

Bioassays of

Marsh Landing Wastewater Treatment Facility

St. Johns County

NPDES #FL0044253

Sampled August 15, 2005

November 2005

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

Marsh Landing Wastewater Treatment Facility, 166 Marsh Cove Drive, Ponte Vedra, St. Johns County, Florida, NPDES #FL0044253. Effluent samples for this facility were collected on August 15, 2005.

Introduction

Marsh Landing Wastewater Treatment Plant has a permitted capacity of 0.800 million gallons per day (MGD) annual average daily flow. The annual average daily flow from August 1, 2004, through July 31, 2005, was 0.218 MGD. The facility consists of two 0.500 MGD activated-sludge wastewater treatment plants operating in the extended aeration mode. Major process components include a 0.145 million gallon (MG) flow equalization basin, influent static screens, aeration basins, secondary clarification, cloth-membrane filtration, a 0.900 MG lined reject pond, gas chlorination for disinfection, a 4.1 MG unlined holding pond and a 4.3 MG lined holding pond. The facility uses electronic surveillance equipment and backup power to meet the Class I reliability requirements. The residuals are treated to meet Class B standards, and then applied to land.

The primary method of wastewater disposal is reuse of reclaimed water via spray irrigation to the public access reuse sites, Marsh Landing Country Club and Ponte Vedra Golf Course. The current design capacity of slow-rate public access irrigation system is 1.10 MGD. However, the permitted capacity of the reuse system is limited at 0.800 MGD due to the limit of the plant's capacity. Surface water discharge is the alternative (back-up) disposal method. This permitted limited wet weather discharge is through Outfall D-001 to the Class III marine waters of the Intracoastal Waterway. The D-001 discharge point is located approximately at latitude 30° 14' 30'' N longitude 81° 23' 45'' W.

There are no outstanding Administrative or Consent Orders concerning the facility. The facility has no mixing zones. During the past year, the facility has had violations for total Kjeldahl nitrogen, total suspended solids, and pH (facility information provided by David Lee of FDEP Northeast District.)

Methods

All samples were collected from the EFD-1 NPDES sampling point by Tom Kallemeyn (FDEP Northeast District) following DEP-SOP-001/01 FS 2400 Wastewater Sampling. At outfall D-001, EFD-1 is the compliance sampling site for toxicity and metals, and is located after final treatment, before discharge to Marsh Landing stormwater system; EFA-1 is the compliance sampling site for nutrients, bacteriological indicators, and several other water quality measurements, and is located immediately after disinfection; EFB-1 is the compliance sampling point for total suspended solids, and is located immediately before disinfection, after filters. All DEP SOP's are available on the web at: http://www.floridadep.org/labs/qa/sops.htm.

The 48-hour acute screening toxicity tests and algal growth potential test were performed following internal DEP SOP's TA07_01,TA07_02, and TA08_01 through TA08_09. All internal DEP SOP's 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.

Prior to test initiation, bioassay samples were aerated for 20 minutes at approximately 100 bubbles per minute, to decrease the dissolved oxygen concentration from 10.7 mg/L to 7.9 mg/L.

Toxicity Test Results

Tests were performed August 16 - 18, 2005.

Ceriodaphnia dubia 48-hr acute screening bioassay –	LC_{50} > 100%, 0% mortality* in 100% sample at 48 hours
Cyprinella leedsi 48-hr acute screening bioassay –	LC_{50} > 100%, 5% mortality* in 100% sample at 48 hours

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

See Appendix 1 for bioassay bench sheets.

*NOTE: In a 48-hr 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% mortality 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 59 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 193.8 (±20%) mg dry wt/L (Table 1; Miller et al. 1978).

A saltwater AGP test was not performed; however, the freshwater AGP results suggest that nutrient enrichment may be an issue.

See Table 1 for AGP results

Chemistry Results

Total residual chlorine was not detected in the bioassay sample in the laboratory. Total ammonia was detected at a concentration of 0.158 mg/L in the bioassay sample in the laboratory. The unionized ammonia concentration in the bioassay sample was 0.06 mg/L based on calculations using sample parameters taken in the lab. The total ammonia concentration in the sample collected and preserved for chemical analysis was 0.2 mg/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was 0.09 mg/L.

Aluminum, copper, iron, and zinc were detected in the effluent at levels that comply with Class III marine water quality criteria. Cadmium, lead, and selenium were detected between their respective laboratory minimum detection limits (MDL) and practical quantitation limits (PQL). The pH of the effluent (8.8 SU) exceeded the Class III marine criterion of 6.5-8.5 SU (62-302.530(52), F.A.C.). The pH of the effluent and the total suspended solids in the effluent (22 mg/L) exceeded their permitted limits (6.5-8.5 SU and 5.0 mg/L, respectively); however, a determination of whether or not permit violations occurred could not be made because the samples were not collected at the permitted monitoring location sites for those parameters (EFA-1 and EFB-1, respectively).

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

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

Conclusion

The effluent sample collected from Outfall D-001 at EFD-1 for this facility on August 15, 2005, was not acutely toxic to either test species during the acute screen 48-hour bioassays. The effluent AGP result exceeded the "problem" threshold for fresh receiving waters, suggesting nutrient enrichment may be an issue. The pH of the effluent exceeded the Class III marine surface water quality criterion.

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 wt/L) of Pseudokirchneriella supcapitata *for total soluble nitrogen (TSIN) and total nitrogen (TN) limitation and ratios of nitrogen to phosphorus for samples collected from Marsh Landing Wastewater Treatment Facility on August 15, 2005.*

Location	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (TN) ± 20%	Inorganic N:P ratio	Total N:P ratio
Effluent Samples	59	193.8 ± 38.76	277.4 ± 55.48	2.43	2.35

Table 2. Effluent limits, Class III Criteria, and chemical and microbiological data for samples collected from Marsh Landing Wastewater Treatment Facility on August 15, 2005.

Marsh Landing WWTF NPDES# FL0044253	Class III Marine Stds	Effluent Limits	Effluent Samples (EFD-1)
Metals (µg/L unless otherwise noted)			
Aluminum	≤ 1,500	-	90
Arsenic	≤ 50	-	4 U
Cadmium	≤ 9.3	-	0.077 I
Calcium (mg/L)	-	-	61.5
Chromium-III	-	-	2 U
Copper	≤ 3.7	-	2
Iron	≤ 300	-	40
Lead	≤ 8.5	-	0.21 I
Magnesium (mg/L)	-	-	30.8
Nickel	≤ 8.3	-	2 U
Selenium	≤ 71	-	1 I
Silver	≤ 2.3	-	0.025 U
Zinc	≤ 86	-	26
Nutrients (mg/L)			
Ortho-phosphate	-	Report p	2.1
Total Phosphorus	-	Report p	3.1
Ammonia	-	Report p	0.2 A
Unionized Ammonia	-	-	0.09 c
Nitrate+Nitrite	-	-	4.9 A
Total Kjeldahl Nitrogen	-	≤ 10 ps	2.4
Organic Nitrogen	-	Report p	2.2 c
Total Nitrogen	-	Report p	7.3 c
General Physical and Chemical Parameters			
pH (S.U.)	6.5-8.5 s	6.5-8.5 ps	8.8
Conductivity (umhos/cm)	-	-	1,196
Temperature (C)	-	-	30.7
Dissolved Oxygen (mg/L)	≥ 4	-	12.58
CBOD (mg/L)	-	≤ 60.0 ps	3.6
TSS (mg/L)	-	≤ 5.0 rs	22
Flow (MGD)	-	≤ 0.800 a	0.213 a
Hardness (mg CaCO3)	-	-	280.4 c
Microbiology (# counts/100ml)			
Fecal Coliforms-Membrane Filter	≤ 2,400 s	≤ 25 ps	-

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

a - Annual average

c - Calculated value

p - the permited sampling point for this limit, EFA-1 (immediately after disinfection), was not sampled

r - the permited sampling point for this limit, EFB-1(immediately before disinfection, after filters), was not sampled

s - Single sample

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

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

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

FDEP Biology Section - Acute Bioassay Bench Sheets

Facility: Marsh Landing WWTF
Address: 1660 Marsh Cove Drive
City: Ponte Vedra County: St. Johns
Contact/District: Tom Kallamayn / NE District
NPDES Permit #: FL 0044253
LIMS Job #: TLH-2005-08-16-13 LIMS Sample #: 857719
Lims Data Entry: 8-26-05 MF Data Entry Verification: 8-26-05 BP

Sample Collection: Date: 8-15-05 Time: 09:45
Hold time Start: Date: 8-15-05 Time: 09:45

Comments:

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

Test Type: (Screening) Definitive
(Static) Static Renewal / Flow-through
Test Duration: (48) 96 Hours
Light Intensity : 50 - 100 ft. candles
Photoperiod : 16 hours light 8 hours dark

Initial sample handling:

Test 1 validation: Test 1: SOP TA07_01
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No
Test 2 validation: Test 2: SOP TA07_02
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No

pH adjustment : yes (no) Initial pH NaOH N HCl N Drops mL Final pH
Aeration : (yes) no Initial DO: 10.7 mg/L Final DO: 7.9 mg/L Duration: 20 minutes Rate: ~ 100 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 24.4 26.2
Room B246: 22.6 - 24.2
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
Sarah Pickard
Kevin McChesney
Mabel Fairbanks
Jason Daniels

REVIEWER
Nicole Wellendorf

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Water Quality Parameters	20% DMW	Well Water	Salt Water ASW NSW Test 1	Salt Water ASW NSW Test 2	Moderately Hard Water	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl2 (mg/L):	N/A	N/A	N/A	N/A	N/A	not measured		–	BP
Lab Total Residual Cl2 (mg/L):	<0.03	<0.03				<0.03	HACH	BP	DN
Alkalinity (mg/L as $CaCO_3$):	84	156				132	HACH	DN	BP
Hardness (mg/L as $CaCO_3$):	97	142				278	HACH	DN	BP
Total Ammonia (mg/L as N):	<0.017	<0.017				0.158	DENVER	MF	BP
Salinity (ppth):	<1	<1				<1	YSI Mettler	MF	BP

Appendix 1. Bench Sheets (continued)

FDEP Biology Section - - Bioassay Bench Sheet
Survival

LIMS Sample #: 857719 Test #: 1 Test Started: Date 8-16-05 Time: 1315
Organism: C. dubia Test Ended: Date 8-18-05 Time: 1300
Organism Batch: 29-05 Diluent/Batch: DMW / 25-05 (JMF date error 8-18-05)
Organism Age: <24 hrs Food: YCT *P. subcapitata* *Artemia*
Chamber Size 30 mL Batch: 3-05 3-05 -
Test Volume 20 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	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: DN / Loading verified at 0 hours by: M/DN		Checked by: (initials)	[redacted]	DN	SP			

Comments:

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

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

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

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Appendix 1. Bench Sheets (continued)

FDEP Biology Section - - Bioassay Bench Sheet

Survival

LIMS Sample #: 857719 Test #: 2 Test Started: Date 8-16-05 Time: 1330

Organism: C. leedsi Test Ended: Date 8-18-05 Time: 1300

Organism Batch: 24-05 Diluent/ Batch: Well / NA

Organism Age: 8days Food: YCT *P. subcapitata* *Artemia*

Chamber Size 1000 mL Batch: – – 35138425GR

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	D9	5	5	5			
	B	D10	5	5	5			
	C	D11	5	5	5			
	D	D12	5	5	5			
100%	A	D13	5	5	5			
	B	D14	5	5	4 1D			
	C	D15	5	5	5			
	D	D16	5	5	5			
Organisms loaded by: JD Loading verified at 0 hours by: DN		Checked by: (initials)	[redacted]	JD	JD			

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

Comments:

Test Results:

% mortality in 100% sample ~ 5

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

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

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

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[redacted]

Bioassay Parameters

LIMS Sample # : 857719 Test # : 1 of 2

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

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Concentration CTRL	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A		B			
pH (S.U.)	8.3		8.1			
Temperature °C	24.1		24.0			
Dissolved Oxygen mg/L	7.6		8.1			
Conductivity (µmhos) mmhos	178		190			
(initials) Measured by:	JD		SP			
(initials) Recorded by:	JD		SP			

Comments:

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	B			
pH (S.U.)	8.9		8.6			
Temperature °C	25.1		24.0			
Dissolved Oxygen mg/L	7.9		9.5			
Conductivity (µmhos) mmhos	1195		1425			
(initials) Measured by:	JD		SP			
(initials) Recorded by:	JD		SP			

Comments:

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

Comments:

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

Comments:

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Bioassay Parameters

LIMS Sample # : 857719 **Test # :** 2 **of** 2

TEST SOP: TA07_ 02 **Test Species:** *Ceriodaphnia dubia* *Cyprinella leedsi* *Pimephales promelas* *Americamysis bahia* *Menidia beryllina* Other:_____

V.1 2/24/04

Concentration CTRL	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C			
pH (S.U.)	7.9	8.2	8.3			
Temperature °C	25.1	24.0	24.2			
Dissolved Oxygen mg/L	7.3	7.4	7.8			
Conductivity µmhos mmhos	265	290	270			
(initials) Measured by:	JD	JD	JD			
(initials) Recorded by:	JD	JD	JD			

Comments: Wrong plate J.D.

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	AB	B	C			
pH (S.U.)	8.9	8.8	8.8			
Temperature °C	25.0	24.1	24.1			
Dissolved Oxygen mg/L	7.9	9.0	9.6			
Conductivity µmhos mmhos	1190	1290	1305			
(initials) Measured by:	JD	JD	JD			
(initials) Recorded by:	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:

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Appendix 2. Chemical Analyses performed on the effluent from the Marsh Landing Wastewater Treatment Facility Outfall D-001, sampled on August 15, 2005.

Date Sampled	Field Id	Analysis Group	Component	Result	Units	Remark	MDL	PQL
8/15/2005 9:45	Final Effluent	Bio-AGP/LimNut	Algal Growth Potential	59	mg DryWt/L	A	0.3	0.9
8/15/2005 9:45	Final Effluent	Bio-BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	3.6	mg/L			
8/15/2005 9:45	Final Effluent	Bio-Chl-a	Chlorophyll-A, Monochromatic, Water	68	ug/L		1.7	5.1
8/15/2005 9:45	Final Effluent	Bio-Chl-a	Phaeophytin-A, Monochromatic, Water	0	ug/L		1.7	5.1
8/15/2005 9:45	Final Effluent	Bio-Toxicology	Bioassay-Acute-Screen-FW-C.dubia, LC50	100	LC50	L		
8/15/2005 9:45	Final Effluent	Bio-Toxicology	Bioassay-Acute-Screen-FW-Fish, LC50	100	LC50	L		
8/15/2005 9:25	Equip Blank	BNA-Water	1,2,4-Trichlorobenzene	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	1,2-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	1,3-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	1,4-Dichlorobenzene	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	2,4,6-Trichlorophenol	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	2,4-Dichlorophenol	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	2,4-Dimethylphenol	48	ug/L	U	48	190
8/15/2005 9:25	Equip Blank	BNA-Water	2,4-Dinitrophenol	14	ug/L	U	14	58
8/15/2005 9:25	Equip Blank	BNA-Water	2,4-Dinitrotoluene	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	2,6-Dinitrotoluene	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	2-Chloronaphthalene	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	2-Chlorophenol	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	2-Methyl-4,6-dinitrophenol	2.9	ug/L	U	2.9	12
8/15/2005 9:25	Equip Blank	BNA-Water	2-Nitrophenol	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	3,3'-Dichlorobenzidine	38	ug/L	UJ	38	150
8/15/2005 9:25	Equip Blank	BNA-Water	4,4'-DDD	1.4	ug/L	U	1.4	5.8
8/15/2005 9:25	Equip Blank	BNA-Water	4,4'-DDE	1.4	ug/L	U	1.4	5.8
8/15/2005 9:25	Equip Blank	BNA-Water	4,4'-DDT	1.4	ug/L	U	1.4	5.8
8/15/2005 9:25	Equip Blank	BNA-Water	4-Bromophenyl phenyl ether	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	4-Chloro-3-methylphenol	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	4-Chlorophenyl phenyl ether	1.9	ug/L	U	1.9	7.7
8/15/2005 9:25	Equip Blank	BNA-Water	4-Nitrophenol	14	ug/L	U	14	58
8/15/2005 9:25	Equip Blank	BNA-Water	Acenaphthene	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	Acenaphthylene	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	Aldrin	1.4	ug/L	U	1.4	5.8
8/15/2005 9:25	Equip Blank	BNA-Water	alpha-BHC	1.4	ug/L	U	1.4	5.8
8/15/2005 9:25	Equip Blank	BNA-Water	Anthracene	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	Benzidine	96	ug/L	U	96	380
8/15/2005 9:25	Equip Blank	BNA-Water	Benzo(a)anthracene	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	Benzo(a)pyrene	0.96	ug/L	U	0.96	3.8

Appendix 2. Chemical Analyses (continued)

Date Sampled	Field Id	Analysis Group	Component	Result	Units	Remark	MDL	PQL
8/15/2005 9:25	Equip Blank	BNA-Water	Benzo(b)fluoranthene	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	Benzo(g,h,i)perylene	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	Benzo(k)fluoranthene	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	beta-BHC	1.4	ug/L	U	1.4	5.8
8/15/2005 9:25	Equip Blank	BNA-Water	Bis(2-chloroethoxy)methane	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	Bis(2-chloroethyl)ether	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	Bis(2-chloroisopropyl)ether	2.9	ug/L	U	2.9	12
8/15/2005 9:25	Equip Blank	BNA-Water	Bis(2-ethylhexyl)phthalate	14	ug/L	U	14	58
8/15/2005 9:25	Equip Blank	BNA-Water	Butyl benzyl phthalate	4.8	ug/L	U	4.8	19
8/15/2005 9:25	Equip Blank	BNA-Water	Chrysene	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	delta-BHC	1.4	ug/L	U	1.4	5.8
8/15/2005 9:25	Equip Blank	BNA-Water	Dibenzo(a,h)anthracene	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	Dieldrin	1.4	ug/L	U	1.4	5.8
8/15/2005 9:25	Equip Blank	BNA-Water	Diethyl phthalate	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	Dimethyl phthalate	48	ug/L	U	48	190
8/15/2005 9:25	Equip Blank	BNA-Water	Di-n-butyl phthalate	4.8	ug/L	U	4.8	19
8/15/2005 9:25	Equip Blank	BNA-Water	Di-n-octyl phthalate	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	Endosulfan I	3.8	ug/L	U	3.8	15
8/15/2005 9:25	Equip Blank	BNA-Water	Endosulfan II	3.8	ug/L	U	3.8	15
8/15/2005 9:25	Equip Blank	BNA-Water	Endosulfan sulfate	1.4	ug/L	U	1.4	5.8
8/15/2005 9:25	Equip Blank	BNA-Water	Endrin	1.4	ug/L	U	1.4	5.8
8/15/2005 9:25	Equip Blank	BNA-Water	Endrin aldehyde	3.8	ug/L	U	3.8	15
8/15/2005 9:25	Equip Blank	BNA-Water	Fluoranthene	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	Fluorene	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	gamma-BHC	1.4	ug/L	U	1.4	5.8
8/15/2005 9:25	Equip Blank	BNA-Water	Heptachlor	1.4	ug/L	U	1.4	5.8
8/15/2005 9:25	Equip Blank	BNA-Water	Heptachlor epoxide	1.4	ug/L	U	1.4	5.8
8/15/2005 9:25	Equip Blank	BNA-Water	Hexachlorobenzene	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	Hexachlorobutadiene	2.9	ug/L	U	2.9	12
8/15/2005 9:25	Equip Blank	BNA-Water	Hexachlorocyclopentadiene	2.9	ug/L	U	2.9	12
8/15/2005 9:25	Equip Blank	BNA-Water	Hexachloroethane	2.9	ug/L	U	2.9	12
8/15/2005 9:25	Equip Blank	BNA-Water	Indeno(1,2,3-cd)pyrene	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	Isophorone	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	Naphthalene	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	Nitrobenzene	1.9	ug/L	U	1.9	7.7
8/15/2005 9:25	Equip Blank	BNA-Water	N-Nitrosodimethylamine	1.9	ug/L	U	1.9	7.7
8/15/2005 9:25	Equip Blank	BNA-Water	N-Nitrosodi-n-propylamine	1.9	ug/L	U	1.9	7.7

Appendix 2. Chemical Analyses (continued)

Date Sampled	Field Id	Analysis Group	Component	Result	Units	Remark	MDL	PQL
8/15/2005 9:25	Equip Blank	BNA-Water	N-Nitrosodiphenylamine	2.9	ug/L	U	2.9	12
8/15/2005 9:25	Equip Blank	BNA-Water	Pentachlorophenol	2.9	ug/L	U	2.9	12
8/15/2005 9:25	Equip Blank	BNA-Water	Phenanthrene	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	Phenol	0.96	ug/L	U	0.96	3.8
8/15/2005 9:25	Equip Blank	BNA-Water	Pyrene	0.96	ug/L	U	0.96	3.8
8/15/2005 9:45	Final Effluent	BNA-Water	1,2,4-Trichlorobenzene	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	1,2-Dichlorobenzene	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	1,3-Dichlorobenzene	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	1,4-Dichlorobenzene	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	2,4,6-Trichlorophenol	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	2,4-Dichlorophenol	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	2,4-Dimethylphenol	49	ug/L	U	49	200
8/15/2005 9:45	Final Effluent	BNA-Water	2,4-Dinitrophenol	15	ug/L	U	15	59
8/15/2005 9:45	Final Effluent	BNA-Water	2,4-Dinitrotoluene	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	2,6-Dinitrotoluene	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	2-Chloronaphthalene	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	2-Chlorophenol	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	2-Methyl-4,6-dinitrophenol	2.9	ug/L	U	2.9	12
8/15/2005 9:45	Final Effluent	BNA-Water	2-Nitrophenol	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	3,3'-Dichlorobenzidine	39	ug/L	UJ	39	160
8/15/2005 9:45	Final Effluent	BNA-Water	4,4'-DDD	1.5	ug/L	U	1.5	5.9
8/15/2005 9:45	Final Effluent	BNA-Water	4,4'-DDE	1.5	ug/L	U	1.5	5.9
8/15/2005 9:45	Final Effluent	BNA-Water	4,4'-DDT	1.5	ug/L	U	1.5	5.9
8/15/2005 9:45	Final Effluent	BNA-Water	4-Bromophenyl phenyl ether	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	4-Chloro-3-methylphenol	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	4-Chlorophenyl phenyl ether	2	ug/L	U	2	7.8
8/15/2005 9:45	Final Effluent	BNA-Water	4-Nitrophenol	15	ug/L	U	15	59
8/15/2005 9:45	Final Effluent	BNA-Water	Acenaphthene	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	Acenaphthylene	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	Aldrin	1.5	ug/L	U	1.5	5.9
8/15/2005 9:45	Final Effluent	BNA-Water	alpha-BHC	1.5	ug/L	U	1.5	5.9
8/15/2005 9:45	Final Effluent	BNA-Water	Anthracene	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	Benzidine	98	ug/L	U	98	390
8/15/2005 9:45	Final Effluent	BNA-Water	Benzo(a)anthracene	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	Benzo(a)pyrene	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	Benzo(b)fluoranthene	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	Benzo(g,h,i)perylene	0.98	ug/L	U	0.98	3.9

Appendix 2. Chemical Analyses (continued)

Date Sampled	Field Id	Analysis Group	Component	Result	Units	Remark	MDL	PQL
8/15/2005 9:45	Final Effluent	BNA-Water	Benzo(k)fluoranthene	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	beta-BHC	1.5	ug/L	U	1.5	5.9
8/15/2005 9:45	Final Effluent	BNA-Water	Bis(2-chloroethoxy)methane	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	Bis(2-chloroethyl)ether	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	Bis(2-chloroisopropyl)ether	2.9	ug/L	U	2.9	12
8/15/2005 9:45	Final Effluent	BNA-Water	Bis(2-ethylhexyl)phthalate	15	ug/L	U	15	59
8/15/2005 9:45	Final Effluent	BNA-Water	Butyl benzyl phthalate	4.9	ug/L	U	4.9	20
8/15/2005 9:45	Final Effluent	BNA-Water	Chrysene	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	delta-BHC	1.5	ug/L	U	1.5	5.9
8/15/2005 9:45	Final Effluent	BNA-Water	Dibenzo(a,h)anthracene	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	Dieldrin	1.5	ug/L	U	1.5	5.9
8/15/2005 9:45	Final Effluent	BNA-Water	Diethyl phthalate	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	Dimethyl phthalate	49	ug/L	U	49	200
8/15/2005 9:45	Final Effluent	BNA-Water	Di-n-butyl phthalate	4.9	ug/L	U	4.9	20
8/15/2005 9:45	Final Effluent	BNA-Water	Di-n-octyl phthalate	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	Endosulfan I	3.9	ug/L	U	3.9	16
8/15/2005 9:45	Final Effluent	BNA-Water	Endosulfan II	3.9	ug/L	U	3.9	16
8/15/2005 9:45	Final Effluent	BNA-Water	Endosulfan sulfate	1.5	ug/L	U	1.5	5.9
8/15/2005 9:45	Final Effluent	BNA-Water	Endrin	1.5	ug/L	U	1.5	5.9
8/15/2005 9:45	Final Effluent	BNA-Water	Endrin aldehyde	3.9	ug/L	U	3.9	16
8/15/2005 9:45	Final Effluent	BNA-Water	Fluoranthene	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	Fluorene	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	gamma-BHC	1.5	ug/L	U	1.5	5.9
8/15/2005 9:45	Final Effluent	BNA-Water	Heptachlor	1.5	ug/L	U	1.5	5.9
8/15/2005 9:45	Final Effluent	BNA-Water	Heptachlor epoxide	1.5	ug/L	U	1.5	5.9
8/15/2005 9:45	Final Effluent	BNA-Water	Hexachlorobenzene	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	Hexachlorobutadiene	2.9	ug/L	U	2.9	12
8/15/2005 9:45	Final Effluent	BNA-Water	Hexachlorocyclopentadiene	2.9	ug/L	U	2.9	12
8/15/2005 9:45	Final Effluent	BNA-Water	Hexachloroethane	2.9	ug/L	U	2.9	12
8/15/2005 9:45	Final Effluent	BNA-Water	Indeno(1,2,3-cd)pyrene	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	Isophorone	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	Naphthalene	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	Nitrobenzene	2	ug/L	U	2	7.8
8/15/2005 9:45	Final Effluent	BNA-Water	N-Nitrosodimethylamine	2	ug/L	U	2	7.8
8/15/2005 9:45	Final Effluent	BNA-Water	N-Nitrosodi-n-propylamine	2	ug/L	U	2	7.8
8/15/2005 9:45	Final Effluent	BNA-Water	N-Nitrosodiphenylamine	2.9	ug/L	U	2.9	12
8/15/2005 9:45	Final Effluent	BNA-Water	Pentachlorophenol	2.9	ug/L	U	2.9	12

Appendix 2. Chemical Analyses (continued)

Date Sampled	Field Id	Analysis Group	Component	Result	Units	Remark	MDL	PQL
8/15/2005 9:45	Final Effluent	BNA-Water	Phenanthrene	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	Phenol	0.98	ug/L	U	0.98	3.9
8/15/2005 9:45	Final Effluent	BNA-Water	Pyrene	0.98	ug/L	U	0.98	3.9
8/15/2005 9:25	Equip Blank	GC-Water	Alachlor	0.58	ug/L	U	0.58	2.3
8/15/2005 9:25	Equip Blank	GC-Water	Ametryn	0.048	ug/L	U	0.048	0.19
8/15/2005 9:25	Equip Blank	GC-Water	Atrazine	0.048	ug/L	U	0.048	0.19
8/15/2005 9:25	Equip Blank	GC-Water	Azinphos Methyl	0.19	ug/L	U	0.19	0.76
8/15/2005 9:25	Equip Blank	GC-Water	Bromacil	0.19	ug/L	U	0.19	0.76
8/15/2005 9:25	Equip Blank	GC-Water	Butylate	0.19	ug/L	UJ	0.19	0.76
8/15/2005 9:25	Equip Blank	GC-Water	Chlorpyrifos Ethyl	0.048	ug/L	U	0.048	0.19
8/15/2005 9:25	Equip Blank	GC-Water	Chlorpyrifos Methyl	0.096	ug/L	U	0.096	0.38
8/15/2005 9:25	Equip Blank	GC-Water	Diazinon	0.048	ug/L	U	0.048	0.19
8/15/2005 9:25	Equip Blank	GC-Water	Ethion	0.048	ug/L	U	0.048	0.19
8/15/2005 9:25	Equip Blank	GC-Water	Ethoprop	0.096	ug/L	U	0.096	0.38
8/15/2005 9:25	Equip Blank	GC-Water	Fenamiphos	0.19	ug/L	U	0.19	0.76
8/15/2005 9:25	Equip Blank	GC-Water	Fonofos	0.096	ug/L	U	0.096	0.38
8/15/2005 9:25	Equip Blank	GC-Water	Hexazinone	0.096	ug/L	U	0.096	0.38
8/15/2005 9:25	Equip Blank	GC-Water	Malathion	0.14	ug/L	UJ	0.14	0.56
8/15/2005 9:25	Equip Blank	GC-Water	Metalaxyl	0.24	ug/L	U	0.24	0.96
8/15/2005 9:25	Equip Blank	GC-Water	Metolachlor	0.48	ug/L	U	0.48	1.9
8/15/2005 9:25	Equip Blank	GC-Water	Metribuzin	0.096	ug/L	U	0.096	0.38
8/15/2005 9:25	Equip Blank	GC-Water	Mevinphos	0.19	ug/L	U	0.19	0.76
8/15/2005 9:25	Equip Blank	GC-Water	Naled	0.77	ug/L	U	0.77	3.1
8/15/2005 9:25	Equip Blank	GC-Water	Norflurazon	0.14	ug/L	U	0.14	0.56
8/15/2005 9:25	Equip Blank	GC-Water	Parathion Ethyl	0.14	ug/L	U	0.14	0.56
8/15/2005 9:25	Equip Blank	GC-Water	Parathion Methyl	0.096	ug/L	U	0.096	0.38
8/15/2005 9:25	Equip Blank	GC-Water	Phorate	0.048	ug/L	U	0.048	0.19
8/15/2005 9:25	Equip Blank	GC-Water	Prometryn	0.14	ug/L	U	0.14	0.56
8/15/2005 9:25	Equip Blank	GC-Water	Simazine	0.048	ug/L	U	0.048	0.19
8/15/2005 9:45	Final Effluent	GC-Water	Alachlor	0.59	ug/L	U	0.59	2.4
8/15/2005 9:45	Final Effluent	GC-Water	Ametryn	0.049	ug/L	U	0.049	0.2
8/15/2005 9:45	Final Effluent	GC-Water	Atrazine	0.049	ug/L	U	0.049	0.2
8/15/2005 9:45	Final Effluent	GC-Water	Azinphos Methyl	0.2	ug/L	U	0.2	0.8
8/15/2005 9:45	Final Effluent	GC-Water	Bromacil	0.2	ug/L	U	0.2	0.8
8/15/2005 9:45	Final Effluent	GC-Water	Butylate	0.2	ug/L	UJ	0.2	0.8
8/15/2005 9:45	Final Effluent	GC-Water	Chlorpyrifos Ethyl	0.049	ug/L	U	0.049	0.2
8/15/2005 9:45	Final Effluent	GC-Water	Chlorpyrifos Methyl	0.098	ug/L	U	0.098	0.39

Appendix 2. Chemical Analyses (continued)

Date Sampled	Field Id	Analysis Group	Component	Result	Units	Remark	MDL	PQL
8/15/2005 9:45	Final Effluent	GC-Water	Diazinon	0.049	ug/L	U	0.049	0.2
8/15/2005 9:45	Final Effluent	GC-Water	Ethion	0.049	ug/L	U	0.049	0.2
8/15/2005 9:45	Final Effluent	GC-Water	Ethoprop	0.098	ug/L	U	0.098	0.39
8/15/2005 9:45	Final Effluent	GC-Water	Fenamiphos	0.2	ug/L	U	0.2	0.8
8/15/2005 9:45	Final Effluent	GC-Water	Fonofos	0.098	ug/L	U	0.098	0.39
8/15/2005 9:45	Final Effluent	GC-Water	Hexazinone	0.098	ug/L	U	0.098	0.39
8/15/2005 9:45	Final Effluent	GC-Water	Malathion	0.15	ug/L	UJ	0.15	0.6
8/15/2005 9:45	Final Effluent	GC-Water	Metalaxyl	0.25	ug/L	U	0.25	1
8/15/2005 9:45	Final Effluent	GC-Water	Metolachlor	0.49	ug/L	U	0.49	2
8/15/2005 9:45	Final Effluent	GC-Water	Metribuzin	0.098	ug/L	U	0.098	0.39
8/15/2005 9:45	Final Effluent	GC-Water	Mevinphos	0.2	ug/L	U	0.2	0.8
8/15/2005 9:45	Final Effluent	GC-Water	Naled	0.78	ug/L	U	0.78	3.1
8/15/2005 9:45	Final Effluent	GC-Water	Norflurazon	0.15	ug/L	U	0.15	0.6
8/15/2005 9:45	Final Effluent	GC-Water	Parathion Ethyl	0.15	ug/L	U	0.15	0.6
8/15/2005 9:45	Final Effluent	GC-Water	Parathion Methyl	0.098	ug/L	U	0.098	0.39
8/15/2005 9:45	Final Effluent	GC-Water	Phorate	0.049	ug/L	U	0.049	0.2
8/15/2005 9:45	Final Effluent	GC-Water	Prometryn	0.15	ug/L	U	0.15	0.6
8/15/2005 9:45	Final Effluent	GC-Water	Simazine	0.049	ug/L	U	0.049	0.2
8/15/2005 9:25	Equip Blank	Metals-Water	Aluminum	10	ug/L	U	10	40
8/15/2005 9:25	Equip Blank	Metals-Water	Arsenic	4	ug/L	U	4	16
8/15/2005 9:25	Equip Blank	Metals-Water	Cadmium	0.12	ug/L	U	0.12	0.48
8/15/2005 9:25	Equip Blank	Metals-Water	Calcium	0.05	mg/L	U	0.05	0.2
8/15/2005 9:25	Equip Blank	Metals-Water	Chromium	2	ug/L	U	2	8
8/15/2005 9:25	Equip Blank	Metals-Water	Copper	0.5	ug/L	U	0.5	2
8/15/2005 9:25	Equip Blank	Metals-Water	Iron	10	ug/L	U	10	40
8/15/2005 9:25	Equip Blank	Metals-Water	Lead	0.075	ug/L	U	0.075	0.3
8/15/2005 9:25	Equip Blank	Metals-Water	Magnesium	0.01	mg/L	U	0.01	0.04
8/15/2005 9:25	Equip Blank	Metals-Water	Nickel	2	ug/L	U	2	8
8/15/2005 9:25	Equip Blank	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
8/15/2005 9:25	Equip Blank	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
8/15/2005 9:25	Equip Blank	Metals-Water	Zinc	3	ug/L	U	3	12
8/15/2005 9:45	Final Effluent	Metals-Water	Aluminum	90	ug/L		5	20
8/15/2005 9:45	Final Effluent	Metals-Water	Arsenic	4	ug/L	U	4	16
8/15/2005 9:45	Final Effluent	Metals-Water	Cadmium	0.077	ug/L	I	0.05	0.2
8/15/2005 9:45	Final Effluent	Metals-Water	Calcium	61.5	mg/L		0.05	0.2
8/15/2005 9:45	Final Effluent	Metals-Water	Chromium	2	ug/L	U	2	8
8/15/2005 9:45	Final Effluent	Metals-Water	Copper	2	ug/L		0.5	2

Appendix 2. Chemical Analyses (continued)

Date Sampled	Field Id	Analysis Group	Component	Result	Units	Remark	MDL	PQL
8/15/2005 9:45	Final Effluent	Metals-Water	Iron	40	ug/L		10	40
8/15/2005 9:45	Final Effluent	Metals-Water	Lead	0.21	ug/L	I	0.075	0.3
8/15/2005 9:45	Final Effluent	Metals-Water	Magnesium	30.8	mg/L		0.01	0.04
8/15/2005 9:45	Final Effluent	Metals-Water	Nickel	2	ug/L	U	2	8
8/15/2005 9:45	Final Effluent	Metals-Water	Selenium	1	ug/L	I	0.5	2
8/15/2005 9:45	Final Effluent	Metals-Water	Silver	0.025	ug/L	U	0.025	0.1
8/15/2005 9:45	Final Effluent	Metals-Water	Zinc	26	ug/L		3	12
8/15/2005 9:25	Equip Blank	Nutrients-Liquid	Ammonia-N	0.01	mg N/L	U	0.01	0.02
8/15/2005 9:25	Equip Blank	Nutrients-Liquid	Kjeldahl Nitrogen	0.06	mg N/L	U	0.06	0.2
8/15/2005 9:25	Equip Blank	Nutrients-Liquid	NO2NO3-N	0.004	mg N/L	U	0.004	0.01
8/15/2005 9:25	Equip Blank	Nutrients-Liquid	O-Phosphate-P	0.004	mg P/L	U	0.004	0.01
8/15/2005 9:25	Equip Blank	Nutrients-Liquid	Total-P	0.02	mg P/L	U	0.02	0.06
8/15/2005 9:45	Final Effluent	Nutrients-Liquid	Ammonia-N	0.2	mg N/L	A	0.02	0.04
8/15/2005 9:45	Final Effluent	Nutrients-Liquid	Kjeldahl Nitrogen	2.4	mg N/L		0.06	0.2
8/15/2005 9:45	Final Effluent	Nutrients-Liquid	NO2NO3-N	4.9	mg N/L	A	0.4	1
8/15/2005 9:45	Final Effluent	Nutrients-Liquid	O-Phosphate-P	2.1	mg P/L		0.08	0.2
8/15/2005 9:45	Final Effluent	Nutrients-Liquid	Total-P	3.1	mg P/L		0.1	0.3
8/15/2005 9:45	Final Effluent	Nutrients-Liquid	TSS	22	mg/L		4	16

The Bioassay of Marsh Landing Wastewater Treatment Facility effluent sampled on August 15, 2005. NPDES #FL0044253.

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 0 4 4 2 5 11	12 0 5 0 8 1 5	18 **B**	19 **S**	20 1

Remarks

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The Priority Pollutants Analysis of Marsh Landing Wastewater Treatment Facility effluent sampled on August 15, 2005. NPDES #FL0044253.

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 0 4 4 2 5 11	12 0 5 0 8 1 5	18 **X**	19 **S**	20 1

Remarks

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Biological Analyses of Marsh Landing Wastewater Treatment Facility effluent sampled on August 15, 2005. NPDES #FL0044253.

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 0 4 4 2 5 11	12 0 5 0 8 1 5	18 **S**	19 **S**	20 1

Remarks

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