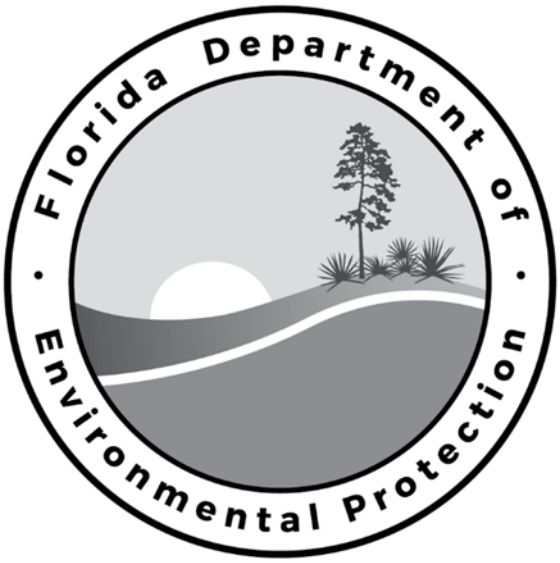


Effluent Quality Assessment of

Florida Distillers Company-Lake Alfred Plant

Polk County

NPDES # FL0029017

Sampled February 13, 2017

June 2017

Biology Program

DEP Laboratory

Division of Environmental Assessment and Restoration

DEP Laboratory Quality Manual

NELAC Certification No. E31780

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Florida Distillers Company-Lake Alfred Plant, 620 Dakota Avenue, Lake Alfred, Polk County, Florida, 33850. NPDES #FL0029017.

Facility Overview

Florida Distillers Company-Lake Alfred Plant uses neutralization, flow equalization and biological treatment through an aeration activated sludge plant to treat industrial 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 grab samples for toxicity testing, biological analyses and chemical analyses for this facility were collected on February 13, 2017. All samples were collected from the EFF-3 NPDES sampling point for Outfall D-003 by Lance Kautz and Nick Roff (DEP Southwest Regional Operation Center)

All field and laboratory methods followed DEP Standard Operating Procedures (see http://www.dep.state.fl.us/labs/library/lab_sops.htm and http://www.dep.state.fl.us/water/sas/sop/sops.htm for details) and met DEP quality assurance/quality control standards (see http://www.dep.state.fl.us/water/sas/qa/index.htm). Explanations of specific methods and measurements can be found in Appendix C.

Results

Chemistry Results (See Table 1, Table 2, Table 3 and Appendix C)

- Receiving waters for this facility fall within the West Central Nutrient Watershed Region for Numeric Nutrient Criteria (NNC). This Fifth Year Inspection event can only provide single sample results; therefore, compliance should be determined with additional sampling events.
  http://ca.dep.state.fl.us/mapdirect/?focus=nutrientcriteria

- Bioassay samples were analyzed in the bioassay laboratory for Total Residual Chlorine (TRC). TRC was detected at a concentration of 0.04 mg Cl_2/L). Chlorine is not used in the treatment process at the facility; however, bromine is used when necessary for control of algae and chlorinated municipal water is used as wash down water. It could not be determined if the TRC result was a false positive from bromine or another interfering substance or from the wash down water. Although the effluent's TRC, as measured in the bioassay samples, was greater than the Class III Freshwater Criterion for total residual chlorine; (≤ 0.01 mg/L; 62-302.530(18) F.A.C.) due to the uncertainty of the origin of the TRC, an exceedance cannot be assigned. The total ammonia concentration in the grab sample collected and preserved for chemical analysis was 0.054 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.

- Alkalinity, arsenic, fluoride, and turbidity were detected in the effluent at levels that comply with Class III Freshwater Quality Criteria (62-302.530, F.A.C.) and/or facility permit limits. Carbonaceous biological oxygen demand (CBOD), copper, chromium, iron, and total suspended solids (TSS) were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL). There were no exceedances of Class III Freshwater Quality Criteria or facility permit limits.

Algal Growth Potential (See Table 4 and Appendix C)

The effluent Algal Growth Potential (AGP) was 12.8 mg dry wt/L of the unicellular green alga, *Pseudokirchneriella subcapitata*, formerly known as *Selenastrum capricornutum.* The effluent AGP result falls within the AGP range (6.10 to 20.0 mg dry wt/L) suggested to be representative of high productivity for freshwater (Miller et al. 1978). The analytical chemistry suggests that the effluent is nitrogen–limited (Miller et al. 1978).

Toxicity Test Results (See Table 2 and Appendix C)

- Tests were performed February 14 - 18, 2017.

- Acute bioassay results are reported as the Concentration Lethal to 50% of the test organisms (LC50)*

  Ceriodaphnia dubia 96-hour acute definitive bioassay – LC_{50} > 100%, 5%* mortality in 100% sample at 96 hours

  Cyprinella leedsi 96-hour acute definitive bioassay – LC_{50} > 100%, 0%* mortality in 100% sample at 96 hours

*NOTE: In a 96-hour acute definitive test of 100% effluent, mortality of <20% provides confidence that the effluent meets the acute toxicity criterion of Florida's Surface Water Quality Standards (Rule 62-302.500 (1) (a) 4, F.A.C.). Mortality between 20-50% indicates low to moderate levels of toxicity, and further action may be required. Mortality of >50% indicates that the effluent fails to meet the minimum requirement to discharge to waters of the state (Rule 62-4.244(3) (a), F.A.C.).

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

Conclusion

The effluent sample collected from the EFF-3 NPDES sampling point for this facility on February 13, 2017, was not acutely toxic to either test species during the 96-hour acute definitive bioassays. The AGP result falls within the AGP range (6.10 to 20.0 mg dry wt/L) suggested to be representative of high productivity for freshwater (Miller et al. 1978). It could not be determined if the total residual chorine (TRC) detected in the bioassay sample was TRC or an interfering substance; therefore, an assignment of exceedance of the water quality criterion could not be made. Effluent water quality samples collected on February 13, 2017, did not exceed any applicable water quality standards or any permit conditions.

For additional information concerning this sampling event, including bioassay bench sheets and SRT data, please contact Amelia.Rankin@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.

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.

Florida Distillers Company-Lake Alfred Plant	Units	Class III Criteria	Effluent Permit Limits	EFF-3
Sample Depth	ft	-	-	1.5
Temperature	C	-	≤33.3	21.66
pH	SU	6.0 - 8.5	6.0-8.5	7.94
Specific Conductance	µmhos/cm	≤ 1,275	≤ 1,275	290
Salinity	ppt	-	-	0.15 c
Dissolved Oxygen	% saturation	≥ 38	-	99.1
Dissolved Oxygen	mg/L	-	≥ 5.0	8.71

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

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

Florida Distillers Company-Lake Alfred Plant	Units	Class III Criteria	Effluent Permit Limits	EFF-3
Ortho-phosphate	mg P/L	-	Report	0.045
Total Phosphorus	mg P/L	-	Report	0.050[1]
Total Ammonia	mg N/L	-	Report	0.054
Un-ionized Ammonia (calculated salinity)	mg/L	≤ 0.02 s	≤ 0.02 s	< 0.02 c
Nitrate and Nitrite	mg N/L	-	Report	0.19
Total Kjeldahl Nitrogen	mg N/L	-	Report	0.21
Organic Nitrogen	mg N/L	-	-	0.16 c
Total Nitrogen	mg N/L	-	Report	0.4 c
Total Organic Carbon	mg C/L	-	-	1.5 A[1]
Chlorophyll *a* - Corrected	µg/L	-	-	0.55 U
Phaeophytin	µg/L	-	-	0.40 I
Chlorophyll *a* - Uncorrected	µg/L	-	-	0.40 U
CBOD, 5 day, N - inhibited	mg/L	-	≤10.0	1.0 I
Total Suspended Solids	mg/L	-	≤20.0	4 I
Turbidity	NTU	< 29 t	-	0.30
Color (true)	PCU	-	-	3.8 I
Alkalinity	mg $CaCO_3$/L	≥ 20	-	136 A
Chloride	mg Cl/L	-	-	11 A
Fluoride	mg F/L	≤ 10.0	-	0.16
Sulfate	mg SO_4/L	-	-	2.4 A
Oils and Greases	mg/L	≤ 5.0	≤ 5.0	0.86 U
Toxicity (acute definitive, LC50 % Effluent)				
Bioassay - Water flea *(Ceriodaphnia dubia)*	% effluent	≥100	≥100	>100
Bioassay - Fish *(Cyprinella leedsi)*	% effluent	≥100	≥100	>100

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
c - Value is calculated
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
U - Material analyzed for but not detected; value reported is the method detection limit
1 – Analyte was detected in Field Blank (Total P 0.002 I mg/L, Total Organic C 0.81 I mg/L)

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

Florida Distillers Company-Lake Alfred Plant	Units	Class III Criteria	EFF-3 Class III Criteria	EFF-3
Hardness	mg $CaCO_3$/L	-	-	134 c
Aluminum	µg/L	-	-	3.0 U
Arsenic	µg/L	≤ 50	-	0.96
Cadmium	µg/L	-	≤ 0.336 b	0.020 U
Calcium	mg/L	-	-	40.4
Chromium, Total [2]	µg/L	-	≤ 110 b	0.46 I
Copper	µg/L	-	≤ 12 b	0.65 I
Iron	µg/L	≤ 1,000	-	58 I
Lead	µg/L	-	≤ 4.62 b	0.050 U
Magnesium	mg/L	-	-	8.04
Nickel	µg/L	-	≤ 66.8 b	0.20 U
Potassium	mg/L	-	-	1.5
Selenium	µg/L	≤ 5.0	-	0.20 U
Silver	µg/L	≤ 0.07	-	0.010 U
Sodium	mg/L	-	-	7.2

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
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
2 - Class III Freshwater Quality Criterion (62-302.530(19)(a), F.A.C.) is for chromium-III

Table 4. Measured and predicted algal growth potential (AGP; mg dry weight/L) for total soluble inorganic nitrogen (TSIN), ortho-phosphate (OP), total nitrogen (TN) and total phosphorus (TP) limitation and ratios of nitrogen to phosphorus

Florida Distillers Company-Lake Alfred Plant								
Location	**Test Species**	**AGP (measured)**	**Predicted AGP (TSIN) ± 20%**	**Predicted AGP (OP) ± 20%**	**Predicted AGP (TN) ± 20%**	**Predicted AGP (TP) ± 20%**	**Inorganic N:P ratio**	**Total N:P ratio**
EFF-3	*Pseudokirchneriella subcapitata*	12.8	9.3 ± 1.9	19.4 ± 3.9	15.2 ± 3	21.5 ± 4.3	5.4	8

Appendix A

Facility Summary State of Florida

Department of Environmental Protection
Facility Introduction & Summary

PART I: Information gathered prior to sampling event	
Prepared By: Lance Kautz	**Contact Number:** 813-470-5903
Facility Name (as it appears on permit): Florida Distillers Company - Lake Alfred Plant	**Former Names:**
NPDES Permit Number: FL0029017	**Permit Expiration Date:** November 25, 2017
Physical Address: 620 Dakota Avenue Lake Alfred, Florida 33850	
District: Southwest	**County:** Polk
Function of Facility: Cane and citrus molasses fermentation and distillation process to produce ethyl alcohol	
Facility Type: Industrial Wastewater	**Permitted Capacity (MGD):** 1.503
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit: 0.173 MGD 1/31/2016 – 1/31/2017	
If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months): N/A	
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 Site Number	Description of Monitoring Site
FLW-1	Flow measurement device on discharge side of pumps prior to land application
EFF-1	Effluent to spray field and percolation pond
FLW-3	Flow measurement device at Outfall D-003
EFF-3	Effluent sampling point is at weir box, located on the far south of the eastern most spray-field
RMP-R	After treatment and before disposal

Description of Permitted Outfall(s):

Surface Water Discharge D-003: An existing 1.4 MGD [Monthly Average Daily Flow] permitted discharge to Lake Fannie Outlet, Class III Fresh Waters, (WBID# 1488) which is located approximately at latitude 28°5' 53" N, longitude 81°43' 15" W.

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

Wastewater is generated from distillation stills, fermentation wash water, seal water, bottling operations, boiler blowdown, and cooling tower contact blowdown. A maximum flow of 0.163 MGD of wastewater is generated from these operations. Onsite disposal of treated wastewater is limited to 0.103 MGD. Offsite disposal of treated wastewater to City of Lake Alfred is limited to a maximum flow of 0.06 MGD. Wastewater treatment consists of neutralization, flow equalization and biological treatment through an aeration activated sludge plant. Treated wastewater is either spray-irrigated in 5.36 acres of sprayfield or discharged to a 0.51 acre percolation pond.

The influent wastewater flows to a 1.7 million gallon lined collection and aeration pond where equalization occurs. The wastewater is neutralized as needed with potassium hydroxide. From the pond the wastewater is pumped to the mixed liquor aeration tank No. 1 (340,000 gallons) for biological treatment. The mixed liquor flows from aeration Tank No. 1 by gravity to mixed liquor aeration tank No. 2 (340,000 gallons) for additional aeration and bacteriological

treatment. Aeration tank No. 2 discharges through the overflow by gravity into a third aeration tank No. 3 (35,000 gallons), where mixed liquor continues aeration and mixing to achieve further biological treatment. Gravity overflow piping transfers the mixed liquor to a clarifier tank (26,000 gallons). The clarifier effluent flows through a contact chamber and transfers by gravity to the irrigation pumps or to the effluent storage tank (51,000 gallons). The clarifier underflow return activated sludge (RAS) is collected in a trough that flows by gravity to a re-aeration holding tank (26,000 gallons) and overflows into a sump, which is returned to aeration tank No. 1. Periodically waste activated sludge (WAS) is removed from the process and collected in the primary sludge digester (16,000 gallons), and transferred to the secondary digester tank (40,000 gallons). The waste activated sludge is disposed offsite in a permitted biosolids management facility.

A new reverse osmosis (RO) pretreatment system will be constructed to treat well water for use in the steam boiler operations. Currently, well water is treated in softener units. These units are regenerated on site. The RO concentrate stream and spent membrane cleaning wastewater will be sent to a 1.7 million gallon lined wastewater collection pond where wastewater is treated prior to being land applied (i.e., spray irrigation or percolation pond) or discharged to the City of Lake Alfred domestic wastewater treatment plant.

Once through and recirculating non-contact cooling water (1.4 MGD) is combined with stormwater and discharges to Lake Fannie Outlet (Class III freshwaters) via Outfall D-003

PART I: Continued

List <u>current</u> 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)

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow	MGD	Max Max	1.4 Report	Monthly Average Daily Maximum	Daily; 24 hours	Meter	FLW-3	
BOD, Carbonaceous 5 day, 20C	mg/L	Max	10.0	Daily Maximum	Monthly	Grab	EFF-3	
Solids, Total Suspended	mg/L	Max	20.0	Daily Maximum	Monthly	Grab	EFF-3	
Temperature (C), Water	Deg C	Max	33.3	Daily Maximum	Weekly	In Situ	EFF-3	
Oil and Grease	mg/L	Max	5.0	Daily Maximum	Monthly	Grab	EFF-3	
Oxygen, Dissolved (DO)	mg/L	Min	5.0	Daily Minimum	Weekly	In Situ	EFF-3	
Specific Conductance	µmhos/cm	Max Max	1275 Report	Daily Maximum Monthly Average	Weekly	In Situ	EFF-3	
pH	s.u.	Min Max	6.0 8.5	Daily Minimum Daily Maximum	Weekly	In Situ	EFF-3	
Nitrite plus Nitrate, Total 1 det. (as N)	mg/L	Max	Report	Daily Maximum	Quarterly	Grab	EFF-3	
Nitrogen, Total	mg/L	Max	Report	Daily Maximum	Quarterly	Grab	EFF-3	
Nitrogen, Kjeldahl, Total (as N)	mg/L	Max	Report	Daily Maximum	Quarterly	Grab	EFF-3	
Nitrogen, Ammonia, Total (as N)	mg/L	Max	Report	Daily Maximum	Quarterly	Grab	EFF-3	
Ammonia, Unionized (as NH3)	mg/L	Max	0.02	Daily Maximum	Quarterly	Grab	EFF-3	
Phosphorus, Total (as P)	mg/L	Max	Report	Daily Maximum	Quarterly	Grab	EFF-3	
Phosphate, Ortho (as P)	mg/L	Max	Report	Daily Maximum	Quarterly	Grab	EFF-3	
Acute Whole Effluent Toxicity, 96 Hour LC50 (Ceriodaphnia dubia)	percent	Min	100	Single Sample	Semi-Annually; twice per year	Grab	EFF-3	
Acute Whole Effluent Toxicity, 96 Hour LC50 (Cyprinella leedsi)	percent	Min	100	Single Sample	Semi-Annually; twice per year	Grab	EFF-3	

PART I: Continued

Receiving Waters:	**Classification (indicate whether fresh or marine):**
Lake Fannie Outlet	Class III Fresh Water

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

1. The permittee shall comply with the following requirements to evaluate acute whole effluent toxicity of the discharge from outfall D-003.

   a. Effluent Limitation
      (1) In any routine or additional follow-up test for acute whole effluent toxicity, the 96-hour LC50 shall not be less than 100% effluent. [Rules 62-302.200(1), 62-302.500(1)(a)4., 62-4.244(3)(a), and 62-4.241, F.A.C.]

   b. Monitoring Frequency
      (1) Routine toxicity tests shall be conducted once every six months. Monitoring is not required during monitoring periods when no discharge has occurred.

   c. Sampling Requirements
      (1) All tests shall be conducted on a single grab sample of final effluent.

   d. Test Requirements
      (1) Routine Tests: All routine tests shall be conducted using a control (0% effluent) and a minimum of five dilutions: **100%, 75%, 50%, 25%**, and **12.5%** effluent.
      (2) The permittee shall conduct 96-hour acute static renewal multi-concentration toxicity tests using the daphnid, **Ceriodaphnia dubia**, and the bannerfin shiner, **Cyprinella leedsi**, concurrently.
      (3) All test species, procedures and quality assurance criteria used shall be in accordance with **Methods for Measuring Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms**, 5th Edition, EPA-821-R-02-012 (or the current addition). 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 acute 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-02-012, Table 7 (or the current addition).

   e. Quality Assurance Requirements
      (1) A standard reference toxicant (SRT) quality assurance (QA) acute 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 acute 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 10% for either species in any test, the test for that species (including the control) shall be invalidated and the test repeated. The repeat test shall begin within 14 days after the last day of the invalid test.
      (3) If 100% mortality occurs in all effluent concentrations for either species prior to the end of any test and the control mortality is less than 10% 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 concentration-response relationship, as required by EPA-821-R-02-012, Section 12.2.6.2 (or the current addition), and 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 Test Results: If an LC50 >100% effluent occurs in the test for the test species, ">100%" shall be entered on the DMR for that test species. If an LC50 <100% effluent occurs, the calculated LC50

effluent concentration shall be entered on the DMR for that test species.

(b) Additional Follow-up Test Results: For each additional test required, the calculated LC50 value shall be entered on the DMR for that test species.

(2) A bioassay laboratory report for the routine test shall be prepared according to EPA-821-R-02-012, Section 12 (or the current addition), 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-02-012, Section 12 (or the current addition), 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
Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

g. Test Failures

(1) A test fails when the test results do not meet the limits in I.A.6.a.(1).

(2) Additional Follow-up Tests:

(a) If a routine test does not meet the acute toxicity limitation in I.A.6.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 I.A.6.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%, 75%, 50%, 25%, and 12.5% 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 procedures in EPA-821-R-02-012 (or the current addition).

(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 I.A.6.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 I.A.6.b.(1). If a routine test is invalid according to the acceptance criteria in EPA-821-R-02-012 (or the current addition), a repeat test shall be initiated within 14 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 I.A.6.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 14 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) The additional follow-up testing and the plan do not preclude the Department taking enforcement action for whole effluent toxicity failures.

Administrative or Consent Orders (date executed, specific requirements, interim limit dates-if applicable, etc.): N/A
Facility Mixing Zone Details (if applicable): N/A
List Permit Violations (DMR data) and plant upsets that occurred at the plant within the last year: N/A
Describe previous FYI and WQBEL study: N/A
Describe previous or current Enforcement Actions (including WLs): N/A
Describe any violations or problems noted in previous inspection: Additional Comments: A review of the 1st semiannual groundwater monitoring report for 2011 revealed MWC-3 had an Arsenic exceedance. The sample measurement was 14.3 µG/L and the permit requirement is 10 µG/L. This parameter was reported as <0.69 µG/L on the 2nd semiannual groundwater monitoring report for 2011. Additional Comments: A review of the 1st semiannual groundwater monitoring report for 2011 revealed MWC-5 had a Sodium exceedance. The sample measurement was 232 MG/L and the permit requirement is 160 MG/L. This parameter was reported as 149 MG/L on the 2nd semiannual groundwater monitoring report for 2011.
Discuss whether DMR trends within previous five years are improving or declining: DMR trends seem stable.
Additional Comments (this should include a trend of the Effluent, i.e. if the facility is now Reuse): N/A

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 DEP Laboratory in Tallahassee and may be viewed on the web at http://www.dep.state.fl.us/labs/library/lab_sops.htm and/or http://www.dep.state.fl.us/water/sas/sop/sops.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 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) 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. The effluent AGP result is greater than the AGP range (6.10 to 20.0 mg dry wt/L) suggested to be representative of high productivity for freshwater (Miller et al. 1978). 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 in a low salinity sample 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 (EPA-822-B-00-002). 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. Expected AGP is not calculated for marine samples incubated with *Dunaliella*.

(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 analysis of effluent

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/13/2017	EFF-3	AGP/LN	Algal Growth Potential	12.8	mg DryWt/L	0.3	0.9
2/13/2017	EFF-3	Chlorophyll/Grain Size/BOD	Chlorophyll/Phaeophytin Ratio	1.0		0	0
2/13/2017	EFF-3	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.40 I	µg/L	0.4	1.2
2/13/2017	EFF-3	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	0.55 U	µg/L	0.55	1.7
2/13/2017	EFF-3	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	0.40 U	µg/L	0.4	1.2
2/13/2017	EFF-3	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	1.0 I	mg/L	0.2	2
2/13/2017	EFF-3	Toxicology	Bioassay-Acute-Def-FW-C.dubia, LC50	100 L	LC50		
2/13/2017	EFF-3	Toxicology	Bioassay-Acute-Def-FW-Fish, LC50	100 L	LC50		
2/13/2017	EFF-3	Metals	Cadmium	0.020 U	µg/L	0.02	0.08
2/13/2017	EFF-3	Metals	Zinc	5.0 U	µg/L	5	20
2/13/2017	EFF-3	Metals	Sodium	7.2	mg/L	0.5	2
2/13/2017	EFF-3	Metals	Iron	58 I	µg/L	30	120
2/13/2017	EFF-3	Metals	Potassium	1.5	mg/L	0.3	1.2
2/13/2017	EFF-3	Metals	Selenium	0.20 U	µg/L	0.2	0.8
2/13/2017	EFF-3	Metals	Calcium	40.4	mg/L	0.075	0.3
2/13/2017	EFF-3	Metals	Aluminum	3.0 U	µg/L	3	12
2/13/2017	EFF-3	Metals	Lead	0.050 U	µg/L	0.05	0.2
2/13/2017	EFF-3	Metals	Silver	0.010 U	µg/L	0.01	0.04
2/13/2017	EFF-3	Metals	Copper	0.65 I	µg/L	0.2	0.8
2/13/2017	EFF-3	Metals	Nickel	0.20 U	µg/L	0.2	0.8
2/13/2017	EFF-3	Metals	Arsenic	0.96	µg/L	0.05	0.2
2/13/2017	EFF-3	Metals	Magnesium	8.04	mg/L	0.04	0.16
2/13/2017	EFF-3	Metals	Chromium	0.46 I	µg/L	0.4	1.6
2/13/2017	EFF-3	Nutrients	Total Alkalinity	136 A	mg CaCO3/L	0.65	2.5
2/13/2017	EFF-3	Nutrients	Kjeldahl Nitrogen	0.21	mg N/L	0.08	0.2
2/13/2017	EFF-3	Nutrients	TSS	4 I	mg/L	2	10
2/13/2017	EFF-3	Nutrients	Total-P	0.050	mg P/L	0.005	0.05
2/13/2017	EFF-3	Nutrients	Fluoride	0.16	mg F/L	0.035	0.1
2/13/2017	EFF-3	Nutrients	NO2NO3-N	0.19	mg N/L	0.004	0.01
2/13/2017	EFF-3	Nutrients	Sulfate	2.4 A	mg SO4/L	0.4	1
2/13/2017	EFF-3	Nutrients	Turbidity	0.30	NTU	0.1	0.1
2/13/2017	EFF-3	Nutrients	Color (true)	3.8 I	PCU	2.5	6

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/13/2017	EFF-3	Nutrients	O-Phosphate-P	0.045	mg P/L	0.004	0.01
2/13/2017	EFF-3	Nutrients	Ammonia-N	0.054	mg N/L	0.002	0.005
2/13/2017	EFF-3	Nutrients	Chloride	11 A	mg Cl/L	0.4	1
2/13/2017	EFF-3	Nutrients	Organic Carbon	1.5 A	mg C/L	0.5	1
2/13/2017	EFF-3	Overflow	HEM	0.86 U	mg/L	0.86	3.1
2/13/2017	EFF-3	Pesticides	Azinphos Methyl	0.019 U	µg/L	0.019	0.077
2/13/2017	EFF-3	Pesticides	Demeton	0.023 U	µg/L	0.023	0.093
2/13/2017	EFF-3	Pesticides	Disulfoton	0.0048 U	µg/L	0.0048	0.019
2/13/2017	EFF-3	Pesticides	Malathion	0.0097 U	µg/L	0.0097	0.039
2/13/2017	EFF-3	Pesticides	Metalaxyl	0.039 UJ	µg/L	0.039	0.15
2/13/2017	EFF-3	Pesticides	Norflurazon	0.029 U	µg/L	0.029	0.12
2/13/2017	EFF-3	Pesticides	Ethoprop	0.0048 U	µg/L	0.0048	0.019
2/13/2017	EFF-3	Pesticides	Hexazinone	0.029 UJ	µg/L	0.029	0.12
2/13/2017	EFF-3	Pesticides	Sucralose	0.010 U	µg/L	0.01	0.04
2/13/2017	EFF-3	Pesticides	Chlorpyrifos Ethyl	0.0097 U	µg/L	0.0097	0.039
2/13/2017	EFF-3	Pesticides	Metolachlor	0.058 U	µg/L	0.058	0.23
2/13/2017	EFF-3	Pesticides	Metribuzin	0.019 U	µg/L	0.019	0.077
2/13/2017	EFF-3	Pesticides	Parathion Methyl	0.0097 U	µg/L	0.0097	0.039
2/13/2017	EFF-3	Pesticides	Diazinon	0.0097 U	µg/L	0.0097	0.039
2/13/2017	EFF-3	Pesticides	Ethion	0.0097 U	µg/L	0.0097	0.039
2/13/2017	EFF-3	Pesticides	Prometryn	0.019 U	µg/L	0.019	0.077
2/13/2017	EFF-3	Pesticides	Simazine	0.0097 U	µg/L	0.0097	0.039
2/13/2017	EFF-3	Pesticides	Atrazine	0.0097 U	µg/L	0.0097	0.039
2/13/2017	EFF-3	Pesticides	Mevinphos	0.0097 U	µg/L	0.0097	0.039
2/13/2017	EFF-3	Pesticides	Parathion Ethyl	0.019 U	µg/L	0.019	0.077
2/13/2017	EFF-3	Pesticides	Ametryn	0.0097 U	µg/L	0.0097	0.039
2/13/2017	EFF-3	Pesticides	Fonofos	0.0097 U	µg/L	0.0097	0.039
2/13/2017	EFF-3	Pesticides	Phorate	0.0048 U	µg/L	0.0048	0.019
2/13/2017	EFF-3	Pesticides	Alachlor	0.058 U	µg/L	0.058	0.23
2/13/2017	EFF-3	Pesticides	Atrazine Desethyl	0.0097 U	µg/L	0.0097	0.039
2/13/2017	EFF-3	Pesticides	Atrazine Desisopropyl	0.0097 U	µg/L	0.0097	0.039
2/13/2017	EFF-3	Pesticides	Bromacil	0.039 U	µg/L	0.039	0.15
2/13/2017	EFF-3	Pesticides	Butylate	0.019 U	µg/L	0.019	0.077
2/13/2017	EFF-3	Pesticides	Chlorpyrifos Methyl	0.0097 U	µg/L	0.0097	0.039
2/13/2017	EFF-3	Pesticides	Fenamiphos	0.029 UJ	µg/L	0.029	0.12

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/13/2017	EFF-3	Pesticides	Naled	0.039 U	µg/L	0.039	0.15
2/13/2017	EFF-3	Pesticides	Prometon	0.019 UJ	µg/L	0.019	0.077
2/13/2017	EFF-3	Priority Organic Pollutants	Acenaphthylene	0.19 U	µg/L	0.19	0.77
2/13/2017	EFF-3	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.19 U	µg/L	0.19	0.77
2/13/2017	EFF-3	Priority Organic Pollutants	Pentachlorophenol	0.96 U	µg/L	0.96	3.8
2/13/2017	EFF-3	Priority Organic Pollutants	Phenanthrene	0.19 U	µg/L	0.19	0.77
2/13/2017	EFF-3	Priority Organic Pollutants	Nitrobenzene	1.9 U	µg/L	1.9	7.7
2/13/2017	EFF-3	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9 U	µg/L	1.9	7.7
2/13/2017	EFF-3	Priority Organic Pollutants	Di-n-octyl phthalate	0.96 U	µg/L	0.96	3.8
2/13/2017	EFF-3	Priority Organic Pollutants	Fluoranthene	0.19 U	µg/L	0.19	0.77
2/13/2017	EFF-3	Priority Organic Pollutants	Benzo(k)fluoranthene	0.19 U	µg/L	0.19	0.77
2/13/2017	EFF-3	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	1.9 U	µg/L	1.9	7.7
2/13/2017	EFF-3	Priority Organic Pollutants	Butyl benzyl phthalate	0.96 U	µg/L	0.96	3.8
2/13/2017	EFF-3	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.19 U	µg/L	0.19	0.77
2/13/2017	EFF-3	Priority Organic Pollutants	Dimethyl phthalate	0.96 U	µg/L	0.96	3.8
2/13/2017	EFF-3	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9 U	µg/L	2.9	12
2/13/2017	EFF-3	Priority Organic Pollutants	Isophorone	0.96 U	µg/L	0.96	3.8
2/13/2017	EFF-3	Priority Organic Pollutants	Naphthalene	0.19 U	µg/L	0.19	0.77
2/13/2017	EFF-3	Priority Organic Pollutants	2,4-Dimethylphenol	9.6 U	µg/L	9.6	38
2/13/2017	EFF-3	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9 U	µg/L	1.9	7.7
2/13/2017	EFF-3	Priority Organic Pollutants	Fluorene	0.19 U	µg/L	0.19	0.77
2/13/2017	EFF-3	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9 U	µg/L	2.9	12
2/13/2017	EFF-3	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9 U	µg/L	2.9	12
2/13/2017	EFF-3	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.96 U	µg/L	0.96	3.8
2/13/2017	EFF-3	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.96 U	µg/L	0.96	3.8
2/13/2017	EFF-3	Priority Organic Pollutants	Diethyl phthalate	1.9 U	µg/L	1.9	7.7
2/13/2017	EFF-3	Priority Organic Pollutants	2,4-Dinitrophenol	14 U	µg/L	14	58
2/13/2017	EFF-3	Priority Organic Pollutants	2,6-Dinitrotoluene	0.96 U	µg/L	0.96	3.8
2/13/2017	EFF-3	Priority Organic Pollutants	2-Chloronaphthalene	0.96 U	µg/L	0.96	3.8
2/13/2017	EFF-3	Priority Organic Pollutants	Benzidine	96 U	µg/L	96	380
2/13/2017	EFF-3	Priority Organic Pollutants	Di-n-butyl phthalate	1.9 U	µg/L	1.9	7.7
2/13/2017	EFF-3	Priority Organic Pollutants	2-Chlorophenol	0.96 U	µg/L	0.96	3.8
2/13/2017	EFF-3	Priority Organic Pollutants	4-Nitrophenol	14 U	µg/L	14	58
2/13/2017	EFF-3	Priority Organic Pollutants	Chrysene	0.19 U	µg/L	0.19	0.77
2/13/2017	EFF-3	Priority Organic Pollutants	Hexachlorobenzene	0.96 U	µg/L	0.96	3.8

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/13/2017	EFF-3	Priority Organic Pollutants	Hexachlorobutadiene	2.9 U	µg/L	2.9	12
2/13/2017	EFF-3	Priority Organic Pollutants	Hexachloroethane	2.9 U	µg/L	2.9	12
2/13/2017	EFF-3	Priority Organic Pollutants	Phenol	0.96 U	µg/L	0.96	3.8
2/13/2017	EFF-3	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.96 U	µg/L	0.96	3.8
2/13/2017	EFF-3	Priority Organic Pollutants	2,4-Dinitrotoluene	0.96 U	µg/L	0.96	3.8
2/13/2017	EFF-3	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38 U	µg/L	38	150
2/13/2017	EFF-3	Priority Organic Pollutants	Acenaphthene	0.19 U	µg/L	0.19	0.77
2/13/2017	EFF-3	Priority Organic Pollutants	Anthracene	0.19 U	µg/L	0.19	0.77
2/13/2017	EFF-3	Priority Organic Pollutants	Benzo(a)anthracene	0.19 U	µg/L	0.19	0.77
2/13/2017	EFF-3	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.96 U	µg/L	0.96	3.8
2/13/2017	EFF-3	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9 U	µg/L	2.9	12
2/13/2017	EFF-3	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.19 U	µg/L	0.19	0.77
2/13/2017	EFF-3	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9 U	µg/L	1.9	7.7
2/13/2017	EFF-3	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.96 U	µg/L	0.96	3.8
2/13/2017	EFF-3	Priority Organic Pollutants	2-Nitrophenol	0.96 U	µg/L	0.96	3.8
2/13/2017	EFF-3	Priority Organic Pollutants	Pyrene	0.19 U	µg/L	0.19	0.77
2/13/2017	EFF-3	Priority Organic Pollutants	2,4-Dichlorophenol	0.96 U	µg/L	0.96	3.8
2/13/2017	EFF-3	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.96 U	µg/L	0.96	3.8
2/13/2017	EFF-3	Priority Organic Pollutants	Benzo(a)pyrene	0.19 U	µg/L	0.19	0.77
2/13/2017	EFF-3	Priority Organic Pollutants	Benzo(b)fluoranthene	0.19 U	µg/L	0.19	0.77
2/13/2017	EFF-3	Nutrients	Dissolved Oxygen	8.71	mg/L		
2/13/2017	EFF-3	Nutrients	Temperature	21.66	C		
2/13/2017	EFF-3	Nutrients	pH	7.94			
2/13/2017	EFF-3	Nutrients	Sample Depth	1.5	ft		
2/13/2017	EFF-3	Nutrients	Specific Conductance	290	µmhos/cm		
2/13/2017	Field Blank	Metals	Arsenic	0.050 U	µg/L	0.05	0.2
2/13/2017	Field Blank	Metals	Nickel	0.20 U	µg/L	0.2	0.8
2/13/2017	Field Blank	Metals	Cadmium	0.020 U	µg/L	0.02	0.08
2/13/2017	Field Blank	Metals	Iron	30 U	µg/L	30	120
2/13/2017	Field Blank	Metals	Zinc	5.0 U	µg/L	5	20
2/13/2017	Field Blank	Metals	Selenium	0.20 U	µg/L	0.2	0.8
2/13/2017	Field Blank	Metals	Magnesium	0.040 U	mg/L	0.04	0.16
2/13/2017	Field Blank	Metals	Aluminum	3.0 U	µg/L	3	12
2/13/2017	Field Blank	Metals	Sodium	0.50 U	mg/L	0.5	2
2/13/2017	Field Blank	Metals	Calcium	0.075 U	mg/L	0.075	0.3

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/13/2017	Field Blank	Metals	Copper	0.20 U	µg/L	0.2	0.8
2/13/2017	Field Blank	Metals	Potassium	0.30 U	mg/L	0.3	1.2
2/13/2017	Field Blank	Metals	Silver	0.010 U	µg/L	0.01	0.04
2/13/2017	Field Blank	Metals	Chromium	0.40 U	µg/L	0.4	1.6
2/13/2017	Field Blank	Metals	Lead	0.050 U	µg/L	0.05	0.2
2/13/2017	Field Blank	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.004	0.01
2/13/2017	Field Blank	Nutrients	Chloride	0.20 U	mg Cl/L	0.2	0.5
2/13/2017	Field Blank	Nutrients	Total-P	0.002 I	mg P/L	0.002	0.005
2/13/2017	Field Blank	Nutrients	Turbidity	0.10 U	NTU	0.1	0.1
2/13/2017	Field Blank	Nutrients	Ammonia-N	0.002 U	mg N/L	0.002	0.005
2/13/2017	Field Blank	Nutrients	Total Alkalinity	0.65 U	mg CaCO3/L	0.65	2.5
2/13/2017	Field Blank	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.08	0.2
2/13/2017	Field Blank	Nutrients	Organic Carbon	0.81 I	mg C/L	0.5	1
2/13/2017	Field Blank	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.004	0.01
2/13/2017	Field Blank	Nutrients	Color (true)	2.5 U	PCU	2.5	6
2/13/2017	Field Blank	Nutrients	Fluoride	0.035 U	mg F/L	0.035	0.1
2/13/2017	Field Blank	Nutrients	Sulfate	0.20 U	mg SO4/L	0.2	0.5
2/13/2017	Field Blank	Overflow	HEM	1.0 U	mg/L	1	3.6
2/13/2017	Field Blank	Pesticides	Prometryn	0.019 U	µg/L	0.019	0.076
2/13/2017	Field Blank	Pesticides	Bromacil	0.038 U	µg/L	0.038	0.15
2/13/2017	Field Blank	Pesticides	Disulfoton	0.0047 U	µg/L	0.0047	0.019
2/13/2017	Field Blank	Pesticides	Mevinphos	0.0095 U	µg/L	0.0095	0.038
2/13/2017	Field Blank	Pesticides	Chlorpyrifos Methyl	0.0095 U	µg/L	0.0095	0.038
2/13/2017	Field Blank	Pesticides	Chlorpyrifos Ethyl	0.0095 U	µg/L	0.0095	0.038
2/13/2017	Field Blank	Pesticides	Sucralose	0.010 U	µg/L	0.01	0.04
2/13/2017	Field Blank	Pesticides	Parathion Methyl	0.0095 U	µg/L	0.0095	0.038
2/13/2017	Field Blank	Pesticides	Hexazinone	0.028 UJ	µg/L	0.028	0.11
2/13/2017	Field Blank	Pesticides	Ethion	0.0095 U	µg/L	0.0095	0.038
2/13/2017	Field Blank	Pesticides	Butylate	0.019 U	µg/L	0.019	0.076
2/13/2017	Field Blank	Pesticides	Atrazine Desethyl	0.0095 U	µg/L	0.0095	0.038
2/13/2017	Field Blank	Pesticides	Simazine	0.0095 U	µg/L	0.0095	0.038
2/13/2017	Field Blank	Pesticides	Metribuzin	0.019 U	µg/L	0.019	0.076
2/13/2017	Field Blank	Pesticides	Atrazine	0.0095 U	µg/L	0.0095	0.038
2/13/2017	Field Blank	Pesticides	Norflurazon	0.028 U	µg/L	0.028	0.11
2/13/2017	Field Blank	Pesticides	Naled	0.038 U	µg/L	0.038	0.15

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/13/2017	Field Blank	Pesticides	Metalaxyl	0.038 UJ	µg/L	0.038	0.15
2/13/2017	Field Blank	Pesticides	Fonofos	0.0095 U	µg/L	0.0095	0.038
2/13/2017	Field Blank	Pesticides	Demeton	0.023 U	µg/L	0.023	0.091
2/13/2017	Field Blank	Pesticides	Azinphos Methyl	0.019 U	µg/L	0.019	0.076
2/13/2017	Field Blank	Pesticides	Ametryn	0.0095 U	µg/L	0.0095	0.038
2/13/2017	Field Blank	Pesticides	Parathion Ethyl	0.019 U	µg/L	0.019	0.076
2/13/2017	Field Blank	Pesticides	Atrazine Desisopropyl	0.0095 U	µg/L	0.0095	0.038
2/13/2017	Field Blank	Pesticides	Metolachlor	0.057 U	µg/L	0.057	0.23
2/13/2017	Field Blank	Pesticides	Malathion	0.0095 U	µg/L	0.0095	0.038
2/13/2017	Field Blank	Pesticides	Fenamiphos	0.028 UJ	µg/L	0.028	0.11
2/13/2017	Field Blank	Pesticides	Prometon	0.019 UJ	µg/L	0.019	0.076
2/13/2017	Field Blank	Pesticides	Phorate	0.0047 U	µg/L	0.0047	0.019
2/13/2017	Field Blank	Pesticides	Diazinon	0.0095 U	µg/L	0.0095	0.038
2/13/2017	Field Blank	Pesticides	Ethoprop	0.0047 U	µg/L	0.0047	0.019
2/13/2017	Field Blank	Pesticides	Alachlor	0.057 U	µg/L	0.057	0.23
2/13/2017	Field Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	1.1 U	µg/L	1.1	4.5
2/13/2017	Field Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	3.4 U	µg/L	3.4	13
2/13/2017	Field Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	2.2 U	µg/L	2.2	9
2/13/2017	Field Blank	Priority Organic Pollutants	2-Chloronaphthalene	1.1 U	µg/L	1.1	4.5
2/13/2017	Field Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	45 U	µg/L	45	180
2/13/2017	Field Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	1.1 U	µg/L	1.1	4.5
2/13/2017	Field Blank	Priority Organic Pollutants	Diethyl phthalate	2.2 U	µg/L	2.2	9
2/13/2017	Field Blank	Priority Organic Pollutants	Hexachlorobenzene	1.1 U	µg/L	1.1	4.5
2/13/2017	Field Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	3.4 U	µg/L	3.4	13
2/13/2017	Field Blank	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	3.4 U	µg/L	3.4	13
2/13/2017	Field Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	1.1 U	µg/L	1.1	4.5
2/13/2017	Field Blank	Priority Organic Pollutants	Benzidine	110 U	µg/L	110	450
2/13/2017	Field Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.22 U	µg/L	0.22	0.9
2/13/2017	Field Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.22 U	µg/L	0.22	0.9
2/13/2017	Field Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.22 U	µg/L	0.22	0.9
2/13/2017	Field Blank	Priority Organic Pollutants	Phenol	1.1 U	µg/L	1.1	4.5
2/13/2017	Field Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	1.1 U	µg/L	1.1	4.5
2/13/2017	Field Blank	Priority Organic Pollutants	2-Chlorophenol	1.1 U	µg/L	1.1	4.5
2/13/2017	Field Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2.2 U	µg/L	2.2	9
2/13/2017	Field Blank	Priority Organic Pollutants	4-Nitrophenol	17 U	µg/L	17	67

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/13/2017	Field Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	1.1 U	µg/L	1.1	4.5
2/13/2017	Field Blank	Priority Organic Pollutants	Hexachloroethane	3.4 U	µg/L	3.4	13
2/13/2017	Field Blank	Priority Organic Pollutants	Nitrobenzene	2.2 U	µg/L	2.2	9
2/13/2017	Field Blank	Priority Organic Pollutants	2-Nitrophenol	1.1 U	µg/L	1.1	4.5
2/13/2017	Field Blank	Priority Organic Pollutants	Chrysene	0.22 U	µg/L	0.22	0.9
2/13/2017	Field Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.22 U	µg/L	0.22	0.9
2/13/2017	Field Blank	Priority Organic Pollutants	Dimethyl phthalate	1.1 U	µg/L	1.1	4.5
2/13/2017	Field Blank	Priority Organic Pollutants	Fluorene	0.22 U	µg/L	0.22	0.9
2/13/2017	Field Blank	Priority Organic Pollutants	Isophorone	1.1 U	µg/L	1.1	4.5
2/13/2017	Field Blank	Priority Organic Pollutants	Pentachlorophenol	1.1 U	µg/L	1.1	4.5
2/13/2017	Field Blank	Priority Organic Pollutants	Acenaphthene	0.22 U	µg/L	0.22	0.9
2/13/2017	Field Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.22 U	µg/L	0.22	0.9
2/13/2017	Field Blank	Priority Organic Pollutants	Butyl benzyl phthalate	1.1 U	µg/L	1.1	4.5
2/13/2017	Field Blank	Priority Organic Pollutants	Di-n-octyl phthalate	1.1 U	µg/L	1.1	4.5
2/13/2017	Field Blank	Priority Organic Pollutants	Hexachlorobutadiene	3.4 U	µg/L	3.4	13
2/13/2017	Field Blank	Priority Organic Pollutants	Naphthalene	0.22 U	µg/L	0.22	0.9
2/13/2017	Field Blank	Priority Organic Pollutants	2,4-Dichlorophenol	1.1 U	µg/L	1.1	4.5
2/13/2017	Field Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	1.1 U	µg/L	1.1	4.5
2/13/2017	Field Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.4 U	µg/L	3.4	13
2/13/2017	Field Blank	Priority Organic Pollutants	Acenaphthylene	0.22 U	µg/L	0.22	0.9
2/13/2017	Field Blank	Priority Organic Pollutants	Anthracene	0.22 U	µg/L	0.22	0.9
2/13/2017	Field Blank	Priority Organic Pollutants	Di-n-butyl phthalate	3.6 I	µg/L	2.2	9
2/13/2017	Field Blank	Priority Organic Pollutants	Fluoranthene	0.22 U	µg/L	0.22	0.9
2/13/2017	Field Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2.2 U	µg/L	2.2	9
2/13/2017	Field Blank	Priority Organic Pollutants	Phenanthrene	0.22 U	µg/L	0.22	0.9
2/13/2017	Field Blank	Priority Organic Pollutants	2,4-Dimethylphenol	11 U	µg/L	11	45
2/13/2017	Field Blank	Priority Organic Pollutants	2,4-Dinitrophenol	17 U	µg/L	17	67
2/13/2017	Field Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	1.1 U	µg/L	1.1	4.5
2/13/2017	Field Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.22 U	µg/L	0.22	0.9
2/13/2017	Field Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.22 U	µg/L	0.22	0.9
2/13/2017	Field Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	1.1 U	µg/L	1.1	4.5
2/13/2017	Field Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	2.2 U	µg/L	2.2	9
2/13/2017	Field Blank	Priority Organic Pollutants	Pyrene	0.22 U	µg/L	0.22	0.9

EPA End Sheet

The Bioassay of Florida Distillers Company-Lake Alfred Plant effluent sampled on February 13, 2017. NPDES #FL0029017.

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 FL0029017	11 12 170213	18 B	19 S	20 2

Remarks

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The Priority Pollutants Analysis of Florida Distillers Company-Lake Alfred Plant effluent sampled on February 13, 2017. NPDES #FL0029017.

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 FL0029017	11 12 170213	18 X	19 S	20 2

Remarks

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Biological Analyses of Florida Distillers Company-Lake Alfred Plant effluent sampled on February 13, 2017. NPDES #FL0029017.

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 FL0029017	11 12 170213	18 S	19 S	20 2

Remarks

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