

Effluent Quality Assessment

Falkenburg Road Advanced Wastewater Treatment Facility

Hillsborough County

NPDES #FL0040614

Sampled September 16 and 18, 2013

Additional sampling for bioassay:

September 30, October 2 and 4, 2013

January 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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Falkenburg Road Advanced Wastewater Treatment Facility (AWWTF), 102 N. Falkenburg Rd, Tampa, Hillsborough County, Florida, 33610. NPDES #FL0040614.

Facility Overview

Falkenburg Road AWWTF is a Type 1 oxidation ditch advanced wastewater treatment facility which treats 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 September 30, 2013, October 2, 2013, and October 4, 2013. Effluent grab and composite samples for biological and chemical analyses for this facility were collected on September 16, 2013. All samples were collected from the EFA-01 NPDES sampling point for Outfall D-001 by Ramandeep Kaur, Gitta Schmitt, Sarah Ernst, and Judy Ashton (FDEP Southwest District) following DEP-SOP-001/01 FS 2400 Wastewater Sampling (see Appendix B).

The 7-day 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).

*Due to a shipping issue (third set of samples not received), the initial chronic bioassay tests scheduled for the week of September 16, 2013, were not completed. The samples for the repeated bioassay tests were collected as noted.

Results

Chemistry Results (See Table 1 and Appendix C)

- The total ammonia concentration in the composite sample collected and preserved for chemical analysis was 0.33 mg N/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was <0.02 mg/L.
- Aluminum, fluoride, nickel, total phosphorus, total nitrogen and zinc, were detected in the effluent at levels that comply with Class III Marine Water Quality Criteria (62-302.530, F.A.C.) and/or permitted limits. Arsenic, copper, iron, total suspended solids (TSS), and carbonaceous biological oxygen demand (CBOD) were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL).

Algal Growth Potential (See Table 2 and Appendix C)

- The effluent Algal Growth Potential (AGP) was 63.9 mg dry wt/L of the unicellular green alga, *Pseudokirchneriella subcapitata*, formerly known as *Selenastrum capricornutum*. Raschke and Schultz (1987) determined 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 (Miller et al. 1978).
- The salinity adjusted effluent algal growth potential (AGP) was 38.1* mg dry wt/L of the saltwater species *Dunaliella tertiolecta.* Raschke and Schultz determined that AGP values above 10.0 mg dry weight/L represent a “problem” threshold for marine receiving waters, implying nutrient enrichment (personal communication, Marshall Faircloth, et. al. FDEP with Ron Raschke USEPA Region 4 1987).

  *An aliquot of the AGP sample was salinity adjusted by the addition of artificial sea salts from an apparent salinity of approximately 0.42 parts per thousand (ppth) to a salinity of approximately 7.0 ppth to meet the salinity requirements of the test species.

Toxicity Test Results (See Appendix C)

- Tests were performed October 1-8, 2013.

Ceriodaphnia dubia 7-day chronic definitive bioassay – IC25: >100%
NOEC: 100%

Pimephales promelas 7-day chronic definitive bioassay – IC25: > 100%
NOEC: 100%

- The bioassay samples were not chronically toxic to the test organisms.

Conclusion

The effluent samples collected from the EFA-01 NPDES sampling point for this facility on September 30, and October 2 and 4, 2013, were not chronically toxic to either test species during the 7-day chronic definitive bioassays. The effluent AGP results were greater than the "problem" threshold for both fresh and marine receiving waters, suggesting that nutrient enrichment may be an issue. Effluent water quality samples collected on September 16, 2013, did not exceed any applicable water quality standards or violate any permit conditions.

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

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. Effluent limits, Class III Criteria for predominantly marine waters, chemical and microbiological data, and qualifiers

Falkenburg Road AWWTF	Class III Criteria	Effluent Limits	Effluent
Metals (µg/L unless otherwise noted)			
Aluminum	≤ 1500	-	75
Arsenic	≤ 50	-	0.26 I
Cadmium	≤ 8.8	-	0.050 U
Calcium (mg/L)	-	-	71.9
Chromium, total	≤ 50 ψ	-	0.36 I
Copper	≤ 3.7	-	0.79 I
Iron	≤ 300	-	49 I
Lead	≤ 8.5	-	0.20 U
Magnesium (mg/L)	-	-	19.0
Nickel	≤ 8.3	-	1.81
Selenium	≤ 71	-	0.20 U
Silver	≤ 2.3	-	0.025 U
Sodium	-	-	116
Zinc	≤ 86	-	23
Nutrients (mg/L)			
Ortho-phosphate	-	-	0.29
Total Phosphorus	-	≤ 2 .0 p	0.31
Total Ammonia	-	-	0.33
Un-ionized Ammonia	-	-	< 0.02 c
Nitrate and Nitrite	-	-	0.85
Total Kjeldahl Nitrogen	-	-	1.2
Organic Nitrogen	-	-	0.87 c
Total Nitrogen	-	≤ 6.0 p	2.05 c
Total Organic Carbon	-	-	7.1
General Physical and Chemical Parameters			
Dissolved Oxygen (mg/L)	≥ 4.0	-	7.56
pH (SU)	6.5 - 8.5	6.0 - 8.5	7.45
Specific Conductance (µmhos/cm)	-	-	960
Temperature (°C)	-	-	29.87
Salinity	-	-	< 0.43 c
Total Residual Chlorine (mg/L)	≤ 0.01	-	< 0.03 QU£
Chlorophyll *a* (µg/L) - Corrected	-	-	0.55 U
Phaeophytin (µg/L)	-	-	0.40 U
Total Suspended Solids (mg/L)	-	≤ 10.0 p	4 I
Color (true, PCU)	-	-	23
Alkalinity (mg CaCO3/L)	-		179
CBOD, 5 day (mg/L), N - inhibited	-	≤ 10.0 p	1.4 IV
Chloride (mg/L)	-	-	111
Fluoride (mg/L)	≤ 5.0	-	0.50
Sulfate (mg/L)	-	-	160
Flow (MGD)	-	6.0 a	4.77 a*
Hardness (mg $CaCO_3$)	-	-	257.7 c
Microbiology (Number of colony forming units/100ml)			
Enterococci	-	≤ 276s	2 UQ
Fecal Coliforms ¥	≤ 400s #	≤ 25s	1 U

Value exceeds the Class III Water Quality Criteria or permit limits

a - Annual average
c - Value is calculated
m - Monthly average
p - 24 hour flow proportioned composite
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
Q - Sample held beyond normal holding time
U - Material analyzed for but not detected; value reported is the method detection limit
V - Analyte was detected in both sample and method blank
¥ - Fecal coliforms analysis performed by Advanced Environmental Laboratory, Tampa
£ - measurement taken in the FDEP laboratory
* - averaged from 9-30-12 - 8-31-13
ψ - Class III Marine Water Quality Criterion (62-302.530(19)(b), F.A.C.) for chromium-VI

Table 2. Measured and predicted algal growth potential (AGP; mg dry weight/L) for total soluble inorganic nitrogen (TSIN) and total nitrogen (TN) limitation of the freshwater species *Pseudokirchneriella subcapitata,* salinity adjusted AGP for the saltwater species *Dunaliella tertiolecta,* and ratios of nitrogen to phosphorus

Falkenburg Road AWWTF						
Location	**Test Species**	**AGP (measured)**	**Predicted AGP (TSIN) ± 20%**	**Predicted AGP (TN) ± 20%**	**Inorganic N:P ratio**	**Total N:P ratio**
Effluent *	Marine	38.1	-	-	4.1	6.6
Effluent	Fresh	63.9	44.8 ± 9.0	77.9 ± 15.6	4.1	6.6

* - sample salinity adjusted to 7.0 ppth

A dash (-) indicates that the predicted AGP/ratio is not applicable

Appendix A
Facility Summary

State of Florida
Department of Environmental Protection
Facility Introduction & Summary

PART I: Information gathered prior to sampling event	
Prepared By: Ramandeep Kaur	**Contact Number: (813)-470-5771**
Facility Name (as it appears on permit): Falkenburg Road AWWTF	**Former Names:**
NPDES Permit Number: FL0040614 (Major)	**Permit Expiration Date: June 15, 2014**
Physical Address: 102 N. Falkenburg Rd. Tampa, FL 33610	
District: SWD	**County: Hillsborough**
Function of Facility: Domestic Wastewater Treatment Plant	
Facility Type: Domestic Wastewater	**Permitted Capacity (MGD): 6.0**
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): 4.93 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):	

Monitoring Location Site Number	Description of Monitoring Location
FLW-01	Flow to discharge outfall D001 measured by weir/sonic meter.
FLW-04	Flow rate through the UV system.
EFA-01	Effluent sample point after UV disinfection.
EFB-01	Turbidity monitoring/ TSS sample point after filtration and prior to disinfection.
EFD-01	Effluent sample point at post aeration building discharge weir
PPI-01	UV system monitoring location.

Description of Permitted Outfall(s):

Surface Water Discharge:
An existing 6.0 mgd AADF permitted discharge to the Palm River/Hillsborough River Bypass Canal which flows to Hillsborough Bay thence to Tampa Bay (Class III marine waters, WBID No. 1443E1). The outfall is approximately 8 feet below water surface 25 feet from shore. The discharge D001 is located in Hillsborough County at approximately latitude 28° 01' 30" North and longitude 82° 08' 18" West.

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

WASTEWATER TREATMENT:
An existing 12.0 mgd annual average daily flow (AADF) Type I oxidation ditch advanced domestic wastewater treatment facility consisting of the following units: a leachate receiving station; headworks with two mechanical screens and one manual screen, grit removal, an odor control system, four anoxic basins of 312,880 gallons capacity each, with a combined capacity of 1.252 million gallons; four oxidation ditch aeration basins of 1.7 million gallons each, with a combined capacity of 6.80 million gallons; five final clarifier basins of 750,000 gallons each and a surface area of 7,854 ft2 each, providing a total capacity of 3.75 million gallons and a combined surface area of 39,270 ft2, seven dual-media deep-bed denitrification filters with a combined surface area of 3,500 ft2, a 76,300 gallon clearwell, a 160,000 gallon mudwell, a single channel chlorine contact chamber with a capacity of 150,000 gallons; and post aeration tanks with a combined capacity of 83,400 gallons, disinfection is achieved using the Trojan Technologies Model UV3000Plus UV system.
Residuals handling facilities include one 50,000 gallon and one 800,000 gallon unthickened sludge holding tanks; three sludge screw presses with polymer addition; and a 50,000 gallon filtrate collection tank. Residuals are transported to a permitted Residuals Management Facility for treatment and disposal or to a Class I or II landfill.
The plant is a dual train facility with the exception of the headworks. Filter backwash is returned to the headworks. Alum and methanol feeds are available on a standby status for solids control. Effluent quality is continuously monitored for turbidity as a measure of TSS. One auto start diesel generator (2000 KW) is available as an alternative power source.
Effluent failing to meet Part III public access quality standards is directed by means of a valve system to two 6.0 MG onsite reject storage tanks for a total of 12 MG of reject storage and if the reject tanks are full then effluent is directed to an alternative disposal system, D001, an annual average daily flow permitted surface water discharge described below.
Effluent which does meet Part III quality standards is stored on site in three above ground storage tanks for a total of 16 MG of Part III water storage. The Part III reclaimed water is transferred to the Hillsborough County South-Central Master Reuse System (R001) as described below. The on-site storage is controlled, sequenced and operated according to procedures set forth in the plant Operating Protocol in order to assure maximum reliability and safeguards on the quality of the reclaimed water.

REUSE:

Land Application-R001: The Falkenburg Road Advanced Wastewater Treatment Plant serves as a source plant for up to 12.0 mgd AADF of reclaimed water which is transferred to the South-Central Hillsborough County Master Reuse System (FL0028061) at a transfer point located immediately downstream of the distribution flow meter at the source plant.

PART I: Continued

Receiving Waters:	Classification (indicate whether fresh or marine):
Tampa Bay	Class III Marine water body

List Permit Violations (DMR data) and plant upsets that occurred at the plant within the last year:

Monitoring Date	Outfall Indicator	Parameter Description	Data	Limit	Statistical Base	Units
7/31/2012	001-1	COLIFORM, FECAL	45	25	MAXIMUM	#/100mL
10/31/2012	001-1	COLIFORM, FECAL	20000	25	MAXIMUM	#/100mL
11/30/2012	001-T	IC25 STATRE 7DAY CHR CERIODAPHNIA	40.6	100	MINIMUM	%
1/31/2013	001-1	PHOSPHORUS, TOTAL (AS P)	3.1	1.25	MO AVG	mg/L
1/31/2013	001-1	PHOSPHORUS, TOTAL (AS P)	0.492	1.5	WKLY AVG	mg/L
1/31/2013	001-1	PHOSPHORUS, TOTAL (AS P)	2.16	2	MAXIMUM	mg/L
2/28/2013	001-1	ULTRAVIOLET LIGHT DOSAGE	40.61	100	MINIMUM	mW-sec/cm2
2/28/2013	001-T	IC25 STATRE 7DAY CHR CERIODAPHNIA	14.2	100	MINIMUM	%
5/31/2013	001-1	COLIFORM, FECAL	20000	25	MAXIMUM	#/100mL

Describe previous FYI and WQBEL study:
2007 FYI report submitted as separate email attachment.

Describe previous or current Enforcement Actions (including WLs): Consent Order, OGC File 10-1927 became effective August 30, 2010. Subsequently, a proposed In-King Penalty Project (IKPP) was approved by FDEP that required in-line solid analyzers to be installed at another treatment plant, Dale Mabry AWWTF. An IKPP Summary Report was submitted to the Department on Sept. 12, 2012, and the consent order was closed in January 2013.

Describe any violations or problems noted in previous inspection:
Deficiency from last routine Compliance Evaluation Inspection conducted by EPC on May 29, 2013-
Deficiency: After the initial and second Toxicity test for Ceriodaphnia dubia failed in Q2, 2012, HCPUD's June 7, 2012, letter confirmed this as the 4th failure in a 12-month period and provided notification that a Corrective Action Plan (CAP) would be forthcoming. The Q3, 2012, sampling event documented passing results and the Q4, 2012, event documented failing results. The Q1, 2013, report again documented failing results for C. dubia. HCPUD's March 29, 2013, letter indicated that a subsequent sampling event was not being conducted and that a CAP would be submitted by April 19, 2013.
This Corrective Action Plan (CAP) was submitted to the Department on July 22, 2013 and is under review.

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):

Toxicity Language:

Chronic Whole Effluent Toxicity Testing

The permittee shall comply with the following whole effluent toxicity testing requirements and initiate the series of tests described below within 60 days of permit issuance, unless otherwise directed by the Department in writing, to evaluate chronic whole effluent toxicity of the discharge from outfall D-001.

a. Effluent Limitation

(1) Whole effluent chronic toxicity shall not exceed a 25 percent inhibition concentration (IC25) of less than 100% effluent in any test and Rules 62-302.530(61) and 62-4.241(1)(b), F.A.C.

(2) In the chronic toxicity test, the effluent cannot be acutely toxic, in accordance with 62-302.200(1) and 62-302.500(1)(a)(4).

b. Monitoring Frequency

(1) The "routine" toxicity tests specified shall be conducted *once every three months.*

c. Sampling Requirements

(1) For each routine test or additional follow-up test conducted, a total of three *flow proportional 24-hour 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, or the most current edition.

(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.

(4) If the duration of the discharge is less than 24-hours, the duration of discharge shall be documented on the chain of custody. Each sample shall be analyzed for total residual chlorine and pH at the time of sample collection. Should the discharge last less than 24 hours, the bioassay shall be run on the volume collected, however, three samples must be collected.

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 ed., EPA-821-R-02-013 or the most current edition. Any deviation of the bioassay procedures outlined herein shall be submitted in writing to the Department for review and approval prior to use.

(4) The control water and dilution water shall be moderately hard water as described in EPA-821-R-02-013, Section 7 or the most current edition.

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**) or the most current edition. 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 prior to the end of any test and the control mortality is less than 20% at that time, the test (including the control) shall be terminated with the conclusion that the test fails and constitutes non-compliance.

(4) Additional follow-up tests shall be evaluated for acceptability based on the observed dose-response relationship as required by EPA-821-R-02-013, Section 10.2.6. or the most current edition, 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 or the most current edition, 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 or the most current edition, 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:

Department of Environmental Protection
Southwest District Office
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Telephone No.: (813) 632-7600

g. Test Failures

(1) A test fails when the test results do not meet the limits in 8.a.(1).

(2) Additional Follow-up Tests:

(a) If a routine test does not meet the chronic toxicity limitation in 8.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 8.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 statistically analyzed according to the Appendices in EPA-821-R-02-013 or the most current edition.

(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 period of time that the approved plan is ongoing, the permittee shall conduct routine whole effluent toxicity testing at the frequency of once every three months, but shall not be required to perform additional follow-up tests. If a routine test is invalid as established in EPA Methods, EPA-821-R-02-012, EPA-821-R-02-013, or EPA-821-R-02-014, a retest must be started within 21 days for a chronic test or 14 days for an acute test after the last day of the invalid test.

(f) Following completion or termination of the plan, the frequency of monitoring for routine and additional follow-up whole effluent toxicity tests shall return to the schedule established in the facility wastewater permit. The permittee may terminate the plan at any time upon written verification by the Department that the facility has passed at least four consecutive valid routine whole effluent toxicity tests.

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

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 reclaimed water from Outfall D-001. Such discharge shall be limited and monitored by the permittee as specified below and reported in accordance with Condition I.C.8:

			Reclaimed Water Limitations				Monitoring Requirements			
Parameter	Units	Max/Min	Annual Average	Monthly Average	Weekly Average	Single Sample	Monitoring Frequency	Sample Type	Monitoring Location Site Number	Notes
Flow (to D-001)	MGD	Maximum	6.0	Report	-	-	Continuous	Meter	FLW-01	See Cond.I.A.4
BOD, Carbonaceous 5 day, 20C	MG/L	Maximum	5.0	6.25	7.5	10.0	5 Days/Week	24-hour FPC	EFA-01	
Solids, Total Suspended	MG/L	Maximum	5.0	6.25	7.5	10.0	5 Days/Week	24-hour FPC	EFA-01	
Nitrogen, Total (as N)	MG/L	Maximum	3.0	3.75	4.5	6.0	5 Days/Week	24-hour FPC	EFA-01	
Phosphorus, Total (as P)	MG/L	Maximum	1.0	1.25	1.5	2.0	5 Days/Week	24-hour FPC	EFA-01	
Solids, Total Suspended	MG/L	Maximum	-	-	-	5.0	5 Days/Week	Grab	EFB-01	See Cond.I.A.5
pH	SU	Range	-	-	-	6.0 to 8.5	Continuous	Meter	EFA-01	See Cond.I.A.3
Coliform, Fecal, % less than detection	PERCENT	Minimum		75			Monthly	Calculation	EFA-01	See Cond.I.A.5
Coliform, Fecal	#/100ML	Maximum				25	5 Days/Wee	Grab	EFA-01	See Cond.I.A.5
Oxygen, Dissolved (DO)	MG/L	Minimum	-	-	-	5.0	7 Days/Week	Grab	EFD-01	
Enterococci	#/100ML	Maximum	-	35	-	-	5/Month	Grab	EFA-01	See Cond.I.A.7
Whole Effluent Toxicity (Chronic)	Percent	Minimum	-	-	-	100	Every Three Months	24-hour FPC	EFA-01	See Cond.I.A.8
Dichlorobromomethane	UG/L	Maximum	22	Report	-	-	Monthly	Grab	EFA-01	
Nitrogen, Total (as N)	Tons/Year	Maximum	Report (Ann.Total)	Report (Mo Total)	-	-	Monthly	Calculation	EFA-01	See Cond.I.A.10
Nitrogen, Total (as N)	Tons/5 Year	Maximum	Report (5Yr Avg.)	-	-	-	Monthly	Calculation	EFA-01	See Cond.I.A.10

			Reclaimed Water Limitations				Monitoring Requirements			
Parameter	Units	Max/Min	Annual Average	Monthly Average	Weekly Average	Single Sample	Monitoring Frequency	Sample Type	Monitoring Location Site Number	Notes
Flowrate (Flow through the UV system)	GPM	Record	-	-	-	Report (Daily maximum)	Continuous	Meter	FLW-04	
Ultraviolet Light Operational Dosage	mJ/cm^2	Minimum	-	-	-	100	Continuous	Meter	PPI-01	See Cond.I.A.21
Ultraviolet Light Transmittance	%	Minimum	-	-	-	55	Continuous	Meter	PPI-01	See Cond.I.A.20
Ultraviolet Light Intensity	%	Report	-	-	-	Report (Min)	Continuous	Meter	PPI-01	See Cond.I.A.19
Turbidity	NTU	Maximum	-	-	-	Report (Max)	Continuous	Meter	EFB-01	See Cond.I.A.13
Water Level in Reactors	Ft	Range	-	-	-	Report (Daily maximum)	Continuous		PPI-01	See Cond.I.A.23
Reactor Status[1]	On/off	Record	-	-	-	-	Continuous			See Cond.I.A.14
Lamp Status[1]	On/off	Record	-	-	-	-	Continuous			See Cond.I.A.15
Lamp Age[1]	Hrs	Record	-	-	-	-	Continuous			See Cond.I.A.16
Reactor On/Off Cycles[1]	Total Number	Record	-	-	-	-	Continuous			See Cond.I.A.14
Reactor Power Setpoint[1]	Setting level	Record	-	-	-	-	Continuous			See Cond.I.A.17
Ground Fault Interrupt Status[1]	Yes/No	Record	-	-	-	-	Continuous			See Cond.I.A.18

[1]These parameters are not to be included in the DMR, but are to be monitored and operated as described in the approved operating protocol.

Pictures taken at Recon:







Grab Sample Point

Composite Sampler

Falkenburg Road AWTP, Permit #: FL0040614; FYI3 PART II: Sampling Event Information	
Date(s) sample collected: 9-16-13, 9-30-13, 10-2-13, 10-4-13	**Sampler(s):** Ramandeep Kaur, Gitta Schmitt
Temperature (Deg C): 29.87	**pH (SU):** 7.45
Dissolved Oxygen (mg/L): 7.56	**Conductivity (umhos/cm):** Salinity: 0.47 PPTh
Total Residual Chlorine (mg/L): N/A	**Total Residual Chlorine - after Disinfection (mg/L):** N/A
Method of Chlorination: UV Disinfection	**Method of De-chlorination:** N/A
Flow During Sample Collection for each outfall(MGD): EFA-01: 13.5 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): Mean flow from all external outfalls: 4.93 MGD	
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: **Toxicity Samples were recollected on** 9-30-13, 10-2-13, 10-4-13.	



Compliance sampling point for EFA-01

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. Exceedances of Water Quality Criteria may constitute violations of specific provisions of Chapter 62-302 (F.A.C.) and/ or 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 a violation of 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 a violation of 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 a violation of 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 a violation of 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) Algal Growth Potential (AGP)

The algal growth potential (AGP) value is the peak growth of the alga within that 14-day period, recorded as mg dry weight/L. Raschke and Shultz (1987) found that an AGP above 5.0 mg dry weight/L represents a “problem” threshold for fresh receiving waters, implying nutrient enrichment. High AGP values 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.

The concentration of nutrients in a water sample may be used to calculate the expected yield of AGP under the assumption that other required nutrients (e.g. silicon, micronutrients) are present in excess (Miller *et al*. 1978). The expected amount of production is calculated as 38 times the total soluble inorganic nitrogen (nitrate and nitrite plus ammonia) under nitrogen limitation or 430 times the ortho-phosphate (OP) concentration under phosphorus limitation with an error of $\pm$ 20%. When the ratio of nitrogen to phosphorus (N: P) is less than 10:1, nitrogen limitation of algal production is likely. When the N: P ratio is 20:1 or greater, phosphorus limitation is likely (USEPA 2000). For ratios in-between, co-limitation may occur. Production of lower biomass than expected may be evidence of growth inhibition related to toxic compounds present in the water sample tested and may constitute an exceedance of 62-302.530(61), F.A.C.

(6) Chlorophyll *a* Content

Chlorophyll a content is an estimate of algal biomass. High algal biomass implies nutrient stress (Stevenson and Bahls 1999) and may be 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.

(7) 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	Components	Result	Remark	Units	MDL	PQL
9/16/2013 10:05	40957	AGP/LN	Algal Growth Potential-Salinity Adjusted	38.1		mg DryWt/L	3	3
9/16/2013 10:05	40957	AGP/LN	Algal Growth Potential	63.9		mg DryWt/L	0.3	0.9
9/16/2013 10:05	40957	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	0.55	U	ug/L	0.55	1.7
9/16/2013 10:05	40957	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.40	U	ug/L	0.4	1.2
9/16/2013 10:05	40957	Microbiology	Enterococci-Membrane Filter	2	UQ	cfu/100 mL	2	2
9/16/2013 10:05	40957	Overflow	Fecal Coliforms-Membrane Filter	1	U	cfu/100 mL	1	
9/16/2013 10:05	40957	Nutrients	Fluoride	0.50		mg F/L	0.035	0.1
9/16/2013 10:05	40957	Nutrients	Sulfate	160		mg SO4/L	0.4	1
9/16/2013 10:05	40957	Nutrients	Color (true)	23		PCU	2.5	6
9/16/2013 10:05	40957	Nutrients	O-Phosphate-P	0.29		mg P/L	0.004	0.01
9/16/2013 10:05	40957	Nutrients	Alkalinity	179		mg CaCO3/L	0.65	2.5
9/16/2013 10:05	40957	Nutrients	Chloride	111		mg Cl/L	0.4	1
9/16/2013 10:05	40957	Pesticides	Ametryn	0.0095	U	ug/L	0.0095	0.038
9/16/2013 10:05	40957	Pesticides	Ethion	0.0095	U	ug/L	0.0095	0.038
9/16/2013 10:05	40957	Pesticides	Ethoprop	0.0048	U	ug/L	0.0048	0.019
9/16/2013 10:05	40957	Pesticides	Hexazinone	0.029	U	ug/L	0.029	0.11
9/16/2013 10:05	40957	Pesticides	Alachlor	0.057	U	ug/L	0.057	0.23
9/16/2013 10:05	40957	Pesticides	Atrazine	0.0095	U	ug/L	0.0095	0.038
9/16/2013 10:05	40957	Pesticides	Butylate	0.019	U	ug/L	0.019	0.076
9/16/2013 10:05	40957	Pesticides	Metolachlor	0.057	U	ug/L	0.057	0.23
9/16/2013 10:05	40957	Pesticides	Norflurazon	0.029	U	ug/L	0.029	0.11
9/16/2013 10:05	40957	Pesticides	Simazine	0.0095	U	ug/L	0.0095	0.038
9/16/2013 10:05	40957	Pesticides	Chlorpyrifos Ethyl	0.0095	U	ug/L	0.0095	0.038
9/16/2013 10:05	40957	Pesticides	Diazinon	0.0095	U	ug/L	0.0095	0.038
9/16/2013 10:05	40957	Pesticides	Naled	0.038	U	ug/L	0.038	0.15
9/16/2013 10:05	40957	Pesticides	Bromacil	0.099	U	ug/L	0.099	0.39
9/16/2013 10:05	40957	Pesticides	Chlorpyrifos Methyl	0.0095	U	ug/L	0.0095	0.038
9/16/2013 10:05	40957	Pesticides	Fonofos	0.0095	U	ug/L	0.0095	0.038
9/16/2013 10:05	40957	Pesticides	Metalaxyl	0.038	U	ug/L	0.038	0.15
9/16/2013 10:05	40957	Pesticides	Parathion Ethyl	0.019	U	ug/L	0.019	0.076
9/16/2013 10:05	40957	Pesticides	Parathion Methyl	0.0095	U	ug/L	0.0095	0.038
9/16/2013 10:05	40957	Pesticides	Phorate	0.0048	U	ug/L	0.0048	0.019
9/16/2013 10:05	40957	Pesticides	Prometryn	0.019	U	ug/L	0.019	0.076
9/16/2013 10:05	40957	Pesticides	Azinphos Methyl	0.019	U	ug/L	0.019	0.076
9/16/2013 10:05	40957	Pesticides	Fenamiphos	0.029	U	ug/L	0.029	0.11
9/16/2013 10:05	40957	Pesticides	Malathion	0.0095	U	ug/L	0.0095	0.038
9/16/2013 10:05	40957	Pesticides	Metribuzin	0.019	U	ug/L	0.019	0.076
9/16/2013 10:05	40957	Pesticides	Mevinphos	0.0095	U	ug/L	0.0095	0.038
9/16/2013 10:05	40957	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	12

Date Sampled	Field ID	Analysis Group	Components	Result	Remark	Units	MDL	PQL
9/16/2013 10:05	40957	Priority Organic Pollutants	2-Nitrophenol	0.96	U	ug/L	0.96	3.8
9/16/2013 10:05	40957	Priority Organic Pollutants	Phenol	0.96	U	ug/L	0.96	3.8
9/16/2013 10:05	40957	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	12
9/16/2013 10:05	40957	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.7
9/16/2013 10:05	40957	Priority Organic Pollutants	2,4-Dichlorophenol	0.96	U	ug/L	0.96	3.8
9/16/2013 10:05	40957	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.96	U	ug/L	0.96	3.8
9/16/2013 10:05	40957	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:05	40957	Priority Organic Pollutants	Benzidine	96	U	ug/L	96	380
9/16/2013 10:05	40957	Priority Organic Pollutants	Benzo(a)pyrene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:05	40957	Priority Organic Pollutants	Benzo(b)fluoranthene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:05	40957	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.96	U	ug/L	0.96	3.8
9/16/2013 10:05	40957	Priority Organic Pollutants	Butyl benzyl phthalate	0.96	U	ug/L	0.96	3.8
9/16/2013 10:05	40957	Priority Organic Pollutants	Di-n-octyl phthalate	0.96	U	ug/L	0.96	3.8
9/16/2013 10:05	40957	Priority Organic Pollutants	Hexachlorobenzene	0.96	U	ug/L	0.96	3.8
9/16/2013 10:05	40957	Priority Organic Pollutants	Naphthalene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:05	40957	Priority Organic Pollutants	2,4-Dinitrophenol	14	UJ	ug/L	14	58
9/16/2013 10:05	40957	Priority Organic Pollutants	Benzo(k)fluoranthene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:05	40957	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.96	U	ug/L	0.96	3.8
9/16/2013 10:05	40957	Priority Organic Pollutants	Diethyl phthalate	0.96	U	ug/L	0.96	3.8
9/16/2013 10:05	40957	Priority Organic Pollutants	Fluoranthene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:05	40957	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.7
9/16/2013 10:05	40957	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.7
9/16/2013 10:05	40957	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.7
9/16/2013 10:05	40957	Priority Organic Pollutants	Pyrene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:05	40957	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	58
9/16/2013 10:05	40957	Priority Organic Pollutants	Chrysene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:05	40957	Priority Organic Pollutants	Isophorone	0.96	U	ug/L	0.96	3.8
9/16/2013 10:05	40957	Priority Organic Pollutants	Phenanthrene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:05	40957	Priority Organic Pollutants	2,6-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
9/16/2013 10:05	40957	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38	U	ug/L	38	150
9/16/2013 10:05	40957	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.96	U	ug/L	0.96	3.8
9/16/2013 10:05	40957	Priority Organic Pollutants	Di-n-butyl phthalate	0.96	U	ug/L	0.96	3.8
9/16/2013 10:05	40957	Priority Organic Pollutants	Fluorene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:05	40957	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	12
9/16/2013 10:05	40957	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2.9	12
9/16/2013 10:05	40957	Priority Organic Pollutants	Bromodichloromethane	0.20	U	ug/L	0.2	0.8
9/16/2013 10:05	40957	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.96	U	ug/L	0.96	3.8
9/16/2013 10:05	40957	Priority Organic Pollutants	2,4-Dimethylphenol	9.6	U	ug/L	9.6	38
9/16/2013 10:05	40957	Priority Organic Pollutants	Acenaphthene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:05	40957	Priority Organic Pollutants	Benzo(a)anthracene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:05	40957	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:05	40957	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	1.9	U	ug/L	1.9	7.7
9/16/2013 10:05	40957	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.19	U	ug/L	0.19	0.77

Date Sampled	Field ID	Analysis Group	Components	Result	Remark	Units	MDL	PQL
9/16/2013 10:05	40957	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	12
9/16/2013 10:05	40957	Priority Organic Pollutants	2,4-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
9/16/2013 10:05	40957	Priority Organic Pollutants	2-Chloronaphthalene	0.96	U	ug/L	0.96	3.8
9/16/2013 10:05	40957	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	U	ug/L	2.9	12
9/16/2013 10:05	40957	Priority Organic Pollutants	2-Chlorophenol	0.96	U	ug/L	0.96	3.8
9/16/2013 10:05	40957	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.96	U	ug/L	0.96	3.8
9/16/2013 10:05	40957	Priority Organic Pollutants	Acenaphthylene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:05	40957	Priority Organic Pollutants	Anthracene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:05	40957	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	12
9/16/2013 10:05	40957	Priority Organic Pollutants	Dimethyl phthalate	0.96	U	ug/L	0.96	3.8
9/16/2013 10:05	40957	Field Parameter	pH	7.45				
9/16/2013 10:05	40957	Field Parameter	Specific Conductance	960		umhos/cm		
9/16/2013 10:05	40957	Field Parameter	Temperature	29.87		C		
9/16/2013 10:05	40957	Field Parameter	Dissolved Oxygen	7.56		mg/L		
9/16/2013 7:30	40958	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	1.4	IV	mg/L	0.2	2
9/16/2013 7:30	40958	Toxicology	Bioassay-Chron-Def-FW-C.dubia, NOEC	No Result	O	NOEC		
9/16/2013 7:30	40958	Toxicology	Bioassay-Chron-Def-FW-Fish, IC25	No Result	O	IC25		
9/16/2013 7:30	40958	Toxicology	Bioassay-Chron-Def-FW-Fish, NOEC	No Result	O	NOEC		
9/16/2013 7:30	40958	Toxicology	Bioassay-Chron-Def-FW-C.dubia, IC25	No Result	O	IC25		
9/16/2013 7:30	40958	Metals	Selenium	0.20	U	ug/L	0.2	0.8
9/16/2013 7:30	40958	Metals	Aluminum	75		ug/L	5	20
9/16/2013 7:30	40958	Metals	Magnesium	19.0		mg/L	0.04	0.16
9/16/2013 7:30	40958	Metals	Zinc	23		ug/L	5	20
9/16/2013 7:30	40958	Metals	Calcium	71.9		mg/L	0.075	0.3
9/16/2013 7:30	40958	Metals	Lead	0.20	U	ug/L	0.2	0.8
9/16/2013 7:30	40958	Metals	Iron	49	I	ug/L	30	120
9/16/2013 7:30	40958	Metals	Silver	0.025	U	ug/L	0.025	0.1
9/16/2013 7:30	40958	Metals	Chromium	0.36	I	ug/L	0.3	1.2
9/16/2013 7:30	40958	Metals	Arsenic	0.26	I	ug/L	0.25	1
9/16/2013 7:30	40958	Metals	Potassium	16.4		mg/L	0.3	1.2
9/16/2013 7:30	40958	Metals	Copper	0.79	I	ug/L	0.5	1
9/16/2013 7:30	40958	Metals	Nickel	1.81		ug/L	0.25	1
9/16/2013 7:30	40958	Metals	Cadmium	0.050	U	ug/L	0.05	0.2
9/16/2013 7:30	40958	Metals	Sodium	116		mg/L	0.5	2
9/16/2013 7:30	40958	Nutrients	Ammonia-N	0.33		mg N/L	0.004	0.01
9/16/2013 7:30	40958	Nutrients	Organic Carbon	7.1		mg C/L	0.5	1
9/16/2013 7:30	40958	Nutrients	NO2NO3-N	0.85		mg N/L	0.008	0.02
9/16/2013 7:30	40958	Nutrients	Total-P	0.31		mg P/L	0.005	0.05
9/16/2013 7:30	40958	Nutrients	TSS	4	I	mg/L	2	10
9/16/2013 7:30	40958	Nutrients	Kjeldahl Nitrogen	1.2		mg N/L	0.08	0.2
9/16/2013 10:25	40959	Nutrients	Alkalinity	0.65	U	mg CaCO3/L	0.65	2.5
9/16/2013 10:25	40959	Nutrients	Chloride	0.20	U	mg Cl/L	0.2	0.5
9/16/2013 10:25	40959	Nutrients	Sulfate	0.20	U	mg SO4/L	0.2	0.5

Date Sampled	Field ID	Analysis Group	Components	Result	Remark	Units	MDL	PQL
9/16/2013 10:25	40959	Nutrients	Color (true)	2.5	U	PCU	2.5	6
9/16/2013 10:25	40959	Nutrients	O-Phosphate-P	0.004	U	mg P/L	0.004	0.01
9/16/2013 10:25	40959	Nutrients	Fluoride	0.035	U	mg F/L	0.035	0.1
9/16/2013 10:25	40959	Pesticides	Fenamiphos	0.029	U	ug/L	0.029	0.12
9/16/2013 10:25	40959	Pesticides	Metribuzin	0.019	U	ug/L	0.019	0.077
9/16/2013 10:25	40959	Pesticides	Norflurazon	0.029	U	ug/L	0.029	0.12
9/16/2013 10:25	40959	Pesticides	Mevinphos	0.0096	U	ug/L	0.0096	0.038
9/16/2013 10:25	40959	Pesticides	Naled	0.038	U	ug/L	0.038	0.15
9/16/2013 10:25	40959	Pesticides	Simazine	0.0096	U	ug/L	0.0096	0.038
9/16/2013 10:25	40959	Pesticides	Prometryn	0.019	U	ug/L	0.019	0.077
9/16/2013 10:25	40959	Pesticides	Ametryn	0.0096	U	ug/L	0.0096	0.038
9/16/2013 10:25	40959	Pesticides	Azinphos Methyl	0.019	U	ug/L	0.019	0.077
9/16/2013 10:25	40959	Pesticides	Ethion	0.0096	U	ug/L	0.0096	0.038
9/16/2013 10:25	40959	Pesticides	Metalaxyl	0.038	U	ug/L	0.038	0.15
9/16/2013 10:25	40959	Pesticides	Bromacil	0.038	U	ug/L	0.038	0.15
9/16/2013 10:25	40959	Pesticides	Butylate	0.019	U	ug/L	0.019	0.077
9/16/2013 10:25	40959	Pesticides	Parathion Ethyl	0.019	U	ug/L	0.019	0.077
9/16/2013 10:25	40959	Pesticides	Parathion Methyl	0.0096	U	ug/L	0.0096	0.038
9/16/2013 10:25	40959	Pesticides	Chlorpyrifos Ethyl	0.0096	U	ug/L	0.0096	0.038
9/16/2013 10:25	40959	Pesticides	Diazinon	0.0096	U	ug/L	0.0096	0.038
9/16/2013 10:25	40959	Pesticides	Ethoprop	0.0048	U	ug/L	0.0048	0.019
9/16/2013 10:25	40959	Pesticides	Hexazinone	0.029	U	ug/L	0.029	0.12
9/16/2013 10:25	40959	Pesticides	Chlorpyrifos Methyl	0.0096	U	ug/L	0.0096	0.038
9/16/2013 10:25	40959	Pesticides	Atrazine	0.0096	U	ug/L	0.0096	0.038
9/16/2013 10:25	40959	Pesticides	Alachlor	0.058	U	ug/L	0.058	0.23
9/16/2013 10:25	40959	Pesticides	Malathion	0.0096	U	ug/L	0.0096	0.038
9/16/2013 10:25	40959	Pesticides	Fonofos	0.0096	U	ug/L	0.0096	0.038
9/16/2013 10:25	40959	Pesticides	Metolachlor	0.058	U	ug/L	0.058	0.23
9/16/2013 10:25	40959	Pesticides	Phorate	0.0048	U	ug/L	0.0048	0.019
9/16/2013 10:25	40959	Priority Organic Pollutants	2-Chlorophenol	0.96	U	ug/L	0.96	3.8
9/16/2013 10:25	40959	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	12
9/16/2013 10:25	40959	Priority Organic Pollutants	2-Nitrophenol	0.96	U	ug/L	0.96	3.8
9/16/2013 10:25	40959	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.96	U	ug/L	0.96	3.8
9/16/2013 10:25	40959	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.96	U	ug/L	0.96	3.8
9/16/2013 10:25	40959	Priority Organic Pollutants	Di-n-octyl phthalate	0.96	U	ug/L	0.96	3.8
9/16/2013 10:25	40959	Priority Organic Pollutants	Isophorone	0.96	U	ug/L	0.96	3.8
9/16/2013 10:25	40959	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	12
9/16/2013 10:25	40959	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.96	U	ug/L	0.96	3.8
9/16/2013 10:25	40959	Priority Organic Pollutants	2,4-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
9/16/2013 10:25	40959	Priority Organic Pollutants	2-Chloronaphthalene	0.96	U	ug/L	0.96	3.8
9/16/2013 10:25	40959	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	58
9/16/2013 10:25	40959	Priority Organic Pollutants	Benzo(a)pyrene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:25	40959	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	12

Date Sampled	Field ID	Analysis Group	Components	Result	Remark	Units	MDL	PQL
9/16/2013 10:25	40959	Priority Organic Pollutants	Diethyl phthalate	0.96	U	ug/L	0.96	3.8
9/16/2013 10:25	40959	Priority Organic Pollutants	Naphthalene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:25	40959	Priority Organic Pollutants	2,4-Dimethylphenol	9.6	U	ug/L	9.6	38
9/16/2013 10:25	40959	Priority Organic Pollutants	2,6-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
9/16/2013 10:25	40959	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.96	U	ug/L	0.96	3.8
9/16/2013 10:25	40959	Priority Organic Pollutants	Acenaphthylene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:25	40959	Priority Organic Pollutants	Anthracene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:25	40959	Priority Organic Pollutants	Benzo(a)anthracene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:25	40959	Priority Organic Pollutants	Butyl benzyl phthalate	0.96	U	ug/L	0.96	3.8
9/16/2013 10:25	40959	Priority Organic Pollutants	Chrysene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:25	40959	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	12
9/16/2013 10:25	40959	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	U	ug/L	2.9	12
9/16/2013 10:25	40959	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.7
9/16/2013 10:25	40959	Priority Organic Pollutants	Phenanthrene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:25	40959	Priority Organic Pollutants	Bromodichloromethane	0.20	U	ug/L	0.2	0.8
9/16/2013 10:25	40959	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.96	U	ug/L	0.96	3.8
9/16/2013 10:25	40959	Priority Organic Pollutants	Benzidine	96	U	ug/L	96	380
9/16/2013 10:25	40959	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.7
9/16/2013 10:25	40959	Priority Organic Pollutants	Pyrene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:25	40959	Priority Organic Pollutants	Benzo(b)fluoranthene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:25	40959	Priority Organic Pollutants	Dimethyl phthalate	0.96	U	ug/L	0.96	3.8
9/16/2013 10:25	40959	Priority Organic Pollutants	Fluoranthene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:25	40959	Priority Organic Pollutants	Fluorene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:25	40959	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.96	U	ug/L	0.96	3.8
9/16/2013 10:25	40959	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38	U	ug/L	38	150
9/16/2013 10:25	40959	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.7
9/16/2013 10:25	40959	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:25	40959	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	1.9	U	ug/L	1.9	7.7
9/16/2013 10:25	40959	Priority Organic Pollutants	Hexachlorobenzene	0.96	U	ug/L	0.96	3.8
9/16/2013 10:25	40959	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2.9	12
9/16/2013 10:25	40959	Priority Organic Pollutants	Phenol	0.96	U	ug/L	0.96	3.8
9/16/2013 10:25	40959	Priority Organic Pollutants	2,4-Dinitrophenol	14	UJ	ug/L	14	58
9/16/2013 10:25	40959	Priority Organic Pollutants	Acenaphthene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:25	40959	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	12
9/16/2013 10:25	40959	Priority Organic Pollutants	2,4-Dichlorophenol	0.96	U	ug/L	0.96	3.8
9/16/2013 10:25	40959	Priority Organic Pollutants	Benzo(k)fluoranthene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:25	40959	Priority Organic Pollutants	Di-n-butyl phthalate	0.96	U	ug/L	0.96	3.8
9/16/2013 10:25	40959	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:25	40959	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.19	U	ug/L	0.19	0.77
9/16/2013 10:25	40959	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.7
9/16/2013 10:05	TRIP BLANK	Priority Organic Pollutants	Bromodichloromethane	0.20	U	ug/L	0.2	0.8
9/30/2013 10:00	40994	Toxicology	Bioassay-Chron-Def-FW-Fish, IC25	100	L	IC25		
9/30/2013 10:00	40994	Toxicology	Bioassay-Chron-Def-FW-Fish, NOEC	100		NOEC		

Date Sampled	Field ID	Analysis Group	Components	Result	Remark	Units	MDL	PQL
9/30/2013 10:00	40994	Toxicology	Bioassay-Chron-Def-FW-C.dubia, NOEC	100		NOEC		
9/30/2013 10:00	40994	Toxicology	Bioassay-Chron-Def-FW-C.dubia, IC25	100	L	IC25		

EPA End Sheet

The Bioassay of Falkenburg Road AWWTF effluent sampled on September 30, October 2, and October 4, 2013. NPDES #FL0040614.

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	0	6	1	4	11 12	1	3	0	9	3	0	18	**B**	19	**S**	20	1

Remarks

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The Priority Pollutants Analysis of Falkenburg Road AWWTF effluent sampled on September 16, 2013. NPDES #FL0040614.

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	0	6	1	4	11 12	1	3	0	9	1	6	18	**X**	19	**S**	20	1

Remarks

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Biological Analyses of Falkenburg Road AWWTF effluent sampled on September 16, 2013. NPDES #FL0040614.

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	0	6	1	4	11 12	1	3	0	9	1	6	18	**S**	19	**S**	20	1

Remarks

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