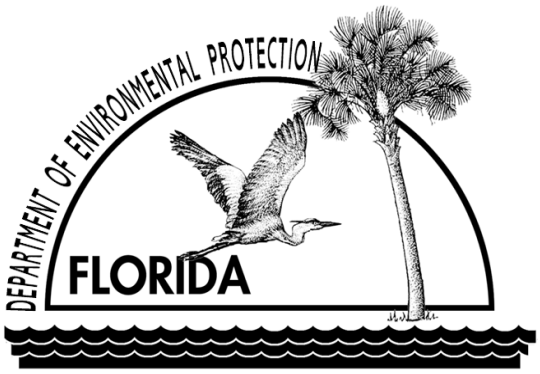


Effluent Quality Assessment

Bayou Marcus Water Reclamation Facility

Escambia County

NPDES #FL0031801

Sampled February 24, 26, 28, 2014

June 2014

Biology Section
Bureau of Laboratories
Division of Environmental Assessment and Restoration
2014 FDEP Bureau of Labs Quality Manual
NELAC Certification No. E31780

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Bayou Marcus Water Reclamation Facility (WRF), 3050 Fayal Drive, Pensacola, Escambia County, Florida, 33626. NPDES #FL0031801.

Facility Overview

Bayou Marcus WRF is an advanced wastewater treatment facility which uses a conventional plug flow process to treat domestic wastewater. See Appendix A for a description of the facility, summary of permit limits, Administrative Order (AO) and Discharge Monitoring Report (DMR) information.

Methods

Effluent composite samples for toxicity testing were collected on February 24, 2014, February 26, 2014, and February 28, 2014. Effluent grab and composite samples for biological and chemical analyses for this facility were collected on February 24, 2014. All samples were collected from the EFF-01 NPDES sampling point for Outfall D-001 by Nathan Mulkey and Rick Abad (FDEP Northwest District) following DEP-SOP-001/01 FS 2400 Wastewater Sampling (see Appendix B).

The chronic definitive toxicity tests and algal growth potential test were performed following internal DEP SOPs TA07_05, TA07_09, and TA08_01 through TA08_09 (see Appendix B).

Results

Chemistry Results (See Table 1 and Appendix C)

- The total ammonia concentrations in the composite and grab sample collected and preserved for chemical analysis were 0.33 mg N/L and 0.027 mg N/L, respectively. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentrations were < 0.02 mg/L. Total ammonia was also detected in the field blank (0.004 I mg N/L) between the laboratory method detection limits (MDL) and practical quantitation limits (PQL).
- Copper, nickel, total ammonia, total nitrogen, total phosphorus, and zinc were detected in the effluent at levels that comply with Class III Freshwater Quality Criteria (62-302.530, F.A.C.). Arsenic, carbonaceous biochemical oxygen demand (CBOD), total chromium, and lead were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL).

Toxicity Test Results (See Appendix C)

- Tests were performed February 25 – March 4, 2014.

Ceriodaphnia dubia 7-day chronic definitive bioassay –	IC25: >100% NOEC: 100%
Pimephales promelas 7-day chronic definitive bioassay –	IC25: 50.6% NOEC: 25% for Biomass NOEC: 100% for Survival

*NOTE A 25% inhibition concentration (IC25) is the effluent concentration causing a 25% reduction in a biological response such as biomass or reproduction when compared to a control population. An IC25 of less than 100% in a chronic test may constitute exceedances of 62-302.530(20), 62-302.530(61) and/or facility permit limits. A no observed effect concentration (NOEC) less than 100% effluent in a chronic test may constitute an exceedance of 62-302.530(61) and/or facility permit limits.

- The bioassay samples showed chronic toxicity to the *Pimephales promelas* test organisms. The cause of toxicity was not determined.

- The bioassay samples were aerated for approximately thirty minutes at a rate of approximately 100 bubbles per minute to decrease the dissolved oxygen (DO) from 11.2 mg/L to 8.4 mg/L; 11.7 mg/L to 8.8 mg/L; 11.1 mg/L to 8.4 mg/L, respectively for samples one, two and three.

Conclusion

The effluent samples collected from the EFF-01 NPDES sampling point for this facility on February 24, 26, and 28, 2014, were chronically toxic to the *Pimephales promelas* test organisms during the 7-day chronic definitive bioassays; but, did not show toxicity to the *Ceriodaphnia dubia* test organisms. Additional effluent water quality samples collected on February 24, 2014, did not exceed any applicable water quality standards or permit conditions.

For additional information concerning this sampling event, including bioassay bench sheets and SRT data, please contact Joseph.Faircloth@dep.state.fl.us and/or Diane.Power@dep.state.fl.us.

Literature Cited

Stevenson, R. J. and L. L. Bahls. 1999. Periphyton protocols. Pp. 6.1-6.22 in: Rapid bioassessment protocols for use in wadeable streams and rivers. 2nd edition. By: M. T. Barbour, J. Gerritsen, B. D. Snyder and J. B. Stribling. EPA 841-B-99-002. U. S. Environmental Protection Agency, Office of Water, Washington, D. C.

Table 1. Effluent limits, Class III Freshwater Criteria and field parameters

Bayou Marcus Water Reclamation Facility	Units	Class III Criteria	Effluent Permit Limits	Effluent Composite	Effluent Grab
Sample Depth	m	-	-	-	0.15
Temperature	C	-	-	-	19.74
pH	SU	6.0 - 8.5	6.0 - 8.5	-	7.1
Specific Conductance	umhos/cm	≤ 1,275	-	-	455
Salinity	ppth	-	-	0 c	0.25 c
Dissolved Oxygen Criteria- time of day corrected	% saturation	64.95	-	-	95.65
Dissolved Oxygen	mg/L	≥ 5.0	≥ 5.0	-	8.73
Flow	MGD	-	10.25 a	-	7.543
Total Residual Chlorine	mg/L	≤ 0.01	-	-	-

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.

Value exceeds the Class III Water Quality Criteria or permit limits

a - Annual average

c - Value is calculated

Table 2. Effluent limits, Class III Freshwater Criteria and analytical water chemistry data

Bayou Marcus Water Reclamation Facility	Units	Class III Criteria	Effluent Permit Limits	Effluent Composite	Effluent Grab
Ortho-phosphate	mg P/L	-	-	-	0.069
Total Phosphorus	mg P/L	-	≤ 2.0 p	0.074 J	0.12
Total Ammonia	mg N/L	-	≤ 3.2 p	0.33	0.027
Un-ionized Ammonia (calculated salinity)		≤ 0.02 s	-	-	< 0.02 c
Nitrate and Nitrite	mg N/L	-	-	0.98	0.28
Total Kjeldahl Nitrogen	mg N/L	-	-	1.2	0.85
Organic Nitrogen	mg N/L	-	-	0.9 c	0.82 c
Total Nitrogen	mg N/L	-	≤ 6.0 p	2.2 c	1.13 c
Total Organic Carbon	mg C/L	-	-	-	6.7 A
Chlorophyll *a* - Corrected	ug/L	-	-	-	0.55 U
Phaeophytin	ug/L	-	-	-	0.40 U
CBOD, 5 day, N - inhibited	mg/L	-	≤ 10.0 p	1.3 IQ	-
Hardness	mg/L	-	Report	127 c	-
Total Suspended Solids	mg/L	≤ 0.01	≤ 10.0 p	2 U	-
Turbidity	NTU	< 29 t	-	-	1.1
Color (true)	PCU	-	-	-	16
Alkalinity	mg CaCO3/L	-	-	-	109 A
Chloride	mg Cl/L	-	-	-	45 A
Fluoride	mg F/L	≤ 10.0	-	-	0.21
Sulfate	mg SO4/L	-	-	-	42 A
Microbiology					
Fecal Coliforms ¥	cfu/100 mL	≤ 400 s #	≤ 800 s	-	1 U

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.

Value exceeds the Class III Water Quality Criteria or permit limits

a - Annual average

c - Value is calculated

p - 24 hour flow proportioned 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

Q - Sample held beyond normal holding time

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

¥ - Fecal coliform analysis performed by University of West Florida lab

- If 10 or fewer samples are taken within a month, the single sample limit is 400 CFU (62-302.530(6), F.A.C.)

Table 3. Effluent limits, Class III Freshwater Criteria and analytical metals data

Bayou Marcus Water Reclamation Facility	Units	Class III Criteria	Effluent Permit Limits	Effluent Composite Class III Criteria	Effluent Composite
Aluminum	ug/L	-	-	-	92
Arsenic	ug/L	≤ 50	-	-	0.49 I
Cadmium	ug/L	-	-	0.322 b	0.050 U
Calcium	mg/L	-	-	-	27.3
Chromium, Total [2]	ug/L	105 b	-	105 b	0.42 I
Copper	ug/L	-	11.4 b	11.4 b	2.77
Iron	ug/L	≤ 1,000	-	-	30 U
Lead	ug/L	-	-	4.3 b	0.30 I
Magnesium	mg/L	-	-	-	14.2
Nickel	ug/L	-	-	63.7 b	2.07
Potassium	mg/L	-	-	-	9.9
Selenium	ug/L	≤ 5.0	-	-	0.20 U
Silver	ug/L	≤ 0.07	-	-	0.025 U
Sodium	mg/L	-	-	-	40.8
Zinc	ug/L	-	-	146 b	54

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.

1 -Value exceeds the Class III Water Quality Criteria or permit limits

2 - Class III Freshwater Quality Criterion (62-302.530(19)(a), F.A.C.) is for chromium-III

b - Value is calculated based on hardness, (62-302.530(3))

c - Value is calculated

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 method detection limit

Appendix A
Facility Summary

State of Florida
Department of Environmental Protection
Facility Introduction & Summary

PART I: Information gathered prior to sampling event	
Prepared By: Shelley Alexander	**Contact Number:** 850-595-0677
Facility Name (as it appears on permit): Bayou Marcus Water Reclamation Facility	**Former Names:**
NPDES Permit Number: FL0031801	**Permit Expiration Date:** October 22, 2017
Physical Address: 3050 Fayal Drive Pensacola, FL	
District: NWD	**County:** Escambia
Function of Facility: Domestic Wastewater Treatment Facility	
Facility Type: Domestic Wastewater	**Permitted Capacity (MGD):**
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): 01/01/2013-12/31/2013 6.281 MGD	
If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months):	
Description of type of Discharge: ☒ Continuous ☐ Intermittent ☐ Seasonal ☐ Rainfall Dependent ☐ Other, please specify	

Description of Sampling Location(s) - actual permit designation of permitted sampling point(s):
FLW-02 North Wetlands flow measurement: Venturi meter located at north wetlands forcemain. FLW-03 SouthWetlands flow measurement: Venturi meter located at south wetlands forcemain. FLW-04 Total calculated wetlands flow measurement: FLW-02 plus FLW-03. EFF-01 Effluent sampling: Flow proportion automatic sampler located at discharge end of UV chamber. PPI-02 Continuous UV meter located at the UV chamber. WEP-N4 Northern System Quadrat N-4 Sampling Station. Point of discharge (exit) from the northern wetland. WIM-S2 Southern System Quadrat S-2 Sampling Station. Southern wetland internal monitoring station. WEP-S3 Southern System Quadrat S-3 Sampling Station. Point of discharge (exit) from the southern wetland. WIM-N1 Northern System Quadrat N-1 Sampling Station. Northern wetland internal monitoring station.
Description of Permitted Outfall(s): Outfall D-002 to Perdido Bay and Bayou Marcus Creek An existing total permitted discharge of 10.25 MGD AADF from the WRF; discharge to the Northern portion (642 acres) of the receiving wetlands and Southern receiving wetlands (350 acres). The portioned discharge capacity of the Northern portion of the receiving wetlands is 7.35 MGD AADF with an application rate of to 3.0 inches per week. The portioned discharge capacity of the Southern portion of the receiving wetlands is 2.9 MGD AADF with an application rate of to 2.14 inches per week.

Description of Treatment Process (if multiple discharge points, include a detailed map or diagram of facility):

An existing 8.2 MGD annual average daily flow (AADF) permitted capacity water reclamation facility. The mode of treatment operation of the water reclamation facility (WRF) is conventional plug flow. The treatment facility is an extended aeration advanced domestic WRF. The WRF consist of pretreatment processes that include influent pumping with four (4) submersible pumps and four (4) raw wastewater rotary fine mesh drum screens. The biological treatment process includes bioreactors - oxidation ditches (two parallel four-stage EIMCO carrousel aeration basins with anoxic with caustic soda addition, oxic, anoxic with alum addition and re-aeration chambers), and three (3) secondary clarifiers. Secondary effluent management includes two (2) parallel traveling bridge cloth media filters, two (2) parallel ultraviolet irradiation disinfection channels, effluent lift station with four (4) submersible pumps which pumps the effluent to the Bayou Marcus wetlands and two (2) turbine pumps for reuse water. An 8.2 MG lined rejects holding pond is provided with recirculation. The biosolids management facilities include one (1) circular plant tankage (aerated sludge holding tank) for sludge processing with four (4) cells, secondary scum and return activated sludge (RAS) pumping, waste activated sludge (WAS) pumping, one (1) rotary drum thickener to thicken sludge and facilities to transfer the thickened sludge to a tanker truck. All biosolids generated at the Bayou Marcus plant are transported by ECUA-owned and operated trucks, to the ECUA Central Water Reclamation Facility for further treatment.

PART I: Continued

List current Effluent Limits of Outfall(s) to be Sampled: This should include any AO or CO limits the facility may be under
(Leave cell blank if not applicable)

PERMITTEE: Emerald Coast Utilities Authority
FACILITY: Bayou Marcus Water Reclamation Facility
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PERMIT NUMBER: FL0031801 (Major)
PA FILE NUMBER: FL0031801-010-DW1P/NR

I. RECLAIMED WATER AND EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Surface Water Discharges

1. During the period beginning on the issuance date and lasting through the expiration date of this permit, the permittee is authorized to discharge effluent from Outfall D-002 to Perdido Bay and Bayou Marcus Creek. Such discharge shall be limited and monitored by the permittee as specified below and reported in accordance with Permit Condition I.B.7. :

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Total Flow Wetland.	MGD	Max Max	10.25 Report	Annual Average Monthly Average	Daily	Calculated	FLW-04	See I.A.4
Flow to Northern portion of the Wetland.	MGD	Max Max	7.35 Report	Annual Average Monthly Average	Continuous	Recording Flow Meter with Totalizer	FLW-02	See I.A.4
Flow to Southern portion of the wetland.	MGD	Max Max	2.9 Report	Annual Average Monthly Average	Continuous	Recording Flow Meter with Totalizer	FLW-03	
BOD, Carbonaceous 5 day, 20C	mg/L	Max Max Max Max	5.0 6.25 7.5 10.0	Annual Average Monthly Average Weekly Average Single Sample	5 Days/Week	24-hr FPC	EFF-01	
Solids, Total Suspended	mg/L	Max Max Max Max	5.0 6.25 7.5 10.0	Annual Average Monthly Average Weekly Average Single Sample	5 Days/Week	24-hr FPC	EFF-01	
Nitrogen, Total	mg/L	Max Max Max Max	3.0 3.75 4.5 6.0	Annual Average Monthly Average Weekly Average Single Sample	5 Days/Week	24-hr FPC	EFF-01	
Nitrogen, Total	lbs/day	Max	205.2	Annual Average	5 Days/Week	Calculated	EFF-01	
Nitrogen, Total (Northern portions of the Wetland)	lbs/day	Max	132.6	Annual Average	5 Days/Week	Calculated	EFF-01	
Nitrogen, Total (Southernportions of the Wetland)	lbs/day	Max	72.6	Annual Average	5 Days/Week	Calculated	EFF-01	
Nitrogen, Ammonia, Total (as N)	mg/L	Max Max Max Max	1.6 2.0 2.4 3.2	Annual Average Monthly Average Weekly Average Single Sample	5 Days/Week	24-hr FPC	EFF-01	

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Phosphorus, Total (as P)	mg/L	Max Max Max Max	1.0 1.25 1.5 2.0	Annual Average Monthly Average Weekly Average Single Sample	5 Days/Week	24-hr FPC	EFF-01	
Phosphorus, Total (as P)	lbs/day	Max	68.4	Annual Average	5 Days/Week	Calculated	EFF-01	
Phosphorus, Total (as P) (Northern portion of the Wetland)	lbs/day	Max	44.2	Annual Average	5 Days/Week	Calculated	EFF-01	
Phosphorus, Total (as P) (Southern portion of the Wetland)	lbs/day	Max	24.2	Annual Average	5 Days/Week	Calculated	EFF-01	
Coliform, Fecal	#/100mL	Max Max Max	200 200 800	Annual Average Monthly Geometric Mean Single Sample	5 Days/Week	Grab	EFF-01	See I.A.5
pH	s.u.	Min Max	6.0 8.5	Single Sample Single Sample	Continuous	Meter	EFF-01	See I.A.3
Oxygen, Dissolved (DO)	mg/L	Max	5.0	Single Sample	Daily; 24 hours	Grab	EFF-01	
Ultraviolet Light Dosage	mW-s/sqcm	Min	25	Single Sample	Continuous	Calculated	PPI-02	See I.A.8 & 9
Copper, Total Recoverable (Effluent)	ug/L	Max	-	Single Sample	Monthly	24-hr FPC	EFF-01	See I.A.6
Copper, Total Recoverable (Calculated Limit)	ug/L	Max	-	Single Sample	Monthly	Calculated	EFF-01	See I.A.6
Copper, Total Recoverable (Effluent minus Calculated Limit)	ug/L	Max	0.0	Single Sample	Monthly	Calculated	EFF-01	See I.A.6
Hardness, Total (as CaCO3)	mg/L	Max	Report	Single Sample	Monthly	24-hr FPC	EFF-01	
Chronic Whole Effluent Toxicity, 7-Day IC25 (Ceriodaphnia dubia)	percent	Min	100	Single Sample	Semi-Annual	24-hr FPC	EFF-01	See I.A.7
Chronic Whole Effluent Toxicity, 7-Day IC25 (Pimephales promelas)	percent	Min	100	Single Sample	Semi-Annual	24-hr FPC	EFF-01	See I.A.7

and biota within and from the hydrologically altered receiving wetland(s). Wetland monitoring shall be performed and monitored by the permittee as specified below and reported in accordance with Permit Condition I.B.7. :

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
BOD, Carbonaceous 5 day, 20C	mg/L	Max	Report	Single Sample	Quarterly	Grab	WEP-N4, WIM-S2, WEP-S3,WIM-N1	
Solids, Total Suspended	mg/L	Max	Report	Single Sample	Quarterly	Grab	WEP-N4, WIM-S2, WEP-S3,WIM-N1	
pH	s.u.	Min Max	Report Report	Single Sample Single Sample	Quarterly	Meter	WEP-N4, WIM-S2, WEP-S3,WIM-N1	
Temperature (C), Water	Deg C	Max	Report	Single Sample	Quarterly	Grab	WEP-N4, WIM-S2, WEP-S3,WIM-N1	
Coliform, Fecal	#/100mL	Max	Report	Single Sample	Quarterly	Grab	WEP-N4, WIM-S2, WEP-S3,WIM-N1	
Oxygen, Dissolved (DO)	mg/L	Min	Report	Single Sample	Quarterly	Field Probe	WEP-N4, WIM-S2, WEP-S3,WIM-N1	
Nitrogen, Kjeldahl, Total (as N)	mg/L	Max	Report	Single Sample	Quarterly	Grab	WEP-N4, WIM-S2, WEP-S3,WIM-N1	
Nitrogen, Ammonia, Total (as N)	mg/L	Max	Report	Single Sample	Quarterly	Grab	WEP-N4, WIM-S2, WEP-S3,WIM-N1	
Specific Conductance	umhos/cm	Max	Report	Single Sample	Quarterly	Meter	WEP-N4, WIM-S2, WEP-S3,WIM-N1	
Nitrite plus Nitrate, Total 1 det. (as N)	mg/L	Max	Report	Single Sample	Quarterly	Grab	WEP-N4, WIM-S2, WEP-S3,WIM-N1	
Nitrogen, Total (as N)	mg/L	Max	3.0	Annual Average Single Sample	Quarterly	Grab	WEP-N4, WEP-S3	
Nitrogen, Ammonia, Total un-ionized (as N)	mg/L	Max	0.02	Annual Average Single Sample	Quarterly	Calculated	WEP-N4, WEP-S3	
Phosphorus, Total (as P)	mg/L	Max	0.2	Annual Average Single Sample	Quarterly	Grab	WEP-N4, WEP-S3	
Phosphorus, Total (as P)	mg/L	Max	Report	Single Sample	Quarterly	Grab	WIM-S2, WIM-N1	
Sulfide (Sediment Sampling)	mg/kg	Max	Report	Single Sample	Annually	Grab	WEP-N4, WIM-S2, WEP-S3,WIM-N1	
Sulfate, Total	mg/L	Max	Report	Single Sample	Quarterly	Grab	WEP-N4, WIM-S2, WEP-S3,WIM-N1	
Chlorophyll a	mg/L	Max	Report	Single Sample	Quarterly	Grab	WEP-N4, WIM-S2, WEP-S3,WIM-N1	

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Water Level Relative to NGVD	ft	Max	Report	Single Sample	Continuous	Meter	WEP-N4, WEP-S3	
Stream Stage	ft	Max	Report	Single Sample	Continuous	Staff Gauge	WEP-N4, WIM-S2, WEP-S3,WIM-N1	
Woody Vegetation Sampling	Yes/No	Max	Report	Single Sample	Annually	Field	WEP-N4, WIM-S2, WEP-S3,WIM-N1	
Herbaceous Vegetation Sampling	Yes/No	Max	Report	Single Sample	Quarterly	Line Intercept Method	WEP-N4, WIM-S2, WEP-S3,WIM-N1	
Fish Sampling	Yes/No	Max	Report	Single Sample	Annually	Field	WEP-N4, WIM-S2, WEP-S3,WIM-N1	
Threatened and Endangered Plant and Animal Species List	Yes/No	Max	Report	Single Sample	Annually	Field	WEP-N4, WIM-S2, WEP-S3,WIM-N1	

PART I: Continued	
Receiving Waters: Perdido Bay and Bayou Marcus Creek	Classification (indicate whether fresh or marine): Perdido Bay-marine Bayou Marcus Creek-Freshwater

Toxicity Test Requirements (routine and/or additional test language, test species, salinity adjustment, etc.):

The permittee shall comply with the following requirements to evaluate chronic whole effluent toxicity of the discharge from outfall D-002.

a. Effluent Limitation

(1) In any routine or additional follow-up test for chronic whole effluent toxicity, the 25 percent inhibition concentration (IC25) shall not be less than 100% effluent. [Rules 62-302.530(61) and 62-4.241(1)(b), F.A.C.]

(2) For acute whole effluent toxicity, the 96-hour LC50 shall not be less than 100% effluent in any test. [Rule 62-302.500(1)(a)4. and 62-4.241(1)(a), F.A.C.]

b. Monitoring Frequency

(1) Routine toxicity tests shall be conducted once every six months, the first starting within 60 days of the issuance date of this permit and lasting for the duration of this permit.

c. Sampling Requirements

(1) For each routine test or additional follow-up test conducted, a total of three flow proportional 24-hr composite samples of final effluent shall be collected and used in accordance with the sampling protocol discussed in EPA-821-R-02-013, Section 8.

(2) The first sample shall be used to initiate the test. The remaining two samples shall be collected according to the protocol and used as renewal solutions on Day 3 (48 hours) and Day 5 (96 hours) of the test.

(3) Samples for routine and additional follow-up tests shall not be collected on the same day.

d. Test Requirements

(1) Routine Tests: All routine tests shall be conducted using a control (0% effluent) and a minimum of five test dilutions: **100%**, **50%**, **25%**, **12.5%**, and **6.25%** final effluent.

(2) The permittee shall conduct a daphnid, **Ceriodaphnia dubia**, Survival and Reproduction Test and a fathead minnow, **Pimephales promelas**, Larval Survival and Growth Test, concurrently.

(3) All test species, procedures and quality assurance criteria used shall be in accordance with **Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms**, 4th Edition, EPA-821-R-02-013. Any deviation of the bioassay procedures outlined herein shall be submitted in writing to the Department for review and approval prior to use. In the event the above method is revised, the permittee shall conduct chronic toxicity testing in accordance with the revised method.

(4) The control water and dilution water shall be moderately hard water as described in EPA-821-R-02-013, Section 7.2.3.

e. Quality Assurance Requirements

(1) A standard reference toxicant (SRT) quality assurance (QA) chronic toxicity test shall be conducted with each species used in the required toxicity tests either concurrently or initiated no more than 30 days before the date of each routine or additional follow-up test conducted. Additionally, the SRT test must be conducted concurrently if the test organisms are obtained from outside the test laboratory unless the test organism supplier provides control chart data from at least the last five monthly chronic toxicity tests using the same reference toxicant and test conditions. If the organism supplier provides the required SRT data, the organism supplier's SRT data and the test laboratory's monthly SRT-QA data shall be included in the reports for each companion routine or additional follow-up test required.

(2) If the mortality in the control (0% effluent) exceeds 20% for either species in any test or does not meet "test acceptability criteria", the test for that species (including the control) shall be invalidated and the test repeated. Test acceptability criteria for each species are defined in EPA-821-R-02-013, Section 13.12 (**Ceriodaphnia dubia**) and Section 11.11 (**Pimephales promelas**). The repeat test shall begin within 21 days after the last day of the invalid test.

(3) If 100% mortality occurs in all effluent concentrations for either test species prior to the end of any test and the control mortality is less than 20% at that time, the test (including the control) for that species shall be terminated with the conclusion that the test fails and constitutes non-compliance.

(4) Routine and additional follow-up tests shall be evaluated for acceptability based on the observed doseresponse relationship as required by EPA-821-R-02-013, Section 10.2.6., and the evaluation shall be included with the bioassay laboratory reports.

f. Reporting Requirements

(1) Results from all required tests shall be reported on the Discharge Monitoring Report (DMR) as follows:

(a) Routine and Additional Follow-up Test Results: The calculated IC25 for each test species shall be entered on the DMR.

(2) A bioassay laboratory report for each routine test shall be prepared according to EPA-821-R-02-013, Section 10, Report Preparation and Test Review, and mailed to the Department at the address below within 30 days after the last day of the test.

(3) For additional follow-up tests, a single bioassay laboratory report shall be prepared according to EPA-821-R-02-013, Section 10, and mailed within 30 days after the last day of the second valid additional

Section 10, Report Preparation and Test Review, and mailed to the Department at the address below within 30 days after the last day of the test.
(3) For additional follow-up tests, a single bioassay laboratory report shall be prepared according to EPA-821-R-02-013, Section 10, and mailed within 30 days after the last day of the second valid additional follow-up test.
(4) Data for invalid tests shall be included in the bioassay laboratory report for the repeat test.
(5) The same bioassay data shall not be reported as the results of more than one test.
(6) All bioassay laboratory reports shall be sent to:
Florida Department of Environmental Protection
Northwest District Office
160 Government Street, Suite 308
Pensacola, Florida 32502-5740
g. Test Failures
(1) A test fails when the test results do not meet the limits in 7.a.(1).
(2) Additional Follow-up Tests:
(a) If a routine test does not meet the chronic toxicity limitation in 7.a.(1) above, the permittee shall notify the Department at the address above within 21 days after the last day of the failed routine test and conduct two additional follow-up tests on each species that failed the test in accordance with 7.d.
(b) The first test shall be initiated within 28 days after the last day of the failed routine test. The remaining additional follow-up tests shall be conducted weekly thereafter until a total of two valid additional follow-up tests are completed.
(c) The first additional follow-up test shall be conducted using a control (0% effluent) and a minimum of five dilutions: 100%, 50%, 25%, 12.5%, and 6.25% effluent. The permittee may modify the dilution series in the second additional follow-up test to more accurately bracket the toxicity such that at least two dilutions above and two dilutions below the target concentration and a control (0% effluent) are run. All test results shall be analyzed according to the procedures in EPA-821-R-02-013.
(3) In the event of three valid test failures (whether routine or additional follow-up tests) within a 12-month period, the permittee shall notify the Department within 21 days after the last day of the third test failure.
(a) The permittee shall submit a plan for correction of the effluent toxicity within 60 days after the last day of the third test failure.
(b) The Department shall review and approve the plan before initiation.
(c) The plan shall be initiated within 30 days following the Department's written approval of the plan.
(d) Progress reports shall be submitted quarterly to the Department at the address above.
(e) During the implementation of the plan, the permittee shall conduct quarterly routine whole effluent toxicity tests in accordance with 7.d. Additional follow-up tests are not required while the plan is in progress. Following completion or termination of the plan, the frequency of monitoring for routine and additional follow-up tests shall return to the schedule established in 7.b.(1). If a routine test is invalid according to the acceptance criteria in EPA-821-R-02-013, a repeat test shall be initiated within 21 days after the last day of the invalid routine test.
(f) Upon completion of four consecutive quarterly valid routine tests that demonstrate compliance with the effluent limitation in 7.a.(1) above, the permittee may submit a written request to the Department to terminate the plan. The plan shall be terminated upon written verification by the Department that the facility has passed at least four consecutive quarterly valid routine whole effluent toxicity tests. If a test within the sequence of the four is deemed invalid, but is replaced by a repeat valid test initiated within 21 days after the last day of the invalid test, the invalid test will not be counted against the requirement for four consecutive quarterly valid routine tests for the purpose of terminating the plan.
(4) If chronic toxicity test results indicate greater than 50% mortality within 96 hours in an effluent concentration equal to or less than the effluent concentration specified as the acute toxicity limit in 7.a.(2), the Department may revise this permit to require acute definitive whole effluent toxicity testing.
(5) The additional follow-up testing and the plan do not preclude the Department taking enforcement action for acute or chronic whole effluent toxicity failures. *[62-4.241, 62-620.620(3)]*

Administrative or Consent Orders (date executed, specific requirements, interim limit dates-if applicable, etc.):			
Facility Mixing Zone Details (if applicable):			
List Permit Violations (DMR data) and plant upsets that occurred at the plant within the last year:			
Date	Parameter and Units	Limit	Result
10/31/2013	**BOD, MG/L**	**10.0**	**10.5**
Describe previous FYI and WQBEL study:			
Describe previous or current Enforcement Actions (including WLs):			
Describe any violations or problems noted in previous inspection:			
Discuss whether DMR trends within previous five years are improving or declining:			
Additional Comments (this should include a trend of the Effluent, i.e. if the facility is now Reuse):			

PART II: Sampling Event Information	
Date(s) sample collected:	**Sampler(s):**
Temperature (Deg C):	**pH (SU):**

Dissolved Oxygen (mg/L):	**Conductivity (umhos/cm):**
Total Residual Chlorine (mg/L):	**Total Residual Chlorine - after Disinfection (mg/L):**
Method of Chlorination:	**Method of De-chlorination:**
Flow During Sample Collection for each outfall(MGD):	
Mean Flow for each outfall for previous 12 months based on sampling date (If samples are taken on more than one day, indicate Mean Flow for each day):	
Describe Discharge during Sampling Event: ☐ **Continuous** ☐ **Intermittent** ☐ **Seasonal** ☐ **Rainfall Dependent** ☐ **Other, please specify**	
Describe any conditions, difficulties or abnormal events that occurred during the sample collection and any other additional comments here:	

Appendix B
Explanation of measurements

(1) Quality Assurance and Quality Control

FDEP's quality assurance requirements for analytical laboratories and field activities are codified in Chapter 62-160, F.A.C., Quality Assurance (QA Rule) and in internal Standard Operating Procedures (FDEP SOPs). Methods for all analyses are on file at the FDEP Central Laboratory in Tallahassee and may be viewed on the web at http://www.floridadep.org/labs/sop/index.htm and/or http://www.floridadep.org/labs/qa/index.htm.

(2) Chemical Analyses of the Effluent

The effluent was analyzed for nutrients, metals, organic constituents (base, neutral, and acid extractables) and pesticides following FDEP SOPs. The results from these analyses were compared with Water Quality Criteria (62-302, F.A.C.) and facility permit limits.

(3) Toxicity Bioassays

Greater than 50% mortality in an acute toxicity test may constitute an exceedance of 62-302.500(1)(a) and/or facility permit limits. A 25% inhibition concentration (IC25) is the effluent concentration causing a 25% reduction in a biological response such as biomass or reproduction when compared to a control population. An IC25 of less than 100% in a chronic test may constitute exceedances of 62-302.530(20), 62-302.530(61) and/or facility permit limits. A no observed effect concentration (NOEC) less than 100% effluent in a chronic test may constitute an exceedance of 62-302.530(61) and/or facility permit limits. Standard reference toxicant (SRT) tests are conducted monthly to ensure quality in toxicity testing.

(4) Bacteriological Testing

High levels of fecal coliform bacteria may constitute an exceedance of 62-302.530(6) and/or facility permit limits. Fecal coliform and enterococci results often are based on colony counts outside the acceptable range (B-qualifier). The dilutions performed on the sample did not yield results within the method acceptable range of 20- 60 colony forming units per plate. The B-qualifier does not affect data quality.

(5) Chlorophyll *a* Content

Chlorophyll a content is an estimate of algal biomass. High algal biomass implies nutrient stress (Stevenson and Bahls 1999) and may constitute exceedances of 62-302.530(46) F.A.C., 62-302.530(47)(a) F.A.C. and/or 62-302.530(47)(b) F.A.C.

(6) Definition of Qualifiers

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

B - Results based on colony counts outside the acceptable range.

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

J - Estimated value

K - Actual value is known to be less than value given

L - Actual value is known to be greater than value given

N - Presumptive evidence of presence of material.

O - Sampled, but analysis lost or not performed.

Q - Sample held beyond normal holding time.

T - Value reported is less than the criterion of detection.

U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.

V - Analyte was detected in both sample and method blank.

X - Too few individuals to calculate SCI value.

Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate

Z - Colonies were too numerous to count (TNTC)

Appendix C
Chemical Analyses of Effluent

Date Sampled	Field ID	Analysis Group	Component	Result	Units	MDL	PQL
2/24/2014	Effluent Composite	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	1.3 IQ	mg/L	0.2	2
2/24/2014	Effluent Composite	Metals	Copper	2.77	ug/L	0.5	1
2/24/2014	Effluent Composite	Metals	Hardness	127	mg/L	0.4	1.6
2/24/2014	Effluent Composite	Metals	Potassium	9.9	mg/L	0.3	1.2
2/24/2014	Effluent Composite	Metals	Sodium	40.8	mg/L	0.5	2
2/24/2014	Effluent Composite	Metals	Lead	0.30 I	ug/L	0.2	0.8
2/24/2014	Effluent Composite	Metals	Chromium	0.42 I	ug/L	0.3	1.2
2/24/2014	Effluent Composite	Metals	Cadmium	0.050 U	ug/L	0.05	0.2
2/24/2014	Effluent Composite	Metals	Aluminum	92	ug/L	5	20
2/24/2014	Effluent Composite	Metals	Iron	30 U	ug/L	30	120
2/24/2014	Effluent Composite	Metals	Zinc	54	ug/L	5	20
2/24/2014	Effluent Composite	Metals	Magnesium	14.2	mg/L	0.04	0.2
2/24/2014	Effluent Composite	Metals	Arsenic	0.49 I	ug/L	0.25	1
2/24/2014	Effluent Composite	Metals	Silver	0.025 U	ug/L	0.03	0.1
2/24/2014	Effluent Composite	Metals	Selenium	0.20 U	ug/L	0.2	0.8
2/24/2014	Effluent Composite	Metals	Calcium	27.3	mg/L	0.08	0.3
2/24/2014	Effluent Composite	Metals	Nickel	2.07	ug/L	0.25	1
2/24/2014	Effluent Composite	Nutrients	Total-P	0.074 J	mg P/L	0.01	0.1
2/24/2014	Effluent Composite	Nutrients	Ammonia-N	0.33	mg N/L	0.01	0
2/24/2014	Effluent Composite	Nutrients	Kjeldahl Nitrogen	1.2	mg N/L	0.08	0.2
2/24/2014	Effluent Composite	Nutrients	NO2NO3-N	0.98	mg N/L	0.01	0
2/24/2014	Effluent Composite	Nutrients	TSS	2 U	mg/L	2	10
2/24/2014	Effluent Composite	Toxicology	Bioassay-Chron-Def-FW-C.dubia, IC25	100 L	IC25		
2/24/2014	Effluent Composite	Toxicology	Bioassay-Chron-Def-FW-Fish, NOEC	25	NOEC		
2/24/2014	Effluent Composite	Toxicology	Bioassay-Chron-Def-FW-C.dubia, NOEC	100	NOEC		
2/24/2014	Effluent Composite	Toxicology	Bioassay-Chron-Def-FW-Fish, IC25	50.6	IC25		
2/24/2014	Effluent Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	0.55 U	ug/L	0.55	1.7
2/24/2014	Effluent Grab	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.40 U	ug/L	0.4	1.2
2/24/2014	Effluent Grab	Overflow	Fecal Coliforms-Membrane Filter	1 U	cfu/100 mL	1	1
2/24/2014	Effluent Grab	Nutrients	Ammonia-N	0.027	mg N/L	0	0
2/24/2014	Effluent Grab	Nutrients	O-Phosphate-P	0.069	mg P/L	0.01	0
2/24/2014	Effluent Grab	Nutrients	Alkalinity	109 A	mg CaCO3/L	0.65	2.5
2/24/2014	Effluent Grab	Nutrients	Chloride	45 A	mg Cl/L	0.4	1
2/24/2014	Effluent Grab	Nutrients	Kjeldahl Nitrogen	0.85	mg N/L	0.08	0.2
2/24/2014	Effluent Grab	Nutrients	Turbidity	1.1	NTU	0.1	0.1
2/24/2014	Effluent Grab	Nutrients	Fluoride	0.21	mg F/L	0.04	0.1

Date Sampled	Field ID	Analysis Group	Component	Result	Units	MDL	PQL
2/24/2014	Effluent Grab	Nutrients	Color (true)	16	PCU	2.5	6
2/24/2014	Effluent Grab	Nutrients	Organic Carbon	6.7 A	mg C/L	1	2
2/24/2014	Effluent Grab	Nutrients	Sulfate	42 A	mg SO4/L	0.4	1
2/24/2014	Effluent Grab	Nutrients	NO2NO3-N	0.28	mg N/L	0	0
2/24/2014	Effluent Grab	Nutrients	Total-P	0.12	mg P/L	0.01	0.1
2/24/2014	Effluent Grab	Pesticides	Naled	0.041 UJ	ug/L	0.04	0.2
2/24/2014	Effluent Grab	Pesticides	Phorate	0.0051 U	ug/L	0.01	0
2/24/2014	Effluent Grab	Pesticides	Atrazine	0.010 U	ug/L	0.01	0
2/24/2014	Effluent Grab	Pesticides	Chlorpyrifos Ethyl	0.010 U	ug/L	0.01	0
2/24/2014	Effluent Grab	Pesticides	Chlorpyrifos Methyl	0.010 U	ug/L	0.01	0
2/24/2014	Effluent Grab	Pesticides	Metribuzin	0.020 U	ug/L	0.02	0.1
2/24/2014	Effluent Grab	Pesticides	Prometon	0.020 U	ug/L	0.02	0.1
2/24/2014	Effluent Grab	Pesticides	Atrazine Desethyl	0.010 U	ug/L	0.01	0
2/24/2014	Effluent Grab	Pesticides	Disulfoton	0.0051 U	ug/L	0.01	0
2/24/2014	Effluent Grab	Pesticides	Hexazinone	0.030 U	ug/L	0.03	0.1
2/24/2014	Effluent Grab	Pesticides	Alachlor	0.061 U	ug/L	0.06	0.2
2/24/2014	Effluent Grab	Pesticides	Ethoprop	0.0051 U	ug/L	0.01	0
2/24/2014	Effluent Grab	Pesticides	Fenamiphos	0.030 UJ	ug/L	0.03	0.1
2/24/2014	Effluent Grab	Pesticides	Metalaxyl	0.041 U	ug/L	0.04	0.2
2/24/2014	Effluent Grab	Pesticides	Ametryn	0.010 U	ug/L	0.01	0
2/24/2014	Effluent Grab	Pesticides	Bromacil	0.041 U	ug/L	0.04	0.2
2/24/2014	Effluent Grab	Pesticides	Demeton	0.024 U	ug/L	0.02	0.1
2/24/2014	Effluent Grab	Pesticides	Diazinon	0.010 U	ug/L	0.01	0
2/24/2014	Effluent Grab	Pesticides	Malathion	0.010 U	ug/L	0.01	0
2/24/2014	Effluent Grab	Pesticides	Norflurazon	0.030 UJ	ug/L	0.03	0.1
2/24/2014	Effluent Grab	Pesticides	Butylate	0.020 U	ug/L	0.02	0.1
2/24/2014	Effluent Grab	Pesticides	Mevinphos	0.010 U	ug/L	0.01	0
2/24/2014	Effluent Grab	Pesticides	Parathion Ethyl	0.020 U	ug/L	0.02	0.1
2/24/2014	Effluent Grab	Pesticides	Simazine	0.010 U	ug/L	0.01	0
2/24/2014	Effluent Grab	Pesticides	Atrazine Desisopropyl	0.010 U	ug/L	0.01	0
2/24/2014	Effluent Grab	Pesticides	Azinphos Methyl	0.020 UJ	ug/L	0.02	0.1
2/24/2014	Effluent Grab	Pesticides	Ethion	0.010 U	ug/L	0.01	0
2/24/2014	Effluent Grab	Pesticides	Fonofos	0.010 U	ug/L	0.01	0
2/24/2014	Effluent Grab	Pesticides	Metolachlor	0.061 U	ug/L	0.06	0.2
2/24/2014	Effluent Grab	Pesticides	Parathion Methyl	0.010 U	ug/L	0.01	0
2/24/2014	Effluent Grab	Pesticides	Prometryn	0.020 U	ug/L	0.02	0.1
2/24/2014	Effluent Grab	Priority Organic Pollutants	2,4,6-Trichlorophenol	1.0 U	ug/L	1	4.2
2/24/2014	Effluent Grab	Priority Organic Pollutants	Isophorone	1.0 U	ug/L	1	4.2
2/24/2014	Effluent Grab	Priority Organic Pollutants	Benzo(a)anthracene	0.21 U	ug/L	0.21	0.8
2/24/2014	Effluent Grab	Priority Organic Pollutants	Benzo(a)pyrene	0.21 U	ug/L	0.21	0.8

Date Sampled	Field ID	Analysis Group	Component	Result	Units	MDL	PQL
2/24/2014	Effluent Grab	Priority Organic Pollutants	Chrysene	0.21 U	ug/L	0.21	0.8
2/24/2014	Effluent Grab	Priority Organic Pollutants	2-Chloronaphthalene	1.0 U	ug/L	1	4.2
2/24/2014	Effluent Grab	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.21 U	ug/L	0.21	0.8
2/24/2014	Effluent Grab	Priority Organic Pollutants	Hexachlorobutadiene	3.1 U	ug/L	3.1	12
2/24/2014	Effluent Grab	Priority Organic Pollutants	Diethyl phthalate	1.0 U	ug/L	1	4.2
2/24/2014	Effluent Grab	Priority Organic Pollutants	Di-n-octyl phthalate	1.0 U	ug/L	1	4.2
2/24/2014	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	1.0 U	ug/L	1	4.2
2/24/2014	Effluent Grab	Priority Organic Pollutants	Benzo(k)fluoranthene	0.21 U	ug/L	0.21	0.8
2/24/2014	Effluent Grab	Priority Organic Pollutants	2,4-Dinitrophenol	16 U	ug/L	16	62
2/24/2014	Effluent Grab	Priority Organic Pollutants	2-Nitrophenol	1.0 U	ug/L	1	4.2
2/24/2014	Effluent Grab	Priority Organic Pollutants	4-Nitrophenol	16 U	ug/L	16	62
2/24/2014	Effluent Grab	Priority Organic Pollutants	Benzidine	100 U	ug/L	100	420
2/24/2014	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroethyl)ether	1.0 U	ug/L	1	4.2
2/24/2014	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	3.1 U	ug/L	3.1	12
2/24/2014	Effluent Grab	Priority Organic Pollutants	Di-n-butyl phthalate	1.0 U	ug/L	1	4.2
2/24/2014	Effluent Grab	Priority Organic Pollutants	Naphthalene	0.21 U	ug/L	0.21	0.8
2/24/2014	Effluent Grab	Priority Organic Pollutants	3,3'-Dichlorobenzidine	42 U	ug/L	42	170
2/24/2014	Effluent Grab	Priority Organic Pollutants	4-Chloro-3-methylphenol	1.0 U	ug/L	1	4.2
2/24/2014	Effluent Grab	Priority Organic Pollutants	Benzo(b)fluoranthene	0.21 U	ug/L	0.21	0.8
2/24/2014	Effluent Grab	Priority Organic Pollutants	N-Nitrosodimethylamine	2.1 U	ug/L	2.1	8.3
2/24/2014	Effluent Grab	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	3.1 U	ug/L	3.1	12
2/24/2014	Effluent Grab	Priority Organic Pollutants	Nitrobenzene	2.1 U	ug/L	2.1	8.3
2/24/2014	Effluent Grab	Priority Organic Pollutants	Pyrene	0.21 U	ug/L	0.21	0.8
2/24/2014	Effluent Grab	Priority Organic Pollutants	2,4-Dimethylphenol	10 U	ug/L	10	42
2/24/2014	Effluent Grab	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.1 U	ug/L	3.1	12
2/24/2014	Effluent Grab	Priority Organic Pollutants	Acenaphthene	0.21 U	ug/L	0.21	0.8
2/24/2014	Effluent Grab	Priority Organic Pollutants	Acenaphthylene	0.21 U	ug/L	0.21	0.8
2/24/2014	Effluent Grab	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.21 U	ug/L	0.21	0.8
2/24/2014	Effluent Grab	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	2.1 U	ug/L	2.1	8.3
2/24/2014	Effluent Grab	Priority Organic Pollutants	Fluorene	0.21 U	ug/L	0.21	0.8
2/24/2014	Effluent Grab	Priority Organic Pollutants	Hexachlorocyclopentadiene	3.1 U	ug/L	3.1	12
2/24/2014	Effluent Grab	Priority Organic Pollutants	Phenanthrene	0.21 U	ug/L	0.21	0.8
2/24/2014	Effluent Grab	Priority Organic Pollutants	2,4-Dinitrotoluene	1.0 U	ug/L	1	4.2
2/24/2014	Effluent Grab	Priority Organic Pollutants	2-Chlorophenol	1.0 U	ug/L	1	4.2
2/24/2014	Effluent Grab	Priority Organic Pollutants	4-Bromophenyl phenyl ether	1.0 U	ug/L	1	4.2
2/24/2014	Effluent Grab	Priority Organic Pollutants	Dimethyl phthalate	1.0 U	ug/L	1	4.2
2/24/2014	Effluent Grab	Priority Organic Pollutants	Fluoranthene	0.21 U	ug/L	0.21	0.8
2/24/2014	Effluent Grab	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2.1 U	ug/L	2.1	8.3
2/24/2014	Effluent Grab	Priority Organic Pollutants	Pentachlorophenol	3.1 U	ug/L	3.1	12
2/24/2014	Effluent Grab	Priority Organic Pollutants	2,4-Dichlorophenol	1.0 U	ug/L	1	4.2

Date Sampled	Field ID	Analysis Group	Component	Result	Units	MDL	PQL
2/24/2014	Effluent Grab	Priority Organic Pollutants	2,6-Dinitrotoluene	1.0 U	ug/L	1	4.2
2/24/2014	Effluent Grab	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2.1 U	ug/L	2.1	8.3
2/24/2014	Effluent Grab	Priority Organic Pollutants	Phenol	1.0 U	ug/L	1	4.2
2/24/2014	Effluent Grab	Priority Organic Pollutants	Anthracene	0.21 U	ug/L	0.21	0.8
2/24/2014	Effluent Grab	Priority Organic Pollutants	Butyl benzyl phthalate	1.0 U	ug/L	1	4.2
2/24/2014	Effluent Grab	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.21 U	ug/L	0.21	0.8
2/24/2014	Effluent Grab	Priority Organic Pollutants	Hexachlorobenzene	1.0 U	ug/L	1	4.2
2/24/2014	Effluent Grab	Priority Organic Pollutants	Hexachloroethane	3.1 U	ug/L	3.1	12
2/24/2014	Effluent Grab	Priority Organic Pollutants	1,2,4-Trichlorobenzene	1.0 U	ug/L	1	4.2
2/24/2014	Effluent Grab	Nutrients	Sample Depth	0.15	m		
2/24/2014	Effluent Grab	Nutrients	Dissolved Oxygen	8.73	mg/L		
2/24/2014	Effluent Grab	Nutrients	Temperature	19.74	C		
2/24/2014	Effluent Grab	Nutrients	pH	7.1			
2/24/2014	Effluent Grab	Nutrients	Specific Conductance	455	umhos/cm		
2/24/2014	Field Blank	Nutrients	Alkalinity	0.65 U	mg CaCO3/L	0.65	2.5
2/24/2014	Field Blank	Nutrients	Fluoride	0.035 U	mg F/L	0.04	0.1
2/24/2014	Field Blank	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.08	0.2
2/24/2014	Field Blank	Nutrients	Chloride	0.20 U	mg Cl/L	0.2	0.5
2/24/2014	Field Blank	Nutrients	Sulfate	0.20 U	mg SO4/L	0.2	0.5
2/24/2014	Field Blank	Nutrients	NO2NO3-N	0.004 U	mg N/L	0	0
2/24/2014	Field Blank	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0	0
2/24/2014	Field Blank	Nutrients	Color (true)	2.5 U	PCU	2.5	6
2/24/2014	Field Blank	Nutrients	Organic Carbon	0.50 U	mg C/L	0.5	1
2/24/2014	Field Blank	Nutrients	Turbidity	0.10 U	NTU	0.1	0.1
2/24/2014	Field Blank	Nutrients	Ammonia-N	0.004 I	mg N/L	0	0
2/24/2014	Field Blank	Nutrients	Total-P	0.002 U	mg P/L	0	0
2/24/2014	Field Blank	Pesticides	Ametryn	0.010 U	ug/L	0.01	0
2/24/2014	Field Blank	Pesticides	Chlorpyrifos Ethyl	0.010 U	ug/L	0.01	0
2/24/2014	Field Blank	Pesticides	Demeton	0.024 U	ug/L	0.02	0.1
2/24/2014	Field Blank	Pesticides	Diazinon	0.010 U	ug/L	0.01	0
2/24/2014	Field Blank	Pesticides	Ethion	0.010 U	ug/L	0.01	0
2/24/2014	Field Blank	Pesticides	Metribuzin	0.020 U	ug/L	0.02	0.1
2/24/2014	Field Blank	Pesticides	Naled	0.040 UJ	ug/L	0.04	0.2
2/24/2014	Field Blank	Pesticides	Atrazine Desisopropyl	0.010 U	ug/L	0.01	0
2/24/2014	Field Blank	Pesticides	Azinphos Methyl	0.020 UJ	ug/L	0.02	0.1
2/24/2014	Field Blank	Pesticides	Bromacil	0.040 U	ug/L	0.04	0.2
2/24/2014	Field Blank	Pesticides	Mevinphos	0.010 U	ug/L	0.01	0
2/24/2014	Field Blank	Pesticides	Prometon	0.020 U	ug/L	0.02	0.1
2/24/2014	Field Blank	Pesticides	Alachlor	0.060 U	ug/L	0.06	0.2
2/24/2014	Field Blank	Pesticides	Disulfoton	0.0050 U	ug/L	0.01	0

Date Sampled	Field ID	Analysis Group	Component	Result	Units	MDL	PQL
2/24/2014	Field Blank	Pesticides	Ethoprop	0.0050 U	ug/L	0.01	0
2/24/2014	Field Blank	Pesticides	Metalaxyl	0.040 U	ug/L	0.04	0.2
2/24/2014	Field Blank	Pesticides	Metolachlor	0.060 U	ug/L	0.06	0.2
2/24/2014	Field Blank	Pesticides	Parathion Ethyl	0.020 U	ug/L	0.02	0.1
2/24/2014	Field Blank	Pesticides	Phorate	0.0050 U	ug/L	0.01	0
2/24/2014	Field Blank	Pesticides	Simazine	0.010 U	ug/L	0.01	0
2/24/2014	Field Blank	Pesticides	Prometryn	0.020 U	ug/L	0.02	0.1
2/24/2014	Field Blank	Pesticides	Atrazine Desethyl	0.010 U	ug/L	0.01	0
2/24/2014	Field Blank	Pesticides	Chlorpyrifos Methyl	0.010 U	ug/L	0.01	0
2/24/2014	Field Blank	Pesticides	Fenamiphos	0.030 UJ	ug/L	0.03	0.1
2/24/2014	Field Blank	Pesticides	Fonofos	0.010 U	ug/L	0.01	0
2/24/2014	Field Blank	Pesticides	Norflurazon	0.030 UJ	ug/L	0.03	0.1
2/24/2014	Field Blank	Pesticides	Malathion	0.010 U	ug/L	0.01	0
2/24/2014	Field Blank	Pesticides	Parathion Methyl	0.010 U	ug/L	0.01	0
2/24/2014	Field Blank	Pesticides	Atrazine	0.010 U	ug/L	0.01	0
2/24/2014	Field Blank	Pesticides	Butylate	0.020 U	ug/L	0.02	0.1
2/24/2014	Field Blank	Pesticides	Hexazinone	0.030 U	ug/L	0.03	0.1
2/24/2014	Field Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	1.0 U	ug/L	1	4.1
2/24/2014	Field Blank	Priority Organic Pollutants	Phenanthrene	0.21 U	ug/L	0.21	0.8
2/24/2014	Field Blank	Priority Organic Pollutants	Isophorone	1.0 U	ug/L	1	4.1
2/24/2014	Field Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2.1 U	ug/L	2.1	8.2
2/24/2014	Field Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	1.0 U	ug/L	1	4.1
2/24/2014	Field Blank	Priority Organic Pollutants	4-Nitrophenol	15 U	ug/L	15	62
2/24/2014	Field Blank	Priority Organic Pollutants	Anthracene	0.21 U	ug/L	0.21	0.8
2/24/2014	Field Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	2.1 U	ug/L	2.1	8.2
2/24/2014	Field Blank	Priority Organic Pollutants	Butyl benzyl phthalate	1.0 U	ug/L	1	4.1
2/24/2014	Field Blank	Priority Organic Pollutants	Fluoranthene	0.21 U	ug/L	0.21	0.8
2/24/2014	Field Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	3.1 U	ug/L	3.1	12
2/24/2014	Field Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.21 U	ug/L	0.21	0.8
2/24/2014	Field Blank	Priority Organic Pollutants	Nitrobenzene	2.1 U	ug/L	2.1	8.2
2/24/2014	Field Blank	Priority Organic Pollutants	Hexachloroethane	3.1 U	ug/L	3.1	12
2/24/2014	Field Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	2.1 U	ug/L	2.1	8.2
2/24/2014	Field Blank	Priority Organic Pollutants	Fluorene	0.21 U	ug/L	0.21	0.8
2/24/2014	Field Blank	Priority Organic Pollutants	Diethyl phthalate	1.0 U	ug/L	1	4.1
2/24/2014	Field Blank	Priority Organic Pollutants	Di-n-butyl phthalate	1.0 U	ug/L	1	4.1
2/24/2014	Field Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	1.0 U	ug/L	1	4.1
2/24/2014	Field Blank	Priority Organic Pollutants	2-Chlorophenol	1.0 U	ug/L	1	4.1
2/24/2014	Field Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	1.0 U	ug/L	1	4.1
2/24/2014	Field Blank	Priority Organic Pollutants	2-Chloronaphthalene	1.0 U	ug/L	1	4.1
2/24/2014	Field Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	1.0 U	ug/L	1	4.1

Date Sampled	Field ID	Analysis Group	Component	Result	Units	MDL	PQL
2/24/2014	Field Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2.1 U	ug/L	2.1	8.2
2/24/2014	Field Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.21 U	ug/L	0.21	0.8
2/24/2014	Field Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.21 U	ug/L	0.21	0.8
2/24/2014	Field Blank	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	3.1 U	ug/L	3.1	12
2/24/2014	Field Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	1.0 U	ug/L	1	4.1
2/24/2014	Field Blank	Priority Organic Pollutants	2-Nitrophenol	1.0 U	ug/L	1	4.1
2/24/2014	Field Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	41 U	ug/L	41	160
2/24/2014	Field Blank	Priority Organic Pollutants	Benzidine	100 U	ug/L	100	410
2/24/2014	Field Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.21 U	ug/L	0.21	0.8
2/24/2014	Field Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.21 U	ug/L	0.21	0.8
2/24/2014	Field Blank	Priority Organic Pollutants	Chrysene	0.21 U	ug/L	0.21	0.8
2/24/2014	Field Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	1.0 U	ug/L	1	4.1
2/24/2014	Field Blank	Priority Organic Pollutants	Dimethyl phthalate	1.0 U	ug/L	1	4.1
2/24/2014	Field Blank	Priority Organic Pollutants	Phenol	1.0 U	ug/L	1	4.1
2/24/2014	Field Blank	Priority Organic Pollutants	Pyrene	0.21 U	ug/L	0.21	0.8
2/24/2014	Field Blank	Priority Organic Pollutants	2,4-Dichlorophenol	1.0 U	ug/L	1	4.1
2/24/2014	Field Blank	Priority Organic Pollutants	2,4-Dimethylphenol	10 U	ug/L	10	41
2/24/2014	Field Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.1 U	ug/L	3.1	12
2/24/2014	Field Blank	Priority Organic Pollutants	Acenaphthylene	0.21 U	ug/L	0.21	0.8
2/24/2014	Field Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	3.1 U	ug/L	3.1	12
2/24/2014	Field Blank	Priority Organic Pollutants	Hexachlorobenzene	1.0 U	ug/L	1	4.1
2/24/2014	Field Blank	Priority Organic Pollutants	Naphthalene	0.21 U	ug/L	0.21	0.8
2/24/2014	Field Blank	Priority Organic Pollutants	Pentachlorophenol	3.1 U	ug/L	3.1	12
2/24/2014	Field Blank	Priority Organic Pollutants	2,4-Dinitrophenol	15 U	ug/L	15	62
2/24/2014	Field Blank	Priority Organic Pollutants	Acenaphthene	0.21 U	ug/L	0.21	0.8
2/24/2014	Field Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.21 U	ug/L	0.21	0.8
2/24/2014	Field Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.21 U	ug/L	0.21	0.8
2/24/2014	Field Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	1.0 U	ug/L	1	4.1
2/24/2014	Field Blank	Priority Organic Pollutants	Di-n-octyl phthalate	1.0 U	ug/L	1	4.1
2/24/2014	Field Blank	Priority Organic Pollutants	Hexachlorobutadiene	3.1 U	ug/L	3.1	12

EPA End Sheet

The Bioassay of Bayou Marcus Water Reclamation Facility effluent sampled on February 24, 2014. NPDES #FL0031801.

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	3	1	8	0	1	1 1	1 2	1	4	0	2	2	4	1 8	**B**	1 9	**S**	2 0	1

Remarks

6 6

The Priority Pollutants Analysis of Bayou Marcus Water Reclamation Facility effluent sampled on February 24, 2014. NPDES #FL0031801.

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	3	1	8	0	1	1 1	1 2	1	4	0	2	2	4	1 8	**X**	1 9	**S**	2 0	1

Remarks

6 6

Biological Analyses of Bayou Marcus Water Reclamation Facility effluent sampled on February 24, 2014. NPDES #FL0031801.

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	3	1	8	0	1	1 1	1 2	1	4	0	2	2	4	1 8	**S**	1 9	**S**	2 0	1

Remarks

6 6