

Bioassays of

Falkenburg Road Advanced Wastewater Treatment Plant

Hillsborough County

NPDES #FL0040614

Sampled January 29, 2007

May 2007

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

Falkenburg Road Advanced Wastewater Treatment Plant, 102 North Falkenburg Road, Tampa, Hillsborough County, Florida, NPDES #FL0040614. Effluent samples for chemistry and bioassay analyses for this facility were collected on January 29, 2007. As part of the compliance inspection for this facility, additional samples for chemical analyses were collected on January 30, 2007.

Introduction

The Falkenburg Road Advanced Wastewater Treatment Plant is a Type I oxidation-ditch advanced domestic-wastewater treatment plant. The facility has a design flow of 9.0 million gallons per day (MGD) annual average daily flow (AADF). The AADF from January 2006 through December 2006 was 5.22 MGD. The facility consists of the following units: a leachate receiving station, a headworks with dual mechanically cleaned fine bar screens, a manually cleaned coarse bar screen, dual grit removal systems, an odor control system (Iron Sponge), four anoxic basins, four oxidation ditches, four final clarifier basins, seven dual-media deep-bed denitrification filters, a clearwell, a mudwell, a dual channel chlorine contact chamber, and two de-chlorination/post aeration tanks. Gaseous chlorine and sodium bisulfite are used for disinfection and dechlorination, respectively. Residual handling facilities include an unthickened sludge holding tank, four gravity belt-thickeners with polymer addition, and a thickened sludge storage tank. Residuals are transported to a permitted Residuals Management Facility (RMF) for treatment and disposal. Treated effluent is continuously discharged into the Class III Marine waters of the Palm River/Hillsborough Bay bypass canal thence into Hillsborough Bay at Discharge Location D-001. Outfall D-001 is approximately 2.4 m (8 feet) below the surface and 7.6 m (25 feet) from shore, and is located approximately at latitude 28º 01' 30" N and longitude 82º 18" 08" W.

The facility has no Administrative Orders (AO) or Consent Orders (CO). There are no mixing zones established for this facility. A review of discharge monitoring report (DMR) data (January 2006 – January 2007) did not reveal any noticeable trends. The DMR data showed permit violations for total suspended solids limits (March 2006), total chlorine residual (August 2006), and Fecal Coliforms (August 2006). (Facility information provided by Lori Pillsbury and Joe Squitieri of FDEP Southwest District.)

Methods

Samples were collected from the EFD-01 (after dechlorination) and the EFB-01(designated sampling point for total suspended solids) NPDES sampling points for Outfall D-001 by Lori Pillsbury, Peter Wenner, and Joe Squitieri (FDEP Southwest 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. NOTE: Samples were not collected from the EFA-01 compliance location (after disinfection, before dechlorination) due to lack of a flow proportional measuring device at EFA-01.

See Appendix A for the completed chain of custody form.

The 48 hour acute screening toxicity tests and algal growth potential test were performed on the grab sample following internal DEP SOPs TA07_01, TA07_02, 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. While the 48-hour acute screening toxicity test does not reflect the permit required conditions, the Department uses it to provide reasonable assurance that the facility does not adversely affect waters of the state.

The AGP test was salinity-adjusted to meet the minimum salinity requirements of the marine test species.

Toxicity Test Results

Tests were performed January 30 - February 1, 2007.

Ceriodaphnia dubia 48-hour acute screening bioassay –	LC_{50} > 100%, 0% mortality* in 100% sample at 48 hours

Pimephales promelas 48-hour acute screening bioassay – LC_{50} > 100%, 0% mortality* in 100% sample at 48 hours

The bioassay sample was not acutely toxic to the test organisms.

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

*NOTE: In a 48-hour acute screening test of 100% effluent, mortality of <20% provides reasonable assurance that the effluent meets the acute toxicity criterion of Florida's Surface Water Quality Standards (Rule 62-302.500 (1)(a)4, F.A.C.). Mortality between 20-50% indicates low to moderate levels of toxicity, and further action may be required. Mortality of >50% provides reasonable assurance that the effluent fails to meet the minimum requirement to discharge to waters of the state (Rule 62-4.244(3)(a), F.A.C.).

Algal Growth Potential

The effluent Algal Growth Potential (AGP) was 56.9 mg dry wt/L of the unicellular green alga, *Pseudokirchneriella subcapitata*, formerly known as *Selenastrum capricornutum*. Raschke and Shultz (1987) found that AGP values above 5.0 mg dry weight/L represent a "problem" threshold for fresh receiving waters, implying nutrient enrichment. The analytical chemistry suggests that the effluent is nitrogen -limited. The predicted AGP based on inorganic nitrogen concentrations was 30.7 (±20%) mg dry wt/L (Table 1; Miller et al. 1978).

The effluent Algal Growth Potential (AGP) was 18.8 mg dry wt/L of the saltwater species *Dunaliella tertiolecta.* Raschke and Shultz found that AGP values above 10.0 mg dry weight/L represent a "problem" threshold for marine receiving waters, implying nutrient enrichment (personal communication with Ron Raschke USEPA Region 4, 1987).

See Table 1 for AGP results.

Chemistry Results

Total residual chlorine and total ammonia were not detected in the bioassay samples in the laboratory. The total ammonia concentration in the sample collected and preserved for chemical analysis was 0.038 mg/L for the effluent grab sample and 0.077 mg/L for the effluent composite sample. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was less than 0.02 mg/L for both the grab and composite Outfall D-001 samples.

Aluminum, bromodichloromethane, chloroform, dibromochloromethane, iron, and zinc were detected in the effluent grab samples at levels that comply with Class III marine water quality criteria (62-302.530, F.A.C.). Aluminum, iron and zinc were detected in the effluent composite sample at levels that comply with Class III marine water quality criteria (62-302.530, F.A.C.). Copper and nickel were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL) in the effluent grab sample. Lead and nickel were detected between the MDLs and PQLs for the effluent composite sample.

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 EFD-01 for outfall D-001 for this facility on January 29, 2007, was not acutely toxic to either test species during the 48-hour acute screening bioassays. The effluent AGP result exceeded 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

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

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

Table 1. Measured and predicted algal growth potential (AGP; mg dry weight/L) of the freshwater species *Pseudokirchneriella subcapitata* for total soluble inorganic nitrogen (TSIN) and total nitrogen (TN) limitation, the AGP (salinity adjusted) of the saltwater species *Dunaliella tertiolecta* , and ratios of nitrogen to phosphorus for samples collected from Falkenburg Road Advanced Wastewater Treatment Plant on January 29, 2007.

Location	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (TN) ± 20%	AGP (salinity adjusted)	Inorganic N:P ratio	Total N:P ratio
Outfall D-001	56.9	30.7 ± 6.1	61.2 ± 12.2	18.8	2.3	3.7

Table 2. Effluent limits, Class III Marine Criteria, and chemical and microbiological data for samples collected from Falkenburg Road Advanced Wastewater Treatment Plant on January 29 and 30, 2007.

Falkenburg Advanced Wastewater Treatment Plant NPDES #FL0040614	Class III Marine Stds.	Effluent Limits	Outfall D-001 Grab (EFD-01)	Outfall D-001 Composite (EFD-01)***	Filtered Effluent (EFB-01)
Organic Constituents (µg/L)					
Bromodichloromethane	≤ 22 a	≤ 22 a	15	-	-
Chloroform	≤ 470.8 a	-	35	-	-
Dibromochloromethane	≤ 34 a	-	5	-	-
Atrazine	-	-	0.29	-	-
Metals (µg/L unless otherwise noted)					
Aluminum	≤ 1500	-	59	64	-
Arsenic	≤ 50	-	1.5 U	0.5 U	-
Cadmium	≤ 9.3	-	0.15 U	0.05 U	-
Calcium (mg/L)	-	-	83.7	86.3 f	-
Chromium-III	-	-	0.3 U	0.3 U	-
Copper	≤ 3.7	-	1.1 I	2.28 f	-
Iron	≤ 300	-	67	63	-
Lead	≤ 8.5	-	0.6 U	0.25 I	-
Magnesium (mg/L)	-	-	13.7	13.8 f	-
Nickel	≤ 8.3	-	2.5 I	2.5 I	-
Selenium	≤ 71	-	1.5 U	0.5 U	-
Silver	≤ 2.3	-	0.075 U	0.025 U	-
Zinc	≤ 86	-	39	42	-
Nutrients (mg/L)					
Ortho-phosphate	-	-	0.35	-	-
Total Phosphorus	-	≤ 2.0 s**	0.43 A	0.14	-
Total Ammonia	-	-	0.038	0.077 I	-
Un-ionized Ammonia	-	-	< 0.02 c	< 0.02 c	-
Nitrate and Nitrite	-	-	0.77	1.1 f	-
Total Kjeldahl Nitrogen	-	-	0.84 A	0.57	-
Organic Nitrogen	-	-	0.8	0.49	-
Total Nitrogen	-	≤ 6.0 s**	1.6	1.7	-
General Physical and Chemical Parameters					
Dissolved Oxygen (mg/L)	≥ 4.0 s	≥ 5.0 s	10.0	-	-
pH (SU)	6.5 - 8.5 s	6.5 - 8.5 s	7.2	-	-
Conductivity (µmhos/cm)	-	-	1055	-	-
Temperature (°C)	-	-	22.4	-	-
Total Residual Chlorine (mg/L)	≤ 0.01	≤ 0.01 s	< 0.02 U	-	-
Total Suspended Solids (mg/L)	-	≤ 5.0 s	4 U	-	4 U
Total Suspended Solids (mg/L)	-	≤ 10.0 s**	-	4 U	-
Turbidity (NTU)	≤ 29.0 t	-	2.5	0.4 f	0.35
Color (pt-Co)	-	-	10	-	-
CBOD, 5 day (mg/L), N - inhibited	-	≤ 10.0 s**	1.4 AI	1.8 AI	-
Oils and Greases (mg/L)	≤ 5.0	-	2 I	-	-
Flow (MGD)	-	≤ 6.0 a	5.22 a	-	-
Hardness (mg $CaCO_3$)	-	-	265.42 c	272.32 c	-
Microbiology (Number of counts/100ml)					
Fecal Coliforms	≤ 800 s	≤ 25.0 s	1 J*	-	-

Value exceeds the Class III Water Quality Criteria or permit limits

a - Annual Average
c - Value is calculated
f - Analyte was detected in both sample and equipment blank (composite)
s - Single sample
t - Shall not exceed 29 NTUs above background
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
J - Estimated value
U - Material analyzed for but not detected; value reported is the method detection limit
* - Data provided by FL DEP Southwest District lab
** - Permit limlit is for a composite sample. All other permit limits are for grab samples.
*** - Samples collected from EFD-01 rather than permitted sample point EFA-01 due to lack of flow proportional measuring device at EFA-01

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2007-01-29-11
Falkenburg Road AWTP

Requester: Shannan Bogdanov
Field Report Prepared By: L Pillsbury
Collected By: L Pillsbury, P Wenner
Send Final Report To Tom Gucciardo
Sampling Agency: FDEP

Customer: SW-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)**
	OUTFALL D001	☐ Comp ☒ Grab	Date 1/29/07 Time 0905 Eastern Central	Date Time Eastern Central	A
	Field ID: 34845	Tot Res Chlorine (mg/L): <0.02	Diss Oxygen (mg/L): 10.03	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc): Fresh / Temp (C): 22.40 / pH: 7.18	Sample Depth ☐ m ☒ ft: OUTFALL	0.52/1055 ☒ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number	
	Latitude: N 27° 57 09.3 / Longitude: W 082° 20 24.8	Comments			

Lab ID *	Location	Comp / Grab	Collection (begin) Date / Time / Eastern Central	Collection (end) Date / Time / Eastern Central	Bottle Group(s)**
	EQUIPMENT BLANK	☐ Comp ☑ Grab	Date 1/29/07 Time 0835 Eastern Central	Date Time Eastern Central	C
	Field ID: 34846	Tot Res Chlorine (mg/L): —	Diss Oxygen (mg/L): —	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc): FRESH / 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)**
	EQUIPMENT BLANK-COMPOSITE Sampler	☐ Comp ☑ Grab	Date 1/29/07 Time 0845 Eastern Central	Date Time Eastern Central	B
	Field ID: 34847	Tot Res Chlorine (mg/L): —	Diss Oxygen (mg/L): —	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc): FRESH / Temp (C): — / pH: —	Sample Depth ☐ m ☐ ft: —	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm): —	NPDES Number	
	Latitude: o — ' " / Longitude: o —	Comments: Blank through composite sampler			

Lab ID *	Location	Comp / Grab	Collection (begin) Date / Time / Eastern Central	Collection (end) Date / Time / Eastern Central	Bottle Group(s)**
★		☐ Comp ☐ Grab	Date 1/29/07 Time 0905 Eastern Central	Date Time Eastern Central	
	Field ID: TRIP-BLK ~~[illegible]~~ ABP 01/30/07	Tot Res Chlorine (mg/L):	Diss Oxygen (mg/L):	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc): / Temp (C): / pH:	Sample Depth ☐ m ☐ ft:	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm):	NPDES Number	
	Latitude: o ' " / Longitude: o ' "	Comments			

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	01/29/07 1200	DHL	ABP	1-30-07 0940			BP 2 bags(sn) 1-30-07	

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

Page 1 of 4

★ Last line Filled BY ABP 01-30-07

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2007-01-29-11
Falkenburg Road AWTP

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

Requester: Shannan Bogdanov
Collected By: Joe Squitieri
Sampling Agency: FDEP
Field Report Prepared By: Joe Squitieri
Send Final Report To: Tom Gucciardo

Lab ID *	Location / Field ID / Matrix / Lat / Long	Temp (C) / pH	Comp / Grab / Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Tot Res Chlorine (mg/L) / Diss Oxygen (mg/L) / Storet Station Number	Sample Depth m ft / Salinity (PPTh) / Sp Conductance (umho/cm) / NPDES Number	Comments	Bottle Group(s)**
	Location: OUTFALL 0001 - composite Field ID: 34860 Matrix: effluent Latitude: o ' " Longitude: o ' "		X Comp Grab Collection (begin) Date 1/29/07 Time 0918 (Eastern) Central	Collection (end) Date 1/30/07 Time 0900 (Eastern) Central	Tot Res Chlorine (mg/L) Diss Oxygen (mg/L) Storet Station Number	Sample Depth m ft Salinity (PPTh) Sp Conductance (umho/cm) NPDES Number	Comments	B
	Location: Filter Effluent Field ID: 34861 Matrix: effluent Latitude: o ' " Longitude: o ' "		Comp X Grab Collection (begin) Date Time Eastern Central	Collection (end) Date 1/30/07 Time 0910 (Eastern) Central	Tot Res Chlorine (mg/L) Diss Oxygen (mg/L) Storet Station Number	Sample Depth m ft Salinity (PPTh) Sp Conductance (umho/cm) NPDES Number	Comments	B
	Location Field ID Matrix (Include type e.g. Salt, Fresh, etc Latitude: o ' " Longitude: o ' "	Temp (C) pH	Comp Grab Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Tot Res Chlorine (mg/L) Diss Oxygen (mg/L) Storet Station Number	Sample Depth m ft Salinity (PPTh) Sp Conductance (umho/cm) NPDES Number	Comments	Bottle Group(s)**
	Location Field ID Matrix (Include type e.g. Salt, Fresh, etc Latitude: o ' " Longitude: o ' "	Temp (C) pH	Comp Grab Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Tot Res Chlorine (mg/L) Diss Oxygen (mg/L) Storet Station Number	Sample Depth m ft Salinity (PPTh) Sp Conductance (umho/cm) NPDES Number	Comments	Bottle Group(s)**

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
J Squitieri	1/30/07 1030	DHL	Tom E	01/31/07 9:00				

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

FDEP Biology Section - Acute Screen Bioassay Bench Sheets

Facility: Falkenburg Road WWTF

Address: 102 North Falkenburg Road

City: Tampa **County:** Hillsborough

Contact/District: Lori Pillsbury / Southwest

NPDES Permit #: FL 0040614

LIMS Job #: TLH-2007-01-30-38-01 **LIMS Sample #:** 980437

Lims Data Entry: 2-2-07 MF Data Entry Verification: 2-2-07 [illegible]

Sample Collection: Date: 1-29-07 Time: 09:05

Hold Time Start: Date: 1-29-07 Time: 09:05

Comments:

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

Test Type: Screen

(Static) / Static Renewal / Flow-through

Test Duration: (48) 96 Hours.

Light Intensity : 50 - 100 ft. candles.

Photoperiod : 16 hours light 8 hours dark.

Test 1 validation: **Test 1:** SOP TA 07_01

Control survival ≥90%: (Yes) No

Temperature Range ≤3°C: (Yes) No

Test 2 validation: **Test 2:** SOP TA 07_02

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: ____ 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: ____

Temperature Range °C

Incubator # 2 Range 23.3-25.3

Room B246: 22.2 – 24.0

Waterbath: N/A

Sample Validation:

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

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

Investigators' Signatures

James Dinith

Audrey Vichaikul

marshall faircloth

Bruce Alderson

Erin Wilcox

Majdi Wellendorf

REVIEWER

Water Quality Parameters	20% DMW	Moderately Hard Water/ Well Water	Salt Water ASW NSW Test 1	Salt Water ASW NSW Test 2	Other:	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl_2 (mg/L):	N/A	N/A	N/A	N/A		<0.02	—	L.P.Ilsbury	MF
Lab Total Residual Cl_2 (mg/L):	~~<0.03 <0.03~~	~~<0.03 <0.03~~				~~<0.02 <0.02~~	HACH	PPV	BA
Alkalinity (mg/L as $CaCO_3$):	95	84				188	HACH	[illegible]	BA
Hardness (mg/L as $CaCO_3$):	86	95				274	HACH	[illegible]	BA
Total Ammonia (mg/L as N):	<0.017	<0.017				<0.017	DENVER	MF	BA
Salinity (ppth):	<1	<1				<1	YSI (Mettler)	JH	PPV

V 1.4 9/12/05

Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 980437
Organism: C. dubia
Organism Batch: 5-07
Organism Age: <24hrs
Chamber Size: 30 mL
Test Volume: 20 mL

Test #: 1 of 2
SOP #: TA 07_01
Diluent/ Batch: DMW 1-23-07
Food: (YCT) (*P. subcapitata*) *Artemia*
Batch: 3-06 5-06 –
Feeding: (Prior to test) Prior to renewal - Daily

Test Started: Date 1-30-07 Time: 12:07
Test Ended: Date 2-1-07 Time: 1040

Concentration	Replicate	Chamber #	Test Hour: 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Ctrl	A	A	5	5	5			
	B	B	5	5	5			
	C	C	5	5	5			
	D	D	5	5	5			
100%	A	A	5	5	5			
	B	B	5	5	5			
	C	C	5	5	5			
	D	D	5	5	5			

Organisms loaded by: BA
Loading Verified by: mF
Checked by: [redacted] BA mF

Comments:

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

Test Results:
% mortality in 100% sample: Ø
LC_{50}: >100 If Calculated: 95% CI____ Method:____

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

V 2.1 11/01/2005

Page 72

Appendix B. (continued)

FDEP Biology Section - Bioassay Survival Sheet

LIMS Sample #: 980437 Test #: 2 of 2 Test Started: Date 1-30-07 Time: 12:00
Organism: pPromelas SOP #: TA 07_02 Test Ended: Date 2-1-07 Time: 1100
Organism Batch: 1-30-07 Diluent/ Batch: MHW / 1-26-07
Organism Age: 10 days Food: YCT P. subcapitata Artemia lot# CSI 53610 Batch # 7-07
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	A1	5	5	5			
	B	A2	5	5	5			
	C	A3	5	5	5			
	D	A4	5	5	5			
100%	A	A5	5	5	5			
	B	A6	5	5	5			
	C	A7	5	5	5			
	D	A8	5	5	5			
Organisms loaded by: SD		Checked by:		SD	SD			
Loading Verified by: BA								

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

Comments:

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

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

V 2.1 11/01/2005

Page 73

FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 980437 Test #: 1 of 2

TEST SOP #: TA07_01 Test Species: (Ceriodaphnia dubia) Cyprinella leedsi Pimephales promelas Americamysis bahia Menidia beryllina Other:_____

Concentration ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		M			
pH (S.U.)	7.9		7.9			
Temperature °C	24.0		24.1			
Dissolved Oxygen mg/L	7.4		7.4			
Conductivity (µmhos) mmhos	179.8		200			
(initials) Measured by:	BA		MF			
(initials) Recorded by:	BA		MF			

Comments: NI-meter vial

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		M			
pH (S.U.)	7.4		8.6			
Temperature °C	24.5		24.0			
Dissolved Oxygen mg/L	7.4		7.6			
Conductivity (µmhos) mmhos	1097		1200			
(initials) Measured by:	BA		MF			
(initials) Recorded by:	BA		MF			

Comments:

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

Comments:

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

Comments:

V 2.0 2/24/04

FDEP Biology Section - Bioassay Parameter Sheet

LIMS Sample # : 980437 **Test #:** 2 of 2

TEST SOP #: TA07_02 **Test Species:** *Ceriodaphnia dubia* *Cyprinella leedsi* *Rimephales promelas* (circled)
Americamysis bahia *Menidia beryllina* Other:

Concentration: Ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C			
pH (S.U.)	7.8	7.4	8.2			
Temperature °C	24.5	24.4	25.0			
Dissolved Oxygen mg/L	7.6	7.0	7.3			
Conductivity ~~µmhos~~ mmhos	338	334	334			
(initials) Measured by:	DA	~~DA~~ JD	~~JD~~ JD			
(initials) Recorded by:	DA	JD	~~JD~~ JD			

Comments: Stray mark - not a decimal MF 2-4-07

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.)	7.4	7.9	8.3			
Temperature °C	24.7	24.2	24.7			
Dissolved Oxygen mg/L	7.5	6.8	7.0			
Conductivity ~~µmhos~~ mmhos	1107	1063	1075			
(initials) Measured by:	BA	~~JD~~ JD	~~JD~~ JD			
(initials) Recorded by:	BA	JD	~~JD~~ JD			

Comments:

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

Comments:

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

Comments:

V 2.0 2/24/04

Appendix C. SRT Bench Sheets and Statistical Analysis

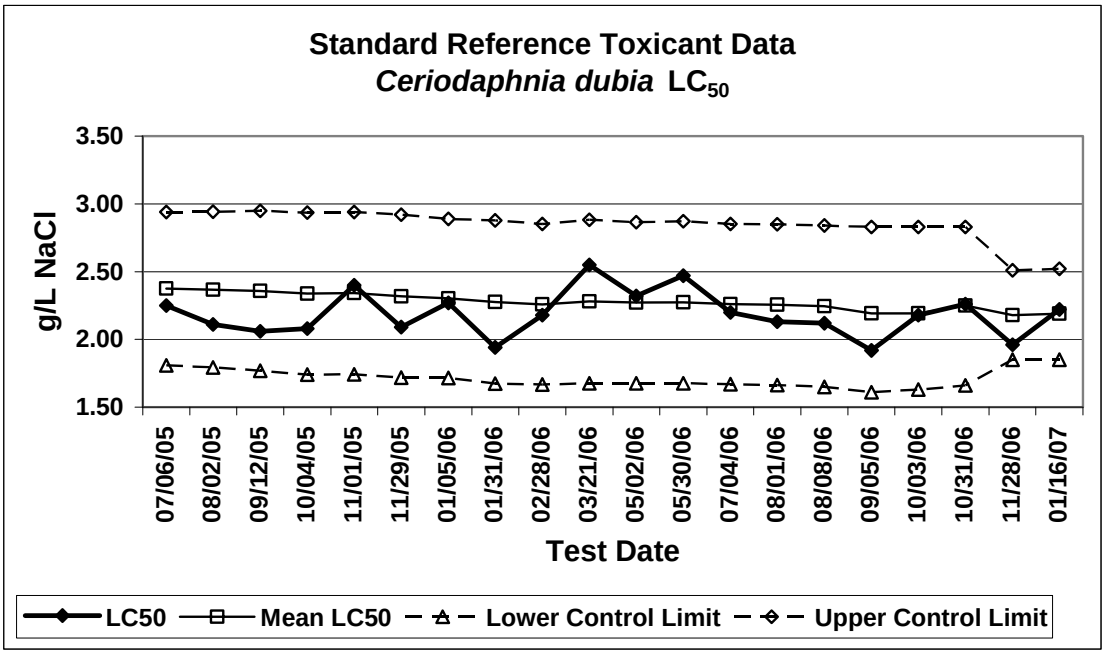
Florida Department of Environmental Protection
Bureau of Laboratories

Standard Reference Toxicant (SRT) Test Data - 48-hour Acute Toxicity
Ceriodaphnia dubia (water flea) - Sodium Chloride (NaCl)

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
07/06/05	2.25	2.37	0.28	1.81	2.94
08/02/05	2.11	2.37	0.29	1.79	2.94
09/12/05	2.06	2.36	0.29	1.77	2.95
10/04/05	2.08	2.34	0.30	1.74	2.94
11/01/05	2.40	2.34	0.30	1.74	2.94
11/29/05	2.09	2.32	0.30	1.72	2.92
01/05/06	2.27	2.30	0.29	1.72	2.89
01/31/06	1.94	2.28	0.30	1.67	2.88
02/28/06	2.18	2.26	0.30	1.67	2.85
03/21/06	2.55	2.28	0.30	1.68	2.88
05/02/06	2.32	2.27	0.30	1.68	2.87
05/30/06	2.47	2.27	0.30	1.68	2.87
07/04/06	2.20	2.26	0.30	1.67	2.85
08/01/06	2.13	2.26	0.30	1.66	2.85
08/08/06	2.12	2.24	0.30	1.65	2.84
09/05/06	1.92	2.19	0.30	1.61	2.83
10/03/06	2.18	2.19	0.30	1.63	2.83
10/31/06	2.26	2.25	0.29	1.66	2.83
11/28/06	1.96	2.18	0.17	1.85	2.51
01/16/07	2.22	2.19	0.17	1.85	2.52

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

CV = 7.76
EPA reference 75th quartile CV = 29%



Appendix C. (continued)

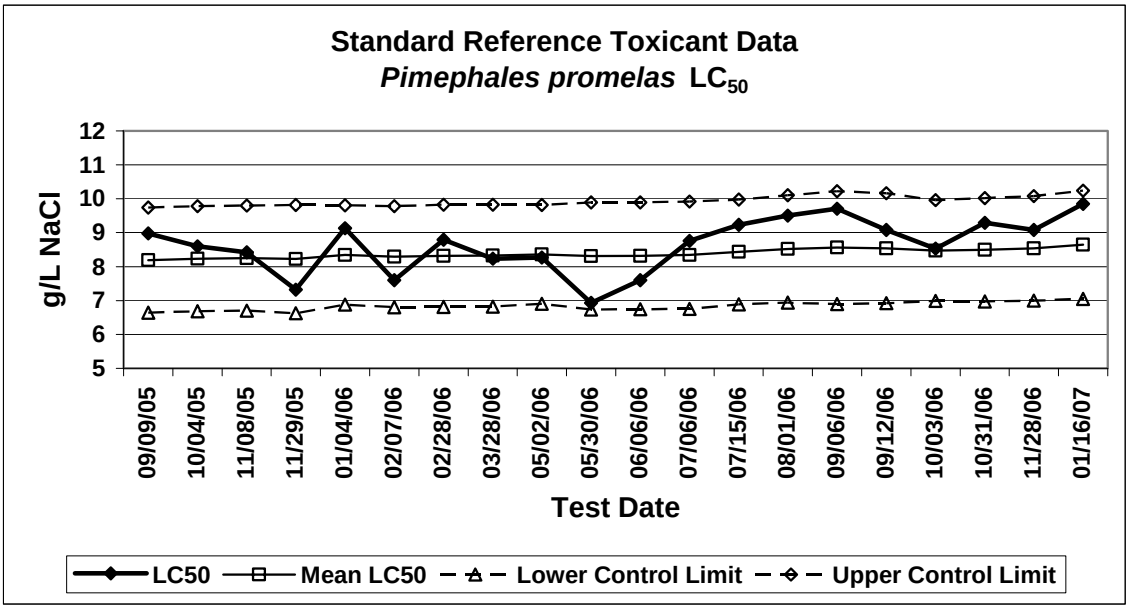
Florida Department of Environmental Protection
Bureau of Laboratories

Standard Reference Toxicant (SRT) Test Data - 48-hour Acute Toxicity
Pimephales promelas (fathead minnow) - Sodium Chloride (NaCl)

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
09/09/05	8.98	8.19	0.78	6.64	9.74
10/04/05	8.60	8.23	0.77	6.69	9.78
11/08/05	8.42	8.25	0.77	6.70	9.80
11/29/05	7.32	8.22	0.80	6.63	9.82
01/04/06	9.13	8.35	0.73	6.88	9.81
02/07/06	7.60	8.29	0.75	6.80	9.78
02/28/06	8.79	8.32	0.75	6.81	9.82
03/28/06	8.23	8.32	0.75	6.82	9.83
05/02/06	8.27	8.36	0.73	6.90	9.82
05/30/06	6.93	8.31	0.79	6.73	9.89
06/06/06	7.60	8.32	0.79	6.75	9.89
07/06/06	8.76	8.34	0.79	6.75	9.92
07/15/06	9.23	8.44	0.77	6.89	9.98
08/01/06	9.50	8.52	0.79	6.94	10.10
09/06/06	9.71	8.56	0.83	6.90	10.22
09/12/06	9.08	8.54	0.81	6.92	10.16
10/03/06	8.53	8.47	0.74	6.99	9.96
10/31/06	9.29	8.50	0.76	6.97	10.02
11/28/06	9.08	8.54	0.77	7.00	10.08
01/16/07	9.85	8.64	0.80	7.05	10.24

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

CV = 9.26
EPA reference 75th quartile CV = 19%



Appendix C. (continued)

FDEP Biology Section - Acute SRT Bench Sheet

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

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

Diluent/ Batch#: DMW / 1-9-07
Toxicant/ Batch# NaCl 1607

Test Beginning: Date: 1.16.07 Time: 1430
Test Ending: Date: 1/20/07 Time: 1200
Organism Batch #/ Age: 3-07 / 1 X 24hrs (Stamp Mark mf 2/8/07)
Feeding: Prior to test/ Prior to renewal/ Daily
Food: YCT P.*subcapitata* Artemia
Food Batch: 2-06 5-06 —
Chamber size: 30 mL
Test volume: 20 mL per replicate

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	PPV
Alkalinity (mg/L as $CaCO_3$):	85	Hach	EW
Hardness (mg/L as CaCO3):	90	Hach	EW
Total Ammonia (mg/L as N):	<0.017	Denver	PPV
Salinity (ppth):	<1	Mettler	BA

Conc µg/L (g/L)	Rep.	Chamber#	Number Live 0 hr (48 hr)	24 hr (72 hr)	48 hr (96 hr)	pH (SU) 0 hr (48 hr)	24 hr (72 hr)	48 hr (96 hr)	Temperature (° C) 0 hr (48 hr)	24 hr (72 hr)	48 hr (96 hr)	D.O. (mg/l) 0 hr (48 hr)	24 hr (72 hr)	48 hr (96 hr)	UNCORRECTED Cond. (mmhos/cm) Cond. (µmhom/cm) 0 hr (48 hr)	24 hr (72 hr)	48 hr (96 hr)
Control	A	A	5	5	5	7.9		7.8	24.0		24.4	7.2		7.4	~~277~~ (B)		0.209
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
1.5	A	A	5	5	5	7.9		7.8	24.0		24.2	7.2		7.4	358		3.17
	B	B	5	5	4 1D												
	C	C	5	5	4 1D												
	D	D	5	5	5												
2.0	A	A	5	5	5	8.0		7.9	24.3		24.0	6.9		7.3	382		4.21
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	4 1D												
2.3	A	A	5	4 1D	0 4D	8.1		7.9	24.0		24.0	7.1		7.3	490		5.34
	B	B	5	5	0 5D												
	C	C	5	4 1D	0 4D	mf 2/8/07			Treatment error corrected.								
	D	D	5	5	0 5D												
3.0	A	A	5	3 2D	0 3D	8.1		7.9	24.0		24.0	7.2		7.3	580		6.28
	B	B	5	1 4D	0 1D												
	C	C	5	3 2D	0 3D												
	D	D	5	2 3D	0 2D												
4.0	A	A	5	0 5D	—	8.1		8.0	24.3		24.0	7.4		7.4	726		8.01
	B	B	5	1 4D	0 1D												
	C	C	5	0 5D	—												
	D	D	5	1 4D	0 1D												
	A																
	B																
	C																
	D																
Loaded / measured by:			PPV	BA	BA	JD		BA	JD		BA	JD		BA	JD		BA
Recorded by:			BA	BA	BA	JD		BA	JD		BA	JD		BA	JD		BA

Investigators' Signatures
Bruce Allbee
Patsy Vichaire
Erin Wilcox
James Grant
Marshall Faircloth
Kelli Mellenthin
REVIEWER

Concentrations prepared by: JD
Loading verified by: JD
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 23.4 max. 29.9 mean 24.6
Incubator # ____ min. ____ max. ____ mean ____
Room B246 min. 22.2 max. 24.1 mean 23.5

Remarks:
(A) 95% confidence limits are not reliable according to TSK Program BA 2-8-07
(B) .178 JD. 2.9.07 transcriptional error. 48 hour non monotonically increasing mortality at 48 hours mf 2-9-07

Statistical Results: Method: Spearman-Karber
(48) / 96 hour LC50: 2.22
95% Confidence Interval: lower (2) upper _____

Revised 02/21/06

Page 000070

Appendix C. (continued)

FDEP Biology Section - Acute SRT Bench Sheet

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

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

Diluent/ Batch#: DMW 1-9-07
Toxicant/ Batch# NaCl 1.4.07

Test Beginning: Date: 1-16-07 Time: 14.30
Test Ending: Date: 1.20.07 Time: 1200

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	DW
Alkalinity (mg/L as $CaCO_3$):	85	Hach	ES
Hardness (mg/L as CaCO3):	90	Hach	ES
Total Ammonia (mg/L as N):	<0.07	Denver	DW
Salinity (ppth):	<1	Mettler	BA

Organism Batch #/ Age: 3-07 / <24hrs
Feeding: Prior to test / (Prior to renewal) / Daily
Food: YCT *P.subcapitata* Artemia
Food Batch: 2-06 5-06 —
Chamber size: 30 mL
Test volume: 20 mL per replicate

Conc. µg/L (g/L)	Rep.	Chamber#	Number Live 0 hr	Number Live 24 hr	Number Live 48 hr	pH (SU) 0 hr	pH (SU) 24 hr	pH (SU) 48 hr	Temperature (° C) 0 hr	Temperature (° C) 24 hr	Temperature (° C) 48 hr	D.O. (mg/l) 0 hr	D.O. (mg/l) 24 hr	D.O. (mg/l) 48 hr	UNCORRECTED Cond. (mmhos/cm) 0 hr	UNCORRECTED Cond. (mmhos/cm) 24 hr	UNCORRECTED Cond. (mmhos/cm) 48 hr
			48 hr	72 hr	96 hr	48 hr	72 hr	96 hr	48 hr	72 hr	96 hr	48 hr	72 hr	96 hr	48 hr	72 hr	96 hr
Control	A	A	5	5	5	7.8		8.1	24.1		24.0	7.2		7.9	0.180		0.220 BA
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
1.5	A	A	5	5	5	8.0		8.1	24.2		24.0	7.5		7.8	3.02		3.14
	B	B	4	2 2D	1 1D												
	C	C	4	3 1D	2 1D												
	D	D	5	5	5												
2.0	A	A	5	4 1D	4	8.0		8.1	24.0		24.1	7.4		7.9	4.00		4.3
	B	B	5	5	4 1D												
	C	C	5	5	4 1D												
	D	D	4	3 1D	3												
2.5	A	A	0	—	—	8.0		—	24.0		—	7.3		—	4.87		—
	B	B	0	—	—												
	C	C	0	—	—												
	D	D	0	—	—												
3.0	A	A	0	—	—	—			—			—			—		—
	B	B	0	—	—												
	C	C	0	—	—												
	D	D	0	—	—												
4.0	A	A	0	—	—	—			—			—			—		—
	B	B	0	—	—												
	C	C	0	—	—												
	D	D	0	—	—												
	A																
	B																
	C																
	D																
Loaded / measured by:			BA	BA	JD	BA		JD	BA		JD	BA		JD	BA		JD
Recorded by:			BA	BA	JD	BA		JD	BA		JD	BA		JD	BA		JD

Investigators' Signatures
Brian Neher
Daniel Michael
Erin Wilcox
Jason Steidl
Marshall Faircloth
Nicole Wellendorf
REVIEWER

Concentrations prepared by: JD
Loading verified by: JD
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 23.4 max. 25.9 mean 24.6
Incubator # ____ min. ____ max. ____ mean ____
Room B246 min. 22 max. 24.7 mean 23.5

Remarks:

Statistical Results: Method: Spearman-Karber
48 /(96) hour LC50: 2.03
95% Confidence Interval: lower 1.68 upper 2.45

Revised 02/21/06

Page 000071

Appendix C. (continued)

FDEP Biology Section - Acute SRT Bench Sheet

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

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

Diluent/ Batch#: MHW / 1-12-07
Toxicant/ Batch# NaCl / 11607

Test Beginning: Date: 01/16/07 Time: 1350
Test Ending: Date: 1/20/07 Time: 1205

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	PDV
Alkalinity (mg/L as $CaCO_3$):	75	Hach	ac
Hardness (mg/L as CaCO3):	98	Hach	ac
Total Ammonia (mg/L as N):	<0.017	Denver	PDV
Salinity (ppth):	<1	Mettler	BA

Organism Batch #/ Age: 1-16-07 / 13 hrs
Feeding: Prior to test / Prior to renewal / Daily
Food: YCT — P.subcapitata — Artemia 611-536-90 1-07, 3-07
Food Batch: — — —
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc. µg/L (ng/L)	Rep.	Chamber#	Number Live 0 hr	24 hr	48 hr	pH (SU) 0 hr	24 hr	48 hr	Temperature (° C) 0 hr	24 hr	48 hr	D.O. (mg/l) 0 hr	24 hr	48 hr	UNCORRECTED Cond. (mmhos/cm) 0 hr	24 hr	48 hr
			~~48 hr~~	~~72 hr~~	~~96 hr~~	~~48 hr~~	~~72 hr~~	~~96 hr~~	~~48 hr~~	~~72 hr~~	~~96 hr~~	~~48 hr~~	~~72 hr~~	~~96 hr~~	~~48 hr~~	~~72 hr~~	~~96 hr~~
Control	A	C1	10	10	10	7.8		7.6	24.0		24.5	7.7		6.3	0.326		0.369
	B	C2	10	10	10		7.6			24.0			6.7			0.361	
	C																
	D																
7.0	A	C3	10	10	10	7.7		7.6	24.0		24.4	7.7		6.2	12.11		12.0
	B	C4	10	10	10		7.5			24.0			6.5			12.12	
	C																
	D																
8.0	A	C5	10	10	10	7.8		7.6	24.0		24.6	7.7		6.2	13.89		14.4
	B	C6	10	10	10		7.5			24.0			7.0			14.3	
	C																
	D																
9.0	A	C7	10	10	9:10	7.9		7.6	24.0		24.5	7.7		6.1	15.47		15.7
	B	C8	10	10	10		7.5			24.0			6.7			15.5	
	C																
	D																
10.0	A	C9	10	9:10	3:50	7.9		7.6	24.0		24.6	7.8		6.2	17.19		17.5
	B	C10	10	6:40	3:30		7.6			24.0			6.7			17.3	
	C																
	D																
12.0	A	C11	10	5:30	0:30	7.9		7.6	24.0		24.5	7.8		6.1	20.1		19.9
	B	C12	10	1:30	0:10		7.5			24.0			6.6			20.2	
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	JD	JD	aw	BA	PDV	aw	JD	JD	aw	BA	PDV	aw	BA	PDV
Recorded by:			BA	JD	JD	aw	BA	PDV	aw	JD	JD	aw	BA	PDV	aw	BA	PDV

Investigators' Signatures
Bruce Anderson
Peter V. Chaisa
Erin Wilcox
Jana Daniels
Nigel Willenberg
REVIEWER

Concentrations prepared by: JD
Loading verified by: EW
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 23.4 max. 25.9 mean 24.6
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 22.2 max. 24.7 mean 23.5

Remarks:

Statistical Results: Method: Spearman-Karber
(48) 96 hour LC50: 9.85
95% Confidence Interval: lower 9.55 upper 10.16

Revised 02/21/06

Page 000074

Appendix C. (continued)

FDEP Biology Section - Acute SRT Bench Sheet

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

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

Diluent/ Batch#: MHW/ 1-12-07
Toxicant/ Batch# NaCl/ 11.07

Test Beginning: Date: 01/16/07 Time: 1350
Test Ending: Date: 1/2007 Time: 1205

Water Quality Parameters:	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	0.03	Hach	DDV
Alkalinity (mg/L as $CaCO_3$):	75	Hach	[illegible]
Hardness (mg/L as CaCO3):	98	Hach	[illegible]
Total Ammonia (mg/L as N):	0.017	Denver	DDV
Salinity (ppth):	21	Mettler	BA

Organism Batch #/ Age: 1-16-07 / 1 3 days
Feeding: (Prior to test) Prior to renewal / Daily
Food: YCT — P.*subcapitata* — Artemia GSL-536-90 1-01, 3-07
Food Batch: — — —
Chamber size: 1000 mL
Test volume: 500 mL per replicate

UNCORRECTED (Cond. (mmhos/cm) Cond. (µmhos/cm))

Conc. µg/L (g/L)	Rep.	Chamber#	Number Live 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr	pH (SU) 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr	Temperature (° C) 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr	D.O. (mg/l) 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr	0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr
Control	A	C1	10	10	10	8.0		7.7	24.0		24.6	7.7		6.6	0.355		0.358
	B	C2	10	10	10		7.5			24.6			6.4			0.350	
	C																
	D																
7.0	A	C3	10	10	10	7.9		7.6	24.0		24.6	7.3		6.6	11.97		12.7
	B	C4	10	10	10		7.5			24.7			6.3			12.3	
	C																
	D																
8.0	A	C5	10	10	10	7.9		7.6	24.0		24.7	7.4		6.6	13.88		14.4
	B	C6	10	10	10		7.5			24.7			6.4			14.0	
	C																
	D																
9.0	A	C7	9	9	8/10	7.9		7.7	24.1		24.7	7.4		6.6	13.46		16.1
	B	C8	10	10	9/10		7.5			24.7			6.3			15.8	
	C																
	D																
10.0	A	C9	3	3	1/3	7.9		7.7	24.2		24.8	7.4		6.5	17.51		18.1
	B	C10	3	2/3	1/3		7.5			24.5			6.3			17.7	
	C																
	D																
12.0	A	C11	—	—	—	—		—	—		—	—		—	—		—
	B	C12	—	—	—		—			—			—			—	
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			DD	DD	DD	DD	BA	DD	DD	DD	BA DD	DD	BA	DD	DD	BA	DD
Recorded by:			DD	DD	DD	DD	BA	DD	DD	DD	BA DD	DD	BA	DD	DD	BA	DD

Investigators' Signatures
Bruce Aldrich
Debra Vichaidith
Erin Wilcox
Jean Dinit
Nicole Wellendorf
REVIEWER

Concentrations prepared by: DD
Loading verified by: EW
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 23.4 max. 25.4 mean 24.6
Incubator # ____ min. _____ max. _____ mean _____
Room B246 min. 22.2 max. 24.7 mean 23.5

Remarks:

Statistical Results: Method: Spearman-Karber
48 /(96) hour LC50: 9.46
95% Confidence Interval: lower 9.22 upper 9.72

Revised 02/21/06

Page

000075

Appendix C. (continued)

Ceriodaphnia dubia Acute Standard Reference Toxicant Test

DATE: 1-16-07 DURATION: 48 hr. TOXICANT: NaCl
SPECIES: *Ceriodaphnia dubia*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
0.00	20	0
1.50	20	2
2.00	20	1
2.50	20	20
3.00	20	20
4.00	20	20

SPEARMAN-KARBER TRIM: 7.50%

SPEARMAN-KARBER ESTIMATES: LC50: 2.22
95% CONFIDENCE LIMITS ARE NOT RELIABLE.

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

Pimephales promelas Acute Standard Reference Toxicant Test

DATE: 1-16-07 DURATION: 48 hr. TOXICANT: NaCl
SPECIES: ***Pimephales promelas***

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
0.00	20	0
7.00	20	0
8.00	20	0
9.00	20	1
10.00	20	14
12.00	20	20

SPEARMAN-KARBER TRIM: 0.00%

SPEARMAN-KARBER ESTIMATES: LC50: 9.85
95% LOWER CONFIDENCE: 9.55
95% UPPER CONFIDENCE: 10.16

Appendix D. Test Organism Receipts

MBL Aquaculture
4569 Samuel Street
Sarasota, Florida 34233
TEL: (800) 889-0384
FAX: (941) 922-3874
EMAIL: sales@mblaquaculture.com
WEB: www.MBLAquaculture.com

NELAC Accredited

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 1/15/07

Shipped to: TIDEP

P.O. No: _____

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia	150+	4 Days	MBC7C111	25°C	~30‰
Menidia beryllina	150+	1 Day	SSC7C103	25°C	~30‰
Cyprinella leedsi	150+	11 Days	CLC7C104	25°C	
Pimephales promelas	150+	13 Days	FHC7C103-150	25°C	

Packed by: Frank Gray

Shipped Via: FedEx

Notes: _____

Thank you for your order.

Frank Gray

Appendix D. (continued)

MBL Aquaculture
4569 Samuel Street
Sarasota, Florida 34233
TEL: (800) 889-0384
FAX: (941) 922-3874
EMAIL: sales@mblaquaculture.com
WEB: www.MBLAquaculture.com

NELAC Accredited

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 1/29/07

Shipped to: FDEP

P.O. No: _____

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia					
Menidia beryllina					
Cyprinella leedsi					
Pimephales promelas	100	9 Days	FM070130-07B	25°C	

Packed by: Frank Gauzi

Shipped Via: FedEx

Notes: _____

Thank you for your order.

Appendix E. Chemical Analyses performed on the effluent from the Falkenburg Road Advanced Wastewater Treatment Plant Outfall D-001, sampled on January 29 and 30, 2007.

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
1/29/2007 9:05	Outfall D-001 Grab	Bio-AGP/LimNut	Algal Growth Potential	56.9	mg DryWt/L		0.3	0.9
1/29/2007 9:05	Outfall D-001 Grab	Bio-AGP/LimNut	Algal Growth Potential-Salinity Adjusted	18.8	mg DryWt/L		3	3
1/29/2007 9:05	Outfall D-001 Grab	Bio-BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	1.4	mg/L	AI	0.2	2
1/29/2007 8:45	Equipment Blank Composite	Bio-BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	0.2	mg/L	U	0.2	2
1/30/2007 9:00	Outfall D-001 Composite	Bio-BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	1.8	mg/L	AI	0.2	2
1/29/2007 9:05	Outfall D-001 Grab	Bio-Chl-a	Chlorophyll-A, Monochromatic, Water	0.85	ug/L	U	0.85	2.6
1/29/2007 9:05	Outfall D-001 Grab	Bio-Chl-a	Phaeophytin-A, Monochromatic, Water	1.5	ug/L	U	1.5	4.5
1/29/2007 9:05	Outfall D-001 Grab	Bio-Toxicology	Bioassay-Acute-Screen-FW-C.dubia, LC50	100	LC50	L		
1/29/2007 9:05	Outfall D-001 Grab	Bio-Toxicology	Bioassay-Acute-Screen-FW-Fish, LC50	100	LC50	L		
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	1,2,4-Trichlorobenzene	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	1,2-Dichlorobenzene	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	1,3-Dichlorobenzene	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	1,4-Dichlorobenzene	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	2,4,6-Trichlorophenol	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	2,4-Dichlorophenol	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	2,4-Dimethylphenol	48	ug/L	U	48	190
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	2,4-Dinitrophenol	14	ug/L	U	14	57
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	2,4-Dinitrotoluene	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	2,6-Dinitrotoluene	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	2-Chloronaphthalene	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	2-Chlorophenol	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	2-Methyl-4,6-dinitrophenol	2.9	ug/L	U	2.9	11
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	2-Nitrophenol	0.95	ug/L	UJ	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	3,3'-Dichlorobenzidine	38	ug/L	UJ	38	150
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	4,4'-DDD	1.4	ug/L	U	1.4	5.7
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	4,4'-DDE	1.4	ug/L	U	1.4	5.7
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	4,4'-DDT	1.4	ug/L	U	1.4	5.7
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	4-Bromophenyl phenyl ether	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	4-Chloro-3-methylphenol	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	4-Chlorophenyl phenyl ether	1.9	ug/L	U	1.9	7.6
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	4-Nitrophenol	14	ug/L	U	14	57
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Acenaphthene	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Acenaphthylene	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Aldrin	1.4	ug/L	U	1.4	5.7
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Anthracene	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Benzidine	95	ug/L	U	95	380
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Benzo(a)anthracene	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Benzo(a)pyrene	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Benzo(b)fluoranthene	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Benzo(g,h,i)perylene	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Benzo(k)fluoranthene	0.95	ug/L	U	0.95	3.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Bis(2-chloroethoxy)methane	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Bis(2-chloroethyl)ether	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Bis(2-chloroisopropyl)ether	2.9	ug/L	U	2.9	11
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Bis(2-ethylhexyl)phthalate	14	ug/L	U	14	57
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Butyl benzyl phthalate	4.8	ug/L	U	4.8	19
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Chrysene	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Di-n-butyl phthalate	4.8	ug/L	U	4.8	19
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Di-n-octyl phthalate	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Dibenzo(a,h)anthracene	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Dieldrin	1.4	ug/L	U	1.4	5.7
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Diethyl phthalate	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Dimethyl phthalate	48	ug/L	U	48	190
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Endosulfan I	3.8	ug/L	U	3.8	15
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Endosulfan II	3.8	ug/L	U	3.8	15
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Endosulfan sulfate	1.4	ug/L	U	1.4	5.7
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Endrin	1.4	ug/L	UJ	1.4	5.7
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Endrin aldehyde	3.8	ug/L	U	3.8	15
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Fluoranthene	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Fluorene	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Heptachlor	1.4	ug/L	U	1.4	5.7
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Heptachlor epoxide	1.4	ug/L	U	1.4	5.7
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Hexachlorobenzene	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Hexachlorobutadiene	2.9	ug/L	U	2.9	11
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Hexachlorocyclopentadiene	2.9	ug/L	U	2.9	11
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Hexachloroethane	2.9	ug/L	U	2.9	11
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Indeno(1,2,3-cd)pyrene	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Isophorone	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	N-Nitrosodi-n-propylamine	1.9	ug/L	U	1.9	7.6
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	N-Nitrosodimethylamine	1.9	ug/L	U	1.9	7.6
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	N-Nitrosodiphenylamine/ Diphenylamine	2.9	ug/L	UJ	2.9	11
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Naphthalene	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Nitrobenzene	1.9	ug/L	U	1.9	7.6
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Pentachlorophenol	2.9	ug/L	U	2.9	11
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Phenanthrene	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Phenol	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	Pyrene	0.95	ug/L	U	0.95	3.8
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	alpha-BHC	1.4	ug/L	U	1.4	5.7
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	beta-BHC	1.4	ug/L	U	1.4	5.7
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	delta-BHC	1.4	ug/L	U	1.4	5.7
1/29/2007 9:05	Outfall D-001 Grab	BNA-Water	gamma-BHC	1.4	ug/L	U	1.4	5.7
1/29/2007 8:35	Equipment Blank	BNA-Water	1,2,4-Trichlorobenzene	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	1,2-Dichlorobenzene	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	1,3-Dichlorobenzene	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	1,4-Dichlorobenzene	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	2,4,6-Trichlorophenol	0.95	ug/L	U	0.95	3.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
1/29/2007 8:35	Equipment Blank	BNA-Water	2,4-Dichlorophenol	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	2,4-Dimethylphenol	48	ug/L	U	48	190
1/29/2007 8:35	Equipment Blank	BNA-Water	2,4-Dinitrophenol	14	ug/L	U	14	57
1/29/2007 8:35	Equipment Blank	BNA-Water	2,4-Dinitrotoluene	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	2,6-Dinitrotoluene	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	2-Chloronaphthalene	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	2-Chlorophenol	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	2-Methyl-4,6-dinitrophenol	2.9	ug/L	U	2.9	11
1/29/2007 8:35	Equipment Blank	BNA-Water	2-Nitrophenol	0.95	ug/L	UJ	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	3,3'-Dichlorobenzidine	38	ug/L	UJ	38	150
1/29/2007 8:35	Equipment Blank	BNA-Water	4,4'-DDD	1.4	ug/L	U	1.4	5.7
1/29/2007 8:35	Equipment Blank	BNA-Water	4,4'-DDE	1.4	ug/L	U	1.4	5.7
1/29/2007 8:35	Equipment Blank	BNA-Water	4,4'-DDT	1.4	ug/L	U	1.4	5.7
1/29/2007 8:35	Equipment Blank	BNA-Water	4-Bromophenyl phenyl ether	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	4-Chloro-3-methylphenol	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	4-Chlorophenyl phenyl ether	1.9	ug/L	U	1.9	7.6
1/29/2007 8:35	Equipment Blank	BNA-Water	4-Nitrophenol	14	ug/L	U	14	57
1/29/2007 8:35	Equipment Blank	BNA-Water	Acenaphthene	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	Acenaphthylene	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	Aldrin	1.4	ug/L	U	1.4	5.7
1/29/2007 8:35	Equipment Blank	BNA-Water	Anthracene	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	Benzidine	95	ug/L	U	95	380
1/29/2007 8:35	Equipment Blank	BNA-Water	Benzo(a)anthracene	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	Benzo(a)pyrene	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	Benzo(b)fluoranthene	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	Benzo(g,h,i)perylene	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	Benzo(k)fluoranthene	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	Bis(2-chloroethoxy)methane	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	Bis(2-chloroethyl)ether	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	Bis(2-chloroisopropyl)ether	2.9	ug/L	U	2.9	11
1/29/2007 8:35	Equipment Blank	BNA-Water	Bis(2-ethylhexyl)phthalate	14	ug/L	U	14	57
1/29/2007 8:35	Equipment Blank	BNA-Water	Butyl benzyl phthalate	4.8	ug/L	U	4.8	19
1/29/2007 8:35	Equipment Blank	BNA-Water	Chrysene	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	Di-n-butyl phthalate	4.8	ug/L	U	4.8	19
1/29/2007 8:35	Equipment Blank	BNA-Water	Di-n-octyl phthalate	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	Dibenzo(a,h)anthracene	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	Dieldrin	1.4	ug/L	U	1.4	5.7
1/29/2007 8:35	Equipment Blank	BNA-Water	Diethyl phthalate	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	Dimethyl phthalate	48	ug/L	U	48	190
1/29/2007 8:35	Equipment Blank	BNA-Water	Endosulfan I	3.8	ug/L	U	3.8	15
1/29/2007 8:35	Equipment Blank	BNA-Water	Endosulfan II	3.8	ug/L	U	3.8	15
1/29/2007 8:35	Equipment Blank	BNA-Water	Endosulfan sulfate	1.4	ug/L	U	1.4	5.7
1/29/2007 8:35	Equipment Blank	BNA-Water	Endrin	1.4	ug/L	UJ	1.4	5.7
1/29/2007 8:35	Equipment Blank	BNA-Water	Endrin aldehyde	3.8	ug/L	U	3.8	15
1/29/2007 8:35	Equipment Blank	BNA-Water	Fluoranthene	0.95	ug/L	U	0.95	3.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
1/29/2007 8:35	Equipment Blank	BNA-Water	Fluorene	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	Heptachlor	1.4	ug/L	U	1.4	5.7
1/29/2007 8:35	Equipment Blank	BNA-Water	Heptachlor epoxide	1.4	ug/L	U	1.4	5.7
1/29/2007 8:35	Equipment Blank	BNA-Water	Hexachlorobenzene	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	Hexachlorobutadiene	2.9	ug/L	U	2.9	11
1/29/2007 8:35	Equipment Blank	BNA-Water	Hexachlorocyclopentadiene	2.9	ug/L	U	2.9	11
1/29/2007 8:35	Equipment Blank	BNA-Water	Hexachloroethane	2.9	ug/L	U	2.9	11
1/29/2007 8:35	Equipment Blank	BNA-Water	Indeno(1,2,3-cd)pyrene	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	Isophorone	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	N-Nitrosodi-n-propylamine	1.9	ug/L	U	1.9	7.6
1/29/2007 8:35	Equipment Blank	BNA-Water	N-Nitrosodimethylamine	1.9	ug/L	U	1.9	7.6
1/29/2007 8:35	Equipment Blank	BNA-Water	N-Nitrosodiphenylamine/ Diphenylamine	2.9	ug/L	UJ	2.9	11
1/29/2007 8:35	Equipment Blank	BNA-Water	Naphthalene	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	Nitrobenzene	1.9	ug/L	U	1.9	7.6
1/29/2007 8:35	Equipment Blank	BNA-Water	Pentachlorophenol	2.9	ug/L	U	2.9	11
1/29/2007 8:35	Equipment Blank	BNA-Water	Phenanthrene	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	Phenol	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	Pyrene	0.95	ug/L	U	0.95	3.8
1/29/2007 8:35	Equipment Blank	BNA-Water	alpha-BHC	1.4	ug/L	U	1.4	5.7
1/29/2007 8:35	Equipment Blank	BNA-Water	beta-BHC	1.4	ug/L	U	1.4	5.7
1/29/2007 8:35	Equipment Blank	BNA-Water	delta-BHC	1.4	ug/L	U	1.4	5.7
1/29/2007 8:35	Equipment Blank	BNA-Water	gamma-BHC	1.4	ug/L	U	1.4	5.7
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Alachlor	0.6	ug/L	UJ	0.6	2.4
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Ametryn	0.05	ug/L	U	0.05	0.2
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Atrazine	0.29	ug/L		0.05	0.2
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Azinphos Methyl	0.2	ug/L	U	0.2	0.8
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Bromacil	0.2	ug/L	U	0.2	0.8
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Butylate	0.2	ug/L	UJ	0.2	0.8
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Chlorpyrifos Ethyl	0.05	ug/L	U	0.05	0.2
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Chlorpyrifos Methyl	0.1	ug/L	U	0.1	0.4
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Diazinon	0.05	ug/L	UJ	0.05	0.2
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Ethion	0.05	ug/L	U	0.05	0.2
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Ethoprop	0.1	ug/L	U	0.1	0.4
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Fenamiphos	0.2	ug/L	U	0.2	0.8
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Fonofos	0.1	ug/L	U	0.1	0.4
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Hexazinone	0.1	ug/L	U	0.1	0.4
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Malathion	0.15	ug/L	U	0.15	0.6
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Metalaxyl	0.25	ug/L	U	0.25	1
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Metolachlor	0.5	ug/L	U	0.5	2
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Metribuzin	0.1	ug/L	U	0.1	0.4
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Mevinphos	0.2	ug/L	U	0.2	0.8
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Naled	0.8	ug/L	U	0.8	3.2
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Norflurazon	0.15	ug/L	U	0.15	0.6
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Parathion Ethyl	0.15	ug/L	UJ	0.15	0.6
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Parathion Methyl	0.1	ug/L	UJ	0.1	0.4

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Phorate	0.05	ug/L	U	0.05	0.2
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Prometryn	0.15	ug/L	U	0.15	0.6
1/29/2007 9:05	Outfall D-001 Grab	GC-Water	Simazine	0.05	ug/L	U	0.05	0.2
1/29/2007 8:35	Equipment Blank	GC-Water	Alachlor	0.57	ug/L	UJ	0.57	2.3
1/29/2007 8:35	Equipment Blank	GC-Water	Ametryn	0.048	ug/L	U	0.048	0.19
1/29/2007 8:35	Equipment Blank	GC-Water	Atrazine	0.048	ug/L	U	0.048	0.19
1/29/2007 8:35	Equipment Blank	GC-Water	Azinphos Methyl	0.19	ug/L	U	0.19	0.76
1/29/2007 8:35	Equipment Blank	GC-Water	Bromacil	0.19	ug/L	U	0.19	0.76
1/29/2007 8:35	Equipment Blank	GC-Water	Butylate	0.19	ug/L	UJ	0.19	0.76
1/29/2007 8:35	Equipment Blank	GC-Water	Chlorpyrifos Ethyl	0.048	ug/L	U	0.048	0.19
1/29/2007 8:35	Equipment Blank	GC-Water	Chlorpyrifos Methyl	0.095	ug/L	U	0.095	0.38
1/29/2007 8:35	Equipment Blank	GC-Water	Diazinon	0.048	ug/L	UJ	0.048	0.19
1/29/2007 8:35	Equipment Blank	GC-Water	Ethion	0.048	ug/L	U	0.048	0.19
1/29/2007 8:35	Equipment Blank	GC-Water	Ethoprop	0.095	ug/L	U	0.095	0.38
1/29/2007 8:35	Equipment Blank	GC-Water	Fenamiphos	0.19	ug/L	U	0.19	0.76
1/29/2007 8:35	Equipment Blank	GC-Water	Fonofos	0.095	ug/L	U	0.095	0.38
1/29/2007 8:35	Equipment Blank	GC-Water	Hexazinone	0.095	ug/L	U	0.095	0.38
1/29/2007 8:35	Equipment Blank	GC-Water	Malathion	0.14	ug/L	U	0.14	0.56
1/29/2007 8:35	Equipment Blank	GC-Water	Metalaxyl	0.24	ug/L	U	0.24	0.96
1/29/2007 8:35	Equipment Blank	GC-Water	Metolachlor	0.48	ug/L	U	0.48	1.9
1/29/2007 8:35	Equipment Blank	GC-Water	Metribuzin	0.095	ug/L	U	0.095	0.38
1/29/2007 8:35	Equipment Blank	GC-Water	Mevinphos	0.19	ug/L	U	0.19	0.76
1/29/2007 8:35	Equipment Blank	GC-Water	Naled	0.76	ug/L	U	0.76	3
1/29/2007 8:35	Equipment Blank	GC-Water	Norflurazon	0.14	ug/L	U	0.14	0.56
1/29/2007 8:35	Equipment Blank	GC-Water	Parathion Ethyl	0.14	ug/L	UJ	0.14	0.56
1/29/2007 8:35	Equipment Blank	GC-Water	Parathion Methyl	0.095	ug/L	UJ	0.095	0.38
1/29/2007 8:35	Equipment Blank	GC-Water	Phorate	0.048	ug/L	U	0.048	0.19
1/29/2007 8:35	Equipment Blank	GC-Water	Prometryn	0.14	ug/L	U	0.14	0.56
1/29/2007 8:35	Equipment Blank	GC-Water	Simazine	0.048	ug/L	U	0.048	0.19
1/29/2007 9:05	Outfall D-001 Grab	Metals-Water	Aluminum	59	ug/L		4	16
1/29/2007 9:05	Outfall D-001 Grab	Metals-Water	Arsenic	1.5	ug/L	U	1.5	6
1/29/2007 9:05	Outfall D-001 Grab	Metals-Water	Cadmium	0.15	ug/L	U	0.15	0.6
1/29/2007 9:05	Outfall D-001 Grab	Metals-Water	Calcium	83.7	mg/L		0.02	0.08
1/29/2007 9:05	Outfall D-001 Grab	Metals-Water	Chromium	0.3	ug/L	U	0.3	1.2
1/29/2007 9:05	Outfall D-001 Grab	Metals-Water	Copper	1.1	ug/L	I	0.6	2.4
1/29/2007 9:05	Outfall D-001 Grab	Metals-Water	Iron	67	ug/L		5	20
1/29/2007 9:05	Outfall D-001 Grab	Metals-Water	Lead	0.6	ug/L	U	0.6	2.4
1/29/2007 9:05	Outfall D-001 Grab	Metals-Water	Magnesium	13.7	mg/L		0.005	0.02
1/29/2007 9:05	Outfall D-001 Grab	Metals-Water	Nickel	2.5	ug/L	I	1	4
1/29/2007 9:05	Outfall D-001 Grab	Metals-Water	Selenium	1.5	ug/L	U	1.5	6
1/29/2007 9:05	Outfall D-001 Grab	Metals-Water	Silver	0.075	ug/L	U	0.075	0.3
1/29/2007 9:05	Outfall D-001 Grab	Metals-Water	Zinc	39	ug/L		3	12
1/29/2007 8:35	Equipment Blank	Metals-Water	Aluminum	4	ug/L	U	4	16
1/29/2007 8:35	Equipment Blank	Metals-Water	Arsenic	0.5	ug/L	U	0.5	2
1/29/2007 8:35	Equipment Blank	Metals-Water	Cadmium	0.05	ug/L	U	0.05	0.2

Appendix E. (continued)

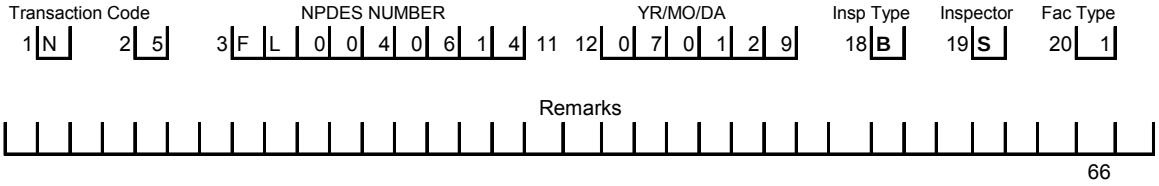
Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
1/29/2007 8:35	Equipment Blank	Metals-Water	Calcium	0.02	mg/L	U	0.02	0.08
1/29/2007 8:35	Equipment Blank	Metals-Water	Chromium	0.3	ug/L	U	0.3	1.2
1/29/2007 8:35	Equipment Blank	Metals-Water	Copper	0.2	ug/L	U	0.2	0.8
1/29/2007 8:35	Equipment Blank	Metals-Water	Iron	5	ug/L	U	5	20
1/29/2007 8:35	Equipment Blank	Metals-Water	Lead	0.2	ug/L	U	0.2	0.8
1/29/2007 8:35	Equipment Blank	Metals-Water	Magnesium	0.005	mg/L	U	0.005	0.02
1/29/2007 8:35	Equipment Blank	Metals-Water	Nickel	1	ug/L	U	1	4
1/29/2007 8:35	Equipment Blank	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
1/29/2007 8:35	Equipment Blank	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
1/29/2007 8:35	Equipment Blank	Metals-Water	Zinc	4.6	ug/L	U	4.6	18
1/29/2007 8:45	Equipment Blank Composite	Metals-Water	Aluminum	4	ug/L	U	4	16
1/29/2007 8:45	Equipment Blank Composite	Metals-Water	Arsenic	0.5	ug/L	U	0.5	2
1/29/2007 8:45	Equipment Blank Composite	Metals-Water	Cadmium	0.05	ug/L	U	0.05	0.2
1/29/2007 8:45	Equipment Blank Composite	Metals-Water	Calcium	0.22	mg/L		0.02	0.08
1/29/2007 8:45	Equipment Blank Composite	Metals-Water	Chromium	0.3	ug/L	U	0.3	1.2
1/29/2007 8:45	Equipment Blank Composite	Metals-Water	Copper	2.27	ug/L		0.2	0.8
1/29/2007 8:45	Equipment Blank Composite	Metals-Water	Iron	5	ug/L	U	5	20
1/29/2007 8:45	Equipment Blank Composite	Metals-Water	Lead	0.2	ug/L	U	0.2	0.8
1/29/2007 8:45	Equipment Blank Composite	Metals-Water	Magnesium	0.036	mg/L		0.005	0.02
1/29/2007 8:45	Equipment Blank Composite	Metals-Water	Nickel	1	ug/L	U	1	4
1/29/2007 8:45	Equipment Blank Composite	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
1/29/2007 8:45	Equipment Blank Composite	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
1/29/2007 8:45	Equipment Blank Composite	Metals-Water	Zinc	4.6	ug/L	U	4.6	18
1/30/2007 9:00	Outfall D-001 Composite	Metals-Water	Aluminum	64	ug/L		4	16
1/30/2007 9:00	Outfall D-001 Composite	Metals-Water	Arsenic	0.5	ug/L	U	0.5	2
1/30/2007 9:00	Outfall D-001 Composite	Metals-Water	Cadmium	0.05	ug/L	U	0.05	0.2
1/30/2007 9:00	Outfall D-001 Composite	Metals-Water	Calcium	86.3	mg/L		0.02	0.08
1/30/2007 9:00	Outfall D-001 Composite	Metals-Water	Chromium	0.3	ug/L	U	0.3	1.2
1/30/2007 9:00	Outfall D-001 Composite	Metals-Water	Copper	2.28	ug/L		0.2	0.8
1/30/2007 9:00	Outfall D-001 Composite	Metals-Water	Iron	63	ug/L		5	20
1/30/2007 9:00	Outfall D-001 Composite	Metals-Water	Lead	0.25	ug/L	I	0.2	0.8
1/30/2007 9:00	Outfall D-001 Composite	Metals-Water	Magnesium	13.8	mg/L		0.005	0.02
1/30/2007 9:00	Outfall D-001 Composite	Metals-Water	Nickel	2.5	ug/L	I	1	4
1/30/2007 9:00	Outfall D-001 Composite	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
1/30/2007 9:00	Outfall D-001 Composite	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
1/30/2007 9:00	Outfall D-001 Composite	Metals-Water	Zinc	42	ug/L		3	12
1/29/2007 9:05	Outfall D-001 Grab	Nutrients-Liquid	Ammonia-N	0.038	mg N/L		0.01	0.02
1/29/2007 9:05	Outfall D-001 Grab	Nutrients-Liquid	Color	10	PCU		5	5
1/29/2007 9:05	Outfall D-001 Grab	Nutrients-Liquid	Kjeldahl Nitrogen	0.84	mg N/L	A	0.08	0.2
1/29/2007 9:05	Outfall D-001 Grab	Nutrients-Liquid	NO2NO3-N	0.77	mg N/L		0.004	0.01
1/29/2007 9:05	Outfall D-001 Grab	Nutrients-Liquid	O-Phosphate-P	0.35	mg P/L		0.012	0.03
1/29/2007 9:05	Outfall D-001 Grab	Nutrients-Liquid	Organic Carbon	7.3	mg C/L	A	1	5
1/29/2007 9:05	Outfall D-001 Grab	Nutrients-Liquid	Organic Carbon	7.4	mg C/L		1	5
1/29/2007 9:05	Outfall D-001 Grab	Nutrients-Liquid	TSS	4	mg/L	U	4	16
1/29/2007 9:05	Outfall D-001 Grab	Nutrients-Liquid	Total-P	0.43	mg P/L	A	0.02	0.06

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
1/29/2007 9:05	Outfall D-001 Grab	Nutrients-Liquid	Turbidity	2.5	NTU		0.05	0.05
1/29/2007 8:35	Equipment Blank	Nutrients-Liquid	Ammonia-N	0.01	mg N/L	U	0.01	0.02
1/29/2007 8:35	Equipment Blank	Nutrients-Liquid	Kjeldahl Nitrogen	0.08	mg N/L	U	0.08	0.2
1/29/2007 8:35	Equipment Blank	Nutrients-Liquid	NO2NO3-N	0.004	mg N/L	U	0.004	0.01
1/29/2007 8:35	Equipment Blank	Nutrients-Liquid	O-Phosphate-P	0.004	mg P/L	U	0.004	0.01
1/29/2007 8:35	Equipment Blank	Nutrients-Liquid	Total-P	0.02	mg P/L	U	0.02	0.06
1/29/2007 8:45	Equipment Blank Composite	Nutrients-Liquid	Ammonia-N	0.01	mg N/L	U	0.01	0.02
1/29/2007 8:45	Equipment Blank Composite	Nutrients-Liquid	Kjeldahl Nitrogen	0.08	mg N/L	U	0.08	0.2
1/29/2007 8:45	Equipment Blank Composite	Nutrients-Liquid	NO2NO3-N	0.011	mg N/L		0.004	0.01
1/29/2007 8:45	Equipment Blank Composite	Nutrients-Liquid	O-Phosphate-P		mg P/L			
1/29/2007 8:45	Equipment Blank Composite	Nutrients-Liquid	Organic Carbon	1	mg C/L	U	1	5
1/29/2007 8:45	Equipment Blank Composite	Nutrients-Liquid	TSS	4	mg/L	U	4	16
1/29/2007 8:45	Equipment Blank Composite	Nutrients-Liquid	Total-P	0.02	mg P/L	U	0.02	0.06
1/29/2007 8:45	Equipment Blank Composite	Nutrients-Liquid	Turbidity	0.05	NTU		0.05	0.05
1/30/2007 9:00	Outfall D-001 Composite	Nutrients-Liquid	Ammonia-N	0.077	mg N/L	I	0.05	0.1
1/30/2007 9:00	Outfall D-001 Composite	Nutrients-Liquid	Kjeldahl Nitrogen	0.57	mg N/L		0.16	0.4
1/30/2007 9:00	Outfall D-001 Composite	Nutrients-Liquid	NO2NO3-N	1.1	mg N/L		0.04	0.1
1/30/2007 9:00	Outfall D-001 Composite	Nutrients-Liquid	Organic Carbon	7.3	mg C/L		1	5
1/30/2007 9:00	Outfall D-001 Composite	Nutrients-Liquid	Organic Carbon	7.5	mg C/L		1	5
1/30/2007 9:00	Outfall D-001 Composite	Nutrients-Liquid	TSS	4	mg/L	U	4	16
1/30/2007 9:00	Outfall D-001 Composite	Nutrients-Liquid	Total-P	0.14	mg P/L		0.02	0.06
1/30/2007 9:00	Outfall D-001 Composite	Nutrients-Liquid	Turbidity	0.4	NTU		0.05	0.05
1/30/2007 9:10	Filter Effluent	Nutrients-Liquid	TSS	4	mg/L	U	4	16
1/30/2007 9:10	Filter Effluent	Nutrients-Liquid	Turbidity	0.35	NTU		0.05	0.05
1/29/2007 9:05	Outfall D-001 Grab	Overflow	Oil and Grease	2	mg/L	I		
1/29/2007 8:35	Equipment Blank	Overflow	Oil and Grease	1.7	mg/L	U		
1/29/2007 9:05	Outfall D-001 Grab	VOC-Water	Bromodichloromethane	15	ug/L		0.2	1
1/29/2007 9:05	Outfall D-001 Grab	VOC-Water	Bromoform	0.5	ug/L	U	0.5	2
1/29/2007 9:05	Outfall D-001 Grab	VOC-Water	Chloroform	35	ug/L		0.2	1
1/29/2007 9:05	Outfall D-001 Grab	VOC-Water	Dibromochloromethane	5	ug/L		0.2	1
1/29/2007 8:35	Equipment Blank	VOC-Water	Bromodichloromethane	0.2	ug/L	U	0.2	1
1/29/2007 8:35	Equipment Blank	VOC-Water	Bromoform	0.5	ug/L	U	0.5	2
1/29/2007 8:35	Equipment Blank	VOC-Water	Chloroform	0.2	ug/L	U	0.2	1
1/29/2007 8:35	Equipment Blank	VOC-Water	Dibromochloromethane	0.2	ug/L	U	0.2	1
1/29/2007 9:05	TRIP BLK	VOC-Water	Bromodichloromethane	0.2	ug/L	U	0.2	1
1/29/2007 9:05	TRIP BLK	VOC-Water	Bromoform	0.5	ug/L	U	0.5	2
1/29/2007 9:05	TRIP BLK	VOC-Water	Chloroform	0.2	ug/L	U	0.2	1
1/29/2007 9:05	TRIP BLK	VOC-Water	Dibromochloromethane	0.2	ug/L	U	0.2	1

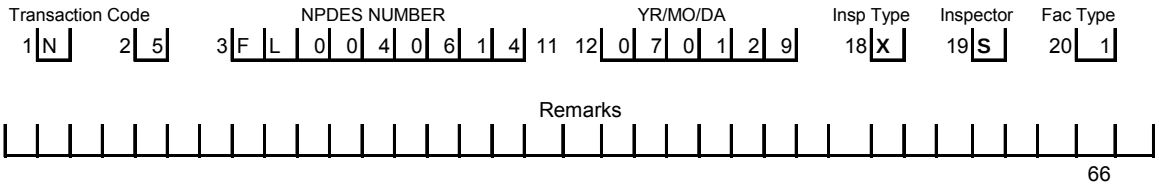
The Bioassay of Falkenburg Road Advanced Wastewater Treatment Plant effluent sampled on January 29, 2007. NPDES #FL0040614.

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



The Priority Pollutants Analysis of Falkenburg Road Advanced Wastewater Treatment Palnt effluent sampled on January 29 and 30, 2007. NPDES #FL0040614.

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



Biological Analyses of Falkenburg Road Advanced Wastewater Treatment Plant effluent sampled on January 29, 2007. NPDES #FL0040614.

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

