Effluent Quality Assessment of Duke Energy Florida, Inc. – Anclote Station
Pasco County
NPDES # FL0002992
Sampled February 24, 2020

Division of Environmental Assessment and Restoration
Florida Department of Environmental Protection
July 2020

DEP Laboratory, Biology Program
2600 Blair Stone Road, MS 6515
Tallahassee, FL 32399-2400
www.floridadep.gov

Contents

Summary of Results 3
Facility Overview 3
Methods 3
Results 5
Literature Cited 7
Appendix A. Facility Summary 12
Appendix B. Explanations of Measurements 24
Appendix C. Chain of Custody 26
Appendix D. Chemical Analysis of Effluent and Receiving Water 27

List of Tables

Table 1. Measured field parameters 8
Table 2. Analytical water chemistry, microbiological, and toxicological data 9
Table 3. Analytical metals data 10
Table 4. Algal Growth Potential (AGP) 11

List of Figures

Figure 1. Map of Facility and Discharge Location 4

Summary of Results

All measured analytes complied with effluent permit limits and Class III Marine Water Quality Criteria (62-302.530, F.A.C.). The effluent samples were not toxic to either toxicity test organism, *Americamysis bahia* and *Menidia Beryllina,* during the 96-hour acute definitive bioassay. The nitrogen to phosphorus ratio suggests that the effluent is ortho-phosphate limited. Atrazine was detected in the effluent grab sample.

Facility Overview

The Duke Energy Florida, Inc. – Anclote Station Facility is an industrial wastewater facility. A Facility Summary, including a description of the facility, summary of permit limits, and any relevant Administrative Order (AO), Consent Order (CO), and Discharge Monitoring Report (DMR) information is provided in Appendix A. The effluent is continuously discharged into Anclote Sound (Gulf of Mexico, Figure 1).

Receiving waters for Anclote Sound fall under the Estuary-Specific Numeric Interpretations of the Numeric Nutrient Criteria (NNC) for Anclote Offshore in the Springs Coast region (62-302.532, F.A.C.). The NNC thresholds, expressed as annual geometric means, are 0.14 mg/L total phosphorus, 0.42 mg/L total nitrogen, and 1.7 µg/L chlorophyll *a*. This FYI event only provides single sample results. It should be noted that waterbody impairment assessments are based on longer-term data, and individual exceedances of a criterion do not indicate use impairment. http://ca.dep.state.fl.us/mapdirect/?focus=nutrientcriteria

Methods

Effluent samples were taken as grab samples from monitoring site location EFF-1 for Surface Water Sample Location D-004. Samples were collected by Southwest District staff Lance Kautz, Emily Larson, and Brandon Wild.

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). Explanations of specific methods and measurements can be found in Appendix B.

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.

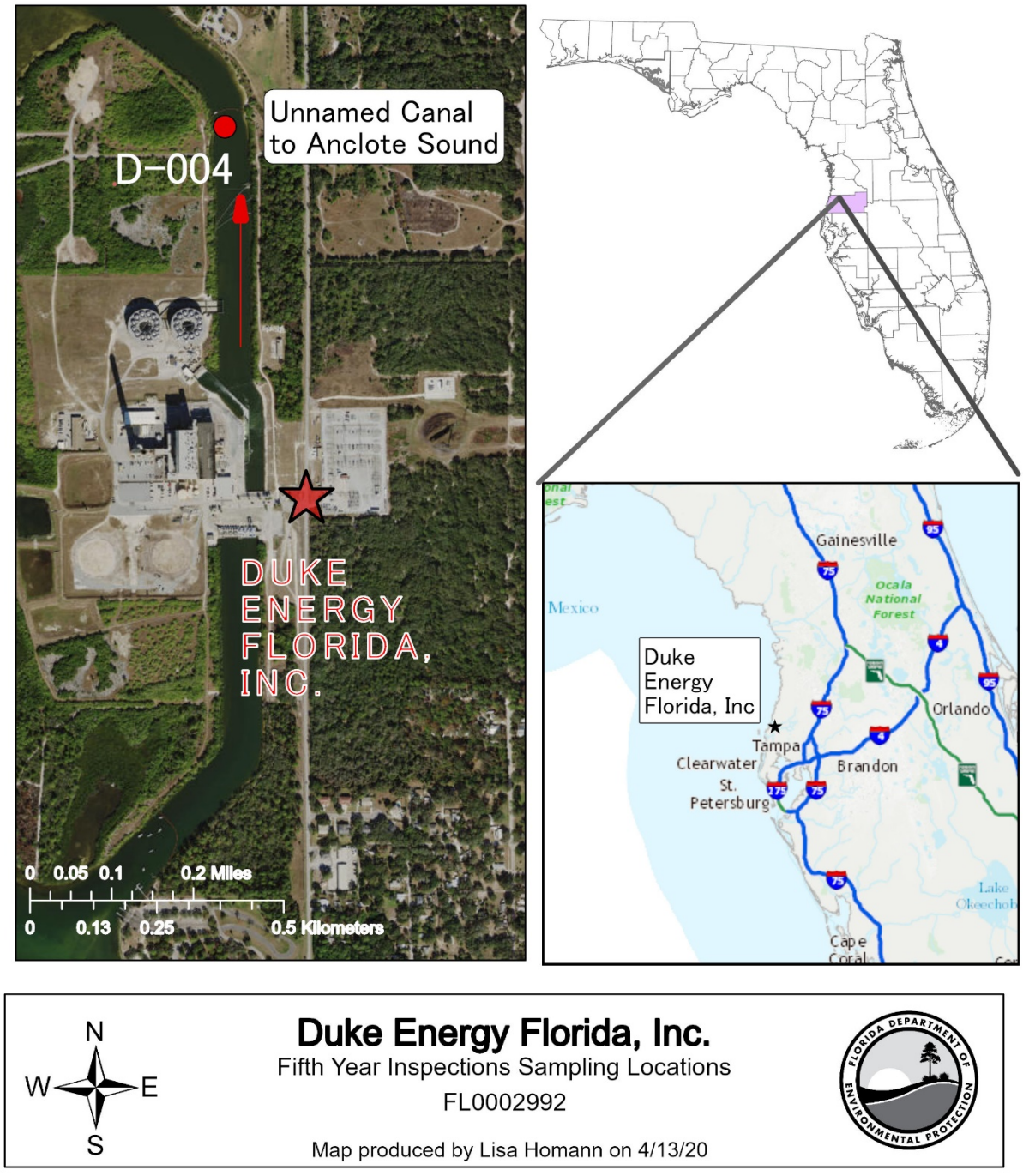


Figure 1. Map of Facility and Discharge Location

Results

Physical and Chemical Parameters / Site Characterization (See Table 1 and Appendices B, C, and D)

- Measured effluent pH complied with Class III Marine Water Quality Criteria (62-302.530, F.A.C.) and dissolved oxygen complied with Class III Marine Water Quality Criteria (62-302.533, F.A.C.).

Analytical Water Chemistry (See Table 2 and Appendix D)

- Ortho-phosphate, nitrate and nitrite, and color were detected in effluent grab between the MDL and PQL. Ortho-phosphate was detected in the field blank between the MDL and PQL.

- Fluoride, chloride, and turbidity levels in the effluent sample complied with Class III Marine Water Quality Criteria (62-302.530, F.A.C.)

Toxicity Whole Effluent Test (See Table 2)

- Acute Definitive bioassay tests were performed February 25 through February 29, 2020.

- The sample was aerated for 10 minutes at a rate of approximately 100 bubbles per minute to decrease the dissolved oxygen (DO) from 9.5 mg/L to 8.2 mg/L.

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

- For the 96-hour acute definitive test, the calculated LC50 for the mysid, *Americamysis bahia*, was >100% effluent with 0% mortality in 100% sample. The calculated LC50 for the fish, *Menidia beryllina*, was >100% effluent with 0% mortality in 100% sample. The effluent sample was not toxic to the mysid, *Americamysis bahia,* or to the fish, *Menidia beryllina,* during the 96-hour acute definitive bioassays and therefore, complied with effluent permit limits.

- For more information or to obtain copies of the toxicity bench sheets, please contact the Biology Laboratory at 850-245-8177.

Metals (See Table 3 and Appendix D)

- There were no effluent permit limits for metals. Effluent metals were detected at levels that complied with Class III Marine Quality Criteria (62-302.530, F.A.C.).

- Aluminum and copper were detected in the equipment blank between the MDL and PQL.

Algal Growth Potential (See Table 4 and Appendix B)

- The effluent Algal Growth Potential (AGP) was 3.00 U (U - Material was analyzed for but not detected; the value reported is the minimum detection limit) mg dry wt/L

of the saltwater species *Dunaliella tertiolecta.* The analytical chemistry suggests that the effluent is ortho-phosphate limited (Maloney et al. 1974).

Organic Constituents (See Appendix D)

- Atrazine was detected at 4.8 ng/L in the effluent grab sample.

Literature Cited

Maloney, T. E., Miller, W. E. and Specht, D. T. 1974. The Marine Algal Assay Procedure: Bottle Test. National Environmental Research Center Office of Research and Development. U. S. EPA, Corvallis, Oregon. 43 p.

Miller, W. E., Maloney, T. E. and Greene, J. C. 1978. The *Selenastrum capricornutum* Printz algal assay bottle test. EPA600/978-018. U. S. EPA, Cincinnati, Ohio. 126 p.

Stevenson, R. J. and Bahls, L. L. 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. Measured field parameters

Effluent limits, Class III Marine Criteria, and field parameters

Parameter	Units	Class III Criteria	Effluent Permit Limits	Effluent Grab
Sample Depth	ft	-	-	1
Temperature	C	-	Report	19.5
pH	SU	6.5-8.5	Report	7.8
Specific Conductance	µmhos/cm	-	-	38,474
Salinity	ppt	-	-	30 c
Dissolved Oxygen	% saturation	≥ 42	-	106.9
Flow	MGD	-	-	1,116.0

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

Table 2. Analytical water chemistry, microbiological, and toxicological data

Effluent limits, Class III Marine Criteria, and analytical water chemistry, microbiological, and toxicological data

Analyte	Units	Class III Criteria	Effluent Permit Limits	Effluent Grab
Ortho-phosphate	mg P/L	-	-	0.005 I[3]
Total Phosphorus	mg P/L	0.014[1]	Report	0.029
Total Ammonia	mg/L	-	Report	0.025
Un-ionized Ammonia (calculated salinity)	mg/L	1.05	Report	< 0.02 c
Nitrate and Nitrite	mg N/L	-	Report	0.004 I
Total Kjeldahl Nitrogen	mg N/L	-	Report	0.6
Organic Nitrogen	mg N/L	-	-	0.6 c
Total Nitrogen	mg N/L	0.42[1]	Report	0.6 c
Total Organic Carbon	mg C/L	-	-	4.7
Chlorophyll *a* - Corrected	µg/L	1.7[1]	-	4.8
Phaeophytin	µg/L	-	-	2.8
CBOD, 5 day, N - inhibited	mg/L	-		5.2 J
Total Suspended Solids	mg/L	-	-	13 A
Turbidity	NTU	< 29 t	-	2.4
Color (true)	PCU	-	-	3.6 I
Alkalinity	mg CaCO3/L	-	-	144
Chloride	mg Cl/L	< 10%[2]	-	14,000
Fluoride	mg F/L	≤ 5.0	-	0.89
Sulfate	mg SO4/L	-	-	1,900
Bioassay - Mysid (*Americamysis bahia*), LC50	% effluent	≥ 100	> 100	>100
Bioassay - Fish (*Menidia beryllina*), LC50	% effluent	≥ 100	> 100	>100

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
c - Value is calculated
t - Shall not exceed 29 NTUs above background
A - Value reported is the mean of two or more determinations
J - Estimated value
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 - Estuary-Specific Numeric Interpretations of the NNC for the Anclote Offshore region (62-302.532, F.A.C.). Value expressed as an annual geometric mean.
2 - Shall not exceed 10% mg Cl/L above background
3 - Detected in the field blank (0.005 I)

Table 3. Analytical metals data

Effluent limits, Class III Marine Criteria, and analytical metals data

Analyte	Units	Class III Criteria	Effluent Permit Limits	Effluent Grab
Hardness	mg CaCO3/L	-	-	4,500 c
Aluminum	µg/L	≤ 1,500	-	76 I
Arsenic	µg/L	≤ 50	-	2.04
Cadmium	µg/L	≤ 8.8	-	0.080 U
Calcium	mg/L	-	-	307
Chromium, Total[4]	µg/L	≤ 50	-	1.6 U
Copper	µg/L	≤ 3.7	-	1.7 I
Iron	µg/L	≤ 300	-	90 U
Lead	µg/L	≤ 8.5	-	0.80 U
Magnesium	mg/L	-	-	906
Nickel	µg/L	≤ 8.3	-	2.0 U
Potassium	mg/L	-	-	274
Selenium	µg/L	≤ 71	-	0.80 U
Silver	µg/L	≤ 2.3	-	0.10 U
Sodium	mg/L	-	-	7,320
Zinc	µg/L	≤ 86	-	15 U

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
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
4 - Class III Marine Water Quality Criterion (62-302.530(19)(b), F.A.C.) is for chromium-VI

Table 4. Algal Growth Potential (AGP)

Measured (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

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	*Dunaliella tertiolecta*	3.00 U	-	-	-	-	5.8	20.8

A dash (-) indicates that the predicted AGP/ratio is not applicable
U - Material analyzed for but not detected; value reported is the method detection limit

Appendix A. Facility Summary

State of Florida

Department of Environmental Protection
Facility Introduction & Summary

PART I: Information gathered prior to sampling event	
Prepared By: Emily Larson	**Contact Number:** (813) 470-5955
Facility Name (as it appears on permit): Duke Energy Florida, Inc. – Anclote Station	**Former Names:** N/A
NPDES Permit Number: FL0002992	**Permit Expiration Date:** January 13, 2021
Physical Address: 1729 Baillies Bluff Road	
District: Southwest	**County:** Pasco
Function of Facility: Power Plant	
Facility Type: Industrial Wastewater	**Permitted Capacity (MGD):** N/A
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): From 01/01/2019 to 01/01/2020: Avergae Maximum Daily Flow EFF-03: 0.182 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):

Surface Water Sample Locations (D-004)

Monitoring Site Number	Description of Monitoring Site
INT-1	Condenser intake waterboxes for Units 1 & 2.
EFF-1	At the combined plant point of discharge (POD) at the end of the discharge canal.

Internal outfalls

Monitoring Site Number	Description of Monitoring Site
FLW-1	Units 1 and 2 OTCW flow measurement location.

Monitoring Site Number	Description of Monitoring Site
FLW-2	Dilution pump flow measurement location

Monitoring Site Number	Description of Monitoring Site
EFF-2	At the point where the cooling tower discharge enters the discharge canal and prior to mixing with the receiving water.
EFF-1	At the combined plant point of discharge (POD) at the end of the discharge canal.
INT-2	At the point of addition.

Monitoring Site Number	Description of Monitoring Site
EFF-3	Prior to discharge to the intake canal or mixing with any other waste stream at sampling location previously identified as "stormdrain AN1".

Description of Permitted Outfall(s):

Surface Water Discharge D-004: An existing discharge to Anclote Sound (GulfofMexico), Class III Marine Waters, (WBID# 8045C). The point of discharge is located approximately at latitude 28°11' 22" N, longitude 82°47' 13" W.

Internal Outfalls:

Internal Outfall 1-001: An existing discharge of once-through condenser cooling water from Unit 1 to the discharge canal.
Internal Outfall 1-002: An existing discharge of once-through condenser cooling water from Unit 2 to the discharge canal.
Internal Outfall 1-003: An existing discharge of once-through dilution water flow from the intake canal to the discharge canal.
Internal Outfall 1-005: An existing discharge of cooling tower discharge to the discharge canal.
Stormwater Outfall: An existing internal discharge of stormwater via Outfall 1-006 to the intake canal.

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

The plant consists of two natural gas-fired steam electric units with a total nameplate rating of 1,112 MW. Once-through condenser cooling water from Units I and 2 is passed through bar racks and intake screens, pumped through the condensers to remove excessive heat, and discharged to the plant's discharge canal. Normal debris, such as seagrass, is collected by the raker system and by the travelling screens and sluiced to the discharge canal. Larger debris collected from the intake, such as logs and limbs, is disposed ofby landfill and wash water is returned to the plant discharge canal. During certain times of the year, two non-recirculating cooling towers are operated to reduce the plant discharge temperature. The cooling towers receive a portion of the heated water from the condensers where water is cooled and then discharged to the discharge canal. In-line, self-cleaning debris filters remove grass and debris from the water prior to the entering cooling tower distribution system. Back flush water used to clean the debris filters is directed to the cooling tower basin where it is recombined with the cooling water that passes through the cooling tower. A biocide is added to the cooling tower intake water for biofouling control and then de halogenated, if necessary, prior to discharge. In addition, there are four dilution pumps which help provide temperature control by pumping additional water from the intake canal to the discharge canal.

WASTEWATER TREATMENT:

All other wastewater generated at this plant is discharged into two on-site percolation/evaporation ponds, without surface water discharge. The discharge to the percolation/evaporation ponds is authorized by separate permit issued by the Department's Southwest District.

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)

<u>D-004:</u>

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Intake Temperature, Water	Deg F	Max Max Max	Report Report Report	1 Hour Average 3 Hour Average Daily Average	Continuous	Recorder	INT-1	
Mode 1[1]								
Discharge Temperature (Primary)	Deg F	Max Max Max	90.0 92.0 Report	1 Hour Average Instantaneous Max Daily Average	Continuous	Recorder	EFF-1	
Temperature Rise (Primary)	Deg F	Max Max	Report Report	1 Hour Average Daily Average	Continuous	Recorder	EFF-1	
Discharge Temperature (Alternate)[2]	Deg F	Max Max Max Max	92.0 95.0 95.5 Report	Daily Average 1 Hour Average Instantaneous Max 3 Hour Average	Continuous	Recorder	EFF-1	
Temperature Rise (Alternate)[2]	Deg F	Max Max Max	5.0 Report Report	3 Hour Average 1 Hour Average Daily Average	Continuous	Recorder	EFF-1	
Mode II[3]								
Discharge Temperature (Primary)	Deg F	Max Max Max	92.0 95.0 Report	1 Hour Average Instantaneous Max Daily Average	Continuous	Recorder	EFF-1	
Temperature Rise (Primary)	Deg F	Max Max	Report Report	1 Hour Average Daily Average	Continuous	Recorder	EFF-1	
Discharge Temperature (Alternate)[2]	Deg F	Max Max Max Max	92.0 95.0 95.5 Report	Daily Average 1 Hour Average Instantaneous Max 3 Hour Average	Continuous	Recorder	EFF-1	
Temperature rise (Alternate)[2]	Deg F	Max Max Max	5.0 Report Report	3 Hour Average 1 Hour Average Daily Average	Continuous	Recorder	EFF-1	
Temperature, Water	Deg C	Max	Report	Single Sample	Quarterly	Grab	EFF-1, INT-1	See I.A.4
pH	su	Max	Report	Single Sample	Quarterly	Grab	EFF-1, INT-1	See I.A.4

PART I: Continued	
Receiving Waters: Anclote sound (Gulf of Mexico)	**Classification (indicate whether fresh or marine):** Class III Marine waters (WBID No. 8045C)

A. Surface Water Discharges

1. During the period beginning on the issuance date and lasting through the expiration date of this permit, the permittee is authorized to discharge combined plant discharge from Outfall D-004 to Anclote Sound (Gulf of Mexico). Such discharge shall be limited and monitored by the permittee as specified below and reported in accordance with Permit Condition I.C.3:

5. The permittee shall comply with the following requirements to evaluate chronic whole effluent toxicity of the discharge from outfall D-004.

a. Effluent Limitation

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

2) For acute whole effluent toxicity, the 96-hour LC50 shall not be less than 100% effluent in any test.

[Rules 62-302.500(l)(a)4. and 62-4.24J(l)(a), F.A.C.]

b. Monitoring Frequency

(1) Routine toxicity tests shall be conducted once every 12 months,.consistent with the existing established schedule and lasting for the duration of this permit.

c. Sampling Requirements

(1) For each routine test or additional follow-up test conducted, a total of three 24-hour composite samples of final effluent shall be collected and used in accordance with the sampling protocol discussed in EPA-821-R-02-014, Section 8.

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

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

d. Test Requirements

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

(2) The permittee shall conduct 7-day survival and growth chronic toxicity tests with a mysid shrimp, Americamysis (Mysidopsis) bahia, Method 1007.0, and an inland silverside, Menidia beryJlina, Method 1006.0, concurrently.

(3) All test species, procedures and quality assurance criteria used shall be in accordance with Short-term Methods for Estimatine the Chronic Toxicity of Effluents and Receivine Waters to Marine and Estuarine Oreanisms, 3rd Edition, EPA-82 l-R-02-014. 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 perrnittee shall conduct chronic toxicity testing in accordance with the revised method.

(4) The control water and dilution water used shall be artificial sea salts as described in EPA-821-R-02- 014, Section 7.2. The test salinity shall be determined as follows:

(a) For the Americamysis bahia bioassays, the effluent shall be adjusted to a salinity of 20 parts per thousand (ppt) with artificial sea salts. The salinity of the control/dilution water (0% effluent) shall be 20 ppt. If the salinity of the effluent is greater than 20 ppt, no salinity adjustment shall be made to the effluent and the test shall be run at the effluent salinity. The salinity of the control/dilution water shall match the salinity of the effluent.

(b) For the Menidia beryllina bioassays, if the effluent salinity is less than Sppt, the salinity shall be adjusted to 5 ppt with artificial sea salts. The salinity of the control/dilution water (0% effluent) shall be 5 ppt. If the salinity of the effluent is greater than 5 ppt, no salinity adjustment shall be made to the effluent and the test shall be run at the effluent salinity. The salinity of the control/dilution water shall match the salinity of the effluent.

(c) If the salinity of the effluent requires adjustment, a salinity adjustment control should be prepared and included with each bioassay. The salinity adjustment control is intended to identify toxicity resulting from adjusting the effluent salinity with artificial sea salts. To prepare the salinity adjustment control, dilute the control/dilution water to the salinity of the effluent and adjust the salinity of the salinity adjustment control at the same time and to the same salinity that the salinity of the effluent is adjusted using the same artificial sea salts.

e. Quality Assurance Requirements

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

(2) If the mortality in the control (0% effluent) exceeds 20% for either species in any test or any test 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 EP A-821-R-02-014,Section 14.12 (Americamysis bahia) and Section 13.12 (Menidia beryllina). The repeat test shall begin within 21 days after the last day of the invalid test.

(3) If 100% mortality occurs in all effluent concentrations for either species prior to the end of any test and the control mortality is less than 20% at that time, the test (including the control) for that species shall be terminated with the conclusion that the test fails and constitutes non-compliance.
(4) Routine and additional follow-up tests shall be evaluated for acceptability based on the observed dose-response relationship as required by EPA-821-R-02-014, Section 10.2.6., and the evaluation shall be included with the bioassay laboratory reports.
f. Reporting Requirements
(1) Results from all required tests shall be reported on the Discharge Monitoring Report (DMR) as follows:
(a) Routine and Additional Follow-up Test Results: The calculated IC25 for each test species shall be entered on the DMR.
(2) A bioassay laboratory report for each routine test shall be prepared according to EPA-821-R-02-014, Section 10, Report Preparation and Test Review, and mailed to the Department at the address below within 30 days after the last day of the test.
(3) For additional follow-up tests, a single bioassay laboratory report shall be prepared according to EPA-
821- R-02-014, Section 10, and mailed within 30 days after the last day of the second valid additional follow-up test.
(4) Data for invalid tests shall be included in the bioassay laboratory report for the repeat test.
(5) The same bioassay data shall not be reported as the results of more than one test.
(6) All bioassay laboratory reports shall be sent to:
Florida Department of Environmental Protection
Southwest District
13051 N. Telecom Parkway
Temple Terrace, Florida 33637
g. Test Failures
(1) A test fails when the test results do not meet the limits in 5.a.(1).
(2) Additional Follow-up Tests:
(a) Ifa routine test does not meet the chronic toxicity limitation in 5.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 5.d.
(b) The first test shall be initiated within 28 days after the last day of the failed routine test. The remaining additional follow-up tests shall be conducted weekly thereafter until a total of two valid additional follow-up tests are completed.

(c) The first additional follow-up test shall be conducted using a control (0% effluent) and a minimum of five dilutions: 100%, 50%, 25%, 12.5%, and 6.25% effluent. The permittee may modify the dilution series in the second additional follow-up test to more accurately bracket the toxicity such that at least two dilutions above and two dilutions below the target concentration and a control (0% effluent) are run. All test results shall be analyzed according to the procedures in EPA-821-R-02- 014.

(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 thfrd 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 5.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 5 .b.(1). If a routine test is invalid according to the acceptance criteria in EPA-821-R-02-014, a repeat test shall be initiated within 21 days after the last day of the invalid routine test.

(f) Upon completion of four consecutive quarterly valid routine tests that demonstrate compliance with the effluent limitation in 5.a.(l) above, the permittee may submit a written request to the Department to terminate the plan. The plan shall be terminated upon written verification by the Department that the facility has passed at least four consecutive quarterly valid routine whole effluent toxicity tests. If a test within the sequence of the four is deemed invalid, but is replaced by a repeat valid test initiated within 21 days after the last day of the invalid test, the invalid test will not be counted against the requirement for four consecutive quarterly valid routine tests for the purpose of terminating the plan.

(4) If chronic toxicity test results indicate greater than 50% mortality within 96 hours in an effluent concentration equal to or less than the effluent concentration specified as the acute toxicity limit in 5.(a)(2), the Department may revise this permit to require acute definitive whole effluent toxicity testing.

(5) The additional follow-up testing and the plan do not preclude the Department taking enforcement action for acute or chronic whole effluent toxicity failures.

[62-4.241, 62-620.620(3)]

6. The discharge shall not contain components that settle to form putrescent deposits or float as debris, scum, oil, or other matter. [62-302.500(J)(a)]

7. The permittee shall maintain current intake traveling screen practices so as to assure that the screens are cycled at least once per day or at least twice during a 24 hour period of circulating water pump operation unless precluded by repair or maintenance requirements. All live fish, shellfish, and other aquatic organisms collected or trapped on the intake screens shall be returned to their natural habitat. Material collected on the intake screens shall be removed and disposed ofin accordance with all the existing Federal, State, and or local laws and regulations that apply to waste disposal. Such material shall not be returned to the receiving waters.

8. The intake through-screen velocity shall be maintained at current levels such that existing maximum velocity is not exceeded.

9. The permittee shall complete all studies and gather all information required under 40 CFR 122.2l(r)(2-13) necessary to establish impingement mortality and entrainment BT A requirements in accordance with the schedule in Permit Condition VJ.4.

10. Nothing in this permit authorizes take for the purposes ofa facility's compliance with the Endangered Species Act 40 CFR 125.98(b)(l).

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:
No exceedances or upsets noted.

Describe previous FYI and WQBEL study:
N/A

Describe previous or current Enforcement Actions (including WLs):
The last Consent Order the facility had was executed on 08/30/1995.

Describe any violations or pro/blems noted in previous inspection: The last CEI was conducted on 08/13/2019. No deficiencies were noted.
Discuss whether DMR trends within previous five years are improving or declining: **D-004:** There have been no exceedances of any parameter within the last 5 years.
Additional Comments (this should include a trend of the Effluent, i.e. if the facility is now Reuse): N/A

PART II: Sampling Event Information

Date(s) sample collected: 02/24/2020	**Sampler(s):** Lance Kautz, Emily Larson, Brandon Wilde
Temperature (Deg C): 19.5	**pH (SU):** 7.8
Dissolved Oxygen (mg/L): 8.50	**Conductivity (umhos/cm):** 38,474
Total Residual Chlorine (mg/L): N/A	**Total Residual Chlorine - after Disinfection (mg/L):** N/A
Method of Chlorination: N/A	**Method of De-chlorination:** N/A

Flow During Sample Collection for each outfall(MGD):

EFF-01: 1116.01 MGD

Mean Flow for each outfall for previous 12 months based on sampling date (If samples are taken on more than one day, indicate Mean Flow for each day):
EFF-01: 2714.67 MGD (02/01/2019-02/29/2020)

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:

Sample location was at the shoreline of the discharge canal. This made it difficult to get the sampler at a deeper depth than 1 foot. Sediment and/or natural detritus may be present in the samples collected.

Appendix B. Explanations 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.

- **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.

- **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(62) 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(62) and/or facility permit limits. Standard reference toxicant (SRT) tests are conducted monthly to ensure quality in toxicity testing.

- **Chlorophyll *a* Content**
  Chlorophyll *a* content is an estimate of algal biomass. High algal biomass implies nutrient stress (Stevenson and Bahls 1999) and may be constitute exceedances of 62-302.530(47), F.A.C., 62-302.530(48)(a) F.A.C. and/or 62-302.530(48)(b) F.A.C..

- **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. AGP results within the range 6.10 to 20.0 mg dry wt/L are suggested to be representative of high productivity for freshwaters (Miller et al. 1978). High AGP values may constitute exceedances of 62-302.530(47), F.A.C., 62-302.530(48)(a), F.A.C. and/or 62-302.530(48)(b), F.A.C..

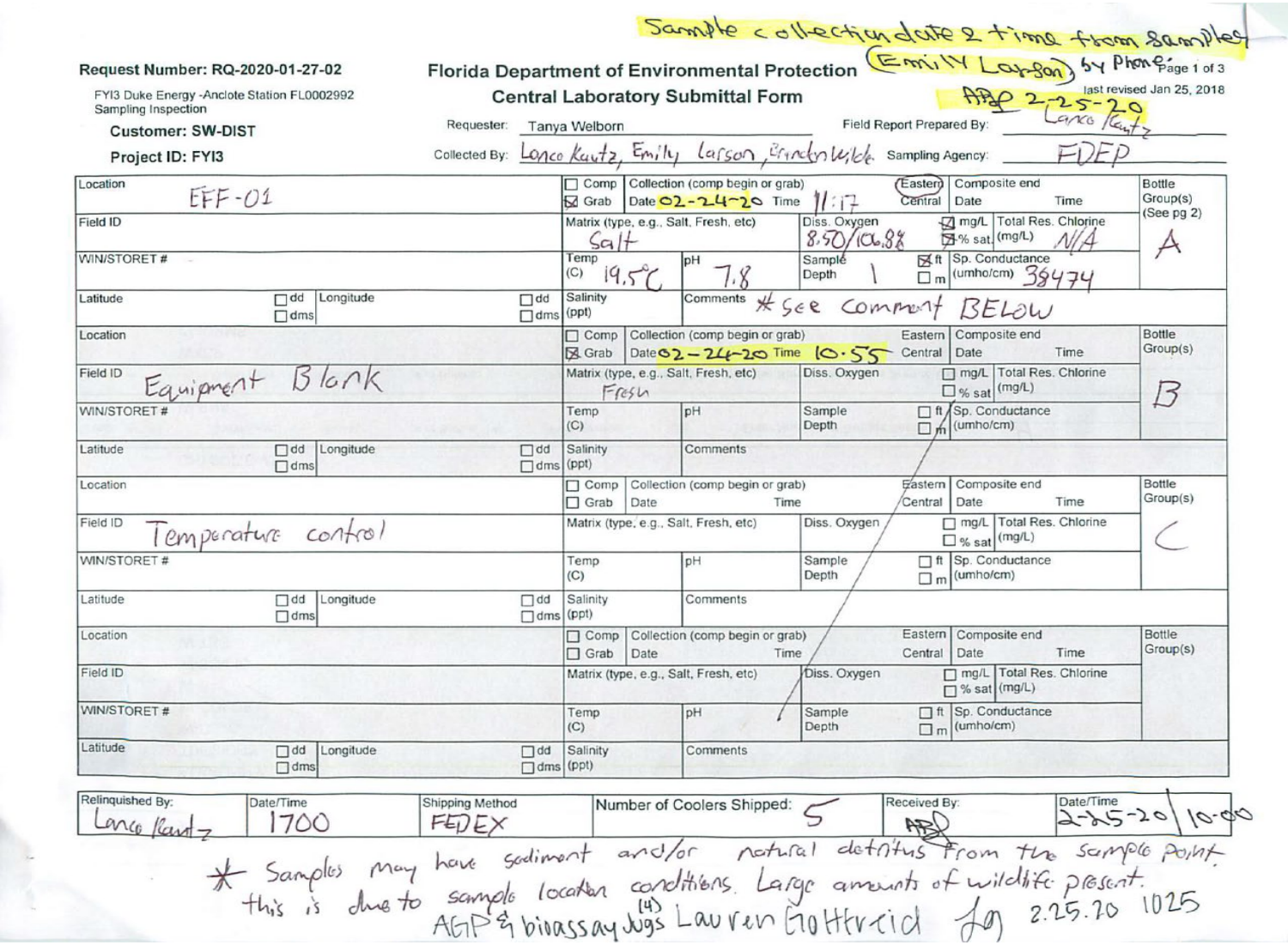
  The concentration of nutrients in a water sample may be used to calculate the expected yield of AGP under the assumption that other required nutrients (e.g. silicon, micronutrients) are present in excess (Miller *et al*. 1978). The expected amount of production is calculated as 38 times the total soluble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

related to toxic compounds present in the water sample tested and may constitute an exceedance of 62-302.530(62), F.A.C.

- **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. Chain of Custody



Sample collection date & time from samples (Emily Larson) by Phone

Page 1 of 3

Request Number: RQ-2020-01-27-02

FYI3 Duke Energy -Anclote Station FL0002992 Sampling Inspection

Customer: SW-DIST

Project ID: FYI3

Florida Department of Environmental Protection

Central Laboratory Submittal Form

last revised Jan 25, 2018

AGP 2-25-20

Requester: Tanya Welborn

Field Report Prepared By: Lance Kautz

Collected By: Lance Kautz, Emily Larson, Brandon Welch

Sampling Agency: FDEP

Location: EFF-01	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 02-24-20 Time 11:17	Eastern Central	Composite end Date	Time	Bottle Group(s) (See pg 2): A					
Field ID	Matrix (type, e.g., Salt, Fresh, etc): Salt			Diss. Oxygen: 8.50/106.8%	☒ mg/L ☒ % sat	Total Res. Chlorine (mg/L): N/A					
WIN/STORET #	Temp (C): 19.5°C	pH: 7.8		Sample Depth: 1	☒ ft ☐ m	Sp. Conductance (umho/cm): 38474					
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments: * See comment BELOW								
Location	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 02-24-20 Time 10:55	Eastern Central	Composite end Date	Time	Bottle Group(s): B					
Field ID: Equipment Blank	Matrix (type, e.g., Salt, Fresh, etc): Fresh			Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)					
WIN/STORET #	Temp (C)	pH		Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)					
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments								
Location	☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time	Eastern Central	Composite end Date	Time	Bottle Group(s): C					
Field ID: Temperature control	Matrix (type, e.g., Salt, Fresh, etc)			Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)					
WIN/STORET #	Temp (C)	pH		Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)					
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments								
Location	☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time	Eastern Central	Composite end Date	Time	Bottle Group(s)					
Field ID	Matrix (type, e.g., Salt, Fresh, etc)			Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)					
WIN/STORET #	Temp (C)	pH		Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)					
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments								

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
Lance Kautz	1700	FEDEX	5	AGP	2-25-20 / 10:00

* Samples may have sediment and/or natural detritus from the sample point. this is due to sample location conditions. Large amounts of wildlife present.

AGP & bioassay (4) jugs Lauren Gottfried lg 2.25.20 1025

Appendix D. Chemical Analysis of Effluent and Receiving Water

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/24/2020 11:17	Effluent Grab	AGP/LN	Algal Growth Potential - Saltwater	3.00 U	mg DryWt/L	3	3
2/24/2020 11:17	Effluent Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	6.6	ug/L	0.6	1.8
2/24/2020 11:17	Effluent Grab	Chlorophyll/Grain Size/BOD	Phaeophytin-a	2.8	ug/L	0.9	2.7
2/24/2020 11:17	Effluent Grab	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	5.2 J	mg/L	0.2	2
2/24/2020 11:17	Effluent Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	4.8	ug/L	0.82	2.5
2/24/2020 11:17	Effluent Grab	Toxicology	Bioassay-Acute-Def-SW-Fish, LC50	100 L	LC50		
2/24/2020 11:17	Effluent Grab	Toxicology	Bioassay-Acute-Def-SW-Mysid, LC50	100 L	LC50		
2/24/2020 11:17	Effluent Grab	Metals	Nickel	2.0 U	ug/L	2	8
2/24/2020 11:17	Effluent Grab	Metals	Potassium	274	mg/L	15	60
2/24/2020 11:17	Effluent Grab	Metals	Iron	90 U	ug/L	90	360
2/24/2020 11:17	Effluent Grab	Metals	Chromium	1.6 U	ug/L	1.6	6.4
2/24/2020 11:17	Effluent Grab	Metals	Cadmium	0.080 U	ug/L	0.08	0.32
2/24/2020 11:17	Effluent Grab	Metals	Zinc	15 U	ug/L	15	60
2/24/2020 11:17	Effluent Grab	Metals	Silver	0.10 U	ug/L	0.1	0.4
2/24/2020 11:17	Effluent Grab	Metals	Lead	0.80 U	ug/L	0.8	1.6
2/24/2020 11:17	Effluent Grab	Metals	Copper	1.7 I	ug/L	1.6	3.2
2/24/2020 11:17	Effluent Grab	Metals	Arsenic	2.04	ug/L	0.2	0.8
2/24/2020 11:17	Effluent Grab	Metals	Calcium	307	mg/L	3.8	15
2/24/2020 11:17	Effluent Grab	Metals	Aluminum	76 I	ug/L	20	80
2/24/2020 11:17	Effluent Grab	Metals	Sodium	7,320	mg/L	25	100
2/24/2020 11:17	Effluent Grab	Metals	Selenium	0.80 U	ug/L	0.8	3.2
2/24/2020 11:17	Effluent Grab	Metals	Magnesium	906	mg/L	2	8
2/24/2020 11:17	Effluent Grab	Nutrients	NO2NO3-N	0.004 I	mg N/L	0.4	0.01
2/24/2020 11:17	Effluent Grab	Nutrients	Kjeldahl Nitrogen	0.6	mg N/L	0.16	0.4
2/24/2020 11:17	Effluent Grab	Nutrients	TSS	13 A	mg/L	3	10
2/24/2020 11:17	Effluent Grab	Nutrients	Color (true)	3.6 I	PCU	2.5	6
2/24/2020 11:17	Effluent Grab	Nutrients	Chloride	14,000	mg Cl/L	40	100
2/24/2020 11:17	Effluent Grab	Nutrients	Turbidity	2.4	NTU	0.1	0.13
2/24/2020 11:17	Effluent Grab	Nutrients	Sulfate	1,900	mg SO4/L	40	100
2/24/2020 11:17	Effluent Grab	Nutrients	Organic Carbon	4.7	mg C/L	1	2
2/24/2020 11:17	Effluent Grab	Nutrients	O-Phosphate-P	0.005 I	mg P/L	0.004	0.01

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/24/2020 11:17	Effluent Grab	Nutrients	Total Alkalinity	144	mg CaCO3/L	0.65	2.5
2/24/2020 11:17	Effluent Grab	Nutrients	Total-P	0.029	mg P/L	0.004	0.01
2/24/2020 11:17	Effluent Grab	Nutrients	Ammonia-N	0.025	mg N/L	0.002	0.005
2/24/2020 11:17	Effluent Grab	Nutrients	Fluoride	0.89	mg F/L	0.18	0.5
2/24/2020 11:17	Effluent Grab	Pesticides	Atrazine	4.8	ng/L	0.24	0.97
2/24/2020 11:17	Effluent Grab	Pesticides	Butylate	0.39 UJ	ng/L	0.39	1.5
2/24/2020 11:17	Effluent Grab	Pesticides	Dimethenamid	0.097 U	ng/L	0.097	0.39
2/24/2020 11:17	Effluent Grab	Pesticides	Metribuzin	3.1 U	ng/L	3.1	13
2/24/2020 11:17	Effluent Grab	Pesticides	Oxadiazon	0.21 I	ng/L	0.097	0.39
2/24/2020 11:17	Effluent Grab	Pesticides	Prometon	0.87 U	ng/L	0.87	3.4
2/24/2020 11:17	Effluent Grab	Pesticides	Azinphos Methyl	4.8 U	ng/L	4.8	19
2/24/2020 11:17	Effluent Grab	Pesticides	Chlorpyrifos Methyl	0.048 U	ng/L	0.048	0.19
2/24/2020 11:17	Effluent Grab	Pesticides	Demeton	6.8 U	ng/L	6.8	27
2/24/2020 11:17	Effluent Grab	Pesticides	Fonofos	0.19 U	ng/L	0.19	0.77
2/24/2020 11:17	Effluent Grab	Pesticides	Metolachlor	0.48 U	ng/L	0.48	1.9
2/24/2020 11:17	Effluent Grab	Pesticides	Norflurazon	0.48 U	ng/L	0.48	1.9
2/24/2020 11:17	Effluent Grab	Pesticides	Terbufos	0.097 U	ng/L	0.097	0.39
2/24/2020 11:17	Effluent Grab	Pesticides	Pronamide	0.15 U	ng/L	0.15	0.58
2/24/2020 11:17	Effluent Grab	Pesticides	Alachlor	0.24 U	ng/L	0.24	0.97
2/24/2020 11:17	Effluent Grab	Pesticides	Chlorpyrifos Ethyl	0.24 U	ng/L	0.24	0.97
2/24/2020 11:17	Effluent Grab	Pesticides	Disulfoton	0.48 U	ng/L	0.48	1.9
2/24/2020 11:17	Effluent Grab	Pesticides	Dithiopyr	0.097 U	ng/L	0.097	0.39
2/24/2020 11:17	Effluent Grab	Pesticides	Fipronil Sulfone	0.17 I	ng/L	0.15	0.58
2/24/2020 11:17	Effluent Grab	Pesticides	Metalaxyl	0.73 U	ng/L	0.73	2.9
2/24/2020 11:17	Effluent Grab	Pesticides	Mevinphos	0.48 U	ng/L	0.48	1.9
2/24/2020 11:17	Effluent Grab	Pesticides	Phorate	0.24 U	ng/L	0.24	0.97
2/24/2020 11:17	Effluent Grab	Pesticides	Flumioxazin	1.7 U	ng/L	1.7	6.8
2/24/2020 11:17	Effluent Grab	Pesticides	Sulfentrazone	0.49 IJ	ng/L	0.48	1.9
2/24/2020 11:17	Effluent Grab	Pesticides	Fenamiphos	0.48 U	ng/L	0.48	1.9
2/24/2020 11:17	Effluent Grab	Pesticides	Molinate	0.29 U	ng/L	0.29	1.2
2/24/2020 11:17	Effluent Grab	Pesticides	Prodiamine	0.17 U	ng/L	0.17	0.68
2/24/2020 11:17	Effluent Grab	Pesticides	Simazine	1.6 I	ng/L	0.48	1.9
2/24/2020 11:17	Effluent Grab	Pesticides	Imazalil	0.73 U	ng/L	0.73	2.9
2/24/2020 11:17	Effluent Grab	Pesticides	Ametryn	0.58 U	ng/L	0.58	2.3

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/24/2020 11:17	Effluent Grab	Pesticides	Cyanazine	3.1 U	ng/L	3.1	13
2/24/2020 11:17	Effluent Grab	Pesticides	Ethoprop	0.097 U	ng/L	0.097	0.39
2/24/2020 11:17	Effluent Grab	Pesticides	Propiconazole	0.48 U	ng/L	0.48	1.9
2/24/2020 11:17	Effluent Grab	Pesticides	Acetochlor	0.24 U	ng/L	0.24	0.97
2/24/2020 11:17	Effluent Grab	Pesticides	Bromacil	0.48 U	ng/L	0.48	1.9
2/24/2020 11:17	Effluent Grab	Pesticides	EPTC	1.2 UJ	ng/L	1.2	4.8
2/24/2020 11:17	Effluent Grab	Pesticides	Fipronil Sulfide	0.15 U	ng/L	0.15	0.58
2/24/2020 11:17	Effluent Grab	Pesticides	Malathion	0.34 U	ng/L	0.34	1.4
2/24/2020 11:17	Effluent Grab	Pesticides	Parathion Methyl	0.53 U	ng/L	0.53	2.1
2/24/2020 11:17	Effluent Grab	Pesticides	Tebuconazole	0.48 U	ng/L	0.48	1.9
2/24/2020 11:17	Effluent Grab	Pesticides	Carbophenothion	0.48 U	ng/L	0.48	1.9
2/24/2020 11:17	Effluent Grab	Pesticides	Diazinon	0.12 U	ng/L	0.12	0.48
2/24/2020 11:17	Effluent Grab	Pesticides	Ethion	0.15 U	ng/L	0.15	0.58
2/24/2020 11:17	Effluent Grab	Pesticides	Fipronil	0.24 U	ng/L	0.24	0.97
2/24/2020 11:17	Effluent Grab	Pesticides	Fipronil Desulfinyl	0.12 U	ng/L	0.12	0.48
2/24/2020 11:17	Effluent Grab	Pesticides	Hexazinone	1.3 I	ng/L	0.48	1.9
2/24/2020 11:17	Effluent Grab	Pesticides	Parathion Ethyl	0.24 U	ng/L	0.24	0.97
2/24/2020 11:17	Effluent Grab	Pesticides	Terbuthylazine	0.41 U	ng/L	0.41	1.6
2/24/2020 11:17	Effluent Grab	Pesticides	Atrazine Desethyl	1.5 U	ng/L	1.5	5.8
2/24/2020 11:17	Effluent Grab	Pesticides	Pendimethalin	0.97 U	ng/L	0.97	3.9
2/24/2020 11:17	Effluent Grab	Pesticides	Prometryn	0.19 U	ng/L	0.19	0.77
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	2-Chloronaphthalene	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.023 U	ug/L	0.023	0.094
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Benzo(a)anthracene	0.023 U	ug/L	0.023	0.094
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Chrysene	0.023 U	ug/L	0.023	0.094
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Di-n-butyl phthalate	1.9 UJ	ug/L	1.9	7.5
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Hexachloroethane	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Phenol	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.8 U	ug/L	2.8	11
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Diethyl phthalate	1.9 U	ug/L	1.9	7.5
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Anthracene	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.047 U	ug/L	0.047	0.19

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Nitrobenzene	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	2,4-Dimethylphenol	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	2,4-Dinitrophenol	9.4 U	ug/L	9.4	37
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	2,6-Dinitrotoluene	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Acenaphthene	0.023 U	ug/L	0.023	0.094
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	4.7 U	ug/L	4.7	19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Di-n-octyl phthalate	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Dimethyl phthalate	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Isophorone	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Pyrene	0.094 UJ	ug/L	0.094	0.37
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	3,3'-Dichlorobenzidine	9.4 U	ug/L	9.4	37
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	4-Nitrophenol	9.4 U	ug/L	9.4	37
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Benzo(a)pyrene	0.023 U	ug/L	0.023	0.094
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Benzo(k)fluoranthene	0.023 U	ug/L	0.023	0.094
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Fluorene	0.023 U	ug/L	0.023	0.094
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Hexachlorobutadiene	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Naphthalene	0.094 U	ug/L	0.094	0.37
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Pentachlorophenol	0.47 U	ug/L	0.47	1.9
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	2-Chlorophenol	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Acenaphthylene	0.023 U	ug/L	0.023	0.094
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.023 U	ug/L	0.023	0.094
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Phenanthrene	0.094 U	ug/L	0.094	0.37
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	2,4-Dinitrotoluene	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Benzo(b)fluoranthene	0.023 U	ug/L	0.023	0.094
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.023 U	ug/L	0.023	0.094
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Butyl benzyl phthalate	0.94 U	ug/L	0.94	3.7
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Fluoranthene	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9 U	ug/L	1.9	7.5
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	2-Nitrophenol	0.047 U	ug/L	0.047	0.19

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	2,4-Dichlorophenol	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Benzidine	9.4 U	ug/L	9.4	37
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	Hexachlorobenzene	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.047 U	ug/L	0.047	0.19
2/24/2020 11:17	Effluent Grab	Nutrients	Sample Depth	1	ft		
2/24/2020 11:17	Effluent Grab	Nutrients	pH	7.8			
2/24/2020 11:17	Effluent Grab	Nutrients	Temperature	19.5	C		
2/24/2020 11:17	Effluent Grab	Nutrients	Dissolved Oxygen	106.88	%Sat		
2/24/2020 11:17	Effluent Grab	Nutrients	Specific Conductance	38474	umhos/cm		
2/24/2020 10:55	Blank	Metals	Selenium	0.20 U	ug/L	0.2	0.8
2/24/2020 10:55	Blank	Metals	Arsenic	0.050 U	ug/L	0.05	0.2
2/24/2020 10:55	Blank	Metals	Lead	0.20 U	ug/L	0.2	0.4
2/24/2020 10:55	Blank	Metals	Copper	0.40 U	ug/L	0.4	0.8
2/24/2020 10:55	Blank	Metals	Zinc	5.0 U	ug/L	5	20
2/24/2020 10:55	Blank	Metals	Iron	30 U	ug/L	30	120
2/24/2020 10:55	Blank	Metals	Calcium	0.075 U	mg/L	0.075	0.3
2/24/2020 10:55	Blank	Metals	Aluminum	5.0 U	ug/L	5	20
2/24/2020 10:55	Blank	Metals	Silver	0.010 U	ug/L	0.01	0.04
2/24/2020 10:55	Blank	Metals	Potassium	0.30 U	mg/L	0.3	1.2
2/24/2020 10:55	Blank	Metals	Cadmium	0.020 U	ug/L	0.02	0.08
2/24/2020 10:55	Blank	Metals	Magnesium	0.040 U	mg/L	0.04	0.16
2/24/2020 10:55	Blank	Metals	Chromium	0.40 U	ug/L	0.4	1.6
2/24/2020 10:55	Blank	Metals	Sodium	0.50 U	mg/L	0.5	2
2/24/2020 10:55	Blank	Metals	Nickel	0.50 U	ug/L	0.5	2
2/24/2020 10:55	Blank	Nutrients	Chloride	0.20 U	mg Cl/L	0.2	0.5
2/24/2020 10:55	Blank	Nutrients	Organic Carbon	0.50 U	mg C/L	0.5	1
2/24/2020 10:55	Blank	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.004	0.01
2/24/2020 10:55	Blank	Nutrients	Ammonia-N	0.002 U	mg N/L	0.002	0.005
2/24/2020 10:55	Blank	Nutrients	Color (true)	2.5 U	PCU	2.5	6
2/24/2020 10:55	Blank	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.08	0.2
2/24/2020 10:55	Blank	Nutrients	Turbidity	0.10 U	NTU	0.1	0.13
2/24/2020 10:55	Blank	Nutrients	Total-P	0.002 U	mg P/L	0.002	0.005
2/24/2020 10:55	Blank	Nutrients	Sulfate	0.20 U	mg SO4/L	0.2	0.5

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/24/2020 10:55	Blank	Nutrients	Fluoride	0.035 U	mg F/L	0.035	0.1
2/24/2020 10:55	Blank	Nutrients	O-Phosphate-P	0.005 I	mg P/L	0.004	0.01
2/24/2020 10:55	Blank	Nutrients	Total Alkalinity	0.65 U	mg CaCO3/L	0.65	2.5
2/24/2020 10:55	Blank	Pesticides	Sulfentrazone	0.52 UJ	ng/L	0.52	2.1
2/24/2020 10:55	Blank	Pesticides	Prodiamine	0.18 U	ng/L	0.18	0.73
2/24/2020 10:55	Blank	Pesticides	Prometryn	0.21 U	ng/L	0.21	0.84
2/24/2020 10:55	Blank	Pesticides	Tebuconazole	0.52 U	ng/L	0.52	2.1
2/24/2020 10:55	Blank	Pesticides	Alachlor	0.26 U	ng/L	0.26	1
2/24/2020 10:55	Blank	Pesticides	Ethoprop	0.10 U	ng/L	0.1	0.42
2/24/2020 10:55	Blank	Pesticides	Hexazinone	0.52 U	ng/L	0.52	2.1
2/24/2020 10:55	Blank	Pesticides	Parathion Methyl	0.58 U	ng/L	0.58	2.3
2/24/2020 10:55	Blank	Pesticides	Chlorpyrifos Methyl	0.052 U	ng/L	0.052	0.21
2/24/2020 10:55	Blank	Pesticides	Flumioxazin	1.8 U	ng/L	1.8	7.3
2/24/2020 10:55	Blank	Pesticides	Fipronil Sulfide	0.16 U	ng/L	0.16	0.63
2/24/2020 10:55	Blank	Pesticides	Fipronil Sulfone	0.16 U	ng/L	0.16	0.63
2/24/2020 10:55	Blank	Pesticides	Metolachlor	0.52 U	ng/L	0.52	2.1
2/24/2020 10:55	Blank	Pesticides	Prometon	0.94 U	ng/L	0.94	3.7
2/24/2020 10:55	Blank	Pesticides	Chlorpyrifos Ethyl	0.26 U	ng/L	0.26	1
2/24/2020 10:55	Blank	Pesticides	Imazalil	0.79 U	ng/L	0.79	3.1
2/24/2020 10:55	Blank	Pesticides	Dithiopyr	0.10 U	ng/L	0.1	0.42
2/24/2020 10:55	Blank	Pesticides	Fenamiphos	0.52 U	ng/L	0.52	2.1
2/24/2020 10:55	Blank	Pesticides	Fonofos	0.21 U	ng/L	0.21	0.84
2/24/2020 10:55	Blank	Pesticides	Phorate	0.26 U	ng/L	0.26	1
2/24/2020 10:55	Blank	Pesticides	Simazine	0.52 U	ng/L	0.52	2.1
2/24/2020 10:55	Blank	Pesticides	Terbufos	0.10 U	ng/L	0.1	0.42
2/24/2020 10:55	Blank	Pesticides	Terbuthylazine	0.45 U	ng/L	0.45	1.8
2/24/2020 10:55	Blank	Pesticides	Ametryn	0.63 U	ng/L	0.63	2.5
2/24/2020 10:55	Blank	Pesticides	Atrazine	0.26 U	ng/L	0.26	1
2/24/2020 10:55	Blank	Pesticides	Demeton	7.3 U	ng/L	7.3	29
2/24/2020 10:55	Blank	Pesticides	Pronamide	0.16 U	ng/L	0.16	0.63
2/24/2020 10:55	Blank	Pesticides	Propiconazole	0.52 U	ng/L	0.52	2.1
2/24/2020 10:55	Blank	Pesticides	EPTC	1.3 UJ	ng/L	1.3	5.2
2/24/2020 10:55	Blank	Pesticides	Ethion	0.16 U	ng/L	0.16	0.63
2/24/2020 10:55	Blank	Pesticides	Fipronil Desulfinyl	0.13 U	ng/L	0.13	0.52

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/24/2020 10:55	Blank	Pesticides	Mevinphos	0.52 U	ng/L	0.52	2.1
2/24/2020 10:55	Blank	Pesticides	Molinate	0.31 U	ng/L	0.31	1.3
2/24/2020 10:55	Blank	Pesticides	Acetochlor	0.26 U	ng/L	0.26	1
2/24/2020 10:55	Blank	Pesticides	Disulfoton	0.52 U	ng/L	0.52	2.1
2/24/2020 10:55	Blank	Pesticides	Malathion	0.37 U	ng/L	0.37	1.5
2/24/2020 10:55	Blank	Pesticides	Metalaxyl	0.79 U	ng/L	0.79	3.1
2/24/2020 10:55	Blank	Pesticides	Azinphos Methyl	5.2 U	ng/L	5.2	21
2/24/2020 10:55	Blank	Pesticides	Bromacil	0.52 U	ng/L	0.52	2.1
2/24/2020 10:55	Blank	Pesticides	Diazinon	0.13 U	ng/L	0.13	0.52
2/24/2020 10:55	Blank	Pesticides	Dimethenamid	0.10 U	ng/L	0.1	0.42
2/24/2020 10:55	Blank	Pesticides	Fipronil	0.26 U	ng/L	0.26	1
2/24/2020 10:55	Blank	Pesticides	Pendimethalin	1.0 U	ng/L	1	4.2
2/24/2020 10:55	Blank	Pesticides	Atrazine Desethyl	1.6 U	ng/L	1.6	6.3
2/24/2020 10:55	Blank	Pesticides	Butylate	0.42 UJ	ng/L	0.42	1.7
2/24/2020 10:55	Blank	Pesticides	Carbophenothion	0.52 U	ng/L	0.52	2.1
2/24/2020 10:55	Blank	Pesticides	Metribuzin	3.4 U	ng/L	3.4	14
2/24/2020 10:55	Blank	Pesticides	Norflurazon	0.52 U	ng/L	0.52	2.1
2/24/2020 10:55	Blank	Pesticides	Oxadiazon	0.10 U	ng/L	0.1	0.42
2/24/2020 10:55	Blank	Pesticides	Parathion Ethyl	0.26 U	ng/L	0.26	1
2/24/2020 10:55	Blank	Pesticides	Cyanazine	3.4 U	ng/L	3.4	14
2/24/2020 10:55	Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	Pentachlorophenol	0.51 U	ug/L	0.51	2
2/24/2020 10:55	Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.026 U	ug/L	0.026	0.1
2/24/2020 10:55	Blank	Priority Organic Pollutants	Dimethyl phthalate	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.026 U	ug/L	0.026	0.1
2/24/2020 10:55	Blank	Priority Organic Pollutants	Di-n-butyl phthalate	2.0 U	ug/L	2	8.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	Chrysene	0.026 U	ug/L	0.026	0.1
2/24/2020 10:55	Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	2.0 U	ug/L	2	8.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	Nitrobenzene	0.051 U	ug/L	0.051	0.2

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/24/2020 10:55	Blank	Priority Organic Pollutants	Pyrene	0.10 U	ug/L	0.1	0.41
2/24/2020 10:55	Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.026 U	ug/L	0.026	0.1
2/24/2020 10:55	Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.026 U	ug/L	0.026	0.1
2/24/2020 10:55	Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.026 U	ug/L	0.026	0.1
2/24/2020 10:55	Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	Phenanthrene	0.10 U	ug/L	0.1	0.41
2/24/2020 10:55	Blank	Priority Organic Pollutants	2-Chlorophenol	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	2,4-Dimethylphenol	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	10 U	ug/L	10	41
2/24/2020 10:55	Blank	Priority Organic Pollutants	Anthracene	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	Fluoranthene	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	Phenol	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	2,4-Dinitrophenol	10 U	ug/L	10	41
2/24/2020 10:55	Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	Fluorene	0.026 U	ug/L	0.026	0.1
2/24/2020 10:55	Blank	Priority Organic Pollutants	Isophorone	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	Acenaphthene	0.026 U	ug/L	0.026	0.1
2/24/2020 10:55	Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.026 U	ug/L	0.026	0.1
2/24/2020 10:55	Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.1 U	ug/L	3.1	12
2/24/2020 10:55	Blank	Priority Organic Pollutants	Naphthalene	0.10 U	ug/L	0.1	0.41
2/24/2020 10:55	Blank	Priority Organic Pollutants	2-Nitrophenol	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	4-Nitrophenol	10 U	ug/L	10	41
2/24/2020 10:55	Blank	Priority Organic Pollutants	Acenaphthylene	0.026 U	ug/L	0.026	0.1
2/24/2020 10:55	Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.026 U	ug/L	0.026	0.1
2/24/2020 10:55	Blank	Priority Organic Pollutants	Diethyl phthalate	2.0 U	ug/L	2	8.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	Hexachlorobenzene	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	Hexachlorobutadiene	0.051 U	ug/L	0.051	0.2

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/24/2020 10:55	Blank	Priority Organic Pollutants	Hexachloroethane	0.051 U	ug/L	0.051	0.2
2/24/2020 10:55	Blank	Priority Organic Pollutants	Benzidine	10 U	ug/L	10	41
2/24/2020 10:55	Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	5.1 U	ug/L	5.1	20
2/24/2020 10:55	Blank	Priority Organic Pollutants	Butyl benzyl phthalate	1.0 U	ug/L	1	4.1