi/L		
5/18/2009 10:50	Blank	Overflow	Radium 228-Counting Error	0.5		pCi/L		
5/18/2009 10:50	Blank	Pesticides	Bromacil	0.19	UJ	ug/L	0.19	0.76
5/18/2009 10:50	Blank	Pesticides	Chlorpyrifos Ethyl	0.048	U	ug/L	0.048	0.19
5/18/2009 10:50	Blank	Pesticides	Chlorpyrifos Methyl	0.096	U	ug/L	0.096	0.38
5/18/2009 10:50	Blank	Pesticides	Diazinon	0.048	U	ug/L	0.048	0.19
5/18/2009 10:50	Blank	Pesticides	Hexazinone	0.096	UJ	ug/L	0.096	0.38
5/18/2009 10:50	Blank	Pesticides	Metalaxyl	0.24	U	ug/L	0.24	0.96
5/18/2009 10:50	Blank	Pesticides	Endosulfan Sulfate	0.019	U	ug/L	0.019	0.076
5/18/2009 10:50	Blank	Pesticides	Heptachlor Epoxide	0.019	U	ug/L	0.019	0.076
5/18/2009 10:50	Blank	Pesticides	Alachlor	0.58	U	ug/L	0.58	2.3

Appendix E. (continued)

Date	Field ID	Analyses	Component	Results	Remark	Units	MDL	PQL
5/18/2009 10:50	Blank	Pesticides	Ethion	0.048	U	ug/L	0.048	0.19
5/18/2009 10:50	Blank	Pesticides	Mevinphos	0.19	U	ug/L	0.19	0.76
5/18/2009 10:50	Blank	Pesticides	Dieldrin	0.019	U	ug/L	0.019	0.076
5/18/2009 10:50	Blank	Pesticides	Butylate	0.19	U	ug/L	0.19	0.76
5/18/2009 10:50	Blank	Pesticides	Metribuzin	0.096	U	ug/L	0.096	0.38
5/18/2009 10:50	Blank	Pesticides	Parathion Ethyl	0.14	U	ug/L	0.14	0.56
5/18/2009 10:50	Blank	Pesticides	Phorate	0.048	U	ug/L	0.048	0.19
5/18/2009 10:50	Blank	Pesticides	Prometryn	0.14	U	ug/L	0.14	0.56
5/18/2009 10:50	Blank	Pesticides	Aldrin	0.0096	U	ug/L	0.0096	0.038
5/18/2009 10:50	Blank	Pesticides	Endrin Aldehyde	0.019	U	ug/L	0.019	0.076
5/18/2009 10:50	Blank	Pesticides	Heptachlor	0.0096	U	ug/L	0.0096	0.038
5/18/2009 10:50	Blank	Pesticides	Fonofos	0.096	U	ug/L	0.096	0.38
5/18/2009 10:50	Blank	Pesticides	Naled	0.77	U	ug/L	0.77	3.1
5/18/2009 10:50	Blank	Pesticides	Endosulfan I	0.019	U	ug/L	0.019	0.076
5/18/2009 10:50	Blank	Pesticides	Methoxychlor	0.048	U	ug/L	0.048	0.19
5/18/2009 10:50	Blank	Pesticides	Ametryn	0.048	U	ug/L	0.048	0.19
5/18/2009 10:50	Blank	Pesticides	Fenamiphos	0.19	U	ug/L	0.19	0.76
5/18/2009 10:50	Blank	Pesticides	Malathion	0.14	U	ug/L	0.14	0.56
5/18/2009 10:50	Blank	Pesticides	Metolachlor	0.48	U	ug/L	0.48	1.9
5/18/2009 10:50	Blank	Pesticides	Simazine	0.048	U	ug/L	0.048	0.19
5/18/2009 10:50	Blank	Pesticides	DDD-p,p'	0.019	U	ug/L	0.019	0.076
5/18/2009 10:50	Blank	Pesticides	Endrin	0.048	U	ug/L	0.048	0.19
5/18/2009 10:50	Blank	Pesticides	Ethoprop	0.096	U	ug/L	0.096	0.38
5/18/2009 10:50	Blank	Pesticides	Beta-BHC	0.0096	U	ug/L	0.0096	0.038
5/18/2009 10:50	Blank	Pesticides	Delta-BHC	0.0096	U	ug/L	0.0096	0.038
5/18/2009 10:50	Blank	Pesticides	Azinphos Methyl	0.19	UJ	ug/L	0.19	0.76
5/18/2009 10:50	Blank	Pesticides	Parathion Methyl	0.096	U	ug/L	0.096	0.38
5/18/2009 10:50	Blank	Pesticides	Endosulfan II	0.019	U	ug/L	0.019	0.076
5/18/2009 10:50	Blank	Pesticides	Gamma-BHC	0.0096	U	ug/L	0.0096	0.038
5/18/2009 10:50	Blank	Pesticides	Toxaphene	0.72	U	ug/L	0.72	2.9
5/18/2009 10:50	Blank	Pesticides	Atrazine	0.048	U	ug/L	0.048	0.19
5/18/2009 10:50	Blank	Pesticides	Norflurazon	0.14	U	ug/L	0.14	0.56
5/18/2009 10:50	Blank	Pesticides	Alpha-BHC	0.0096	U	ug/L	0.0096	0.038
5/18/2009 10:50	Blank	Pesticides	Chlordane	0.19	U	ug/L	0.19	0.76

Appendix E. (continued)

Date	Field ID	Analyses	Component	Results	Remark	Units	MDL	PQL
5/18/2009 10:50	Blank	Pesticides	DDE-p,p'	0.019	U	ug/L	0.019	0.076
5/18/2009 10:50	Blank	Pesticides	DDT-p,p'	0.029	U	ug/L	0.029	0.12
5/18/2009 10:50	Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38	UJ	ug/L	38	150
5/18/2009 10:50	Blank	Priority Organic Pollutants	Hexachlorobenzene	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	Anthracene	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	Acenaphthylene	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	Acenaphthene	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	2-Chlorophenol	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	58
5/18/2009 10:50	Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	Diethyl phthalate	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	Dimethyl phthalate	9.6	U	ug/L	9.6	38
5/18/2009 10:50	Blank	Priority Organic Pollutants	Fluorene	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	Phenanthrene	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	Butyl benzyl phthalate	4.8	U	ug/L	4.8	19
5/18/2009 10:50	Blank	Priority Organic Pollutants	Chrysene	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	12
5/18/2009 10:50	Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.7
5/18/2009 10:50	Blank	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2.9	12
5/18/2009 10:50	Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.7
5/18/2009 10:50	Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	12
5/18/2009 10:50	Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	14	U	ug/L	14	58
5/18/2009 10:50	Blank	Priority Organic Pollutants	Di-n-butyl phthalate	4.8	U	ug/L	4.8	19
5/18/2009 10:50	Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	Naphthalene	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	2,4-Dinitrophenol	14	U	ug/L	14	58

Appendix E. (continued)

Date	Field ID	Analyses	Component	Results	Remark	Units	MDL	PQL
5/18/2009 10:50	Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	Fluoranthene	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.7
5/18/2009 10:50	Blank	Priority Organic Pollutants	Phenol	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	12
5/18/2009 10:50	Blank	Priority Organic Pollutants	2-Nitrophenol	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	Benzidine	96	U	ug/L	96	380
5/18/2009 10:50	Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.96	UJ	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	12
5/18/2009 10:50	Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	UJ	ug/L	2.9	12
5/18/2009 10:50	Blank	Priority Organic Pollutants	Isophorone	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	Pyrene	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	2,4-Dimethylphenol	9.6	U	ug/L	9.6	38
5/18/2009 10:50	Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.96	U	ug/L	0.96	3.8
5/18/2009 10:50	Blank	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	12
5/18/2009 10:50	Blank	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.7
5/18/2009 10:50	Blank	Field Parameter	Sample Depth	0.1		m		

Appendix F. Facility Summary and Pages 1-7 of Facility Permit

State of Florida
Department of Environmental Protection
Facility Introduction & Summary

Facility Name (as it appears on permit): Gulfstream Park reverse Osmosis system **Email to which final report be sent: dtesta@gulfstreampark.com**		**Former Names: N/A**
Physical Address: **901 South Federal Highway** **Hallandale, Fl 33009**	**NPDES Permit No.: FL0384941** **Expiration Date:02/06/2010**	**Prepared By:** **Lisa Gatch**
County: Broward	**District: SED**	**Facility Type: RO plant/racetrack**
Function of Facility: produce irrigation water supply for park		
Sampling Location (actual permit designation of permitted sampling point): wet detettion pond to off-site canal at south canal outfall (CS-2/d-002) and wet detention pond to offsite canal at north outfall (CS-1/d-003), effluent sample at RO discharge line inside water treatment plant		
Description of permitted outfall: discharge to offsite canal occurs at two locations along east side of detention pond, d00-2 (South) and D-003 (north) there is one internal outfall into park's stormwater conveyance system named I-001		
Description of treatment process **RO concentrate is treated by dilution with brackish water from pond and natural degradation process from exposure to pond water and atmosphere while stored in the pond.** .		

Receiving Waters: Class III marine surface water	**Classification (indicate whether fresh or marine): brackish**
Temperature (C): d	**Design Flow: 0.167 MGD**
pH (SU): ?	**Mean Flow (for previous 12 months):**
Conductivity (umhos/cm): ?	**Flow During Survey:**
Method of Chlorination:	**Method of Dechlorination:**
Dissolved Oxygen (mg/L): ?	**Total Residual Chlorine (mg/L) (after disinfection):**
Discharge is: Continuous	
Toxicity Test Requirements (routine and/or additional test language test species, salinity adjustment, etc.): none	

Appendix F. (continued)

Administrative or Consent Orders: no		
Facility Mixing Zone Details: 400 m on either side of outfall		
List permit violations (DMR data) and plant upsets that occurred at the plant within the last year: **None**		
Describe previous impact bioassessments, WQBEL's, and previous or current enforcement actions: **None**		
Discuss MOR trends to prior data; is trend improving or declining:		
List Effluent Limits (include additional sheets as necessary):		
Parameter and Units **See attached permit**	**Limit**	**Describe special permit conditions and permit modifications:**

Appendix F. (continued)



Department of
Environmental Protection

Jeb Bush
Governor

Southeast District
400 N. Congress Ave., Suite 200
West Palm Beach, Florida 33401

Colleen M. Castille
Secretary

STATE OF FLORIDA
INDUSTRIAL WASTEWATER FACILITY PERMIT

PERMITTEE:

Magna Entertainment Corporation
337 Magna Drive
Aurora, Ontario, L4G 7K1 Canada

PERMIT NUMBER: FL0384941 (Minor)
PA FILE NUMBER: FL0384941-001-IW5B
ISSUANCE DATE: February 7, 2005
EXPIRATION DATE: ***February 6, 2010***

RESPONSIBLE AUTHORITY:

Mr. Gary M. Cohn
Vice President and Secretary

FACILITY:

Gulfstream Park Reverse Osmosis (R.O.) Concentrate
Detention Pond Discharge Facility
901 S. Federal Highway
Hallandale, FL 33009
Broward County

Latitude: 25° 58' 44" N Longitude: 80° 8' 17" W (approximate center of project site)
Latitude: 25° 58' 43" N Longitude: 80° 8' 11" W (approximate center of retention pond)

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.) and applicable rules of the Florida Administrative Code (F.A.C.), and constitutes authorization to discharge to waters of the state under the National Pollutant Discharge Elimination System (NPDES). The above named permittee is hereby authorized to construct and operate the facilities shown on the application and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

PROJECT DESCRIPTION:

The permittee, Magna Entertainment Corporation, parent company for Gulfstream Park in Hallandale, has proposed to construct and operate a 0.67 million gallons per day (MGD) reverse osmosis (R.O.) water treatment plant, to produce 0.5 MGD (75% permeate recovery rate) of irrigation quality water for the park (SIC Nos. 7948 & 7999). This will replace or supplement the current practice that relies on the surficial Biscayne aquifer as irrigation source. Raw water will be withdrawn from a new Floridan aquifer supply well permitted by SFWMD. The R.O. water treatment plant will be operated for 3 to 4 days per week. Product water will be stored in a new water tank.

This permit authorizes the surface water discharge of 0.167 MGD (maximum monthly average daily flow), or 116 gpm, of R.O. concentrate reject water. The proposed long-term average daily flow is at 0.096 MGD. The discharge will be directed to a 22.62 acre wet detention pond that intermittently discharges to an off-site canal during wet weather. The elliptical shaped pond reportedly has a depth of 20 feet below the berm elevation (at +2 feet), a length of 1,800 feet and a width of 570 feet. Total storage volume below the +2 feet berm elevation is estimated at 135 million gallons. Pond water is brackish and consists of direct rainfall, runoff from the park complex, groundwater seepage and some canal backflow.

Appendix F. (continued)

PERMITTEE:	PERMIT NUMBER:	FL0384941
Magna Entertainment Corporation 337 Magna Drive Aurora, Ontario, FL	Issuance date: Expiration date:	February 7, 2005 February 6, 2010

WASTEWATER TREATMENT:

Treatment of the R.O. concentrate will rely primarily on natural dilution from mixing with brackish pond water, and from natural degradation process from exposure to pond water and atmosphere while in pond storage. The dilution factor or blending ratio between pond water and R.O. concentrate has been projected to be ranging from 2,300 (normal) to 30 (hypothetical worst case scenario).

Limited effluent treatment involving chlorination will be provided at the water treatment plant, to remove excess hydrogen sulfide and ammonia primarily for odor control concern.

EFFLUENT DISPOSAL:

Surface Water Discharge:

A new 0.167 MGD* (*effluent flow figure) daily discharge, to be blended with an unspecified quantify of pond water, to an unnamed canal lying east of the park. The canal reportedly flows southerly into the drainage system in the vicinity of NE 213th Street in Aventura, Miami-Dade County, and from there flows easterly into the Intracoastal Waterway (Class III Marine waters.)

The discharge to the off-site canal occurs at two separate locations along the east side of the detention pond: Outfall D-002 and Outfall D-003. Outfall D-002 or the South Canal Outfall (CS-2) is the primary control structure with a peak discharge elevation established at +6.5 feet, NGVD. Outfall D-003 or the North Canal Outfall (CS-1) serves as the emergency control structure for the detention pond. The endwall at the pond leading to Outfall D-002 is approximately 250 feet from the south end of the pond. The endwall leading to Outfall D-003 is approximately 400 feet north from that point.

Outfall D-002 (CS-2) is located approximately at latitude 25° 58' 40" N, longitude 80° 08' 03" W. Outfall D-003 (CS-1) is located approximately at latitude 25° 58' 43" N, longitude 80° 08 '03" W.

Internal Outfalls:

This permit authorizes discharge of undiluted R.O. concentrate from a new internal outfall I-001 into the park's stormwater conveyance system. The internal outfall discharges into Inlet Structure No. 13, which is located 25 feet north of the water treatment plant building near the northwest corner of the property. The storm sewer flows southerly and eventually enters the wet detention pond by sheetflow after exiting from a bubble-up structure (Structure No. 10), located 20 feet off the berm by the northwest corner of the detention pond.

IN ACCORDANCE WITH: The limitations, monitoring requirements and other conditions as set forth in Part I through Part VIII on pages 4 through 16 of this permit. The Draft Permit was issued on December 3, 2004. The Intent to Issue was issued on January 13, 2005. The public notice announcing the Department's intent to issue permit was published in the January 17, 2005 issue of The Miami Herald newspaper. A copy of the published public notice was received on file on January 26, 2005.

Appendix F. (continued)

PERMITTEE:

Magna Entertainment Corporation
337 Magna Drive
Aurora, Ontario, FL

PERMIT NUMBER: FL0384941

Issuance date: February 7, 2005
Expiration date: February 6, 2010

I. Effluent Limitations and Monitoring Requirements

A. Surface Water Discharges

1. During the period beginning upon placing the system into operation and lasting through the expiration date of this permit, the permittee is authorized to discharge reverse osmosis reject water, diluted with water stored in wet detention pond, from Outfall D-002 (CS-2). Such discharge shall be limited and monitored by the permittee as specified below:

	Discharge Limitations			Monitoring Requirements		
Parameters (units)	**Monthly Average**	**Daily Maximum**	**Daily Minimum**	**Monitoring Frequency**	**Sample Type**	**Sample Point**
Flow (MGD)	Report	Report	--	Daily	Estimated	EFF-02
pH (SU)	--	Report	Report	Monthly, When Discharging	Grab	EFF-02
Specific Conductance (UMHO/CM)	--	Report	--	Monthly, When Discharging	Grab	EFF-02
Turbidity (NTU)	--	Report	--	Monthly, When Discharging	Grab	EFF-02
Ammonia, Unionized (MG/L)	--	Report	--	Monthly, When Discharging	Grab	EFF-02
Nitrogen, Total (as N) (MG/L)	--	Report	--	Monthly, When Discharging	Grab	EFF-02
Phosphorus, Total (as P) (MG/L)	--	Report	--	Monthly, When Discharging	Grab	EFF-02
Fluoride, Dissolved (as F) (MG/L)	--	Report	--	Monthly, When Discharging	Grab	EFF-02
Hydrogen sulfide (MG/L)	--	Report	--	Monthly, When Discharging	Grab	EFF-02
Iron, Total Recoverable (MG/L)	--	Report	--	Monthly, When Discharging	Grab	EFF-02
Mercury, Total Recoverable (UG/L)	--	Report	--	Monthly, When Discharging	Grab	EFF-02
Radium 226 + Radium 228, Total (PCI/L)	--	Report	--	Monthly, When Discharging	Grab	EFF-02
Alpha, Gross Particle Activity (PCI/L)	--	Report	--	Monthly, When Discharging	Grab	EFF-02

2. Effluent samples shall be taken at the monitoring site locations listed in permit condition I.A.2 and as described below:

Sample Point	Description of Monitoring Location
EFF-02	Blended stormwater and R.O. concentrate discharge from the wet detention pond to off-site canal at the south canal outfall (CS-2).

Appendix F. (continued)

PERMITTEE:

Magna Entertainment Corporation
337 Magna Drive
Aurora, Ontario, FL

PERMIT NUMBER: FL0384941

Issuance date: February 7, 2005
Expiration date: February 6, 2010

3. During the period beginning upon placing the system into operation and lasting through the expiration date of this permit, the permittee is authorized to discharge reverse osmosis reject water, diluted with water stored in wet detention pond, from the emergency Outfall D-003 (CS-1). Such discharge shall be limited and monitored by the permittee as specified below:

	Discharge Limitations			Monitoring Requirements		
Parameters (units)	Monthly Average	Daily Maximum	Daily Minimum	Monitoring Frequency	Sample Type	Sample Point
Flow (MGD)	Report	Report	--	Daily	Estimated	EFF-03

4. Effluent samples shall be taken at the monitoring site locations listed in permit condition I.A.3 and as described below:

Sample Point	Description of Monitoring Location
EFF-03	Blended stormwater and R.O. concentrate discharge from the wet detention pond to off-site canal at the north canal emergency outfall (CS-1).

5. During the period beginning upon placing the system into operation and lasting through the expiration date of this permit, the permittee is authorized to discharge undiluted reverse osmosis reject water from Internal Outfall I-001 to the park's stormwater conveyance system, that eventually enters the wet detention pond. Such discharge shall be limited and monitored by the permittee as specified below:

	Discharge Limitations			Monitoring Requirements		
Parameters (units)	Monthly Average	Daily Maximum	Daily Minimum	Monitoring Frequency	Sample Type	Sample Point
Flow (MGD)	0.167	Report	--	Daily	Meter	EFF-01
pH (SU)	--	Report	Report	Monthly	Grab	EFF-01
Specific Conductance (UMHO/CM)	--	Report	--	Monthly	Grab	EFF-01
Turbidity (NTU)	--	Report	--	Monthly	Grab	EFF-01
Ammonia, Unionized (MG/L)	--	Report	--	Monthly	Grab	EFF-01
Nitrogen, Total (as N) (MG/L)	--	Report	--	Monthly	Grab	EFF-01
Phosphorus, Total (as P) (MG/L)	--	Report	--	Monthly	Grab	EFF-01
Fluoride, Dissolved (as F) (MG/L)	--	Report	--	Monthly	Grab	EFF-01
Hydrogen sulfide (MG/L)	--	Report	--	Monthly	Grab	EFF-01
Iron, Total Recoverable (MG/L)	--	Report	--	Monthly	Grab	EFF-01

Appendix F. (continued)

PERMITTEE:

Magna Entertainment Corporation
337 Magna Drive
Aurora, Ontario, FL

PERMIT NUMBER: FL0384941

Issuance date: February 7, 2005
Expiration date: February 6, 2010

	Discharge Limitations			Monitoring Requirements		
Parameters (units)	**Monthly Average**	**Daily Maximum**	**Daily Minimum**	**Monitoring Frequency**	**Sample Type**	**Sample Point**
Mercury, Total Recoverable (UG/L)	--	Report	--	Monthly	Grab	EFF-01
Radium 226 + Radium 228, Total (PCI/L)	--	Report	--	Monthly	Grab	EFF-01
Alpha, Gross Particle Activity (PCI/L)	--	Report	--	Monthly	Grab	EFF-01

6. Effluent samples shall be taken at the monitoring site locations listed in permit condition I.E.4 and as described below:

Sample Point	Description of Monitoring Location
EFF-01	Effluent sample is taken at the raw R.O. concentrate discharge line inside the water treatment plant.

7. All the Discharge Monitoring Reports (DMR's) required in this section shall be submitted monthly pursuant to the provisions in Section I.E.3. Reports shall be submitted even if there is no discharge in the month.

8. Analytical sampling in Section I.A.1 for Outfall D-002 is required only for those months when a discharge to the off-site canal has occurred. Analytical sampling, except flow, is not required for Outfall D-003 in any months. Discharge has occurred anytime there is a release through the control device or the peak flow discharge weir at either control structure. For those months when there is no discharge, the DMR's for both outfalls shall still be submitted, with the NO DISCHARGE check-off box on each DMR page checked.

9. The permitted discharge activity shall comply with the surface water quality standards, including the minimum criteria, for Class III (marine) waters established in Chapter 62-302, F.A.C. At no time shall the permitted discharge cause or contribute to violations of the applicable discharge standards at the detention pond outfalls.

10. The R.O. concentrate flow shall be recorded daily, five (5) days per week, and the monthly average daily flow and the maximum daily flow shall be reported monthly. The daily flows from detention pond Outfalls D-002 and D-003 shall be estimated, recorded and reported separately when discharge occurs.

11. There shall be no discharge of floating solids or visible foam in other than trace amounts.

12. The discharge shall not cause a visible sheen on the receiving water.

13. After 24 months of sampling data, the permittee shall submit a report to the DEP West Palm Beach office summarizing the water quality data. At that time the applicant may request a decrease in monitoring parameters or frequency as supported by review of monitoring data. The Department reserves the right to increase monitoring frequency or number of parameters, or to impose additional effluent limits as deemed necessary after review of the data.

14. Upon completion of the new Floridan aquifer well, the permittee shall sample the raw well water at least one (1) time for a comprehensive analysis of the raw water quality for the appropriate Class III (marine) surface water criteria. The analytical results shall be submitted to the Department before the R.O. concentrate discharge system

Appendix F. (continued)

is placed into full operation. Based on this information, the Department may decide to modify the monitoring requirements provided in the permit.

B. Underground Injection Control Systems

1. This section is not applicable to this facility.

C. Land Application Systems

1. This section is not applicable to this facility.

D. Other Methods of Disposal or Recycling

1. There shall be no discharge of industrial wastewater from this facility to ground or surface waters, except as authorized by this permit.

E. Other Limitations and Monitoring and Reporting Requirements

1. The sample collection, analytical test methods and method detection limits (MDLs) applicable to this permit shall be in accordance with Rule 62-4.246, Chapters 62-160 and 62-601, F.A.C., and 40 CFR 136, as appropriate. The list of Department established analytical methods, and corresponding MDLs (method detection limits) and PQLs (practical quantification limits), which is titled "Florida Department of Environmental Protection Table as Required By Rule 62-4.246(4) Testing Methods for Discharges to Surface Water" dated June 21, 1996, is available from the Department on request. The MDLs and PQLs as described in this list shall constitute the minimum acceptable MDL/PQL values and the Department shall not accept results for which the laboratory's MDLs or PQLs are greater than those described above unless alternate MDLs and/or PQLs have been specifically approved by the Department for this permit. Any method included in the list may be used for reporting as long as it meets the following requirements:

   a. The laboratory's reported MDL and PQL values for the particular method must be equal or less than the corresponding method values specified in the Department's approved MDL and PQL list;

   b. The laboratory reported PQL for the specific parameter is less than or equal to the permit limit or the applicable water quality criteria, if any, stated in Chapter 62-302, F.A.C. Parameters that are listed as "report only" in the permit shall use methods that provide a PQL, which is equal to or less than the applicable water quality criteria stated in 62-302 FAC; and

   c. If the PQLs for all methods available in the approved list are above the stated permit limit or applicable water quality criteria for that parameter, then the method with the lowest stated PQL shall be used.

   Where the analytical results are below method detection or practical quantification limits, the permittee shall report the actual laboratory MDL and/or PQL values for the analyses that were performed following the instructions on the applicable discharge monitoring report. Approval of alternate laboratory MDLs or PQLs are not necessary if the laboratory reported MDLs and PQLs are less than or equal to the permit limit or the applicable water quality criteria, if any, stated in Chapter 62-302, F.A.C. However, where necessary, the permittee may request approval for alternative methods or for alternative MDLs and PQLs for any approved analytical method, in accordance with the criteria of Rules 62-160.520 and 62-160.530, F.A.C.

2. Parameters which must be monitored as a result of a surface water discharge shall be analyzed using a sufficiently sensitive method in accordance with 40 CFR Part 136.

Appendix F. (continued)

PERMITTEE:	PERMIT NUMBER:	FL0384941
Magna Entertainment Corporation 337 Magna Drive Aurora, Ontario, FL	Issuance date: Expiration date:	February 7, 2005 February 6, 2010

3. Monitoring requirements under this permit are effective on the first day of the second month following permit issuance. Until such time, the permittee shall continue to monitor and report in accordance with previously effective permit requirements, if any. During the period of operation authorized by this permit, the permittee shall complete and submit to the Department's Division Office in Tallahassee, Discharge Monitoring Reports (DMRs), in accordance with the frequencies specified by the REPORT type (i.e., monthly, toxicity, quarterly, semiannual, annual, etc.) indicated on the DMR forms attached to this permit. Monitoring results for each monitoring period shall be submitted in accordance with the associated DMR due dates below.

REPORT Type on DMR	Monitoring Period	DMR Due Date
Monthly or Toxicity	first day of month - last day of month	28th day of following month
Quarterly	January 1 - March 31 April 1 - June 30 July 1 - September 30 October 1 - December 31	April 28 July 28 October 28 January 28
Semiannual	January 1 - June 30 July 1 - December 31	July 28 January 28
Annual	January 1 - December 31	January 28

DMRs shall be submitted for each required monitoring period including months of no discharge.

The permittee shall make copies of the attached DMR form(s) and shall submit the completed DMR form(s) to the Department at the address specified below:

Florida Department of Environmental Protection
Wastewater Compliance Evaluation Section, Mail Station 3551
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

4. Unless specified otherwise in this permit, all reports and notifications required by this permit, including twenty-four hour notifications, shall be submitted to or reported to the Department's Southeast District Office at the address specified below:

Florida Department of Environmental Protection
Southeast District Office
400 N. Congress Ave, Suite 200
West Palm Beach, FL 33401-2913
Phone Number - (561) 681-6600
Fax Number - (561) 681-6760 (All facsimile copies shall be followed by original copies.)

5. All reports and other information shall be signed in accordance with requirements of Rule 62-620.305, F.A.C.

6. The permittee shall provide safe access points for obtaining representative samples which are required by this permit.

7. If there is no discharge from the facility on a day scheduled for sampling, the sample shall be collected on the day of the next discharge.

Appendix F. (continued)

8. Any bypass of the treatment facility which is not included in the monitoring specified in sections I.A, I.B, I.C, or I.D, is to be monitored for flow and all other required parameters. For parameters other than flow, at least one grab sample per day shall be monitored. Daily flow shall be monitored or estimated, as appropriate, to obtain reportable data. All monitoring results shall be reported on the appropriate DMR.

9. If at the time of sample collection, there is no ongoing discharge at the detention pond outfalls, or if discharge occurred earlier has ceased before arrival of sampling personnel, a representative sample shall be taken from the detention pond surface near the south headwall/endwall leading to the South Canal Outfall (CS-2).

10. The subject NPDES discharge facility is categorized as a Group 5B (Minor) Industrial Wastewater facility, and continuous surface water discharge is permitted. Under Rule 62-4.052(6)(f), F.A.C., the annual regulatory program and surveillance fee ("annual fee") for using the Group 5B (Minor) NPDES discharge permit is presently set at $4,600.00. Annual fee is due in Tallahassee no later than January 15 each year.

II. Industrial Sludge Management Requirements

1. This section not applicable to this facility.

III. Ground Water Monitoring Requirements

1. This section is not applicable to this facility.

IV. Other Land Application Requirements

1. This section is not applicable to this facility.

V. Operation and Maintenance Requirements

A. Operation of Treatment and Disposal Facilities

1. The permittee shall ensure that the operation of this facility is as described in the application and supporting documents.

2. The operation of the pollution control facilities described in this permit shall be under the supervision of a person who is qualified by formal training and/or practical experience in the field of water pollution control.

B. Record keeping Requirements:

1. The permittee shall maintain the following records on the site of the permitted facility and make them available for inspection:

   a. Records of all compliance monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, including, if applicable, a copy of the laboratory certification showing the certification number of the laboratory, for at least three years from the date the sample or measurement was taken;

   b. Copies of all reports, other than those required in items a. and f. of this section, required by the permit for at least three years from the date the report was prepared, unless otherwise specified by Department rule;

Appendix G. EPA End Sheet

The Bioassay of Gulfstream Park Reverse Osmosis (R.O.) Concentrate Detention Pond Discharge Facility effluent sampled on May 18, 2009. NPDES #FL0384941.

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

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 3 8 4 9 4 1 11	12 0 9 0 5 1 8	18 **B**	19 **S**	20 2

Remarks

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The Priority Pollutants Analysis of Gulfstream Park Reverse Osmosis (R.O.) Concentrate Detention Pond Discharge Facility effluent sampled on May 18, 2009. NPDES #FL0384941.

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

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 3 8 4 9 4 1 11	12 0 9 0 5 1 8	18 **X**	19 **S**	20 2

Remarks

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Biological Analyses of Gulfstream Park Reverse Osmosis (R.O.) Concentrate Detention Pond Discharge Facility effluent sampled on May 18, 2009. NPDES #FL0384941.

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

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 3 8 4 9 4 1 11	12 0 9 0 5 1 8	18 **S**	19 **S**	20 2

Remarks

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