Effluent Quality Assessment of

Florida Distillers Company-Auburndale

Polk County

NPDES # FL0003051-007

Sampled June 18, 2018

June 2019

Biology Program

DEP Laboratory

Division of Environmental Assessment and Restoration

DEP Laboratory Quality Manual

NELAC Certification No. E31780

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Summary of Results

Effluent samples exceeded water quality standards or permit limits for specific conductance and total suspended solids. The effluent sample was not acutely toxic to either test species during the 96-hour acute screening bioassays. The effluent algal growth potential (AGP) result was within the range suggested to be representative of high productivity for freshwater.

Facility Overview

Florida Distillers Company- Auburndale produces distilled and blended alcoholic beverages. Industrial wastewater is treated onsite and residual solids are shipped to a separate facility. See Appendix A for a description of the facility, summary of permit limits, Administrative Order (AO) and Discharge Monitoring Report (DMR) information. An AO was in effect for total nitrogen and copper through December 31, 2018.

The receiving water, Lake Lena Run, is in the West Central region for Numeric Nutrient Criteria (NNC). For this waterbody, the NNC thresholds, expressed as annual geometric means, are 1.65 mg/L for total nitrogen and 0.49 mg/L for total phosphorus (62-302.531(2)(c), F.A.C.). This FYI 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

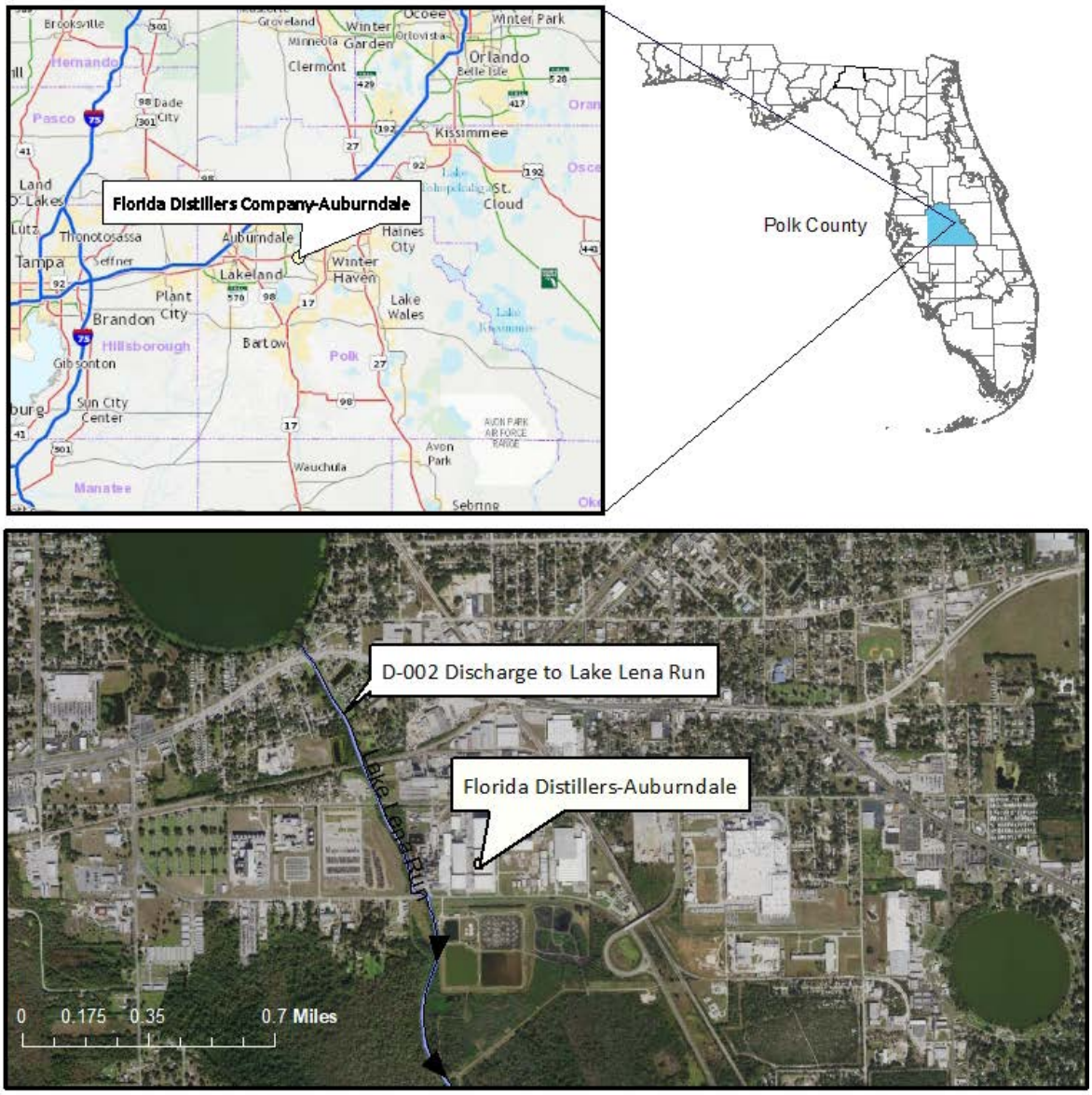
Methods

Effluent grab and composite samples were collected on June 18, 2018. All samples were collected from Outfall D-002 by Pete Wenner (DEP Southwest District). The flow measured during this survey was 0.201 MGD.

Explanations of specific methods and measurements can be found in Appendix B. All field and laboratory methods followed DEP Standard Operating Procedures (see https://floridadep.gov/dear/quality-assurance/content/dep-sops and https://floridadep.gov/dear/florida-dep-laboratory/content/dep-laboratory-quality-assurance-manual-and-sops for details) and met DEP quality assurance/quality control standards (see https://floridadep.gov/dear/quality-assurance).

All references to 62-302.530, F.A.C. are to the surface water quality criteria table with an effective date of 02/17/2016 and a notice identification number of 17115667.

Map: Florida Distillers Company- Auburndale, 425 Recker Highway, Auburndale, Polk County, Florida, 33859. NPDES #FL0003051-007.



Map produced by Lisa Homann on 1/30/19

Results

Physical and Chemical Parameters (See Table 1 and Appendix C)

- The effluent specific conductance exceeded the Class III Freshwater Quality Criterion (62-302.530(46), F.A.C.).
- The effluent pH and dissolved oxygen complied with permit limits and Class III Freshwater Criteria (62-302.530, F.A.C.).

Analytical Water Chemistry (See Table 2 and Appendix C)

- Total residual chlorine was not detected in the bioassay sample in the laboratory. Compliance cannot be determined because the detection limit for the laboratory equipment is higher than the permit limit and Class III Freshwater Quality Criterion (62-302.530(18), F.A.C.). The total ammonia concentration in the grab sample was 0.026 mg N/L and the calculated unionized ammonia concentration was <0.02 mg/L.
- The effluent's total suspended solids exceeded the permit limit.
- Total organic carbon was detected in the field and equipment blanks.
- Total ammonia, un-ionized ammonia, total nitrogen, carbonaceous biochemical oxygen demand (CBOD), turbidity, alkalinity, and fluoride were detected in the effluent at levels that comply with permit limits and/or Class III Freshwater Quality Criteria (62-302.530, F.A.C.).

Microbiology (See Table 2 and Appendix C)

- E. coli and fecal coliform analyses were performed by Advanced Environmental Laboratories, Tampa.
- Results of both analyses complied with permit limits and/or Class III Freshwater Quality Criteria (62-302.530, F.A.C.).

Toxicity Test Results (See Table 2 and Appendix C)

- Tests were performed June 19- 23, 2018.
- Acute bioassay results are reported as the Concentration Lethal to 50% of the test organisms (LC50). In a 96-hour acute screening 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 and 62-302.500(1)a, F.A.C.). Mortality between 20 and 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.).
- For the 96-hour acute screening test, the calculated LC50 for the water flea, *Ceriodaphnia dubia*, was greater than 100% effluent with 0% mortality in 100% effluent. The calculated LC50 for the fish, *Pimephales promelas*, was greater than 100% effluent with 10% mortality in 100% effluent.
- The bioassay samples were not acutely toxic to the test organisms.
- For additional information concerning this sampling event, including bioassay bench sheets and SRT data, please contact the Biology Laboratory at 850-245-8177.

Metals (See Table 3 and Appendix C)

- All metals analyzed complied with effluent permit limits and Class III Freshwater Quality Criteria (62-302.530, F.A.C.).

Algal Growth Potential (See Table 4 and Appendix C)

- The effluent Algal Growth Potential (AGP) was 14.9 mg dry wt/L of the unicellular green alga, *Pseudokirchneriella subcapitata*, formerly known as *Selenastrum capricornutum.* The analytical chemistry suggests that the effluent is nitrogen and phosphorus co-limited (Miller et al. 1978).
- The effluent AGP result is within the range (6.10 to 20.0 mg dry wt/L) suggested to be representative of high productivity for freshwater (Miller et al. 1978).

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.

USEPA. 2000. Nutrient Criteria Technical Guidance Manual – River and Streams. EPA-822-B-00-002.

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

Florida Distillers Co- Auburndale	Units	Class III Criteria	Effluent Permit Limits	Effluent Grab
Sample Depth	m	-	-	0.1
Temperature	C	-	Report	28.8
pH	SU	6.0 - 8.5	6.0 - 8.5	7.81
Specific Conductance	umhos/cm	≤ 1,275	-	1384 e
Salinity	ppt	-	-	0.6 c
Dissolved Oxygen	% saturation	≥ 38	-	96.21
Dissolved Oxygen	mg/L	-	≥ 5.0	7.40
Flow	MGD	-	≤ 0.283 a	0.201[1]

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

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

a- Annual average

c- Value is calculated

1- Flow from outfall D-002 measured by DEP Southwest District during sampling survey

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

Florida Distillers Co- Auburndale	Units	Class III Criteria	Effluent Permit Limits	Effluent Composite	Effluent Grab	Field Blank	Equipment Blank
Ortho-phosphate	mg P/L	-	-	-	0.005 I	0.004 U	-
Total Phosphorus	mg P/L	0.49 [4]	Report	0.21	0.22	0.002 U	0.002 U
Total Ammonia	mg N/L	-	≤ 2.0	-	0.026	0.002 U	-
Un-ionized Ammonia (calculated salinity)	mg NH_3/L	< 0.02 s	< 0.02	-	< 0.02 c	-	-
Nitrate and Nitrite	mg N/L	-	-	0.032	0.034	0.004 U	0.004 U
Total Kjeldahl Nitrogen	mg N/L	-	-	2.8	3.0	0.080 U	0.080 U
Organic Nitrogen	mg N/L	-	-	-	3 c	0.039 c	-
Total Nitrogen	mg N/L	1.65 [4]	≤ 4.4	2.8 c	3 c	0.042 c	0.042 c
Total Organic Carbon	mg C/L	-	-	15 A	16	0.51 I	0.52 I
Chlorophyll *a* - Corrected	ug/L	-	-	-	300	-	-
Phaeophytin	ug/L	-	-	-	60	-	-
Chlorophyll *a* - Uncorrected	ug/L	-	-	-	340	-	-
CBOD, 5 day, N - inhibited	mg/L	-	≤ 26	7.8 AJ	-	-	-
Total Residual Chlorine	mg/L	≤ 0.01	≤ 0.01	-	<0.03 [3]	-	-
Total Suspended Solids	mg/L	-	≤ 30	43 e	-	-	-
Turbidity	NTU	< 29 t	Report	-	13	0.10 U	-
Color (true)	PCU	-	-	-	61	2.5 U	-
Alkalinity	mg $CaCO_3$/L	≥ 20	-	-	321 AJ	0.65 U	-
Chloride	mg Cl/L	-	-	-	120 A	0.20 U	-
Fluoride	mg F/L	≤ 10.0	-	-	0.25	0.035 U	-
Sulfate	mg SO4/L	-	-	-	210 A	0.20 U	-
Microbiology							
Fecal Coliforms[2]	cfu/100 mL	-	≤ 800 s	-	20 B	-	-
E. coli [2]	cfu/100 mL	≤ 410	-	-	12 B	-	-
Toxicity (96-hour Acute Screen, LC50 % effluent)							
Bioassay - Water flea *(Ceriodaphnia dubia)*	% effluent	-	≥ 100	-	> 100	-	-
Bioassay - Fish *(Pimephales promelas)*	% effluent	-	≥ 100	-	> 100	-	-

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
e- Value exceeds the Class III Water Quality Criteria or permit limits
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
B- Results based on colony counts outside the acceptance range
I- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
J- Estimated value
U- Material analyzed for but not detected; value reported is the method detection limit
2- Microbiological analyses performed by Advanced Environmental Laboratories, Tampa
3- measurement taken in the FDEP laboratory
4- West Central Nutrient Watershed Region for Numeric Nutrient Criteria (NNC), 62-302.531(2)(c), F.A.C. Value expressed as an annual geometric mean.

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

Florida Distillers Co-Auburndale	Units	Class III Criteria	Effluent Permit Limits	Effluent Composite
Hardness	mg $CaCO_3$/L	-	Report	419 c
Aluminum	ug/L	-	-	250
Arsenic	ug/L	≤ 50	-	0.89
Cadmium	ug/L	≤ 0.756 b	-	0.020 U
Calcium	mg/L	-	-	63.5
Chromium, Total [5]	ug/L	≤ 268 b	-	2.3
Copper	ug/L	≤ 30.5 b	≤ 38.5 [6]	12.4
Iron	ug/L	≤ 1,000	-	190
Lead	ug/L	≤ 18.6 b	-	0.51
Magnesium	mg/L	-	-	63.3
Nickel	ug/L	≤ 169 b	-	1.86
Potassium	mg/L	-	-	99
Selenium	ug/L	≤ 5.0	-	0.20 U
Silver	ug/L	≤ 0.07	-	0.010 U
Sodium	mg/L	-	Report	79.6
Zinc	ug/L	≤ 388 b	≤ 388 b	56

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
U- Material analyzed for but not detected; value reported is the method detection limit
5- Class III Freshwater Quality Criterion (62-302.530(19)(a), F.A.C.) is for chromium-III
6- Interim copper limit through December 31, 2018 is 8.0 above calculated hardness based limit

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 Co- Auburndale								
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**
Effluent Grab	*Pseudokirchneriella subcapitata*	14.9 A	2.3 ± 0.5	2.2 ± 0.4	115.3 ± 23.1	94.6 ± 18.9	12	13.8

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

Appendix A

State of Florida
Department of Environmental Protection
Facility Introduction & Summary

PART I: Information gathered prior to sampling event

Prepared By: Pete Wenner	**Contact Number: 813-470-5921**
Facility Name (as it appears on permit): Florida Distillers Company-Auburndale	**Former Names: N/A**
NPDES Permit Number: FL0003051-007	**Permit Expiration Date: November 20, 2018**
Physical Address: 425 Recker Highway, Auburndale, FL 33859	
District: Southwest	**County: Polk**
Function of Facility: Facility produces distilled and blended alcoholic beverages	
Facility Type:	**Permitted Capacity (MGD): 0.283**

Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): April 2017-April 2018: 0.165 MGD

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
EFF-2	Point of discharge at Outfall D-002
FLW-1	Flow recorded located at point of discharge at outfall D-002
OUI-1	Sampling point at UV disinfection system

Description of Permitted Outfall(s):

REUSE OR DISPOSAL:

Surface Water Discharge D-002: An existing 0.283 MGD annual average daily flow (AADF) and 0.5 MGD Monthly Average Daily Flow (based on seven months of operation) permitted discharge to Lake Lena Run, Class III Fresh Water Body WBID# 1501A. The outfall is approximately 8 feet in length and discharges at a depth of approximately 3 feet. The point of discharge is located approximately at latitude 28°3' 30" N, longitude 81°48' 10" W.

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

WASTEWATER TREATMENT:

The liquid waste stream, consisting of evaporator condensate; boiler blowdown; cooling tower blowdown; reverse osmosis concentrate; wash-ups and spills from the fermenters; winery and brewing cooling water from the blending and bottling operations; and sanitary wastes are discharged to lined Pond B with a capacity of 625,000 gallons, where neutralization and equalization occurs. The wastewater is pumped from Pond B to mixed liquor reactor R-1 for biological treatment. The mixed liquor flows out of the overflow of reactor R-1 by gravity to mixed liquor reactor R-2 for additional aeration and biological treatment. Each tank has a capacity 423,000 gallons. Wastewater then flows from reactor R-2 to Pond A for further aeration and mixing, and then pumped to the two clarifiers for clarification and initial settling of sludge. The supernatant from the clarifiers is transferred by gravity to the UV unit for disinfection. Standby sodium hypochlorite disinfection is available in the event the UV unit is inoperable. Total residual chlorine shall be monitored weekly when the UV system malfunctions or is repaired. After disinfection, the wastewater is discharged to a polishing pond (Pond C) with a capacity of 1.0 million gallons. Pond C also receives reverse osmosis (RO) concentrate, membrane cleaning rinse water, condensate from boiler, CO_2 HX/

Vac pumps/ bottle warmer discharge, and stormwater runoff from the adjacent area. Pond C effluent discharges to Lake Lena Run through Outfall D-002. The clarifier underflow return activated sludge (RAS) is collected in a sump and returned to reactor R-1. Periodically waste activated sludge (WAS) is removed from the process and collected in either of the two sludge thickening digester tanks. The thickened sludge (1-2% solids) is loaded onto tanker trucks and is land applied in a residuals management area located in Lake Alfred, Florida.

PART I: Continued

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

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Chronic Whole Effluent Toxicity, 7-Day IC25 (Ceriodaphnia dubia)	percent	Min	100	Single Sample	Semi-Annually; twice per year	As required by the permit	EFF-2	See I.A.13
Chronic Whole Effluent Toxicity, 7-Day IC25 (Pimephales promelas)	percent	Min	100	Single Sample	Semi-Annually; twice per year	As required by the permit	EFF-2	See I.A.13
Flow	MGD	Max Max Max	Report 0.5 0.283	Daily Maximum Monthly Average Annual Average	Continuous	Recording Flow Meter with Totalizer	FLW-1	See I.A.131
Oxygen, Dissolved (DO)	mg/L	Min	5.0	Daily Minimum	Weekly	In-situ	EFF-2	
pH	s.u.	Min Max	6.0 8.5	Daily Minimum Daily Maximum	Weekly	In-situ	EFF-2	I.A.9
Solids, Total Suspended	mg/L	Max Max	30.0 20.0	Daily Maximum Monthly Average	Weekly	24-hr FPC	EFF-2	
Chlorine, Total Residual	mg/L	Max Max	0.01 Report	Daily Maximum Monthly Average	Weekly	Grab	EFF-2	I.A.10
Sodium, Total Recoverable	mg/L	Max	Report	Daily Maximum	Monthly	24-hr FPC	EFF-2	
Nitrogen, Ammonia, Total (as N)	mg/L	Max Max	2.0 1.0	Daily Maximum Monthly Average	Weekly	Grab	EFF-2	I.A.9
Nitrogen, Ammonia, Total unionized (as N)	mg/L	Max Max	0.02 Report	Daily Maximum Monthly Average	Weekly	Calculated	EFF-2	I.A.9
Temperature (C), Water	Deg C	Max	Report	Daily Maximum	Weekly	In-situ	EFF-2	I.A.9
Nitrogen, Total	mg/L	Max Max	4.4 Report	Daily Maximum Annual Average	Monthly	24-hr FPC	EFF-2	

PART I: Continued

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

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Nitrogen, Total	kg/yr	Max Max	Report 607.9	Monthly Average Annual Average	Monthly	Calculated	EFF-2	See Cond. I.A.8
Phosphorus, Total (as P)	mg/L	Max	Report	Daily Maximum	Monthly	24-hr FPC	EFF-2	
Zinc, Total Recoverable	ug/L	Max		Single Sample	Monthly	24-hr FPC	EFF-2	I.A.3.
Copper, Total Recoverable	ug/L	Max		Single Sample	Monthly	24-hr FPC	EFF-2	I.A.4.
Hardness, Total (as CaCO3)	mg/L	Max	Report	Single Sample	Monthly	24-hr FPC	EFF-2	I.A.3&4.
BOD, Carbonaceous 5 day, 20C	mg/L	Max Max Max	26.0 13.0 Report	Daily Maximum Monthly Average Annual Average	Weekly	24-hr FPC	EFF-2	
BOD, Carbonaceous 5 day, 20C	kg/mth	Max Max	147.6 Report	Monthly Average Annual Average	Weekly	Calculated	EFF-2	I.A.6.
Coliform, Fecal	#/100mL	Max Max Max	200 Report 800	Monthly Geometric Mean Monthly Maximum Single Sample	3 Days/Week	Grab	EFF-2	I.A.5 & I.A.7
Turbidity	NTU	Max Max	Report Report	Daily Maximum Monthly Average	Weekly	Meter Calculated	OUI-1	
Ultraviolet Light Transmittance	percent	Min	Report	Daily Minimum	Weekly	Meter	OUI-1	
Ultraviolet Light Dosage	mW-s/sqcm	Min	25	Daily Minimum	Weekly	Meter	OUI-1	

PART I: Continued	
Receiving Waters: **Lake Lena Run; WBID#: 1501A**	**Classification (indicate whether fresh or marine):** **Class 3 Fresh Water**

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

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

a. Effluent Limitation

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

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

b. Monitoring Frequency

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

c. Sampling Requirements

i. For each routine test or additional follow-up test conducted, a total of three grab samples of final effluent shall be collected and used in accordance with the sampling protocol discussed in EPA-821-R-02-014, Section 8 (or the current edition).

ii. 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.

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

d. Test Requirements

i. 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.

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

iii. All test species, procedures and quality assurance criteria used shall be in accordance with **Shortterm Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms**, 4th Edition, 821-R-02-014, (or the 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. In the event the above method is revised, the permittee shall conduct chronic toxicity testing in accordance with the revised method.

iv. The control water and dilution water shall be moderately hard water as described in EPA-821-R-02-014 (or the current edition), Section 7.2.3.

e. Quality Assurance Requirements

i. 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.

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

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

iv. Routine and additional follow-up tests shall be evaluated for acceptability based on the observed dose-response relationship as required by EPA-821-R-02-014 (or the current edition), Section

10.2.6., and the evaluation shall be included with the bioassay laboratory reports.
f. Reporting Requirements
i. Results from all required tests shall be reported on the Discharge Monitoring Report (DMR) as follows:
1. Routine and Additional Follow-up Test Results: The calculated IC25 for each test species shall be entered on the DMR.
ii. A bioassay laboratory report for each routine test shall be prepared according to EPA-821-R-02-014 (or the current edition), Section 10, Report Preparation and Test Review, and mailed to the Department at the address below within 30 days after the last day of the test.
iii. For additional follow-up tests, a single bioassay laboratory report shall be prepared according to EPA-821-R-02-014 (or the current edition), Section 10, and mailed within 30 days after the last day of the second valid additional follow-up test.
iv. Data for invalid tests shall be included in the bioassay laboratory report for the repeat test.
v. The same bioassay data shall not be reported as the results of more than one test.
vi. All bioassay laboratory reports shall be sent to:
Florida Department of Environmental Protection - Southwest District
Compliance Assurance Program, Attn: Industrial Wastewater
Southwest District Office
13051 N Telecom Pkwy
Temple Terrace, Florida 33637-0926
g. Test Failures
i. A test fails when the test results do not meet the limits in 13.a.(1).
ii. Additional Follow-up Tests:
1. If a routine test does not meet the chronic toxicity limitation in 13.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 13.d.
2. 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.

3. The first additional follow-up test shall be conducted using a control (0% effluent) and a minimum of five dilutions: 100%, 50%, 25%, 12.5%, and 6.25% effluent. The permittee may modify the dilution series in the second additional follow-up test to more accurately bracket the toxicity such that at least two dilutions above and two dilutions below the target concentration and a control (0% effluent) are run. All test results shall be analyzed according to the procedures in EPA-821-R-02-014 (or the current edition).
iii. 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.
1. The permittee shall submit a plan for correction of the effluent toxicity within 60 days after the last day of the third test failure.
2. The Department shall review and approve the plan before initiation.
3. The plan shall be initiated within 30 days following the Department's written approval of the plan.
4. Progress reports shall be submitted quarterly to the Department at the address above.
5. During the implementation of the plan, the permittee shall conduct quarterly routine whole effluent toxicity tests in accordance with 13.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 13.b.(1). If a routine test is invalid according to the acceptance criteria in EPA-821-R-02-014 (or the current edition), a repeat test shall be initiated within 21 days after the last day of the invalid routine test.
6. Upon completion of four consecutive quarterly valid routine tests that demonstrate

compliance with the effluent limitation in 13.a.(1) above, the permittee may submit a written request to the Department to terminate the plan. The plan shall be terminated upon written verification by the Department that the facility has passed at least four consecutive quarterly valid routine whole effluent toxicity tests. If a test within the sequence of the four is deemed invalid, but is replaced by a repeat valid test initiated within 21 days after the last day of the invalid test, the invalid test will not be counted against the requirement for four consecutive quarterly valid routine tests for the purpose of terminating the plan.
iv. If chronic toxicity test results indicate greater than 50% mortality within 96 hours in an effluent concentration equal to or less than the effluent concentration specified as the acute toxicity limit in 13.(a)(2), the Department may revise this permit to require acute definitive whole effluent toxicity testing.
v. The additional follow-up testing and the plan do not preclude the Department taking enforcement action for acute or chronic whole effluent toxicity failures

Administrative or Consent Orders (date executed, specific requirements, interim limit dates-if applicable, etc.): OGC File: 16-0213 (copy attached to facility summary email):
Following Interim Limits are in place through December 31, 2018:

Parameter	Interim Limit	Units	Measurement Frequency	Sample Type
Nitrogen, Total	1100	kg/year	Monthly	Calculated
Copper	8.0 above calculated hardness based limit	µg/L	Monthly	Calculated

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:

Date	Parameter and Units	Limit	Result
	N/A		

Describe previous FYI and WQBEL study:

Describe previous or current Enforcement Actions (including WLs):

Describe any violations or problems noted in previous inspection:

Discuss whether DMR trends within previous five years are improving or declining: Total nitrogen concentrations have been declining over the course of the Consent Order.

Additional Comments (this should include a trend of the Effluent, i.e. if the facility is now Reuse):

PART II: Sampling Event Information	
Date(s) sample collected: 18 June 2018	**Sampler(s): Pete Wenner**
Temperature (Deg C): 28.8	**pH (SU): 7.81**
Dissolved Oxygen (mg/L): 7.40	**Conductivity (umhos/cm): 1384**
Total Residual Chlorine (mg/L): N/A Facility uses UV disinfection	**Total Residual Chlorine - after Disinfection (mg/L):**
Method of Chlorination:	**Method of De-chlorination:**
Flow During Sample Collection for each outfall(MGD): 0.201	
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): **April 2017-April 2018: 0.165 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:	

Appendix B

Explanation of Measurements

Biological assessments are prepared by DEP staff to provide information for review of NPDES permit renewal applications. Biological assessments, in conjunction with other information concerning the subject facility and its receiving-water body, are used to determine appropriate permit conditions. References to Rule 62-302.530, F.A.C., are to the currently applicable surface water quality criteria table with an effective date of 02/17/2016 and a notice identification number of 17115667.

(1) Quality Assurance and Quality Control

All field and laboratory methods followed DEP Standard Operating Procedures (see https://floridadep.gov/dear/quality-assurance/content/dep-sops and https://floridadep.gov/dear/florida-dep-laboratory/content/dep-laboratory-quality-assurance-manual-and-sops for details) and met DEP quality assurance/quality control standards (see https://floridadep.gov/dear/quality-assurance).

(2) Chemical Analyses of the Effluent

The effluent was analyzed for nutrients, metals, organic constituents (base, neutral, and acid extractables) and pesticides following DEP 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 62.302.200(1), F.A.C., and 62-302.500(1)a, F.A.C., 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 62-302.200(5), F.A.C., and 62-302.530(20), F.A.C., 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(20), F.A.C., 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 facility permit limits. Class III Water Quality Criteria are based on *Eschericia coli* and enterococci levels (F.A.C. 62-302.530(11)(c) and (d)).

(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(89), F.A.C. 62-302.530(90)(a), F.A.C., and/or 62-302.530(90)(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 AGP range of 6.10 to 20.0 mg dry wt/L is suggested to be representative of high productivity for freshwater (Miler et al. 1978). High AGP values may constitute exceedances of 62-302.530(89), F.A.C., 62-302.530(90)(a), F.A.C. and/or 62-302.530(90)(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(108) 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	SCH_Group	Component	Result	Units	MDL	PQL
6/18/2018	Fl Dist Co Grab	AGP/LN	Algal Growth Potential	14.9 A	mg DryWt/L	0.3	0.9
6/18/2018	Fl Dist Co Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	340	ug/L	2.2	6.8
6/18/2018	Fl Dist Co Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	300	ug/L	3.1	9.6
6/18/2018	Fl Dist Co Grab	Chlorophyll/Grain Size/BOD	Phaeophytin-a	60	ug/L	2.2	6.8
6/18/2018	Fl Dist Co Composite	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	7.8 AJ	mg/L	0.2	2
6/18/2018	Fl Dist Co Grab	Overflow	Escherichia coli-Membrane Filter	12 B	cfu/100 mL	4	4
6/18/2018	Fl Dist Co Grab	Overflow	Fecal Coliforms-Membrane Filter	20 B	cfu/100 mL	10	10
6/18/2018	Fl Dist Co Grab	Toxicology	Bioassay-Acute-Screen-FW-C.dubia, LC50	100 L	LC50		
6/18/2018	Fl Dist Co Grab	Toxicology	Bioassay-Acute-Screen-FW-Fish, LC50	100 L	LC50		
6/18/2018	Fl Dist Co Composite	Metals	Potassium	99	mg/L	3	12
6/18/2018	Fl Dist Co Composite	Metals	Aluminum	250	ug/L	60	240
6/18/2018	Fl Dist Co Composite	Metals	Sodium	79.6	mg/L	0.5	2
6/18/2018	Fl Dist Co Composite	Metals	Iron	190	ug/L	30	120
6/18/2018	Fl Dist Co Composite	Metals	Lead	0.51	ug/L	0.05	0.2
6/18/2018	Fl Dist Co Composite	Metals	Magnesium	63.3	mg/L	0.04	0.16
6/18/2018	Fl Dist Co Composite	Metals	Calcium	63.5	mg/L	0.075	0.3
6/18/2018	Fl Dist Co Composite	Metals	Nickel	1.86	ug/L	0.2	0.8
6/18/2018	Fl Dist Co Composite	Metals	Copper	12.4	ug/L	0.2	0.8
6/18/2018	Fl Dist Co Composite	Metals	Zinc	56	ug/L	5	20
6/18/2018	Fl Dist Co Composite	Metals	Hardness	419	mg/L	0.35	1.4
6/18/2018	Fl Dist Co Composite	Metals	Arsenic	0.89	ug/L	0.05	0.2
6/18/2018	Fl Dist Co Composite	Metals	Cadmium	0.020 U	ug/L	0.02	0.08
6/18/2018	Fl Dist Co Composite	Metals	Silver	0.010 U	ug/L	0.01	0.04
6/18/2018	Fl Dist Co Composite	Metals	Selenium	0.20 U	ug/L	0.2	0.8
6/18/2018	Fl Dist Co Composite	Metals	Chromium	2.3	ug/L	0.4	1.6
6/18/2018	Fl Dist Co Composite	Nutrients	TSS	43	mg/L	3.3	17
6/18/2018	Fl Dist Co Composite	Nutrients	Kjeldahl Nitrogen	2.8	mg N/L	0.08	0.2
6/18/2018	Fl Dist Co Grab	Nutrients	Fluoride	0.25	mg F/L	0.035	0.1
6/18/2018	Fl Dist Co Grab	Nutrients	Total-P	0.22	mg P/L	0.005	0.05

Date Sampled	Site ID	SCH_Group	Component	Result	Units	MDL	PQL
6/18/2018	Fl Dist Co Grab	Nutrients	Ammonia-N	0.026	mg N/L	0.002	0.005
6/18/2018	Fl Dist Co Composite	Nutrients	Total-P	0.21	mg P/L	0.005	0.05
6/18/2018	Fl Dist Co Grab	Nutrients	Sulfate	210 A	mg SO4/L	2	5
6/18/2018	Fl Dist Co Grab	Nutrients	Total Alkalinity	321 AJ	mg CaCO3/L	0.65	2.5
6/18/2018	Fl Dist Co Grab	Nutrients	Color (true)	61	PCU	2.5	6
6/18/2018	Fl Dist Co Composite	Nutrients	Organic Carbon	15 A	mg C/L	0.5	1
6/18/2018	Fl Dist Co Grab	Nutrients	O-Phosphate-P	0.005 I	mg P/L	0.004	0.01
6/18/2018	Fl Dist Co Grab	Nutrients	NO2NO3-N	0.034	mg N/L	0.004	0.01
6/18/2018	Fl Dist Co Grab	Nutrients	Chloride	120 A	mg Cl/L	2	5
6/18/2018	Fl Dist Co Grab	Nutrients	Turbidity	13	NTU	0.1	0.13
6/18/2018	Fl Dist Co Grab	Nutrients	Kjeldahl Nitrogen	3.0	mg N/L	0.08	0.2
6/18/2018	Fl Dist Co Grab	Nutrients	Organic Carbon	16	mg C/L	0.5	1
6/18/2018	Fl Dist Co Composite	Nutrients	NO2NO3-N	0.032	mg N/L	0.004	0.01
6/18/2018	Fl Dist Co Grab	Pesticides	Alachlor	0.058 U	ug/L	0.058	0.23
6/18/2018	Fl Dist Co Grab	Pesticides	Atrazine Desethyl	0.0097 U	ug/L	0.0097	0.039
6/18/2018	Fl Dist Co Grab	Pesticides	Atrazine	0.0097 U	ug/L	0.0097	0.039
6/18/2018	Fl Dist Co Grab	Pesticides	Chlorpyrifos Ethyl	0.0097 U	ug/L	0.0097	0.039
6/18/2018	Fl Dist Co Grab	Pesticides	Demeton	0.023 U	ug/L	0.023	0.093
6/18/2018	Fl Dist Co Grab	Pesticides	Fonofos	0.0097 U	ug/L	0.0097	0.039
6/18/2018	Fl Dist Co Grab	Pesticides	Ethion	0.0097 U	ug/L	0.0097	0.039
6/18/2018	Fl Dist Co Grab	Pesticides	Mevinphos	0.0097 U	ug/L	0.0097	0.039
6/18/2018	Fl Dist Co Grab	Pesticides	Prometon	0.019 U	ug/L	0.019	0.077
6/18/2018	Fl Dist Co Grab	Pesticides	Azinphos Methyl	0.019 U	ug/L	0.019	0.077
6/18/2018	Fl Dist Co Grab	Pesticides	Butylate	0.019 U	ug/L	0.019	0.077
6/18/2018	Fl Dist Co Grab	Pesticides	Ethoprop	0.0048 U	ug/L	0.0048	0.019
6/18/2018	Fl Dist Co Grab	Pesticides	Fenamiphos	0.029 U	ug/L	0.029	0.12
6/18/2018	Fl Dist Co Grab	Pesticides	Metalaxyl	0.039 U	ug/L	0.039	0.15
6/18/2018	Fl Dist Co Grab	Pesticides	Parathion Ethyl	0.019 U	ug/L	0.019	0.077
6/18/2018	Fl Dist Co Grab	Pesticides	Prometryn	0.019 U	ug/L	0.019	0.077
6/18/2018	Fl Dist Co Grab	Pesticides	Norflurazon	0.029 U	ug/L	0.029	0.12
6/18/2018	Fl Dist Co Grab	Pesticides	Simazine	0.0097 U	ug/L	0.0097	0.039

Date Sampled	Site ID	SCH_Group	Component	Result	Units	MDL	PQL
6/18/2018	Fl Dist Co Grab	Pesticides	Sucralose	8.4	ug/L	0.01	0.04
6/18/2018	Fl Dist Co Grab	Pesticides	Naproxen	0.17	ug/L	0.008	0.032
6/18/2018	Fl Dist Co Grab	Pesticides	Bromacil	0.039 U	ug/L	0.039	0.15
6/18/2018	Fl Dist Co Grab	Pesticides	Disulfoton	0.0048 U	ug/L	0.0048	0.019
6/18/2018	Fl Dist Co Grab	Pesticides	Hexazinone	0.029 U	ug/L	0.029	0.12
6/18/2018	Fl Dist Co Grab	Pesticides	Ametryn	0.0097 U	ug/L	0.0097	0.039
6/18/2018	Fl Dist Co Grab	Pesticides	Chlorpyrifos Methyl	0.0097 U	ug/L	0.0097	0.039
6/18/2018	Fl Dist Co Grab	Pesticides	Malathion	0.0097 U	ug/L	0.0097	0.039
6/18/2018	Fl Dist Co Grab	Pesticides	Phorate	0.0048 U	ug/L	0.0048	0.019
6/18/2018	Fl Dist Co Grab	Pesticides	Ibuprofen	0.020 U	ug/L	0.02	0.08
6/18/2018	Fl Dist Co Grab	Pesticides	Atrazine Desisopropyl	0.0097 U	ug/L	0.0097	0.039
6/18/2018	Fl Dist Co Grab	Pesticides	Diazinon	0.0097 U	ug/L	0.0097	0.039
6/18/2018	Fl Dist Co Grab	Pesticides	Metolachlor	0.058 U	ug/L	0.058	0.23
6/18/2018	Fl Dist Co Grab	Pesticides	Metribuzin	0.019 U	ug/L	0.019	0.077
6/18/2018	Fl Dist Co Grab	Pesticides	Naled	0.039 U	ug/L	0.039	0.15
6/18/2018	Fl Dist Co Grab	Pesticides	Parathion Methyl	0.0097 U	ug/L	0.0097	0.039
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	2-Chlorophenol	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Isophorone	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.024 U	ug/L	0.024	0.097
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.024 U	ug/L	0.024	0.097
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Fluorene	0.024 U	ug/L	0.024	0.097
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	2,4-Dinitrophenol	9.7 U	ug/L	9.7	39
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	2,4-Dinitrotoluene	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	2-Chloronaphthalene	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	3,3'-Dichlorobenzidine	9.7 U	ug/L	9.7	39
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	4-Nitrophenol	9.7 U	ug/L	9.7	39
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Nitrobenzene	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Pyrene	0.024 U	ug/L	0.024	0.097

Date Sampled	Site ID	SCH_Group	Component	Result	Units	MDL	PQL
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	2,4-Dichlorophenol	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Chrysene	0.024 U	ug/L	0.024	0.097
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Di-n-butyl phthalate	1.9 U	ug/L	1.9	7.8
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Hexachlorobutadiene	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Phenanthrene	0.024 U	ug/L	0.024	0.097
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Fluoranthene	0.024 U	ug/L	0.024	0.097
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9 U	ug/L	1.9	7.8
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Naphthalene	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	2,6-Dinitrotoluene	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	2-Nitrophenol	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Benzo(k)fluoranthene	0.024 U	ug/L	0.024	0.097
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.024 U	ug/L	0.024	0.097
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	2,4-Dimethylphenol	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9 U	ug/L	2.9	12
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Acenaphthene	0.024 U	ug/L	0.024	0.097
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Di-n-octyl phthalate	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Anthracene	0.024 U	ug/L	0.024	0.097
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Benzidine	9.7 U	ug/L	9.7	39
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	1.9 U	ug/L	1.9	7.8
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Diethyl phthalate	1.9 U	ug/L	1.9	7.8
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Hexachloroethane	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	0.097 U	ug/L	0.097	0.39
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Pentachlorophenol	0.49 U	ug/L	0.49	1.9
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Phenol	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.049 U	ug/L	0.049	0.19

Date Sampled	Site ID	SCH_Group	Component	Result	Units	MDL	PQL
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Acenaphthylene	0.024 U	ug/L	0.024	0.097
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Benzo(a)anthracene	0.024 U	ug/L	0.024	0.097
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Benzo(b)fluoranthene	0.024 U	ug/L	0.024	0.097
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Butyl benzyl phthalate	0.97 U	ug/L	0.97	3.9
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Dimethyl phthalate	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Hexachlorobenzene	0.049 U	ug/L	0.049	0.19
6/18/2018	Fl Dist Co Grab	Priority Organic Pollutants	Benzo(a)pyrene	0.024 U	ug/L	0.024	0.097
6/18/2018	Fl Dist Co Grab	Nutrients	Sample Depth	0.1	m		
6/18/2018	Fl Dist Co Grab	Nutrients	Dissolved Oxygen	7.40	mg/L		
6/18/2018	Fl Dist Co Grab	Nutrients	Specific Conductance	1384	umhos/cm		
6/18/2018	Fl Dist Co Grab	Nutrients	Temperature	28.8	C		
6/18/2018	Fl Dist Co Grab	Nutrients	pH	7.81			
6/18/2018	Equipment Blank	Metals	Zinc	5.0 U	ug/L	5	20
6/18/2018	Equipment Blank	Metals	Iron	30 U	ug/L	30	120
6/18/2018	Equipment Blank	Metals	Silver	0.010 U	ug/L	0.01	0.04
6/18/2018	Equipment Blank	Metals	Cadmium	0.020 U	ug/L	0.02	0.08
6/18/2018	Equipment Blank	Metals	Arsenic	0.050 U	ug/L	0.05	0.2
6/18/2018	Equipment Blank	Metals	Magnesium	0.040 U	mg/L	0.04	0.16
6/18/2018	Equipment Blank	Metals	Calcium	0.075 U	mg/L	0.075	0.3
6/18/2018	Equipment Blank	Metals	Selenium	0.20 U	ug/L	0.2	0.8
6/18/2018	Equipment Blank	Metals	Aluminum	60 U	ug/L	60	240
6/18/2018	Equipment Blank	Metals	Potassium	0.30 U	mg/L	0.3	1.2
6/18/2018	Equipment Blank	Metals	Nickel	0.20 U	ug/L	0.2	0.8
6/18/2018	Equipment Blank	Metals	Lead	0.050 U	ug/L	0.05	0.2
6/18/2018	Equipment Blank	Metals	Sodium	0.50 U	mg/L	0.5	2
6/18/2018	Equipment Blank	Metals	Chromium	0.40 U	ug/L	0.4	1.6
6/18/2018	Equipment Blank	Metals	Copper	0.20 U	ug/L	0.2	0.8
6/18/2018	Equipment Blank	Metals	Hardness	0.35 U	mg/L	0.35	1.4
6/18/2018	Equipment Blank	Nutrients	Organic Carbon	0.52 I	mg C/L	0.5	1
6/18/2018	Equipment Blank	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.004	0.01
6/18/2018	Equipment Blank	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.08	0.2

Date Sampled	Site ID	SCH_Group	Component	Result	Units	MDL	PQL
6/18/2018	Equipment Blank	Nutrients	Total-P	0.002 U	mg P/L	0.002	0.005
6/18/2018	Field Blank	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.004	0.01
6/18/2018	Field Blank	Nutrients	Total Alkalinity	0.65 U	mg CaCO3/L	0.65	2.5
6/18/2018	Field Blank	Nutrients	Chloride	0.20 U	mg Cl/L	0.2	0.5
6/18/2018	Field Blank	Nutrients	Color (true)	2.5 U	PCU	2.5	6
6/18/2018	Field Blank	Nutrients	Sulfate	0.20 U	mg SO4/L	0.2	0.5
6/18/2018	Field Blank	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.004	0.01
6/18/2018	Field Blank	Nutrients	Ammonia-N	0.002 U	mg N/L	0.002	0.005
6/18/2018	Field Blank	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.08	0.2
6/18/2018	Field Blank	Nutrients	Organic Carbon	0.51 I	mg C/L	0.5	1
6/18/2018	Field Blank	Nutrients	Turbidity	0.10 U	NTU	0.1	0.13
6/18/2018	Field Blank	Nutrients	Total-P	0.002 U	mg P/L	0.002	0.005
6/18/2018	Field Blank	Nutrients	Fluoride	0.035 U	mg F/L	0.035	0.1
6/18/2018	Field Blank	Pesticides	Atrazine	0.011 U	ug/L	0.011	0.045
6/18/2018	Field Blank	Pesticides	Azinphos Methyl	0.023 U	ug/L	0.023	0.091
6/18/2018	Field Blank	Pesticides	Demeton	0.027 U	ug/L	0.027	0.11
6/18/2018	Field Blank	Pesticides	Disulfoton	0.0057 U	ug/L	0.0057	0.023
6/18/2018	Field Blank	Pesticides	Ethion	0.011 U	ug/L	0.011	0.045
6/18/2018	Field Blank	Pesticides	Fonofos	0.011 U	ug/L	0.011	0.045
6/18/2018	Field Blank	Pesticides	Prometryn	0.023 U	ug/L	0.023	0.091
6/18/2018	Field Blank	Pesticides	Ametryn	0.011 U	ug/L	0.011	0.045
6/18/2018	Field Blank	Pesticides	Butylate	0.023 U	ug/L	0.023	0.091
6/18/2018	Field Blank	Pesticides	Ethoprop	0.0057 U	ug/L	0.0057	0.023
6/18/2018	Field Blank	Pesticides	Metolachlor	0.068 U	ug/L	0.068	0.27
6/18/2018	Field Blank	Pesticides	Mevinphos	0.011 U	ug/L	0.011	0.045
6/18/2018	Field Blank	Pesticides	Parathion Ethyl	0.023 U	ug/L	0.023	0.091
6/18/2018	Field Blank	Pesticides	Parathion Methyl	0.011 U	ug/L	0.011	0.045
6/18/2018	Field Blank	Pesticides	Simazine	0.011 U	ug/L	0.011	0.045
6/18/2018	Field Blank	Pesticides	Ibuprofen	0.020 U	ug/L	0.02	0.08
6/18/2018	Field Blank	Pesticides	Naled	0.045 U	ug/L	0.045	0.18
6/18/2018	Field Blank	Pesticides	Chlorpyrifos Methyl	0.011 U	ug/L	0.011	0.045

Date Sampled	Site ID	SCH_Group	Component	Result	Units	MDL	PQL
6/18/2018	Field Blank	Pesticides	Metalaxyl	0.045 U	ug/L	0.045	0.18
6/18/2018	Field Blank	Pesticides	Norflurazon	0.034 U	ug/L	0.034	0.14
6/18/2018	Field Blank	Pesticides	Atrazine Desisopropyl	0.011 U	ug/L	0.011	0.045
6/18/2018	Field Blank	Pesticides	Fenamiphos	0.034 U	ug/L	0.034	0.14
6/18/2018	Field Blank	Pesticides	Phorate	0.0057 U	ug/L	0.0057	0.023
6/18/2018	Field Blank	Pesticides	Prometon	0.023 U	ug/L	0.023	0.091
6/18/2018	Field Blank	Pesticides	Naproxen	0.0080 U	ug/L	0.008	0.032
6/18/2018	Field Blank	Pesticides	Atrazine Desethyl	0.011 U	ug/L	0.011	0.045
6/18/2018	Field Blank	Pesticides	Hexazinone	0.034 U	ug/L	0.034	0.14
6/18/2018	Field Blank	Pesticides	Metribuzin	0.023 U	ug/L	0.023	0.091
6/18/2018	Field Blank	Pesticides	Sucralose	0.010 U	ug/L	0.01	0.04
6/18/2018	Field Blank	Pesticides	Alachlor	0.068 U	ug/L	0.068	0.27
6/18/2018	Field Blank	Pesticides	Bromacil	0.045 U	ug/L	0.045	0.18
6/18/2018	Field Blank	Pesticides	Chlorpyrifos Ethyl	0.011 U	ug/L	0.011	0.045
6/18/2018	Field Blank	Pesticides	Diazinon	0.011 U	ug/L	0.011	0.045
6/18/2018	Field Blank	Pesticides	Malathion	0.011 U	ug/L	0.011	0.045
6/18/2018	Field Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.027 U	ug/L	0.027	0.11
6/18/2018	Field Blank	Priority Organic Pollutants	Isophorone	0.053 U	ug/L	0.053	0.21
6/18/2018	Field Blank	Priority Organic Pollutants	Hexachloroethane	0.053 U	ug/L	0.053	0.21
6/18/2018	Field Blank	Priority Organic Pollutants	Hexachlorobutadiene	0.053 U	ug/L	0.053	0.21
6/18/2018	Field Blank	Priority Organic Pollutants	Hexachlorobenzene	0.053 U	ug/L	0.053	0.21
6/18/2018	Field Blank	Priority Organic Pollutants	2-Nitrophenol	0.053 U	ug/L	0.053	0.21
6/18/2018	Field Blank	Priority Organic Pollutants	2,4-Dinitrophenol	11 U	ug/L	11	43
6/18/2018	Field Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	11 U	ug/L	11	43
6/18/2018	Field Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.053 U	ug/L	0.053	0.21
6/18/2018	Field Blank	Priority Organic Pollutants	Benzidine	11 U	ug/L	11	43
6/18/2018	Field Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.053 U	ug/L	0.053	0.21
6/18/2018	Field Blank	Priority Organic Pollutants	Di-n-butyl phthalate	2.4 I	ug/L	2.1	8.5
6/18/2018	Field Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.053 U	ug/L	0.053	0.21
6/18/2018	Field Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.053 U	ug/L	0.053	0.21
6/18/2018	Field Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.053 U	ug/L	0.053	0.21

Date Sampled	Site ID	SCH_Group	Component	Result	Units	MDL	PQL
6/18/2018	Field Blank	Priority Organic Pollutants	Butyl benzyl phthalate	1.1 U	ug/L	1.1	4.3
6/18/2018	Field Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.027 U	ug/L	0.027	0.11
6/18/2018	Field Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	2.1 U	ug/L	2.1	8.5
6/18/2018	Field Blank	Priority Organic Pollutants	Phenanthrene	0.027 U	ug/L	0.027	0.11
6/18/2018	Field Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.2 U	ug/L	3.2	13
6/18/2018	Field Blank	Priority Organic Pollutants	Diethyl phthalate	2.1 U	ug/L	2.1	8.5
6/18/2018	Field Blank	Priority Organic Pollutants	Pentachlorophenol	0.53 U	ug/L	0.53	2.1
6/18/2018	Field Blank	Priority Organic Pollutants	Phenol	0.053 U	ug/L	0.053	0.21
6/18/2018	Field Blank	Priority Organic Pollutants	2,4-Dimethylphenol	0.053 U	ug/L	0.053	0.21
6/18/2018	Field Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.053 U	ug/L	0.053	0.21
6/18/2018	Field Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.027 U	ug/L	0.027	0.11
6/18/2018	Field Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.027 U	ug/L	0.027	0.11
6/18/2018	Field Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.027 U	ug/L	0.027	0.11
6/18/2018	Field Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	2.1 U	ug/L	2.1	8.5
6/18/2018	Field Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.053 U	ug/L	0.053	0.21
6/18/2018	Field Blank	Priority Organic Pollutants	4-Nitrophenol	11 U	ug/L	11	43
6/18/2018	Field Blank	Priority Organic Pollutants	Acenaphthylene	0.027 U	ug/L	0.027	0.11
6/18/2018	Field Blank	Priority Organic Pollutants	Anthracene	0.027 U	ug/L	0.027	0.11
6/18/2018	Field Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.053 U	ug/L	0.053	0.21
6/18/2018	Field Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.053 U	ug/L	0.053	0.21
6/18/2018	Field Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.053 U	ug/L	0.053	0.21
6/18/2018	Field Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.053 U	ug/L	0.053	0.21
6/18/2018	Field Blank	Priority Organic Pollutants	Fluoranthene	0.027 U	ug/L	0.027	0.11
6/18/2018	Field Blank	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	0.11 U	ug/L	0.11	0.43
6/18/2018	Field Blank	Priority Organic Pollutants	Naphthalene	0.053 U	ug/L	0.053	0.21
6/18/2018	Field Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.053 U	ug/L	0.053	0.21
6/18/2018	Field Blank	Priority Organic Pollutants	Acenaphthene	0.027 U	ug/L	0.027	0.11
6/18/2018	Field Blank	Priority Organic Pollutants	Chrysene	0.027 U	ug/L	0.027	0.11
6/18/2018	Field Blank	Priority Organic Pollutants	Dimethyl phthalate	0.053 U	ug/L	0.053	0.21
6/18/2018	Field Blank	Priority Organic Pollutants	Fluorene	0.027 U	ug/L	0.027	0.11
6/18/2018	Field Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.053 U	ug/L	0.053	0.21

Date Sampled	Site ID	SCH_Group	Component	Result	Units	MDL	PQL
6/18/2018	Field Blank	Priority Organic Pollutants	Nitrobenzene	0.053 U	ug/L	0.053	0.21
6/18/2018	Field Blank	Priority Organic Pollutants	Pyrene	0.027 U	ug/L	0.027	0.11
6/18/2018	Field Blank	Priority Organic Pollutants	2-Chlorophenol	0.053 U	ug/L	0.053	0.21
6/18/2018	Field Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.027 U	ug/L	0.027	0.11
6/18/2018	Field Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.027 U	ug/L	0.027	0.11
6/18/2018	Field Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.053 U	ug/L	0.053	0.21
6/18/2018	Field Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.053 U	ug/L	0.053	0.21

EPA End Sheet

The Bioassay of Florida Distillers Company- Auburndale effluent sampled on June 18, 2018. NPDES #FL0003051.

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	0	3	0	5	1	11	12	1	8	0	6	1	8	18	**B**	19	**S**	20	2

Remarks

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The Priority Pollutants Analysis of Florida Distillers Company- Auburndale effluent sampled on June 18, 2018. NPDES #FL0003051.

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	0	3	0	5	1	11	12	1	8	0	6	1	8	18	**X**	19	**S**	20	2

Remarks

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Biological Analyses of Florida Distillers Company- Auburndale effluent sampled on June 18, 2018. NPDES #FL0003051.

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	0	3	0	5	1	11	12	1	8	0	6	1	8	18	**S**	19	**S**	20	2

Remarks

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