Effluent Quality Assessment of St Andrews Wastewater Treatment Facility Bay County NPDES # FL0020451 Sampled October 18, 20, and 22, 2021

Division of Environmental Assessment and Restoration
Florida Department of Environmental Protection
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Contents

Summary of Results 3
Facility Overview 3
Methods 3
Results 6
Literature Cited 8
Appendix A. Facility Summary 15
Appendix B. Explanations of Measurements 22
Appendix C. Chain of Custody 24
Appendix D. Chemical Analysis of Effluent 28

List of Tables

Table 1. Measured field parameters 9
Table 2. Analytical water chemistry, microbiological, and toxicological data 10
Table 3. Analytical metals data 12
Table 4. Algal Growth Potential (AGP) 13
Table 5. Detected Organic Constituents 14

List of Figures

Figure 1. Map of Facility and Discharge Location 5

Summary of Results

All analytes measured in the effluent grab and composite samples complied with Class III Water Quality Criteria for Marine Waters and effluent permit limits. The IC25 for the chronic toxicity bioassay of freshwater fish was reported as No Result due to the percent minimum significant difference (PMSD) exceeding the method limit. The algal growth potential (AGP) and nutrient results for the effluent grab sample suggest a potential for nutrient enrichment. Sixteen organic constituents were detected in the effluent grab sample.

Facility Overview

The St Andrews WWTF is an advanced domestic wastewater treatment facility that utilizes biological nutrient removal by five stage Bardenpho process. 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. Consent Order 19-1836 was executed on October 29, 2020 to address sanitary sewer overflows and issues with the collection system. The effluent is intermittently discharged into St Andrew Bay, a Class III Marine Water [waterbody identification (WBID) 1061C] (Figure 1).

Receiving waters for this facility fall under the Estuary-Specific Numeric Interpretations of the Narrative Nutrient Criteria for St Andrew Bay within the St Andrew Bay region. For this region, the NNC, expressed as annual geometric means, are 0.019 mg/L total phosphorus, 0.34 mg/L total nitrogen, and 3.7 µg/L chlorophyll *a* (Subparagraph 62-302.532(1)(n)3., F.A.C.). For Class III predominantly marine waters, the daily average dissolved oxygen (DO) saturation shall not be below 42 percent in more than 10 percent of the values (Subsection 62-302.533(2), F.A.C.). 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 24-hour flow proportioned composite samples from monitoring site location EFD-01 for outfall D-001 on October 18, 2021 (Figure 1). Effluent grab samples were collected on October 20, 2021. Effluent renewal composite samples were collected on October 20, 2021 and October 22, 2021. A permit limit for Enterococci exists but the analysis was not scheduled or analyzed. Total residual chlorine was not measured during sampling event.

Samples were collected by Larry Couch and Kylie Decker (Northwest District Office). Analyses were performed by Eurofins Test America Laboratories in Tampa and DEP Laboratory in Tallahassee.

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.

Class III Water Quality Criteria for Fresh and Marine Waters are found in Chapter 62-302, F.A.C. All references to Rule 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.

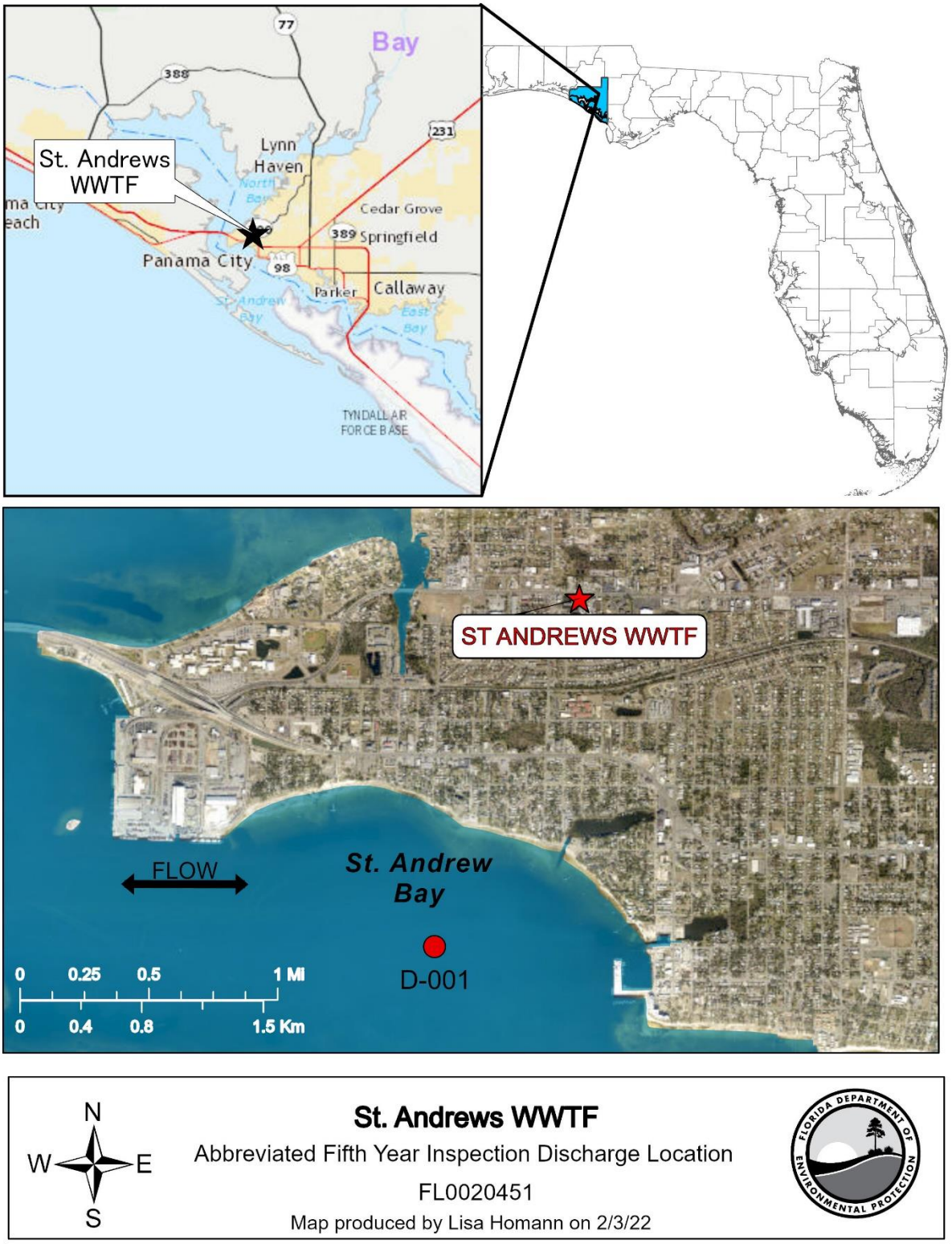


Figure 1. Map of Facility and Discharge Location

Results

Physical and Chemical Parameters (See Table 1 and Appendices C & D)

- All effluent water quality parameters complied with Class III Water Quality Criteria for Marine Waters and effluent permit limits.

Analytical Water Chemistry (See Table 2 and Appendix D)

- All water chemistry analytes detected in the effluent grab and composite samples complied with Class III Water Quality Criteria for Marine Waters and effluent permit limits.

- Total phosphorus and total nitrogen for the effluent composite sample complied with permit limits. For comparative purposes only, total phosphorus, total nitrogen, and chlorophyll *a* in the effluent composite and effluent grab samples were greater than the annual geometric mean limit for NNC in the St. Andrew Bay Region (Subparagraph 62-302.532(1)(n)3., F.A.C.).

Microbiology (See Table 2 and Appendix B)

- Effluent fecal coliform levels complied with effluent permit limits. Enterococci analysis was not performed.

Toxicity Whole Effluent Test (See Table 2)

- Tests were performed October 19 through October 26, 2021.

- The sample was aerated for 20 minutes at a rate of approximately 100 bubbles per minute to decrease the dissolved oxygen (DO) from 10.1 mg/L to 8.8 mg/L.

- Chronic bioassay results are reported as the 25% Inhibition Concentration (IC25). 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 Subsection 62-302.200(5), Subsection 62-302.530(20) and/or facility permit limits.

- During the chronic definitive bioassay, the effluent composite sample IC25 for the water flea, *Ceriodaphnia dubia*, was calculated as being greater than 100% effluent, and therefore complied with effluent permit limits.

- The chronic definitive bioassay for the fish, *Pimephales promelas*, exceeded the method limit for Percent Minimum Significant Difference (PMSD). The test was invalidated and reported as ‘No Result’.

- 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)

- Effluent metals complied with Class III Water Quality Criteria for Marine Waters. There are no effluent permit limits for metals.

Algal Growth Potential (See Table 4 and Appendix B)

- The freshwater unicellular green alga, *Pseudokirchneriella subcapitata*, was used to determine the AGP values in the effluent grab sample. The analytical chemistry suggests that the effluent is ortho-phosphate limited (Miller et al. 1978).

- The effluent grab sample AGP result of 16.2 mg dry wt/L is within the AGP range (6.10 to 20.0 mg dry wt/L) suggested to be representative of high productivity for freshwater (Miller et al. 1978).

Organic Constituents (See Table 5 and Appendix D)

- Atrazine, atrazine desethyl, azoxystrobin, caffeine, fipronil, fipronil desulfinyl, fipronil sulfide, fipronil sulfone, fludioxonil, fluxapyroxad, prodiamine, prometon, propiconazole, simazine, sulfentrazone, and tebucanoazole were detected in the effluent grab sample.

- There are no effluent permit limits for organic constituents.

Literature Cited

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 Water Quality Criteria for Marine Waters, and field parameters

Parameter	Units	Class III Criteria	Effluent Permit Limits	Effluent Composite	Effluent Grab
Temperature	C	-	-	-	26.6
pH	SU	6.5 - 8.5	6.5 - 8.5	-	7.2
Specific Conductance	µmhos/cm	-	-	-	803
Salinity	ppt	-	-	0 c	0.4 c
Dissolved Oxygen	% saturation	≥ 42	-	-	107.4
Dissolved Oxygen	mg/L	-	≥ 6.0	-	8.6

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 Water Quality Criteria for Marine Waters, and analytical water chemistry, microbiological, and toxicological data

Analyte	Units	Class III Criteria	Effluent Permit Limits	Effluent Composite	Effluent Grab
Ortho-phosphate	mg P/L	-	-	-	0.11
Total Phosphorus	mg P/L	≤ 0.019 g	≤ 4.0 s	0.17	0.17
Total Ammonia	mg N/L	-	-	0.065	0.070
Un-ionized Ammonia (calculated salinity)	mg N/L	-	-	-	< 0.02 c
Nitrate and Nitrite	mg N/L	-	-	4.2	4.7
Total Kjeldahl Nitrogen	mg N/L	-	-	0.86	0.90 J
Organic Nitrogen	mg N/L	-	-	0.8 c	0.83 c
Total Nitrogen	mg N/L	≤ 0.34 g	≤ 16.0 s	5.1 c	5.6 c
Total Organic Carbon	mg C/L	-	-	7.9	7.9
Chlorophyll *a* - Corrected	µg/L	≤ 3.7 g	-	-	4.5
Phaeophytin	µg/L	-	-	-	0.90 U
CBOD, 5 day, N - inhibited	mg/L	-	≤ 20.0 s	2.0 U	2.0
Hardness	mg CaCO3/L	-	-	-	119 c
Total Suspended Solids	mg/L	-	≤ 20.0 s	2 IA	-
Turbidity	NTU	≤ 29 t	-	-	0.95 A
Color (true)	PCU	-	-	-	25 A
Alkalinity	mg CaCO3/L	-	-	-	60
Chloride	mg Cl/L	-	-	-	160
Fluoride	mg F/L	≤ 5.0	-	-	0.34
Sulfate	mg SO4/L	-	-	-	42
Fecal Coliforms	cfu/100 mL	-	≤ 86 s	-	16 B
Bioassay - Water flea *(Ceriodaphnia dubia)*	% effluent	-	≥ 100 s	> 100	-
Bioassay - Fish *(Cyprinella leedsi)*	% effluent	-	≥ 100 s	No Result	-

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
c - Value is calculated
g- Value expressed as annual geometric mean.
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

Table 3. Analytical metals data

Effluent limits, Class III Water Quality Criteria for Marine Waters, and analytical metals data

Analyte	Units	Class III Criteria	Effluent Permit Limits	Effluent Grab
Aluminum	µg/L	≤ 1,500	-	43
Arsenic	µg/L	≤ 50	-	1.09
Cadmium	µg/L	≤ 8.8	-	0.020 U
Calcium	mg/L	-	-	27.9
Chromium, Total [1]	µg/L	≤ 50	-	0.40 U
Copper	µg/L	≤ 3.7	-	1.99
Iron	µg/L	≤ 300	-	48 I
Lead	µg/L	≤ 8.5	-	0.20 U
Magnesium	mg/L	-	-	12.0
Nickel	µg/L	≤ 8.3	-	1.8 I
Potassium	mg/L	-	-	8.8
Selenium	µg/L	≤ 71	-	0.20 U
Silver	µg/L	≤ 2.3	-	0.010 U
Sodium	mg/L	-	-	106
Zinc	µg/L	≤ 86	-	37

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

Table 4. Algal Growth Potential (AGP)

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

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*	16.2 A	180 ± 36	47 ± 9.5	210 ± 43	73 ± 15	43.4	32.9

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

Table 5. Detected Organic Constituents

Effluent limits, Class III Water Quality Criteria for Marine Waters, and analytical organic and pesticide data

Analyte	Units	Class III Criteria	Effluent Permit Limits	Effluent Grab
Atrazine	ng/L	-	-	73
Atrazine Desethyl	ng/L	-	-	2.6 I
Azoxystrobin	ng/L	-	-	1.2 I
Caffeine	ng/L	-	-	10 I
Fipronil	ng/L	-	-	30
Fipronil Desulfinyl	ng/L	-	-	2.5
Fipronil Sulfide	ng/L	-	-	3.1
Fipronil Sulfone	ng/L	-	-	5.7
Fludioxonil	ng/L	-	-	0.97
Fluxapyroxad	ng/L	-	-	0.15 I
Prodiamine	ng/L	-	-	0.31 IJ
Prometon	ng/L	-	-	1.7 I
Propiconazole	ng/L	-	-	1.9 I
Simazine	ng/L	-	-	2.6
Sulfentrazone	ng/L	-	-	12
Tebuconazole	ng/L	-	-	23

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
J - Estimated value

Appendix A. Facility Summary

PART I: Information gathered prior to sampling event		
Prepared By: Larry Couch		**Contact Number: (850)767-0047**
Facility Name (as it appears on permit): **St Andrews WWTF**		**Former Names:**
NPDES Permit Number: **FL0020451**	**Permit Expiration Date:** **January 24, 2022**	
Physical Address: **2226 Michigan Avenue, Panama City FL 32405**		
District: **NWD**	**County:** **Bay**	
Function of Facility: **Domestic Wastewater Treatment Facility**		
Facility Type: **DW**	**Permitted Capacity (MGD):** **5 MGD**	
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): 3.881 MGD Annual Average for September 2020 through August 2021.		
If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months): NA		
Description of type of Discharge: **☐ Continuous ☒ Intermittent ☐ Seasonal ☐ Rainfall Dependent** **☐ Other, please specify:**		

Description of Sampling Location(s) - actual permit designation of permitted sampling point(s):
FLW-01 Effluent Flowmeter
EFD-01 Sampling Point immediately after dechlorination
EFA-01 Sampling Point immediately after disinfection
SWA-W Surface Water Monitoring at STORET Station 320300J2
SWA-OUT Surface Water Monitoring at D-001 Outfall
SWA-E Surface Water Monitoring at STORET Station 320300K1

Description of Permitted Outfall(s): Surface Water Discharge D-001: An existing and Phase 1 5.0 MGD annual average daily flow discharge to St. Andrew Bay, Class III Marine waters, (WBID# 1061C) which is approximately 2300 feet in length and discharges at a depth of approximately 35 feet. The point of discharge is located approximately at latitude 30°10' 14" N, longitude -85°42' 51" W.

Description of Treatment Process (if multiple discharge points, include a detailed map or diagram of facility): The permit reauthorizes the upgrade of the existing WWTF from 5.0 MGD to 10 MGD annual average daily flow (AADF) in three phases. The WWTF design is nearly a complete replacement of existing WWTF. The first phase involves construction the new headworks to include two fine screens with a capacity of 8 MGD each with course screens as a manually cleaned back up for fine screens when removed from channels for service, two 21 MGD peak hourly flow capacity grit removal units, three SBR basins with volumes of approximately 3.5 million gallons, two existing anoxic basins will be modified to 0.4 MG post-equalization basins, three Cloth Media Disk Filters totaling 1936.8 square feet capacity, two reaeration basins with two submerged aerators per basin, four tank system Aerobic Digestion with two primary digesters and two secondary digesters, conversion to sodium hypochlorite for disinfection, and reject storage. The first phase is flow limited to 5.0 MGD by the chlorine contact chamber.

Note: the facility has currently completed most of Phase 1 of this schedule.

Phase 1 will increase the permit capacity to 7.5 MGD AADF, 16 MGD peak hourly flow and involves construction the new headworks to include two fine screens with a capacity of 8 MGD each with manually operated course screens as back up, two 21 MGD peak hourly flow capacity grit removal units, three (3.5 million gallons) SBR tanks (Siemens' Omni Flo or Aqua-Aerobic systems, Inc.'s Aqua Excel SBR basins), two existing anoxic basins will be modified to 0.4 MG post-equalization basins, three Cloth Media Disk Filters with approximately 16 MGD peak load capacity, two reaeration basins with two submerged aerators per basin, UV disinfection system consisting of two channels with one reactor per channel, 2 banks per reactor, 2 modules per bank, 8 lamps per module for a total of 64 lamps, four tank system Aerobic Digestion with two primary digesters and two secondary digesters and a belt filter press.

Phase 2 would increase the outfall capacity for the peak discharge capacity of a new effluent pump station of 21 MGD by construction of a new force main to supplement the existing gravity outfall pipe and a new effluent discharge diffuser system in St. Andrews Bay. This second phase of construction requires a permit application for these facility modifications.

Phase 3 will increase the treatment capacity from 7.5 to 10.0 MGD AADF and peak hydraulic capacity to 21 MGD and will include, construction of a fourth identical SBR basin, one additional fine screen with a capacity of 8 MGD, one additional Cloth Media Disk Filters with approximately 8 MGD peak load capacity, and one additional UV module for each of the four UV banks totaling 32 additional UV lamps.

DISPOSAL:

Surface Water Discharge D-001: (See description of Permitted Outfall above)

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**
Flow	**MGD**	**Max** **Max** **Max**	**5.0** **Report** **Report**	**Annual Average** **Monthly Average** **Quarterly Average**	**Continuous**	**Recording Flow Meter with Totalizer**	**FLW-01**	**See I.A.4**
BOD, Carbonaceous 5 day, 20C	**mg/L**	**Max** **Max** **Max** **Max**	**10.0** **12.5** **15.0** **20.0**	**Annual Average** **Monthly Average Weekly Average** **Single Sample**	**5 Days/Week**	**24-hr FPC**	**EFD-01**	
Solids, Total Suspended	**mg/L**	**Max** **Max** **Max** **Max**	**10.0** **12.5** **15.0** **20.0**	**Annual Average** **Monthly Average Weekly Average** **Single Sample**	**5 Days/Week**	**24-hr FPC**	**EFD-01**	
Nitrogen, Total	**mg/L**	**Max** **Max** **Max** **Max**	**8.0** **10.0** **12.0** **16.0**	**Annual Average** **Monthly Average Weekly Average** **Single Sample**	**5 Days/Week**	**24-hr FPC**	**EFD-01**	
Phosphorus, Total (as P)	**mg/L**	**Max** **Max** **Max** **Max**	**2.0** **2.5** **3.0** **4.0**	**Annual Average Monthly Average Weekly Average Single Sample**	**5 Days/Week**	**24-hr FPC**	**EFD-01**	
Coliform, Fecal	**#/100mL**	**Max** **Max** **Max**	**14** **14** **86**	**Annual Average** **Monthly Median Single Sample**	**5 Days/Week**	**Grab**	**EFD-01**	**See I.A.5**
Enterococci	**#/100mL**	**Max** **Max**	**35** **104**	**Monthly Geometric Mean** **Single Sample**	**10/Month**	**Grab**	**EFD-01**	**See I.A.7**
Chlorine, Total Residual (For Disinfection)	**mg/L**	**Min**	**1.0**	**Single Sample**	**Continuous**	**Meter**	**EFA-01**	**See I.A.3 and I.A.6**

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)

Chlorine, Total Residual (For Dechlorination)	**mg/L**	**Max**	**0.01**	**Single Sample**	**Daily; 24 hours**	**Grab**	**EFD-01**	
pH	**s.u.**	**Min** **Max**	**6.5** **8.5**	**Single Sample**	**Continuous**	**Meter**	**EFD-01**	**See I.A.3**
Oxygen, Dissolved (DO)	**mg/L**	**Min**	**6.0**	**Single Sample**	**Daily; 24 hours**	**Grab**	**EFD-01**	
Chronic Whole Effluent Toxicity, 7-Day IC25 (Ceriodaphnia dubia)	**percent**	**Min**	**100**	**Single Sample**	**Semi- Annually; twice per year**	**24-hr FPC**	**EFD-01**	**See I.A.8**
Chronic Whole Effluent Toxicity, 7-Day IC25 (Pimephales promelas)	**percent**	**Min**	**100**	**Single Sample**	**Semi- Annually; twice per year**	**24-hr FPC**	**EFD-01**	**See I.A.8**
Nitrogen, Total	**mg/L**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Grab**	**SWA-W SWA-OUT SWA-E**	
Phosphorus, Total (as P)	**mg/L**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Grab**		
Oxygen, Dissolved Percent Saturation	**percent**	**Min**	**Report**	**Single Sample**	**Quarterly**	**Meter**		
Chlorophyll a	**mg/L**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Grab**		
Transparency, Secchi Disk	**in**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Grab**		

PART I: Continued

Receiving Waters: **St. Andrew Bay**	**Classification (indicate whether fresh or marine):** **Class III Marine Waters**

Toxicity Test Requirements (routine and/or additional test language, test species, salinity adjustment, etc.):
I.A.8. The permittee shall comply with the following requirements to evaluate chronic whole effluent toxicity of the discharge from outfall D-001.
a. Effluent Limitation
(1) In any routine or additional follow-up test for chronic whole effluent toxicity, the 25 percent inhibition concentration (IC25) for reproduction or growth shall not be less than 100% effluent. [Rules 62-302.530(61) and 62-4.241(1)(b), F.A.C.]
(2) For acute whole effluent toxicity, the 96-hour LC50 shall not be less than 100% effluent in any test. [Rule 62-302.500(1)(a)4. and 62-4.241(1)(a), F.A.C.]
b. Monitoring Frequency
(1) Routine toxicity tests shall be conducted once every six months, the first starting six months from the date of the previous testing and lasting for the duration of this permit.
c. Sampling Requirements
(1) For each routine test or additional follow-up test conducted, a total of three flow proportional 24-hr composite samples of final effluent shall be collected and used in accordance with the sampling protocol discussed in EPA-821-R-02-013, Section 8.
(2) The first sample shall be used to initiate the test. The remaining two samples shall be collected according to the protocol and used as renewal solutions on Day 3 (48 hours) and Day 5 (96 hours) of the test.
(3) Samples for routine and additional follow-up tests shall not be collected on the same day.
d. Test Requirements
(1) Routine Tests: All routine tests shall be conducted using a control (0% effluent) and a minimum of five test dilutions: **100%**, **50%**, **25%**, **12.5%**, and **6.25%** final effluent.
(2) The permittee shall conduct a daphnid, **Ceriodaphnia dubia**, Survival and Reproduction Test and a fathead minnow, **Pimephales promelas**, Larval Survival and Growth Test, concurrently.
(3) All test species, procedures and quality assurance criteria used shall be in accordance with **Shortterm Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms**, 4th Edition, EPA-821-R-02-013. Any deviation of the bioassay procedures outlined herein shall be submitted in writing to the Department for review and approval prior to use. In the event the above method is revised, the permittee shall conduct chronic toxicity testing in accordance with the revised method.
(4) The control water and dilution water shall be moderately hard water as described in EPA-821-R-02-013, Section 7.2.3.
e. Quality Assurance Requirements
(1) A standard reference toxicant (SRT) quality assurance (QA) chronic toxicity test shall be conducted with each species used in the required toxicity tests either concurrently or initiated no more than 30 days before the date of each routine or additional follow-up test conducted. Additionally, the SRT test must be conducted concurrently if the test organisms are obtained from outside the test laboratory unless the test organism supplier provides control chart data from at least the last five monthly chronic toxicity tests using the same reference toxicant and test conditions. If the organism supplier provides the required SRT data, the organism supplier's SRT data and the test laboratory's monthly SRT-QA data shall be included in the reports for each companion routine or additional follow-up test required.
(2) If the mortality in the control (0% effluent) exceeds 20% for either species in any test or the "test acceptability criteria" are not met, the test for that species (including the control) shall be invalidated and the test repeated. Test acceptability criteria for each species are defined in EPA-821-R-02-013, Section 13.12 (**Ceriodaphnia dubia**) and Section 11.11 (**Pimephales promelas**). The repeat test shall begin within 21 days after the last day of the invalid test.
(3) If 100% mortality occurs in all effluent concentrations for either test species prior to the end of any test and the control mortality is less than 20% at that time, the test (including the control) for that species shall be terminated with the conclusion that the test fails and constitutes non-compliance.
(4) Routine and additional follow-up tests shall be evaluated for acceptability based on the observed doseresponse relationship as required by EPA-821-R-02-013, Section 10.2.6., and the evaluation shall be included with the bioassay laboratory reports.

Administrative or Consent Orders (date executed, specific requirements, interim limit dates-if applicable, etc.): Consent Order OGC FILE NO. 19-1836 for both St. Andrews WWTF and Millville AWTF was executed on October 29, 2020 to address Sanitary Sewer Overflows (SSO) and issues with the collection system. The facility is ordered to make corrective actions such as mapping the collection system, SSO response and management, evaluating the collection system, preventative measures, information on evaluations and timelines for correction. The facility is required to submit a semiannual progress report that describes what is being done to comply with the Order.

Facility Mixing Zone Details (if applicable): NA

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

Date	Parameter and Units	Limit	Result
6/30/2021	Nitrogen, Total mg/L (Maximum)	16.0	25
12/31/2020	pH s.u. (Minimum)	6.5	6.2

Describe previous FYI and WQBEL study:

Describe previous or current Enforcement Actions (including WLs):

Describe any violations or problems noted in previous inspection: The previous inspection conducted August 6, 2020 found issues with data reported for toxicity sampling as well as exceedances for fecal coliform, total phosphorous, total nitrogen and enterococci. Effluent quality has improved dramatically since bringing the new treatment systems online and the facility is under a correction plan for toxicity.

Discuss whether DMR trends within previous five years are improving or declining:
Effluent quality has much improved as noted above since late 2019.

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: **10/18/21 toxicity only, 10/20/21 toxicity, composites and grabs, 10/22/21 toxicity only**	**Sampler(s):** **Larry Couch, Kylie Decker**
Temperature (Deg C): **26.6°**	**pH (SU):** **7.24**
Dissolved Oxygen (mg/L): **8.56**	**Conductivity (µmhos/cm):** **803**
Total Residual Chlorine (mg/L): **NA**	**Total Residual Chlorine - after Disinfection (mg/L):** **NA**
Method of Chlorination: **NA**	**Method of De-chlorination:** **NA**
Flow During Sample Collection for each outfall(MGD): 3592	
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): 3.22 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: NA	

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 (Chapter 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 Paragraph 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 Subsection 62-302.530(20), Subsection 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 Subsection 62-302.530(62) and/or facility permit limits. Standard reference toxicant (SRT) tests are conducted monthly to ensure quality in toxicity testing.

- **Bacteriological Testing**

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

- **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 Subsection 62-302.530(47), F.A.C., Paragraph 62-302.530(48)(a), F.A.C. and/or Paragraph 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 Subsection 62-302.530(62), F.A.C.

- **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 Subsection 62-302.530(47), F.A.C., Paragraph 62-302.530(48)(a) F.A.C. and/or Paragraph 62-302.530(48)(b) F.A.C..

- **Definition of Qualifiers** (Rule 62-160.700, F.A.C.)

  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

Request Number: RQ-2021-07-26-06

FYI3 FL0020451 St Andrews WWTF Sampling Inspection

Customer: NW-DIST

Project ID: FYI3

Florida Department of Environmental Protection

Central Laboratory Submittal Form

Page 1 of 4

last revised Jan 25, 2018

Requester: Elaine Ignacio

Collected By: Larry Couch

Field Report Prepared By: Larry Couch, NWD

Sampling Agency: FDEP, NWD

Location: St. Andrews WWTF (Panama City)	☒ Comp ☐ Grab	Collection (comp begin or grab) CMT Date 10/17/21 Time 0730 Eastern Central			Composite end Date 10/18/21 Time 0730		Bottle Group(s) (See pg 2): B
Field ID: BSY-CD-FCD (+FSS)	Matrix (type, e.g., Salt, Fresh, etc): Fresh (Effluent)		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: 2 HL Bottles				
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				
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				
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
L. Couch	11/18/21 @ 10:00	FedEx	1	Devon Wetzel	10.19.21/0943

Request Number: RQ-2021-07-26-06

FYI3 FL0020451 St Andrews WWTF Sampling Inspection

Customer: NW-DIST

Project ID: FYI3

Florida Department of Environmental Protection
Central Laboratory Submittal Form

Page 1 of 4

last revised Jan 25, 2018

Requester: Elaine Ignacio

Collected By: Lacey Couch

Field Report Prepared By: Lacey Couch

Sampling Agency: FDEP/NWD

Location: St. Andrews WWTF, Panama City	☒ Comp ☐ Grab	Collection (comp begin or grab) Date 10/19/21 Time 0705	Eastern Central	Composite end Date 10/20/21 Time 1015			Bottle Group(s) (See pg 2): C
Field ID: Effluent Composite	Matrix (type, e.g., Salt, Fresh, etc): Fresh, WW		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				
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				
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
L. Couch	10/20/21 @1030	FEDEX	1		10/21/21 915

Page 14 of 17

10/28/2021

Request Number: RQ-2021-07-26-06

FYI3 FL0020451 St Andrews WWTF Sampling Inspection

Customer: NW-DIST

Project ID: FYI3

Florida Department of Environmental Protection
Central Laboratory Submittal Form

last revised Jan 25, 2018

Requester: Elaine Ignacio

Field Report Prepared By: Kylie Decker

Collected By: Larry Couch

Sampling Agency: FDEP

Location: St. Andrews WWTF	☐ Comp ☒ Grab	Collection (comp begin or grab) Date: 10-20-21	Time: 1126	Eastern (Central)	Composite end Date:	Time:				Bottle Group(s) (See pg 2): A
Field ID: St. Andrews Effluent	Matrix (type, e.g., Salt, Fresh, etc): Fresh			Diss. Oxygen: 8.57	☒ mg/L ☐ % sat	Total Res. Chlorine (mg/L):				
WIN/STORET #:	Temp (C): 26.6	pH: 7.24		Sample Depth:	☐ ft ☐ m	Sp. Conductance (umho/cm): 803				
Latitude: ☐ dd ☐ dms	Longitude: ☐ dd ☐ dms	Salinity (ppt):	Comments: 10-20-21 KD							
Location: St Andrews WWTF	☐ Comp ☐ Grab	Collection (comp begin or grab) Date: 10-19-21	Time: 7:05	Eastern (Central)	Composite end Date: ~~10:15~~	Time: 10:15				Bottle Group(s): B
Field ID: Effluent	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: St Andrews WWTF	☐ Comp ☒ Grab	Collection (comp begin or grab) Date: 10-20-21	Time: 9:30	Eastern Central	Composite end Date:	Time:				Bottle Group(s): C
Field ID: Blanks	Matrix (type, e.g., Salt, Fresh, etc): DI water			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
Decker, K	10-20-21	HD	4		10/20/2021 1619

Request Number: RQ-2021-07-26-06

FYI3 FL0020451 St Andrews WWTF Sampling Inspection

Customer: NW-DIST

Project ID: FYI3

Florida Department of Environmental Protection
Central Laboratory Submittal Form

last revised Jan 25, 2018

Requester: Elaine Ignacio

Collected By: L. Couch

Field Report Prepared By: L. Couch

Sampling Agency: FDEP (NWD)

Location: St. Andrews WWTF			☒ Comp ☐ Grab	Collection (comp begin or grab) Date 10.21.2021 Time 0650	Eastern Central	Composite end Date 10.22.21 Time 0900			Bottle Group(s) (See pg 2) B
Field ID: Effluent			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		
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					
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					
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
L. Couch	10/22/21 @ 1130	~~FEDEX~~	2		10.23.21 / 0900

TEMP BOTTLES: 2.8°C
1.1°C

Appendix D. Chemical Analysis of Effluent

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
10/18/2021 8:30	Effluent composite	Toxicology	Bioassay-Chron-Def-FW-C.dubia, IC25	100 L	IC25		
10/18/2021 8:30	Effluent composite	Toxicology	Bioassay-Chron-Def-FW-Fish, IC25	No result	IC25		
10/18/2021 8:30	Effluent composite	Toxicology	Bioassay-Chron-Def-FW-C.dubia, NOEC	100	NOEC		
10/18/2021 8:30	Effluent composite	Toxicology	Bioassay-Chron-Def-FW-Fish, NOEC	No result	NOEC		
10/20/2021 11:15	Effluent composite	Overflow	Carbonaceous Biochemical Oxygen Demand	2.0 U	mg/L	2.0	2.0
10/20/2021 11:15	Effluent composite	Nutrients	Total-P	0.17	mg P/L	0.0050	0.050
10/20/2021 11:15	Effluent composite	Nutrients	Ammonia-N	0.065	mg N/L	0.010	0.025
10/20/2021 11:15	Effluent composite	Nutrients	Kjeldahl Nitrogen	0.86	mg N/L	0.16	0.40
10/20/2021 11:15	Effluent composite	Nutrients	NO2NO3-N	4.2	mg N/L	0.080	0.20
10/20/2021 11:15	Effluent composite	Nutrients	TSS	2 IA	mg/L	2.0	10
10/20/2021 11:15	Effluent composite	Nutrients	Organic Carbon	7.9	mg C/L	1.0	2.0
10/20/2021 12:26	Effluent grab	AGP/LN	Algal Growth Potential	16.2 A	mg DryWt/L	0.300	0.900
10/20/2021 12:26	Effluent grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	4.5	µg/L	0.82	2.5
10/20/2021 12:26	Effluent grab	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.90 U	µg/L	0.90	2.7
10/20/2021 12:26	Effluent grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	4.9	µg/L	0.60	1.8
10/20/2021 12:26	Effluent grab	Microbiology	Fecal Coliforms-Membrane Filter	16 B	cfu/100 mL	2	2
10/20/2021 12:26	Effluent grab	Metals	Copper	1.99	µg/L	0.40	0.80
10/20/2021 12:26	Effluent grab	Metals	Chromium	0.40 U	µg/L	0.40	1.6
10/20/2021 12:26	Effluent grab	Metals	Aluminum	43	µg/L	5.0	20
10/20/2021 12:26	Effluent grab	Metals	Potassium	8.8	mg/L	0.30	1.2
10/20/2021 12:26	Effluent grab	Metals	Zinc	37	µg/L	5.0	20
10/20/2021 12:26	Effluent grab	Metals	Magnesium	12.0	mg/L	0.040	0.16
10/20/2021 12:26	Effluent grab	Metals	Iron	48 I	µg/L	30	120
10/20/2021 12:26	Effluent grab	Metals	Lead	0.20 U	µg/L	0.20	0.40
10/20/2021 12:26	Effluent grab	Metals	Nickel	1.8 I	µg/L	0.50	2.0
10/20/2021 12:26	Effluent grab	Metals	Calcium	27.9	mg/L	0.075	0.30
10/20/2021 12:26	Effluent grab	Metals	Silver	0.010 U	µg/L	0.010	0.040
10/20/2021 12:26	Effluent grab	Metals	Cadmium	0.020 U	µg/L	0.020	0.080
10/20/2021 12:26	Effluent grab	Metals	Arsenic	1.09	µg/L	0.050	0.20
10/20/2021 12:26	Effluent grab	Metals	Selenium	0.20 U	µg/L	0.20	0.80

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
10/20/2021 12:26	Effluent grab	Metals	Sodium	106	mg/L	0.50	2.0
10/20/2021 12:26	Effluent grab	Nutrients	Sulfate	42	mg SO4/L	0.40	1.0
10/20/2021 12:26	Effluent grab	Nutrients	Turbidity	0.95 A	NTU	0.10	0.13
10/20/2021 12:26	Effluent grab	Nutrients	Kjeldahl Nitrogen	0.90 J	mg N/L	0.16	0.40
10/20/2021 12:26	Effluent grab	Nutrients	Color (true)	25 A	PCU	2.5	6.0
10/20/2021 12:26	Effluent grab	Nutrients	NO2NO3-N	4.7	mg N/L	0.040	0.10
10/20/2021 12:26	Effluent grab	Nutrients	Chloride	160	mg Cl/L	0.40	1.0
10/20/2021 12:26	Effluent grab	Nutrients	Total Alkalinity	60	mg CaCO3/L	0.65	2.5
10/20/2021 12:26	Effluent grab	Nutrients	O-Phosphate-P	0.11	mg P/L	0.0080	0.020
10/20/2021 12:26	Effluent grab	Nutrients	Total-P	0.17	mg P/L	0.0050	0.050
10/20/2021 12:26	Effluent grab	Nutrients	Organic Carbon	7.9	mg C/L	1.0	2.0
10/20/2021 12:26	Effluent grab	Nutrients	Fluoride	0.34	mg F/L	0.035	0.10
10/20/2021 12:26	Effluent grab	Nutrients	Ammonia-N	0.070	mg N/L	0.010	0.025
10/20/2021 12:26	Effluent grab	Pesticides	EPTC	1.2 U	ng/L	1.2	4.9
10/20/2021 12:26	Effluent grab	Pesticides	Iprodione	0.59 UJ	ng/L	0.59	2.4
10/20/2021 12:26	Effluent grab	Pesticides	Metalaxyl	0.74 U	ng/L	0.74	2.9
10/20/2021 12:26	Effluent grab	Pesticides	Metribuzin	3.2 U	ng/L	3.2	13
10/20/2021 12:26	Effluent grab	Pesticides	Oxadiazon	0.29 U	ng/L	0.29	1.2
10/20/2021 12:26	Effluent grab	Pesticides	Phorate	0.52 U	ng/L	0.52	2.1
10/20/2021 12:26	Effluent grab	Pesticides	Prometryn	0.20 U	ng/L	0.20	0.79
10/20/2021 12:26	Effluent grab	Pesticides	Propiconazole	1.9 I	ng/L	0.49	2.0
10/20/2021 12:26	Effluent grab	Pesticides	Azinphos Methyl	2.0 UJ	ng/L	2.0	7.9
10/20/2021 12:26	Effluent grab	Pesticides	Chlorpyrifos Ethyl	0.25 U	ng/L	0.25	0.98
10/20/2021 12:26	Effluent grab	Pesticides	Difenoconazole	0.59 U	ng/L	0.59	2.4
10/20/2021 12:26	Effluent grab	Pesticides	Dimethenamid	0.098 U	ng/L	0.098	0.39
10/20/2021 12:26	Effluent grab	Pesticides	Dithiopyr	0.17 U	ng/L	0.17	0.69
10/20/2021 12:26	Effluent grab	Pesticides	Prodiamine	0.31 IJ	ng/L	0.17	0.69
10/20/2021 12:26	Effluent grab	Pesticides	Pronamide	0.15 U	ng/L	0.15	0.59
10/20/2021 12:26	Effluent grab	Pesticides	Tebuconazole	23	ng/L	0.49	2.0
10/20/2021 12:26	Effluent grab	Pesticides	Carbophenothion	0.49 U	ng/L	0.49	2.0
10/20/2021 12:26	Effluent grab	Pesticides	Chlorpyrifos Methyl	0.049 U	ng/L	0.049	0.20
10/20/2021 12:26	Effluent grab	Pesticides	Diazinon	0.12 U	ng/L	0.12	0.49
10/20/2021 12:26	Effluent grab	Pesticides	Ethion	0.15 U	ng/L	0.15	0.59
10/20/2021 12:26	Effluent grab	Pesticides	Fenbuconazole	0.12 UJ	ng/L	0.12	0.49

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
10/20/2021 12:26	Effluent grab	Pesticides	Fluxapyroxad	0.15 I	ng/L	0.098	0.39
10/20/2021 12:26	Effluent grab	Pesticides	Norflurazon	0.49 U	ng/L	0.49	2.0
10/20/2021 12:26	Effluent grab	Pesticides	Prometon	1.7 I	ng/L	0.88	3.5
10/20/2021 12:26	Effluent grab	Pesticides	Simazine	2.6	ng/L	0.49	2.0
10/20/2021 12:26	Effluent grab	Pesticides	Sucralose	38	ug/L	0.10	0.40
10/20/2021 12:26	Effluent grab	Pesticides	Ibuprofen	0.020 U	ug/L	0.020	0.080
10/20/2021 12:26	Effluent grab	Pesticides	Alachlor	0.25 U	ng/L	0.25	0.98
10/20/2021 12:26	Effluent grab	Pesticides	Atrazine Desethyl	2.6 I	ng/L	1.5	5.9
10/20/2021 12:26	Effluent grab	Pesticides	Azoxystrobin	1.2 I	ng/L	0.49	2.0
10/20/2021 12:26	Effluent grab	Pesticides	Fipronil Sulfide	3.1	ng/L	0.15	0.59
10/20/2021 12:26	Effluent grab	Pesticides	Fipronil Desulfinyl	2.5	ng/L	0.12	0.49
10/20/2021 12:26	Effluent grab	Pesticides	Fluazifop-P-butyl	0.098 U	ng/L	0.098	0.39
10/20/2021 12:26	Effluent grab	Pesticides	Fludioxonil	0.97	ng/L	0.12	0.49
10/20/2021 12:26	Effluent grab	Pesticides	Flumioxazin	1.7 UJ	ng/L	1.7	6.9
10/20/2021 12:26	Effluent grab	Pesticides	Fonofos	0.20 U	ng/L	0.20	0.79
10/20/2021 12:26	Effluent grab	Pesticides	Molinate	0.29 U	ng/L	0.29	1.2
10/20/2021 12:26	Effluent grab	Pesticides	Myclobutanil	0.25 U	ng/L	0.25	0.98
10/20/2021 12:26	Effluent grab	Pesticides	Sulfentrazone	12	ng/L	0.49	2.0
10/20/2021 12:26	Effluent grab	Pesticides	Naproxen	0.0080 U	ug/L	0.0080	0.032
10/20/2021 12:26	Effluent grab	Pesticides	Atrazine	73	ng/L	2.5	9.8
10/20/2021 12:26	Effluent grab	Pesticides	Bromacil	0.49 U	ng/L	0.49	2.0
10/20/2021 12:26	Effluent grab	Pesticides	Butylate	0.39 U	ng/L	0.39	1.6
10/20/2021 12:26	Effluent grab	Pesticides	Flutolanil	0.098 U	ng/L	0.098	0.39
10/20/2021 12:26	Effluent grab	Pesticides	Demeton	1.5 UJ	ng/L	1.5	5.9
10/20/2021 12:26	Effluent grab	Pesticides	Ethoprop	0.098 U	ng/L	0.098	0.39
10/20/2021 12:26	Effluent grab	Pesticides	Imazalil	0.74 UJ	ng/L	0.74	2.9
10/20/2021 12:26	Effluent grab	Pesticides	Parathion Methyl	0.54 U	ng/L	0.54	2.2
10/20/2021 12:26	Effluent grab	Pesticides	Ametryn	0.59 U	ng/L	0.59	2.4
10/20/2021 12:26	Effluent grab	Pesticides	Caffeine	10 I	ng/L	7.4	29
10/20/2021 12:26	Effluent grab	Pesticides	Fipronil	30	ng/L	0.25	0.98
10/20/2021 12:26	Effluent grab	Pesticides	Mevinphos	1.0 U	ng/L	1.0	4.1
10/20/2021 12:26	Effluent grab	Pesticides	Parathion Ethyl	0.25 U	ng/L	0.25	0.98
10/20/2021 12:26	Effluent grab	Pesticides	Pyriproxyfen	0.12 UJ	ng/L	0.12	0.49
10/20/2021 12:26	Effluent grab	Pesticides	Terbuthylazine	0.42 U	ng/L	0.42	1.7

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
10/20/2021 12:26	Effluent grab	Pesticides	Carfentrazone Ethyl	0.098 U	ng/L	0.098	0.39
10/20/2021 12:26	Effluent grab	Pesticides	Cyanazine	3.2 U	ng/L	3.2	13
10/20/2021 12:26	Effluent grab	Pesticides	Disulfoton	0.49 U	ng/L	0.49	2.0
10/20/2021 12:26	Effluent grab	Pesticides	Fenamiphos	0.49 U	ng/L	0.49	2.0
10/20/2021 12:26	Effluent grab	Pesticides	Fipronil Sulfone	5.7	ng/L	0.15	0.59
10/20/2021 12:26	Effluent grab	Pesticides	Malathion	0.34 U	ng/L	0.34	1.4
10/20/2021 12:26	Effluent grab	Pesticides	Hexazinone	0.49 U	ng/L	0.49	2.0
10/20/2021 12:26	Effluent grab	Pesticides	Metolachlor	0.34 U	ng/L	0.34	1.4
10/20/2021 12:26	Effluent grab	Pesticides	Naled	1.5 U	ng/L	1.5	5.9
10/20/2021 12:26	Effluent grab	Pesticides	Oxyfluorfen	0.15 U	ng/L	0.15	0.59
10/20/2021 12:26	Effluent grab	Pesticides	Pendimethalin	0.98 U	ng/L	0.98	3.9
10/20/2021 12:26	Effluent grab	Pesticides	Terbufos	0.098 UJ	ng/L	0.098	0.39
10/20/2021 12:26	Effluent grab	Pesticides	Acetochlor	0.25 U	ng/L	0.25	0.98
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Hexachloroethane	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Naphthalene	0.11 U	µg/L	0.11	0.43
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Nitrobenzene	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Pyrene	0.11 U	µg/L	0.11	0.43
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	2,4-Dinitrotoluene	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Benzidine	11 U	µg/L	11	43
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Anthracene	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Benzo(b)fluoranthene	0.027 U	µg/L	0.027	0.11
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	5.3 U	µg/L	5.3	21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Chrysene	0.027 U	µg/L	0.027	0.11
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Di-n-octyl phthalate	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	2-Nitrophenol	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	2,6-Dinitrotoluene	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Benzo(a)anthracene	0.027 U	µg/L	0.027	0.11
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.027 U	µg/L	0.027	0.11
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Butyl benzyl phthalate	1.1 U	µg/L	1.1	4.3
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Di-n-butyl phthalate	2.1 U	µg/L	2.1	8.5
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Hexachlorobenzene	0.053 U	µg/L	0.053	0.21

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	4-Nitrophenol	11 U	µg/L	11	43
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Isophorone	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	N-Nitrosodimethylamine	2.1 U	µg/L	2.1	8.5
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Benzo(k)fluoranthene	0.027 U	µg/L	0.027	0.11
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Fluorene	0.027 U	µg/L	0.027	0.11
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Phenanthrene	0.11 U	µg/L	0.11	0.43
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.2 U	µg/L	3.2	13
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	2,4-Dichlorophenol	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Acenaphthene	0.027 U	µg/L	0.027	0.11
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.027 U	µg/L	0.027	0.11
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Dimethyl phthalate	0.21 U	µg/L	0.21	0.85
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Pentachlorophenol	0.53 U	µg/L	0.53	2.1
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	2-Chlorophenol	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	2,4-Dimethylphenol	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	2,4-Dinitrophenol	11 U	µg/L	11	43
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Hexachlorobutadiene	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.027 U	µg/L	0.027	0.11
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Phenol	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	3,3'-Dichlorobenzidine	11 U	µg/L	11	43
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Acenaphthylene	0.027 U	µg/L	0.027	0.11
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Fluoranthene	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	2-Chloronaphthalene	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Benzo(a)pyrene	0.027 U	µg/L	0.027	0.11
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.053 U	µg/L	0.053	0.21
10/20/2021 12:26	Effluent grab	Priority Organic Pollutants	Diethyl phthalate	2.1 U	µg/L	2.1	8.5
10/20/2021 12:26	Effluent grab	Nutrients	pH	7.24	SU		
10/20/2021 12:26	Effluent grab	Nutrients	Dissolved Oxygen mg/L	8.57	mg/L		
10/20/2021 12:26	Effluent grab	Nutrients	Specific Conductance	803	µmhos/cm		

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
10/20/2021 12:26	Effluent grab	Nutrients	Temperature	26.6	C		
10/20/2021 10:30	Blank	Metals	Zinc	5.0 U	µg/L	5.0	20
10/20/2021 10:30	Blank	Metals	Lead	0.20 U	µg/L	0.20	0.40
10/20/2021 10:30	Blank	Metals	Aluminum	5.0 U	µg/L	5.0	20
10/20/2021 10:30	Blank	Metals	Cadmium	0.020 U	µg/L	0.020	0.080
10/20/2021 10:30	Blank	Metals	Copper	0.40 U	µg/L	0.40	0.80
10/20/2021 10:30	Blank	Metals	Arsenic	0.050 U	µg/L	0.050	0.20
10/20/2021 10:30	Blank	Metals	Selenium	0.20 U	µg/L	0.20	0.80
10/20/2021 10:30	Blank	Metals	Chromium	0.40 U	µg/L	0.40	1.6
10/20/2021 10:30	Blank	Metals	Calcium	0.075 U	mg/L	0.075	0.30
10/20/2021 10:30	Blank	Metals	Silver	0.010 U	µg/L	0.010	0.040
10/20/2021 10:30	Blank	Metals	Iron	30 U	µg/L	30	120
10/20/2021 10:30	Blank	Metals	Potassium	0.30 U	mg/L	0.30	1.2
10/20/2021 10:30	Blank	Metals	Sodium	0.50 U	mg/L	0.50	2.0
10/20/2021 10:30	Blank	Metals	Magnesium	0.040 U	mg/L	0.040	0.16
10/20/2021 10:30	Blank	Metals	Nickel	0.50 U	µg/L	0.50	2.0
10/20/2021 10:30	Blank	Nutrients	Turbidity	0.10 U	NTU	0.10	0.13
10/20/2021 10:30	Blank	Nutrients	Total Alkalinity	0.65 U	mg CaCO3/L	0.65	2.5
10/20/2021 10:30	Blank	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.0040	0.010
10/20/2021 10:30	Blank	Nutrients	Chloride	0.20 U	mg Cl/L	0.20	0.50
10/20/2021 10:30	Blank	Nutrients	Color (true)	2.5 U	PCU	2.5	6.0
10/20/2021 10:30	Blank	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.0040	0.010
10/20/2021 10:30	Blank	Nutrients	Total-P	0.002 U	mg P/L	0.0020	0.0050
10/20/2021 10:30	Blank	Nutrients	Sulfate	0.20 U	mg SO4/L	0.20	0.50
10/20/2021 10:30	Blank	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.080	0.20
10/20/2021 10:30	Blank	Nutrients	Organic Carbon	0.50 U	mg C/L	0.50	1.0
10/20/2021 10:30	Blank	Nutrients	Ammonia-N	0.002 U	mg N/L	0.0020	0.0050
10/20/2021 10:30	Blank	Nutrients	Fluoride	0.035 U	mg F/L	0.035	0.10
10/20/2021 10:30	Blank	Pesticides	Atrazine Desethyl	1.4 U	ng/L	1.4	5.8
10/20/2021 10:30	Blank	Pesticides	Demeton	1.4 U	ng/L	1.4	5.8
10/20/2021 10:30	Blank	Pesticides	Diazinon	0.12 U	ng/L	0.12	0.48
10/20/2021 10:30	Blank	Pesticides	Dimethenamid	0.096 U	ng/L	0.096	0.39
10/20/2021 10:30	Blank	Pesticides	Fipronil Sulfide	0.14 U	ng/L	0.14	0.58
10/20/2021 10:30	Blank	Pesticides	Malathion	0.34 U	ng/L	0.34	1.3

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
10/20/2021 10:30	Blank	Pesticides	Metolachlor	0.34 U	ng/L	0.34	1.3
10/20/2021 10:30	Blank	Pesticides	Mevinphos	1.0 U	ng/L	1.0	4.0
10/20/2021 10:30	Blank	Pesticides	Pendimethalin	0.96 U	ng/L	0.96	3.9
10/20/2021 10:30	Blank	Pesticides	Pronamide	0.14 U	ng/L	0.14	0.58
10/20/2021 10:30	Blank	Pesticides	Chlorpyrifos Methyl	0.048 U	ng/L	0.048	0.19
10/20/2021 10:30	Blank	Pesticides	Ethoprop	0.096 U	ng/L	0.096	0.39
10/20/2021 10:30	Blank	Pesticides	Flutolanil	0.096 U	ng/L	0.096	0.39
10/20/2021 10:30	Blank	Pesticides	Iprodione	0.58 UJ	ng/L	0.58	2.3
10/20/2021 10:30	Blank	Pesticides	Oxadiazon	0.29 U	ng/L	0.29	1.2
10/20/2021 10:30	Blank	Pesticides	Carbophenothion	0.48 U	ng/L	0.48	1.9
10/20/2021 10:30	Blank	Pesticides	Dithiopyr	0.17 U	ng/L	0.17	0.67
10/20/2021 10:30	Blank	Pesticides	EPTC	1.2 U	ng/L	1.2	4.8
10/20/2021 10:30	Blank	Pesticides	Ethion	0.14 U	ng/L	0.14	0.58
10/20/2021 10:30	Blank	Pesticides	Sucralose	0.010 U	µg/L	0.010	0.040
10/20/2021 10:30	Blank	Pesticides	Oxyfluorfen	0.14 U	ng/L	0.14	0.58
10/20/2021 10:30	Blank	Pesticides	Phorate	0.51 U	ng/L	0.51	2.0
10/20/2021 10:30	Blank	Pesticides	Propiconazole	0.48 U	ng/L	0.48	1.9
10/20/2021 10:30	Blank	Pesticides	Ametryn	0.58 U	ng/L	0.58	2.3
10/20/2021 10:30	Blank	Pesticides	Bromacil	0.48 U	ng/L	0.48	1.9
10/20/2021 10:30	Blank	Pesticides	Naproxen	0.0080 U	µg/L	0.0080	0.032
10/20/2021 10:30	Blank	Pesticides	Fenbuconazole	0.12 UJ	ng/L	0.12	0.48
10/20/2021 10:30	Blank	Pesticides	Fipronil Desulfinyl	0.12 U	ng/L	0.12	0.48
10/20/2021 10:30	Blank	Pesticides	Fipronil Sulfone	0.14 U	ng/L	0.14	0.58
10/20/2021 10:30	Blank	Pesticides	Fludioxonil	0.12 U	ng/L	0.12	0.48
10/20/2021 10:30	Blank	Pesticides	Molinate	0.29 U	ng/L	0.29	1.2
10/20/2021 10:30	Blank	Pesticides	Pyriproxyfen	0.12 UJ	ng/L	0.12	0.48
10/20/2021 10:30	Blank	Pesticides	Terbuthylazine	0.41 U	ng/L	0.41	1.6
10/20/2021 10:30	Blank	Pesticides	Acetochlor	0.24 U	ng/L	0.24	0.96
10/20/2021 10:30	Blank	Pesticides	Cyanazine	3.1 U	ng/L	3.1	13
10/20/2021 10:30	Blank	Pesticides	Difenoconazole	0.58 U	ng/L	0.58	2.3
10/20/2021 10:30	Blank	Pesticides	Flumioxazin	1.7 UJ	ng/L	1.7	6.7
10/20/2021 10:30	Blank	Pesticides	Imazalil	0.72 U	ng/L	0.72	2.9
10/20/2021 10:30	Blank	Pesticides	Metribuzin	3.1 U	ng/L	3.1	13
10/20/2021 10:30	Blank	Pesticides	Naled	1.4 U	ng/L	1.4	5.8

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
10/20/2021 10:30	Blank	Pesticides	Norflurazon	0.48 U	ng/L	0.48	1.9
10/20/2021 10:30	Blank	Pesticides	Prometon	0.87 U	ng/L	0.87	3.5
10/20/2021 10:30	Blank	Pesticides	Simazine	0.48 U	ng/L	0.48	1.9
10/20/2021 10:30	Blank	Pesticides	Terbufos	0.096 U	ng/L	0.096	0.39
10/20/2021 10:30	Blank	Pesticides	Azinphos Methyl	1.9 UJ	ng/L	1.9	7.7
10/20/2021 10:30	Blank	Pesticides	Azoxystrobin	0.48 U	ng/L	0.48	1.9
10/20/2021 10:30	Blank	Pesticides	Disulfoton	0.48 U	ng/L	0.48	1.9
10/20/2021 10:30	Blank	Pesticides	Fipronil	0.24 U	ng/L	0.24	0.96
10/20/2021 10:30	Blank	Pesticides	Myclobutanil	0.24 U	ng/L	0.24	0.96
10/20/2021 10:30	Blank	Pesticides	Parathion Ethyl	0.24 U	ng/L	0.24	0.96
10/20/2021 10:30	Blank	Pesticides	Prodiamine	0.17 UJ	ng/L	0.17	0.67
10/20/2021 10:30	Blank	Pesticides	Prometryn	0.19 U	ng/L	0.19	0.77
10/20/2021 10:30	Blank	Pesticides	Tebuconazole	0.48 U	ng/L	0.48	1.9
10/20/2021 10:30	Blank	Pesticides	Carfentrazone Ethyl	0.096 U	ng/L	0.096	0.39
10/20/2021 10:30	Blank	Pesticides	Ibuprofen	0.020 U	µg/L	0.020	0.080
10/20/2021 10:30	Blank	Pesticides	Fluxapyroxad	0.096 U	ng/L	0.096	0.39
10/20/2021 10:30	Blank	Pesticides	Fonofos	0.19 U	ng/L	0.19	0.77
10/20/2021 10:30	Blank	Pesticides	Hexazinone	0.48 U	ng/L	0.48	1.9
10/20/2021 10:30	Blank	Pesticides	Metalaxyl	0.72 U	ng/L	0.72	2.9
10/20/2021 10:30	Blank	Pesticides	Sulfentrazone	0.48 U	ng/L	0.48	1.9
10/20/2021 10:30	Blank	Pesticides	Atrazine	0.24 U	ng/L	0.24	0.96
10/20/2021 10:30	Blank	Pesticides	Butylate	0.39 U	ng/L	0.39	1.5
10/20/2021 10:30	Blank	Pesticides	Caffeine	7.2 U	ng/L	7.2	29
10/20/2021 10:30	Blank	Pesticides	Chlorpyrifos Ethyl	0.24 U	ng/L	0.24	0.96
10/20/2021 10:30	Blank	Pesticides	Fenamiphos	0.48 U	ng/L	0.48	1.9
10/20/2021 10:30	Blank	Pesticides	Fluazifop-P-butyl	0.096 U	ng/L	0.096	0.39
10/20/2021 10:30	Blank	Pesticides	Parathion Methyl	0.53 U	ng/L	0.53	2.1
10/20/2021 10:30	Blank	Pesticides	Alachlor	0.24 U	ng/L	0.24	0.96
10/20/2021 10:30	Blank	Priority Organic Pollutants	Anthracene	0.052 U	µg/L	0.052	0.21
10/20/2021 10:30	Blank	Priority Organic Pollutants	4-Nitrophenol	10 U	µg/L	10	42
10/20/2021 10:30	Blank	Priority Organic Pollutants	Acenaphthylene	0.026 U	µg/L	0.026	0.10
10/20/2021 10:30	Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.052 U	µg/L	0.052	0.21
10/20/2021 10:30	Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	5.2 U	µg/L	5.2	21
10/20/2021 10:30	Blank	Priority Organic Pollutants	Hexachlorobenzene	0.052 U	µg/L	0.052	0.21

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
10/20/2021 10:30	Blank	Priority Organic Pollutants	Hexachloroethane	0.052 U	µg/L	0.052	0.21
10/20/2021 10:30	Blank	Priority Organic Pollutants	Phenol	0.052 U	µg/L	0.052	0.21
10/20/2021 10:30	Blank	Priority Organic Pollutants	2-Nitrophenol	0.052 U	µg/L	0.052	0.21
10/20/2021 10:30	Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	10 U	µg/L	10	42
10/20/2021 10:30	Blank	Priority Organic Pollutants	Benzidine	10 U	µg/L	10	42
10/20/2021 10:30	Blank	Priority Organic Pollutants	Acenaphthene	0.026 U	µg/L	0.026	0.10
10/20/2021 10:30	Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.026 U	µg/L	0.026	0.10
10/20/2021 10:30	Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.026 U	µg/L	0.026	0.10
10/20/2021 10:30	Blank	Priority Organic Pollutants	Phenanthrene	0.10 U	µg/L	0.10	0.42
10/20/2021 10:30	Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.052 U	µg/L	0.052	0.21
10/20/2021 10:30	Blank	Priority Organic Pollutants	Chrysene	0.026 U	µg/L	0.026	0.10
10/20/2021 10:30	Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.1 U	µg/L	3.1	12
10/20/2021 10:30	Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.052 U	µg/L	0.052	0.21
10/20/2021 10:30	Blank	Priority Organic Pollutants	Di-n-butyl phthalate	2.1 U	µg/L	2.1	8.3
10/20/2021 10:30	Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.052 U	µg/L	0.052	0.21
10/20/2021 10:30	Blank	Priority Organic Pollutants	Fluorene	0.026 U	µg/L	0.026	0.10
10/20/2021 10:30	Blank	Priority Organic Pollutants	Hexachlorobutadiene	0.052 U	µg/L	0.052	0.21
10/20/2021 10:30	Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	2.1 U	µg/L	2.1	8.3
10/20/2021 10:30	Blank	Priority Organic Pollutants	Nitrobenzene	0.052 U	µg/L	0.052	0.21
10/20/2021 10:30	Blank	Priority Organic Pollutants	Pentachlorophenol	0.52 U	µg/L	0.52	2.1
10/20/2021 10:30	Blank	Priority Organic Pollutants	2-Chlorophenol	0.052 U	µg/L	0.052	0.21
10/20/2021 10:30	Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.026 U	µg/L	0.026	0.10
10/20/2021 10:30	Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.026 U	µg/L	0.026	0.10
10/20/2021 10:30	Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.052 U	µg/L	0.052	0.21
10/20/2021 10:30	Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.052 U	µg/L	0.052	0.21
10/20/2021 10:30	Blank	Priority Organic Pollutants	Dimethyl phthalate	0.21 U	µg/L	0.21	0.83
10/20/2021 10:30	Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.052 U	µg/L	0.052	0.21
10/20/2021 10:30	Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.052 U	µg/L	0.052	0.21
10/20/2021 10:30	Blank	Priority Organic Pollutants	Naphthalene	0.10 U	µg/L	0.10	0.42
10/20/2021 10:30	Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.052 U	µg/L	0.052	0.21
10/20/2021 10:30	Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.052 U	µg/L	0.052	0.21
10/20/2021 10:30	Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.026 U	µg/L	0.026	0.10
10/20/2021 10:30	Blank	Priority Organic Pollutants	Isophorone	0.052 U	µg/L	0.052	0.21
10/20/2021 10:30	Blank	Priority Organic Pollutants	Pyrene	0.10 U	µg/L	0.10	0.42

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
10/20/2021 10:30	Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.052 U	µg/L	0.052	0.21
10/20/2021 10:30	Blank	Priority Organic Pollutants	2,4-Dimethylphenol	0.052 U	µg/L	0.052	0.21
10/20/2021 10:30	Blank	Priority Organic Pollutants	2,4-Dinitrophenol	10 U	µg/L	10	42
10/20/2021 10:30	Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.052 U	µg/L	0.052	0.21
10/20/2021 10:30	Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.052 U	µg/L	0.052	0.21
10/20/2021 10:30	Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.052 U	µg/L	0.052	0.21
10/20/2021 10:30	Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.026 U	µg/L	0.026	0.10
10/20/2021 10:30	Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.026 U	µg/L	0.026	0.10
10/20/2021 10:30	Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.052 U	µg/L	0.052	0.21
10/20/2021 10:30	Blank	Priority Organic Pollutants	Butyl benzyl phthalate	1.0 U	µg/L	1.0	4.2
10/20/2021 10:30	Blank	Priority Organic Pollutants	Diethyl phthalate	2.1 U	µg/L	2.1	8.3
10/20/2021 10:30	Blank	Priority Organic Pollutants	Fluoranthene	0.052 U	µg/L	0.052	0.21