Effluent Quality Assessment of Fleming Island Regional Wastewater Treatment Facility Clay County NPDES # FL0043834 Sampled January 30 & February 1, 2023

Division of Environmental Assessment and Restoration
Florida Department of Environmental Protection
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Summary of Results

Iron measured in the effluent grab exceeded the Class III Water Quality Criterion for Marine Waters. All other analytes measured in the effluent grab and 24-hour time proportioned composite samples complied with Class III Water Quality Criteria for Marine Waters and effluent permit limits. The nutrient and algal growth potential (AGP) results do not suggest a potential for nutrient enrichment of the receiving waters. There were 14 organic constituents detected in the effluent grab sample.

Facility Overview

The Fleming Island WWTF is a domestic wastewater treatment 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 the lower St. Johns River, a Class III predominately Marine Water [waterbody identification (WBID) 2213H] (Figure 1).

Receiving waters for this facility fall under the Estuary-Specific Numeric Interpretations of the Narrative Nutrient Criteria (NNC) for the Lower St. Johns River and Tributaries. For this region, the NNC, expressed as an annual load, is 722,834 kg/yr total phosphorus (Paragraph 62-302.532(1)(bb), F.A.C.). The Total Maximum Daily Load (TMDL) is 1,376,855 kg/yr total nitrogen (Subsection 62-304.415(2), F.A.C.). The NNC, expressed as the long-term average of annual means, is 5.4 µg/L chlorophyll *a* (Paragraph 62-302.532(1)(bb), 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 grab samples were collected from monitoring site location EFD-01, for outfall D-001 on January 30, 2023. Effluent 24-hour time proportioned composite samples were collected from this site on February 1, 2023. The RQ was originally scheduled to have the toxicity bioassay samples collected as composite samples, but a grab sample was collected per EPA method requirements for acute testing. There is a permit limit for CBOD analysis. This analysis was scheduled but the sample was not received by the overflow laboratory. There is a permit limit for mercury and the analysis was not scheduled. Due to sampling equipment limitations, a time-proportioned effluent sample was collected when the permit specifies flow-proportioned composite samples.

Samples were collected by Conor Lucey and Philippe Hook (Northeast District). Analyses were performed by Diversified Environmental Laboratories in Jacksonville 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.

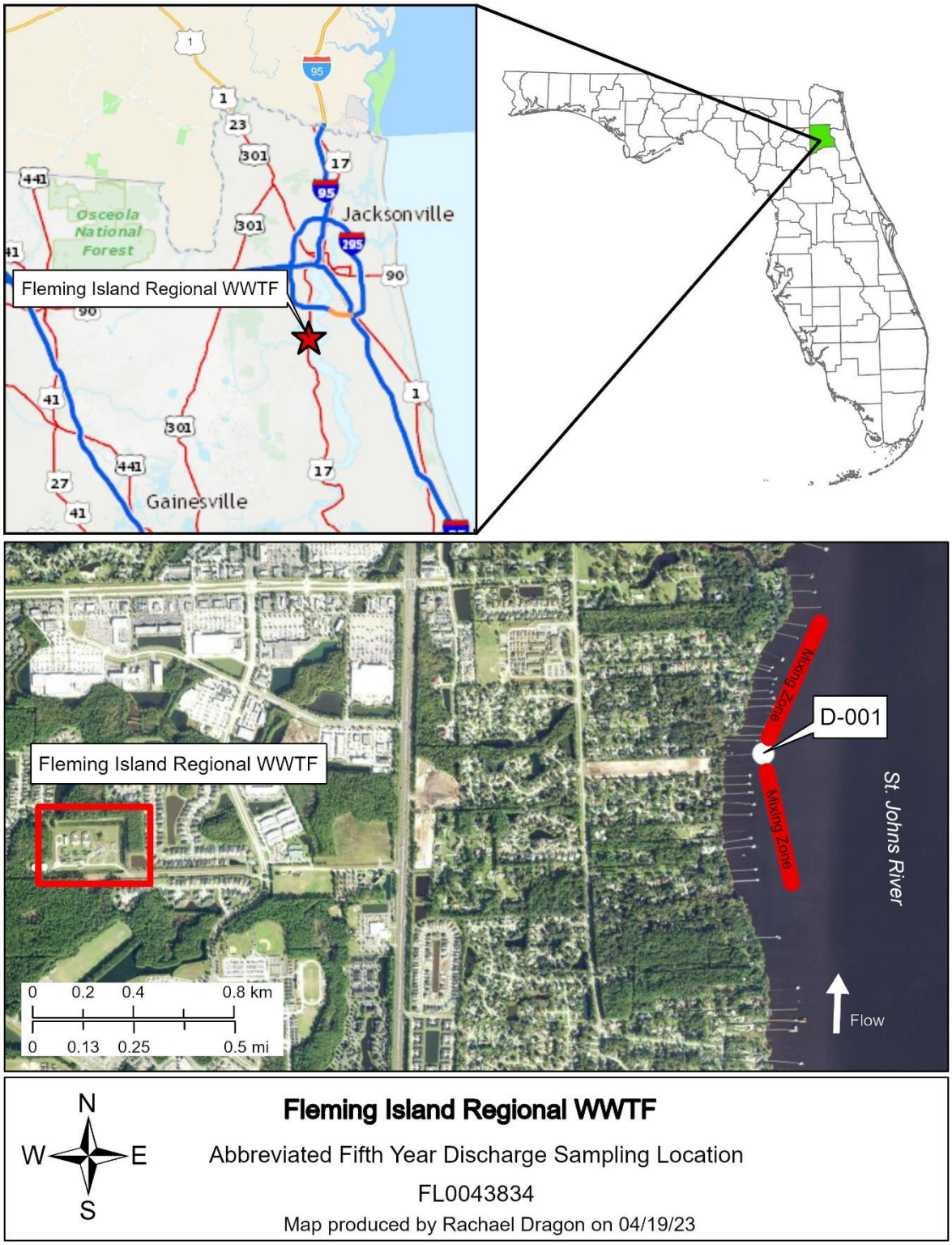


Figure 1. Map of Facility and Discharge Location

Results

Physical and Chemical Parameters (See Table 1 and Appendices C and 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 sample complied with Class III Water Quality Criteria for Marine Waters and effluent permit limits.

- Total phosphorus, ortho-phosphate, and turbidity were detected in the field blank between the MDL and PQL.

Microbiology (See Table 2 and Appendix B)

- The effluent enterococci level complied with the Class III Water Quality Criterion for Marine Waters and effluent permit limit. The effluent fecal coliform level complied with the effluent permit limit.

Toxicity Whole Effluent Test (See Table 2)

- Tests were performed January 31 through February 4, 2023.

- The sample was aerated for 15 minutes at a rate of approximately 100 bubbles per minute to decrease the dissolved oxygen (DO) from 9.88 mg/L to 8.4 mg/L.

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

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

- For the 96-hour acute definitive test, the calculated LC50 for the water flea, *Ceriodaphnia dubia*, was >60% effluent with 0% mortality in 60% sample. The calculated LC50 for the fish, *Cyprinella leedsi*, was >60% effluent with 0% mortality in 60% sample. The effluent sample was not toxic to either test species 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)

- Effluent iron exceeded the Class III Water Quality Criterion for Marine Waters (Subsection 62-302.530(38), F.A.C.).

- 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 nitrogen-limited (Miller et al. 1978).

- The effluent grab sample AGP result of 1.16 mg dry wt/L is within the AGP range (0.81 to 6.0 mg dry wt/L) suggested to be representative of moderately high productivity for freshwater (Miller et al. 1978).

- Differences greater than an order of magnitude between actual and predicted AGP values are considered sufficient evidence to warrant follow up testing with the algal growth inhibition bioassay. True algal growth inhibition can only be determined by performing an actual algal growth inhibition test. Should algal growth inhibition be suspected, the district should request that the algal growth inhibition test be performed as a follow-up to the inspection.

- A salinity adjusted AGP was not run but is recommended for the next sampling inspection.

Organic Constituents (See Table 5 and Appendix D)

- Atrazine, altrazine desethyl, azoxystrobin, bromacil, dithiopyr, fipronil sulfide, flutolanil, fluxapyroxad, loratadine, myclobutanil, propiconazole, simazine, tebuconazole and hexachlorocyclopentadiene were detected in the effluent grab sample. These include five herbicides, six fungicides, an insecticide, an antihistamine, and a pesticide intermediate.

- Propiconazole was detected in the field blank between the MDL and PQL.

- 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 EFD-01
Temperature	C	-	Report	21.6
pH	SU	6.5 - 8.5	6.5 - 8.5 s	6.8
Specific Conductance	µmhos/cm	-	-	844
Salinity	ppt	-	-	0.4 c
Dissolved Oxygen	mg/L	-	≥ 5.0 s	7.8
Dissolved Oxygen	% saturation	≥ 42.0	-	88.8

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

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 (EFD-01)	Effluent Grab (EFD-01)
Ortho-phosphate[1]	mg P/L	-	Report	-	1.1
Total Phosphorus[1]	mg P/L	-	≤ 3.04 sp	0.90	1.4
Total Ammonia Nitrogen	mg N/L	-	Report	0.076	0.12
Un-ionized Ammonia (calc salinity)	mg N/L	-	-	-	< 0.02 c
Nitrate and Nitrite	mg N/L	-	Report	0.93	0.88
Total Kjeldahl Nitrogen	mg N/L	-	Report	0.86 AJ	0.98
Organic Nitrogen	mg N/L	-	Report	0.78 c	0.86 c
Total Nitrogen	mg N/L	-	≤ 15.20 sp	1.79 c	1.86 c
Total Organic Carbon	mg C/L	-	-	-	6.3
Chlorophyll *a* - Corrected	µg/L	≤ 5.4	-	-	0.82 U
Phaeophytin	µg/L	-	-	-	0.90 U
Hardness	mg CaCO3/L	-	-	-	120 c
Total Suspended Solids	mg/L	-	≤ 45.60 sp	2 U	2 U
Turbidity[1]	NTU	≤ 29 t	-	-	1.8
Color (true)	PCU	-	-	-	3.5 I
Alkalinity	mg CaCO3/L	-	-	-	81 A
Chloride	mg Cl/L	-	-	-	110
Fluoride	mg F/L	≤ 5.0	-	-	0.29
Sulfate	mg SO4/L	-	-	-	140
Fecal Coliforms	MPN/100 mL	-	≤ 800 s	-	1.0
Escherichia coli	MPN/100 mL	-	-	-	1.0 U
Enterococci	MPN/100 mL	≤ 130	≤ 130	-	1.0 U
Bioassay - Water flea *(C. dubia)*	% effluent	-	≥ 30 sp	-	> 60
Bioassay - Fish *(C. leedsi)*	% effluent	-	≥ 30 sp	-	> 60

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
c - Value is calculated
p - 24 flow proportioned composite
s - Single sample
t - Shall not exceed 29 NTUs above background
A - Value reported is the mean of two or more determinations
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
J - Estimated value
U - Material analyzed for but not detected; value reported is the method detection limit
1- Analyte detected in the field blank

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 (EFD-01)
Aluminum	µg/L	≤ 1,500	-	5.5 I
Arsenic	µg/L	≤ 50	-	0.20
Cadmium	µg/L	≤ 8.8	-	0.022 I
Calcium	mg/L	-	-	27.3
Chromium, Total [2]	µg/L	≤ 50	-	1.0 U
Copper	µg/L	≤ 3.7	-	1.45
Iron	µg/L	≤ 300	-	480 e
Lead	µg/L	≤ 8.5	-	0.20 U
Magnesium	mg/L	-	-	12.6
Nickel	µg/L	≤ 8.3	-	2.1
Potassium	mg/L	-	-	15.0
Selenium	µg/L	≤ 71	-	0.20 U
Silver	µg/L	≤ 2.3	-	0.010 U
Sodium	mg/L	-	-	110
Zinc	µg/L	≤ 86	-	47

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
e - Value exceeds the Class III Water Quality Criteria or permit limits
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
U - Material analyzed for but not detected; value reported is the method detection limit
2 - Class III Marine Water Quality Criterion (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*	1.16 A	38 ± 7.6	473 ± 94.6	70.7 ± 14.1	602 ± 120.4	0.9	1.3

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 (EFD-01)
Atrazine	ng/L	-	-	73
Atrazine Desethyl	ng/L	-	-	5.0 I
Azoxystrobin	ng/L	-	-	1.3 I
Bromacil	ng/L	-	-	0.95 I
Dithiopyr	ng/L	-	-	0.65 I
Fipronil Sulfide	ng/L	-	-	0.29 I
Flutolanil	ng/L	-	-	0.44
Fluxapyroxad	ng/L	-	-	0.22 I
Loratadine	ng/L	-	-	3.0
Myclobutanil	ng/L	-	-	0.41 I
Propiconazole[3]	ng/L	-	-	2.3
Simazine	ng/L	-	-	35
Tebuconazole	ng/L	-	-	4.3
Hexachlorocyclopentadiene	µg/L	-	-	0.056 I

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

3 - Analyte detected in the field blank

Appendix A. Facility Summary

PART I: Information gathered prior to sampling event	
Prepared By: Ally Ouellette	**Contact Number:** (904) 256-1510
Facility Name (as it appears on permit): Fleming Island Regional WWTF	**Former Names:** N/A
NPDES Permit Number: FL0043834	**Permit Expiration Date:** June 11, 2023
Physical Address: 1170 Radar Road Fleming Island, Florida 32003	
District: Northeast District	**County:** Clay
Function of Facility: Domestic Wastewater Treatment	
Facility Type: DW NPDES Major	**Permitted Capacity (MGD):** 4 million gallons per day (MGD)
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): 1/2022-1/2023 Flow Average 1.19 MGD	
If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months): 1/2022-1/2023 Flow Average 1.63 MGD	
Description of type of Discharge: ☒ **Continuous** ☐ **Intermittent** ☐ **Seasonal** ☐ **Rainfall Dependent** ☐ **Other, please specify:**	
Description of Sampling Location(s) - actual permit designation of permitted sampling point(s): Monitoring Site Locations **EFD-1:** Effluent point after dichlorination (Combined effluent of Fleming Island WWTF, Fleming Oaks WWTF and Ridaught Landing WWTF), and immediately prior discharge to St. Johns River. **CAL-1:** Calculated percent removal of CBOD5 and/or TSS **CAL-3:** Calculated mass load of TN and/or TP **SWD-1:** 500 feet south of outfall D-001 **SWD-2:** 500 feet south of outfall D-001 **SWB-1:** 500 feet east of outfall D-001	
Description of Permitted Outfall(s): **Existing Condition D-001:** An existing 6.365 MGD AADF and 7.92 MGD maximum daily flow permitted discharge capacity to the St. Johns River (Class III predominantly marine waters - WBID 2213H) which is approximately two 12-inch single port diffusers located 750 feet from the shore at a total water depth of 4.9 ft at MLW. **Future Condition D-001:** A 8.37 MGD annual average daily flow and 12.5 MGD maximum daily flow permitted discharge capacity to the St. Johns River (Class III predominantly marine waters - WBID 2213H). The outfall will consist of three 12-inch single port diffusers with 10-inch orifice plates at the terminus of the pipes located 750 feet from the shore at a total water depth of approximately 4.9 feet at MLW.	

Reuse – Land Application R-001: An existing 9.63 MGD AADF design capacity of the slow-rate public access irrigation system. The permitted capacity of the reuse system is limited to 6.365 MGD AADF due to limited capacity of reclaimed water produced from the CCUA's wastewater treatment facilities.

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

To operate an existing 4.0 million gallons per day (MGD) annual average daily flow (AADF) permitted capacity activated sludge advanced secondary domestic wastewater treatment plant consisting of:

- An influent headworks with an aerated grit chamber; stainless steel, self-cleaning mechanical screens with 6 mm openings, installed in a 3.0 ft. wide channel, capable of handling 6.0 MGD (peak flow); and an influent flow splitter,
- Two 200-ft elliptical carrousel 2-stage design oxidation ditches each equipped with a 0.18-million gallon (MG) and 1.16-MG anoxic and aerobic zone, respectively; the aeration zone is aerated by three 75-hp turbine, low speed, fixed mechanical surface aerators; the anoxic zone is equipped with two 7.5-hp submerged turbine mixers;
- Three secondary clarifiers originally (named as clarifiers No 1, 2 and 3) and clarifier 4 was built and is described below. Clarifier No. 1 is 54-ft diameter peripheral feed, 15-ft side water depth, 256,000-gallon volume; and equipped with a scum removal device and sludge collection. Clarifiers No. 2 and 3 are 70-ft diameter peripheral feed, 14-ft side water depth, 3,847-ft2 surface area, 403,304 gallons volume; and equipped with sludge removal scraper arms, hinged race skimmers and scum trough assembly, inlet troughs and an effluent weir trough.;
- Four automatic backwash traveling bridge filters each with a filtration area of 350 ft^2; provides a filtration rate of 3.5 GPM per square foot;
- Four chlorine contact chambers (named CCC No 1, 2, 3, and 4). CCC No 1 consists of two 23,500-gallon chambers having dimensions of 31.33 ft x 21.33 ft x 7 ft deep (currently inactive). CCC No 2 consists one 45,000-gallon tank having dimensions of 30 ft x 40 ft x 7.5 ft deep. CCC No 3 and 4 each have dimensions of 36 ft x 36 ft x 10 ft deep, with a volume of 64,800 gallons each;
- A reclaimed water distribution box to direct reclaimed water flow from the Ridaught Landing WWTF;
- A reclaimed water pumping station that consist of four above ground 60-hp self-priming centrifugal pumps capable of pumping 1,900 GPM and two – 10 hp, above ground self-pumping centrifugal pumps, which are capable of pumping 120 GPM at 130 ft TDH and are used for in-plant reuse.
- A surface water discharge pump station that consists of four (three existing and one new) – 100 hp motors that deliver effluent to LSJR outfall;
- A 0.85-MG aerobic digester with a side water depth of 14 ft, a 0.25-MG thickened sludge holding tank, five 40-hp blowers capable of supplying 550 ft^3 of air each, and a 200-GPM rotary drum thickener;
- And a BioChem (BCR) Neutralizer System consisting of two 160-GPM rotary disk thickeners, two polymer feed systems, two 15,000-gallon process tanks, and one Centrisys 2-Phase Centrifuge (130 gpm @4% solids.) The automated process begins when wasted activated sludge is sent to the sludge thickening devices. Once thickened the sludge is transferred to the process tank and is treated with chlorine dioxide. The sludge and chlorine dioxide are mixed together by mechanical mixing. The sludge is then acidified using sulfuric acid. Once the proper pH has been reached, for optimal formation of nitrous acid, sodium nitrite is added. The process tank is a closed vessel to assure that the concentration of nitrous acid saturation in the sludge is maintained. Once the desired pH, ORP, and nitrous acid concentration is achieved, the batch is continuously mixed by means of a mechanical mixer and recirculation pump. The tank is then depressurized and the biosolids are neutralized using sodium hydroxide. The biosolids are pumped from the process tank, injected with polymer and then sent to the centrifuge for dewatering. Filtrate from the centrifuge drains to a lift station and is pumped back to the biological treatment units. The system can produce Class AA biosolids and is designed to accommodate the permitted capacity of the wastewater treatment facility (WWTF).

The primary method of disposal is reuse of reclaimed water via spray irrigation to public access reuse sites.

Surface water discharge is the alternative (backup) disposal method. The wastewater biosolids are treated to meet Class B / Class AA stabilization requirements and are land applied at approved sites.

The Permittee was authorized to construct a new secondary clarifier (Clarifier # 4). Clarifier No. 4 is a 70-ft diameter peripheral feed, 14-ft side water depth, 3,847-ft2 surface area, 403,304-gallon volume, 693-gpd/ft2 surface loading rate, and equipped with sludge removal scraper arms, hinged race skimmers and scum trough assembly, inlet troughs and an effluent weir trough." which will be peripheral feed center (take-off circular mechanism) manufactured by Lakeside Equipment Corporation of Bartlett. The new clarifier will be 70-ft diameter peripheral feed, 14-ft side water depth, 3,847-ft^2 surface area, 403,304-gallon volume, 693 gpd/ft^2 surface loading rate, and equipped with sludge removal scraper arms, hinged race skimmers and scum trough assembly, inlet troughs and an effluent weir trough.

There are not any changes to the permitted capacity or monitoring requirements.

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)

1. **During the period beginning on the effective date and lasting through the expiration date of this permit, the permittee is authorized to discharge effluent from Outfall D-001 to St. Johns River (WBID 2213H). Such discharge shall be limited and monitored by the permittee as specified below and reported in accordance with Permit Condition I.C.7:**

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/ Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Flow (to St. Johns River) ***@ Existing Conditions***	**MGD**	**Max**	**6.365**	**Annual Average**	**Continuous** ***(During Discharge)***	**Recording Flow Meter with Totalizer**	**EFD-1**	**See I.A.4**
		Max	**Report**	**Monthly Average**				
Flow (to St. Johns River) ***@ Future Conditions***	**MGD**	**Max**	**8.37**	**Annual Average**	**Continuous** ***(During Discharge)***	**Recording Flow Meter with Totalizer**	**EFD-1**	**See I.A.4**
		Max	**Report**	**Monthly Average**				
BOD, Carbonaceous 5 day, 20C ***(Level 1-WQBEL)***	**mg/L**	**Max**	**15.20**	**Annual Average**	**Daily, 2 Days/Week** ***(During Discharge)***	**24-hr FPC**	**EFD-1**	
		Max	**19.00**	**Monthly Average**				
		Max	**22.80**	**Weekly Average**				
		Max	**30.40**	**Single Sample**				
CBOD, % Removal, 5-day	**percent**	**Min**	**85.0**	**Monthly Average**	**Monthly**	**Calculated**	**CAL-1**	**See I.A.10**
Solids, Total Suspended ***(Level 1-WQBEL)***	**mg/L**	**Max**	**15.20**	**Annual Average**	**Daily, 2Days/Week** ***(During Discharge)***	**24-hr FPC**	**EFD-1**	
		Max	**22.80**	**Monthly Average**				
		Max	**34.20**	**Weekly Average**				

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/ Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
		Max	**45.60**	**Single Sample**				
Solids, Total Suspended, % Removal	**percent**	**Min**	**85.0**	**Monthly Average**	**Monthly**	**Calculated**	**CAL-1**	**See I.A.10**
pH	**s.u.**	**Min**	**6.5**	**Single Sample**	**Continuous *(During Discharge)***	**Meter**	**EFD-1**	**See I.A.3**
		Max	**8.5**	**Single Sample**				
Chlorine, Total Residual (For Disinfection)	**mg/L**	**Min**	**0.5**	**Single Sample**	**Continuous *(During Discharge)***	**Meter**	**EFA-1**	**See I.A.3 and I.A.9**
Chlorine, Total Residual (For Dechlorination)	**mg/L**	**Max**	**0.01**	**Single Sample**	**Daily; 24 hours *(During Discharge)***	**Grab**	**EFD-1**	**See I.A.12**
Coliforms, Fecal	**100 mL**	**Max**	**200**	**Annual Average**	**Weekly *(During Discharge)***	**Grab**	**EFD-1**	**See I.A.6**
		Max	**200**	**Monthly Geometric Mean**				
		Max	**400**	**90th Percentile**				
		Max	**800**	**Single Sample**				
Enterococci	**100 mL**	**Max**	**35.0**	**Monthly Geometric Mean**	**Weekly *(During Discharge)***	**Grab**	**EFD-1**	**See I.A.7**
		Max	**130.0**	**90th Percentile**				
Nitrogen, Ammonia, Total (as N)	**mg/L**	**Max**	**Report**	**Single Sample**	**Weekly *(During Discharge)***	**Grab**	**EFD-1**	

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/ Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Temperature (C), Water	**Deg C**	**Max**	**Report**	**Single Sample**	**Weekly** ***(During Discharge)***	**Meter**	**EFD-1**	
Oxygen, Dissolved (DO)	**mg/L**	**Min**	**5.0**	**Single Sample**	**Daily; 24 hours** ***(During Discharge)***	**Grab**	**EFD-1**	**See I.A.11**
Nitrogen, Total (as N)	**mg/L**	**Max**	**7.60**	**Annual Average**	**Weekly** ***(During Discharge)***	**24-hr FPC**	**EFD-1**	
		Max	**9.50**	**Monthly Average**				
		Max	**11.40**	**Weekly Average**				
		Max	**15.20**	**Single Sample**				
Nitrogen, Total Load (as N)	**lb/yr**	**Max**	**Report**	**Annual Total**	**Monthly** ***(During Discharge)***	**Calculated**	**CAL-3**	**See I.A.13**
	lb/month	**Max**	**Report**	**Monthly Total**				
Phosphorus, Total (as P)	**mg/L**	**Max**	**1.52**	**Annual Average**	**Weekly** ***(During Discharge)***	**24-hr FPC**	**EFD-1**	
		Max	**1.90**	**Monthly Average**				
		Max	**2.28**	**Weekly Average**				
		Max	**3.04**	**Single Sample**				
Phosphorus, Total Load (as P)	**lb/yr**	**Max**	**Report**	**Annual Total**	**Monthly** ***(During Discharge)***	**Calculated**	**CAL-3**	**See I.A.13**
	lb/month	**Max**	**Report**	**Monthly Total**				
Nitrite plus Nitrate, Total 1 det. (as N)	**mg/L**	**Max**	**Report**	**Annual Average**	**Quarterly**	**24-hr FPC**	**EFD-1**	**See I.A.14**
		Max	**Report**	**Single Sample**				
Nitrogen, Kjeldahl, Total (as N)	**mg/L**	**Max**	**Report**	**Annual Average**	**Quarterly**	**24-hr FPC**	**EFD-1**	**See I.A.14**
		Max	**Report**	**Single Sample**				
Nitrogen, Organic,	**mg/L**	**Max**	**Report**	**Annual Average**	**Quarterly**	**24-hr FPC**	**EFD-1**	**See I.A.14**

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/ Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Total (as N)		**Max**	**Report**	**Single Sample**				
Phosphate, Ortho (as P)	**mg/L**	**Max**	**Report**	**Annual Average**	**Quarterly**	**Grab-filtered**	**EFD-1**	**See I.A.14**
		Max	**Report**	**Single Sample**				
Mercury, Total Recoverable	**µg/L**	**Max**	**0.025**	**Single Sample**	**Semi-Annually; *(twice per year)***	**Grab**	**EFD-1**	**See I.A.17**
Acute Whole Effluent Toxicity, 96-hr LC50 (*Ceriodaphnia dubia*)	**percent**	**Min**	**30**	**Single Sample**	**Semi-Annually; *(twice per year)***	**24-hr FPC**	**EFD-1**	**See I.A.15&16**
Acute Whole Effluent Toxicity, 96-hr LC50 (*Cyprinella leedsi*)	**percent**	**Min**	**30**	**Single Sample**	**Semi-Annually; *(twice per year)***	**24-hr FPC**	**EFD-1**	**See I.A.15&16**
Temperature (C), Water	**Deg C**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Meter**	**SWD-1 SWD-2 SWB-1**	**See I.A.14**
Oxygen, Dissolved (DO)	**mg/L**	**Min**	**Report**	**Single Sample**	**Quarterly**	**Meter**	**SWD-1 SWD-2 SWB-1**	**See I.A.14**
Percent Dissolved Oxygen Saturation (DO)	**%**	**Min**	**Report**	**Single Sample**	**Quarterly**	**Meter**	**SWD-1 SWD-2 SWB-1**	**See I.A.14**
Salinity	**mg/L**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Meter**	**SWD-1 SWD-2 SWB-1**	**See I.A.14**
BOD, Carbonaceous 5 day, 20C	**mg/L**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Grab**	**SWD-1 SWD-2 SWB-1**	**See I.A.14**

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/ Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Solids, Total Suspended	**mg/L**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Grab**	**SWD-1 SWD-2 SWB-1**	**See I.A.14**
Nitrogen, Ammonia, Total (as N)	**mg/L**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Grab**	**SWD-1 SWD-2 SWB-1**	**See I.A.14**
Nitrogen, Kjeldahl, Total (as N)	**mg/L**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Grab**	**SWD-1 SWD-2 SWB-1**	**See I.A.14**
Nitrogen, Total (as N)	**mg/L**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Grab**	**SWD-1 SWD-2 SWB-1**	**See I.A.14**
Phosphorus, Total (as P)	**mg/L**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Grab**	**SWD-1 SWD-2 SWB-1**	**See I.A.14**
Chlorophyll a	**mg/L**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Grab**	**SWD-1 SWD-2 SWB-1**	**See I.A.14**

I.A.3: Hourly measurement of pH and total residual chlorine for disinfection may be substituted for continuous measurement During the period of required operator attendance. *[62-600.660(1)]*

I.A.4: A recording flow meter with totalizer shall be utilized to measure flow and calibrated at least once every 12 months. *[62-600.200(25)]*

I.A.6: The discharge shall not contain components that, alone or in combination with other substances or in combination with other components of the discharge:

a. Settle to form putrescent deposits or otherwise create a nuisance; or

b. Float as debris, scum, oil, or other matter in such amounts as to form nuisances; or

c. Produce color, odor, taste, turbidity, or other conditions in such degree as to create a nuisance; or

d. Are acutely toxic; or

e. Are present in concentrations which are carcinogenic, mutagenic, or teratogenic to human beings or to significant, locally occurring, wildlife or aquatic species, unless specific standards are established for such components in subsection 62-302.500(2) or Rule 62-302.530, F.A.C.; or

f. Pose a serious danger to the public health, safety, or welfare.

[62-302.500(1)(a)]

I.A.7: The effluent limitation for the monthly geometric mean for fecal coliform is only applicable if 10 or more values are reported. If fewer than 10 values are reported, the monthly geometric mean shall be calculated and reported on the Discharge Monitoring Report. *[62-302.530(6)(c)]*

I.A.9: Total residual chlorine must be maintained for a minimum contact time of 15 minutes based on peak hourly flow. *[62-600.440(5)(c), (6)(b), and (7)(c)]*

I.A.10: In accordance with subsections 62-600.420(1) and (2), F.A.C., the monthly average effluent $CBOD_5$ and TSS concentrations shall not exceed 15% of their respective influent values (i.e., 85% removal). *[62-600.420(1) and (2)]*

I.A.11: The effluent limitations for DO and other pollutants such as CBOD5, TKN, etc. shall be met such that the discharge does not degrade the DO concentration of the receiving water below the limit set for in the Site Specific Alternative Criteria (SSACs) for Dissolved Oxygen established for the St. Johns River marine portions (between Julington Creek and the mouth of the river).). Pursuant to the SSAC, Dissolved Oxygen shall not be less than a minimum concentration of 4.0 mg/L, and a Total Fractional Exposure not greater than 1.0 over an annual evaluation period as defined by the following equation:

$$\begin{pmatrix} Total\ Fractional \\ Exposure \end{pmatrix} = \left\{\frac{4 mg/L < \textbf{No. days DO Conc.} < 4.2\ mg/L}{16\ days\ max}\right\} + \left\{\frac{4.2\ mg/L < \textbf{No.days DO Conc.} < 4.4\ mg/L}{21\ days\ max}\right\} + \left\{\frac{4.4 < No.days\ DO\ Conc. < 4.6\ mg/L}{30\ days\ max}\right\} + \left\{\frac{4.6\ mg/L < No.days\ DO\ Conc. < 4.8\ mg/L}{47\ days\ max}\right\} + \left\{\frac{4.8 < No.days\ DO\ Conc. < 5.0\ mg/L}{55\ days\ max}\right\}$$

Where the number days in an interval is based on the daily average Dissolved Oxygen concentration.

[62-302.530(30) & 62-302.800(6)(a)]

I.A.12: The Florida water quality criteria and standards shall not be exceeded as a result of the discharge. *[62-620.320(9)] & [62-302.530]*

I.A.13: The permittee, Clay County Utility Authority (CCUA), shall meet the aggregate cap through collectively managing the total nitrogen and total phosphorus loads from each individual CCUA facility (Miller Street WWTF - FL0025151, Fleming Island WWTF-FL0043834, and Fleming Oaks WWTF -FL0032875), which are listed in the CCUA – TMDL Aggregate TN and TP (Permit ID: FL0629006). The monthly mass load and annual mass loads of total nitrogen and total phosphorus shall be calculated as follows:

- Monthly Mass Load (ML)

  ML (Lbs/month) = Flow$\left(\frac{\text{MG}}{\text{Mon}}\right)$ **x {TN**$\left(\frac{mg}{L}\right)$ **or TP** $\left(\frac{\text{mg}}{\text{L}}\right)$**} x 8.34** $\left(\frac{L}{MG}\frac{Lbs}{mg}\right)$

  Where:

  ML = Monthly mass load; (lbs/month)

  Flow = Total volume effluent discharged from D-001 in a given month (million gallons (MG))

  TN = Monthly average concentration of TN collected at EFD-1, (mg/L)

  TP = Monthly average concentration of TP collected at EFD-1 (mg/L)

- Annual Mass Load (AL): The annual mass load is computed using a rolling twelve (12) month period. The calculation shall be the sum of the twelve most recent monthly mass loading of total nitrogen or total phosphorus.

I.A.14: The Permittee shall monitor the segment of the St. Johns River near the outfall, D-001, for maintaining data on the impact of the discharge to the water quality of the surface water body. The information provided is part of the on-going Water Quality Based Effluent Limitation (WQBEL) study for the St. Johns River. Monitoring shall be on a quarterly basis and shall coincide with the nutrient monitoring of the facility effluent discharge as described in I.A.1 above. Metered parameters shall be taken at the surface, mid-depth, and bottom. Grab samples shall be taken at mid-depth at the specified locations. The results for each in-stream sampling shall be reported on the Discharge Monitoring Report (DMR) and submitted to the Department in accordance with condition I.C.7 *[62-4.240(3)(c)]*

I.A.15: An acute whole effluent toxicity mixing zone for the effluent discharged through the existing outfall D-001 to St. Johns River has been established. The established mixing zone, which includes both existing maximum daily flow rate of 7.92 MGD and future maximum daily flow rate of 12.5 MGD, is described below:

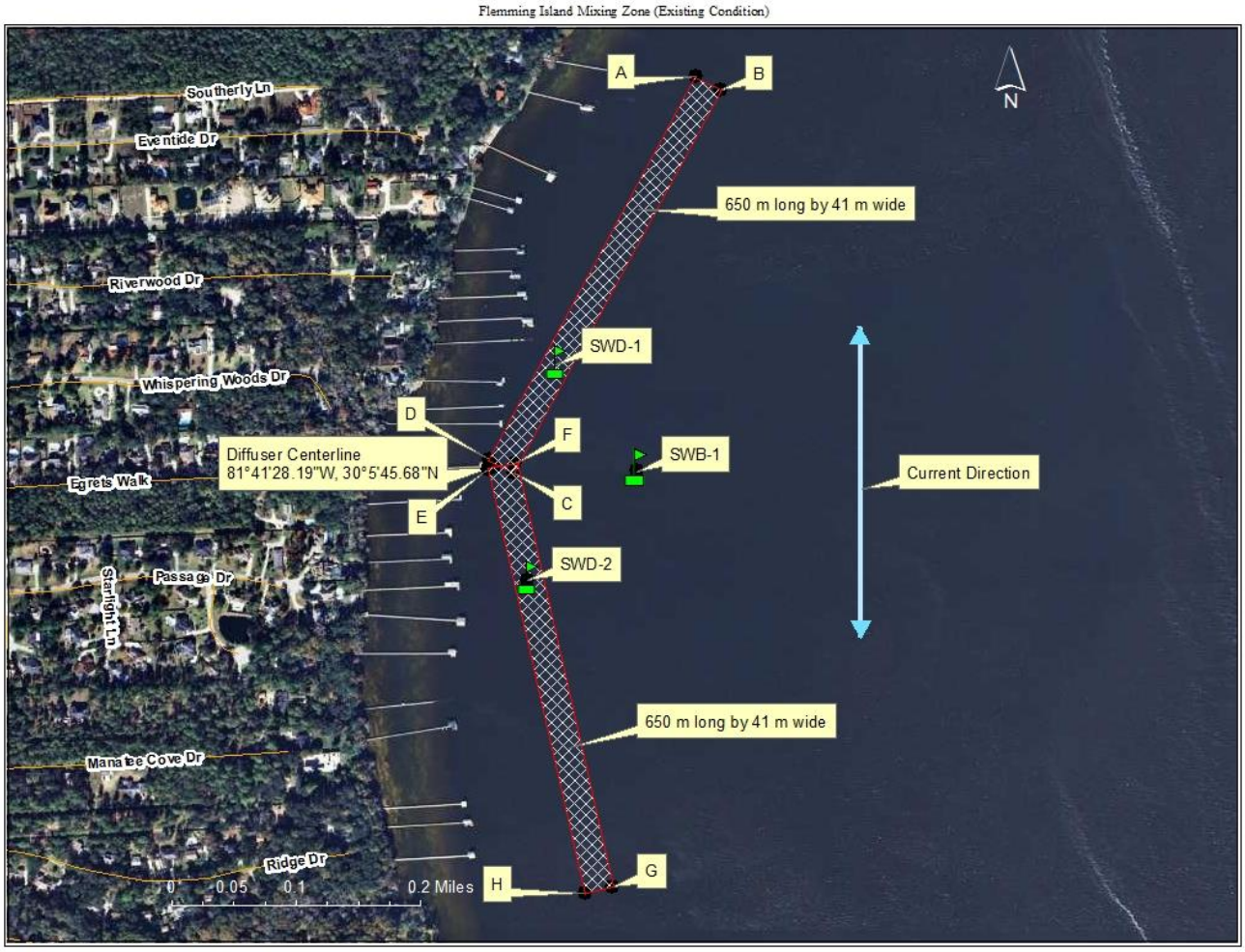
a) Acute whole effluent toxicity mixing associated with the current conditions.

- Effluent Condition:
  - Configuration of Outfall D-001: Two 12-inch single port diffusers located 750 feet from the shore at a total water depth of 4.9 feet at MLW.
  - Flow Rate: 7.92 MGD maximum daily flow.
  - Exit Velocity design maintains between 10 fps and 11.2 fps.
- Mixing Zone Area:
  - The mixing zone consist of two quadrilateral strips (41 m wide by 650 m long), resulting in mixing area of 52,650 m^2 for both ebb and flood tide conditions. The coordinates of the vertices of the mixing zone are listed in the Table 1. The mixing zone delineation is shown on Figure 1.

Table 1 – Acute Toxicity Mixing Zone for Fleming Island WWTF Current Flows

Point	Latitude	Longitude
Outfall D-001	**30° 05' 45.68" N**	**81° 41' 28.19" W**
A	**30° 06' 01.81" N**	**81° 41' 18.08" W**
B	**30° 06' 01.25" N**	**81° 41' 16.92" W**
C	**30° 05' 45.40" N**	**81° 41' 27.23" W**
D	**30° 05' 45.96" N**	**81° 41' 28.39" W**
E	**30° 05' 45.57" N**	**81° 41' 28.47" W**
F	**30° 05' 45.81" N**	**81° 41' 27.18" W**
G	**30° 05' 28.01" N**	**81° 41' 22.83" W**
H	**30° 05' 27.78" N**	**81° 41' 24.13" W**

Figure 1: Acute Whole Effluent Toxicity Mixing Zone at the Existing Conditions



b) Acute whole effluent toxicity mixing associated with the future conditions.

- Effluent Condition:
  - Configuration of Outfall D-001: Three 12-inch single port diffusers with 10-inch orifice plates the terminus of the pipes located 750 feet from the shore and at a total water depth of 4.9 feet at MLW.
  - Flow Rate: 12.5 MGD maximum daily flow.
  - Exit Velocity design maintains between 10 fps and 11.8 fps

c) Mixing Zone Area:

- The mixing zone consist of two quadrilateral strips (49 m wide by 790 m long), resulting in mixing area of 77,420 m^2 for both ebb and flood tide conditions. The coordinates of the vertices of the mixing zone are listed in the Table 2. The mixing zone delineation is shown on Figure 2.

Table 2 – Acute Toxicity Mixing Zone for Fleming Island WWTF Future Flows

Point	Latitude	Longitude
Outfall D-001	**30° 05' 45.68" N**	**81° 28.19" W**
A	**30° 06' 05.31" N**	**81° 41' 16.07" W**
B	**30° 06' 04.64" N**	**81° 41' 14.69" W**
C	**30° 05' 45.33" N**	**81° 41' 27.12" W**
D	**30° 05' 46.00" N**	**81° 41' 28.50" W**
E	**30° 05' 45.54" N**	**81° 41' 28.60" W**
F	**30° 05' 45.82" N**	**81° 41' 27.05" W**
G	**30° 05' 24.18" N**	**81° 41' 21.85" W**
H	**30° 05' 23.90" N**	**81° 41' 23.40" W**

Figure 2: Acute Whole Effluent Toxicity Mixing Zone at the **Future** Conditions



I.A.16: The permittee shall comply with the following requirements to evaluate acute whole effluent toxicity of the discharge from outfall D-001.

a. Effluent Limitation
   1) In any routine or additional follow-up test for acute whole effluent toxicity, the 96-hour LC50 shall not be less than 30% effluent. [Rules 62-302.200(1), 62-302.500(1)(a)4., 62-4.244(3)(b), and 62-4.241(3), F.A.C.]

b. Monitoring Frequency
   1) Routine toxicity tests shall be conducted once every six months, the first starting within 6 months of the most recent toxicity tests and lasting for the duration of this permit.

c. Sampling Requirements
   1) For each routine test or additional follow-up test conducted, a single flow-proportional 24-hr composite sample of final effluent shall be collected and used in accordance with the sampling protocol discussed in EPA-821-R-02-012, Section 8.

d. Test Requirements

1) Routine Tests: All routine tests shall be conducted using a control (0% effluent) and a minimum of five dilutions: 60%, 30%, 15%, 7.5% and 3.75% final effluent.
2) The permittee shall conduct 96-hour acute static renewal multi-concentration toxicity tests using the daphnid, *Ceriodaphnia dubia*, and the bannerfin shiner, *Cyprinella leedsi*, concurrently.
3) All test species, procedures and quality assurance criteria used shall be in accordance with Methods for Measuring Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 5th Edition, EPA-821-R-02-012. Any deviation of the bioassay procedures outlined herein shall be submitted in writing to the Department for review and approval prior to use. In the event the above method is revised, the permittee shall conduct acute toxicity testing in accordance with the revised method.
4) The control water and dilution water shall be moderately hard water as described in EPA-821-R-02-012, Table 7.

e. Quality Assurance Requirements
1) A standard reference toxicant (SRT) quality assurance (QA) acute toxicity test shall be conducted with each species used in the required toxicity tests either concurrently or initiated no more than 30 days before the date of each routine or additional follow-up test conducted. Additionally, the SRT test must be conducted concurrently if the test organisms are obtained from outside the test laboratory unless the test organism supplier provides control chart data from at least the last five monthly acute toxicity tests using the same reference toxicant and test conditions. If the organism supplier provides the required SRT data, the organism supplier's SRT data and the test laboratory's monthly SRT-QA data shall be included in the reports for each companion routine or additional follow-up test required.
2) If the mortality in the control (0% effluent) exceeds 10% for either species in any test, the test for that species (including the control) shall be invalidated and the test repeated. The repeat test shall begin within 14 days after the last day of the invalid test.
3) If 100% mortality occurs in all effluent concentrations for either species prior to the end of any test and the control mortality is less than 10% at that time, the test (including the control) for that species shall be terminated with the conclusion that the test fails and constitutes non-compliance.
4) Routine and additional follow-up tests shall be evaluated for acceptability based on the concentration-response relationship, as required by EPA-821-R-02-012, Section 12.2.6.2., and included with the bioassay laboratory reports.

f. Reporting Requirements
1) Results from all required tests shall be reported on the toxicity Discharge Monitoring Report (DMR) as the calculated LC50 effluent concentration for each test species.
2) A bioassay laboratory report for the routine test shall be prepared according to EPA-821-R-02-012, Section 12, Report Preparation and Test Review, and mailed or emailed to the Department at the address below within 30 days after the last day of the test.
3) For additional follow-up tests, a single bioassay laboratory report shall be prepared according to EPA-821-R-02-012, Section 12, and mailed or emailed 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 mailed or emailed within 30 days to *Jacksonville* only:

Florida Department of Environmental Protection
Northeast District Office – Wastewater Compliance
8800 Baymeadows Way West, Suite 100
Jacksonville, Florida 32256

g. Test Failures

1) A test fails when the test results do not meet the limits 16.a(1).
2) Additional Follow-up Tests:
   a) If a routine test does not meet the acute toxicity limitation in 16.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 16.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 additional follow-up tests shall be conducted using a control and a minimum of five dilutions: 60%, 30%, 15%, 7.5%, and 3.75% effluent. The permittee may modify the dilution series in the additional follow-up tests to more accurately bracket the toxicity such that at least two dilutions above and two dilutions below the target concentration and a control are run. All test results shall be statistically analyzed according to the procedures in EPA-821-R-02-012.
3) In the event of three valid test failures (whether routine or additional follow-up tests) within a 12-month period, the permittee shall notify the Department within 21 days after the last day of the third test failure.
   a) The permittee shall submit a plan for correction of the effluent toxicity within 60 days after the last day of the third test failure.
   b) The Department shall review and approve the plan before initiation.
   c) The plan shall be initiated within 30 days following the Department's written approval of the plan.
   d) Progress reports shall be submitted quarterly to the Department at the address above.
   e) During the implementation of the plan, the permittee shall conduct quarterly routine whole effluent toxicity tests in accordance with 16.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 16.b.(1). If a routine test is invalid according to the acceptance criteria in EPA-821-R-02-012, a repeat test shall be initiated within 14 days after the last day of the invalid routine test.
   f) Upon completion of four consecutive quarterly valid routine tests that demonstrate compliance with the effluent limitation in 16.a.(1) above, the permittee may submit a written request to the Department to terminate the plan. The plan shall be terminated upon written verification by the Department that the facility has passed at least four consecutive quarterly valid routine whole effluent toxicity tests.
   g) If a test within the sequence of the four is deemed invalid, but is replaced by a repeat valid test initiated within 14 days after the last day of the invalid test, the invalid test will not be counted against the requirement for four consecutive quarterly valid routine tests for the purpose of terminating the plan.
4) The additional follow-up testing and the plan do not preclude the Department taking enforcement action for whole effluent toxicity failures.

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

I.A.17: The permittee, CCUA, shall collect the effluent sample and use EPA Method 1631E or clean techniques to analyze for mercury, total recoverable. An alternative EPA approved method such as Method 245.1 or 245.7 with a MDL of 14.0 ng/L operated in the high sensitivity mode can be used as for initial screening for mercury. If mercury is not detected (e.g., the results are less than the MDL of 14.0 ng/L), then mercury is in compliance with the water quality criterion of Rule 62-302.530(41), FAC. However, for any sample results that have a value greater than the MDL but less than the PQL, the permittee shall conduct an additional evaluation for mercury using clean techniques such as Method 1631E. If test results show

quantifiable mercury levels in the effluent, the permittee shall prepare and implement a mercury minimization plan addressing sources of mercury. *[62-304.900]*

PART I: Continued

Receiving Waters:	**Classification (indicate whether fresh or marine):**
St. Johns River	Class III Fresh

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

The permittee shall comply with the following requirements to evaluate acute whole effluent toxicity of the discharge from outfall D-001.

a. Effluent Limitation
   1) In any routine or additional follow-up test for acute whole effluent toxicity, the 96-hour LC50 shall not be less than 30% effluent. [Rules 62-302.200(1), 62-302.500(1)(a)4., 62-4.244(3)(b), and 62-4.241(3), F.A.C.]

b. Monitoring Frequency
   1) Routine toxicity tests shall be conducted once every six months, the first starting within 6 months of the most recent toxicity tests and lasting for the duration of this permit.

c. Sampling Requirements
   1) For each routine test or additional follow-up test conducted, a single flow-proportional 24-hr composite sample of final effluent shall be collected and used in accordance with the sampling protocol discussed in EPA-821-R-02-012, Section 8.

d. Test Requirements
   1) Routine Tests: All routine tests shall be conducted using a control (0% effluent) and a minimum of five dilutions: 60%, 30%, 15%, 7.5% and 3.75% final effluent.
   2) The permittee shall conduct 96-hour acute static renewal multi-concentration toxicity tests using the daphnid, *Ceriodaphnia dubia*, and the bannerfin shiner, *Cyprinella leedsi*, concurrently.
   3) All test species, procedures and quality assurance criteria used shall be in accordance with Methods for Measuring Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 5th Edition, EPA-821-R-02-012. Any deviation of the bioassay procedures outlined herein shall be submitted in writing to the Department for review and approval prior to use. In the event the above method is revised, the permittee shall conduct acute toxicity testing in accordance with the revised method.

The control water and dilution water shall be moderately hard water as described in EPA-821-R-02-012, Table 7.

Administrative or Consent Orders (date executed, specific requirements, interim limit dates-if applicable, etc.): N/A

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.

- **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-2023-01-16-08

FYI3 Fleming Island Regional WWTF DW NED
FL0043834 Sampling Inspection

Customer: NE-DIST

Project ID: FYI3

Florida Department of Environmental Protection
Central Laboratory Submittal Form

Page 1 of 4
last revised Jan 25, 2018

Requester: Benjamin Nomann
Collected By: Conor Lucy Phillpehook
Field Report Prepared By: Conor Lucy
Sampling Agency: FDEP NED

Location / Field ID / WIN/STORET # / Latitude / Longitude

Flemming Island WWTF FYI3
FL0043834
EFD-1
Bottle Group A(Grab)

☐ dd ☐ dms

Comp / Grab	Collection (comp begin or grab) Date	Time	Eastern / Central	Composite end Date	Time	Bottle Group(s) (See pg 2)
☒ Grab	1/30/23	10:45	Eastern			A

Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen	☒ mg/L ☐ % sat	Total Res. Chlorine (mg/L)
WW	7.81		

Temp (C)	pH	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)
21.6	6.82			844

Salinity (ppt): ☐ dd ☐ dms
Comments:

Location / Field ID / WIN/STORET # / Latitude / Longitude

Flemming Island WWTF FYI3
FL0043834
EFD-1
Bottle Group C(Field Blank)

☐ dd ☐ dms

Comp / Grab	Collection (comp begin or grab) Date	Time	Eastern / Central	Composite end Date	Time	Bottle Group(s)
☒ Grab	1/30/23	10:55	Eastern			C

Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)
DI			

Temp (C)	pH	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)

Salinity (ppt): ☐ dd ☐ dms
Comments:

Location / Field ID / WIN/STORET # / Latitude / Longitude

☐ dd ☐ dms

Comp / Grab	Collection (comp begin or grab) Date	Time	Eastern / Central	Composite end Date	Time	Bottle Group(s)
☐ Grab			Eastern			

Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)

Temp (C)	pH	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)

Salinity (ppt): ☐ dd ☐ dms
Comments:

Location / Field ID / WIN/STORET # / Latitude / Longitude

☐ dd ☐ dms

Comp / Grab	Collection (comp begin or grab) Date	Time	Eastern / Central	Composite end Date	Time	Bottle Group(s)
☐ Grab			Eastern			

Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)

Temp (C)	pH	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)

Salinity (ppt): ☐ dd ☐ dms
Comments: 1-31-23 / 10:00

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
	01/30/23 13:00	FedEx	3	Darron Witczak	1.31.23/1017

Request Number: RQ-2023-01-16-08

FYI3 Fleming Island Regional WWTF DW NED
FL0043834 Sampling Inspection

Customer: NE-DIST

Project ID: FYI3

Florida Department of Environmental Protection
Central Laboratory Submittal Form

last revised Jan 25, 2018

Requester: Benjamin Nomann

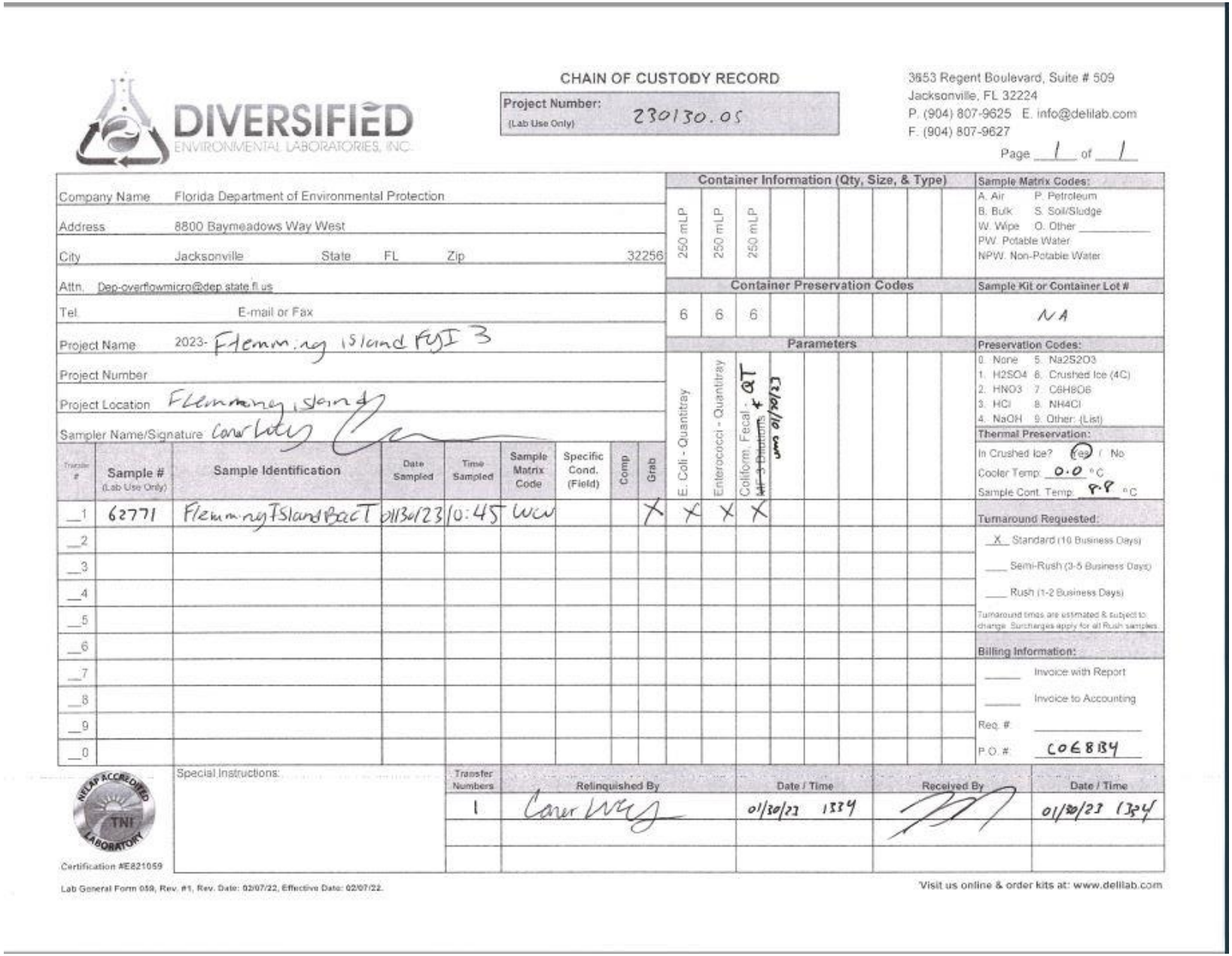
Collected By: Conor Lucy Phillip Hook

Field Report Prepared By: Conor Lucas

Sampling Agency: FDEP NED

Locat		☐ Comp ☒ Grab	Collection (comp begin or grab) Date ... Time ...	Eastern Central	Composite end Date	Time	Bottle Group(s) (See pg 2)			
Field		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)				
WIN/		Temp (C)	pH	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)				
Latitude	☐ dd ☐ dms	Longitude	☐ dd ☐ dms	Salinity (ppt)	Comments					
Loca	Flemming Island	☐ Comp ☒ Grab	Collection (comp begin or grab) Date ... Time ...	Eastern Central	Composite end Date	Time	Bottle Group(s)			
Field		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)				
WIN		Temp (C)	pH	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)				
Latitu	☐ dd ☐ dms	Longitude	☐ dd ☐ dms	Salinity (ppt)	Comments					
Location	Flemming Island WWTF FYI3	☒ Comp ☐ Grab	Collection (comp begin or grab) Date 02/01/2023 Time 10:00	Eastern Central	Composite end Date 02/01/23 Time 1000		Bottle Group(s)			
Field	FL0043834	Matrix (type, e.g., Salt, Fresh, etc) WW		Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)				
WIN	EFD-1	Temp (C)	pH	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)				
Latitu	Bottle Group B(COMP) ☐ dms		☐ dd ☐ dms	Salinity (ppt)	Comments poured at 10:05					
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
	02/01/2023 11:00	FedEx	1	Brian Kraus	2/2/23 0855



DIVERSIFIED
ENVIRONMENTAL LABORATORIES, INC.

CHAIN OF CUSTODY RECORD

Project Number: (Lab Use Only) 230130.05

3653 Regent Boulevard, Suite # 509
Jacksonville, FL 32224
P. (904) 807-9625 E. info@delilab.com
F. (904) 807-9627

Page 1 of 1

Company Name: Florida Department of Environmental Protection
Address: 8800 Baymeadows Way West
City: Jacksonville State: FL Zip: 32256
Attn: Dep-overflowmicro@dep.state.fl.us
Tel: E-mail or Fax
Project Name: 2023- Flemming Island FYI 3
Project Number:
Project Location: Flemming Island
Sampler Name/Signature: Conor Lilly

Transfer #	Sample # (Lab Use Only)	Sample Identification	Date Sampled	Time Sampled	Sample Matrix Code	Specific Cond. (Field)	Comp	Grab	E. Coli - Quantitray	Enterococci - Quantitray	Coliform, Fecal - MF 3-Bottom + QT	Container Info (Qty, Size, & Type)	Container Preservation Codes	Parameters
1	62771	FlemmingIslandBactT	01/30/23	10:45	WW			X	X	X	X	250 mLP	6	
2												250 mLP	6	
3												250 mLP	6	
4														
5														
6														
7														
8														
9														
0														

Sample Matrix Codes:
A. Air P. Petroleum
B. Bulk S. Soil/Sludge
W. Wipe O. Other _____
PW. Potable Water
NPW. Non-Potable Water

Sample Kit or Container Lot #: NA

Preservation Codes:
0. None 5. Na2S2O3
1. H2SO4 6. Crushed Ice (4C)
2. HNO3 7. C6H8O6
3. HCl 8. NH4Cl
4. NaOH 9. Other: (List)

Thermal Preservation:
In Crushed Ice? (Yes) / No
Cooler Temp: 0.0 °C
Sample Cont. Temp: 8.8 °C

Turnaround Requested:
X Standard (10 Business Days)
___ Semi-Rush (3-5 Business Days)
___ Rush (1-2 Business Days)
Turnaround times are estimated & subject to change. Surcharges apply for all Rush samples.

Billing Information:
_____ Invoice with Report
_____ Invoice to Accounting
Req. #: _____
P.O. #: COE834

Special Instructions:

Transfer Numbers	Relinquished By	Date / Time	Received By	Date / Time
1	Conor Lilly	01/30/23 1334		01/30/23 1354

NELAP ACCREDITED TNI LABORATORY
Certification #E821059

Lab General Form 059, Rev. #1, Rev. Date: 02/07/22, Effective Date: 02/07/22.

Visit us online & order kits at: www.delilab.com

Appendix D. Chemical Analysis of Effluent

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/1/2023 10:00	Effluent Composite	Nutrients	NO2NO3-N	0.93	mg N/L	0.0080	0.020
2/1/2023 10:00	Effluent Composite	Nutrients	Total-P	0.90	mg P/L	0.050	0.25
2/1/2023 10:00	Effluent Composite	Nutrients	TSS	2 U	mg/L	2.0	10
2/1/2023 10:00	Effluent Composite	Nutrients	Kjeldahl Nitrogen	0.86 AJ	mg N/L	0.080	0.20
2/1/2023 10:00	Effluent Composite	Nutrients	Ammonia-N	0.076	mg N/L	0.0020	0.0050
1/30/2023 10:45	Effluent Grab	AGP/LN	Algal Growth Potential	1.16 A	mg DryWt/L	0.300	0.900
1/30/2023 10:45	Effluent Grab	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.90 U	µg/L	0.90	2.7
1/30/2023 10:45	Effluent Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	0.82 U	µg/L	0.82	2.5
1/30/2023 10:45	Effluent Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	0.60 UV	µg/L	0.60	1.8
1/30/2023 10:45	Effluent Grab	Overflow	Fecal Coliform-Quanti-Tray	1.0	MPN/100 mL	1.0	1.0
1/30/2023 10:45	Effluent Grab	Overflow	Enterococci-Quanti-Tray	1.0 U	MPN/100 mL	1.0	1.0
1/30/2023 10:45	Effluent Grab	Overflow	Escherichia Coli-Quanti-Tray	1.0 U	MPN/100 mL	1.0	1.0
1/30/2023 10:45	Effluent Grab	Toxicology	Bioassay-Acute-Def-FW-C.dubia, LC50	60 L	LC50		
1/30/2023 10:45	Effluent Grab	Toxicology	Bioassay-Acute-Def-FW-Fish, LC50	60 L	LC50		
1/30/2023 10:45	Effluent Grab	Metals	Arsenic	0.20	µg/L	0.050	0.20
1/30/2023 10:45	Effluent Grab	Metals	Potassium	15.0	mg/L	0.30	1.2
1/30/2023 10:45	Effluent Grab	Metals	Magnesium	12.6	mg/L	0.040	0.16
1/30/2023 10:45	Effluent Grab	Metals	Sodium	110	mg/L	0.50	2.0
1/30/2023 10:45	Effluent Grab	Metals	Zinc	47	µg/L	5.0	20
1/30/2023 10:45	Effluent Grab	Metals	Lead	0.20 U	µg/L	0.20	0.40
1/30/2023 10:45	Effluent Grab	Metals	Copper	1.45	µg/L	0.40	0.80
1/30/2023 10:45	Effluent Grab	Metals	Chromium	1.0 U	µg/L	1.0	4.0
1/30/2023 10:45	Effluent Grab	Metals	Aluminum	5.5 I	µg/L	5.0	20
1/30/2023 10:45	Effluent Grab	Metals	Nickel	2.1	µg/L	0.50	2.0
1/30/2023 10:45	Effluent Grab	Metals	Cadmium	0.022 I	µg/L	0.020	0.080
1/30/2023 10:45	Effluent Grab	Metals	Silver	0.010 U	µg/L	0.010	0.040
1/30/2023 10:45	Effluent Grab	Metals	Calcium	27.3	mg/L	0.075	0.30
1/30/2023 10:45	Effluent Grab	Metals	Iron	480	µg/L	30	120
1/30/2023 10:45	Effluent Grab	Metals	Selenium	0.20 U	µg/L	0.20	0.80
1/30/2023 10:45	Effluent Grab	Nutrients	O-Phosphate-P	1.1	mg P/L	0.040	0.10

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/30/2023 10:45	Effluent Grab	Nutrients	Organic Carbon	6.3	mg C/L	0.50	1.0
1/30/2023 10:45	Effluent Grab	Nutrients	Total Alkalinity	81 A	mg CaCO3/L	0.65	2.5
1/30/2023 10:45	Effluent Grab	Nutrients	Total-P	1.4	mg P/L	0.050	0.25
1/30/2023 10:45	Effluent Grab	Nutrients	Ammonia-N	0.12	mg N/L	0.0020	0.0050
1/30/2023 10:45	Effluent Grab	Nutrients	Chloride	110	mg Cl/L	0.40	1.0
1/30/2023 10:45	Effluent Grab	Nutrients	Turbidity	1.8	NTU	0.10	1.0
1/30/2023 10:45	Effluent Grab	Nutrients	Sulfate	140	mg SO4/L	0.40	1.0
1/30/2023 10:45	Effluent Grab	Nutrients	NO2NO3-N	0.88	mg N/L	0.020	0.050
1/30/2023 10:45	Effluent Grab	Nutrients	Fluoride	0.29	mg F/L	0.025	0.10
1/30/2023 10:45	Effluent Grab	Nutrients	TSS	2 U	mg/L	2.0	10
1/30/2023 10:45	Effluent Grab	Nutrients	Color (true)	3.5 I	PCU	2.5	6.0
1/30/2023 10:45	Effluent Grab	Nutrients	Kjeldahl Nitrogen	0.98	mg N/L	0.080	0.20
1/30/2023 10:45	Effluent Grab	Pesticides	Alachlor	0.24 U	ng/L	0.24	0.97
1/30/2023 10:45	Effluent Grab	Pesticides	Caffeine	7.3 U	ng/L	7.3	29
1/30/2023 10:45	Effluent Grab	Pesticides	Carfentrazone Ethyl	0.097 U	ng/L	0.097	0.39
1/30/2023 10:45	Effluent Grab	Pesticides	Coumaphos	0.48 U	ng/L	0.48	1.9
1/30/2023 10:45	Effluent Grab	Pesticides	Dimethomorph	0.17 U	ng/L	0.17	1.0
1/30/2023 10:45	Effluent Grab	Pesticides	Fipronil Desulfinyl	0.12 U	ng/L	0.12	0.48
1/30/2023 10:45	Effluent Grab	Pesticides	Fludioxonil	0.12 U	ng/L	0.12	0.48
1/30/2023 10:45	Effluent Grab	Pesticides	Prometon	0.87 U	ng/L	0.87	3.5
1/30/2023 10:45	Effluent Grab	Pesticides	Prometryn	0.19 U	ng/L	0.19	0.78
1/30/2023 10:45	Effluent Grab	Pesticides	Metolachlor	0.34 U	ng/L	0.34	1.4
1/30/2023 10:45	Effluent Grab	Pesticides	Metribuzin	1.5 U	ng/L	1.5	5.8
1/30/2023 10:45	Effluent Grab	Pesticides	Norflurazon	0.48 U	ng/L	0.48	1.9
1/30/2023 10:45	Effluent Grab	Pesticides	Oxadiazon	0.29 U	ng/L	0.29	1.2
1/30/2023 10:45	Effluent Grab	Pesticides	Triadimefon	0.24 U	ng/L	0.24	0.97
1/30/2023 10:45	Effluent Grab	Pesticides	Bromacil	0.95 I	ng/L	0.48	1.9
1/30/2023 10:45	Effluent Grab	Pesticides	Difenoconazole	0.58 U	ng/L	0.58	2.3
1/30/2023 10:45	Effluent Grab	Pesticides	Phorate	0.51 U	ng/L	0.51	2.0
1/30/2023 10:45	Effluent Grab	Pesticides	Fonofos	0.19 U	ng/L	0.19	0.78
1/30/2023 10:45	Effluent Grab	Pesticides	Iprodione	0.58 U	ng/L	0.58	2.3
1/30/2023 10:45	Effluent Grab	Pesticides	Napropamide	0.39 U	ng/L	0.39	1.6
1/30/2023 10:45	Effluent Grab	Pesticides	Parathion Ethyl	0.24 U	ng/L	0.24	0.97
1/30/2023 10:45	Effluent Grab	Pesticides	Sulfentrazone	0.48 U	ng/L	0.48	1.9

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/30/2023 10:45	Effluent Grab	Pesticides	Terbuthylazine	0.41 U	ng/L	0.41	1.6
1/30/2023 10:45	Effluent Grab	Pesticides	Ibuprofen	0.080 U	µg/L	0.080	0.32
1/30/2023 10:45	Effluent Grab	Pesticides	Azinphos Methyl	1.9 U	ng/L	1.9	7.8
1/30/2023 10:45	Effluent Grab	Pesticides	Chlorpyrifos Ethyl	0.24 U	ng/L	0.24	0.97
1/30/2023 10:45	Effluent Grab	Pesticides	Fipronil	0.24 U	ng/L	0.24	0.97
1/30/2023 10:45	Effluent Grab	Pesticides	Ethoprop	0.097 U	ng/L	0.097	0.39
1/30/2023 10:45	Effluent Grab	Pesticides	Fipronil Sulfone	0.15 U	ng/L	0.15	0.58
1/30/2023 10:45	Effluent Grab	Pesticides	Pyraflufen Ethyl	0.24 U	ng/L	0.24	0.97
1/30/2023 10:45	Effluent Grab	Pesticides	Pyridaben	0.44 U	ng/L	0.44	2.2
1/30/2023 10:45	Effluent Grab	Pesticides	Loratadine	3.0	ng/L	0.34	1.4
1/30/2023 10:45	Effluent Grab	Pesticides	Myclobutanil	0.41 I	ng/L	0.24	0.97
1/30/2023 10:45	Effluent Grab	Pesticides	Ametryn	0.58 U	ng/L	0.58	2.3
1/30/2023 10:45	Effluent Grab	Pesticides	Carbophenothion	0.19 U	ng/L	0.19	0.78
1/30/2023 10:45	Effluent Grab	Pesticides	Disulfoton	0.48 U	ng/L	0.48	1.9
1/30/2023 10:45	Effluent Grab	Pesticides	Fenamiphos	0.48 U	ng/L	0.48	1.9
1/30/2023 10:45	Effluent Grab	Pesticides	Fenbuconazole	0.12 U	ng/L	0.12	0.48
1/30/2023 10:45	Effluent Grab	Pesticides	EPTC	1.2 U	ng/L	1.2	4.8
1/30/2023 10:45	Effluent Grab	Pesticides	Ethion	0.15 U	ng/L	0.15	0.58
1/30/2023 10:45	Effluent Grab	Pesticides	Fluxapyroxad	0.22 I	ng/L	0.097	0.39
1/30/2023 10:45	Effluent Grab	Pesticides	Propanil	0.12 U	ng/L	0.12	0.48
1/30/2023 10:45	Effluent Grab	Pesticides	Propargite	1.5 U	ng/L	1.5	5.8
1/30/2023 10:45	Effluent Grab	Pesticides	Stirophos	0.12 U	ng/L	0.12	0.48
1/30/2023 10:45	Effluent Grab	Pesticides	Hexazinone	0.48 U	ng/L	0.48	1.9
1/30/2023 10:45	Effluent Grab	Pesticides	Metalaxyl	0.73 U	ng/L	0.73	2.9
1/30/2023 10:45	Effluent Grab	Pesticides	Naled	1.5 U	ng/L	1.5	5.8
1/30/2023 10:45	Effluent Grab	Pesticides	Acetochlor	0.24 U	ng/L	0.24	0.97
1/30/2023 10:45	Effluent Grab	Pesticides	Azoxystrobin	1.3 I	ng/L	0.48	1.9
1/30/2023 10:45	Effluent Grab	Pesticides	Diazinon	0.12 U	ng/L	0.12	0.48
1/30/2023 10:45	Effluent Grab	Pesticides	Etridiazole	0.15 U	ng/L	0.15	0.58
1/30/2023 10:45	Effluent Grab	Pesticides	Fipronil Sulfide	0.29 I	ng/L	0.15	0.58
1/30/2023 10:45	Effluent Grab	Pesticides	Fluazifop-P-butyl	0.097 U	ng/L	0.097	0.39
1/30/2023 10:45	Effluent Grab	Pesticides	Flutolanil	0.44	ng/L	0.097	0.39
1/30/2023 10:45	Effluent Grab	Pesticides	Pendimethalin	0.97 U	ng/L	0.97	3.9
1/30/2023 10:45	Effluent Grab	Pesticides	Phenytoin	3.4 UJ	ng/L	3.4	14

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/30/2023 10:45	Effluent Grab	Pesticides	Imazalil	0.73 U	ng/L	0.73	2.9
1/30/2023 10:45	Effluent Grab	Pesticides	Mevinphos	1.0 U	ng/L	1.0	4.1
1/30/2023 10:45	Effluent Grab	Pesticides	Oxyfluorfen	0.15 U	ng/L	0.15	0.58
1/30/2023 10:45	Effluent Grab	Pesticides	Tebuconazole	4.3	ng/L	0.48	1.9
1/30/2023 10:45	Effluent Grab	Pesticides	Terbufos	0.097 U	ng/L	0.097	0.39
1/30/2023 10:45	Effluent Grab	Pesticides	Thiobencarb	0.58 U	ng/L	0.58	2.3
1/30/2023 10:45	Effluent Grab	Pesticides	Butylate	0.39 U	ng/L	0.39	1.6
1/30/2023 10:45	Effluent Grab	Pesticides	Cyanazine	3.2 U	ng/L	3.2	13
1/30/2023 10:45	Effluent Grab	Pesticides	Demeton	1.5 U	ng/L	1.5	5.8
1/30/2023 10:45	Effluent Grab	Pesticides	Dithiopyr	0.65 I	ng/L	0.61	2.4
1/30/2023 10:45	Effluent Grab	Pesticides	Simazine	35	ng/L	0.48	1.9
1/30/2023 10:45	Effluent Grab	Pesticides	Atrazine	73	ng/L	2.4	9.7
1/30/2023 10:45	Effluent Grab	Pesticides	Chlorfenapyr	0.17 U	ng/L	0.17	0.68
1/30/2023 10:45	Effluent Grab	Pesticides	Chlorpyrifos Methyl	0.048 U	ng/L	0.048	0.19
1/30/2023 10:45	Effluent Grab	Pesticides	Cyprodinil	0.097 U	ng/L	0.097	0.48
1/30/2023 10:45	Effluent Grab	Pesticides	Dimethenamid	0.097 U	ng/L	0.097	0.39
1/30/2023 10:45	Effluent Grab	Pesticides	Flumioxazin	4.4 U	ng/L	4.4	17
1/30/2023 10:45	Effluent Grab	Pesticides	Pronamide	0.15 U	ng/L	0.15	0.58
1/30/2023 10:45	Effluent Grab	Pesticides	Pyriproxyfen	0.12 U	ng/L	0.12	0.48
1/30/2023 10:45	Effluent Grab	Pesticides	Malathion	0.34 U	ng/L	0.34	1.4
1/30/2023 10:45	Effluent Grab	Pesticides	Molinate	0.29 U	ng/L	0.29	1.2
1/30/2023 10:45	Effluent Grab	Pesticides	Sucralose	110	µg/L	1.0	4.0
1/30/2023 10:45	Effluent Grab	Pesticides	Naproxen	0.0080 U	µg/L	0.0080	0.032
1/30/2023 10:45	Effluent Grab	Pesticides	Atrazine Desethyl	5.0 I	ng/L	1.5	5.8
1/30/2023 10:45	Effluent Grab	Pesticides	Prodiamine	0.17 U	ng/L	0.17	0.68
1/30/2023 10:45	Effluent Grab	Pesticides	Propiconazole	2.3	ng/L	0.48	1.9
1/30/2023 10:45	Effluent Grab	Pesticides	Parathion Methyl	0.53 U	ng/L	0.53	2.1
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	2-Chlorophenol	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	2,4-Dichlorophenol	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Pyrene	0.10 U	µg/L	0.10	0.42
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Phenol	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Phenanthrene	0.10 U	µg/L	0.10	0.42
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.026 U	µg/L	0.026	0.10
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Diethyl phthalate	2.1 U	µg/L	2.1	8.3

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Di-n-butyl phthalate	2.1 U	µg/L	2.1	8.3
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Benzo(a)anthracene	0.026 U	µg/L	0.026	0.10
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Benzo(a)pyrene	0.026 U	µg/L	0.026	0.10
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Hexachloroethane	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	N-Nitrosodimethylamine	2.1 U	µg/L	2.1	8.3
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Butyl benzyl phthalate	1.0 U	µg/L	1.0	4.2
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Fluoranthene	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Pentachlorophenol	0.52 UJ	µg/L	0.52	2.1
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	4-Nitrophenol	10 U	µg/L	10	42
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Acenaphthylene	0.026 U	µg/L	0.026	0.10
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Benzo(b)fluoranthene	0.026 U	µg/L	0.026	0.10
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Fluorene	0.026 U	µg/L	0.026	0.10
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Hexachlorobutadiene	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Naphthalene	0.10 U	µg/L	0.10	0.42
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Nitrobenzene	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	2-Chloronaphthalene	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	2,4-Dimethylphenol	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Chrysene	0.026 U	µg/L	0.026	0.10
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Hexachlorobenzene	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Isophorone	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Acenaphthene	0.026 U	µg/L	0.026	0.10
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Benzidine	10 U	µg/L	10	42
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	5.2 U	µg/L	5.2	21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	2,4-Dinitrotoluene	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	3,3'-Dichlorobenzidine	10 U	µg/L	10	42
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.026 U	µg/L	0.026	0.10
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Benzo(k)fluoranthene	0.026 U	µg/L	0.026	0.10

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.026 U	µg/L	0.026	0.10
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.1 U	µg/L	3.1	12
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	2-Nitrophenol	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	2,4-Dinitrophenol	10 UJ	µg/L	10	42
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Anthracene	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Di-n-octyl phthalate	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Dimethyl phthalate	0.21 U	µg/L	0.21	0.83
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.056 I	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Priority Organic Pollutants	2,6-Dinitrotoluene	0.052 U	µg/L	0.052	0.21
1/30/2023 10:45	Effluent Grab	Nutrients	Specific Conductance	844	umhos/cm		
1/30/2023 10:45	Effluent Grab	Nutrients	Dissolved Oxygen mg/L	7.81	mg/L		
1/30/2023 10:45	Effluent Grab	Nutrients	Temperature	21.6	C		
1/30/2023 10:45	Effluent Grab	Nutrients	pH	6.82			
1/30/2023 10:55	Blank	Metals	Zinc	5.0 U	µg/L	5.0	20
1/30/2023 10:55	Blank	Metals	Sodium	0.50 U	mg/L	0.50	2.0
1/30/2023 10:55	Blank	Metals	Calcium	0.075 U	mg/L	0.075	0.30
1/30/2023 10:55	Blank	Metals	Potassium	0.30 U	mg/L	0.30	1.2
1/30/2023 10:55	Blank	Metals	Magnesium	0.040 U	mg/L	0.040	0.16
1/30/2023 10:55	Blank	Metals	Selenium	0.20 U	µg/L	0.20	0.80
1/30/2023 10:55	Blank	Metals	Copper	0.40 U	µg/L	0.40	0.80
1/30/2023 10:55	Blank	Metals	Nickel	0.50 U	µg/L	0.50	2.0
1/30/2023 10:55	Blank	Metals	Aluminum	5.0 U	µg/L	5.0	20
1/30/2023 10:55	Blank	Metals	Lead	0.20 U	µg/L	0.20	0.40
1/30/2023 10:55	Blank	Metals	Cadmium	0.020 U	µg/L	0.020	0.080
1/30/2023 10:55	Blank	Metals	Chromium	1.0 U	µg/L	1.0	4.0
1/30/2023 10:55	Blank	Metals	Iron	30 U	µg/L	30	120
1/30/2023 10:55	Blank	Metals	Arsenic	0.050 U	µg/L	0.050	0.20
1/30/2023 10:55	Blank	Metals	Silver	0.010 U	µg/L	0.010	0.040
1/30/2023 10:55	Blank	Nutrients	O-Phosphate-P	0.004 I	mg P/L	0.0040	0.010
1/30/2023 10:55	Blank	Nutrients	Total-P	0.004 I	mg P/L	0.0020	0.0050
1/30/2023 10:55	Blank	Nutrients	Fluoride	0.025 U	mg F/L	0.025	0.10
1/30/2023 10:55	Blank	Nutrients	Chloride	0.20 U	mg Cl/L	0.20	0.50

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/30/2023 10:55	Blank	Nutrients	Total Alkalinity	0.65 U	mg CaCO3/L	0.65	2.5
1/30/2023 10:55	Blank	Nutrients	Organic Carbon	0.50 U	mg C/L	0.50	1.0
1/30/2023 10:55	Blank	Nutrients	Turbidity	0.10 I	NTU	0.10	1.0
1/30/2023 10:55	Blank	Nutrients	Ammonia-N	0.002 U	mg N/L	0.0020	0.0050
1/30/2023 10:55	Blank	Nutrients	Sulfate	0.20 U	mg SO4/L	0.20	0.50
1/30/2023 10:55	Blank	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.0040	0.010
1/30/2023 10:55	Blank	Nutrients	Color (true)	2.5 U	PCU	2.5	6.0
1/30/2023 10:55	Blank	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.080	0.20
1/30/2023 10:55	Blank	Pesticides	Difenoconazole	0.58 U	ng/L	0.58	2.3
1/30/2023 10:55	Blank	Pesticides	EPTC	1.2 U	ng/L	1.2	4.8
1/30/2023 10:55	Blank	Pesticides	Fipronil Sulfone	0.14 U	ng/L	0.14	0.58
1/30/2023 10:55	Blank	Pesticides	Fluxapyroxad	0.096 U	ng/L	0.096	0.38
1/30/2023 10:55	Blank	Pesticides	Malathion	0.34 U	ng/L	0.34	1.3
1/30/2023 10:55	Blank	Pesticides	Metribuzin	1.4 U	ng/L	1.4	5.8
1/30/2023 10:55	Blank	Pesticides	Napropamide	0.38 U	ng/L	0.38	1.5
1/30/2023 10:55	Blank	Pesticides	Norflurazon	0.48 U	ng/L	0.48	1.9
1/30/2023 10:55	Blank	Pesticides	Parathion Methyl	0.53 U	ng/L	0.53	2.1
1/30/2023 10:55	Blank	Pesticides	Chlorfenapyr	0.17 U	ng/L	0.17	0.67
1/30/2023 10:55	Blank	Pesticides	Ethoprop	0.096 U	ng/L	0.096	0.38
1/30/2023 10:55	Blank	Pesticides	Fenbuconazole	0.12 U	ng/L	0.12	0.48
1/30/2023 10:55	Blank	Pesticides	Flutolanil	0.096 U	ng/L	0.096	0.38
1/30/2023 10:55	Blank	Pesticides	Oxadiazon	0.29 U	ng/L	0.29	1.2
1/30/2023 10:55	Blank	Pesticides	Acetochlor	0.24 U	ng/L	0.24	0.96
1/30/2023 10:55	Blank	Pesticides	Ametryn	0.58 U	ng/L	0.58	2.3
1/30/2023 10:55	Blank	Pesticides	Atrazine Desethyl	1.4 U	ng/L	1.4	5.8
1/30/2023 10:55	Blank	Pesticides	Chlorpyrifos Methyl	0.048 U	ng/L	0.048	0.19
1/30/2023 10:55	Blank	Pesticides	Phorate	0.50 U	ng/L	0.50	2.0
1/30/2023 10:55	Blank	Pesticides	Propiconazole	1.1 I	ng/L	0.48	1.9
1/30/2023 10:55	Blank	Pesticides	Pyriproxyfen	0.12 U	ng/L	0.12	0.48
1/30/2023 10:55	Blank	Pesticides	Tebuconazole	0.48 U	ng/L	0.48	1.9
1/30/2023 10:55	Blank	Pesticides	Flumioxazin	4.3 U	ng/L	4.3	17
1/30/2023 10:55	Blank	Pesticides	Cyprodinil	0.096 U	ng/L	0.096	0.48
1/30/2023 10:55	Blank	Pesticides	Demeton	1.4 U	ng/L	1.4	5.8
1/30/2023 10:55	Blank	Pesticides	Molinate	0.29 U	ng/L	0.29	1.2

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/30/2023 10:55	Blank	Pesticides	Myclobutanil	0.24 U	ng/L	0.24	0.96
1/30/2023 10:55	Blank	Pesticides	Oxyfluorfen	0.14 U	ng/L	0.14	0.58
1/30/2023 10:55	Blank	Pesticides	Bromacil	0.48 U	ng/L	0.48	1.9
1/30/2023 10:55	Blank	Pesticides	Caffeine	20 I	ng/L	7.2	29
1/30/2023 10:55	Blank	Pesticides	Carfentrazone Ethyl	0.096 U	ng/L	0.096	0.38
1/30/2023 10:55	Blank	Pesticides	Pronamide	0.14 U	ng/L	0.14	0.58
1/30/2023 10:55	Blank	Pesticides	Terbufos	0.096 U	ng/L	0.096	0.38
1/30/2023 10:55	Blank	Pesticides	Terbuthylazine	0.41 U	ng/L	0.41	1.6
1/30/2023 10:55	Blank	Pesticides	Thiobencarb	0.58 U	ng/L	0.58	2.3
1/30/2023 10:55	Blank	Pesticides	Ibuprofen	0.080 U	µg/L	0.080	0.32
1/30/2023 10:55	Blank	Pesticides	Disulfoton	0.48 U	ng/L	0.48	1.9
1/30/2023 10:55	Blank	Pesticides	Ethion	0.14 U	ng/L	0.14	0.58
1/30/2023 10:55	Blank	Pesticides	Fipronil Desulfinyl	0.12 U	ng/L	0.12	0.48
1/30/2023 10:55	Blank	Pesticides	Coumaphos	0.48 U	ng/L	0.48	1.9
1/30/2023 10:55	Blank	Pesticides	Cyanazine	3.1 U	ng/L	3.1	12
1/30/2023 10:55	Blank	Pesticides	Loratadine	0.34 U	ng/L	0.34	1.3
1/30/2023 10:55	Blank	Pesticides	Metalaxyl	0.72 U	ng/L	0.72	2.9
1/30/2023 10:55	Blank	Pesticides	Parathion Ethyl	0.24 U	ng/L	0.24	0.96
1/30/2023 10:55	Blank	Pesticides	Alachlor	0.24 U	ng/L	0.24	0.96
1/30/2023 10:55	Blank	Pesticides	Atrazine	0.24 U	ng/L	0.24	0.96
1/30/2023 10:55	Blank	Pesticides	Butylate	0.38 U	ng/L	0.38	1.5
1/30/2023 10:55	Blank	Pesticides	Prometon	0.86 U	ng/L	0.86	3.5
1/30/2023 10:55	Blank	Pesticides	Pyridaben	0.43 U	ng/L	0.43	2.2
1/30/2023 10:55	Blank	Pesticides	Stirophos	0.12 U	ng/L	0.12	0.48
1/30/2023 10:55	Blank	Pesticides	Dithiopyr	0.60 U	ng/L	0.60	2.4
1/30/2023 10:55	Blank	Pesticides	Fluazifop-P-butyl	0.096 U	ng/L	0.096	0.38
1/30/2023 10:55	Blank	Pesticides	Fonofos	0.19 U	ng/L	0.19	0.77
1/30/2023 10:55	Blank	Pesticides	Imazalil	0.72 U	ng/L	0.72	2.9
1/30/2023 10:55	Blank	Pesticides	Mevinphos	1.0 U	ng/L	1.0	4.0
1/30/2023 10:55	Blank	Pesticides	Azoxystrobin	0.48 U	ng/L	0.48	1.9
1/30/2023 10:55	Blank	Pesticides	Propanil	0.12 U	ng/L	0.12	0.48
1/30/2023 10:55	Blank	Pesticides	Sulfentrazone	0.48 U	ng/L	0.48	1.9
1/30/2023 10:55	Blank	Pesticides	Triadimefon	0.24 U	ng/L	0.24	0.96
1/30/2023 10:55	Blank	Pesticides	Fludioxonil	0.12 U	ng/L	0.12	0.48

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/30/2023 10:55	Blank	Pesticides	Diazinon	0.12 U	ng/L	0.12	0.48
1/30/2023 10:55	Blank	Pesticides	Hexazinone	0.48 U	ng/L	0.48	1.9
1/30/2023 10:55	Blank	Pesticides	Iprodione	0.58 U	ng/L	0.58	2.3
1/30/2023 10:55	Blank	Pesticides	Azinphos Methyl	1.9 U	ng/L	1.9	7.7
1/30/2023 10:55	Blank	Pesticides	Carbophenothion	0.19 U	ng/L	0.19	0.77
1/30/2023 10:55	Blank	Pesticides	Chlorpyrifos Ethyl	0.24 U	ng/L	0.24	0.96
1/30/2023 10:55	Blank	Pesticides	Prometryn	0.19 U	ng/L	0.19	0.77
1/30/2023 10:55	Blank	Pesticides	Simazine	0.48 U	ng/L	0.48	1.9
1/30/2023 10:55	Blank	Pesticides	Sucralose	0.010 U	µg/L	0.010	0.040
1/30/2023 10:55	Blank	Pesticides	Fipronil Sulfide	0.14 U	ng/L	0.14	0.58
1/30/2023 10:55	Blank	Pesticides	Metolachlor	0.34 U	ng/L	0.34	1.3
1/30/2023 10:55	Blank	Pesticides	Pendimethalin	0.96 U	ng/L	0.96	3.8
1/30/2023 10:55	Blank	Pesticides	Phenytoin	3.4 UJ	ng/L	3.4	13
1/30/2023 10:55	Blank	Pesticides	Prodiamine	0.17 U	ng/L	0.17	0.67
1/30/2023 10:55	Blank	Pesticides	Naproxen	0.0080 U	µg/L	0.0080	0.032
1/30/2023 10:55	Blank	Pesticides	Dimethenamid	0.096 U	ng/L	0.096	0.38
1/30/2023 10:55	Blank	Pesticides	Dimethomorph	0.17 U	ng/L	0.17	1.0
1/30/2023 10:55	Blank	Pesticides	Etridiazole	0.14 U	ng/L	0.14	0.58
1/30/2023 10:55	Blank	Pesticides	Fenamiphos	0.48 U	ng/L	0.48	1.9
1/30/2023 10:55	Blank	Pesticides	Fipronil	0.24 U	ng/L	0.24	0.96
1/30/2023 10:55	Blank	Pesticides	Naled	1.4 U	ng/L	1.4	5.8
1/30/2023 10:55	Blank	Pesticides	Propargite	1.4 U	ng/L	1.4	5.8
1/30/2023 10:55	Blank	Pesticides	Pyraflufen Ethyl	0.24 U	ng/L	0.24	0.96
1/30/2023 10:55	Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.051 U	µg/L	0.051	0.20
1/30/2023 10:55	Blank	Priority Organic Pollutants	Pentachlorophenol	0.51 U	µg/L	0.51	2.0
1/30/2023 10:55	Blank	Priority Organic Pollutants	Acenaphthene	0.026 U	µg/L	0.026	0.10
1/30/2023 10:55	Blank	Priority Organic Pollutants	Fluoranthene	0.051 U	µg/L	0.051	0.20
1/30/2023 10:55	Blank	Priority Organic Pollutants	Fluorene	0.026 U	µg/L	0.026	0.10
1/30/2023 10:55	Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.026 U	µg/L	0.026	0.10
1/30/2023 10:55	Blank	Priority Organic Pollutants	4-Nitrophenol	10 U	µg/L	10	41
1/30/2023 10:55	Blank	Priority Organic Pollutants	Hexachlorobenzene	0.051 U	µg/L	0.051	0.20
1/30/2023 10:55	Blank	Priority Organic Pollutants	Dimethyl phthalate	0.20 U	µg/L	0.20	0.82
1/30/2023 10:55	Blank	Priority Organic Pollutants	Anthracene	0.051 U	µg/L	0.051	0.20
1/30/2023 10:55	Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.1 U	µg/L	3.1	12

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/30/2023 10:55	Blank	Priority Organic Pollutants	Phenanthrene	0.10 U	µg/L	0.10	0.41
1/30/2023 10:55	Blank	Priority Organic Pollutants	Hexachloroethane	0.051 U	µg/L	0.051	0.20
1/30/2023 10:55	Blank	Priority Organic Pollutants	2-Nitrophenol	0.051 U	µg/L	0.051	0.20
1/30/2023 10:55	Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.026 U	µg/L	0.026	0.10
1/30/2023 10:55	Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.051 U	µg/L	0.051	0.20
1/30/2023 10:55	Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.051 U	µg/L	0.051	0.20
1/30/2023 10:55	Blank	Priority Organic Pollutants	Phenol	0.051 U	µg/L	0.051	0.20
1/30/2023 10:55	Blank	Priority Organic Pollutants	Pyrene	0.10 U	µg/L	0.10	0.41
1/30/2023 10:55	Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.051 U	µg/L	0.051	0.20
1/30/2023 10:55	Blank	Priority Organic Pollutants	2,4-Dimethylphenol	0.051 U	µg/L	0.051	0.20
1/30/2023 10:55	Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.051 U	µg/L	0.051	0.20
1/30/2023 10:55	Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.051 U	µg/L	0.051	0.20
1/30/2023 10:55	Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	10 U	µg/L	10	41
1/30/2023 10:55	Blank	Priority Organic Pollutants	Benzidine	10 U	µg/L	10	41
1/30/2023 10:55	Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.026 U	µg/L	0.026	0.10
1/30/2023 10:55	Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	5.1 U	µg/L	5.1	20
1/30/2023 10:55	Blank	Priority Organic Pollutants	Butyl benzyl phthalate	1.0 U	µg/L	1.0	4.1
1/30/2023 10:55	Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.051 U	µg/L	0.051	0.20
1/30/2023 10:55	Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.026 U	µg/L	0.026	0.10
1/30/2023 10:55	Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.051 U	µg/L	0.051	0.20
1/30/2023 10:55	Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.026 U	µg/L	0.026	0.10
1/30/2023 10:55	Blank	Priority Organic Pollutants	Hexachlorobutadiene	0.051 U	µg/L	0.051	0.20
1/30/2023 10:55	Blank	Priority Organic Pollutants	Isophorone	0.051 U	µg/L	0.051	0.20
1/30/2023 10:55	Blank	Priority Organic Pollutants	Nitrobenzene	0.051 U	µg/L	0.051	0.20
1/30/2023 10:55	Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.051 U	µg/L	0.051	0.20
1/30/2023 10:55	Blank	Priority Organic Pollutants	2-Chlorophenol	0.051 U	µg/L	0.051	0.20
1/30/2023 10:55	Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.051 U	µg/L	0.051	0.20
1/30/2023 10:55	Blank	Priority Organic Pollutants	Acenaphthylene	0.026 U	µg/L	0.026	0.10
1/30/2023 10:55	Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.026 U	µg/L	0.026	0.10
1/30/2023 10:55	Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.051 U	µg/L	0.051	0.20
1/30/2023 10:55	Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	2.0 U	µg/L	2.0	8.2
1/30/2023 10:55	Blank	Priority Organic Pollutants	Naphthalene	0.10 U	µg/L	0.10	0.41
1/30/2023 10:55	Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.026 U	µg/L	0.026	0.10
1/30/2023 10:55	Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.051 U	µg/L	0.051	0.20

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/30/2023 10:55	Blank	Priority Organic Pollutants	Di-n-butyl phthalate	2.0 U	µg/L	2.0	8.2
1/30/2023 10:55	Blank	Priority Organic Pollutants	2,4-Dinitrophenol	10 U	µg/L	10	41
1/30/2023 10:55	Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.051 U	µg/L	0.051	0.20
1/30/2023 10:55	Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.051 U	µg/L	0.051	0.20
1/30/2023 10:55	Blank	Priority Organic Pollutants	Chrysene	0.026 U	µg/L	0.026	0.10
1/30/2023 10:55	Blank	Priority Organic Pollutants	Diethyl phthalate	2.0 U	µg/L	2.0	8.2
1/30/2023 10:55	Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.051 U	µg/L	0.051	0.20